Exhibit K

State of California - Department of Fish and Wildlife

2025 ENVIRONMENTAL DOCUMENT FILING FEE CASH RECEIPT

DFW 753.5a (REV. 01/01/25) Previously DFG 753.5a

RECEIPT NUMBER:
E202510000028
STATE CLEARINGHOUSE NUMBER *(if applicable)*

SEE INSTRUCTIONS ON REVERSE. TYPE OR PRINT CLEARLY.

LEAD AGENCY	LEAD AGENCY EMAIL	DATE
CITY OF FRESNO		**02/07/2025**

COUNTY/STATE AGENCY OF FILING	DOCUMENT NUMBER
FRESNO COUNTY	**E202510000028**

PROJECT TITLE

ENVIROMENTAL ASSESSMENT FOR T-6475/P24-02520

PROJECT APPLICANT NAME	PROJECT APPLICANT EMAIL		PHONE NUMBER
CITY OF FRESNO	**ROBERT.HOLT@FRESNO.GOV**		
PROJECT APPLICANT ADDRESS	CITY	STATE	ZIP CODE
PLANNING AND DEVLOPMENT DEPARTMENT, 2600 FRESNO	**FRESNO**	**CA**	**93721**

PROJECT APPLICANT *(Check appropriate box)*

☒ Local Public Agency ☐ School District ☐ Other Special District ☐ State Agency ☐ Private Entity

CHECK APPLICABLE FEES:

☐ Environmental Impact Report (EIR)	$4,123.50	$	0.00
☐ Mitigated/Negative Declaration (MND)(ND)	$2,968.75	$	0.00
☒ Certified Regulatory Program (CRP) document - payment due directly to CDFW	$1,401.75	$	0.00

☐ Exempt from fee

- ☐ Notice of Exemption (attach)
- ☐ CDFW No Effect Determination (attach)

☐ Fee previously paid (attach previously issued cash receipt copy)

☐ Water Right Application or Petition Fee (State Water Resources Control Board only)	$850.00	$	0.00
☐ County documentary handling fee	$50.00	$	0.00
☐ Other		$	0.00

PAYMENT METHOD:

☐ Cash ☐ Credit ☐ Check ☒ Other **NOI** **TOTAL RECEIVED** $ **0.00**

SIGNATURE	AGENCY OF FILING PRINTED NAME AND TITLE
X	**Pricilla Gonzalez Deputy Clerk**

E20251000028

CITY OF FRESNO

NOTICE OF INTENT TO ADOPT A

MITIGATED NEGATIVE DECLARATION

Filed with the
FRESNO COUNTY CLERK
2220 Tulare Street, Fresno, CA 93721

FILED
FEB 07 2025 TIME 4:00pm
FRESNO COUNTY CLERK
By _____ DEPUTY

ENVIRONMENTAL ASSESSMENT FOR T-6475/P24-02520

APPLICANT:

Connor Callaway
Lennar Homes of California
8080 North Palm Avenue
Fresno, CA 93711

PROJECT LOCATION:

Located on the north side of East McKinley Avenue between North Armstrong and North Laverne Avenues in the City and County of Fresno, California (See Exhibit A - Vicinity Map)

APN: 574-130-05

Site Latitude: 36°45'54" N & Site Longitude: 119°40'30" W Mount Diablo Base & Meridian, Township 13S, Range 21E, Section 27

The full Initial Study is on file in the Planning and Development Department, Fresno City Hall, 3rd Floor, Room 3043, 2600 Fresno Street, Fresno, CA 93721.

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PROJECT DESCRIPTION:

Vesting Tentative Tract Map No. 6475 and Planned Development Permit Application No. P24-02520 were filed by Nathan Roberts of Yamabe & Horn Engineering, on behalf of Connor Callaway of Lennar Homes of California, and pertains to approximately 5.42 acres of property.

Vesting Tentative Tract Map No. 6475 proposes to subdivide approximately 5.42 acres of property into a 53-lot single-family residential development.

Planned Development Permit Application No. P24-02520 proposes to modify the RS-5 zone district development standards to allow for a reduction in the minimum rear yard setbacks and lot size.

The City of Fresno has prepared an Initial Study of the above-described project and proposes to adopt a Mitigated Negative Declaration.

Pursuant to the California Public Resources Code (PRC) §§ 21093 and 21094 and California Environmental Quality Act (CEQA) Guidelines §§ 15070 to 15075, 15150, and 15152, this project has been evaluated with respect to each item on the attached Appendix G/Initial Study Checklist to determine whether this project may cause any additional significant effect on the environment. After conducting a review of the adequacy of the Project Specific Mitigation Measure Checklist and CEQA Guidelines §§ 15151 and 15179(b), the Planning and Development Department, as lead agency, finds that no substantial changes have occurred and that no new information has become available.

The completed Appendix G/Initial Study Checklist, its associated narrative, technical studies and mitigation measures reflect applicable comments of responsible and trustee agencies and research and analyses conducted to examine the interrelationship between the proposed project and the physical environment. The information contained in the project application and its related environmental assessment application, responses to requests for comment, checklist, Initial Study narrative, and any attachments thereto, combine to form a record indicating that an Initial Study has been completed in compliance with the State CEQA Guidelines and the CEQA.

All new development activity and many non-physical projects contribute directly or indirectly toward cumulative impacts on the physical environment. It has been determined that the incremental effect contributed by this project toward cumulative impacts is not considered substantial or significant in itself and/or that cumulative impacts accruing from this project may be mitigated to less than significant with application of feasible mitigation measures.

With mitigation imposed under the Project Specific Mitigation Measure Checklist, there is no substantial evidence in the record that this project may have additional significant, direct, indirect or cumulative effects on the environment that are significant. The Planning and Development Department, as lead agency, finds that no substantial changes have occurred and that no new information has become available.

Based upon the evaluation guided by the Appendix G/Initial Study Checklist, it was determined that there are project specific foreseeable impacts which require project level mitigation measures.

The Initial Study has concluded that the proposed project will not result in any adverse effects, which fall within the "Mandatory Findings of Significance" contained in § 15065 of the State CEQA

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Guidelines. The finding is, therefore, made that the proposed project will not have a significant adverse effect on the environment.

Public notice has been provided regarding staff's finding in the manner prescribed by § 15072 of the CEQA Guidelines and by § 21092 of the PRC Code (CEQA provisions).

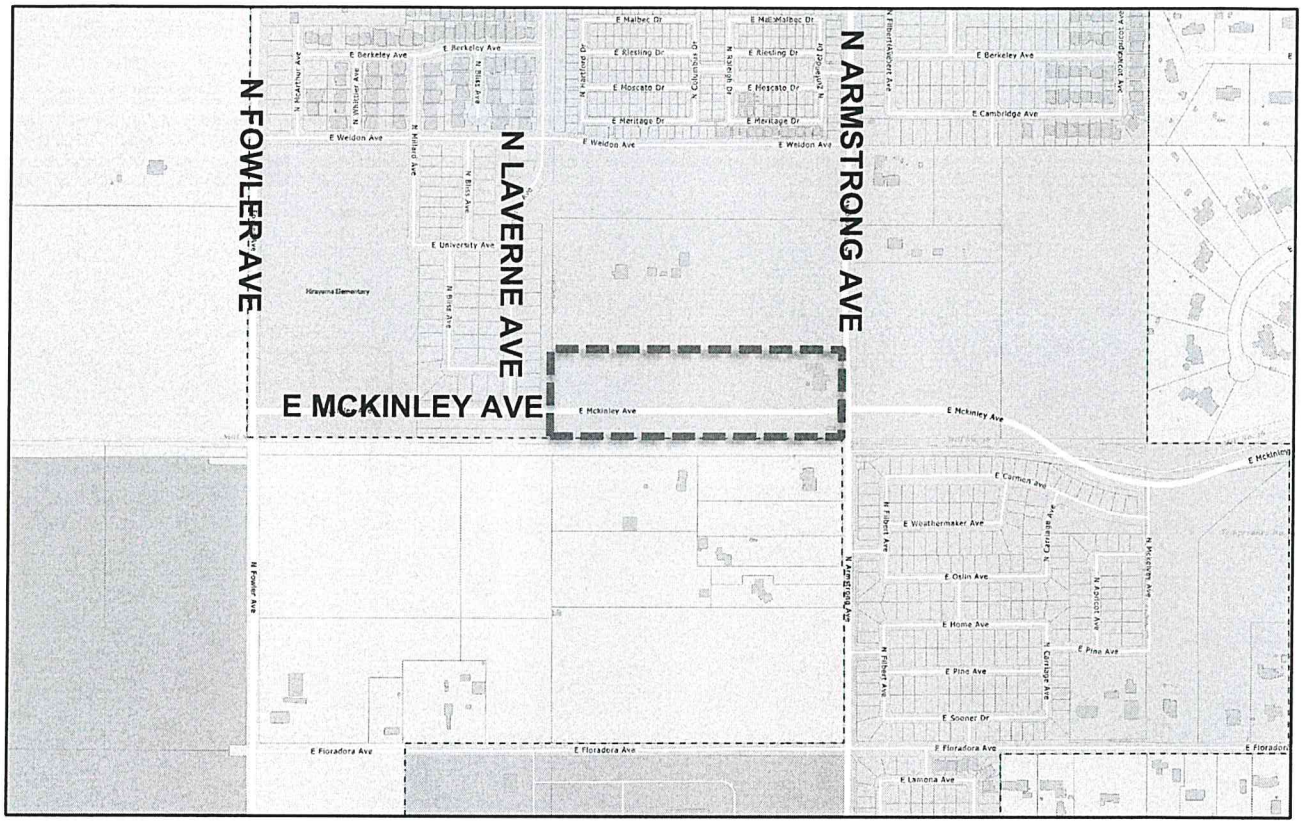
Additional information on the proposed project, including the Project Specific Mitigation Measure Checklist, proposed environmental finding of a Mitigated Negative Declaration and the Initial Study may be obtained from the Planning and Development Department, Fresno City Hall, 2600 Fresno Street, 3rd Floor, Room 3043, Fresno, California 93721 3604. Please contact Rob Holt at (559) 621-8056 or via email at Robert.Holt@fresno.gov for more information.

ANY INTERESTED PERSON may comment on the proposed environmental finding. Comments must be in writing and must state (1) the commentor's name and address; (2) the commentor's interest in, or relationship to, the project; (3) the environmental determination being commented upon; and (4) the specific reason(s) why the proposed environmental determination should or should not be made. Any comments may be submitted at any time between the publication date of this notice and close of business on February 28, 2025. Please direct comments to Rob Holt, Supervising Planner, City of Fresno Planning and Development Department, City Hall, 2600 Fresno Street, Room 3043, Fresno, California, 93721-3604; or by email to Robert.Holt@fresno.gov.

INITIAL STUDY PREPARED BY: Rob Holt, Supervising Planner	SUBMITTED BY: Robert Holt Rob Holt, Supervising Planner CITY OF FRESNO PLANING AND DEVELOPMENT DEPARTMENT
DATE: 02/07/2025	
Attachments: Exhibit A – Vicinity Map	

E20251000028

Exhibit A – Vicinity Map



Legend

Subject Property



APPENDIX G/INITIAL STUDY FOR A MITIGATED NEGATIVE DECLARATION

Environmental Checklist Form for:
Vesting Tentative Tract Map No. 6475 & Planned Development Permit Application No. P24-02520

1.	**Project title:** Vesting Tentative Tract Map No. 6475 & Planned Development Permit Application No. P24-02520
2.	**Lead agency name and address:** City of Fresno Planning and Development Department 2600 Fresno Street Fresno, CA 93721
3.	**Contact person and phone number:** Rob Holt, Supervising Planner City of Fresno Planning and Development Department (559) 621-8056
4.	**Project location:** The Project is located on a 5.42-acre parcel located on the north side of the East McKinley Avenue alignment, between North Armstrong and North Laverne Avenues (APN 574-130-05).
5.	**Project sponsor's name and address:** Walter Diamond, Director of Entitlements Lennar Homes of California 8080 N Palm Ave Ste 110 Fresno, CA 93711
6.	**General & Community plan land use designation:** Medium Density Residential (5.0-12 D.U./acre)
7.	**Zoning:** RS-5/ANX/UGM (*Single-Family Residential, Medium Density/Annexed Rural Residential Transitional Overlay/Urban Growth Management*)

8. **Description of Project:**

The Project subject property is approximately 5.42 acres (APN 574-130-05) located on the north side of the East McKinley Avenue alignment between North Armstrong and North Laverne Avenues. Vesting Tentative Tract Map No. 6475 will subdivide a 5.42-acre portion of the subject property into a 53-lot single-family residential subdivision and four outlots. Outlots A and B will be dedicated in fee, to the City, for public landscaping (and irrigation) purposes located adjacent to the proposed lot frontages along the East McKinley Avenue alignment. Outlots C and D will be dedicated in fee, to the City, for public open space purposes (park) located in the center of the subdivision along the East McKinley Avenue alignment frontage (See Exhibit A). On- and off-site improvements including circulation roads, interior local streets, curb, gutter, sidewalk, water and sewer utilities, and landscaping would be developed to City standards by the Project developer. Water and sewer services will be provided by the City of Fresno. The project also includes a Remainder parcel.

The subject property is zoned Residential Single-Family, Medium Density (RS-5) with a General Plan land use designation of Residential Medium Density (5.0-12 D.U./acre). The applicant is requesting the approval of a Planned Development, Parcel Map and Tentative Tract Map Application.

9. **Surrounding land uses and setting:**

	Planned Land Use	Existing Zoning	Existing Land Use
North	Medium Density Residential	RS-5	Agriculture/Rural Residential
East	Medium Density Residential	RS-5	Agriculture
South	Employment – Business Park	AE-20 (County)	Rural Residential & Canal (County)
West	Medium Density Residential	RS-5	Single-Family Residences

10. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):**

	• City of Fresno Planning and Development Department; • City of Fresno Department of Public Works; • City of Fresno Department of Public Utilities; • City of Fresno Fire Department; • City of Fresno Police Department; • Fresno Irrigation District • Fresno Metropolitan Flood Control District; and • San Joaquin Valley Air Pollution Control District.
11.	**Have California Native American tribes traditionally and culturally affiliated with the Project area requested consultation pursuant to Public Resources Code (PRC) Section 21080.3.1? If so, has consultation begun?** The State requires lead agencies to consider the potential effects of proposed Projects and consult with California Native American tribes during the local planning process for the purpose of protecting Traditional Tribal Cultural Resources through the California Environmental Quality Act (CEQA) Guidelines. Pursuant to PRC Section 21080.3.1, before public distribution of the document, the lead agency shall begin consultation with the California Native American tribe that is traditionally and culturally affiliated with the geographical area of the proposed Project. Such significant cultural resources are either sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a tribe which is either on or eligible for inclusion in the California Historic Register or local historic register, or, the lead agency, at its discretion, and support by substantial evidence, choose to treat the resources as a Tribal Cultural Resources (PRC Section 21074(a)(1-2)). According to the most recent census data, California is home to 109 currently recognized Indian tribes. Tribes in California currently have nearly 100 separate reservations or Rancherias. Fresno County has a number of Rancherias such as Table Mountain Rancheria, Millerton Rancheria, Big Sandy Rancheria, Cold Springs Rancheria, and Squaw Valley Rancheria. These Rancherias are not located within the city limits. Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and Project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See PRC Section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per PRC Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that PRC Section 21082.3(c) contains provisions specific to confidentiality. Currently, the Table Mountain Rancheria Tribe and the Dumna Wo Wah Tribe have requested to be notified pursuant to Assembly Bill 52 (AB 52). A certified letter was mailed to the above-mentioned tribes on ***January 16, 2025***. The 30-day comment

	period ended on ***February 17, 2025***. Both tribes did not request consultation. Any request for consultation resulting in required mitigation for the project will result in a re-route of the Initial Study/Mitigated Negative Declaration.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐	Aesthetics	☐	Agriculture and Forestry Resources
☐	Air Quality	☐	Biological Resources
☐	Cultural Resources	☐	Energy
☐	Geology/Soils	☒	Greenhouse Gas Emissions
☐	Hazards and Hazardous Materials	☐	Hydrology/Water Quality
☐	Land Use/Planning	☐	Mineral Resources
☐	Noise	☐	Population/Housing
☐	Public Services	☐	Recreation
☐	Transportation	☐	Tribal Cultural Resources
☐	Utilities/Service Systems	☐	Wildfire
☐	Mandatory Findings of Significance		

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

___	I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
X	I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
___	I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT (EIR) is required.
___	I find that the proposed Project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable

	legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An EIR is required, but it must analyze only the effects that remain to be addressed.
——	I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.



02/10/2025

Rob Holt, Supervising Planner Date

1. For purposes of this Initial Study, the following answers have the corresponding meanings:

   a. “No Impact” means the specific impact category does not apply to the Project, or that the record sufficiently demonstrates that Project specific factors or general standards applicable to the Project will result in no impact for the threshold under consideration.

   b. “Less Than Significant Impact” means there is an impact related to the threshold under consideration, but that impact is less than significant.

   c. “Less Than Significant with Mitigation Incorporation” means there is a potentially significant impact related to the threshold under consideration, however, with the mitigation incorporated into the Project, the impact is less than significant. For purposes of this Initial Study “mitigation incorporated into the Project” means mitigation developed specifically for an individual Project.

   d. “Potentially Significant Impact” means there is substantial evidence that an effect may be significant related to the threshold under consideration.

2. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to Projects like the one involved (e.g., the Project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on Project-specific factors as well as general standards (e.g., the Project will not

expose sensitive receptors to pollutants, based on a Project-specific screening analysis).

3. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as Project-level, indirect as well as direct, and construction as well as operational impacts.

4. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

5. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from, "Earlier Analyses," as described in (6) below, may be cross-referenced).

6. Earlier analyses may be used where, pursuant to the tiering, Program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

    a. Earlier Analysis Used. Identify and state where they are available for review.

    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in another earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the Project.

7. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

8. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

9. The explanation of each issue should identify:

    a. The significance criteria or threshold, if any, used to evaluate each question; and

    b. The mitigation measure identified, if any, to reduce the impact to less than significant.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS – Except as provided in PRC Section 21099, would the Project:				
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock out-croppings, and historic buildings within a state scenic highway?			X	
c) In non-urbanized areas, substantially degrade the existing visual character or quality public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?		X		

DISCUSSION

a) Have a substantial adverse effect on a scenic vista?

A scenic vista is a viewpoint that provides expansive views of a highly valued landscape for the public's benefit. The City's approved General Plan identifies six locations along the San Joaquin River bluffs as designated vista points from which views should be maintained. Scenic vistas within the Planning Area could provide distant views of features such as the San Joaquin River to the north and the foothills of the Sierra Nevada Mountains to the east.

The Project site has historically been utilized for agricultural purposes, but more recently has not been in active agricultural cultivation and is an open field. The proposed Project would subdivide a 5.42-acre portion of the subject property into a tract with a 53-lot single-family residential subdivision, four outlots, and associated improvements. The Project site is not located within any of the scenic vista points identified in the General Plan. Furthermore, the construction of the proposed Project would not significantly affect or block a potentially scenic vista in the City. Therefore, the proposed Project would have a less than significant impact on a scenic vista.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

According to the Caltrans State Scenic Highway Mapping System[1], there are no eligible or officially designated State Scenic Highways within the City of Fresno. However, Fresno County has three eligible State Scenic Highways. The nearest eligible highways include a portion of State Route 180, located approximately 7 miles east of the City, and a portion of State Route 168, located approximately 5 miles east of City. The nearest officially designated State Scenic Highway is located more than 30 miles northeast of the City within the county of Madera. Since there are no eligible or officially designated State Scenic Highways within or in close proximity to the Project site, implementation of the proposed Project would not damage scenic resources within a designated state scenic highway. Therefore, there would be a less than significant impact.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?

The Project site is currently an open field. Although the proposed Project would change the visual characteristics of the Project site by constructing a residential subdivision on an undeveloped agricultural parcel, the design of the homes would be consistent and compatible with the visual character of the Project vicinity. The proposed residential subdivision would be consistent with the visual character of the existing residential subdivision located directly west of the Project site. Although the characteristics of the Project site would change, the Project would not substantially degrade the visual character or quality of the site and its surroundings, as the area is being currently developed with similar residential

1 California Department of Transportation. Scenic Highways. Available online at: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways (accessed September 2024).

uses. Therefore, the Project would appear to be similar to nearby properties and have a less than significant impact.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

The Project site is located in an urbanized area subject to preexisting exterior lighting from surrounding developments and existing street lighting. The proposed Project would introduce new sources of light and glare to the area in the form of street lighting, windows, and porch lights. However, new sources of light and glare associated with the Project would not be substantial in the context of existing lighting sources in the Project vicinity. In addition, daytime glare would not be substantial because no highly reflective glass elements or building materials are proposed as part of the Project. Compliance with California Building Code (Title 24, California Code of Regulations) standards, and implementation of Mitigation Measures AES-1 and AES-2 would address light and glare impacts to day- and night-time views resulting from construction of the proposed Project. Therefore, potential light and glare from the proposed Project would result in a less than significant impact.

Mitigation Measures

AES-1: Street Lighting. Street lighting systems shall include shields to direct light to the roadway surfaces and parking areas. Vertical shields on the light fixtures shall also be used to direct light away from adjacent light sensitive land uses such as residences.

AES-2: Use of Non-Reflective Materials. Materials used on building facades shall be non-reflective.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?			X	
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?			X	

DISCUSSION

The analysis in this section is substantiated by an Agricultural Land Evaluation and Site Assessment (LESA) and Agricultural Conversion Study (QK, 2024a), prepared for the Project and attached as Appendix A.

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The California Department of Conservation (DOC) has classified the Project site as Prime Farmland under the Farmland Mapping and Monitoring Program (FMMP). According to the DOC, the Project parcel is not subject to a Williamson Act land use contract. If a Project were to convert any amount of acreage from Prime Farmland, Farmland of Statewide Importance, or Unique Farmland, then that Project would exhibit a significant impact under the CEQA Guidelines Appendix G. Therefore, the implementation of the proposed Project could result in the conversion of Prime Farmland to a non-agricultural use. In the past, the Project site had available irrigation water, but recently, a portion of the property was dedicated to the City for the extension of McKinley Ave bordering the site on the south. The irrigation pipeline was severed and there is no longer any irrigation water available for crop cultivation. The Project site is not currently under cultivation.

The LESA Model is composed of a Land Evaluation (LE) portion, which measures soil quality, and the Site Assessment (SA) portion, which evaluates parcel size and on-farm investments. The LE and SA subscores are summed up to determine the Final LESA score. A Final LESA Score of 0 to 39 points is not considered significant. A final score between 40 to 59 points is considered significant only if the LE and SA subscores are each greater than or equal to 20 points. A final score

between 60 to 79 points is considered significant unless either the LE or SA subscores is less than 20 points. A final score between 80 to 100 points is considered significant.

Based on the Project's site USDA Natural Resources Conservation Service (NRCS) soil factors characteristics, soil type and the lack of water availability for crop production, the Project's final LESA Score is 50.8 points, with an LE subscore of 46.3 points and a SA subscore of 4.5 points.[2] Due to the SA subscore being below 20 points, the conversion of agricultural land associated with implementation of the proposed Project would not represent a significant impact to agricultural resources under CEQA. Therefore, impacts related to the conversion of Important Farmland to a non-agricultural use would be less than significant.

b) Conflict with existing zoning for agricultural use or a Williamson Act contract?

The Project site is designated Residential Medium Density in the General Plan. The Project site is located in the RS-5 zoning district that allows for single-family residential development adult family day care, small, domestic violence shelters, residential care facilities (limited), group residential (small), community gardens, schools, corner commercial, bed and breakfast, parks and recreation facilities, telecommunications facilities, and accessory living quarters uses.[3] As noted previously, the Project site is not subject to a Williamson Act land use contract. Therefore, development of the proposed Project would not conflict with existing zoning for agricultural use or a Williamson Act contract and would have no impact.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

The Project site is located within an increasingly urban area and is located within a RS-5 zoning district. Pursuant to Public Resources Code (PRC) section 12220(g)), "forest land" is land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions. PRC Section 4526 defines timberland as "land, other than land owned by the federal government and land

2 QK. 2024a. LESA – Agricultural Conversion Study, City of Fresno, Tentative Tract Map No. 6475 Project (November 2024).

3 City of Fresno. 2019. Fresno Municipal Code Chapter 15: Citywide Development Code. Available online at: https://www.fresno.gov/wp-content/uploads/2023/03/Development_Code_January_2019.pdf (accessed September 2024).

designated by the State Board of Forestry as experimental forest land, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products. The Project is devoid of trees and does not meet the criteria to be defined as forest land or timberland.

Therefore, the proposed Project would not conflict with the existing zoning for, or cause rezoning of, forest land or conversion of forest land to non-forest uses. Therefore, the proposed Project would have no impact.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

Please refer to the discussion for (c) above. The proposed Project would not result in the loss of forest land or conversion of forest land to non-forest uses. Therefore, the proposed Project would have no impact.

e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

Please refer to the discussion for (a) and (c) above.

The Project site is classified as Prime Farmland by the DOC FMMP. Therefore, the development of the Project site could result in the conversion of Important Farmland. However, as noted previously, the site no longer has access to available irrigation water to support crop cultivation and can no longer be considered viable farmland. The LESA Model prepared for the proposed Project site identifies that the conversion of Important Farmland associated with development of the Project site would result in a less-than-significant impact. Further, the area surrounding the Project site is predominantly planned for residential development. As such, the proposed Project would not involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use and Project impacts would be less than significant.

Mitigation Measure

No mitigation is required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:				
a) Conflict with or obstruct implementation of the applicable air quality plan (*e.g*., by having potential emissions of regulated criterion pollutants which exceed the San Joaquin Valley Air Pollution Control Districts (SJVAPCD) adopted thresholds for these pollutants)?			X	
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			X	
c) Expose sensitive receptors to substantial pollutant concentrations?		X		
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

The analysis in this section is substantiated by an Air Quality and Greenhouse Gases Impact Assessment (VRPA, 2025), prepared for the Project and is attached as Appendix B.

DISCUSSION

The City is located in Fresno County and is within the San Joaquin Valley Air Basin (SJVAB) and under the jurisdiction of San Joaquin Valley Air Pollution Control District (SJVAPCD). The air quality significance criteria were developed considering the CEQA significance criteria developed by the local air quality district in the Project area, approved CEQA air quality checklists, and considering other federal criteria. The analysis presented within this section is based on both qualitative and quantitative approaches for determining air quality impacts associated with construction, operation, and maintenance of the proposed Project. The findings in the Air Quality and GHG Technical Report prepared for the proposed Project (Appendix B), which was prepared in accordance with SJVAPCD's 2015 Guidance for Assessing and Mitigation Air Quality Impacts (GAMAQI) documents and Bay Area Air Quality Management District (BAAQMD) Climate Impact Thresholds were used to assess the proposed Project's impacts related to air quality.[4] Although the BAAQMD Guidelines were developed for application in the Bay Area, they are applicable in this jurisdiction since they rely on statewide standards for GHG emission thresholds.

a) Conflict with or obstruct implementation of the applicable air quality plan?

The SJVAPCD is responsible for monitoring and regulating air pollutant emissions from stationary, area, and indirect sources within Fresno County. This includes monitoring air quality and setting and enforcing limits for source emissions. The SJVAPCD has adopted numerous air quality plans, including the 2022 Ozone Plan, 2016 Ozone Plan, 2013 1-Hour Ozone Plan, 2007 PM_{10} Maintenance Plan, and 2024 Plan for the 2012 Annual $PM_{2.5}$ Standard to assure attainment of EPA Ozone, PM_{10} and $PM_{2.5}$ standards. These air quality plans were created to bring the SJVAB into compliance with the requirements of the federal and state standards. Consistency with the SJVAPCD's air quality plan(s) would ensure a project is not in conflict with or obstructing the implementation of the air quality plan(s). A project would be consistent with the SJVAPCD's air quality plan(s) if the pollutants emitted from construction and operation of the project would not exceed the SJVAPCD emission thresholds or cause a significant impact on air quality. The SJVAPCD established the significance thresholds identified in SJVAPCD's *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI) for purpose of determining if a project will have a significant air quality impact.

The Project's construction and operational emissions were calculated using the California Emissions Estimator Model (CalEEMod) (VRPA, 2025). CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG)

4 SJVAPCD. 2015. Guidance for Assessing and Mitigating Air Quality Impacts. Available at: https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF#:~:text=The%20following%20staff%20of%20the%20San (accessed September 2024).

emissions associated with both construction and operations from a variety of land use projects. The model is an accurate and comprehensive tool that is accepted in California as a way to quantify air quality impacts from land use projects throughout the State.

Results of the analysis show that emissions generated during short term construction and long term operation of the Project will not exceed the SJVAPCD emission thresholds for criteria pollutants (see discussion b, below, and Appendix B for calculations). As a result, the Project will not conflict with or obstruct implementation of any AQPs and Project impacts would be less than significant and no mitigation is needed.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?

The Fresno County area is nonattainment for federal and State air quality standards for ozone, in attainment of Federal standards and nonattainment for State standards for PM_{10}, and nonattainment for federal and State standards for $PM_{2.5}$ (VRPA, 2025). The SJVAPCD has prepared the 2016 and 2013 Ozone Plans, 2007 PM_{10} Maintenance Plan, and 2012 $PM_{2.5}$ Plan to achieve Federal and State standards for improved air quality in the SJVAB regarding ozone and PM. Inconsistency with any of the plans would be considered a cumulatively adverse air quality impact. As discussed above, the Project is consistent with the currently adopted General Plan for the City of Fresno and is therefore consistent with the population growth and Vehicle Miles Traveled (VMT) applied in the plan. Therefore, the Project is consistent with the growth assumptions used in the 2016 and 2013 Ozone Plan, 2007 PM_{10} Maintenance Plan, and 2012 $PM_{2.5}$ Plan.

Project specific emissions that exceed the thresholds of significance for criteria pollutants would be expected to result in a cumulatively considerable net increase of any criteria pollutant for which the County is in non-attainment under applicable federal or state ambient air quality standards. The SJVAPCD adopted thresholds of significance in the 2015 GAMAQI. Section 8.4.2 of the GAMAQI provides that Project-related impacts on air quality may be significant when on-site emission increases from construction activities or operational activities exceed the 100 pounds per day screening level of any criteria pollutant after implementation of all enforceable mitigation measures. Under such circumstances, the SJVAPCD recommends that an Ambient Air Quality Analysis be performed to determine whether emission increases from a Project will cause or contribute to a violation of the AAQS based on the significance thresholds as follows:

- Construction and Operational (permitted and non-permitted equipment and activities) Emissions;
    - 10 tons per year for ROG
    - 10 tons per year for NO_X
    - 100 tons per year for CO
    - 27 tons per year for SO_X
    - 15 tons per year for PM_{10}
    - 15 tons per year for $PM_{2.5}$

The construction and operational emissions for the Project are shown in the Tables 1 and 2.

Table 1: Project Construction Emissions (Tons Per Year)

Project Construction	**CO**	**NO_x**	**ROG**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Annual Construction Emissions*	2.00	1.76	0.40	<0.005	0.32	0.18
SJVAPCD Thresholds	100.0	10.0	10.0	27.0	15.0	15.0
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Appendix B.
*Emission units = Tons per Year (tpy)
CO = carbon monoxide
NOX = nitrogen oxides
PM2.5 = particulate matter less than 2.5 microns in size
PM10 = particulate matter less than 10 microns in size
ROG = reactive organic gas
SJVAPCD = San Joaquin Valley Air Pollution Control District
SOX = sulfur oxides

Table 2: Project Operational Emissions (Tons per Year)

	ROG	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Area Source Emissions	0.51	0.03	0.77	<0.005	0.07	0.07
Energy Source Emissions	0.01	0.10	0.04	<0.005	0.01	0.01
Mobile Source Emissions	0.28	0.25	1.73	<0.005	0.37	0.10
Total Project Operational Emissions*	0.80	0.37	2.54	0.01	0.45	0.17
SJVAPCD Significance Threshold	10.0	10.0	100.0	27.0	15.0	15.0
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Appendix B.
*Emission units = Tons per Year (tpy)
CO = carbon monoxide
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
ROG = reactive organic gas
SJVAPCD = San Joaquin Valley Air Pollution Control District
SO_X = sulfur oxides

Table 2: Project Operational Emissions (Tons per Year)

	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$

PM_{10} = particulate matter less than 10 microns in size

As shown above, the Project's construction (Table 1) and operational emissions (Table 2) would not exceed the SJVAPCD significance thresholds for criteria pollutants (ROG, NO_X, CO, SO_X, PM_{10} or $PM_{2.5}$). As such, the proposed Project would not result in a cumulatively significant impact, and impacts would be less than significant.

c) Expose sensitive receptors to substantial pollutant concentrations?

Sensitive receptors refer to those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality). Land uses that have the greatest potential to attract these types of sensitive receptors include schools, parks, playgrounds, daycare centers, nursing homes, hospitals, and residential communities. From a health risk perspective, the Project is a Type B Project in that it may potentially place sensitive receptors in the vicinity of existing sources.

The first step in evaluating the potential for impacts to sensitive receptors for toxic air contaminants (TAC) from the Project is to perform a screening level analysis. For Type B Projects, one type of screening tool is found in the CARB *Handbook: Air Quality and Land Use Handbook: A Community Perspective*. This handbook includes a table with recommended buffer distances associated with various types of common sources. The screening level analysis for the Project shows that TACs are not a concern prepared for the Project (VRPA, 2024). An evaluation of nearby land uses considering CARB's Pollution Mapping Tool shows that the Project will not place sensitive receptors in the vicinity of existing toxic sources and is not within 500 feet of a freeway/urban roads with 100,000 vehicles/day, or on rural roads with 50,000 vehicles/day. The Project is located more than one mile from State Route (SR) 180.

Short-Term Impacts

The annual emissions from the construction phase of the Project would not exceed the applicable SJVAPCD emission thresholds for criteria pollutants as shown in discussion (b) above. The construction emissions are therefore considered less than significant, and the Project would also implement the SJVAPCD regulations

outlined in Mitigation Measure AIR-1. With implementation of MM AIR-1, impacts are less than significant.

Naturally Occurring Asbestos (NOA)

The proposed Project's construction phase may cause asbestos to become airborne due to the construction activities that will occur on site. The Project would be required to submit a Dust Control Plan under the SJVAPCD's Rule 8021and comply with SJVAPCD regulations outlined in Mitigation Measure AIR-2 to reduce short term construction impacts. With implementation of MM AIR-2 impacts would be less than significant level.

Long-Term (Operational) Impacts

Long-term emissions from the Project are generated primarily by mobile source (vehicle) emissions from the site and sources such as lawn maintenance equipment. Emissions from long-term operations generally represent a Project's most substantial air quality impact. As noted in Table 2 above, the Project's operational impacts by pollutant all fall well below the adopted SJVAPCD threshold for any criteria pollutant emissions. Therefore, Project impacts are considered less than significant.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The SJVAPCD requires that an analysis of potential odor impacts be conducted for the following two situations:

- Generators – Projects that would potentially generate odorous emissions proposed to be located near existing sensitive receptors or other land uses where people may congregate; and
- Receivers – residential or other sensitive receptor Projects or other Projects built for the intent of attracting people located near existing odor sources.

The proposed Project will not generate odorous emissions given the nature or characteristics of residential developments. The intensity of an odor source's operations and its proximity to sensitive receptors influences the potential significance of odor emissions. SJVAPCD has identified some common types of facilities that have been known to produce odors in the SJVAB. The types of facilities that are known to produce odors are depicted in the table below along

with a reasonable distance from the source within which the degree of odors could possibly be significant.

Table 3: Screening Levels for Potential Odor Sources

Type of Facility	Distance
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Compositing Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g. auto body shops)	1 mile
Food Processing Facility	1 mile
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile

Source: Appendix B.

As noted above, the proposed Project will not generate odorous emissions given the nature or characteristics of residential developments. Furthermore, none of the facilities shown in the table above are located within two (2) miles of the Project. Therefore, no mitigation is needed, and Project impacts are considered to be less than significant.

Mitigation Measures

AIR-1: During construction, the owners, developers, and/or successors-in-interest

will comply with SJVAPCD Regulation VIII (Fugitive Dust Rules). The required Regulation VIII measures are as follows:

1. All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.
2. All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
3. All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.
4. When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.
5. All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.
6. Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.
7. Within urban areas, track out shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday.

AIR-2: The owners, developers, and/or successors-in-interest will submit a Dust Control Plan that is compliant with SJVAPCD's Rule 8021. The Dust Control Plan may include the following measures:

1. Water wetting of road surfaces
2. Rinse vehicles and equipment
3. Wet loads of excavated material, and
4. Cover loads of excavated material

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES – Would the Project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?			X	
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			X	
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X	

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			X	
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?			X	

The analysis in this section is substantiated by Biological Resources Assessment (Live Oaks Associates, 2024), prepared for the Project and is attached as Appendix C.

DISCUSSION

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?

A reconnaissance-level field survey of the Project site was conducted on March 13, 2024 by qualified biologist (Live Oaks Associates, 2024), The Project site is located at the interface of urban and rural land uses. It is bordered to the north and east by orchards, to the south by Mill Ditch and, beyond that, rural residential properties, and to the west by a new residential subdivision. Two biotic habitats/land uses were identified within the Project site: agricultural field and ruderal. At the time of the field survey, the Project site consisted primarily of fields that had recently been used for vegetable production. While some of the fields had been disked since the previous growing season, others contained remnant crops. Observed crops, both dead and alive, included tomatoes, peppers, pumpkins, onions, cilantro, parsley, and mustard. The fields also contained dense growth of common weeds including annual bluegrass (*Poa annua*), prickly lettuce (*Lactuca serriola*), red-stem filaree (*Erodium cicutarium*), shepherd's purse (*Capsella bursa-pastoris*), and curly dock (*Rumex crispus*). There were no small mammal burrows

observed during the survey.

The wildlife value of the site's fields is expected to fluctuate seasonally based on crop cover and time since disking. It is most likely to support common, disturbance-tolerant places associated with open habitats, and may also be used incidentally by species associated with the nearby Mill Ditch. Reptiles expected to occur here include non-listed species such as the western fence lizard (*Sceloporus occidentalis*), common kingsnake (*Lampropeltis californiae*), and Pacific gopher snake (*Pituophis catenifer catenifer*). Common amphibians such as the western toad (*Bufo boreas*) and Sierran treefrog (*Pseudacris sierra*) may breed in Mill Ditch and subsequently disperse through the fields.

The site's fields may be used for foraging by a number of common avian species. These include the western kingbird (*Tyrannus verticalis*) in the summer, the Say's phoebe (*Sayornis saya*) and savannah sparrow (*Passerculus sandwichensis*) in the winter, and the Brewer's blackbird (*Euphagus cyanocephalus*), house finch (*Haemorhous mexicanus*), American kestrel (*Falco sparverius*) and red-tailed hawk (*Buteo jamaicensis*) year-round. The fields could potentially support nesting by the mourning dove (*Zenaida macroura*) and killdeer (*Charadrius vociferus*), both ground-nesting species.

Small mammal use of the site's agricultural fields is expected to include the deer mouse (*Peromyscus maniculatus*), California vole (*Microtus californicus*), Botta's pocket gopher (*Thomomys bottae*), and California ground squirrel (*Otospermophilus beecheyi*). Mammalian predators expected to use the site's fields include the raccoon (*Procyon lotor*) and striped skunk (*Mephitis mephitis*). Due to the proximity of residences, domestic dogs (*Canis familiaris*) and cats (*Felis catus*) may also occur here from time to time.

The site also included several areas that can best be described as ruderal/developed. These included the fenced side yard of an off-site residence, the shoulder of Armstrong Avenue, and an agricultural access road at the site's western and northern boundaries. At the time of the field survey, the residential side yard contained several outbuildings, piles of debris, a chicken coop, and a parked semi truck. It was vegetated with mowed grass and common weeds such as cheeseweed mallow (*Malva parviflora*), fiddleneck (*Amsinckia sp*.), and common chickweed (*Stellaria media*). A fan palm (*Washingtonia sp*.) and several citrus trees grew around the perimeter. The on-site portion of the Armstrong Avenue shoulder was barren at time of the survey, while the agricultural access road supported sparse growth of weeds including barnyard barley (*Hordeum murinum*) and cheeseweed mallow.

The Project site's ruderal lands are of relatively low wildlife value due to their

degraded nature and regular anthropogenic disturbance. However, the species listed above for the agricultural fields could use or pass through the site's ruderal lands from time to time, and certain disturbance-tolerant species may be attracted to this land use type. For example, the house finch and black phoebe (*Sayornis nigricans*) often nest in or on buildings and may use the site's outbuildings for this purpose. The outbuildings may also support the house mouse (*Mus musculus*), Norway rat (*Rattus norvegicus*), and various species of roosting bats.

The California Natural Diversity Data Base (CNDDB) was queried for special status species occurrences in the nine USGS 7.5-minute quadrangles containing and immediately surrounding the Project site (Clovis, Lanes Bridge, Friant, Academy, Round Mountain, Sanger, Malaga, Fresno South, and Fresno North). The following special status species and their potential to occur on site are listed in Table 4 below.

Table 4: Special Status Species That Could Occur in the Project Vicinity

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act *(Plants)*			
Species	**Status**	**Habitat**	**Occurrence on the Project Site**
succulent owl's clover (*Castilleja campestris var. succulenta*)	FT, CE, CRPR 1B	Occurs in freshwater wetlands, and occasionally in non-wetlands in Valley grassland and foothill woodlands, between 130 and 2,000 ft. in elevation. Blooms April-May.	**Absent**. No suitable habitat for this species is located on the Project site and adjacent lands.
California jewelflower (*Caulanthus californicus*)	FE, CE, CRPR 1B	Occurs in chenopod scrub, pinyon and juniper woodland, and valley and foothill grassland in sandy soils. Elevations between 200 and 3,300 feet. Blooms February-May.	**Absent**. No suitable habitat for this species is located on the Project site and adjacent lands.
San Joaquin Valley orcutt grass (*Orcuttia inaequalis*)	FT, CE CRPR 1B	Occurs in Central Valley vernal pools between 130 and 820 ft. in elevation. Requires deep pools with prolonged periods of inundation. Blooms April-Sept.	**Absent**. No suitable habitat for this species is located on the Project site and adjacent lands.
hairy orcutt grass (*Orcuttia pilosa*)	FE, CE CRPR 1B	Occurs in Central Valley vernal pools between 65 and 1,215 ft. in elevation. Requires deep pools with	**Absent**. No suitable habitat for this species is located on the Project site and adjacent lands.

		prolonged periods of inundation. Blooms May-Sept.	
Hartweg's golden sunburst (*Pseudobahia bahiifolia*)	FE, CE CRPR 1B	Occurs in grasslands of the western foothills of the Sierra Nevada in heavy clay soils of the Porterville, Cibo, Mt. Olive and Centerville soil series, between 230 and 525 ft. in elevation. Blooms March-April.	**Absent**. No suitable habitat and soils for this species are located on the Project site and adjacent lands.
San Joaquin adobe sunburst (*Pseudobahia peirsonii*)	FT, CE, CRPR 1B	Annual sunflower occurs in grasslands of the Sierra Nevada foothills in heavy clay soils of the Porterville and Centerville series, between 300 and 2,625 ft. in elevation. Blooms March-April.	**Absent**. No suitable habitat and soils for this species are located on the Project site and adjacent lands.
Greene's tuctoria (*Tuctoria greenei*)	FE, CR CRPR 1B	Occurs in vernal pools between 130 and 3,740 ft. in elevation. Requires deep pools with prolonged periods of inundation. Blooms May-Sept.	**Absent**. Sno suitable habitat for this species is located on the Project site and adjacent lands.
CNPS-Listed Species *(Plants)*			
Species	**Status**	**Habitat**	**Occurrence on the Project Site**
Hoover's calycadenia (*Calycadenia hooveri*)	CRPR 1B	Occurs in valley grasslands and foothill woodlands between 200 and 980 ft. in elevation. Blooms June-September.	**Absent.** No suitable habitat for this species is located on the Project site and adjacent lands.
bristly sedge (*Carex comosa*)	CRPR 2B	Found at the margins of lakes and other marsh habitats within valley and foothill grassland and coastal prairie ecosystems. Elevations up to 2,000 ft. Blooms May-September.	**Absent.** No suitable habitat for this species is located on the Project site and adjacent lands.
dwarf downingia (*Downingia pusilla*)	CRPR 2B	Occurs in vernal pools in valley and foothill grassland habitats up to 1,460 ft. in elevation. Blooms March-May.	**Absent.** No suitable vernal pool habitat for this species is located on the Project site and adjacent lands.
spiny-sepaled button-celery (*Eryginum spinosepalum*)	CRPR 1B	Occurs in vernal pools in valley and foothill grasslands of the San Joaquin Valley	**Absent.** No suitable habitat for this species is located on the Project site and adjacent lands.

		between 330 and 840 ft. in elevation. Blooms April-May.	
California satintail (*Imperata brevifolia*)	CRPR 2B	Found in wetland seeps and riparian areas within various types of scrub, chaparral, and desert communities up to 4,000 feet in elevation. Blooms September-May.	**Absent.** No suitable habitat for this species is located on the Project site and adjacent lands.
forked hare-leaf (*Lagophylla dichotoma*)	CRPR 1B	Occurs in woodland and valley and foothill grassland habitats, sometimes in clay soils, at elevations from 165 to 3,150 ft. Blooms April-May.	**Absent.** No suitable habitat for this species is located on the Project site and adjacent lands.
Madera leptosiphon (*Leptosiphon serrulatus*)	CRPR 1B	Occurs in openings in cismontane woodland between 980 and 1,400 ft. in elevation. Blooms April-May	**Absent.** No suitable habitat for this species is located on the Project site and adjacent lands, and the site is outside the elevational distribution for this species.
pincushion navarretia (*Navarretia myersii ssp. myersii*)	CRPR 1B	Found in vernal pools within annual grassland habitats at elevations up to 1,000 ft. Blooms April-May.	**Absent.** No suitable habitat for this species is located on the Project site and adjacent lands.
Sanford's arrowhead (*Sagittaria sanfordii*)	CRPR 1B	Occurs in shallow freshwater marshes, ponds, sloughs, and ditches of the Central Valley and Sierra Nevada foothills up to 2,100 ft. in elevation. Blooms May-October.	**Absent.** No suitable habitat for this species is located on the Project site. Mill Ditch adjacent to the site does not carry permanent flows of water and is presumably also unsuitable to support this species.

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act (*Animals*)			
Species	**Status**	**Habitat**	**Occurrence on the Project Site**
Crotch's bumblebee (*Bombus crotchii*)	CCE	Once common in the Central Valley, this species is now absent from most of it, particularly in the central portion of its historic range. Where present, it is associated with open grassland and scrub habitats, where it relies on	**Absent.** No suitable habitat for this species is located on the Project site and adjacent lands. Moreover, the site is located in a portion of the Central Valley in which the Crotch's bumblebee now appears to be absent.

		food plants of the *Asclepias, Chaenactis, Lupinus, Medicago, Phacelia,* and *Salvia* genera (Williams et al. 2014). None of these plant species occur on site.	
Valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*)	FT	Lives in mature elderberry shrubs of California's Central Valley and Sierra foothills, generally along waterways and in floodplains.	**Absent.** Current accepted VELB distribution does not include the San Joaquin Valley south of Merced County. This species was not observed on site.
vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Occurs in vernal pools, clear to tea-colored water in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** No suitable vernal pool habitat for this species is located on the Project site and surrounding lands.
California tiger salamander (CTS) (*Ambystoma californiense*)	FT, CT	Found primarily in annual grasslands; requires vernal pools for breeding and rodent burrows for aestivation. Although most CTS aestivate within 0.4 mile of their breeding pond, outliers may aestivate up to 1.3 miles away (Orloff 2011).	**Absent.** The site is situated in a matrix of residential and intensive agricultural uses within which this species would not have been able to persist. The closest known extant occurrences are located over 8 miles away, in the grassland complexes northeast of Clovis (CDFW 2024). There is no suitable habitat to support this species.
western spadefoot (*Spea hammondii*)	FPT, CSC	Occurs in grasslands of San Joaquin Valley, where it breeds in vernal pools or other seasonal wetlands and aestivates in underground refugia such as rodent burrows. Baumberger et al. (2019) recorded a mean maximum distance of around 230 feet between breeding and aestivation sites, with an overall maximum of 890 feet.	**Absent.** The site is situated in a matrix of residential and intensive agricultural uses within which this species would not have been able to persist. The closest CNDDB occurrences are located over 8 miles away, in the grassland complexes northeast of Clovis. Although an iNaturalist record of the western spadefoot is mapped somewhat closer to the site, the record states that the

			sighting was actually made in Madera County and the coordinates were randomized due to the species' sensitive status.
western pond turtle (*Actinemys marmorata*)	FPT, CSC	Found in ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires partially submerged rocks or logs or sandy banks for basking sites. Nesting takes place in open areas, on a variety of soil types, and up to ¼ mile away from water.	**Unlikely.** Aquatic habitat is absent from the Project site itself, and all such habitats in the near Project vicinity appear unsuitable for this species. Mill Ditch adjacent to the site does not carry permanent flows of water, is largely unvegetated, and lacks basking structures; as such, it is not expected to support pond turtles. Several borrow pits on a property located immediately southwest of the site appear to regularly pond water; however, per Google Earth, the borrow pits have been in active use since their establishment in 2007 or 2008, and are also unlikely to support this species. The closest CNDDB occurrence is nearly 8 miles to the north at the Enterprise Canal. An iNaturalist sighting is mapped somewhat closer to the site, but the coordinates were randomized due to the species' sensitive status, and the actual location of the sighting is unknown.
Swainson's hawk (*Buteo swainsoni*)	CT	This breeding migrant to California nests in mature trees in riparian areas and oak savannah, and occasionally in lone trees at the margins of agricultural fields. Requires adjacent suitable foraging areas such as	**Possible.** The Project site is situated in the outskirts of Fresno, in a landscape increasingly dominated by residential developments and other uses incompatible with Swainson's hawk ecology. However, the site represents potential low

		grasslands or alfalfa fields supporting rodent populations.	quality foraging habitat for this species, and trees adjacent to the site could conceivably be used for nesting. Given that Swainson's hawks are occasionally sighted in the general vicinity (eBird 2024), there is some chance for this species to occur on site from time to time.
western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT, CE	Frequents valley foothill and desert riparian habitats in scattered locations in California.	**Absent.** This species has been extirpated from the Project vicinity. No suitable habitat for this species is located on the Project site and adjacent lands
least Bell's vireo (*Vireo bellii pusillus*)	FE, CE	Uncommon. Occurs in riparian habitat, especially dense, low-growing thickets of willow and mesquite, often with a taller overstory of willows, cottonwoods, and sycamores. Forages in adjacent chaparral and coastal sage scrub.	**Absent.** No suitable habitat for this species is located on the Project site and adjacent lands.
tricolored blackbird (*Agelaius tricolor*)	CT	Nests colonially near fresh water in dense cattails or tules, in thickets of willows or shrubs, and increasingly in grain fields. Forages in grassland and cropland areas.	**Possible.** Tricolored blackbirds are occasionally sighted in the general Project vicinity (eBird 2024), and may occasionally pass through or forage on site. This species is not expected to nest on site or in the near vicinity. Analysis of aerial imagery indicates the site's agricultural fields are typically planted to row vegetables, and not to crops suitable for tricolored blackbird nesting such as wheat or triticale. Adjacent lands consist of orchards, residential developments, and other uses incompatible with tricolored blackbird

			nesting ecology, such that individuals of this species are unlikely to be drawn into this landscape for this purpose.
Fresno kangaroo rat (*Dipodomys nitratoides exilis*)	FE, CE	Historically occupied chenopod scrub and grassland communities on the San Joaquin Valley floor east of the wetlands of the San Joaquin River and Fresno Slough, but no populations are presently known. Associated with bare alkaline clay-based soils in level terrain.	**Absent.** No suitable habitat for this species is located on the Project site and adjacent lands. No known populations of this species remain in Fresno County.
San Joaquin kit fox (SJKF) (*Vulpes macrotis mutica*)	FE, CT	Frequents desert alkali scrub and annual grasslands and may forage in adjacent agricultural habitats. Utilizes enlarged ground squirrel burrows as denning habitat. May become adapted to urban environments, as has occurred in the cities of Bakersfield, Taft, and Coalinga.	**Unlikely.** The SJKF is extremely uncommon in the Project vicinity; there is only one CNDDB occurrence of this species within a 10-mile radius of the site, and it is historical in nature, mapped generally to the Sanger area sometime in the 1980s. The site is situated in a matrix of residential developments, orchards, and other land uses generally incompatible with kit fox ecology. There is no known record of urban-adapted kit foxes in or around Fresno. While portions of the Project site are theoretically suitable for kit fox foraging and denning, this species is highly unlikely to occur in the Project vicinity such that it would be able to access the site.
California Species of Special Concern or Fully Protected *(Animals)*			
Species	**Status**	**Habitat**	**Occurrence on the Project Site**
hardhead (*Mylopharadon conocephalus*)	CSC	Occurs in clear deep streams with a slow but present flow, in a low to mid-elevation environment.	**Absent.** Suitable aquatic habitat is absent from the Project site.

		May also inhabit lakes or reservoirs. Spawns in pools, runs, or rifles with a gravel and rocky substrate.	
Northern California legless lizard (*Anniella pulchra*)	CSC	Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Requires moist soils.	**Absent.** No suitable habitat for this species is located on the Project site and adjacent lands..
coast horned lizard (*Phrynosoma blainvillii*)	CSC	Ranges from the central and southern California coast inland through the western Sierra Nevada, where it is found in grassland and open areas within woodland and forest habitats. Often found in sandy areas including washes and floodplains.	**Absent.** No suitable habitat for this species is located on the Project site and adjacent lands..
California glossy snake (*Arizona elegans occidentalis*)	CSC	Inhabits arid scrub, rocky washes, grasslands, and chaparral, where it forages nocturnally, hiding in underground burrows during the day. Prefers loose, sandy soils.	**Absent.** No suitable habitat for this species is located on the Project site and adjacent lands..
burrowing owl (*Athene cunicularia*)	CSC	Frequents open, dry annual or perennial grasslands, deserts, and scrublands characterized by low growing vegetation. Dependent upon burrowing mammals, most notably the California ground squirrel, for nest burrows.	**Unlikely.** The Project site is situated in the outskirts of Fresno, in a landscape dominated by residential development, orchards, and other uses incompatible with burrowing owl ecology. Although burrowing owls may sometimes become established in urban open spaces, as has been documented at the Fresno-Yosemite International Airport (CDFW 2024, eBird 2024), the Project site and adjacent properties do not contain habitats that would

			be likely to attract or support this species.
pallid bat (*Antrozous pallidus*)	CSC	Found in grasslands, chaparral, and woodlands, where it feeds on ground- and vegetation-dwelling arthropods, and occasionally takes insects in flight. Prefers to roost in rock crevices, but many also use tree cavities, caves, bridges, and buildings.	**Possible.** The pallid bat could forage on or over the site, and could potentially roost in the site's outbuildings.
spotted bat (*Euderma maculatum*)	CSC	Typically associated with prominent rocky habitats where it roosts in crevices, but is known to occur in a wide range of habitats. Forages in large open habitats, including Ponderosa pine forests and marshlands.	**Possible.** The spotted bat could forage over the site, but roosting habitat is absent.
western mastiff bat (*Eumops perotis ssp. californicus*)	CSC	Frequents open, semi-arid to arid habitats, including conifer, and deciduous woodlands, coastal scrub, grasslands, palm oasis, chaparral and urban. Roosts in cliff faces, high buildings, and tunnels.	**Possible.** The western mastiff bat could forage over the site, but roosting habitat is absent.
American badger (*Taxidea taxus*)	CSC	Found in drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Utilize subterranean burrows, usually self-dug, for rest and reproduction.	**Unlikely.** The site's disturbed nature and urban setting make it highly unlikely to be occupied or utilized by American badgers.

OCCURRENCE DESIGNATIONS AND STATUS CODES

- Present: Species observed on the site at time of field surveys or during recent past.
- Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.
- Possible: Species not observed on the site, but it could occur there from time to time.
- Unlikely: Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient.
- Absent: Species not observed on the site and precluded from occurring there because habitat requirements not met.

STATUS CODES

FE	Federally Endangered	CE	California Endangered	
FT	Federally Threatened		CT	California Threatened
FC	Federal Candidate		CCE	California Candidate Endangered
			CFP	California Fully Protected
			CSC	California Species of Special Concern
			CR	California Rare

CRPR CODES

1A	Plants Presumed Extinct in California
1B	Plants Rare, Threatened, or Endangered in California and elsewhere
2	Plants Rare, Threatened, or Endangered in California, but more common elsewhere

Source: Appendix C

Nesting Birds and Raptors

The Project site has the potential to be used for nesting by several avian species, primarily those that nest in ground vegetation or barren areas, or in association with the built environment. Likely species include the mourning dove, killdeer, house finch, and black phoebe. The site's few trees are small and of low nesting value, but nevertheless have the potential to be used by certain species including American robins (*Turdus migratoriuspl*) and northern mockingbirds (*Mimus polyglottos*). Larger trees occur on nearby lands; these could support nesting by a wide variety of birds and raptors, possibly including the Swainson's hawk (*Buteo swainsoni*), a California Threatened species. If birds or raptors are nesting on or near the site at the time of future residential buildout, individual birds could be killed or disturbed such that they would abandon their nests. Construction-related mortality of nesting birds and construction-related disturbance leading to nest abandonment are potentially significant impacts of the Project. Moreover, such incidents would violate the Migratory Bird Treaty Act, California Fish and Game Code, and, in the case of the Swainson's hawk, the California Endangered Species Act.

As summarized in Table 4, the tricolored blackbird (*Agelaius tricolor*) may be spotted in the general Project vicinity and may occasionally pass through or forage on site. This species is not expected to nest on site or in the near vicinity. The nearby agricultural fields are typically planted to row crops (vegetables) and are not crops suitable for tricolored blackbird nesting. Adjacent land consisting of orchards, residential development, and other uses are incompatible with tricolored blackbird nesting ecology, such that individuals are unlikely to be drawn to the site.

Swainson's hawks are not expected to be adversely affected by Project-related loss of low quality foraging habitat. Nesting habitat is altogether absent from the Project site, and potential foraging habitat consists of approximately 10 acres of agricultural fields and ruderal areas that are expected to be visited only occasionally by individuals of this species given the urban setting and are unlikely to represent an important part of any individual foraging range. Similar or higher

quality foraging habitat for this species is regionally abundant. For these reasons, Project-related loss of habitat for the Swainson's hawk is considered less than significant under CEQA.

Implementation of Mitigation Measures BIO-1, BIO-3, BIO-4, BIO-8 and BIO-9 will reduce potential Project impacts to nesting birds and raptors, including the State-listed threatened Swainson's hawk and tricolored blackbird, to a less than significant level under CEQA and will ensure compliance with State and federal laws protecting these species.

Roosting Bats

A few native bat species have the potential to roost in the Project site's outbuildings. Among these are the pallid bat (*Antrozous pallidus*), a California Species of Special Concern. These structures will be removed to accommodate Project construction. Any bats roosting in the structures at the time of their demolition and removal are likely to be injured or killed. Construction-related injury or mortality of the pallid bat and other roosting bats is considered a potentially significant impact of the Project.

The Project will not result in a significant loss of roosting or foraging habitat for the pallid bat. Although a few potential roost structures may be removed, numerous similar rural structures to the north and south, as well as natural roosting places such as trees, will remain available near the Project vicinity. This includes accessory structures related to rural residences located directly north and south of the Project site. The site does not offer unique foraging habitat for the pallid bat, nor is it likely to represent an important part of any individual foraging range, given its disturbed nature and urban setting. Similar and higher quality foraging habitats are abundant in the Project vicinity and elsewhere in the region.

Implementation of Mitigation Measures BIO-5, BIO-6, and BIO-7 will reduce potential construction-related impacts to the special-status pallid bat and other roosting bats to a less than significant level.

Special-Status Plant Species

As noted above, the Project site has been under continuous crop cultivation and showed remnants of recently harvested crops. Sixteen special status plant species have been documented in the general vicinity of the Project site (see Table 4). Per the BE, the conducted biological survey did not observe any of the 16 species on the Project site and are considered to be absent from or unlikely to occur on the Project site due to an absence of suitable habitat and/or soils, the site's being situated outside of the species' distribution, or a combination thereof. The Project

is not expected to adversely affect these species, either directly or indirectly, and impacts would be less than significant.

Special-Status Wildlife Species

Twenty-one special status wildlife species have been documented in the general vicinity of the Project site or are known to occur regionally (Table 4). Of these, 16 are considered absent from or unlikely to occur on the site due to the absence of suitable habitat, the site's urban setting and other landscape factors, and/or the site's being situated outside of the species' known distribution. These include the Crotch's bumblebee (*Bombus crotchii*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), vernal pool fairy shrimp (*Branchinecta lynchi*), California tiger salamander (*Ambystoma californiense*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), least Bell's vireo (*Vireo bellii pusillus*), Fresno kangaroo rat (Dipodomys nitratoides exilis), San Joaquin kit fox (Vulpes macrotis mutica), hardhead (*Mylopharadon conocephalus*), western spadefoot (*Spea hammondii*), western pond turtle (*Actinemys marmorata*), Northern California legless lizard (*Anniella pulchra*), coast horned lizard (*Phrynosoma blainvillii*), California glossy snake (*Arizona elegans occidentalis*), burrowing owl (*Athene cunicularia*), and American badger (*Taxidea taxus*). Because these species have no appreciable potential to occur on site, they are not expected to be affected by the Project, directly or indirectly. However, with implementation of MM BIO-1 through BIO-9, Project impacts for these species would be less than significant.

The remaining species, Swainson's hawk (*Buteo swainsoni*), tricolored blackbird (*Agelaius tricolor*), Pallid bar (*Antrozous pallidus*), spotted bat (*Euderma maculatum*), and Western mastiff bat (*Eumops perotis ssp*. *Californicus*) were determined to have possible occurrence within the Project site. In the previous discussions above, recommended Mitigation Measures BIO-1 through BIO-9 would reduce impacts to the remaining possible species and result in a less than significant impact.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?

Future development that occurs in the vicinity of the San Joaquin River, its tributaries, any lakes or streams, and/or open grasslands with seasonal wetlands, may result in a significant impact to riparian habitat or a special-status natural community. As noted in the BE (Appendix C), no riparian habitat or other sensitive natural communities occur within the Project site, or within the vicinity of the Project

site. As a result, Project impacts would be less than significant.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Future development that occurs in the vicinity of the San Joaquin River corridor may result in significant impacts to protected wetlands. No aquatic resources occur within the Project site. Mill Ditch, an irrigation ditch, is located to the south of the Project site and is designated as a wetland by the National Wetlands Inventory/National Hydrology Database. However, Mill Ditch does not carry permanent flows of water, is largely unvegetated, and lacks basking structures; as such, it is not expected to support wildlife. The Project would develop land north of McKinley Avenue and would not impact Mill Ditch. As a result, the impact would be less than significant.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Open space areas, undeveloped land, and agricultural land are mainly located along the boundaries of the City, particularly near the northern boundary along the San Joaquin River corridor. The San Joaquin River corridor functions as a wildlife movement corridor for a number of terrestrial and aquatic mammals and birds. The San Joaquin River corridor facilitates movement of wildlife species from the City to the Sierra Nevada Mountains to the east and open agricultural land to the west.

Mill Ditch, located immediately south of the Project site, may facilitate some wildlife movement through the surrounding matrix of residential and intensive agricultural uses, but is unlikely to function as a regionally important movement corridor due to its disturbed nature and limited vegetative cover, and because it does not interconnect blocks of natural land or other high-value wildlife areas (Live Oaks Associates, 2024). Wildlife utilizing this corridor would presumably already tolerate a fairly high level of anthropogenic disturbance and are not expected to be substantially affected by residential buildout of the Project site. Project impacts to wildlife movement corridors are considered less than significant.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The proposed Project would not conflict with any local policies or ordinances protecting biological resources. Though the proposed Project is subject to provisions of the City's Municipal Code regarding trees on public property (Article

3 of Section 13 of the City of Fresno Municipal Code), the proposed Project would comply with all applicable regulations and would not conflict with any local policies or ordinances protecting biological resources. As a result, the impact would be less than significant.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The PG&E San Joaquin Valley Operation and Maintenance (O&M) Habitat Conservation Plan (HCP)[5] was approved in 2007 and covers portions of nine counties, including Fresno County. This HCP covers PG&E activities which occur as a result of ongoing O&M that would have an adverse impact on any of the 65 covered species and provides incidental take coverage from the USFWS and CDFW. This Project is not covered by the PG&E HCP.

The Project site is not located within the covered area of any HCP, Natural Community Conservation Plan (NCCP), or other adopted local, regional or state HCP. Mitigation measures BIO-1 through BIO-9 are largely consistent with avoidance and minimization measures included in the PG&E HCP. Therefore, the Project would not conflict with the provisions of the PG&E HCP and the proposed Project and would have no impact.

Mitigation Measures

BIO-1: a) Within 14 days prior to the start of Project ground-disturbing activities, a pre-construction clearance survey with a 500-foot buffer where land access is permitted should be conducted by a qualified biologist knowledgeable in the identification of these species and approved by the CDFW. Surveys need not be conducted for all areas at one time; they may be phased so that surveys occur within 14 days of the portion of the Project site that will be disturbed. If any special status species or their sign are observed during the preconstruction clearance survey, the biologist will determine the appropriate next steps to occur, which can include but are not limited to those listed below. If no evidence of special status species is observed during the survey, no further action is warranted.

Surveys for burrowing owl will follow CDFW protocol:

5 Pacific Gas and Electric (PG&E). 2007. PG&E San Joaquin Valley Operation & Maintenance Habitat Conservation Plan. Available online at: https://ecos.fws.gov/docs/plan_documents/thcp/thcp_838.pdf (accessed September 2024)

If no evidence or observation of these species is noted during the preconstruction survey, no further action is required. If one of these species occurs on-site, the biologist shall determine whether biological monitoring or the implementation of avoidance buffers may be warranted.

If dens/burrows that could support any of these species are discovered during the pre-activity surveys conducted the avoidance buffers outlined below should be established. No work would occur within these buffers unless the biologist approves and monitors the activity.

Burrowing Owl (active burrows)

- Non-breeding season: September 1 – January 31 – 160 feet
- Breeding season: February 1 – August 31 – 250 feet

American Badger/SJKF

- Potential or Atypical den – 50 feet
- Known den – 100 feet
- Natal or pupping den – 500 feet, unless otherwise specified by CDFW.

b) A report outlining the results of the preconstruction clearance survey shall be prepared and submitted to City of Fresno prior to the issuance of grading or building permits.

BIO-2: The following avoidance and minimization measures shall be implemented during all construction phases of the Project to reduce the potential for impact from the Project. They are modified from the *U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered SJKF Prior to or During Ground Disturbance* (USFWS 2011, Appendix E).

a. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the construction or Project Site.
b. Construction-related vehicle traffic shall be restricted to established roads and predetermined ingress and egress corridors, staging, and parking areas. Vehicle speeds shall not exceed 20 miles per hour (mph) within the Project Site.
c. To prevent inadvertent entrapment of kit fox or other animals during construction, the contractor shall cover all excavated, steep-walled holes or trenches more than two feet deep at the close of each workday with plywood or similar materials. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks shall be installed in the trench. Before such holes or trenches are filled,

the contractor shall thoroughly inspect them for entrapped animals. All construction-related pipes, culverts, or similar structures with a diameter of four-inches or greater that are stored on the Project Site shall be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in anyway. If at any time an entrapped or injured kit fox is discovered, work in the immediate area shall be temporarily halted and USFWS and CDFW shall be consulted.

d. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the USFWS and CDFW have been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.
e. No pets, such as dogs or cats, shall be permitted on the Project Sites to prevent harassment, mortality of kit foxes, or destruction of dens.
f. Use of anti-coagulant rodenticides and herbicides in Project Sites shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional Project-related restrictions deemed necessary by the USFWS and CDFW. If rodent control must be conducted, zinc phosphide shall be used because of the proven lower risk to kit foxes.
g. A representative shall be appointed by the Project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative shall be identified during the employee education program and their name and telephone number shall be provided to the USFWS.
h. The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working days of the accidental death or injury to a SJKF during Project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species, at the

addresses and telephone numbers below. The CDFW contact can be reached at (559) 243-4014 and R4CESA@wildlifeca.gov.

i. All sightings of the SJKF shall be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed shall also be provided to the Service at the address below.

j. Any Project-related information required by the USFWS or questions concerning the above conditions, or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at: Endangered Species Division, 2800 Cottage Way, Suite W 2605, Sacramento, California 95825-1846, phone: (916) 414-6620 or (916) 414-6600.

BIO-3: If construction must occur between February 1 and August 31, a qualified biologist shall conduct surveys for active bird nests within 7 days prior to the start of work during this period. The survey area will encompass the site and accessible surrounding lands within ¼ mile for nesting Swainson's hawks, 500 feet for other nesting raptors, and 250 feet for migratory nesting birds. This survey may be completed in conjunction with the preconstruction clearance survey outlined in MM BIO-1. A copy of the survey report shall be submitted to the City of Fresno prior to the issuance of grading or building permits.

BIO-4: Should any active nests be discovered in or near proposed construction zones, the biologist shall identify a suitable construction-free buffer around the nest. This buffer will be identified on the ground with flagging or fencing and will be maintained until the biologist has determined that the young have fledged and are capable of foraging independently.

BIO-5: Within 10 days prior to the removal of the site's outbuildings, a qualified biologist shall complete a survey the structures for roosting bats. The biologist shall look for individuals, guano, and staining, and will listen for bat vocalizations. If warranted, the biologist will wait for nighttime emergence of bats from roost sites. A copy of the survey report shall be submitted to the City of Fresno prior to removal of the structures. If no evidence or observations of bats are noted, no further action shall be taken.

BIO-6: Should any active maternity bat roosts be discovered, the biologist shall identify a suitable construction-free buffer around the maternity roost. The buffer will be identified on the ground with flagging or fencing and will be maintained until the biologist has determined that the nursery is no longer active.

BIO-7: If a non-breeding bat colony is found in structures to be removed, the individuals will be humanely evicted, under the direction of a qualified biologist, to ensure that bats are not physically harmed by demolition/removal activities.

BIO-8: If Project construction activities must occur during the Swainson's hawk nesting season (February 15 to August 31), pre-construction activity surveys should be conducted for Swainson's hawk nests in accordance with the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley, Swainson's Hawk Technical Advisory Committee (CDFG 2000). Timing and the number of phases of surveys can be adjusted based on the timing of the construction schedule. The surveys maybe phased to coincide with active construction areas plus a 0.5-mile buffer of those areas.

BIO-9: No mature trees that could be used by nesting Swainson's hawk will be removed during construction of the Project. If an active Swainson's hawk nest is discovered at any time within 0.5 mile of active construction, a qualified biologist should complete an assessment of the potential for current construction activities to impact the nest. The assessment would consider the type of construction activities, the location of construction relative to the nest, the visibility of construction activities from the nest location, and other existing disturbances in the area that are not related to construction activities of this Project. Based on this assessment, the biologist will determine if construction activities can proceed, and the level of nest monitoring required. Construction activities should not occur within 500 feet of an active nest but depending upon conditions at the site this distance may be reduced. Full-time monitoring to evaluate the effects of construction activities on nesting Swainson's hawks may be required. The qualified biologist should have the authority to stop work if it is determined that Project construction is disturbing the nest. These buffers may need to increase depending on the sensitivity of the nesting Swainson's hawk to disturbances and at the discretion of the qualified biologist. No avoidance would be needed if construction occurs near a known Swainson's hawk nest outside of the Swainson's hawk nesting season.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES – Would the Project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?		X		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		X		
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

The analysis in this section is substantiated by Cultural Resources Study and Historic Resources Evaluation (Applied Earthworks, 2024), prepared for the Project and is attached as Appendix D.

DISCUSSION

a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

A historical resource defined by CEQA includes one or more of the following criteria: 1) the resource is listed, or found eligible for listing in, the California Register of Historical Resources (CRHR); 2) listed in a local register of historical resources as defined by Public Resources Code (PRC) Section 5020.1(k); 3) identified as significant in a historical resources survey meeting the requirements of PRC Section 5024.1(g); or 4) determined to be a historical resource by the Project's lead agency (PRC Section 21084.1; CEQA Guidelines Section 15064.(a)). Under CEQA, historical resources include built-environment resources and archaeological sites.

A records search was conducted at the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS); desktop research to better understand the history of land use in the Project area; a search of the Native American Heritage Commission's (NAHC)

Sacred Lands File, and nongovernmental outreach to local tribes and individuals. A Sacred Lands File request was also submitted to the Native American Heritage Commission. A response dated March 5, 2024, indicates negative results. An intensive pedestrian survey of the 8.73-acre Project area was also conducted on March 29, 2024 to identify archaeological and historical built-environment cultural resources and evaluated one historical built-environment resource for listing in the CRHR.

The SSJVIC records search revealed no cultural resource investigations have occurred within the Project area and four investigations have occurred in the 0.5-mile search radius. They further reported no cultural resources within the Project area or within a 0.5-mile search radius. An archaeological and historic built-environment pedestrian survey of the entire Project area was conducted by a qualified cultural resources specialist. No surface precontact or historic-era isolated artifacts, archaeological features, or sites were discovered. One historic-era structure, a 1,278-foot-long segment of the Mill Ditch, along the southern boundary of the Project area was identified. Through application of the CRHR evaluation criteria, it was determined that the Mill Ditch is significant for its association with early Fresno County irrigation under Criterion 1 and for its association with local irrigation pioneer Moses J. Church under Criterion 2. However, the recorded segment does not retain sufficient integrity to convey this significance. Therefore, the 1,278-foot-long segment of the Mill Ditch in the Project area is not eligible for inclusion in the CRHR and does not qualify as a historical resource under CEQA. No further action is recommended for the management of this segment of the Mill Ditch.

The cultural resource study did not identify any historical resources within the Project area. However, if cultural resources are discovered during construction activities, adherence to the Mitigation Measure CUL-1 would reduce potential impacts to unknown historical resources to less than significant.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

According to the CEQA Guidelines, “When a Project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource” (CEQA Guidelines Section 15064.5(c)(1)). Those archaeological sites that do not qualify as historical resources shall be assessed to determine if these qualify as “unique archaeological resources” (California PRC Section 21083.2). No archaeological resources were identified in the Project site. However, due to the nominal amount of prehistoric archaeological information within the majority of the City, including the Project site, there is potential to impact prehistoric archaeological resources during grading and construction activities within

previously undisturbed soils. Adherence to the requirements in Mitigation Measure CUL-2 would reduce potential impacts to unknown archeological resources to less than significant.

c) Disturb any human remains, including those interred outside of formal cemeteries?

Disturbance of human remains interred outside of formal cemeteries would result in a significant impact. If human remains are identified during Project construction, Section 7050.5 of the California Health and Safety Code and Section 5097.98 of the Public Resources Code shall apply, as appropriate. Although there is no record of isolated human remains or unknown cemeteries on the Project site, there is always a possibility that ground-disturbing activities associated with future development may uncover previously unknown buried human remains. Adherence to the requirements in Mitigation Measure CUL-3 would reduce potential impacts to unknown human remains to less than significant.

Mitigation Measures

CUL-1: If previously unknown resources are encountered before or during grading activities, construction shall stop in the immediate vicinity of the find and a qualified historical resources specialist shall be consulted to determine whether the resource requires further study. The qualified historical resources specialist shall make recommendations to the City on the measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines and the City's Historic Preservation Ordinance.

If the resources are determined to be unique historical resources as defined under Section 15064.5 of the CEQA Guidelines, measures shall be identified by the monitor and recommended to the City. Appropriate measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds.

No further grading shall occur in the area of the discovery until the City approves the measures to protect these resources. Any historical artifacts recovered as a result of mitigation shall be provided to a City-approved institution or person who is capable of providing long-term preservation to allow future scientific study.

CUL-2: In the event that buried prehistoric archaeological resources are discovered during excavation and/or construction activities, construction shall stop in the immediate vicinity of the find and a qualified archaeologist shall be consulted to determine whether the resource requires further study. The qualified

archaeologist shall make recommendations to the City on the measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines. If the resources are determined to be unique prehistoric archaeological resources as defined under Section 15064.5 of the CEQA Guidelines, mitigation measures shall be identified by the monitor and recommended to the City. Appropriate measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. No further grading shall occur in the area of the discovery until the City approves the measures to protect these resources. Any prehistoric archaeological artifacts recovered as a result of mitigation shall be provided to a City-approved institution or person who is capable of providing long-term preservation to allow future scientific study.

If prehistoric resources are found during the field survey or literature review, the resources shall be inventoried using appropriate State record forms and submit the forms to the Southern San Joaquin Valley Information Center. The resources shall be evaluated for significance. If the resources are found to be significant, measures shall be identified by the qualified archaeologist. Similar to above, appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. In addition, appropriate mitigation for excavation and construction activities in the vicinity of the resources found during the field survey or literature review shall include an archaeological monitor. The monitoring period shall be determined by the qualified archaeologist. If additional prehistoric archaeological resources are found during excavation and/or construction activities, the procedure identified above for the discovery of unknown resources shall be followed.

CUL-3: In the event that human remains are unearthed during excavation and grading activities. Project, all activity shall cease immediately. Pursuant to Health and Safety Code (HSC) Section 7050.5, no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98(a). If the remains are determined to be of Native American descent, the coroner shall within 24 hours notify the Native American Heritage Commission (NAHC). The NAHC shall then contact the most likely descendent of the deceased Native American, who shall then serve as the consultant on how to proceed with the remains. Pursuant to PRC Section 5097.98(b), upon the discovery of Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendants

regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the descendants all reasonable options regarding the descendants' preferences for treatment.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. ENERGY – Would the Project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?			X	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			X	

The analysis in this section is substantiated in part, by an Air Quality and Greenhouse Gases Impact Assessment (VRPA, 2025), prepared for the Project and is attached as Appendix B.

DISCUSSION

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

The proposed Project would be constructed using energy efficient modern building materials and construction practices, and the proposed Project would also use new modern, energy-efficient appliances and equipment, in accordance with the Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608). Development of the Project will not include natural gas appliances or natural gas plumbing (VRPA, 2025). The expected energy consumption during construction and operation of the proposed Project would be consistent with typical usage rates for residential uses; however, energy consumption is largely a function of personal choice and the physical structure and layout of buildings. It can be assumed that implementation of the proposed Project would result in additional energy demand in the City; however, since the proposed Project would be located in a developed urban area, is planned for residential development under the Fresno General Plan, and would be required to comply with the City's energy efficiency policies, including General Plan Policies RC-8-a through RC-8-k, the proposed Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources,

during Project construction or operation. Therefore, the Project would have a less than significant impact.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

During construction, fossil fuels, electricity, and natural gas would be used by construction vehicles and equipment. The energy consumed during construction would be temporary in nature and would be typical of other similar construction activities in the city. Federal and State regulations in place require the use of fuel efficient equipment and vehicles and that wasteful activities, such as diesel idling, to be limited. Further, construction contractors, in an effort to ensure cost efficiency, would not be expected to engage in wasteful or unnecessary energy and fuel practices, such as diesel idling.

The proposed Project would be required to comply with the CALGreen Code (CCR Title 24, Part 11) and the California Energy Code (CCR Title 24, Part 6), which includes provisions related to insulation and design aimed at minimizing energy consumption. The expected energy consumption during operation of the proposed project would be consistent with typical usage rates for residential uses; however, energy consumption. It can be assumed that implementation of the proposed Project would result in additional energy demand in the city; however, the proposed building would be required to comply with applicable California Green Building Standards Code and California Energy Code requirements to encourage energy efficient design. Therefore, the Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources, and impacts would be less than significant.

The proposed Project would be compliant with relevant energy-efficient policies and applicable building code standards as outlined in the City's General Plan and development standards, as well as those under the California Green Building Standards Code and California Energy Code. Therefore, the proposed Project would not conflict or obstruct state and local plans for energy efficiency and renewable energy, and the impact would be less than significant.

Mitigation Measures

No mitigation is required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS – Would the Project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		

The analysis in Section (f) is substantiated by a Paleontological Records Search prepared for the Project (SDMNH, 2025), prepared for the Project and is attached as Appendix E.

DISCUSSION

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Fault ruptures are generally expected to occur along active fault traces that have exhibited signs of recent geological movement (i.e., in the last 11,000 years). Alquist-Priolo Earthquake Fault Zones delineate areas around active faults with potential surface fault rupture hazards that would require specific geological investigations prior to approval of certain kinds of development within the delineated area. The Project site is not located within an Alquist-Priolo Earthquake Fault Zone. In addition, no known active or potentially active faults or fault traces are located in the Project vicinity. The nearest active faults

are the Nunez Fault, located approximately 56 miles from the Project site, and the Round Valley Fault, located approximately 66 miles from the Project site.[6] As a result, potential impacts related to fault ruptures would be less than significant.

ii. Strong seismic ground shaking?

The City is located in an area with historically low to moderate level of seismicity. However, strong ground shaking could occur within the Project site during seismic events and occurrences have the possibility to result in significant impacts. Major seismic activity along the nearby Great Valley Fault Zone or the Nunez Fault, or other associated faults, could affect the Project site through strong seismic ground shaking. Strong seismic ground shaking could potentially cause structural damage to the proposed Project. However, due to the distance to the known faults, hazards due to ground shaking would be minimal. In addition, compliance with the California Building Code (Title 24, California Code of Regulations) would ensure that the geotechnical design of the proposed Project would reduce potential impacts related to seismic ground shaking to less than significant.

iii. Seismic-related ground failure, including liquefaction?

The predominant soils within the City consist of varying combinations of loose/very soft to very dense/hard silts, clays, sands, and gravels. Groundwater has been encountered near the ground surface in close proximity to water-filled features such as canals, ditches, ponds, and lakes. Based on these characteristics, the potential for soil liquefaction within the City ranges from very low to moderate due to the variable density of the subsurface soils and the presence of shallow groundwater. In addition to liquefaction, the City could be susceptible to induced settlement of loose unconsolidated soils or lateral spread during seismic shaking events. Based on the nature of the subsurface materials and the relatively low to moderate seismicity of the region, seismic settlement and/or lateral spread are not anticipated to represent a substantial hazard within the City during seismic events.

Based on the nature of the subsurface materials and the relatively low to moderate seismicity of the region, potential for seismic related ground failure is low in Fresno. Additionally, compliance with the Fresno Municipal Code and the California Building Code, as well as General Plan Policies NS-2-a through NS-2-d would ensure that potential impacts associated with seismic-related ground failure would be less than significant.

6 Department of Conservation. 2024. EQ Zapp: California Earthquake Hazards Zone Application. Available online at: https://www.conservation.ca.gov/cgs/geohazards/eq-zapp (accessed September 2024).

iv. Landslides?

A landslide generally occurs on relatively steep slopes and/or on slopes underlain by weak materials. The City is located within an area that consists of mostly flat topography within the Central Valley. Accordingly, there is no risk of large landslides in the majority of the City. However, there is the potential for landslides and slumping along the steep banks of rivers, creeks, or drainage basins such as the San Joaquin River bluff and the many unlined basins and canals that trend throughout the City. The Project site is located in a relatively flat area, and it is not in the vicinity of the San Joaquin River bluff or any unlined basin or canal. Therefore, the potential for the proposed Project to expose people or structures to risk as a result of landslides would be less than significant.

b) Result in substantial soil erosion or the loss of topsoil?

Grading and earthmoving during Project construction has the potential to result in erosion and loss of topsoil. Exposed soils could be mixed in stormwater runoff and transported off the Project site.

In compliance with the General Plan, any development Project disturbing one or more acres of soil must obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ). Construction activities subject to the Construction General Permit includes clearing, grading, and other ground-disturbing activities such as stockpiling or excavation. The Construction General Permit requires development and implementation of a Storm Water Pollution Prevention Plan (SWPPP).

A SWPPP includes features designed to eliminate contact of rainfall and stormwater runoff with sources of pollution that occur on construction sites, the main source being soil erosion resulting from unstabilized soils coming in contact with water and wind. These features are known as Best Management Practices (BMPs). Common BMPs to limit pollution in stormwater runoff from construction sites include maintaining or creating drainages to convey and direct surface runoff away from bare areas and installing physical barriers such as berms, silt fencing, waddles, straw bales, and gabions. As required under Policy NS-3-e of the General Plan, to prevent and reduce existence of urban stormwater pollutants pursuant to the requirements of the National Pollution Discharge Elimination Systems Act (NPDES), compliance with requirements under NPDES Construction General Permit, including the approval of a SWPPP and implementation of BMPs, would reduce Project construction impacts on water quality, and the potential for soil

erosion and the loss of topsoil to less than significant levels.

Once constructed and operational, the Project is unlikely to have large areas of exposed topsoil. The majority of the site would be completely developed with residences and associated infrastructure such as driveways, landscaping and roadways. Impact related to soil erosion during long term operations would be less than significant.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

As described in discussion a) in this section, soils on the Project site would not be subject to liquefaction, lateral spreading, or landslides. Additionally, the proposed would be required to conform with the California Building Code, which would reduce risks related to unstable soils. Therefore, the proposed Project would have a less-than-significant impact related to unstable soils.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property?

The surface and near-surface soils observed throughout the City consist of varying combinations of clays, silts, sands, gravels, and cobbles. Expansive soils are characterized by the potential for shrinking and swelling as the moisture content of the soil decreases and increases, respectively. The clayey soils, which consist of very fine particles, are considered to be slightly to moderately expansive. The Project site contains Ramona loam, a soil with relatively low clay content and low expansion potential.[7] Furthermore, compliance with recommendations from the City of Fresno Municipal Code would reduce potential impacts related to expansive soils to less than significant.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

The Project site does not propose to install septic systems. The Project would be served by a wastewater conveyance system maintained by the City's Wastewater Management Division (WMD). Wastewater from the City's collection system is treated at the Fresno/Clovis Regional Wastewater Reclamation Facility.

7 Natural Resources Conservation Service. 2024. Web Soil Survey. Available online at: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (accessed September 2024).

Development of the proposed Project would not involve the use of septic tanks or alternative wastewater disposal systems. Therefore, the proposed Project would have no impact related to the use of septic tanks or alternative wastewater disposal systems.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

A Paleontological Records Search (Appendix E) was conducted by the San Diego Museum of Natural History (SDMNH) staff in order to determine if any document fossil collection localities occur within the Project site or within the immediate surrounding areas. Published geological reports covering the Project area indicate that the proposed Project has the potential to impact recent alluvial fan deposits in the Great Valley (correlated with the late Pleistocene-age Modesto Formation). The Modesto Formation consists of relatively recent sediments of late Pleistocene-age (approximately 120,000 to 11,700 years old) derived from erosion of the Sierra Nevada mountains to the northeast and deposited by streams flowing downhill into the southern San Joaquin basin.

While the SDNHM does not have any documented nearby localities, the Modesto Formation is known to preserve significant fossils remains, as evidenced by a well-preserved and diverse vertebrate fauna discovered at a Caltrans construction site located along SR 99, about seven miles southeast of Merced. Fossils were collected from 39 localities discovered at varying depths of two to 27 feet below original ground surface, and include skeletal elements of freshwater fishes (e.g., minnows, three-spine sticklebacks), amphibians (e.g., frogs, toads), reptiles (e.g., turtles, snakes), birds (e.g., geese, quail, scrub jays, mocking birds, robins, meadowlark), small mammals (e.g., shrews, rabbits, ground squirrels, kangaroo rats, pack rats, gophers, mice), large-bodied herbivores (e.g., ground sloths, mammoth, horse, camel, llama, deer, bison), and carnivores (dire wolf, coyote, mountain lions).

Based on the known fossil productivity of the Modesto Formation in this region, it is assigned a high paleontological resource potential. The high paleontological potential of the Modesto Formation suggests that construction of the proposed Project may result in impacts to paleontological resources. Any proposed excavation activities that extend deep enough to encounter previously undisturbed deposits of this geologic unit (i.e., grading, borehole augering, trenching, or other miscellaneous excavations that extend below the depth any previously imported artificial fill, topsoil, or disturbed sediments present within the Project site) have the potential to impact the paleontological resources preserved therein.

Development in the City could potentially impact unknown paleontological

resources or unique geological features. Implementation of Mitigation Measure GEO-1 would ensure that a field survey and record search are conducted prior to construction on a previously undisturbed site, and that paleontological/geological resources found during the field survey or during Project construction would be handled and preserved by a qualified paleontologist. Adherence to the requirements in Mitigation Measure GEO-1 would reduce potential impacts to paleontological and geological resources to less than significant.

Mitigation Measures

GEO-1: Paleontological/Geological Resources. A field survey and literature search for unique paleontological/geological resources shall be conducted prior to the issuance of grading permits. The following procedures shall be followed:

- If unique paleontological/geological resources are not found during either the field survey or literature search, excavation and/or construction activities can commence. In the event that unique paleontological/geological resources are discovered during excavation and/or construction activities, construction shall stop in the immediate vicinity of the find and a qualified paleontologist shall be consulted to determine whether the resource requires further study. The qualified paleontologist shall make recommendations to the City on the measures that shall be implemented to protect the discovered resources, including but not limited to, excavation of the finds and evaluation of the finds. If the resources are determined to be significant, mitigation measures shall be identified by the monitor and recommended to the City. Appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. No further grading shall occur in the area of the discovery until the City approves the measures to protect these resources. Any paleontological/geological resources recovered as a result of mitigation shall be provided to a City-approved institution or person who is capable of providing long-term preservation to allow future scientific study. A report outlining the results of the survey shall be submitted to the City of Fresno prior to the issuance of grading permits. If no paleontological resources are identified, no further action is warranted.

- If unique paleontological/geological resources are found during the field survey, the resources shall be inventoried and evaluated for significance. If the resources are found to be significant, mitigation measures shall be identified by a qualified paleontologist. Similar to above, appropriate mitigation measures for significant resources could include avoidance or

capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. In addition, appropriate mitigation for excavation and construction activities in the vicinity of the resources found during the field survey or literature review shall include a paleontological monitor. The monitoring period shall be determined by a qualified paleontologist. If additional paleontological/geological resources are found during excavation and/or construction activities, the procedure identified above for the discovery of unknown resources shall be followed.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS – Would the Project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?		X		
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	

The analysis in this section is based in part on an Air Quality and Greenhouse Gases Assessment (VRPA, 2025), prepared for the Project and is attached as Appendix B.

DISCUSSION

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

In 2009, the SJVAPCD adopted the following guidance documents applicable to Projects within the San Joaquin Valley:

- Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (SJVAPCD 2009), and
- District Policy: Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency (SJVAPCD 2009)

This guidance and policy are the documents referenced in the SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts adopted in March 2015 (SJVAPCD 2015). Consistent with the District Guidance and District Policy above, SJVAPCD (2015) acknowledges the current absence of numerical thresholds, and recommends a tiered approach to establish the significance of the GHG impacts on the environment:

i. If a project complies with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, then

the project would be determined to have a less than significant individual and cumulative impact for GHG emissions;

ii. If a project does not comply with an approved GHG emission reduction plan or mitigation program, then it would be required to implement Best Performance Standards (BPS); and

iii. If a project is not implementing BPS, then it should demonstrate that its GHG emissions would be reduced or mitigated by at least 29 percent compared to Business as Usual (BAU).

The Project would generate 903.59 metric tons of carbon dioxide equivalent per year ($MTCO_2eq./year$) using an operational year of 2005, which includes area, energy, mobile, waste, and water sources. "Business as usual" (BAU) is referenced in CARB's AB 32 Scoping Plan as emissions Projected to occur in 2020 if the average baseline emissions during the 2002-2004 period grew to 2020 levels, without control or Best Performance Standards (BPS) offsets. As a result, an estimate of the Project's operational emissions in 2005 was compared to operational emissions in 2020 in order to determine if the Project meets the 29% emission reduction. The SJVAPCD has reviewed relevant scientific information related to GHG emissions and has determined that they are not able to determine a specific quantitative level of GHG emissions increase, above which a Project would have a significant impact on the environment, and below which would have an insignificant impact. As a result, the SJVAPCD has determined that Projects achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG. Results of the analysis show that the Project's GHG emissions in the year 2020 is 755.10 $MTCO_2eq./year$. This represents an achievement of 16% GHG emission reduction on the basis of BAU, which does not meet the 29% GHG emission reduction target.

In the event that a local air district's guidance for addressing GHG impacts does not use numerical GHG emissions thresholds, at the lead agency's discretion, a neighboring air district's GHG threshold may be used to determine impacts. On April 20, 2022, the Bay Area Air Quality Management District (BAAQMD) adopted new Climate Impact Thresholds which rely upon performance-based standards, requiring new guidance on evaluating the climate impacts of land use Projects and plans. Chapter 3 of BAAQMD's 2022 CEQA Guidelines 8indicates that a land use Project will have a less than significant impact related to operational GHG emissions if:

A. It includes the following Project design elements:

8 Bay Area Air Quality Management District. 2022. https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-3-thresholds_final_v2-pdf.pdf?rev=a976830cce0c4a6bb624b020f72d25b3 (accessed January 2025).

- Buildings
  - The Project will not include natural gas appliances or natural gas plumbing.
  - The Project will not result in any wasteful, inefficient, or unnecessary energy use as determined by the analysis required under CEQA Section 2100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines
- Transportation
  - The Project will achieve a reduction in Project-generated VMT below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target that reflects the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:
    i. Residential Projects: 15 percent below the existing VMT per capita
    ii. Office Projects: 15 percent below the existing VMT per employee
    iii. Retail Projects: no net increase in existing VMT
- The Project will achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

Or

B. It is consistent with a local GHG reduction strategy that meets CEQA Guidelines Section 15183.5(b)

Development of the Project will not include natural gas appliances or natural gas plumbing per Project representatives. In addition, the proposed Project will use energy-efficient materials, modern construction practices, and appliances, following Appliance Efficiency Regulations (Title 20, California Code of Regulations [CCR] Sections 1601-1608). Energy consumption during construction and operation will align with typical residential usage but will vary based on personal choices and building design. The Project, located in an urban area and residential land use under the Fresno General Plan, will comply with the City's energy efficiency policies (General Plan Policies RC-8-a through RC-8-k), ensuring it does not result in wasteful or inefficient energy consumption. The Project is also subject to CCR, Title 24 building standards which would improve the Project's energy efficiency and consumption. The Title 24 California Building Standards Code is a wide-ranging set of requirements for energy conservation and green design that apply to the structural, mechanical, electrical, and plumbing

systems in a building. However, as a component of the Project, electrical vehicle (EV) charging capabilities will be included in the final design of each home, as outlined in Mitigation Measure MM GHG-1, which requires each residential unit to have electric vehicle charging capabilities as part of the final Project design. With implementation of MM GHG-1, impacts would be less than significant.

The Fresno City Council adopted the CEQA Guidelines for Vehicles Miles Traveled (VMT) on June 25, 2020, which establishes the City of Fresno's threshold of significance for CEQA transportation studies as it relates to VMT. In addition, Fresno COG's Fresno County SB 743 Implementation Technical Report (March 2021) also establishes threshold of significance for CEQA transportation studies as it relates to VMT. Both documents indicate that projects that generate a low volume of daily traffic are presumed to create a less than significant impact to VMT and GHG emissions. As noted in the City of Fresno's *CEQA Guidelines for Vehicles Miles Traveled* and Fresno COG's *Fresno County SB 743 Implementation Technical Report*, the emissions of GHG from a project with up to 500 ADT would typically be less than significant. The Project proposes to develop 53 single family dwelling units which is projected to generate 500 daily trips based upon the Institute of Transportation Engineers (ITE) Trip Generation Handbook (53 dwelling units X 9.43[Land Use Code 210 Average Rate] = 499.79). Project design elements also include 'ready to charge' capabilities for each residential unit, to be compliant with off-street electric vehicle requirements in the most recently adopted 2022 CALGreen TIER 2 Residential Measures (A4.106.8). The Project will meet the project specific design elements identified in Part A of the BAAQMD Project Level Climate Impact Thresholds of Significance. The Project will not conflict with or obstruct California's long-term climate goal of carbon neutrality by 2045. As a result, the Project would have a less than significant impact related to GHG emissions.

Further, per CARB and the South Coast Air Quality Management District (SCAQMD) guidance identifies a numeric threshold of 7,000 and 10,000 MTCO2eq./year, respectively, for annual GHG emissions. While existing GHG emission thresholds developed by other lead agencies were based on consistency with meeting AB 32 goals, they provide some perspective on the GHG emissions generated by the Project. The yearly GHG emissions generated by the Project as determined by the CalEEMod model of 903.59 MTCO2eq./year, is approximately 91% less than the threshold identified by CARB and 94% less than the threshold identified by the SCAQMD. Based on the assessment above, the Project will not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. Therefore, any impacts would be less than significant.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

California passed the California Global Warming Solutions Act of 2006. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. Under AB 32, CARB must adopt regulations by January 1, 2011 to achieve reductions in GHGs to meet the 1990 emission cap by 2020. On December 11, 2008, CARB adopted its initial Scoping Plan, which functions as a roadmap of CARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB's 2017 Climate Change Scoping Plan builds on the efforts and plans encompassed in the initial Scoping Plan. The current plan has identified new policies and actions to accomplish the State's 2030 GHG limit. Below is a list of applicable strategies in the Scoping Plan and the Project's consistency with those strategies.

- California Light-Duty Vehicle GHG Standards – Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs for long-term climate change goals.
    - The Project is consistent with this reduction measure. This measure cannot be implemented by a particular project or lead agency since it is a statewide measure. When this measure is implemented, standards would be applicable to light-duty vehicles that would access the Project. The Project would not conflict or obstruct this reduction measure.
- Energy Efficiency – Pursuit of comparable investment in energy efficiency from all retail providers of electricity in California. Maximize energy efficiency building and appliance standards.
    - The Project is consistent with this reduction measure. Though this measure applies to the State to increase its energy standards, the Project would comply with this measure through existing regulation. The Project would not conflict or obstruct this reduction measure.
- Low Carbon Fuel – Development and adoption of the low carbon fuel standard.
    - The Project is consistent with this reduction measure. This measure cannot be implemented by a particular project or lead agency since it is a statewide measure. When this measure is implemented, standards would be applicable to the fuel used by vehicles that would access the Project. The Project would not conflict or obstruct this reduction measure.

SB 375 requires metropolitan planning organizations (MPO) to adopt a Sustainable Communities Strategy (SCS) or auxiliary power systems (APS) that will prescribe land use allocation in that MPO's regional transportation plan. CARB, in consultation with

MPOs, has provided each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. For the Fresno COG region, CARB set targets at six (6) percent per capita decrease in 2020 and a thirteen (13) percent per capita decrease in 2035 from a base year of 2005. Fresno COG's 2022 RTP/SCS, which was adopted in July 2022, projects that the Fresno County region would achieve the prescribed emissions targets.

Executive Order B-30-15 establishes a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. Executive Order B-30-15 requires MPOs to implement measures that will achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reductions targets.

If a local air district's guidance for addressing GHG impacts does not use numerical GHG emissions thresholds, at the lead agency's discretion, a neighboring air district's GHG threshold may be used to determine impacts. The BAAQMD adopted new Project Level Climate Impact Thresholds of Significance On April 20, 2022, which rely upon necessary design elements to achieve California's long-term climate goal of carbon neutrality by 2045. The Project will not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases since it will meet the project specific design elements identified in Part A of the BAAQMD Project Level Climate Impact Thresholds of Significance. As a result, the Project would have a less than significant impact related to GHG emissions.

Mitigation Measures

GHG-1: Consistent with State GHG reduction and equity prioritization goals, each residential unit shall provide electric vehicle charging capabilities as part of the final Project designs.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIAL – Would the Project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project area?				X

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X	

The analysis in this section is based in part on the Phase I Environmental Site Assessment (Phase I ESA) completed for the Project and found in Appendix F.

DISCUSSION

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Construction activities associated with the proposed Project would involve the use of limited amounts of potentially hazardous materials, including but not limited to, solvents, paints, fuels, oils, and transmission fluids. However, all materials used during construction would be contained, stored, and handled in compliance with applicable standards and regulations established by the Department of Toxic Substances Control (DTSC), the United States Environmental Protection Agency (USEPA), and the Occupational Safety and Health Administration (OSHA). All storage, handling, and disposal of hazardous materials during Project construction would comply with applicable safety standards and regulations, including General Plan Policies NS-4-a, NS-4-e, and NS-4-f.[9] No manufacturing, industrial, or other uses utilizing large amounts of hazardous materials would occur within the Project site.

Hazardous and non-hazardous wastes would likely be transported to and from the Project site during the future construction phase of the proposed Project. Construction would most likely involve the use of some standard hazardous

9 City of Fresno. 2014. Fresno General Plan-Noise and Safety Element, pgs. 9-33, 9-34. Available online at: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/GP9NoiseandSafety.pdf (accessed September 2024).

materials, such as diesel fuel, hydraulic oil, grease, solvents, adhesives, paints, and other petroleum-based products, although these materials are commonly used during construction activities and would not be disposed of on the Project site. Workers would likely be trained to properly identify and handle all hazardous materials, following OSHA/CALOSHA regulations. Hazardous waste would be either recycled or disposed of at a permitted and licensed treatment and/or disposal facility. Any hazardous waste or debris that is generated during construction of future buildout as a result of the Project would be collected and transported away from the site and disposed of at an approved off-site landfill or other such facility. In addition, sanitary waste generated during construction would be managed through the use of portable toilets, which would be located at reasonably accessible on-site locations. Hazardous materials such as paint, bleach, water treatment chemicals, gasoline, oil, etc., may be used during construction. These materials would be required to be stored in appropriate storage locations and containers in the manner specified by the manufacturer and disposed of in accordance with local, federal, and State regulations. no significant hazard to the public or to the environment through the routine transport, use, or disposal of hazardous waste during construction or operation of the new residential development would occur.

The use of hazardous materials will be limited in quantities and duration, and if spilled, would be localized. The proposed Project would not emit hazardous emissions or involve handling hazardous or acutely hazardous materials substances. The transport use and storage of hazardous materials would be required to comply with all applicable State and federal regulations, such as requirements that spills would be cleaned immediately, and all wastes and spills control materials would be properly disposed of at approved disposal facilities.

It is noted that residential construction generally uses fewer hazardous chemicals or use chemicals in relatively small quantities and concentrations as compared to commercial or industrial uses. In addition, once any future development is completed, the chemicals used would include minor quantities of pesticides/ rodenticides, fertilizers, paints, detergents, and other cleaners.

Once constructed, the use of such materials such as paint, bleach, etc., are considered common for residential developments and would be unlikely for such materials to be stored or used in such quantities that would be considered a significant hazard. Therefore, impacts of associated with the routine transport, use, or disposal of hazardous materials would be less than significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

See also discussion (a) above.

A Phase I ESA (Appendix F) was completed for the Project to identify if a recognized environmental condition (REC), controlled recognized environmental conditions (CRECs), or historical RECs (HRECs) were present at site in connection with current and past land uses. The Phase I ESA included a site reconnaissance of existing on-site conditions and observations of adjacent properties, a review of use-provided documents, a review of historical aerial photographs and pertinent building permit records, interviews with persons knowledgeable of previous and current ownership and use of sites and a review of regulatory agency records. The results of research indicated that the subject site did not contain any REC, CREC, or HREC in connection with the subject site.

Although the potential exists that environmentally persistent pesticides/herbicides may have been historically applied to crops grown on the subject site 1) no material evidence of the use of environmentally persistent pesticides/herbicides was obtained during the course of this assessment, and 2) it is anticipated that any environmentally persistent pesticides/herbicides potentially located on site will be dislocated and diluted as a result of the grading and trenching operations which will be conducted in connection with the planned residential development of the property. In addition, based on the previous experience, it is expected that chemical analysis of shallow soil samples for persistent pesticides/herbicides on this former agricultural parcel would not typically result in concentrations reported above regulatory screening levels. The Project will follow standard dust control measures to minimize dust during construction activities would reduce potential pesticide exposure to workers.

Once constructed, there would be minimal to no exposed soil that might create dust or expose residents to pesticide contamination.

As noted in Section VII GEOLOGY AND SOILS, part (b), the Project would be required to prepare and implement a SWPPP under the NPDES permit for construction sites over one acre. The SWPPP identifies potential sources of pollution from the Project that may affect the quality of stormwater discharge and requires that BMPs be implemented to prevent contamination at the source. By implementing BMPs during construction activities, accidental spills of hazardous materials would be contained, and soil and groundwater contamination would be minimized or prevented.

Review of State of California Department of Conservation, Geological Energy Management Division (CalGEM) Online Mapping System (DOMS) indicated that no plugged and abandoned or producing oil wells are located on or adjacent to the

Project site.

The proposed Project would not result in a significant hazard to the public or the environment through the transport of hazardous materials Additionally, the General Plan includes Objective NS-4 and Policies NS-4-a, NS-4-c, NS-4-e, NS-4-f and NS-4-g, which require site and Project-specific compliance with local, State and federal standards and procedures to avoid the release or upset of hazardous materials.

Therefore, based on the results of the Phase I ESA, and compliance with federal and State regulations and applicable General Plan policies the Project would not result in significant hazards to the public or environment through the release of hazardous materials. The impact would be less than significant.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The closest existing school is Hirayama Elementary School, located approximately 625 feet west from the Project site. As previously stated, the site has no known RECs, HRECs or CRECs on site. Construction of the proposed Project would not result in the use or emission of substantial quantities of hazardous materials that would pose a human or environmental health risk. In addition, all materials would be handled, stored, and disposed of in accordance with applicable standards and regulations.

As noted above in Response (a), residential construction activities typically include minimal amounts of hazardous materials such as lubricants and diesel fuel during construction. All storage, handling, and disposal of hazardous materials during Project construction would comply with applicable safety standards and regulations, including General Plan Policies NS-4-a, NS-4-e, and NS-4-f.

As noted in Section VII GEOLOGY AND SOILS, (b), the Project would be required to prepare and implement a SWPPP under the NPDES permit for construction sites over one acre. The SWPPP identifies potential sources of pollution from the Project that may affect the quality of stormwater discharge and requires that BMPs be implemented to prevent contamination at the source. By implementing BMPs during construction activities, accidental spills of hazardous materials would be contained, and soil and groundwater contamination would be minimized or prevented. Included in these BMPs are spill prevention and control measures for hazardous materials. Exhaust from construction and related activities are expected to be minimal and not significant. Therefore, the proposed Project does not involve activities that would result in the emission of hazardous materials or acutely

hazardous substances to an existing or proposed school. Therefore, impacts would be less than significant.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

According to the DTSC EnviroStor database,[10] the Project site is not located on a federal superfund site, State response site, voluntary cleanup site, school cleanup site, evaluation site, school investigation site, military evaluation site, tiered permit site, or corrective action site. Additionally, the Project site is not included on the list of hazardous waste sites compiled pursuant to Government Code Section 65962.5.[11] As a result, no hazards to the public or environment are anticipated, and there would be no impact.

e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project area?

The nearest airports include the Fresno Yosemite International Airport, located approximately 1.28 miles to the west, Fresno Chandler Executive Airport, located approximately 7.91 miles to the southwest, and the Sierra Sky Airport, located approximately 11.51 miles northwest of the Project site.

The nearest medical center helipads (HP) include Clovis Community Hospital, located approximately 5.08 miles to the north, Community Regional Medical Center, located approximately 6.15 miles to the west, and Saint Agnes Medical Center, located approximately 6.83 miles northwest of the Project site.[12] Due to the distance between the Project site and local airports and helipads, operations at these locations are not expected to pose a safety hazard for people in the Project site. The Project is not within an Airport Land Use Compatibility Plan or within two miles of a public airport. Therefore, no impact would occur.

10 California Department of Toxic Substances Control. 2007. EnviroStor. Available online at: https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=fresno (accessed September 2024).

11 California Environmental Protection Agency. 2018. Government Code Section 65962.5(a) Hazardous Waste and Substances Site List. Available online at: https://calepa.ca.gov/sitecleanup/corteselist/section-65962-5a/ (accessed September 2024).

12 California Department of Transportation (Caltrans). 2019. Caltrans HeliPlates. Available online at: https://heliplates.dot.ca.gov/# (accessed September 2024).

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The California Emergency Services Act requires cities to prepare and maintain an Emergency Plan for natural, manmade, or war-caused emergencies that result in conditions of disaster or in extreme peril to life. The City's full-time Emergency Preparedness Officer (EPO) is responsible for ensuring that Fresno's emergency response plans are up-to-date and implemented properly. The EPO also facilitates cooperation between City departments and other local, State and federal agencies that would be involved in emergency response operations. The City of Fresno Emergency Operations Center (EOC) serves as the coordination and communication between the City of Fresno and Fresno County Operational Area EOC. The proposed Project would not result in any alterations of existing roadways that would block the circulation of emergency response services or introduce elements that would conflict with the operations of the EOC. Therefore, the proposed Project would not interfere with emergency evacuation plans in the City, and this impact would be less than significant and no mitigation is required.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

The Project site is located in an area mapped as Local Responsibility Area (LRA) Unzoned, indicating that the area is urbanized and not susceptible to wildland conflagrations, and is not located within a very high fire hazard severity zone (VHFHSZ).[13] Therefore, the proposed Project would not expose people or structures to a significant loss, injury or death involving wildland fires and the impact would be less than significant.

Mitigation Measures

No mitigation is required.

13 California Department of Forestry and Fire Protection (CAL FIRE). 2007. *Fresno County Fire Hazard Severity Zones in LRA*. Available online at: https://osfm.fire.ca.gov/media/6673/fhszl06_1_map10.pdf (accessed September 2024).

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY – Would the Project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			X	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?			X	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:			X	
i) Result in a substantial erosion or siltation on- or off-site;			X	
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site:			X	
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or			X	
iv) impede or redirect flood flows?			X	

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?			X	
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			X	

The analysis in this section is substantiated in part by Water Supply Assessment (QK, 2024), prepared for the Project and attached as Appendix G.

DISCUSSION

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

The State Water Resources Control Board and nine Regional Water Quality Control Boards regulate the water quality of surface water and groundwater bodies throughout California. The proposed Project is within the jurisdiction of the Central Valley Regional Water Quality Control Board (RWQCB).

Pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. During Project construction, there would be an increased potential to expose soils to wind and water erosion, which could result in temporary minimal increases in sediment load in nearby water bodies, including Mill Ditch, located approximately immediately to the south of the subject parcel. However, this impact would be reduced to a less than significant level through compliance with water quality control measures, which include preparation of a Stormwater Pollution Prevention Plan (SWPPP) as noted in Section VII Geology and Soils (b). A SWPPP is designed primarily to protect stormwater quality and would incorporate BMPs to minimize erosion and soil loss that could migrate into this feature.

Long-term operation impacts associated with the proposed Project would be less than significant levels because the Project will comply with the City's Storm Drainage and Flood Control Master Plan (SDFCMP), which manages the City's

stormwater drainage systems, and the City's participation in the Phase 1 NPDES Permit for Stormwater Discharges From Municipal Separate Storm Sewer Systems (Phase 1 MS4), which requires the City to implement water quality and watershed protection measures for all development Projects.

Therefore, impacts associated with the proposed Project would be less than significant.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?

Water supply and wastewater services for the proposed Project would be provided by the City through the Department of Public Utilities (DPU) Water and Wastewater Management Divisions. The City receives its water supply from both groundwater and surface water sources. The City has indicated that groundwater wells, pump stations, recharge facilities, water treatment and distribution systems shall be expanded incrementally to mitigate increased water demands. One of the primary objectives of Fresno's future water supply plans detailed in Fresno's current Urban Water Management Plan (UWMP)[14] is to balance groundwater operations through a host of strategies. Through careful planning, Fresno has designed a comprehensive plan to accomplish this objective by increasing surface water supplies and surface water treatment facilities, intentional recharge, and conservation, thereby reducing groundwater pumping. The City continually monitors impacts of land use changes and development Project proposals on water supply facilities by assigning fixed demand allocations to each parcel by land use as currently zoned or proposed to be rezoned.

Per the UWMP, the city has an estimated service population of approximately 550,217 people, and an approximate delivery of 121,993 acre-feet (39,752 million gallons) of water to an estimated 140,150 water service connections of which approximately 91% of the water use is for residential services. The remainder are for commercial and industrial uses. The City utilizes local groundwater and surface water as its source of water supply. Groundwater is extracted by 270 wells located within the City's sphere of influence, in addition to three surface water treatment facilities.

The long-term average day operational water demand for the residential users is anticipated to be approximately 13.41 million gallons per year or 47.89 acre-feet per year at total buildout of the Project. This is based on each residential unit

14 City of Fresno. 2021. 2020 Urban Water Management Plan - Final. Available online at: https://www.fresno.gov/publicutilities/wp-content/uploads/sites/16/2021/07/Fresno-2020-UWMP_Final_2021-07-21.pdf (accessed October 2024)

having an average day water demand of 693 gallons per day (based on the 198 gallon per capita per day average in the 2020 City of Fresno UWMP and an average of 3.5 people per unit) across the entire buildout of 53 units for the Project.

In 2020, Fresno updated its Metropolitan Water Resources Management Plan (incorporated by reference), to ensure the Fresno metro area has a reliable water supply through 2045. The plan implements a conjunctive use program, combining groundwater, treated surface water, artificial recharge and an enhanced water conservation program. The City's goals are to achieve a 'water balance' between supply and demand while decreasing reliance upon and use of groundwater. To achieve these goals the city is implementing strategies including:

- Intentional groundwater recharge through reclamation at the City's groundwater recharge facility at Leaky Acres (located northwest of Fresno-Yosemite international Airport), refurbish existing streams and canals to increase percolation, and recharge at Fresno Metropolitan Flood Control District's (FMFCD) storm water basins;
- Increase use of existing surface water entitlements from the Kings River, United States Bureau of Reclamation and Fresno Irrigation District for treatment at the Northeast Surface Water Treatment Facility (NESWTF) and construct a new Southeast Surface Water Treatment Facility (SESWTF); and
- Recycle wastewater at the Fresno-Clovis Regional Wastewater Reclamation Facility (RWRF) for treatment and re-use for irrigation, and to percolation ponds for groundwater recharge.
- Further actions include the General Plan, Policy RC-6-d to prepare, adopt and implement a City of Fresno Recycled Water Master Plan.

Project construction would add additional impervious surfaces to the Project site; however, various areas of the Project site would remain largely pervious, which would allow infiltration to underlying groundwater. For example, the Project includes approximately 17,835 square feet of landscaping areas that would remain pervious. The areas would continue to contribute to groundwater recharge following the construction of the Project. Furthermore, the Project is not anticipated to significantly affect groundwater quality because sufficient stormwater infrastructure including City compliant stormwater drain pipelines would be constructed as part of the Project to detain and filter stormwater runoff and prevent long-term water quality degradation. Therefore, Project construction and operation would not substantially deplete or interfere with groundwater supply or quality.

The proposed Project would also be consistent with water management strategies from both the Urban Water Management Plan and the Metropolitan Water Resources Management Plan. Furthermore, the Project Applicant would be required to comply with water management requirements and recommendations of the City of Fresno Department of Public Utilities, which would reduce the Project impacts to groundwater recharge to less than significant. When development permits are issued, the Project site would be required to pay drainage fees pursuant to the Drainage Fee Ordinance. The proposed Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted). Therefore, impacts are less than significant

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:

i. Result in substantial erosion or siltation on- or off-site?

The rate and amount of surface runoff is determined by multiple factors, including the following: topography, the amount and intensity of precipitation, the amount of evaporation that occurs in the watershed and the amount of precipitation and water that infiltrates to the groundwater. The proposed Project would alter the existing drainage pattern of the site, which would have the potential to result in erosion, siltation, or flooding on or offsite, and a temporary retention basin will be located on the Project site. The disturbance of soils onsite during construction could cause erosion, resulting in temporary construction impacts. In addition, the placement of permanent structures onsite could affect drainage in the long-term. Impacts from construction and operation are discussed below.

The Project site is generally flat and does not have a stream or river and is not near another body of water. The Project would not result in substantial erosion or siltation on or offsite or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or offsite.

As noted in Section VII Geology and Soils Impact (b), construction of the proposed Project would result in grading on the site that would expose native soils that could be subject to the effects associated with wind and water erosion unless adequate measures are taken to limit the transport of soils in surface water from the site to downstream locations.

Stormwater collection and disposal, and flood control for the City of Fresno, City of Clovis, and the unincorporated areas within the City of Fresno's sphere of influence are provided by the FMFCD.

As required by the General Plan, a SWPPP would be developed prior to any ground disturbance at the Project site and would include BMPs to reduce erosion and surface water contamination during construction of the proposed Project. Additionally, compliance with the City's grading plan check process, FMFCD Storm Drainage and SDFCMP, and stipulations of the NPDES Construction General Permit would ensure that potential impacts related to erosion and saltation on- and off-site would be less than significant.

ii. Substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?

Ground-disturbing activities related to Project construction, such as grading, excavation, placing fill, and trenching, could change existing surface drainage patterns and increase the potential for flooding, particularly during storm events. Regulatory mechanisms in place that would reduce the effects of construction activities on drainage patterns that would result in flooding on or off the construction site include compliance with the City of Fresno grading plan check process, the SDFCMP, and the NPDES Construction General Permit. Compliance with these required regulations would prevent Project construction impacts on grading patterns and flooding on and off of the construction site. Development of the Project would include approximately 17,835 square feet of landscaping and open space, as well as lawns, which will allow stormwater to percolate back into the groundwater system in addition to the construction of City compliant storm drain lines that would direct stormwater into the City's existing system to reduce the rate of surface runoff and avoid flooding on- or off-site. Therefore, impacts would be less than significant.

iii. Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Please refer to discussions a) and c) i and ii in this section. The proposed Project would increase impervious surfaces at the Project site. However, with implementation of a SWPPP, which would require implementation of BMPs for controlling pollution sources during Project construction, compliance with the SDFCMP, and implementation of the NPDES Permit, the proposed Project would not exceed capacity of stormwater drainage systems or generate additional sources of polluted runoff. The nearest FMFCD drainage basin is

located directly southwest of the Project site. As noted, the Project would develop a suitable storm water drainage infrastructure to City development standards. Additionally, the Project Applicant would pay the City a Drainage Fee to address impacts related to increased amount of surface runoff resulting from the proposed Project. The impact would be less than significant.

iv. Impede or redirect flood flows?

Please see responses (c(i)-c(iii)), above. The rate and amount of surface runoff are determined by multiple factors, including the following: topography, the amount and intensity of precipitation, the amount of evaporation that occurs in the watershed, and the amount of precipitation and water that infiltrates the groundwater. According to Federal Emergency Management Agency (FEMA).[15] Firm 06019C159H, the Project site is located in a 500-year flood hazard zone and is not located in a tsunami or seiche zone. Additionally, a portion of the site, located adjacent to Mill Ditch, is located within a 100-year flood zone. As a result, the impact would be less than significant.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?

The Project site is not located near the ocean or a steep topographic feature (i.e., mountain, hill, bluff, etc.). Additionally, there is no body of water within the vicinity of the Project site. The proposed Project's inland location makes the risk of tsunami highly unlikely. The probability of a seiche occurring in the City of Fresno is considered negligible. Furthermore, given the geologic context at the proposed Project site and the absence of pollutants, if such an event were to occur, the likelihood of it exposing Project structures or people to a significant risk is considered low. Prior to issuance of building permits, the applicant will be required to substantiate that the Project is above freeboard. Refer to discussion a) in Section IX, Hazards and Hazardous Materials regarding the use of hazardous materials within the Project site.

The closest dams are the Friant Dam, approximately 19 miles north, and the Pine Flat dam, approximately 23 miles northeast of the Project. In the case of dam failure, flood waters would not reach the City for hours. The extremely low probability of dam failure, large volume of flood water available for dilution of potential pollutants, and the relatively long warning period to prepare, indicate that inundation due to dam failure would not have a significant impact on the Project.

15 Federal Emergency Management Agency. 2020. FEMA Flood Map Service Center: Search By Address. Available online at: https://msc.fema.gov/portal/search?AddressQuery#searchresultsanchor (accessed September 2024).

The Project would not be subject to inundation by seiche, tsunami, or mudflow, and the risk of extreme flooding is low, therefore impacts from release of pollutants would be less than significant

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The City is located within the Kings Sub-basin, which is part of the larger San Joaquin Valley Groundwater Basin. The planning documents regarding water resources for the City include the North Kings Groundwater Sustainability Act (GSA) Groundwater Management Plan, the City of Fresno Urban Water Management Plan, and City of Fresno Metropolitan Water Resources Management Plan.

Per the City of Fresno 2020 Urban Water Management Plan (UWMP) the City has an estimated service population of approximately 550,217 people, and an approximate delivery of 121,993 acre-feet (39,752 million gallons) of water to an estimated 140,150 water service connections of which approximately 91% of the water use is for residential services. The remainder are for commercial and industrial uses. The City utilizes local groundwater and surface water as its source of water supply. Groundwater is extracted by 270 wells located within the City's sphere of influence, in addition to three surface water treatment facilities.

A WSA was prepared for the Project (Appendix G), estimating the anticipated amount of water necessary for the proposed residential development, and determine if there is sufficient water supply available to service Project based on available data provided in the 2020 UWMP.[16] The long-term average day operational water demand for the residential users is anticipated to be approximately 13.41 million gallons per year, or 47.89 acre-feet per year, at total buildout of the Project. This is based on each residential unit having an average day water demand of 693 gallons per day (based on the 198 gallon per capita/day average in the 2020 City of Fresno UWMP and an average of 3.5 people per unit) across the entire buildout of 53 units for the Project. Table 5 presents the normal year supply and demand and differences. (These tables appear as Table 7-1 of the UWMP) Table 6 represents the single dry year supply and demand, and Table 7 indicates the five consecutive dry year supply and demand comparison.

Table 5: Normal Year Supply and Demand Comparison (AF)

	2025	2030	2035	2040	2045
Groundwater	138,090	143,630	149,100	154,490	159,820

16 QK. 2024. Water Supply Assessment, Lennar Tentative Tract Map 6475 (October 2024)

Surface Water – USBR	60,000	60,000	60,000	60,000	60,000
Surface Water – FID	125,030	131,600	131,600	131,600	131,600
Recycled Water	5,910	5,910	5,910	5,910	5,910
Supply Totals	**329,030**	**341,140**	**346,610**	**352,000**	**357,330**
Potable Demand	136,504	147,356	154,210	161,076	167,947
Non-Potable (Groundwater Recharge) Deman	62,700	65,400	68,100	70,800	73,500
Demand Totals	**199,204**	**212,756**	**222,310**	**231,876**	**241,447**
Difference	**129,826**	**128,384**	**124,300**	**120,124**	**115,883**

Source: Appendix G

Table 6: Single Dry Year Supply and Demand Comparison (AF)

	2025	2030	2035	2040	2045
Groundwater	138,090	143,630	149,100	154,490	159,820
Surface Water – USBR	0	0	0	0	0
Surface Water – FID	45,852	45,852	45,852	45,852	45,852
Recycled Water	5,910	5,910	5,910	5,910	5,910
Supply Totals	**189,852**	**195,392**	**200,862**	**206,252**	**211,582**
Potable Demand	136,504	147,356	154,210	161,076	167,947
Non-Potable (Groundwater Recharge) Deman	27,588	28,776	29,964	31,152	32,340
Demand Totals	**164,092**	**176,132**	**184,174**	**192,228**	**200,287**
Difference	**25,760**	**19,260**	**16,688**	**14,024**	**11,295**

Source: Appendix G

Table 7: Multiple Dry Year Supply and Demand Comparison (AF)

		2025	2030	2035	2040	2045
First Year	Groundwater	138,090	143,630	149,100	154,490	159,820
	Surface Water – USBR	30,000	30,000	30,000	30,000	30,000
	Surface Water – FID	99,725	99,725	99,725	99,725	99,725

		2025	2030	2035	2040	2045
	Recycled Water	5,910	5,910	5,910	5,910	5,910
	Supply Totals	**273,725**	**279,265**	**284,735**	**290,125**	**295,455**
	Potable Demand	136,504	147,356	154,210	161,076	167,947
	Non-Potable (Groundwater Recharge) Deman	62,700	65,400	68,100	70,800	73,500
	Demand Totals	**199,204**	**212,756**	**222,310**	**231,876**	**241,447**
	Difference	**74,521**	**66,509**	**62,425**	**58,249**	**54,008**
Second Year	Groundwater	138,090	143,630	149,100	154,490	159,820
	Surface Water – USBR	37,200	37,200	37,200	37,200	37,200
	Surface Water – FID	93,426	93,426	93,426	93,426	93,426
	Recycled Water	5,910	5,910	5,910	5,910	5,910
	Supply Totals	**274,626**	**279,265**	**284,735**	**290,125**	**295,455**
	Potable Demand	136,504	147,356	154,210	161,076	167,947
	Non-Potable (Groundwater Recharge) Deman	62,700	65,400	68,100	70,800	73,500
	Demand Totals	**199,204**	**212,756**	**222,310**	**231,876**	**241,447**
	Difference	**75,422**	**67,410**	**63,326**	**59,150**	**54,909**
Third Year	Groundwater	138,090	143,630	149,100	154,490	159,820
	Surface Water – USBR	**0**	**0**	**0**	**0**	**0**
	Surface Water – FID	**73,568**	**73,568**	**73,568**	**73,568**	**73,568**
	Recycled Water	**5,910**	**5,910**	**5,910**	**5,910**	**5,910**
	Supply Totals	**217,568**	**223,108**	**228,578**	**233,968**	**239,298**
	Potable Demand	**136,504**	**147,356**	**154,210**	**161,076**	**167,947**
	Non-Potable (Groundwater Recharge) Deman	**53,763**	**46,281**	**43,526**	**40,677**	**37,761**
	Demand Totals	**190,267**	**193,637**	**197,736**	**201,753**	**205,708**
	Difference	**27,301**	**29,471**	**30,842**	**32,215**	**33,589**
Fourth Year	Groundwater	138,090	143,630	149,100	154,490	159,820

		2025	2030	2035	2040	2045
	Surface Water – USBR	0	0	0	0	0
	Surface Water – FID	45,852	45,852	45,852	45,852	45,852
	Recycled Water	5,910	5,910	5,910	5,910	5,910
	Supply Totals	**189,852**	**195,392**	**200,862**	**206,252**	**211,582**
	Potable Demand	136,504	147,356	154,210	161,076	167,947
	Non-Potable (Groundwater Recharge) Deman	26,047	18,564	15,810	12,960	10,045
	Demand Totals	**162,551**	**165,920**	**170,020**	**174,036**	**177,992**
	Difference	**27,301**	**29,471**	**30,842**	**32,215**	**33,589**
Fifth Year	Groundwater	138,090	143,630	149,100	154,490	159,820
	Surface Water – USBR	45,000	45,000	45,000	45,000	45,000
	Surface Water – FID	125,840	125,840	125,840	125,840	125,840
	Recycled Water	5,910	5,910	5,910	5,910	5,910
	Supply Totals	**314,840**	**320,380**	**325,850**	**331,240**	**336,570**
	Potable Demand	136,504	147,356	154,210	161,076	167,947
	Non-Potable (Groundwater Recharge) Deman	62,700	65,400	68,100	70,800	73,500
	Demand Totals	199,204	212,756	222,310	231,876	241,447
	Difference	**115,636**	**107,624**	**103,540**	**99,364**	**95,123**

Source: Appendix G

As represented in the tables above, the Department of Public Utilities would have adequate water supply to meet all demands through the year 2045 even under the multiple dry-year drought condition scenario. Based on the 2020 UWMP, the water supplies for the City (357,330 Acre Feet (AF)/year) are adequate to accommodate the demand in the City by 2045 (i.e., 241,447 AF/year). The proposed Project buildout would result in approximately 47.89 AF/year of water demand which is 0.014% of the available water supply of the City in the worst-case scenario of the fifth year of the five consecutive dry year supply and demand comparison (Table 5). As the Project does not require a zone change or General Plan amendment

and is located within the City SOI, the proposed Project would be included within the growth estimates that the 2020 UWMP accounted for.

Implementation of the Fresno General Plan policies, the Kings Basin Integrated Regional Water Management Plan, City of Fresno Urban Water Management Plan, Fresno-Area Regional Groundwater Management Plan, and City's Metropolitan Water Resource Management Plan will address the issues of providing an adequate, reliable, and sustainable water supply for the Project's urban domestic and public safety consumptive purposes. The City's Water Division has reviewed the Project for compliance with water quality and groundwater management.

In addition, the Project would be required to adhere to NPDES drainage control requirements during construction and operation as well as to FMFCD drainage control requirements. As a result, the Project would not conflict with any applicable water quality control plan or groundwater management plan, and the impact would be less than significant.

Mitigation Measures

No mitigation is required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. LAND USE AND PLANNING – Would the Project:				
a) Physically divide an established community?				X
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				X

DISCUSSION

a) Physically divide an established community?

The physical division of an established community typically refers to the construction of a physical feature (such as an interstate highway or railroad tracks) or removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community, or between a community and outlying areas. For instance, the construction of an interstate highway through an existing community may constrain travel from one side of the community to another; similarly, such construction may also impair travel to areas outside of the community.

The proposed Project site is an open field surrounded by both urbanized single-family subdivisions and agricultural fields. The Project site is within an area planned for residential development. On- and off-site improvements including circulation roads, interior local streets, curb, gutter, sidewalk, and landscaping will be constructed. The proposed single-family residential development is allowed within this land use designation, and the Project does not exceed the maximum density. The subject parcel is undeveloped, therefore is not dividing an established community. The Project is not being built in a pre-existing community area, would not create any physical barrier between an established community. These improvements would not affect connectivity and would not divide an established community. Therefore, there are no impacts

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The Project site is designated Residential Medium Density in the General Plan. This land use designation is intended for areas with predominantly single-family residential development, but can also accommodate a mix of housing types, including small-lot starter homes, zero-lot-line developments, duplexes, and townhouses. Many of the City's established neighborhoods fall within this designation. The Project site is located in a RS-5 zoning district, which allows for single-family residential, adult family day care, small, domestic violence shelters, residential care facilities (limited), group residential (small), community gardens, schools, corner commercial, bed and breakfast, parks and recreation facilities, telecommunications facilities, and accessory living quarters uses. The RS-5 zoning district is intended to provide for a variety of single-family residences built to urban or suburban standards to suit a spectrum of individual lifestyles and needs, and to ensure availability throughout the city of the range of housing types necessary for all segments of the community, consistent with the General Plan.[17]

The Project would not require a change to the General Plan land use designation or the current zoning and would be consistent with the City's General Plan and Zoning Ordinance. The discretionary approvals required for the Project will include reviews and comments from responsible agencies, and from several City departments to ensure compliance with all applicable, plans, policies, regulations, standards, and conditions of approval. Additionally, the Project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, there would be no impact.

Mitigation Measures

No mitigation is required.

17 City of Fresno. 2016. Fresno Municipal Code Chapter 15: Citywide Development Code. Available online at: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/Complete_Code_March_2017.pdf (accessed September 2024).

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES – Would the Project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X

DISCUSSION

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

The California Department of Conservation, Geological Survey classifies lands into Aggregate and Mineral Resource Zones (MRZs) based on guidelines adopted by the California State Mining and Geology Board, as mandated by the Surface Mining and Reclamation Act of 1974. These MRZs identify whether known or inferred significant mineral resources are present in areas.

The principal area for mineral resources in the City is located along the San Joaquin River Corridor. The California Department of Mines and Geology classifies lands along the San Joaquin River Corridor as having MRZ 1, MRZ-2, and MRZ-3 zones. However, the Project site is not located in the vicinity of the San Joaquin River, is not located on land classified as a MRZ.

According to CalGEM, there are no active, inactive, or capped oil wells located within the Project site, and it is not within a recognized oilfield. The City's General Plan includes Objective RC-10 and Policies RC-10-a through RC-10-f to conserve aggregate mineral resources, which would be applied by the proposed Project, as applicable.[18] As a result, the proposed Project would not result in the loss of

18 City of Fresno. 2016. General Plan. Resource Conservation and Resilience. Available online at: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/GP7ResourceConservation.pdf (accessed September 2024).

availability of a known mineral resource of value to the region or residents of the State. Therefore, there would be no impact.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

Please refer to the discussion for a). The proposed Project would not result in the loss of availability of any known locally important mineral resource recovery sites. Therefore, the Project would result in no impact.

Mitigation Measures

No mitigation is required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. NOISE – Would the Project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		X		
b) Generation of excessive groundborne vibration or groundborne noise levels?			X	
c) For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?			X	

The analysis presented in this section is based on an *Acoustical Analysis (WJVA, 2024)* prepared for the Project and attached as Appendix H.

DISCUSSION

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?

The General Plan Noise Element provides noise level criteria for land use compatibility for both transportation and non-transportation noise sources. The General Plan sets noise compatibility standards for transportation noise sources in terms of the Day-Night Average Level (Ldn). The Ldn represents the

time-weighted energy average noise level for a 24-hour day, with a 10-dB penalty added to noise levels occurring during the nighttime hours (10:00 p.m.-7:00 a.m.). The Ldn represents cumulative exposure to noise over an extended period of time and are therefore calculated based upon annual average conditions. Table 8 provides the General Plan noise level standards for transportation noise sources.

TABLE 8

CITY OF FRESNO GENERAL PLAN NOISE LEVEL STANDARDS TRANSPORTATION (NON-AIRCRAFT) NOISE SOURCES

Noise-Sensitive Land Use	Outdoor Activity Areas[1]	Interior Spaces	
	L_{dn}/CNEL, dB	L_{dn}/CNEL, dB	L_{eq} dB[2]
Residential	65	45	---
Transient Lodging	65	45	---
Hospitals, Nursing Homes	65	45	---
Theaters, Auditoriums, Music Halls	---	---	35
Churches, Meeting Halls	65	---	45
Office Buildings	---	---	45
Schools, Libraries, Museums	---	---	45

1 Where the location of the outdoor activity areas is unknown or is not applicable, the exterior noise level standard shall be applied to the property line of the receiving land use. As determined for a typical worst-case hour during periods of use.

Short-Term (Construction) Noise Impacts. Project construction would result in short-term noise impacts on nearby sensitive receptors. Maximum construction noise would be short-term, generally intermittent depending on the construction phase, and variable depending on receiver distance from the active construction zone. The duration of noise impacts generally would be from one day to several days depending on the phase (e.g., demolition, land clearing, grading, excavation, erection) of construction. Noise produced by construction equipment such as earthmovers, material handlers, and portable generators can reach high levels. Generally, the grading phase of construction involves the most equipment and generates the highest noise levels, although noise ranges are usually similar across all construction phases. Typical noise levels generated by individual pieces of construction equipment generally range from approximately 77 dBA to 90 dBA Lmax at 50 feet. Depending on the equipment required and duration of use, average-hourly noise levels associated with construction activity typically ranges from roughly 65 to 90 dBA Leq at 50 feet.

Certain land uses are considered more sensitive to noise than others. Examples of these include residential areas, educational facilities, hospitals, childcare facilities, and senior housing. The closest sensitive receptors to the proposed

Project include the residential subdivision, located approximately 75 feet to the west, a rural residential home located approximately 30 feet to the east, and two rural residential homes located approximately 160 feet to the south.

Chapter 10, Article 1 (Noise Regulations), of the Fresno Municipal Code establishes excessive noise guidelines and exemptions. Section 10-109 states that construction noise is exempted from City noise regulations provided such work takes place between the hours of 7:00 a.m. and 10:00 p.m. on any day except Sunday.

Thus, although development activities associated with the proposed Project could potentially result in a temporary or periodic increase in ambient noise levels in the Project vicinity, construction activity would be exempt from City of Fresno noise regulations, as long as such activity is conducted pursuant to an applicable construction permit and occurs between 7:00 a.m. and 10:00 p.m., excluding Sunday. Therefore, short-term construction impacts associated with the exposure of persons to or the generation of noise levels in excess of standards established in the General Plan or noise ordinance or applicable standards of other agencies would be less than significant.

Operational Noise Impacts. Motor vehicles with their distinctive noise characteristics are the dominant noise source in the Project vicinity. The amount of noise varies according to many factors, such as volume of traffic, vehicle mix (percentage of cars and trucks), average traffic speed, and distance from the observer. Implementation of the proposed Project would result in new daily trips on local roadways in the Project site vicinity.

The Project site is located north of (and adjacent to) the future alignment of E. McKinley Avenue, west of N. Fowler Avenue. The Project site is currently exposed traffic noise associated with vehicles on N. Fowler Avenue and will be additionally exposed to traffic noise associated with vehicles on E. McKinley Avenue at a future date. The distance from center of the backyards of the closest proposed lots to the centerline of the future alignment of E. McKinely Avenue is approximately 60 feet. The distance from center of the backyards of the closest proposed lots to the centerline of N. Fowler Avenue is approximately 230 feet. Noise exposure from traffic on adjacent roadways was calculated for existing and future (2046) conditions (E. McKinley for future conditions only) using the FHWA Traffic Noise Model and traffic data obtained from Fresno COG. The purpose of the measurement was to evaluate the accuracy of the FHWA Model in describing traffic noise exposure within the Project site.

Exterior Noise Levels

The traffic noise exposure at the closest proposed lots to E. McKinley Avenue

would be approximately 61 dB Ldn for future (2046) traffic conditions on E. McKinley Avenue, and that traffic noise exposure for the closest proposed lots to N. Fowler Avenue would be approximately 52 dB Ldn and 53 dB Ldn for existing and future (2046) traffic conditions, respectively. The noise exposure levels do not exceed the City's 65 dB Ldn exterior noise level standard, and mitigation measures are therefore not required for compliance with the City's exterior noise level standard.

Interior Noise Levels

The City's interior noise level standard is 45 dB Ldn. The worst-case noise exposure within the proposed residential development would be approximately 61 dB Ldn (2046 conditions). This means that the proposed residential construction must be capable of providing a minimum outdoor-to-indoor noise level reduction (NLR) of approximately 16 dB (61-45=16). It may be assumed that residential construction methods complying with current building code requirements will reduce exterior noise levels by approximately 25 dB if windows and doors are closed. This will be sufficient for compliance with the City's 45 dB Ldn interior standard at all proposed lots. Requiring that it be possible for windows and doors to remain closed for sound insulation would require implementation of Mitigation Measure NSE-1. With implementation of mitigation, Project impacts would be less than significant.

Motor vehicles with their distinctive noise characteristics are the dominant noise source in the Project vicinity. The amount of noise varies according to many factors, such as volume of traffic, vehicle mix (percentage of cars and trucks), average traffic speed, and distance from the observer. Implementation of the proposed Project would result in new daily trips on local roadways in the Project site vicinity. A characteristic of sound is that a doubling of a noise source is required in order to result in a perceptible (3 dBA or greater) increase in the resulting noise level. The proposed Project would generate approximately 528 daily trips. Annual average daily traffic (AADT) data for N. Fowler Avenue was obtained from Fresno COG and found an existing AADT of 3,838 =. The future (year 2046) for McKinley Avenue is estimated by Fresno COG as 4,048 AADT. The Project daily trips would not result in a doubling of traffic volumes along any roadway segment in the Project vicinity and, therefore, would not result in a perceptible increase in traffic noise levels at receptors in the Project vicinity.

Additionally, development of the Project site would increase activity at the site. The City's General Plan Policy NS-1-a through Policy NS-1-p provide noise mitigation recommendations that would be implemented as necessary by the proposed Project. With implementation of General Plan policies, operation of the Project would not substantially increase noise levels over existing conditions, and the impact would be less than significant.

b) Generation of excessive groundborne vibration or groundborne noise levels?

As shown in Table 9, there is a range of vibration levels for equipment commonly used in general construction projects at a distance of 25 feet. The data also include predicted equipment vibration levels at the nearest existing residences to the Project site located approximately 50 feet away.

Table 9
Reference and Projected Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV at 25 Feet[1]	Projected PPV at 50 Feet
Hoe ram	0.089	0.032
Large bulldozer	0.089	0.032
Caisson drilling	0.089	0.032
Loaded trucks	0.076	0.027
Small bulldozer	0.003	0.001
Source: Appendix H		

As shown in Table 9, vibration levels generated from Project construction activities at the closest sensitive receptors to the proposed Project include the residential subdivision located approximately 75 feet to the west, a rural residential home located approximately 30 feet to the east, and two rural residential homes located approximately 160 feet to the south feet away are predicted to be below the Caltrans thresholds for damage to residential structures of 0.5 in/sec PPV. In addition, the Projected equipment vibration levels in Table 9 are within the range of the "barely/slightly perceptible" human response threshold as defined by Caltrans. Therefore, on-site construction within the Project area is not expected to result in excessive groundborne vibration levels at nearby existing residential uses.

No permanent noise sources would be located within the Project site that would expose persons to excessive groundborne vibration or noise levels. Construction activities associated with the proposed Project are not expected to result in excessive groundborne vibration or groundborne noise levels.[19] Therefore, the proposed Project would not permanently expose persons within or around the Project site to excessive groundborne vibration or noise and the impact would be less than significant.

19 Federal Transit Administration. 2018. Transit Noise and Vibration Impact Assessment. Available online at: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed October 2024).

c) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?

The nearest airports include the Fresno Yosemite International Airport, located approximately 1.28 miles west of the Project site, Fresno Chandler Executive Airport, located approximately 7.91 miles southwest of the Project site, and the Sierra Sky Airport, located approximately 11.51 miles northwest of the Project site.

The Fresno County Airport Land Use Compatibility Plan (ALUCP)[20] guides local jurisdictions in determining appropriate compatible land uses with detailed findings and policies. The General Plan, other City land use plans, and all City land use decisions must be compatible with the adopted ALUCP for Fresno County. The ALUCP includes CNEL noise contours based on Projected airport and aircraft operations. The Project site is within 2 miles of Fresno Yosemite International Airport. However, the Project site outside of the 60 dB CNEL noise contour. Therefore, the proposed Project would not result in the exposure of sensitive receptors to the excessive noise levels from aircraft noise sources. The impact would be less than significant.

Mitigation Measures

NSE-1: Heating, Ventilation and Air Conditioning (HVAC) units shall be provided for all homes so that windows and doors can remain closed for sound insulation purposes. Prior to the issuance of building permits, plans and specifications shall include the installation of units and be submitted to the City for approval.

20 Fresno Council of Governments. 2018. Fresno County Airport Land Use Compatibility Plan. Amended December 2021. Available online at: https://www.fresnocog.org/project/airport-land-use-commission-fresno-county/ (accessed September 2024).

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. POPULATION AND HOUSING – Would the Project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			X	
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

DISCUSSION

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Population forecasts for the City of Fresno indicate growth for the City to include 1,373,700 persons by the year 2040, according to the General Plan. US Census data estimated the City to have 545,717 people in 2023.[21] The Housing Element uses an average of 3.07 people per household. In 2020, the City of Fresno population was 542,107.

The Project build-out will result in an additional 53 single-family residences, and a corresponding population increase of 163 residents. The Project population growth represents a 0.03 percent increase over the 2020 population, and a 0.01 percent increase over the Projected 2040 population. The Project site is designated for Residential Medium Density under the General Plan, and appropriately zoned R2-5. Therefore, the population increase is covered under the General Plan assumptions. The installation of new infrastructure including water, sewer, and electrical services would be limited to the internal single-family residences and related park site improvements. The sizing of the infrastructure would be specific to the number of units proposed within the Project site. Implementation of the

21 US Census Bureau QuickFacts https://www.census.gov/quickfacts/fresnocitycalifornia.

proposed Project would not induce unplanned population growth in an area, either directly or indirectly. Therefore, impacts are considered to be less than significant.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The site is undeveloped and surrounded by a combination of undeveloped lots, agriculture, and residential property. The proposed Project would not necessitate the displacement or removal of existing housing. Therefore, there are no impacts.

Mitigation Measures

No mitigation is required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES – Would the Project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?			X	
Police protection?			X	
Schools?			X	
Parks?			X	
Other public facilities?			X	

DISCUSSION

a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

i. Fire protection?

The City of Fresno Fire Department (FFD) would provide fire protection services to the proposed Project. There are 20 FFD fire stations in Fresno, with the closest fire station, Fire Station 10, located approximately 1.62 miles from the Project site. Planned growth under the General Plan would increase calls

for fire protection service in the City. The proposed use of the Project site is consistent with the site's General Plan land use designation and does not represent unplanned growth given that the Project site would be developed consistent with its land use and zoning designations. The Project could result in an incremental increase in the demand for fire protection services because of the addition of 53 single-family residences to the Project site. However, the proposed Project would be required to pay a Fire Facilities Fee and a Development Impact Fee pursuant to Chapter 12, Article 4.9 of the City's Code of Ordinances to account for the potential impacts to fire services.

The General Plan includes several policies to support the activities of the Fresno Fire Department, such as PU-3-d, which requires the Fire Department to review of development applications, and PU-3-e, which enforces amendments to construction and fire codes, to systematically reduce the level of risk to life and property from fire, commensurate with the City's fire suppression capabilities. The FFD would continue providing services to the Project site and would not require additional firefighters to serve the proposed Project. The construction of a new or expanded fire station would not be required. The proposed Project would not result in a significant impact on the physical environment due to the incremental increase in demand for fire protection and life safety services. The incremental increase in demand for services would not adversely affect existing responses times to the site or within the City. Therefore, construction and operation of the proposed Project would have a less than significant impact.

ii. Police protection?

The City of Fresno Police Department (FPD) provides police protection to the Project site. The Police Department Patrol Division is divided into five policing districts with the nearest being the Fresno Police Station - Southeast, located approximately 1.88 miles from the Project site. Planned growth under the General Plan would increase calls for police protection service in the City. The proposed use of the Project site is consistent with the site's General Plan designation and does not represent unplanned growth given that the Project site would be developed consistent with its land use and zoning designation.

The Project could result in an incremental increase in the demand for police protection services. However, the proposed Project would be required to pay a Police Impact Fee and a Development Impact Fee pursuant to Chapter 12. Article 4.8 of the City's Code of Ordinances to account for the potential impacts to police protection services.

The FPD would continue providing services to the Project site and would not

require additional personnel to serve the proposed Project. The construction of new or expanded police facilities would not be required. Therefore, the proposed Project would not result in a substantial adverse impact associated with the provision of additional police facilities or services and impacts to police protection would represent a less than significant impact.

iii. Schools?

The Project site is located within Clovis Unified School District (CUSD). According to the Clovis Unified Development Fee Justification Study/School Facilities Needs Analysis, Clovis Unified School District has a TK-12 student generation rate of 0.5530 for single-family residential units.[22] Therefore, the proposed 53 single-family residential units would result in an increase of approximately 29 new students. CUSD serves the northern, northeastern, and eastern areas of Fresno as well as much of the City of Clovis and nearby rural areas to the north and east. CUSD currently serves 42,795 students at 53 schools and has experienced significant growth necessitating the expansion of facilities over the past decade. The Project site would be served by the new Hirayama Elementary School (Grades TK-6), located approximately 625 feet west of the Project site, Reyburn Intermediate School (Grades 7-8), located approximately 2.66 miles northeast of the Project site, and Clovis East High School (Grades 9-12), located approximately 2.89 miles northeast of the Project site.[23]

The proposed Project would result in an impact on the CUSD student capacity. The developer would be required to pay appropriate school fees pursuant to Chapter 12, Article 8 of the City's Code of Ordinances to address potential impacts. Through local funding CUSD is in a position to address its shortage of classrooms to accommodate planned population growth for the foreseeable future through the payment and use of developer impact fees. Per Government Code Section 65996 impacts to school facilities are mitigated by Level 1, 2, and 3 developer fee legislative provisions. The Project developer will pay appropriate impact fees at time of building permits.

School fees are collected for all new residential and commercial buildings. Fees are typically higher for residential uses, as these uses are associated with increased population growth, leading to increased student population at

22 Odell Planning & Research, Inc. 2024. Development Fee Justification Study/School Facilities Needs Analysis. Available online at: https://www.cusd.com/Downloads/Clovis%20USD%202024%20School%20Fee%20Needs%20Analysis.pdf (accessed September 2024).

23 CUSD. 2024. Clovis Unified Boundary Map. Available online at https://maps.cusd.com/address/ (accessed September 2024).

existing schools. The Project review and approval process will ensure that all school related fees are paid by the applicant. These requirements will ensure that the proposed Project does not significantly affect school facilities. As noted, the Project will be serviced by existing school facilities in the vicinity of the site. Development impact fees administered by CUSD would offset impacts associated with the population increase of the development. Therefore, with implementation of standard local requirements for development Projects related to school fees, the Project does not require new or physically altered school facilities to address the increase in the student population associated with the Project. Impacts are considered less than significant.

iv. Parks?

Impacts on parks and recreational facilities are determined by analyzing the Projected increase in demand for these facilities as a result of future residential development and corresponding population increase Projected under the proposed Project. According to the General Plan, the City's standard called for at least 3.0 acres of parkland to be provided per 1,000 residents. The City maintains approximately 1,617 acres of open space and nearly 230,000 square feet of building space dedicated to recreational/educational, and 115 acres of paths and trails. Park and recreation fees (Quimby) are collected for all new residential developments. The Project review and approval process will ensure that all park related fees are paid by the developer.

Outlots C and D of the proposed residential subdivision will be dedicated for Open Space purposes. The Project would result in an incremental increase in the demand for parks as a result of Project. Per the City of Fresno General Plan, Citywide, Fresno has a current supply of 3.28 acres of City Park Space per 1,000 residents, which exceeds the City's minimum standard by 0.28 acre. Including all park Space in the City's SOI increases that ratio to 4.65 acres per 1,000 residents. Therefore, with the anticipated population increase of 163 residents added to the 2023 City of Fresno population of 545,717 per the U.S. Census (545,880 with Project), the ratio becomes 2.96 of City maintained park space and 4.21 for all park space within the City SOI (parks owned and maintained by an HOA that are publicly accessible (no gate), public golf courses, SJRC parkland open to the public and directly accessible from the City; pocket parks maintained through Community Facility Districts (CFD); ponding basins with park improvements (excludes fenced-off flood areas); Clovis and Central Unified School District playgrounds, Fresno Unified's Burroughs Elementary and Yosemite Middle School (grass fields and courts, Kindergarten play areas, and parking areas only).

Based on the 2023 population, the City-maintained park ratio would be 2.96 and currently does not meet the performance ratio of three acres per 1,000 residents. However with consideration of all park space within the City SOI (as defined in the General Plan), the park acreage per 1,000 residents becomes 4.21 acres. The City of Fresno has adopted a Parks Master Plan to further develop, maintain, or improve City-maintained park space throughout the City. The developer would be required to pay applicable park facilities fees, pursuant to Chapter 12, Article 4.7 of the City's Code of Ordinances, to address potential impacts of the proposed Project on park facilities, which includes further development of City-maintained park space to meet General Plan policy performance measures. Therefore, with the inclusion of open space dedicated outlots and the payment of park impact fees, the Project would pay its fair share in the development of new or expanded parks to accommodate the population as planned and adopted in the City of Fresno Parks Master Plan in addition to providing open space that would complement park space within the City SOI. impacts to parks would be less than significant.

v. Other public facilities?

The Project build-out will result in an additional 53 single-family residences, and a corresponding population increase of 163 residents. The Project population growth represents a 0.01 percent increase in the 2040 population.

Development of the proposed Project could also increase demand for other public services, including libraries, community centers, and public health care facilities. However, the proposed Project would not result in significant population growth that would increase the demand for these facilities, such that new facilities would be needed to maintain service standards, as these facilities are not currently overused and have capacity to serve new demand. Therefore, impacts from building or altering other public facilities would be less than significant.

Mitigation Measures

No mitigation is required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. RECREATION - Would the Project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X	
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			X	

DISCUSSION

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Nearby parks include Al Radka Park approximately one mile south of the Project site and Melody Park approximately one mile north of the Project site. The proposed Project may increase the demand for recreational facilities in the vicinity of the Project site. However, the proposed Project would include the construction of dedicated open space areas within the proposed residential subdivision. These open space areas will be appropriately landscaped and will provide the residents with additional opportunities for recreational activities such as walking, jogging, etc in close proximity to their homes.

Full build-out of the Fresno General Plan would result in a potential population increase of approximately 425,000 additional residents within the City and result in an increase in the demand for parks and recreational facilities. Based on the proposed standard of 3 acres of public parkland per 1,000 residents, the build-out of the General Plan would require 4,850-acres of parkland and associated recreational amenities to serve all of the residents.

As discussed in Section XV (iv) PUBLIC SERVICES above, impacts on parks and recreational facilities are determined by analyzing the Projected increase in demand for these facilities. The Project build-out will result in a population increase of 163 residents. The Project population growth represents a 0.01 percent increase in the 2040 population. The Project would result in the addition of 6,609 square feet of dedicated open space. With the anticipated population increase of 163 residents added to the 2023 City of Fresno population of 545,717 per the U.S. Census (545,880 with Project), the ratio becomes 2.96 of City maintained park space and 4.21 for all park space within the City SOI (parks owned and maintained by an HOA that are publicly accessible (no gate), public golf courses, SJRC parkland open to the public and directly accessible from the City; pocket parks maintained through Community Facility Districts (CFD); ponding basins with park improvements (excludes fenced-off flood areas); Clovis and Central Unified School District playgrounds, Fresno Unified' s Burroughs Elementary and Yosemite Middle School (grass fields and courts, Kindergarten play areas, and parking areas only).

Based on the 2023 population, the City -maintained park ratio would be 2.96 and currently does not meet the performance ratio of three acres per 1,000 residents. However with consideration of all park space within the City SOI (as defined in the General Plan), the park acreage per 1,000 residents becomes 4.21 acres. The City of Fresno has adopted a Parks Master Plan to further develop, maintain, or improve City-maintained park space throughout the City. The developer would be required to pay applicable park facilities fees, pursuant to Chapter 12, Article 4.7 of the City's Code of Ordinances, to mitigate address potential impacts of the proposed Project on park facilities, which includes further development of City-maintained park space to meet General Plan policy performance measures. Therefore, with the inclusion of open space dedicated outlots and the payment of park impact fees, the Project would pay its fair share in the development of new or expanded parks to accommodate the population as planned and adopted in the City of Fresno Parks Master Plan in addition to providing open space that would complement park space within the City SOI. impacts to parks would be less than significant..

b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

The Project proposes to develop two outlots that will be dedicated for open-space. Outlot C is planned to be open green/landscaped space and Outlot D will be improved as a park with play equipment and park amenities. These improvements will not result in an adverse physical effect on the environment.

The developer would be required to pay applicable park facilities fees, pursuant to Chapter 12, Article 4.7 of the City's Code of Ordinances, to mitigate address potential impacts of the proposed Project on park facilities, which includes further development of City-maintained park space to meet General Plan policy performance measures. Therefore, with the inclusion of open space dedicated outlots and the payment of park impact fees, the Project would pay its fair share in the development of new or expanded parks to accommodate the population as planned and adopted in the City of Fresno Parks Master Plan in addition to providing open space that would complement park space within the City SOI. impacts to parks would be less than significant.

Mitigation Measures

No mitigation is required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION – Would the Project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?			X	
b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?			X	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
d) Result in inadequate emergency access?			X	

DISCUSSION

The analysis provided below is based on a Traffic Study Scoping Letter for the proposed Project attached as Appendix I.

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Within proximity to the Project, there are several transportation facilities, including transit, roadway, bicycle, and pedestrian facilities.

Bicycle Facilities

The 2017 City of Fresno Active Transportation Plan (ATP) refers to the Caltrans Highway Design Manual for classification of bicycle facilities as follows:

- Class I Bikeway (Bike Path): Off-street facilities that provide exclusive use for non-motorized travel, including bicyclists and pedestrians.

- Class II Bikeway (Bike Lane): On-street facilities that use striping, stencils, and signage to denote preferential or exclusive use by bicyclists.
- Class III Bikeway (Bike Route): On-street pavement markings or signage that connect the bicycle roadway network along corridors that do not provide enough space for dedicated lanes on low-speed and low-volume streets.

- Class IV Bikeway (Separated Bikeways): Physically separated bicycle facilities that are distinct from the sidewalk and designed for exclusive use by bicyclists.

The ATP also identifies a Class I bike path along the San Joaquin Valley Railroad system. The Project developer would be responsible for contributing to development of the trail system, if appropriate. Trail development would be in accordance with alternative transportation policies included in the General Plan, the Fresno County Regional Transportation Plan, and any other adopted policies, plans or programs supporting alternative transportation.

Pedestrian Facilities

Pedestrian connectivity is not well established in the general vicinity of the site. Sidewalks typically exist only within, and along the frontage of, adjacent residential developments. The Project would be required to construct sidewalks along its frontage. Upon submittal of development permits all applicable requirements for updating sidewalks and other related infrastructure will be required from the City of Fresno 2017 Active Transportation Plan.

Transit

Fresno Area Express (FAX) is the transit operator in the City of Fresno. The closest is FAX Route 45, is located at the intersection of E. Princeton and N. Fowler Avenues. The Project is not expected to have a significant impact, disrupt or impede existing transit facilities.

The Project will not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, bicycle and pedestrian facilities.

Roadways

The Project site is located on the north side of McKinley Avenue between Fowler Avenue to the west and Armstrong Avenue to the east. The Fresno General Plan Circulation Element identifies Fowler Avenue as an Arterial and Armstrong Avenue as a Collector. An Arterial roadway is defined as a four- to six-lane divided (median island separation) roadway with somewhat limited motor vehicle access to abutting properties, and with the primary purpose of moving traffic within and between neighborhoods and to and from freeways and expressways. In addition to major street intersections, appropriately designed and spaced local street intersections may allow left-turn movements to and from the arterial street. Collector roadways are defined as two- to four-lane undivided (opposing travel lanes generally not separated by a median island) roadways, with the primary function of connecting

local streets and arterials and neighborhood traffic generators and providing access to abutting properties. Local street intersections and motor vehicle access points from abutting properties are allowed consistent with the City's engineering standards and accepted traffic engineering practices. Collectors typically have a center two-way left-turn lane. The proposed Project will be required to construct all necessary internal street and street frontage improvements such as drive approaches, sidewalks, and curb and gutter improvements to City development standards.

The Project site is located within Traffic Impact Zone III (TIZ-III). TIZ-III represents areas near or outside the city limits but within the SOI. Pursuant to General Plan Policy MT-2-I, the proposed Project would generate fewer than 100 peak hour trips and a traffic impact study would not be necessary. The proposed 53-lot single-family subdivision will not adversely impact the existing and Projected roadway and circulation system. Therefore, the Project is anticipated to result in a less than significant impact.

b) Would the Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Senate Bill (SB) 743, 743 requires that relevant CEQA analysis of transportation impacts be conducted using a metric known as VMT instead of Level of Service (LOS). VMT measures how much auto travel (additional miles driven) a proposed Project would create on California roads. If it is determined that the Project adds excessive car travel onto roads, the Project may cause a significant transportation impact.

The State CEQA Guidelines were amended to implement SB 743, by adding Section 15064.3. Among its provisions, Section 15064.3 confirms that, except with respect to transportation Projects, a Project's effect on automobile delay shall not constitute a significant environmental impact. Therefore, LOS measures of impacts on traffic facilities are no longer a relevant CEQA threshold for transportation impacts.

CEQA Guidelines Section 15064.3(b)(4) states that "A lead agency has discretion to choose the most appropriate methodology to evaluate a Project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a Project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revision to model outputs should be documented and explained in the environmental document prepared for the Project. The standard of adequacy in Section 15151 shall apply to the analysis

described in this section."

The scoping letter provided data based on a 56-lot single-family subdivision, which overanalyzes the potential impacts. It is assumed that the proposed 53-lot single-family subdivision would have lesser impacts. Based on the methodology used in the scoping letter (Institute of Transportation Engineers [ITE] Trip Generation Handbook, 11th Edition), the proposed 53-lot single family subdivision is anticipated to generate up to 499.79 daily trips (53 dwelling units X 9.43 [Land Use Code 210 Average Rate]). The Department of Public Works reviewed the scoping letter and determined that the Project does not require further traffic operational analyses for VMT.

The Fresno County SB 743 Implementation Regional Guidelines document notes that land use development Projects that generate fewer than 500 average daily trips (ADT) may be presumed to create a less than significant impact.[24] Based on the analysis provided above, the proposed Project would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b), and impacts would be less than significant.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The Project will be designed to current standards and safety regulations. All intersections will be constructed to comply with the City and Caltrans regulations, and design and safety standards of Chapter 33 of the California Building Codes (CBC) and the guidelines of Title 24 in order to create safe and accessible roadways.

Vehicular access to each home would be provided with individual driveways with direct access to the internal circulation roads that will connect to McKinley Avenue. In addition, the Project design features would be required to comply with standards set by the City's General Plan. In addition, the proposed Project would also be required to submit plans to the FFD for review and approval prior to the issuance of building permits to ensure there are no substantial hazards associated with the Project design. Specific circulation patterns and roadway designs will incorporate all applicable safety measures to ensure that hazardous design features or inadequate emergency access to the site or other areas surrounding the Project area would not occur. McKinley Avenue between Armstrong Avenue and Fowler

24 Fresno Council of Governments. 2024. *Fresno County SB 743 Implementation Regional Guidelines*. Available at: https://www.fresnocog.org/wp-content/uploads/2021/01/Fresno-COG-VMT-Report_01-08-2021.pdf (accessed December 2024).

Avenue is designated as a Collector in the City of Fresno General Plan Circulation Element. Design standards pursuant to City of Fresno policies for Collector classified streets would be implemented and include pedestrian and bicycle lane amenities. Under the City of Fresno Active Transportation Plan (ATP), this section of McKinley Avenue would be improved with a Class I Bike Path that conforms with City of Fresno design standards. The implementation of the design standards, including pedestrian and bike paths would improve pedestrian and cyclist safety. The Project would not alter pedestrian or vehicle access to the Project site or introduce incompatible design features or equipment that would substantially increase the risk of hazards. Therefore, with the incorporated design features and all applicable rules and regulations, the Project will have a less than significant impact.

d) Result in inadequate emergency access?

The proposed Project would include construction of single-family homes, roadways, sidewalks, sewer, water, and associated utilities. Vehicular access to each home would be provided with individual driveways with direct access onto public roadways. The proposed Project would include allow for multiple access points to McKinely Avenue and the Project would require approval by the City of Fresno Fire Department and the City of Fresno Police Department. Emergency vehicles would have access to the Project site via internal public right-of-way and emergency access would not be impacted as a result of the proposed Project. Furthermore, roads adjacent to the Project site would not require closure during Project construction. Therefore, the impact would be less than significant.

Mitigation Measures

No mitigation is required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRIBAL CULTURAL RESOURCES – Would the Project:				
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:		X		
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC section 5020.1(k), or,		X		
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC section 5024.1. In applying the criteria set forth in subdivision (c) of PRC section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		X		

The analysis in this section is based on the Cultural Resources Technical Memo (QK, 2024b), prepared for the Project and attached as Appendix D.

DISCUSSION

a) Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically

defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

The State requires lead agencies to consider the potential effects of proposed Projects and consult with California Native American tribes during the local planning process for the purpose of protecting Traditional Tribal Cultural Resources through the CEQA Guidelines. Pursuant to PRC Section 21080.3.1, the lead agency shall begin consultation with the California Native American tribe that is traditionally and culturally affiliated with the geographical area of the proposed Project. Such significant cultural resources are either sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a tribe which is either on or eligible for inclusion in the California Historic Register or local historic register, or, the lead agency, at its discretion, and support by substantial evidence, choose to treat the resources as a Tribal Cultural Resources (PRC Section 21074(a)(1-2)).

Pursuant to AB 52, the Table Mountain Rancheria of California and Dumna Wo Wah Tribal Government were invited to consult under AB 52. The City mailed notices of the proposed Project to each of these tribes on January 16, 2025, which included the required 30-day time period required by AB 52, and ended on February 17, 2025. Neither tribe decided to request consultation for the Project during the required comment period.

As noted in V. CULTURAL RESOURCES (a)-(c), The SSJVIC records search revealed no cultural resource investigations have occurred within the Project area and four investigations have occurred in the 0.5-mile search radius. They further reported no cultural resources within the Project area or within a 0.5-mile search radius. An archaeological and historic built-environment pedestrian survey of the entire Project area was conducted by a qualified cultural resources specialist. No surface precontact or historic-era isolated artifacts, archaeological features, or sites were discovered. A 1,278-foot-long segment of the Mill Ditch is not eligible for inclusion in the CRHR and does not qualify as a historical resource under CEQA. No further action is recommended for the management of this segment of the Mill Ditch.

The cultural resource study did not identify any historical or archaeological resources within the Project area. However, if cultural resources are discovered during construction activities, adherence to the Mitigation Measure CUL-1

would reduce potential impacts to unknown historical resources to less than significant.

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

The State requires lead agencies to consider the potential effects of proposed Projects and consult with California Native American tribes during the local planning process for the purpose of protecting Traditional Tribal Cultural Resources through the CEQA Guidelines. Pursuant to PRC Section 21080.3.1, the lead agency shall begin consultation with the California Native American tribe that is traditionally and culturally affiliated with the geographical area of the proposed Project. Such significant cultural resources are either sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a tribe which is either on or eligible for inclusion in the California Historic Register or local historic register, or, the lead agency, at its discretion, and support by substantial evidence, choose to treat the resources as a Tribal Cultural Resources (PRC Section 21074(a)(1-2)).

Additional information may also be available from the California Native American Heritage Commission's Sacred Lands File per PRC Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that PRC Section 21082.3(c) contains provisions specific to confidentiality.

Assembly Bill (AB) 52, which became law January 1, 2015, requires that, as part of the CEQA review process, public agencies provide early notice of a Project to California Native American Tribes to allow for consultation between the tribe and the public agency. The purpose of AB 52 is to provide the opportunity for public agencies and tribes to consult and consider potential impacts to Tribal Cultural Resources (TCR's), as defined by the Public Resources Code (PRC) Section 2107(a). Under AB 52, public agencies shall reach out to California Native American Tribes who have requested to be notified of Projects in areas within or which may have been affiliated with their tribal geographic range. Pursuant to Assembly Bill 52 (AB 52), the Table Mountain Rancheria of California and Dumna Wo Wah Tribal Government were invited to consult. The contacted Tribes did not provide a response to invitations to consult.

If any artifacts are inadvertently discovered during ground-disturbing activities, existing federal, State, and local laws and regulations would require construction activities to cease until such artifacts are properly examined and determined not to be of significance by a qualified cultural resource professional. In addition, Mitigation Measures CUL-1, CUL-2 and CUL-3 included above in Section V, Cultural Resources, would apply to the Project and would reduce potential impacts to unknown archaeological historical resources to less than significant.

Mitigation Measures

Implementation of CUL-1, CUL-2, and CUL-3.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS – Would the Project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effect?			X	
b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?			X	
c) Result in a determination by the waste water treatment provider, which serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?			X	
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			X	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	

DISCUSSION

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

The Project site is within city limits and thus, will be required to connect to water, stormwater, solid waste, and wastewater services. Natural gas, electricity, and telecommunications are provided by private companies. The Project site is previously developed and located within an urban neighborhood surrounded by existing uses, thus there is existing utility infrastructure including water, sewer, stormwater, natural gas, electricity, and telecommunication services to which the Project would connect. Further, development of the Project site has been reviewed by the City and responsible agencies through the entitlement review process. The entitlement review process ensures that the future development is developed in accordance with applicable regulations including the permitted intensity and massing development standards. Consequently, the Project would be consistent with the planned land use previously accounted for in the Fresno General Plan and subsequent utility master plans including the *2020 Urban Water Management Plan* and 2019 *Wastewater Collection System Master Plan*.

The Department of Public Utilities has determined that adequate sanitary sewer and water services would be available to serve the proposed Project subject to the payment of any applicable connection charges and/or fees and extension of services in a manner which is compliant with the Department of Public Utilities standards, specifications, and policies. The proposed Project would be subject to the payment of any applicable connection charges and/or fees and extension of services in a manner that is compliant with the Department of Public Utilities standards, specifications, and policies. Construction and operation of sewer infrastructure for the Project would be typical of such facilities, and there is no evidence to suggest that it would result in any additional significant effects not evaluated herein. Therefore, the relocation or construction of new or expanded sanitary sewer and water services would not occur as a result of the Project. For these reasons, it can be determined that the Project would not require or result in the relocation or construction of new or expanded facilities and thus, can be adequately served by all required utilities and service systems. As a result, impacts would be less than significant.

Impacts to storm drainage facilities have been previously discussed in Section X, HYDROLOGY AND WATER QUALITY. While the proposed Project would result in the construction of new storm water drainage facilities or expansion of existing

facilities, pursuant to the objectives and policies of the Fresno General Plan Noise and Safety Element for stormwater runoff hazards, the construction of such facilities would be required to comply with the City's grading plan check process, the Fresno Metropolitan Flood Control District (FMFCD) Storm Drainage and Flood Control Master Plan (SDFCMP), and requirements of the NPDES General Construction Permit. As such, construction of storm drainage facilities for the proposed Project would be consistent with construction and design standards for the City, and the impact would be less than significant.

Sanitary sewer and water service under the City's jurisdiction, delivery is also subject to payment of applicable connection charges and/or fees; compliance with the Department of Public Utilities standards, specifications, and policies; the rules and regulations of the California Public Utilities Commission and California Health Services; and, implementation of the Citywide program for the completion of incremental expansions to facilities for planned water supply, treatment, and storage. Therefore, the impacts of the Project are less than significant

b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?

As discussed under Section VII HYDROLOGY AND WATER QUALITY (b, c(i)-c(iii) and e, the proposed Project is anticipated to use approximately 133.74 acre-feet of water annually. The Project will obtain water by connecting to City utility services. The long-term average day operational water demand will be for the residential users and is anticipated to be approximately 13.41 million gallons per year or 47.89 acre-feet per year at total buildout of the Project. This is based on each residential unit having an average day water demand of 693 gallons per day (based on the 198-gallon per capita/day average in the 2020 City of Fresno UWMP and 3.5 people per unit) across the entire buildout of 53 units for the Project.

As noted previously, the Department of Public Utilities would have adequate water supply to meet all demands through the year 2045 even under the multiple dry-year drought condition scenario. Based on the 2020 UWMP, the water supplies for the City (357,330 Acre Feet (AF)/year) are adequate to accommodate the demand in the City by 2045 (i.e., 241,447 AF/year). The proposed Project buildout would result in approximately 47.89 AF/year of water demand which is 0.014% of the available water supply of the City in the worst-case scenario of the fifth year of the five consecutive dry year supply and demand comparison (Table 5). As the Project does not require a zone change or General Plan amendment and is located within the City SOI, the proposed Project would be included within the growth estimates that the 2020 UWMP accounted for.

The proposed Project would be consistent with the General Plan and would therefore be covered by the City's water supply Projections. As a result, there would be sufficient water supply for the Project, and the impact would be less than significant.

c) Result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?

The City of Fresno acts as the Regional Sewer Agency and is responsible for operating the Fresno/Clovis Regional Wastewater Reclamation Facility (RWRF) and the North Fresno Wastewater Treatment Facility (NFWTF). The Regional Facility provides wastewater treatment for a service area that includes most of the Cities of Fresno and Clovis, and some unincorporated areas of Fresno County. The proposed Project is not expected to exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. The City of Fresno owns and operates two wastewater treatment facilities. They are the Fresno/Clovis Regional Wastewater Reclamation Facility and the North Fresno Wastewater Reclamation Facility. The RWRF currently has a capacity of 91.5 million gallons per day (mgd). The North Facility has a capacity of 0.71 mgd. The Department of Public Utilities has determined that adequate sanitary sewer and water services would be available to serve the proposed Project subject to the payment of any applicable connection charges and/or fees and extension of services in a manner that is compliant with the Department of Public Utilities standards, specifications, and policies. The proposed Project is not expected to exceed the capacity of existing wastewater-related services and facilities. Therefore, the impact would be less than significant.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

The City of Fresno Department of Public Utilities, Solid Waste Division has reviewed the Project for compliance with any federal, State, and local management and reduction statutes and regulations related to solid waste.

Garbage disposed in the City of Fresno is taken to the Cedar Avenue Recycling and Transfer Station. Once trash has been off-loaded at the transfer station, it is sorted, and non-recyclable solid waste is loaded onto large trucks and taken to the American Avenue Landfill located approximately six miles southwest of Kerman.

The American Avenue Landfill (i.e., American Avenue Disposal Site 10-AA-0009) has a maximum permitted capacity of 32,700,000 cubic yards and a remaining

capacity of 29,358,535 cubic yards, with an estimated closure date of August 31, 2031. The maximum permitted throughput is 2,200 tons per day.[25]

Other landfills within the County of Fresno include the Clovis Landfill (City of Clovis Landfill 10-AA-0004) with a maximum remaining permitted capacity of 7,740,000 cubic yards, a maximum permitted throughput of 2,000 tons per day, and an estimated closure date of 2047.[26]

According to CalRecycle, residential land uses generate approximately 12.23 lbs/household/day. Operation of the proposed Project would generate approximately 648 pounds of solid waste per day or about 118.3 tons of solid waste per year. Given the available capacity at the landfills, the additional solid waste generated by the proposed Project is not anticipated to cause the facility to exceed its daily permitted capacity. As such, the Project would be served by a landfill with sufficient capacity to accommodate the Project's waste disposal needs, and impacts associated with the disposition of solid waste would be less than significant.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Project construction and operational activities that generate solid waste are handled, transported, and disposed of in accordance with applicable federal, State, and local regulations pertaining to municipal waste. The 1989 California Integrated Waste Management Act requires jurisdictions to attain specific waste diversion goals (AB 939, 2019). In addition, the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development Projects to incorporate storage areas for recycling bins into the proposed Project design. Reuse and recycling of construction debris would reduce operating expenses and save valuable landfill space. With development in accordance with the General Plan, solid waste will continue to be handled, transported, and disposed of according to all applicable federal, State, and local regulation pertaining to municipal waste disposal. The City has a number of provisions that require or promote recycling and waste reduction, including the Construction and Demolition Recycling Ordinance that requires contractors to recycle construction and demolition debris.

The City Council adopted the City of Fresno Solid Waste and Recycling Facilities Ordinance (Ord. No. 2003-100) in order to comply with AB 939, which requires the

[25] CalRecycle. Available online at: https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/352 (accessed September 2024).

[26] CalRecycle. Available online at: https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/347 (accessed September 2024).

implementation of integrated waste management plans and mandates that local jurisdictions divert at least 50 percent of all solid waste. The recycling of construction and demolition materials is required for any City-issued building, relocation, or demolition permit that generates at least eight cubic yards of material by volume. The Project would generate solid waste during construction and operation of the new single-family residences. Common construction waste may include metals, masonry, plastic pipe, rocks, dirt, cardboard, or green waste related to land development. AB 939 and Ordinance No. 2003-100 require the City of Fresno to attain specific waste diversion goals. The waste disposal facilities listed above have adequate capacity to accept construction waste from potential new facilities. The proposed Project would comply with Cal Green, the City's Construction and Demolition (C&D) Waste Management Guide, and with waste management policies and recommendations from the General Plan and the Greenhouse Gas Reduction Plan Update.[27]

The proposed Project would dispose of waste in accordance with applicable federal, state, and local recycling, reduction, and waste requirements and policies. Therefore, the proposed Project would not conflict with federal, state, and local management and reduction statutes and regulations related to solid waste, and the impact would be less than significant.

Mitigation Measures

No mitigation is required.

27 City of Fresno, 2021. Greenhouse Gas Reduction Plan Update. Available online at: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2021/03/Link4AppendixGGHGRPUpdate.pdf (accessed October 2024).

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. WILDFIRE – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?			X	
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			X	
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			X	
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?			X	

DISCUSSION

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

The City of Fresno's Police and Fire Departments are tasked with all local emergency response efforts. In addition, the City's full-time Emergency

Preparedness Officer (EPO) is responsible for ensuring that Fresno's emergency response plans are up-to-date and implemented properly. The EPO also facilitates cooperation between City departments and other local, State and federal agencies that would be involved in emergency response operations. The proposed Project would not interfere with any emergency evacuation routes within the City of Fresno or an adopted emergency response plan. The Project site would develop a portion of McKinley Avenue and develop internal circulation roads, which would improve emergency access. All Project plans submitted to the City will be reviewed for compliance with federal, State and local regulations related to emergency access. The Project is required to comply with all local, State, and federal regulations related to emergency preparedness, and would not result in environmental impacts. Therefore, the impact would be less than significant.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

See IX. HAZARDS AND HAZARDOUS MATERIAL (g). The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents) and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point.

Although the City of Fresno is proximate to high and very high fire hazard designated areas, the City is largely categorized as little or no threat or moderate fire hazard, which is largely attributed to urban development. The Project site is in an urban area and is not located within a Very High Fire Hazard Severity Zone (VHFHSZ).[28] The Project site does not possess physical characteristics that would exacerbate wildfire risks. Therefore, the proposed Project would not exacerbate wildfire risks and potentially expose Project occupants to pollutants from a wildfire. The impact would be less than significant.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

28 California Department of Forestry and Fire Protection (CAL FIRE). 2008. Fresno County Very High Fire Hazard Severity Zones in LRA. Available online at: https://osfm.fire.ca.gov/divisions/wildfire-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/ (accessed September 2024).

See discussion under WILDFIRE (a) above. The Project site is located in a developed area of the City and it would not require the installation or maintenance of infrastructure that would increase the risk of fire or result in temporary or ongoing environmental impacts, outside of what is already implemented according to City plans. Additionally, all new single-family residences would be required to comply with federal, State, and local health and safety regulations, development standards, building codes, and other laws and regulations that govern fire protection and suppression. As a result, a less-than-significant impact would occur.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

In general, Fresno is categorized as having little or no threat or moderate fire hazard, which can be attributed to its impervious surface areas. The area along the San Joaquin River bluff is an exception, as it is prone to wildfires due to steep terrain and native vegetation. The Project site comprises a relatively flat property just outside of the city limits in an area planned for and developed with urban uses, including residential uses, and is approximately eight (8) miles southeast of the San Joaquin River. In addition, the site nor the City of Fresno are identified by the California Department of Forestry and Fire Protection (Cal Fire) as being in a “Very High Fire Hazard Severity Zone” (VHFHSZ). Rather, the city, inclusive of the Project site, is in an “area of local responsibility” that is an area of low fire risk

Although the Project site is within a 500-year flood hazard zone, it would not be susceptible to flooding because of post-fire drainage changes. The Project would be required to submit grading plans for development of the site as part of the permitting process in addition to connecting to the City storm drain system. The nearest FMFCD drainage basin is adjacent to the Project site to the southwest and would accommodate stormwater. Development of the site with compliance of City storm drainage requirements would reduce people or structures from significant risks including flooding. As discussed above, the Project is not located within a VHFHSZ. Therefore, the proposed Project would not expose people or structures to significant risks, and a less-than-significant impact would occur.

Mitigation Measures

No mitigation is required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X		
b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects)?		X		
c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X		

DISCUSSION

a) Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?

Refer to Section IV, Biological Resources, and Section V, Cultural Resources. The Project will implement mitigation measures BIO-1 through BIO-9 and CUL-1, CUL-2, and CUL-3 to reduce impacts on biological and cultural resources to a less than significant level. Therefore, with the incorporation of mitigation measures, development of the proposed Project would not: 1) degrade the quality of the environment; 2) substantially reduce the habitat of a fish or wildlife species; 3) cause a fish or wildlife species population to drop below self-sustaining levels; 4) threaten to eliminate a plant or animal community; 5) reduce the number or restrict the range of a rare or endangered plant or animal; or 6) eliminate important examples of the major periods of California history. Therefore, this impact would be less than significant.

b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects.)

The proposed Project's impacts would be individually limited and not cumulatively considerable due to the site-specific nature of the potential impacts. The potentially significant impacts that can be reduced to less-than-significant levels with implementation of recommended mitigation measures include the topics of Aesthetics, Air Quality, Biological Resources, Cultural Resources, Greenhouse Gas Emissions, and Noise. These impacts would primarily be related to construction-period activities, would be temporary in nature, and would not substantially contribute to any potential cumulative impacts associated with these topics.

Implementation of mitigation measures AES-1 and AES-2, AIR-1 and AIR-2, BIO-1 through BIO-9, CUL-1, 2, and 3, GHG-1, and NSE-1 would ensure that the Project complies with the City of Fresno General Plan, or established thresholds of significance. Since the proposed Project would not result in any significant Project-level impacts, the proposed Project would not result in any significant impacts that would combine with the impacts of other cumulative Projects to result in a cumulatively considerable impact on the environment. As such, this impact would be less than significant.

For the topics of Agriculture and Forestry Resources, Energy, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Recreation, Transportation, Utilities and Service Systems, and Wildfire, the Project would have no impacts or less-than-significant impacts, and therefore, the Project would not substantially contribute to any potential cumulative impacts for these topics. All environmental impacts that could occur as a result of the proposed Project would be reduced to a less-than-significant level through the implementation of the mitigation measures recommended in this document.

Implementation of these measures would ensure that the impacts of the Project would be below established thresholds of significance and that these impacts would not combine with the impacts of other cumulative Projects to result in a cumulatively considerable impact on the environment as a result of Project development. Therefore, this impact would be less than significant.

c) Does the Project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

The proposed Project's potential to result in environmental effects that could directly or indirectly impact human beings have been evaluated in this environmental document. With implementation of the recommended mitigation measures AES-1 and AES-2, AIR-1 and AIR-2, BIO-1 through BIO-9, CUL-1 through CUL-3, GEO-1, GHG-1, and NSE-1, all environmental effects that could adversely affect human beings would be less than significant.

Mitigation Measure Monitoring Program for Vesting Tentative Tract No. 6475 and Planned Development Application No. P24-02520

This Mitigation Monitoring and Reporting Program (MMRP) was formulated based upon the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) prepared for the proposed Vesting Tentative Tract Map No. 6475 and Planned Development Permit Application No. P24-02520 (project). The MMRP, which is found in Table A of this section, lists mitigation measures recommended in the IS/MND for the proposed project and identifies mitigation monitoring requirements. The MMRP must be adopted when the City Council makes a final decision on the proposed project.

This MMRP has been prepared to comply with the requirements of State law (Public Resources Code Section 21081.6). State law requires the adoption of an MMRP when mitigation measures are required to avoid significant impacts. This requirement facilitates implementation of all mitigation measures adopted through the California Environmental Quality Act (CEQA) process. The MMRP is intended to ensure compliance during implementation of the project.

The MMRP is organized in a matrix format. The first column identifies the mitigation measure. The second column, entitled “Mitigation Responsibility,” refers to the party responsible for implementing the mitigation measure. The third column, entitled “Monitoring/Reporting Agency,” refers to the agency responsible for oversight or ensuring that the mitigation measure is implemented. The fourth column, entitled “Monitoring Schedule,” refers to when monitoring will occur to ensure that the mitigating action is completed. The fifth column, entitled “Verification,” will be initialed and dated by the individual designated to verify adherence to the project specific mitigation.

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Table A: Mitigation Monitoring and Reporting Program

Mitigation Measure	Timing for Mitigation Measure	Mitigation Responsibility	Monitoring/ Reporting Agency	Verification (Initials and Date)
I. AESTHETICS				
AES-1: Street Lighting. Street lighting systems shall include shields to direct light to the roadway surfaces and parking areas. Vertical shields on the light fixtures shall also be used to direct light away from adjacent light sensitive land uses such as residences.	Lighting systems to be confirmed during plan check, prior to issuance of building permits.	Project Applicant	Public Works Department / Planning and Development Department	
AES-2: Use of Non-Reflective Materials. Materials used on building facades shall be non-reflective.	Building materials to be used confirmed during plan check, prior to issuance of building permits.	Project Applicant	Planning and Development Department	
II. AGRICULTURE AND FORESTRY RESOURCES				
There are no significant impacts to Agricultural and Forestry Resources.				
III. AIR QUALITY				
AIR-1: During construction, the owners, developers, and/or successors-in-interest will comply with SJVAPCD Regulation VIII (Fugitive Dust Rules). The required Regulation VIII measures are as follows: 1. All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water,	The City shall ensure that project-specific mitigation is incorporated into project plans prior to issuance of issuance of grading or construction permits. The measures as listed would be complied with during construction.	Project Applicant	Planning and Development Department	

chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover. 2. All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant. 3. All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking. 4. When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained. 5. All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden. 6. Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant. 7. Within urban areas, track out shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday.				

AIR-2: The owners, developers, and/or successors-in-interest will submit a Dust Control Plan under SJVAPCD's Rule 8021. The Dust Control Plan may include the following measures: 1. Water wetting of road surfaces 2. Rinse vehicles and equipment 3. Wet loads of excavated material, and 4. Cover loads of excavated material	Prior to construction, a Dust Control Plan shall be submitted and approved by the SJVAPCD. Evidence of approval shall be submitted prior to issuance of building permits.	Project Applicant	Planning and Development Department / SJVAPCD	
IV. BIOLOGICAL RESOURCES				
BIO-1: a) Within 14 days prior to the start of Project ground-disturbing activities, a pre-construction clearance survey with a 500-foot buffer where land access is permitted should be conducted by a qualified biologist knowledgeable in the identification of these species and approved by the CDFW. Surveys need not be conducted for all areas at one time; they may be phased so that surveys occur within 14 days of the portion of the Project site that will be disturbed. If any special status species or their sign are observed during the preconstruction clearance survey, the biologist will determine the appropriate next steps to occur, which can include but are not limited to those listed below. If no evidence of special status species is observed during the survey, no further action is warranted.	Within 14 days prior to ground-disturbing activities	Project Applicant / Qualified Biologist	Planning and Development Department	

Surveys for burrowing owl will follow CDFW protocol. If no evidence or observation of these species is noted during the preconstruction survey, no further action is required. If one of these species occurs on-site, the biologist shall determine whether biological monitoring or the implementation of avoidance buffers may be warranted. If dens/burrows that could support any of these species are discovered during the pre-activity surveys conducted the avoidance buffers outlined below should be established. No work would occur within these buffers unless the biologist approves and monitors the activity. Burrowing Owl (active burrows) • Non-breeding season: September 1 – January 31 – 160 feet • Breeding season: February 1 – August 31 – 250 feet American Badger/SJKF • Potential or Atypical den – 50 feet • Known den – 100 feet • Natal or pupping den – 500 feet, unless otherwise specified by CDFW. b) A report outlining the results of the preconstruction clearance survey shall be prepared and submitted to City of Fresno				

prior to the issuance of grading or building permits.				
BIO-2: The following avoidance and minimization measures shall be implemented during all construction phases of the Project to reduce the potential for impact from the Project. They are modified from the U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered SJKF Prior to or During Ground Disturbance (USFWS 2011, Appendix E). a) All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the construction or Project Site. b) Construction-related vehicle traffic shall be restricted to established roads and predetermined ingress and egress corridors, staging, and parking areas. Vehicle speeds shall not exceed 20 miles per hour (mph) within the Project Site. c) To prevent inadvertent entrapment of kit fox or other animals during construction, the contractor shall cover all excavated, steep-walled holes or trenches more than two feet deep at the close of each workday with plywood or similar materials. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks shall be installed in the trench. Before such holes or trenches are filled, the contractor shall thoroughly inspect them for entrapped animals. All	During construction	Project Applicant / Qualified Biologist	Planning and Development Department	

construction-related pipes, culverts, or similar structures with a diameter of four-inches or greater that are stored on the Project Site shall be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in anyway. If at any time an entrapped or injured kit fox is discovered, work in the immediate area shall be temporarily halted and USFWS and CDFW shall be consulted. d) Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the USFWS and CDFW have been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped. e) No pets, such as dogs or cats, shall be permitted on the Project Sites to prevent harassment, mortality of kit foxes, or destruction of dens. f) Use of anti-coagulant rodenticides and herbicides in Project Sites shall be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes				

and the depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional Project-related restrictions deemed necessary by the USFWS and CDFW. If rodent control must be conducted, zinc phosphide shall be used because of the proven lower risk to kit foxes. g) A representative shall be appointed by the Project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative shall be identified during the employee education program and their name and telephone number shall be provided to the USFWS. h) The Sacramento Fish and Wildlife Office of USFWS and CDFW shall be notified in writing within three working days of the accidental death or injury to a SJKF during Project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact can be reached at (559) 243-4014 and R4CESA@wildlifeca.gov. i) All sightings of the SJKF shall be reported to the California Natural Diversity Database				

(CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed shall also be provided to the Service at the address below. j) Any Project-related information required by the USFWS or questions concerning the above conditions, or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at: Endangered Species Division, 2800 Cottage Way, Suite W 2605, Sacramento, California 95825-1846, phone: (916) 414-6620 or (916) 414-6600.				
BIO-3: If construction must occur between February 1 and August 31, a qualified biologist shall conduct surveys for active bird nests within 7 days prior to the start of work during this period. The survey area will encompass the site and accessible surrounding lands within ¼ mile for nesting Swainson's hawks, 500 feet for other nesting raptors, and 250 feet for migratory nesting birds. This survey may be completed in conjunction with the preconstruction clearance survey outlined in MM BIO-1. A copy of the survey report shall be submitted to the City of Fresno prior to the issuance of grading or building permits..	Within 7 days prior to construction	Project Applicant / Qualified Biologist	Planning and Development Department	
BIO-4: Should any active nests be discovered in or near proposed construction zones, the biologist shall identify a suitable construction-free buffer around the nest. This buffer will be identified on the ground with flagging or fencing and will be maintained until the biologist has determined that	During construction	Project Applicant / Qualified Biologist	Planning and Development Department	

the young have fledged and are capable of foraging independently.				
BIO-5: Within 10 days prior to the removal of the site's outbuildings, a qualified biologist shall complete a survey the structures for roosting bats. The biologist shall look for individuals, guano, and staining, and will listen for bat vocalizations. If warranted, the biologist will wait for nighttime emergence of bats from roost sites. A copy of the survey report shall be submitted to the City of Fresno prior to removal of the structures. If no evidence or observations of bats are noted, no further action shall be taken..	Within 10 days prior to removal of construction site outbuildings.	Project Applicant / Qualified Biologist	Planning and Development Department	
BIO-6: Should any active maternity bat roosts be discovered, the biologist shall identify a suitable construction-free buffer around the maternity roost. The buffer will be identified on the ground with flagging or fencing and will be maintained until the biologist has determined that the nursery is no longer active.	During construction activities	Project Applicant / Qualified Biologist	Planning and Development Department	
BIO-7: If a non-breeding bat colony is found in structures to be removed, the individuals will be humanely evicted, under the direction of a qualified biologist, to ensure that bats are not physically harmed by demolition/removal activities.	During construction activities and within 10 days prior to removal of construction site outbuildings.	Project Applicant / Qualified Biologist	Planning and Development Department	
BIO-8: If Project construction activities must occur during the Swainson's hawk nesting season (February 15 to August 31), pre-construction activity surveys should be conducted for Swainson's hawk nests in accordance with the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's	Within 7 days prior to construction	Project Applicant / Qualified Biologist	Planning and Development Department	

Central Valley, Swainson's Hawk Technical Advisory Committee (CDFG 2000). Timing and the number of phases of surveys can be adjusted based on the timing of the construction schedule. The surveys maybe phased to coincide with active construction areas plus a 0.5-mile buffer of those areas.				
BIO-9: No mature trees that could be used by nesting Swainson's hawk will be removed during construction of the Project. If an active Swainson's hawk nest is discovered at any time within 0.5 mile of active construction, a qualified biologist should complete an assessment of the potential for current construction activities to impact the nest. The assessment would consider the type of construction activities, the location of construction relative to the nest, the visibility of construction activities from the nest location, and other existing disturbances in the area that are not related to construction activities of this Project. Based on this assessment, the biologist will determine if construction activities can proceed, and the level of nest monitoring required. Construction activities should not occur within 500 feet of an active nest but depending upon conditions at the site this distance may be reduced. Full-time monitoring to evaluate the effects of construction activities on nesting Swainson's hawks may be required. The qualified biologist should have the authority to stop work if it is determined that Project construction is disturbing the nest. These buffers may need to increase depending on the sensitivity of the nesting Swainson's hawk to disturbances and at the discretion of the qualified biologist. No avoidance would be needed if construction occurs near a	During construction	Project Applicant / Qualified Biologist	Planning and Development Department	

known Swainson's hawk nest outside of the Swainson's hawk nesting season.				
V. CULTURAL RESOURCES				
CUL-1: Historical Resources. If previously unknown resources are encountered before or during grading activities, construction shall stop in the immediate vicinity of the find and a qualified historical resources specialist shall be consulted to determine whether the resource requires further study. The qualified historical resources specialist shall make recommendations to the City on the measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines and the City's Historic Preservation Ordinance. If the resources are determined to be unique historical resources as defined under Section 15064.5 of the CEQA Guidelines, measures shall be identified by the monitor and recommended to the Lead Agency. Appropriate measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. No further grading shall occur in the area of the discovery until the Lead Agency approves the measures to protect these resources. Any historical artifacts recovered as a result of mitigation shall be provided to a City-approved institution or person who is capable of providing long-term preservation to allow future scientific study.	Before or during construction	Project Applicant / Qualified Cultural Resources Specialist	Planning and Development Department	

CUL-2: Archaeological Resources. Subsequent to a preliminary City review of the project grading plans, if there is evidence that a project will include excavation or construction activities within previously undisturbed soils, a field survey and literature search for prehistoric archaeological resources shall be conducted. The following procedures shall be followed. If prehistoric resources are not found during either the field survey or literature search, excavation and/or construction activities can commence. In the event that buried prehistoric archaeological resources are discovered during excavation and/or construction activities, construction shall stop in the immediate vicinity of the find and a qualified archaeologist shall be consulted to determine whether the resource requires further study. The qualified archaeologist shall make recommendations to the City on the measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines. If the resources are determined to be unique prehistoric archaeological resources as defined under Section 15064.5 of the CEQA Guidelines, mitigation measures shall be identified by the monitor and recommended to the Lead Agency. Appropriate measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. No further grading shall occur in the area of the discovery until the Lead Agency approves the measures to protect these resources. Any prehistoric	Prior to the issuance of building or grading permits.	Project Applicant / Qualified Cultural Resources Specialist	Planning and Development Department / Qualified Cultural Resources Specialist	

archaeological artifacts recovered as a result of mitigation shall be provided to a City-approved institution or person who is capable of providing long-term preservation to allow future scientific study. If prehistoric resources are found during the field survey or literature review, the resources shall be inventoried using appropriate State record forms and submit the forms to the Southern San Joaquin Valley Information Center. The resources shall be evaluated for significance. If the resources are found to be significant, measures shall be identified by the qualified archaeologist. Similar to above, appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. In addition, appropriate mitigation for excavation and construction activities in the vicinity of the resources found during the field survey or literature review shall include an archaeological monitor. The monitoring period shall be determined by the qualified archaeologist. If additional prehistoric archaeological resources are found during excavation and/or construction activities, the procedure identified above for the discovery of unknown resources shall be followed.				
CUL-3: Human Remains. In the event that human remains are unearthed during excavation and grading activities of any future development project, all activity shall cease immediately. Pursuant to Health and Safety Code (HSC) Section 7050.5, no further disturbance shall occur until the County Coroner has made the necessary findings	During construction of the project.	Project Applicant / Qualified Cultural Resources Specialist	Planning and Development Department	

as to origin and disposition pursuant to PRC Section 5097.98(a). If the remains are determined to be of Native American descent, the coroner shall within 24 hours notify the Native American Heritage Commission (NAHC). The NAHC shall then contact the most likely descendent of the deceased Native American, who shall then serve as the consultant on how to proceed with the remains. Pursuant to PRC Section 5097.98(b), upon the discovery of Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendants regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the descendants all reasonable options regarding the descendants' preferences for treatment.				
VI. ENERGY				
There are no significant impacts to Energy.				
VII. GEOLOGY AND SOILS				
GEO-1: Paleontological/Geological Resources. Subsequent to a preliminary City review of the project grading plans, if there is evidence that a project will include excavation or construction activities within previously undisturbed soils, a field survey and literature search for unique	Prior to issuance of grading permit and during construction of the project.	Project Applicant / Qualified Paleontologist	Planning and Development Department	

paleontological/geological resources shall be conducted prior to issuance of grading permits. The following procedures shall be followed: • If unique paleontological/geological resources are not found during either the field survey or literature search, excavation and/or construction activities can commence. In the event that unique paleontological/geological resources are discovered during excavation and/or construction activities, construction shall stop in the immediate vicinity of the find and a qualified paleontologist shall be consulted to determine whether the resource requires further study. The qualified paleontologist shall make recommendations to the City on the measures that shall be implemented to protect the discovered resources, including but not limited to, excavation of the finds and evaluation of the finds. If the resources are determined to be significant, mitigation measures shall be identified by the monitor and recommended to the Lead Agency. Appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. No further grading shall occur in the area of the discovery until the Lead Agency approves the measures to protect these resources. Any paleontological/geological resources recovered as a result of mitigation shall be provided to a City-approved institution or person who is capable of				

providing long-term preservation to allow future scientific study. A report outlining the results of the survey shall be submitted to the City of Fresno prior to the issuance of grading permits. If no paleontological resources are identified, no further action is warranted. • If unique paleontological/geological resources are found during the field survey, the resources shall be inventoried and evaluated for significance. If the resources are found to be significant, mitigation measures shall be identified by a qualified paleontologist. Similar to above, appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. In addition, appropriate mitigation for excavation and construction activities in the vicinity of the resources found during the field survey or literature review shall include a paleontological monitor. The monitoring period shall be determined by a qualified paleontologist. If additional paleontological/geological resources are found during excavation and/or construction activities, the procedure identified above for the discovery of unknown resources shall be followed.				
VIII. GREENHOUSE GAS EMISSIONS				

GHG-1: EV Charging. Consistent with State GHG reduction and equity prioritization goals, each residential unit shall provide electric vehicle charging capabilities as part of the final project designs.	Prior to issuance of issuance of grading or construction permits.	Project Applicant	Planning and Development Department	
IX. HAZARDS AND HAZARDOUS MATERIALS				
There are no significant impacts to Hazards and Hazardous Materials				
X. HYDROLOGY AND WATER QUALITY				
There are no significant impacts to Hydrology and Water Quality				
XI. LAND USE AND PLANNING				
There are no significant impacts to Land Use Planning				
XII. MINERAL RESOURCES				
There are no significant impacts to Mineral Resources				
XIII. NOISE				
NSE-1: Heating, Ventilation and Air Conditioning (HVAC) units shall be provided for all homes so that windows and doors can remain closed for sound insulation purposes. Prior to the issuance of building permits, plans and specifications shall include the installation of units and be submitted to the City for approval.	Prior to issuance of issuance of grading or construction permits.	Project Applicant	Planning and Development Department	
XIV. POPULATION AND HOUSING				
There are no significant impacts to Population and Housing.				

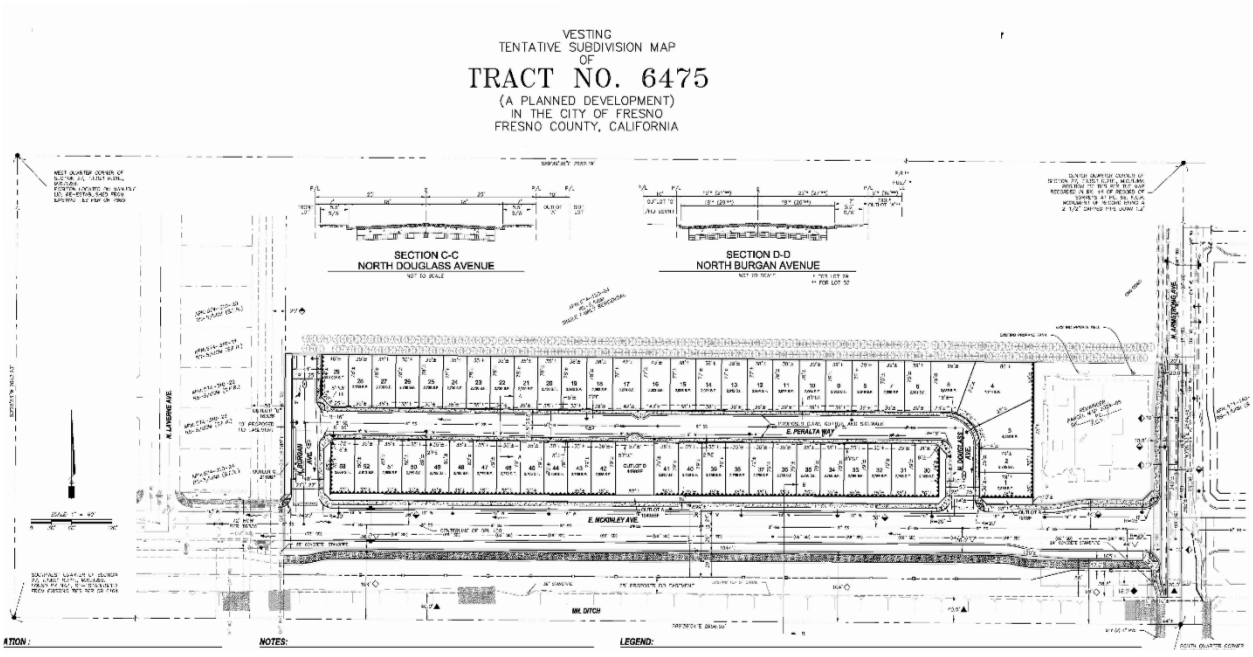
XV. PUBLIC SERVICES
There are no significant impacts to Public Services.
XVI. RECREATION
There are no significant impacts to Recreation.
XVII. TRANSPORTATION
There are no significant impacts to Transportation.
XVIII. TRIBAL AND CULTURAL RESOURCES
Implementation of CUL-1, 2, and 3.
XIX. UTILITIES AND SERVICE SYSTEMS
There are no significant impacts to Utilities and Services Systems.
XX. WILDFIRE
There are no significant impacts to Wildfire.
XXI. MANDATORY FINDINGS OF SIGNIFICANCE
Implementation of AES-1 and 2; AIR-1 and 2; BIO-1 through 9; CUL1, 2, 3; GEO-1; GHG-1; and NSE-1.

Appendix A

LESA- AGRICULTURAL CONVERSION STUDY

CITY OF FRESNO

TENTATIVE TRACT MAP NO. 6475 PROJECT



NOVEMBER 2024

LESA- AGRICULTURAL CONVERSION STUDY

TENTATIVE TRACT MAP NO. 6475 PROJECT

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November 2024

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Project #240186

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ACRONYMS AND ABBREVIATIONS

CEQA	California Environmental Quality Act
CRC	California Resources Corporation
DOC	California Department of Conservation
FMMP	Farmland Mapping and Monitoring Program
FPPA	Farmland Protection Policy Act
KCDA	Kern County Department of Agriculture
KCGP	Kern County General Plan
LCC	Land Capability Classification System
LE	Land Evaluation
LESA	Land Evaluation and Site Assessment
NRCS	Natural Resources Conservation Service
SA	Site Assessment
USDA	United States Department of Agriculture
WRCC	Western Regional Climate Center
ZOI	Zone of Influence

SECTION 1 - INTRODUCTION

1.1 - Purpose and Methods of Assessment

This Agricultural Land Evaluation and Site Assessment (LESA) and Agricultural Conversion and Forest Resources Study is prepared for a residential development project on an approximately 11-acre parcel (APN: 574-130-05; Project). The Project site is located within the City of Fresno on the north side of Mill Ditch, between Armstrong Avenue and Fowler Avenue (Figure 1-2). Of the 11-acre parcel, the Project intends to develop approximately 9 acres of land with a 53-lot single family residential subdivision and the East McKinely Avenue alignment. The residential lot sizes range from 2,730 square feet to 7,714 square feet. In addition, four Outlots are included; Outlot A and B will be dedicated for landscaping and public utility purposes, while Outlots C and D will be dedicated for Open Space purposes.

The Project site consists of disturbed vacant land and previously farmed agricultural land. The surrounding areas consist of agricultural lands being farmed to the north and east, a Fresno Irrigation District Canal to the south, and a single-family residential development project currently under construction.

The Project area does not have the potential to impact forest land (as defined in Public Resources Code Section 12220(g)) or timberland (as defined by Public Resources Code Section 4526). However, the Project does have the potential to impact agricultural resources. The California Agricultural Land Evaluation and Site Assessment (LESA) Model was prepared to determine if the conversion of Prime Farmland to a non-agricultural use would constitute a significant impact pursuant to the California Environmental Quality Act (CEQA) Statute and Guidelines.

1.1.1 - AGRICULTURAL RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, the LESA Model (1997) prepared by the California Department of Conservation (DOC), may be used as a tool to assess the significance of impacts on agricultural resources and farmland conversion. The information used to prepare the LESA Model was based on information obtained from the DOC Farmland Mitigation and Monitoring Program (FMMP), the United States Department of Agriculture, the Natural Resources Conversation Service (NRCS), and Geographic Information System (GIS) tools.

The DOC FMMP considers Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance collectively as Important Farmland. Based on the farmland mapping categories Table 1-1 depicts the acreages of each category within the City of Fresno.

Table 1-1
Existing Farmland Acreages Within the Planning Area

Designation	Acreage

Prime Farmland	9,134
Farmland of Statewide Importance	2,269
Unique Farmland	3,224
Farmland of Local Importance	7,896
Urban and Built Up	71,963
Rural Residential	6,434
Nonagricultural or Natural Vegetation	1,869
Confined Animal Agriculture	136
Grazing	1
Vacant or Disturbed	2,327
Water	57
Semi-Agricultural and Rural Commercial	729

Source: City of Fresno Program Environmental Impact Report for the 2020 General Plan Update

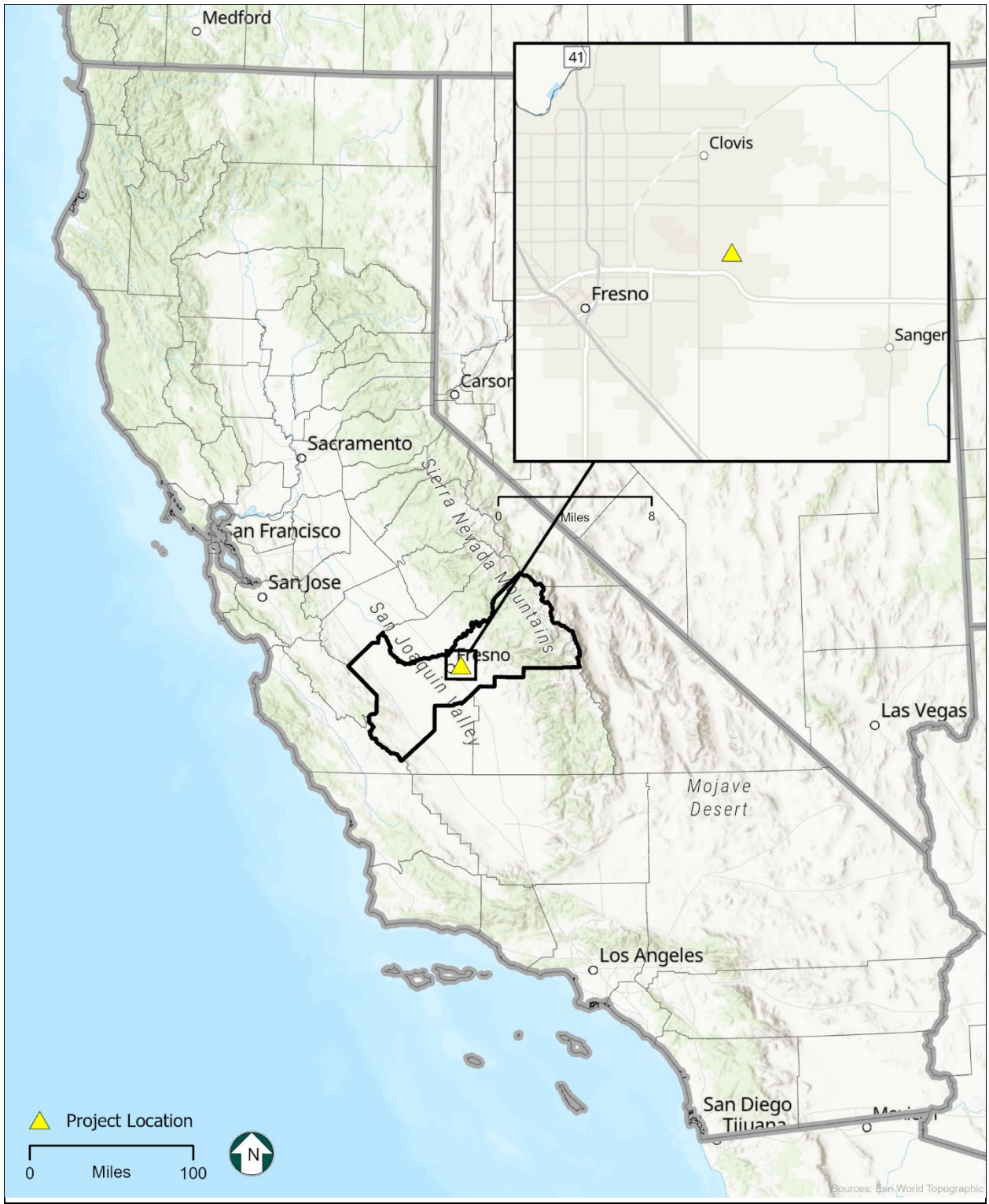


Figure 1-1
Regional Location

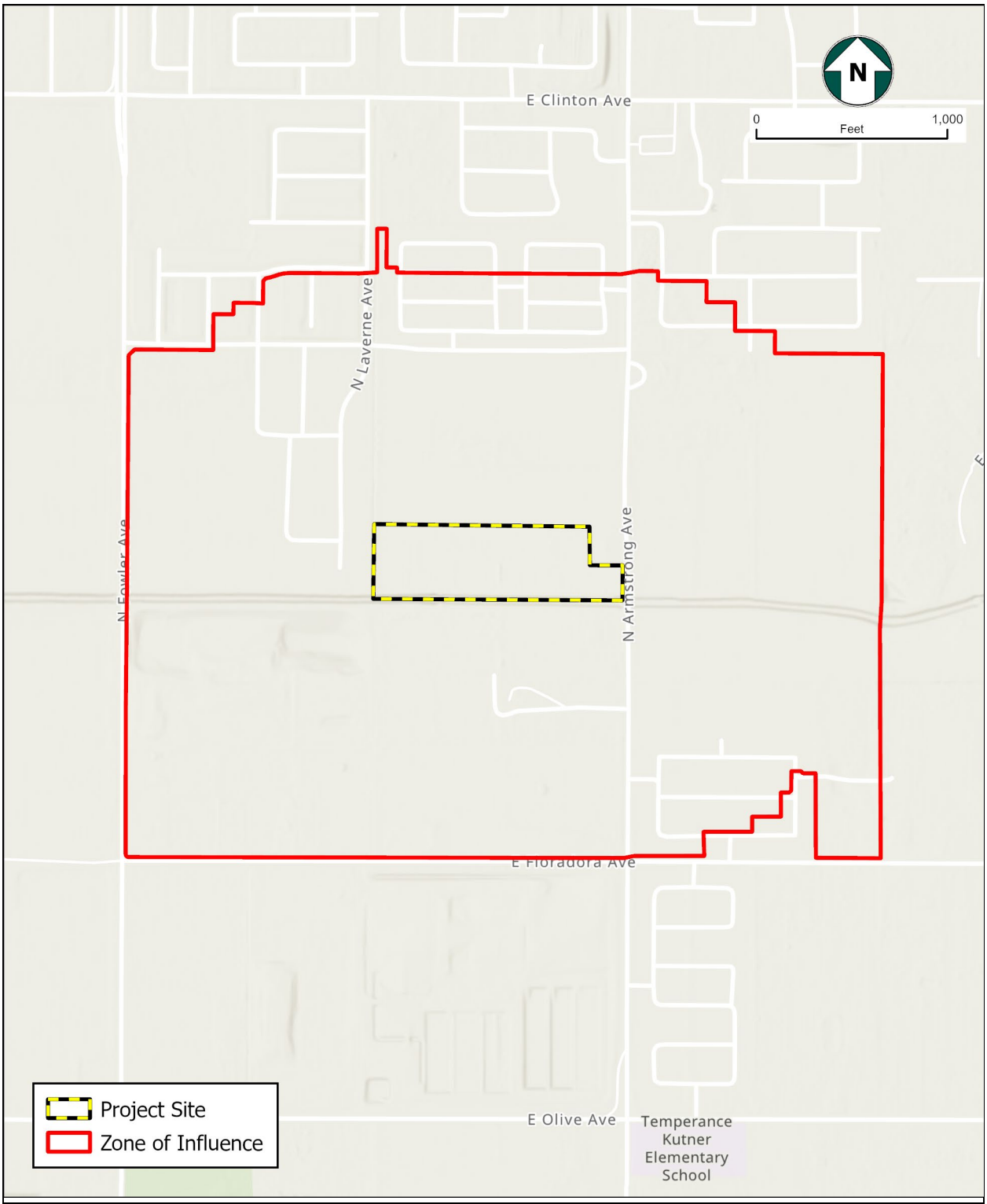


Figure 1-2
Project Site

This study was prepared in the context of the California Environmental Quality Act (CEQA) (California Public Resources Code Sections 21000 et seq.) using the LESA Model.

1.2 - Project Description

1.2.1 - Location

The site is located in the central region of Fresno County (Figure 1-1). The Project location is shown in Figure 1-2 and labeled as "Project Site". The topography of the Project site is relatively flat with minor variations of two to three feet across the site.

1.2.2 - Project Characteristics

This study is prepared for the development of a 53-lot single family residential subdivision, 4 outlots, and the dedication of E. McKinely Avenue right-of-way. Outlots A and B will be dedicated for landscaping and public utility purposes. Outlots C and D will be dedicated for Open Space purposes. On- and off-site improvements including circulation roads, interior local streets, curb, gutter, sidewalk, and landscaping are proposed. Water and sewer utilities will be provided by the City of Fresno. The Project site is located on APN: 574-130-05 within the City of Fresno (Figure 1-2).

The City of Fresno General Plan land use designation of the Project site is Residential Medium Density, and the corresponding zoning district is RS-5 as illustrated in Figures 1-4 and 1-5. The Project is proposing a Planned Development Permit for the modification of the minimum lot size and rear yard setbacks of the RS-5 zone district. The minimum lot size requirement of the RS-5 zone district is 4,000 square feet where the project is requesting a minimum lot size of 2,630 square feet. The minimum rear yard setback is 10 feet where the project is requesting 5 feet. The Project requires the approval of a Planning Development Permit Application and a Vesting Tentative Tract Map Application.

In the past, the Project site had available irrigation water, but recently, a portion of the property was dedicated to the City for the extension of McKinley Ave bordering the site on the south. The irrigation pipeline was severed and there is no longer any irrigation water available for crop cultivation.

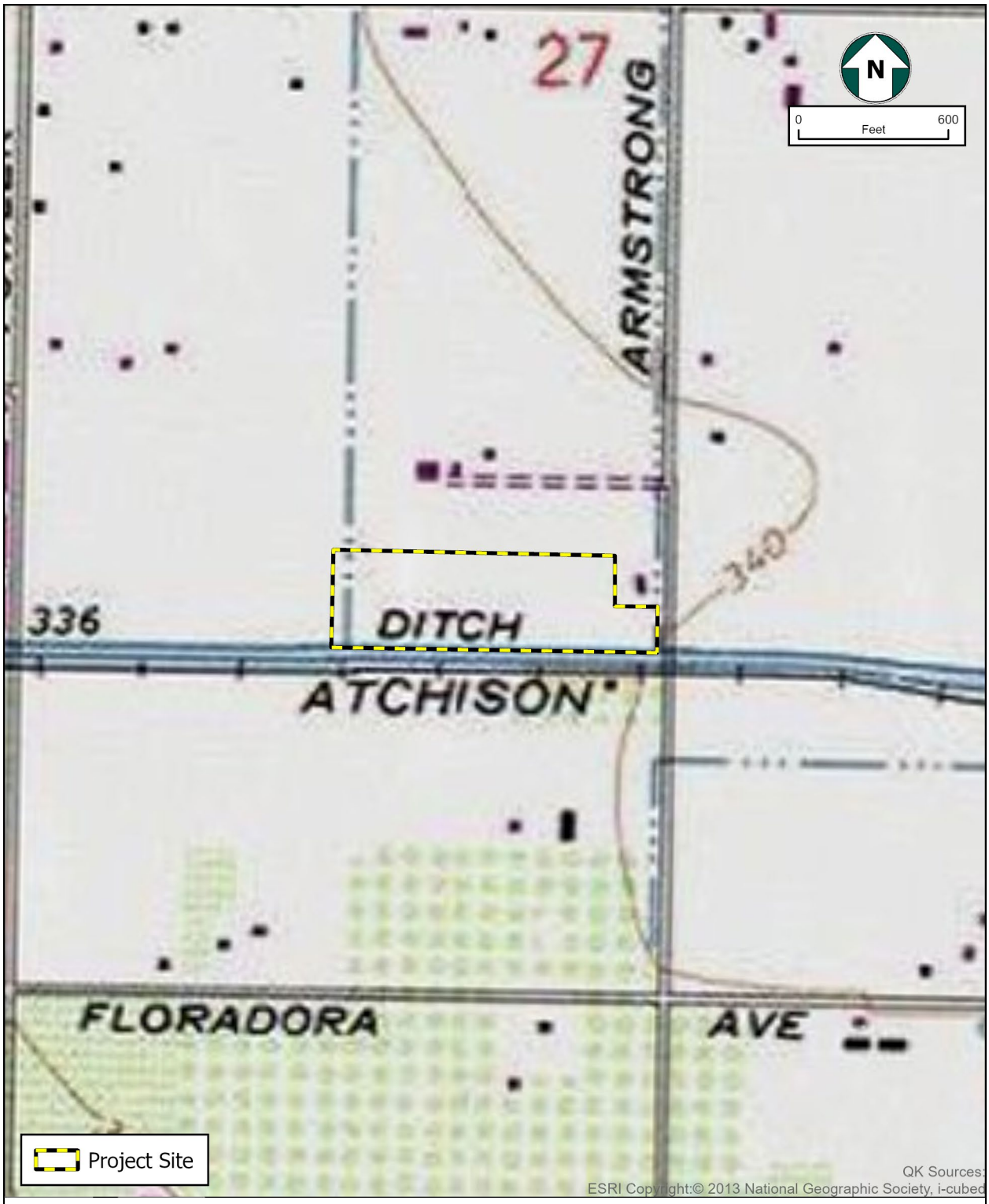


Figure 1-3
Topographic Base Map

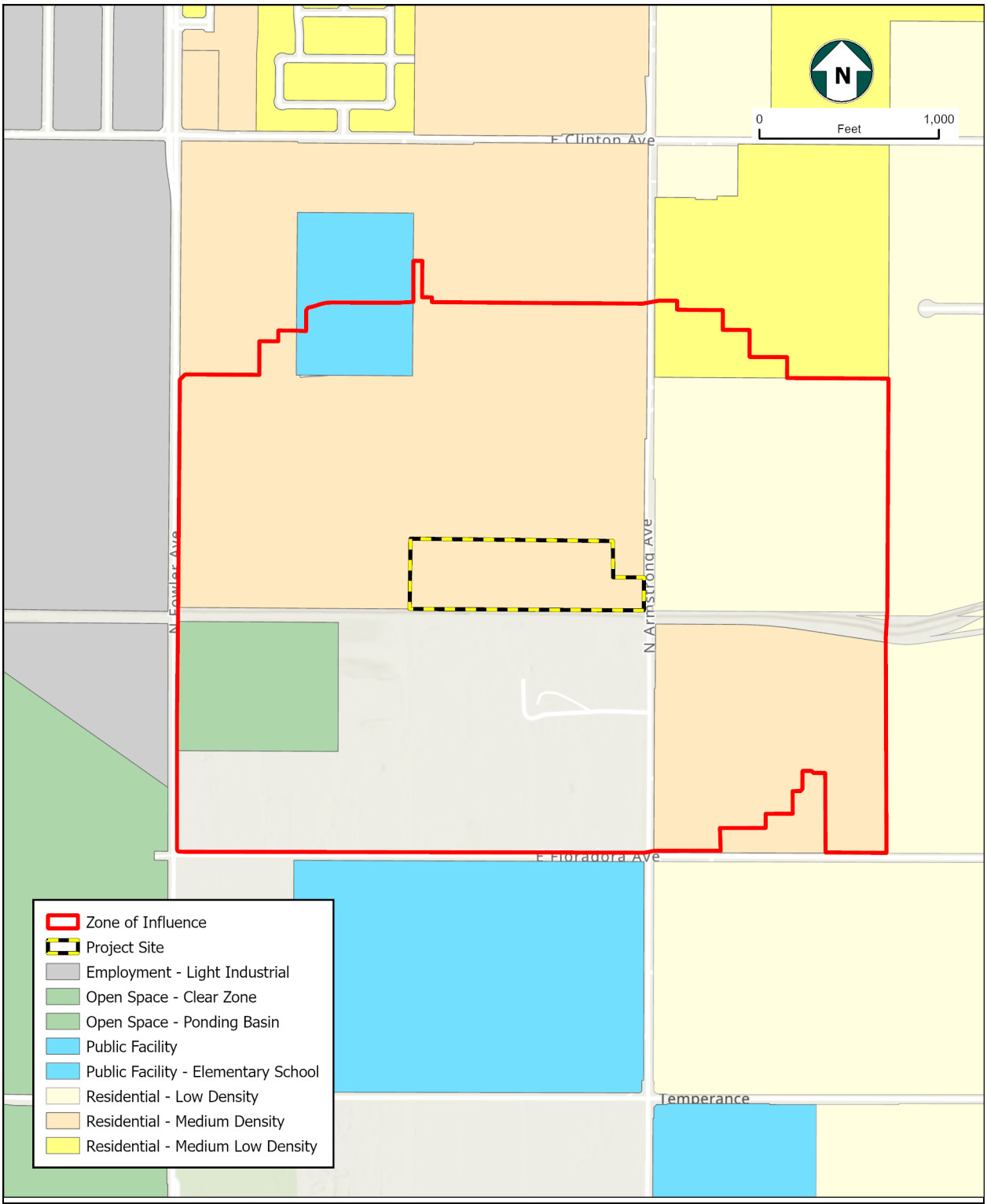


Figure 1-4
General Plan Map

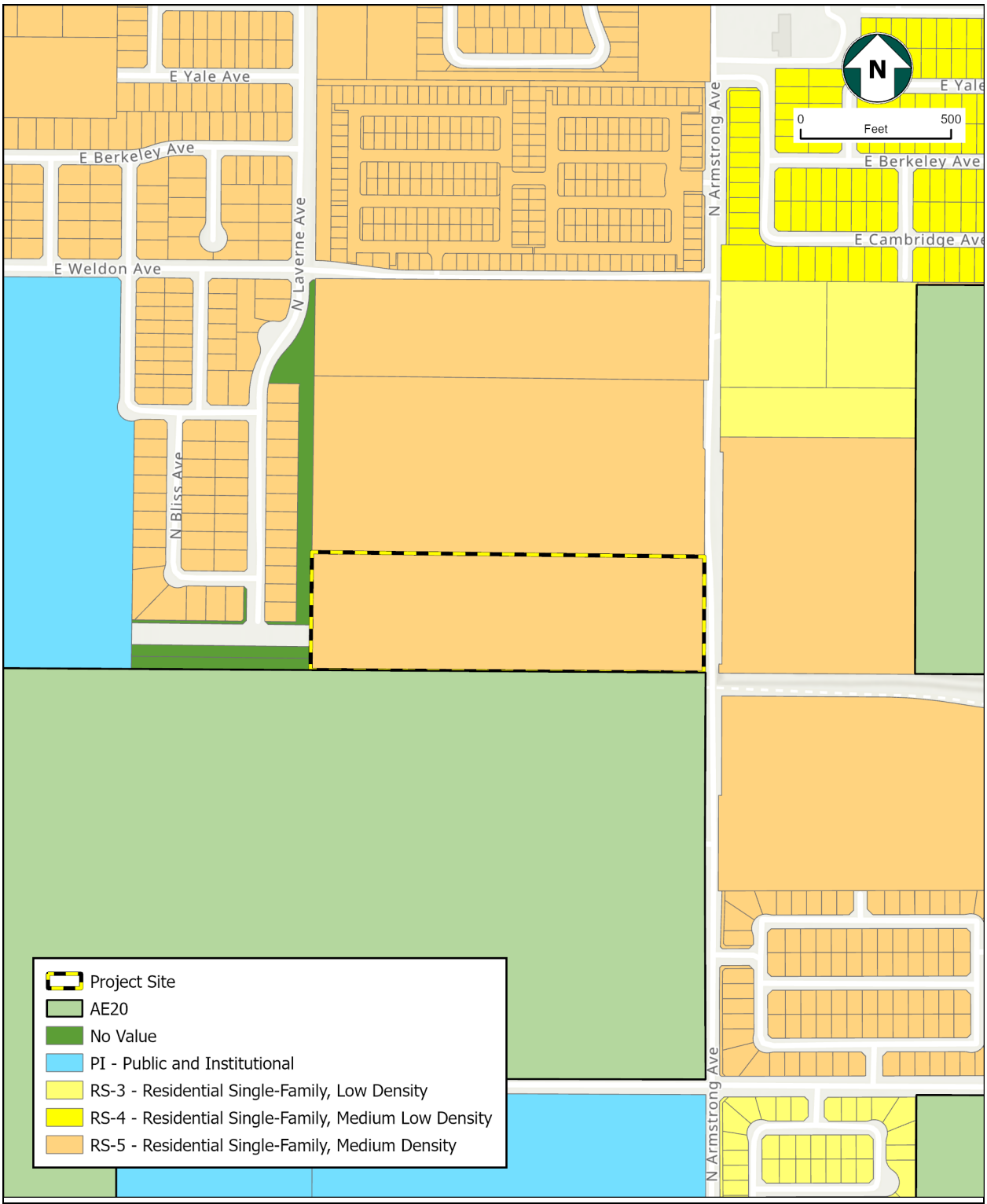


Figure 1-5
Zoning Map

SECTION 2 - REGULATORY SETTING

This section describes the regulatory setting related to agricultural resources in the Project site.

2.1 - Federal

2.1.1 - FARMLAND PROTECTION POLICY ACT (7 USC 4201)

The purpose of the Farmland Protection Policy Act (FPPA) is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses. It additionally directs federal programs to be compatible with State and local policies for the protection of farmlands. Congress passed the Agriculture and Food Act of 1981 (Public Law 97–98) containing the FPPA—Subtitle I of Title XV, Sections 1539–1549. The final rules and regulations were published in the Federal Register on June 17, 1994.

The FPPA is administered by the United States Department of Agriculture and is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to non-agricultural uses. It assures that, to the extent possible, federal programs are administered to be compatible with State, local units of government, and private programs and policies to protect farmland. Federal agencies are required to develop and review their policies and procedures to implement the FPPA every two years. The FPPA does not authorize the federal government to regulate the use of private or non-federal land or, in any way, affect the property rights of owners.

For the purpose of FPPA, farmland includes Prime Farmland, Unique Farmland, and Land of Statewide or Local Importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, crop land, or other lands, but not water or urban built-up land. The USDA provides mapping services and data online as the single authoritative source of soil survey information.

Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to non-agricultural use and are completed by a federal agency or with assistance from a federal agency (California Department of Conservation, 2011).

2.2 - State of California

2.2.1 - CALIFORNIA DEPARTMENT OF CONSERVATION, DIVISION OF LAND RESOURCE PROTECTION

The DOC applies the Natural Resources Conservation Service (NRCS) soil classifications to identify agricultural lands. Pursuant to the DOC's Farmland Mapping and Monitoring Program (FMMP), these designated agricultural lands are included in the Important Farmland Maps used in planning for the present and future of California's agricultural land

resources. The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and the conversion of these lands. The FMMP provides an analysis of agricultural land use and land use changes throughout California. The DOC has a minimum mapping unit of 10 acres, with parcels that are smaller than 10 acres being absorbed into the surrounding classifications.

The list below provides a description of all the categories mapped by the DOC. Collectively, lands classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland are referred to as Farmland (California Department of Conservation, 2004).

Prime Farmland. Farmland that has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Farmland of Statewide Importance. Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Unique Farmland. Farmland of lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

Farmland of Local Importance. Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

Grazing Land. Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.

Urban and Built-up Land. Land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

Other Land. Land not included in any other mapping category. Common examples include low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres. Vacant and non-agricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

2.2.2 - CALIFORNIA LAND CONSERVATION (WILLIAMSON ACT)

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, is promulgated in California Government Code Sections 51200–51297.4, and therefore is applicable only to specific land parcels within the State of California. The Williamson Act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space uses in return for reduced property tax assessments. Private land within locally designated agricultural preserve areas is eligible for enrollment under Williamson Act land use contracts. However, an agricultural preserve must consist of no less than 100 acres. In order to meet this requirement, two or more parcels may be combined if they are contiguous, or if they are in common ownership (California Department of Conservation, 2011).

The Williamson Act program is administered by the DOC, in conjunction with local governments, which administer the individual contract arrangements with landowners. The landowner commits the parcel to a 10-year period wherein no conversion out of agricultural use is permitted. Each year the contract automatically renews unless a notice of non-renewal or cancellation is filed. In return, the land is taxed at a rate based on the actual use of the land for agricultural purposes, as opposed to its unrestricted market value. An application for immediate cancellation can also be requested by the landowner, provided that the proposed immediate cancellation application is consistent with the cancellation criteria stated in the California Land Conservation Act and those adopted by the affected county or city. Non-renewal or immediate cancellation does not change the zoning of the property. Participation in the Williamson Act program is dependent on county adoption and implementation of the program and is voluntary for landowners.

As defined by the Williamson Act, prime agricultural land includes: (1) Class I and II soils as classified by the NRCS; (2) land that qualifies for rating 80 through 100 in the Storie Index Rating by the University of California, Division of Agricultural Sciences; (3) land that supports livestock used for the production of food and fiber and with at least one animal unit per acre; (4) land planted with fruit or nut-bearing crops that yield not less than $200 per acre annually during commercial bearing periods; or (5) land that has returned from the production of unprocessed agricultural plant products and annual gross value of not less than $200 per acre for three of the previous five years (Government Code, Section 51201(c)(1)-(5)).

2.2.3 - FARMLAND SECURITY ZONE ACT

The Farmland Security Zone Act is similar to the Williamson Act and was passed by the California State Legislature in 1999 to ensure that long-term farmland preservation is part of public policy. Farmland Security Zone Act contracts are sometimes referred to as "Super Williamson Act contracts." Under the provisions of this act, a landowner already under a Williamson Act contract can apply for Farmland Security Zone status by entering into a contract with the county. Farmland Security Zone classification automatically renews each year for an additional 20 years. In return for a further 35 percent reduction in the taxable

value of land and growing improvements (in addition to Williamson Act tax benefits), the owner of the property promises not to develop the property into non-agricultural uses.

2.2.4 - Public Resources Code Section 21060.1

The Public Resource Code Section 21060.1 defines agricultural land for the purposes of assessing environmental impacts pursuant to CEQA using the FMMP. The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and the conversion of these lands. The FMMP provides an analysis of agricultural land use and land use changes throughout California.

2.3 - Local

The Project is within the City of Fresno General Plan and are assigned land use designations. The site is also governed by the City of Fresno Zoning Ordinance, which effectively enforces the policies relating to the development. These adopted plans identify the types of land uses permitted in a variety of land use designations and zone districts and define the development parameters within each land use category.

Medium Density — Medium Density residential covers developments of 5 to 12 units per acre and is intended for areas with predominantly single-family residential development, but can also accommodate a mix of housing types, including small-lot starter homes, zero-lot-line developments, duplexes, and townhouses.

2.3.1 - City of Fresno General Plan

The policies, goals, and implementation measures in the City of Fresno General Plan for agricultural resources applicable to the Project are provided below. The City of Fresno General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development such as the Project. Therefore, they are not listed below but may be incorporated by reference. It is noted that the Project is not within a Specific Plan, but it is within the McLane Community Plan. The McLane Community Plan does not have specific policies or goals that the Project would be in conflict of.

Chapter 7. Resources Conservation and Resilience

7.6 Farmland

Objective

RC-9 Preserve agricultural land outside of the area planned for urbanization under this General Plan.

Policies

RC-9-c Farmland Preservation Program. In coordination with regional partners or independently, establish a Farmland Preservation Program. When Prime Farmland, Unique Farmland, or Farmland of Statewide Importance is converted to urban uses outside City limits, this program would require that the developer of such a project mitigate the loss of such farmland consistent with the requirements of CEQA. The Farmland Preservation Program shall provide several mitigation options that may include, but are not limited to the following: Restrictive Covenants or Deeds, In Lieu Fees, Mitigation Banks, Fee Title Acquisition, Conservation Easements, Land Use Regulations, or any other mitigation method that is in compliance with the requirements of CEQA. The Farmland Preservation Program may be modeled after some of all of the programs described by the California Council of Land Trusts.

Housing Element

The City of Fresno is currently seeking compliance with the California Department Housing and Community Development for their 6th Cycle Housing Element. The 5th Cycle Housing Element has lapsed its effective date and therefore, the policies within are invalid. At the time of this analysis, the City of Fresno has not received conditional compliance or compliance on their 6th Cycle Housing Element. With that said, the implementation of the Housing Element will occur once approved, however, it is unsure if any further edits to the Housing Element are needed. Therefore, below are the applicable goals from the draft to be referred to as guiding principles that subsequent policies and programs will enact.

Goals

Regional Goal 1. Facilitate and encourage the provision of a range of housing types to meet the diverse needs of residents.

Regional Goal 6. Encourage energy efficiency in all new and existing housing.

2.3.2 - CITY OF FRESNO ZONING ORDINANCE

The City of Fresno Zoning Ordinance establishes the basic regulations under which land is developed. This includes allowable uses, building setback requirements, and development standards. Pursuant to State law, the Zoning Ordinance must be consistent with the Fresno General Plan. The basic intent of the City of Fresno Zoning Ordinance is to promote and protect the public health, safety, and welfare via the orderly regulation of land uses throughout the City. This zoning code applies to all property in the City.

Zoning Districts

(RS-5) Low Density Residential Zone District

The purpose of the RS-5 zone district is to designate areas that will provide for a variety of single-family residences built to urban or suburban standards to be suitable for traditional smaller lot, single-family homes and compatible uses.

SECTION 3 - ENVIRONMENTAL SETTING

3.1 - State of California

3.1.1 - STATE OF CALIFORNIA AGRICULTURAL PRODUCTION

In 2022, the State of California contained 24 million acres of land that were dedicated to farm and ranch use, with 68,400 farms in operation at the time. This number represents approximately less than four percent of the nation's total farming operations. However, these farms account for approximately 10 percent of the national gross cash receipts from crops, livestock, and livestock products, representing $61.7 billion in revenue.

The California Department of Food and Agriculture reported in their 2012–2013 Resource Directory that the average farm size in California is 351 acres, compared to the United States' average of 463 acres. California's top 20 crop and livestock commodities were valued at more than $47.9 billion in 2022.

3.1.2 - STATE OF CALIFORNIA FARMLAND CONVERSION

According to the DOC's most recent Farmland Conversion Report (2016–2018), irrigated farmland in California decreased 56,186 acres between 2016 and 2018. Irrigated farmland was the source of 30 percent of all new urban and built-up land. Specifically, Prime Farmland contributed to 12 percent of urban land. Land was removed from irrigated categories—to uses aside from urban—at a rate 19 percent higher than compared with the prior update (128,105 acres in 2016, and 152,627 acres in 2018). Land idling and reversion to dry farming were responsible for the majority of this type of conversion. The San Joaquin Valley and Sacramento Valley were most impacted by land idling roughly accounting for 60,329 acres and 18,812 acres of irrigated lands being converted due to the cessation of irrigation, respectively.

3.2 - Fresno County

3.2.1 - FRESNO COUNTY AGRICULTURAL PRODUCTION

Agriculture in Fresno County makes a significant contribution to the economy of the State. As shown in Table 3-1, Fresno County has consistently maintained its position as one of the top five agricultural economies in the State since 2006. Fresno County has continued to increase agricultural production as crop value increased from $8.09 billion in 2022 to $8.59 billion in 2023. This represents a 6.1% increase over the previous year's total. Since 2004 there has been an upward trend in total growth of value; nearly doubling in gross value. Regardless of any decreases in total value, Fresno County maintains its position as a top five agricultural economy of the State.

Table 3-1
Fresno County Agricultural Economy (2022–2023)

Year	$ Value (Billions)
2022	8,095,546,000
2023	8,589,054,000

Source: (Fresno County Department of Agriculture and Measurement Standards, 2023)

The 2023 Fresno County Agricultural Crop Report indicated the gross value of all agricultural commodities produced in Fresno County is $8,589,054,000. A detail by crop of the economic value of Fresno County's crops which contributed to Fresno County's economic outcomes is listed in Table 3-2.

Table 3-2
Fresno County Crop Economic Value (2022–2023)

Category	2022	2023	Total Change
Fruit & Nut Crops	$4,522,032,000	$4,756,015,000	$233,983,000
Seed Crops	$28,406,000	$46,093,000	$17,687,000
Field Crops & Rangeland	$373,438,000	$346,933,000	($26,505,000)
Vegetable Crops	$1,240,819,000	$1,537,762,000	$296,943,000
Nursery Crops	$50,213,000	$58,067,000	$7,854,000
Industrial & Wood Crops	$1,940,000	$1,739,000	($201,000)
Livestock & Poultry	$1,058,256,000	$1,144,381,000	$86,125,000
Livestock & Poultry Products	$669,449,000	$547,129,000	($122,320,000)
Apiary products	$150,993,000	$150,935,000	($58,000)
Total Economic Value	**$8,095,546,000**	**$8,589,054,000**	**$493,508,000**

According to the 2023 Agricultural Crop Report prepared by the Fresno County Agricultural Commissioner's Office, the County produces more than 114 different crops, including more than 20 types of fruits and nuts, 30 types of vegetables, and 20 field crops, as well as lumber, nursery stock, livestock, poultry, and dairy products. A detail by crop of the harvested and rangeland acreage that contributed to Fresno County's economic outcomes is listed in Table 3-3.

Table 3-3
Fresno County Harvested Crops (2022–2023) in Acres

Category	2022	2023	Total Change
Fruit & Nut Crops	754,410	773,780	19,370
Seed Crops	4,490	6,990	2,500
Field Crops & Rangeland	1,036,440	1,106,300	69,860
Vegetable Crops	143,440	154,970	11,530
Total Harvest Acreage	1,938,780	2,042,040	103,260

3.2.2 - FRESNO COUNTY FARMLAND CONVERSION

According to the DOC's California Land Conservation (Williamson) Act 2022 Status Report, from 2016 to 2020, there was net decrease of 13,342 acres in Fresno County to Important Farmland as identified by the FMMP. The conversion of agricultural land to urban uses is affected by other economic factors, such as the economic benefits property owners sometimes realize by converting their farmland to urban or other commercial or industrial uses.

Table 3-4 provides a summary of the amount and type of total acreage in Fresno County between 2016 and 2020, using the classifications of agricultural land provided by the FMMP. See also Figure 3-3, below.

Table 3-4
Fresno County Important Farmland Summary (2016–2020)

	Acres		
Classification	2016	2018	2020
Prime Farmland	675,720	672,209	663,706
Farmland of Statewide Importance	397,133	395,283	385,283
Unique Farmland	94,902	95,354	95,048
Farmland of Local Importance	191,783	192,435	202,162
Important Farmland Total	**1,359,538**	**1,355,281**	**1,346,199**
Total County Area Inventoried	**2,437,497**	**2,437,441**	**2,437,441**

Source: California Department of Conservation, 2016–2020

3.3 - Project

The Project site is predominantly comprised of previously tilled agricultural land within the City of Fresno. None of the Project site is being currently used for farming. As noted previously, the site had available irrigation water, but recently the irrigation pipeline running on the south side of the property was severed for the extension of McKinley Avenue, and there is no longer any irrigation water available for crop cultivation.

The FMMP has identified that the Project site has Prime Farmland (Figure 3-3). The Project site does not include agricultural preserves within its boundary (Figure 3-1).

3.3.1 - AGRICULTURAL CROPS—PROJECT AREA

The overall Project site is approximately 9 acres. Within the Project site, approximately 8 acres have been recently used in agricultural production. Figure 3-2 shows the location of commodities grown based on information available from permits issued by the California Department of Water Resources. For the past three recorded years (2020 – 2022), the Project site has been cultivated for berry crops. Recent projects on nearby properties have since been approved and construction has taken place, therefore, those specific parcel are removed from the analysis.

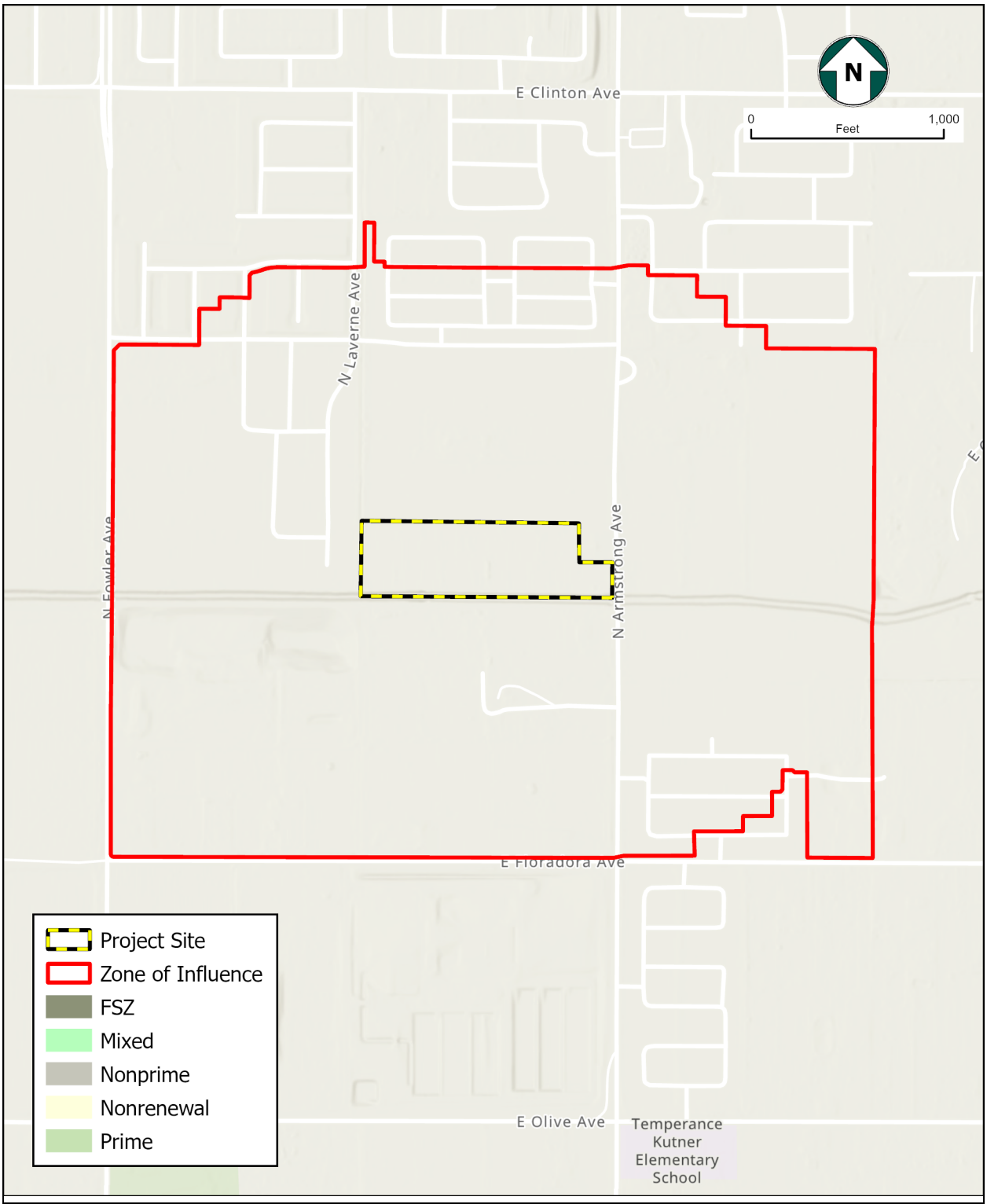


Figure 3-1
Williamson Act Contract Lands

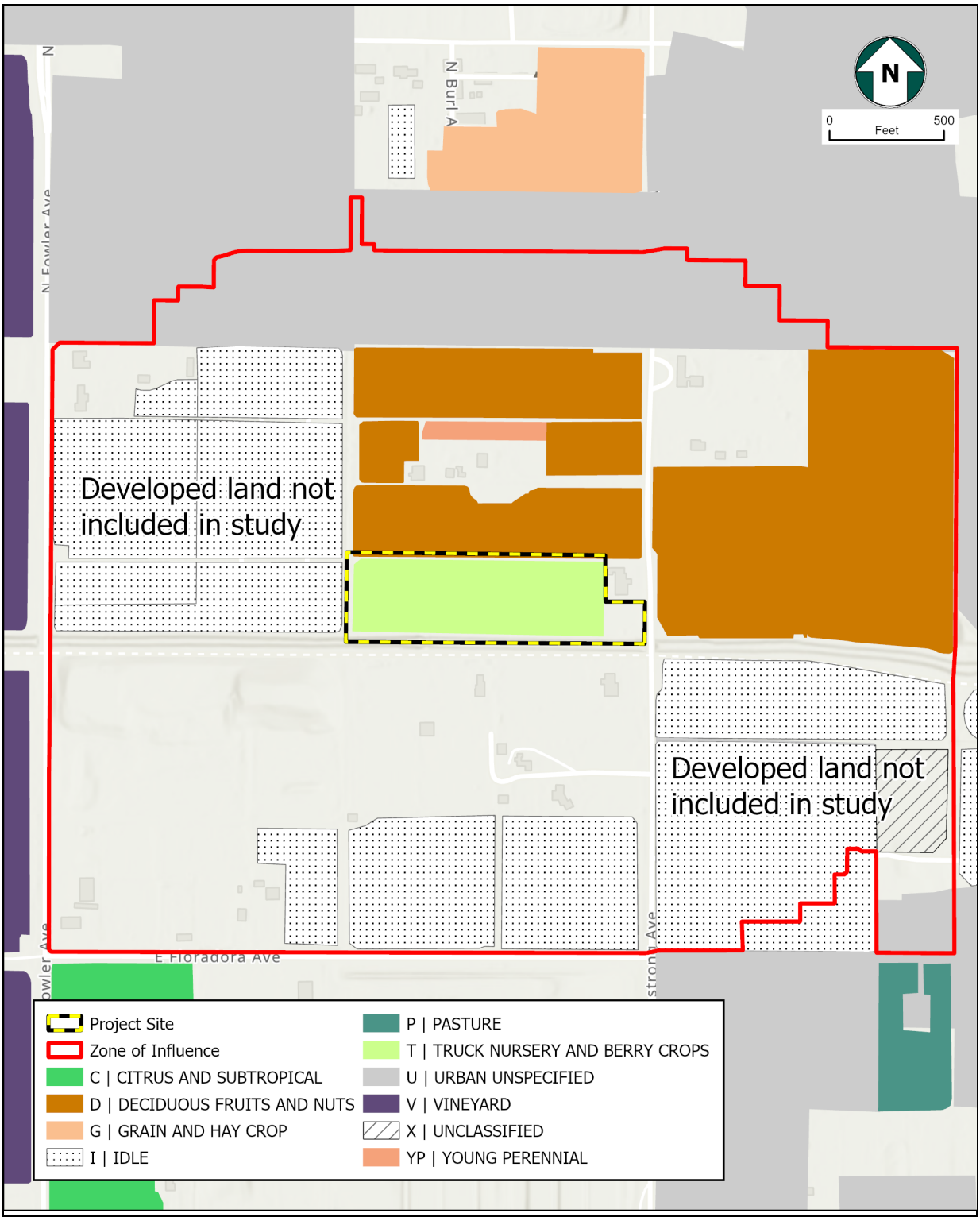


Figure 3-2
Crop Permit Issuance Lands

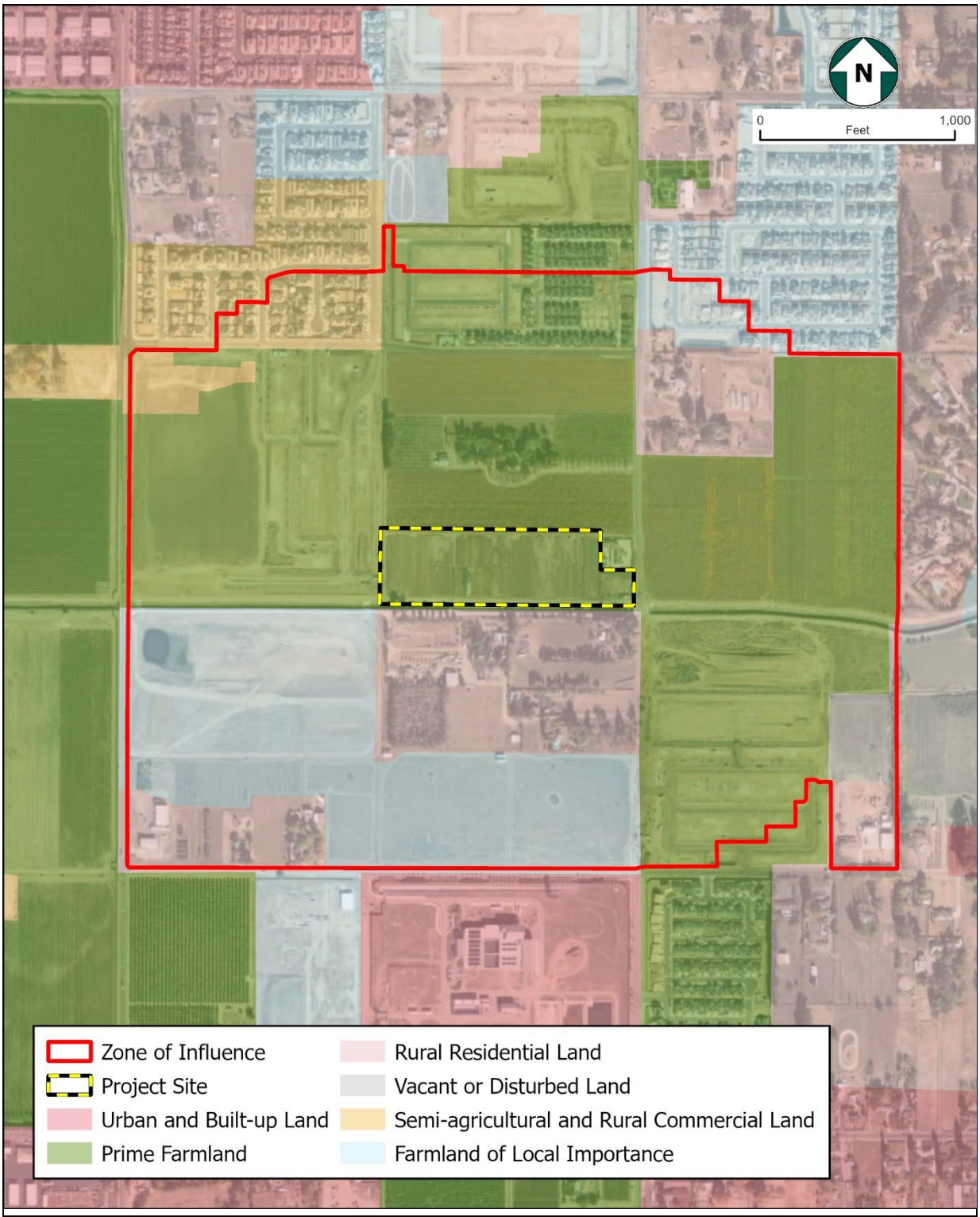


Figure 3-3
FMMP

The term "Prime" as it refers to a rating for agricultural/farmland use has two meanings in California. The Farmland Mapping and Monitoring Program determines the location and extent of "Prime Farmland." The parameters used are if the property has been used for irrigated agricultural production at some time during the four years prior to the Important Farmland Map data. In addition to land use, the soil must meet the physical and chemical criteria for Prime Farmland or Farmland of Statewide Importance as determined by the USDA Natural Resources Conservation Service (NRCS). NRCS soil factors include water moisture regimes, available water capacity, developed irrigation water supply, soil temperature range, acid-alkali balance, water table, soil sodium content, flooding (uncontrolled runoff from natural precipitation), erodibility, permeability rate, rock fragment content, and soil rooting depth.

3.3.2 - SOILS – PROJECT AREA

As shown in Figure 3-4, the Project site contains a singular soil type: Ramona loam. Each soil type's class with and without irrigation is denoted in Table 3-6.

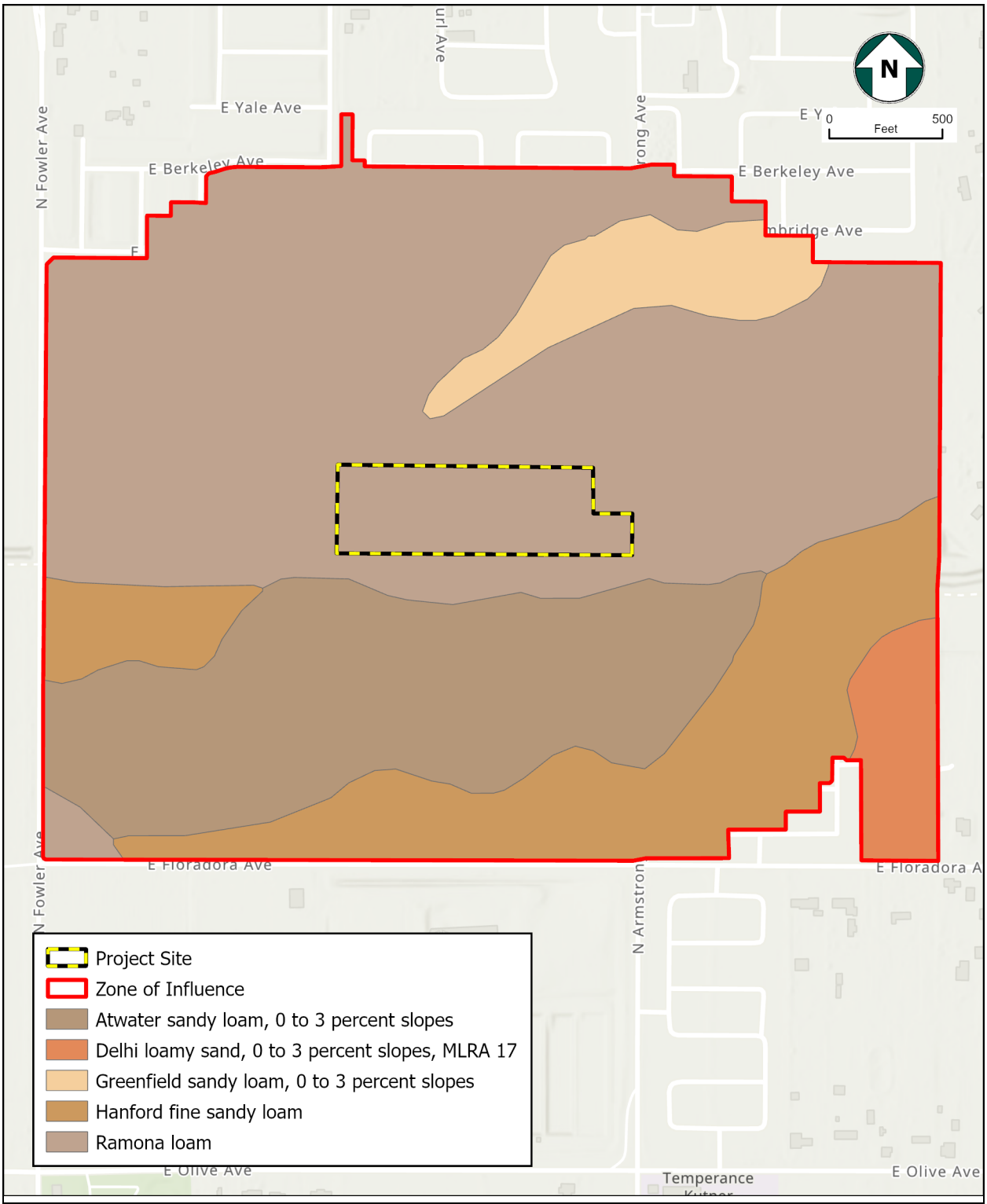


Figure 3-4
Soils Information Map

Table 3-5
Project Area Soil Classes

Soil Map Unit	Soil Type	Capability Class with Irrigation	Capability Class without Irrigation
Rc	Ramona loam	I	IVc

Source: (United States Department of Agriculture (USDA), 2024)

(121) Ramona loam: The Ramona series are located in nearly level to moderately steep locations. They are on terraces and fans at elevations of 250 to 3,500 feet. They formed in alluvium derived mostly from granitic and related rock sources. The mean annual precipitation is 10 to 20 inches, and the mean annual temperature is 60°F to 66°F.

3.3.3 - WILLIAMSON ACT CONTRACTS—PROJECT AREA AND SURROUNDING AREA

As mentioned in Section 1.2, the Project site consists of a singular parcel of approximately 9 acres. According to the DOC, the Project site parcel is not subject to a Williamson Act land use contract.

There are 442 parcels located inside the Zone of Influence (ZOI) (Figure 3-5). There are no Williamson Act Contracts within the ZOI. The ZOI is defined as land near a given project, both directly adjoining and within a defined distance away, which is likely to influence and be influenced by the agricultural land use of the subject Project site. The concept of ZOI and its significance will be discussed in further detail in the analysis portion of this study.

3.3.4 - WATER—PROJECT AREA

The previous agriculture use of the Project obtained water for the irrigation of crops either through private groundwater wells or contract surface water agreements with a local water district. The Project site is located within the Tulare Lake Hydrologic Region, identified as the Kings Groundwater Subbasin (California Department of Water Resources, 2024). This subbasin is ranked as "high priority" as being subject to critical overdraft conditions in a statewide groundwater prioritization process published in the DWR 2018 Sustainable Groundwater Management Act "Basin Prioritization Process and Results Report." The Project is primarily within the Fresno Irrigation District. Water supply for these agencies comes from a combination of surface and groundwater (Fresno Irrigation District, 2020).

As mentioned in Section 3.3.1, the Project site has been used for the cultivation of berry crops over the years.

3.3.5 - CLIMATE—PROJECT AREA

The Project site is located within the Central Valley of California; this area has the rainy winters and dry summers characteristic of a Mediterranean climate. The Central Valley has greater temperature extremes than the coastal areas because it is less affected by the moderating influence of the Pacific Ocean.

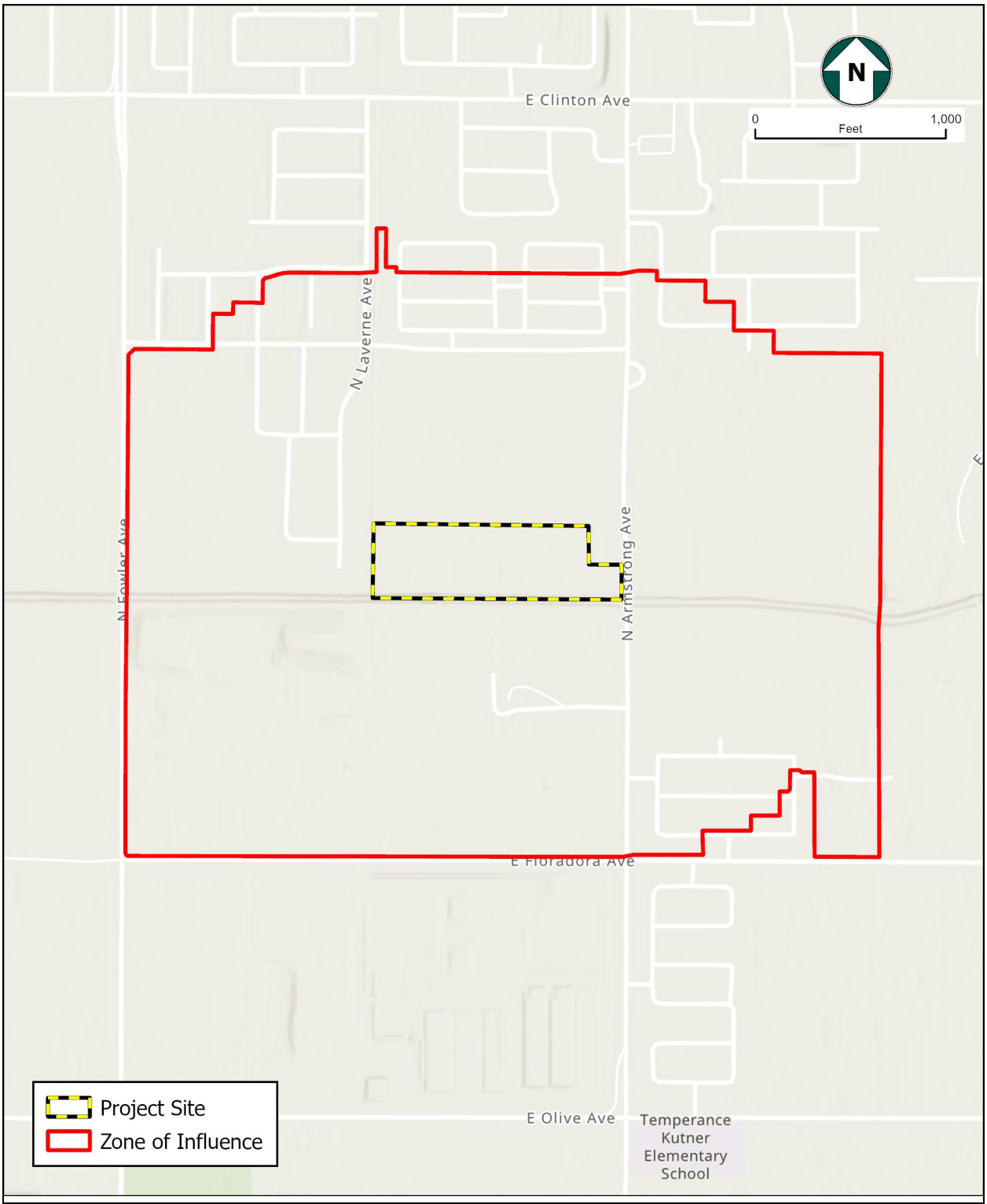


Figure 3-5
Zone of Influence

The Western Regional Climate Center (WRCC) provides quality climate data derived from stationary weather stations throughout the western United States. WRCC has developed a data set for the monthly climate for the Fresno area (1948 to 2016); this data set is based on weather readings taken from a stationary weather station found at the Fresno Yosemite International Airport. The monthly average maximum was 98.3°F in July and the monthly average minimum was 37.6°F in January.

Typical of Central California, most of the rainfall in the Fresno area occurs during the period between November and April because the Gulf Stream shifts southward from northern latitudes in the wintertime. This shift creates a quasi-permanent low-pressure zone over Central California and feeds moisture originating over the Pacific Ocean into the region. This southern shift creates the winter-wet or Mediterranean climate characteristic of Southern California. However, because of its inland location and the rain shadow effect (reduction of precipitation commonly found on the leeward side of a mountain caused by the Coastal Mountain Ranges), the Fresno area typically gets less rainfall during the winter than coastal areas to the west. The average annual precipitation in the Fresno area is 10.95 inches (US Climate Data, 2024).

SECTION 4 - FARMLAND CONVERSION IMPACT ANALYSIS

This section evaluates the impacts of farmland conversion with respect to the factors identified by City of Fresno and the California Agricultural Land Evaluation and Site Assessment Model (LESA).

4.1 - Methodology

This study follows the guidelines prescribed by the California LESA Model to assess the proposed Project's potential impact to agricultural lands. As previously mentioned, the Project proposes to develop single family homes consistent with the City of Fresno General Plan. The General Plan identifies that development would result in the conversion of Important Farmland to non-agricultural uses. The Project site is identified as Prime Farmland. However, the Project is not subject to a Williamson Act land use contract. It is noted that the Project is not within a Specific Plan, but it is within the McLane Community Plan. The McLane Community Plan does not have specific policies or goals regarding the conversion of agricultural lands, so there is no conflict. Therefore, this analysis will assess the significance of project-specific impacts to agricultural resources associated with the development of the Project site.

4.1.1 - LAND EVALUATION AND SITE ASSESSMENT (LESA)

The LESA Model provides guidelines for rating the relative quality of land resources based on specific measurable features. It is intended "to provide lead agencies with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process" (Public Resources Code Section 21095). It is designed to assist in the making of determinations of the potential significance of a project's conversion of agricultural lands.

The California Agricultural LESA Model encompasses six different factors, which are divided into two sets: (1) two land evaluation factors (Land Capability Classification Rating and Storie Index Rating are based on measures of the quality of soil resources and are intended to measure the inherent, soil-based qualities of land as they relate to agricultural suitability; and (2) four site assessment factors (Project Size Rating, Water Resource Availability Rating, Surrounding Agricultural Lands Rating, and Surrounding Protected Resource Lands Rating) are intended to measure social, economic, and geographic attributes that also contribute to the overall value of agricultural land.

The two sets of factors are evenly weighted, meaning the two land evaluation factors and four site assessment factors are of equal importance. However, for a given project, each of these six factors is separately rated on a 100-point scale. The factors are then weighted relative to one another and combined, resulting in a single numeric score for a given project, with a maximum attainable score of 100 points. This final project score provides a quantitative measurement to assist decision-makers in making a determination of the level of significance of a project's potential impacts.

The California LESA Model includes two land evaluation factors, the Land Capability Classification Rating and the Storie Index Rating, discussed below, that are separately rated.

Land Evaluation (LE) Factors

The California LESA Model includes two land evaluation factors, discussed below, that are separately rated.

THE LAND CAPABILITY CLASSIFICATION RATING (LCC)

The Land Capability Classification System is used by the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) to determine a soil's agricultural productivity. The LCC indicates the suitability of soils for most kinds of crops. Groupings are made according to the limitations of the soils when used to grow crops and the risk of damage to soils when used in agriculture. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receiving the highest rating (Class I). The "prime" soil classification indicates the absence of soil limitations, which if present, would require the application of management techniques (e.g., drainage, leeching, special fertilizing practices) to enhance production. Specific subclasses are also utilized to further characterize soils. Soil types found in the Project site are illustrated in Figure 3-4. A general description of soil classifications, as defined by NRCS, along with the scoring within the LESA Model of the LCC classification is provided below in Table 4-1 and Table 4-2, respectively.

Table 4-1
Land Capability Classifications

Soil Class	Description
I	Soils have few limitations that restrict their use.
II	Soils have moderate limitations that reduce the choice of plants, or that require special conservation practices.
III	Soils have severe limitations that reduce the choice of plants, require conservation practices, or both.
IV	Soils have very severe limitations that reduce the choice of plants, require very careful management, or both.
V	Soils are not likely to erode but have other limitations; impractical to remove soils that limit their use largely to pastures or range, woodland, or wildlife habitat.
VI	Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture, or range, woodland, or wildlife habitat.
VII	Soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland or wildlife habitat.
VIII	Soils and landforms have limitations that preclude their use for commercial plant production and restrict their use to recreation, wildlife habitat, or water supply, or to aesthetic purposes.

Source: (USDA, 2021)

Table 4-2
Land Capability Classifications

Classification Symbol	Rating
I	100
IIe	90
IIs, w	80
IIIe	70
IIIs, w	60
IVe	50
IVs, w	40
V	30
VI	20
VII	10
VIII	0

The LESA Model scores LLC utilizing a specified method based on the proportion of the site within that classification. The percentage of the site within each LLC classification is multiplied by the corresponding score designation and then added together to give an overall score of the Project. The LCC score of each soil type is shown in Table 4-3.

Table 4-3
Project Site – LLC Rating and Storie Rating Proportional Scores

Soil Map Unit	Project Acres	Proportion of Project Area	LCC	LCC Rating	LCC Score	Storie Index	Storie Index Score
Rc	10.8	100%	I	100	100	85	85.0
Total Acres	**10.8**	**1**		**LCC Total**	**100**	**Storie Total**	**85.0**

Based on the weighted percentage of the total Project acreage, the comprehensive LCC Rating score is 100, due to the Project site having one soil type.

THE STORIE INDEX RATING

The Storie Index provides a numeric rating (based on a zero to 100 scale) of the relative degree of suitability or value of a given soil for intensive agriculture. The rating is based on soil characteristics only. Four factors that represent the inherent characteristics and qualities of the soil are considered in the Storie Index Rating: profile characteristics, texture of the surface layer, slope, and other factors such as drainage or salinity. In some situations, only the US Department of Agriculture's LCC information may be available. In situations where other information is available, the Storie Index Ratings can be calculated from information contained in soil surveys conducted by qualified soil scientists; however, if limitations of time and/or resources restrict the derivation of the Storie Index Rating using these methods, the Storie Index Rating may be obtained by relying solely upon the LCC Rating. In addition, the USDA, Natural Resources Conservation Services provides a useful

online mapping tool that provides soil information and data which includes the Storie Index Rating for approximately 95 percent of all U.S. sites. A score ranging from 0 to 100 percent is determined for each factor, and the scores are then multiplied together to derive a Storie Index Rating. Storie Index Ratings have been combined into six grade classes as follows: Grade 1 (excellent), 100 to 80; Grade 2 (good), 79 to 60; Grade 3 (fair), 59 to 40; Grade 4 (poor), 30 to 20; Grade 5 (very poor), 19 to 10; and Grade 6 (non-agricultural), less than 10. The Project's soil type was previously described in Section 3.3 of this study. Table 4-3 shows the proportional breakdown and comprehensive score of the Project site as it relates to the overall Storie Rating.

Based on the weighted percentage of the total Project acreage, the comprehensive Storie Rating score is 85.0, due to the Project site having one soil type.

Site Assessment (SA) Factors

The four site assessment factors that are separately rated and included in the California LESA Model are discussed below.

THE PROJECT SIZE RATING

The Project Size Rating is based on identifying acreage totals for the soil classes derived from the Storie Index within the Project site, and then determining what grouping generates the highest Project Size score and what percentage of each group of the total Project site. The Project Size Rating relies upon acreage figures that were tabulated under the Land Capability Classification Rating. The total Project consists of Class I, Class II, and Class III soils. The scoring of the Project Size is shown in Table 4-4.

Table 4-4
Project Size Scoring

Class I and II		Class III		Class IV or higher	
Acres	Score	Acres	Score	Acres	Score
>80	100	>160	100	>320	100
60-79	90	120-159	90	240-319	80
40-59	80	80-119	80	160-239	60
20-39	50	60-79	70	100-159	40
10-19	30	40-59	60	40-99	20
10<	0	20-39	30	40<	0
		10-19	10		
		10<	0		

Based on the fact that there is one soil type identified on the Project site, it is considered a Class I soil, and the Project size is 10.8 acres; the Project size score is 30.

THE WATER RESOURCES AVAILABILITY RATING

The Water Resources Availability Rating is based on identifying the various water sources that may supply a given property, and then determining whether different restrictions in supply are likely to take place in years that are characterized as being periods of drought and non-drought. Consideration is also given to both the physical and economic factors that may restrict water availability. As previously noted, the Project site no longer has available irrigation water to support crop cultivation. Please see Table 4-5 for a representation of the LESA Water Availability Scoring System.

Table 4-5
LESA Water Availability Scoring System

Option	Non-Drought Years Restrictions			Drought Years Restrictions			Water Resource Score
	Irrigated Production Feasible?	Physical Restrictions?	Economics Restrictions?	Irrigated Production Feasible?	Physical Restrictions?	Economics Restrictions?	
1	Yes	No	No	Yes	No	No	100
2	Yes	No	No	Yes	No	Yes	95
3	Yes	No	Yes	Yes	No	Yes	90
4	Yes	No	No	Yes	Yes	No	85
5	Yes	No	No	Yes	Yes	Yes	80
6	Yes	Yes	No	Yes	Yes	No	75
7	Yes	Yes	Yes	Yes	Yes	Yes	65
8	Yes	No	No	No			50
9	Yes	No	Yes	No			45
10	Yes	Yes	No	No			35
11	Yes	Yes	Yes	No			30
12	Irrigated production not feasible, but rainfall adequate for dryland production in both drought and non-drought years						25
13	Irrigated production not feasible, but rainfall adequate for dryland production in non-drought years (but not in drought years)						20
14	Neither irrigated nor dryland production feasible						0

In prior years, records of the Project site being farmed indicate that there was water availability at one point in time. Recently, a portion of the property was dedicated to the City for the extension of McKinley Avenue bordering the site on the south. This required the severance of the irrigation pipeline serving the Project site and there is no longer any irrigation water available for crop cultivation.

Therefore, due to the lack of available irrigation water, crop cultivation is considered infeasible and restricted. The Project's Water Resource Availability Rating is 0.

THE SURROUNDING AGRICULTURAL LAND RATING

Determination of the Surrounding Agricultural Land Rating is based on the identification of a project's ZOI, which is defined as that land near a given project, both directly adjoining and within a defined distance, that is likely to influence and be influenced by the agricultural land use of the subject project site. The Surrounding Agricultural Land Rating is designed to provide a measurement of the level of agricultural land use for lands close to a given project. The California Agricultural LESA Model rates the potential significance of the conversion of an agricultural parcel that has a large proportion of surrounding land in agricultural production more highly than one that has a relatively small percentage of surrounding land in agricultural production.

The defined distance of the ZOI recommended in the LESA Model (a minimum of 0.25 miles from the project boundary from the smallest rectangular area that completely encompasses the project site) is the result of several iterations during model development for assessing an area that will generally be a representative sample of surrounding land use. Figure 3-2 shows the ZOI surrounding the entire Project site and the corresponding agricultural usage as documented by the California Department of Water Resources. The total area of the ZOI is approximately 251.2 acres and will be used for calculating the Surrounding Agricultural Land Ratings, as shown in Table 4-6.

Table 4-6
Surrounding Agricultural Land Rating Scoring

Percent of ZOI in Agriculture	Score
90-100%	100
80-89%	90
75-79%	80
70-74%	70
65-69%	60
60-64%	50
55-59%	40
50-54%	30
45-50%	20
40-44%	10
< 40%	0

According to data available from the California Department of Water Resources, there are approximately 77.38 acres of agricultural land within the ZOI that comprises approximately 31 percent of the ZOI. Therefore, based on the surrounding agricultural activities and uses, the Project site's Surrounding Agricultural Land Rating is 0.

THE SURROUNDING PROTECTED RESOURCE LAND RATING

The Surrounding Protected Resource Land Rating is essentially an extension of the Surrounding Agricultural Land Rating, and it is scored in a similar manner. Protected

resource lands are those lands with long-term use restrictions that are compatible with or supportive of agricultural uses of land. Included among them are the following:

- Williamson Act contracted lands.
- Publicly owned lands maintained as a park, forest, or watershed resources.
- Lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban and industrial uses.

The total area of the ZOI is approximately 251.2 acres and will be used for calculating the Surrounding Agricultural Land Ratings, as shown in Table 4-7.

Table 4-7
Surrounding Protected Resource Land Rating Scoring

Percent of ZOI in Protected	Score
90-100%	100
80-89%	90
75-79%	80
70-74%	70
65-69%	60
60-64%	50
55-59%	40
50-54%	30
45-50%	20
40-44%	10
< 40%	0

According to the City of Fresno online mapping system and Fresno County Assessor Data, there are approximately 0 acres of protected resource land within the ZOI. Therefore, based on the surrounding agricultural activities and uses, the Project site's Surrounding Agricultural Land Rating is 0.

Final LESA Determination

A single LESA score is generated for a given project after a comprehensive review of all parcels within the project site have been scored and weighted. The California Agricultural LESA Model is weighted so that 50 percent of the total LESA score of a given project is derived from the land evaluation factors and 50 percent is derived from the Site Assessment factors. Individual factor weights are listed below, with the sum of the factor weights required to equal 100 percent. Table 4-8 lists the factors and percentages used in LESA scoring.

Table 4-8
LESA Factors and Weighted Percentages

LESA Factors	Percentages

Land Evaluation Factors	
Land Capability Classification (LCC)	25.0
Storie Index Rating	21.3
Land Evaluation (LE) Subtotal	**46.3**
Site Assessment Factors	
Project Size Rating	4.5
Water Resource Availability	0.0
Surrounding Agricultural Lands	0.0
Surrounding Protected Resource Lands Rating	0.0
Site Assessment (SA) Subtotal	**4.5**
Total LESA Factor Weighting	**50.8**

Notes: LESA scoring sheet provided in Appendix A.

The overall Project's total LESA score is 50.8, which is a comprehensive score for the Project.

Table 4-9 articulates the California LESA Model Scoring Thresholds for determining the significance of a project's impacts.

Table 4-9
California LESA Model Scoring Thresholds

Total LESA Score	Scoring Decision
0 to 39	Not Considered Significant
40 to 59 Points	Considered Significant only if LE and SA subscores are each greater than or equal to 20 points
60 to 79 Points	Considered Significant unless either LE or SA subscore is less than 20 points
80 to 100 Points	Considered Significant

This determination is based on the results of the California Agricultural LESA prepared for the Project (Appendix A). The LESA Model concludes that the Project has a comprehensive score of 50.8 points, which falls within the "Considered Significant **only** if LE and SA subscores are **greater** than or equal to 20 points." In accordance with Table 4-8, the SA subscore does not exceed or equal 20 points. Therefore, there is a less than a significant environmental impact due to the overall size of the Project. The LESA Model concludes that the conversion of the approximately 9 acres of Prime Farmland to a non-agricultural use would constitute a less than significant impact.

SECTION 5 - IMPACT ANALYSIS

The CEQA Guidelines Appendix G, that a project would have a significant impact on agriculture and forestry resources if it would:

A. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
B. Conflict with existing zoning for agricultural use or Williamson Act contract.
C. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)) or timberland (as defined in Public Resources Code Section 4526) or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)).
D. Result in the loss of forestland or conversion of forest land to non-forest use.
E. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

5.1 - Convert Important Farmland

5.1.1 - IMPACT ANALYSIS

As mentioned in Section 1.2, the Project proposes the development of a 53-lot single family residential subdivision, 4 outlots, and the dedication of East McKinely Avenue right-of-way. The Project is located within the City Limits, planned by the General Plan as Residential Medium Density and consistently zoned RS-5. The proposal for the development of 53 single family lots is consistent with the General Plan's identification of the Project site.

The DOC has classified the Project site as Prime Farmland under the FMMP. Therefore, the implementation of the proposed Project would result in the conversion of Prime Farmland to a non-agricultural use. However, as previously noted, the site has no available water to support crop production.

If a project were to convert any amount of acreage from Prime Farmland, Farmland of Statewide Importance, or Unique Farmland, then that project would exhibit a significant impact under the CEQA Guidelines Appendix G. In order to assess the significance of the project-specific impacts to agricultural resources, the California LESA Model was prepared for the proposed Project. The LESA Model is composed of a Land Evaluation (LE) portion, which measures soil quality, and the Site Assessment (SA) portion, which evaluates parcel size and on-farm investments. The LE and SA subscores are summed to determine the Final LESA score. A Final LESA Score of 0 to 39 points is not considered significant. A final score between 40 to 59 points is considered significant only if the LE and SA subscores are each greater than or equal to 20 points. A final score between 60 to 79 points is considered significant unless either the LE or SA subscores is less than 20 points. A final score between 80 to 100 points is considered significant.

The proposed Project achieved a Final LESA Score of 50.8 points, with an LE subscore of 46.3 points and a SA subscore of 4.5 points. Due to the SA subscore being below 20 points, the conversion of agricultural land associated with implementation of the proposed Project would not represent a significant impact to agricultural resources under CEQA. Therefore, impacts related to the conversion of Important Farmland to a non-agricultural use would be less than significant.

MITIGATION MEASURES

No mitigation is required.

Level of Significance

Impacts are Less Than Significant.

5.2 - Conflict with Existing Zoning for Agricultural Use or a Williamson Act Contract

5.2.1 - IMPACT ASSESSMENT

This impact evaluates the potential for the proposed Project to conflict with existing agricultural zoning or Williamson Act contracts.

The City General Plan has planned for single family residential development to occur on the Project site. The parcel within the Project site is not subject to a Williamson Act Contract. Therefore, the development of the proposed Project would not conflict with existing zoning for agricultural use or with a Williamson Act contract, and the impact would be less than significant.

MITIGATION MEASURES

No mitigation is required.

Level of Significance

Impacts are less than significant.

5.3 - Forest Land and Timberland

5.3.1 - IMPACT ASSESSMENT

This impact evaluates the potential for the proposed Project to conflict with existing forest land or timberland zoning or result in the loss of forest land or result in the conversion of forest land to non-forest use.

The overall Project site is currently zoned and anticipates the development of single family residential uses. The Project area does not have the potential to impact forest land (as

defined in Public Resources Code Section 12220(g)) or timberland (as defined by Public Resources Code Section 4526); there is no forest land zoning or forest uses on the Project site. The Project would not conflict with zoning for, or cause rezoning of, forest land, timberland, or timberland-zoned timberland production. Additionally, it would not result in the loss of forest land or conversion of forest land to non-forest land. Lastly, the Project would not involve any other changes in the existing environment which, due to their location or nature, could result in the conversion of forest land to non-forest use. Therefore, no impacts would occur.

Level of Significance

No Impact.

MITIGATION MEASURES

No mitigation is required.

5.4 - Result in the Loss of Forest Land or Conversion of Forest Land to Non-Forest Use

5.4.1 - IMPACT ASSESSMENT

As mentioned in Section 5.3, The Project site is not used for timberland production or zoned for forest uses, and would not result in the loss of forest land or conversion of forest land. Therefore, the proposed Project would have no impact.

Level of Significance

No Impact.

MITIGATION MEASURES

No mitigation is required.

5.5 - Involve Other Changes in the Existing Environment, Which Due to Their Location or Nature, Could Result in conversion of Farmland to Non-Agricultural Use or Conversion of Forest Land to Non-Forest Use.

5.5.1 - IMPACT ASSESSMENT

Please refer to Sections 5.1 and 5.3. The Project site is classified as Prime Farmland by the DOC FMMP. Therefore, the development of the Project site would result in the conversion of Important Farmland. However, as noted previously, the Project site no longer has access to available irrigation water to support crop cultivation and can no longer be considered viable farmland. The LESA Model prepared for the proposed Project site identifies that the conversion of Important Farmland associated with development of the Project site would

result in a less-than-significant impact. Thus, the proposed Project would have a less than significant impact on Important Farmland.

MITIGATION MEASURES

No mitigation is required.

Level of Significance

Impacts are less than significant.

5.6 - Cumulative Impacts

5.6.1 - IMPACT ASSESSMENT

Fresno County ranks high on the list of California counties with respect to urbanization and loss of farmland. Although growth in population is likely to decrease the amount of agricultural land in Fresno County in the future, other factors, including the availability of water also contribute to decreases in farmland. In comparison to the total land classified for Prime Farmland in Fresno County, the conversion of the Project site would result in a 0.0016% decrease in Prime Farmland.

Current conditions related to drought, water availability, and the economic impacts of water purchases may have resulted in the decision-making to develop the Project site.

Besides the beneficial aspects of the Project relative to development of housing, job creation and increased property taxes, implementation of the Project would have favorable impacts on local agriculture by reducing onsite water consumption, thereby making more water available for other farmers.

MITIGATION MEASURES

No mitigation measures are required.

Level of Significance

Impacts are cumulatively *less than significant.*

SECTION 6 - SUMMARY OF FINDINGS

This study evaluated the overall impact of a Project that is approximately 11 acres of Prime Farmland that was used in previous years for agricultural production and will be permanently removed from agricultural production. However, recently the property lost it use of available irrigation water, so the land cannot support crop cultivation.

Using the LESA Model to analyze the impacts of converting agricultural resources to non-agricultural uses, this analysis finds that the Project:

- Would not result in the removal of a potentially significant amount of Important Farmland from agricultural production based on a qualitative analysis.
- Would not conflict with existing zoning for agricultural use or a Williamson Act contract.
- Would not result in a significant impact based on a quantitative assessment using the LESA Model.
- Would not encourage the premature removal of properties held under a Williamson Act contract located within the Project's vicinity.
- Would not result in a significant impact to agricultural resources under CEQA.
- Would not result in a cumulatively significant and unavoidable Project-level impact to agricultural resources under CEQA.

For these reasons, the Project's impact on agricultural resources is considered ***less than significant*** pursuant to CEQA.

SECTION 7 - REFERENCES

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Soil Map Unit	Project Acres	Proportion of Project Area	LCC irrigated	LCC Rating	LCC Score	Storie Index	Storie Index Score
Rc	10.8	100.0%	I	100	100.0	85	85.0

APN	Water Source	GIS Acres	Proportion of Project Area	Water Availability Score	Weighted Availability Score
574-130-05	Irrigation District Water	9.5	87.72%	0	0
574-130-05	Not Irrigated/Urban	1.3	12.28%	0	0

Perecent of Zone of Influence In Agricultural Use	Score	0	31% *percentage rounded up for score
Percent of Zone of Influence in Resource Protection	Score	0	0% *percentage rounded up for score

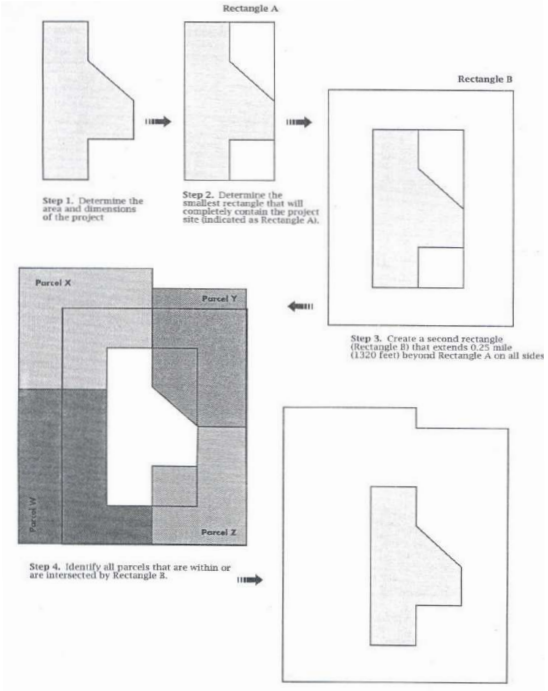
Ag Use
Total Acreage of ZOI: 262.02
Total Acreage of Project Area: 10.82
Surrounding Acreage ZOI: 251.2

Crop acreage within ZOI: 58.15
Idle/Unclassified Ag within ZOI: 19.23
Ag within ZOI: 77.38 Ac

Resource Protection
Surrounding Acreage ZOI: 251.2
WA Acreage Sum: 0
Publicly owned lands: 0
Easement land: 0
Protected land within ZOI: 0 Ac

Percent of Project's Zone of Influence in Agricultural Use	Surrounding Agricultural Land Score
90 - 100%	100 Points
80 - 89	90
75 - 79	80
70 - 74	70
65 - 69	60
60 - 64	50
55 - 59	40
50 - 54	30
45 - 49	20
40 - 44	10
40 <	0

Percent of Project's Zone of Influence Defined as Protected	Surrounding Protected Resource Land Score
90 - 100%	100 Points
80 - 89	90
75 - 79	80
70 - 74	70
65 - 69	60
60 - 64	50
55 - 59	40
50 - 54	30
45 - 49	20
40 - 44	10
40 <	0



Factor Name	Factor Rating	Weight	Weighted Factor Rating
Land Evalution			
Land Compatibility Classification	100.0	0.25	25.0
Storie Index Rating	85.0	0.25	21.3
Site Assessment			0.0
Project Size (enter acreage)	30.0	0.15	4.5
Water Resource Availability	0.0	0.15	0.0
Surrounding Agricultural Lands	0.0	0.15	0.0
Protected Resource Lands	0.0	0.05	0.0
		Total LESA Score	**50.8**

Table 9. California LESA Model Scoring Thresholds

Total LESA Score	Scoring Decision
0 to 39 Points	Not Considered Significant
40 to 59 Points	Considered Significant only if LE and SA subscores are each greater than or equal to 20 points
60 to 79 Points	Considered Significant unless either LE or SA subscore is less than 20 points
80 to 100 Points	Considered Significant

Appendix B

Tract 6475 Residential Development

Air Quality & Greenhouse Gas Impact Assessment
January 22, 2025

Prepared by:
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Project Manager: Georgiena Vivian

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1.0 Introduction

1.1 Description of the Region/Project

The proposed project aims to develop 53 single-family residential units in the northwest portion of Armstrong Avenue and McKinley Avenue in the City of Fresno. The project site spans approximately 5.91 acres of land with Assessor Parcel Number (APN) 574-130-05. and is situated between Fowler and Armstrong Avenue. It is located 1 mile north of State Route (SR) 180 within the City of Fresno.

This Air Quality & Greenhouse Gas Impact Assessment has been prepared for the purpose of identifying potential project-specific or site-specific air quality impacts that may result from the Project. Figures 1 and 2 show the location of the Project long with major roadways and highways.

The City of Fresno is located in Fresno County one of the most polluted air basins in the country – the San Joaquin Valley Air Basin (SJVAB). The surrounding topography includes foothills and mountains to the east and west. These mountain ranges direct air circulation and dispersion patterns. Temperature inversions can trap air within the Valley, thereby preventing the vertical dispersal of air pollutants. In addition to topographic conditions, the local climate can also contribute to air quality problems. The climate in Fresno is characterized by hot, dry summers and cool winters with the notable presence of Tule fog.

1.2 Regulatory

Air quality within the Project area is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policymaking, education, and a variety of programs. The agencies primarily responsible for improving the air quality within the City of Fresno and Fresno County are discussed below along with their individual responsibilities.

1.2.1 *Federal Agencies*

- ✓ **U.S. Environmental Protection Agency (EPA)**

  The Federal Clean Air Bill first adopted in 1967 and periodically amended since then, established federal ambient air quality standards. A 1987 amendment to the Bill set a deadline for the attainment of these standards. That deadline has since passed. The other Clean Air Act (CAA) Bill Amendments, passed in 1990, share responsibility with the State in reducing emissions from mobile sources. The U.S. Environmental Protection Agency (EPA) is responsible for enforcing the 1990 amendments.

  The CAA and the national ambient air quality standards identify levels of air quality for six "criteria" pollutants, which are considered the maximum levels of ambient air pollutants considered safe, with an adequate margin of safety, to protect public health and welfare. The

six criteria pollutants include ozone, carbon monoxide (CO), nitrogen dioxide, sulfur dioxide, particulate matter, and lead.

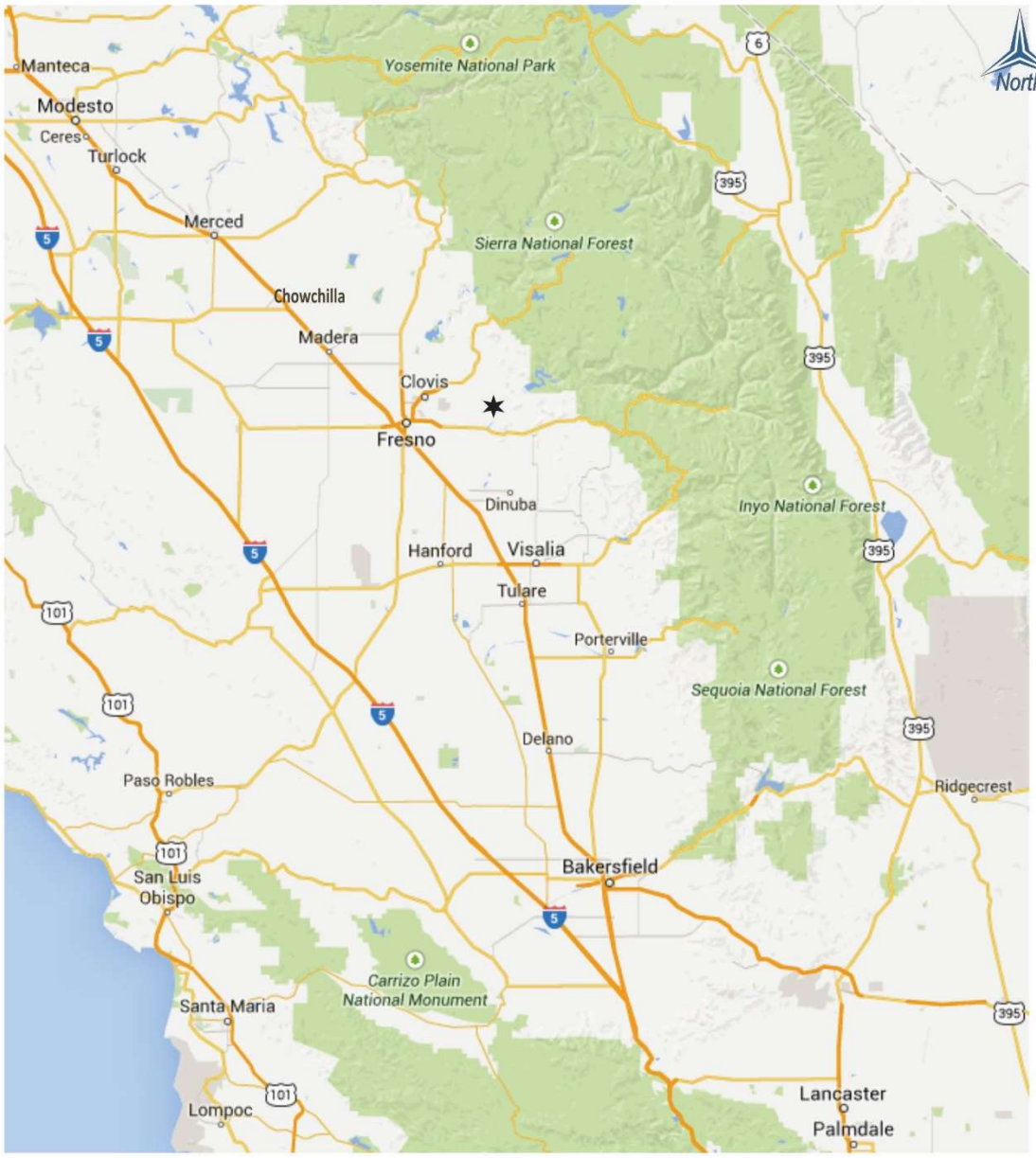
CAA Section 176(c) (42 U.S.C. 7506(c)) and EPA transportation conformity regulations (40 CFR 93 Subpart A) require that each new RTP and Transportation Improvement Program (TIP) be demonstrated to conform to the State Implementation Plan (SIP) before the RTP and TIP are approved by the Metropolitan planning organization (MPO) or accepted by the U.S. Department of Transportation (DOT). The conformity analysis is a federal requirement designed to demonstrate compliance with the National Ambient Air Quality Standards (NAAQS). However, because the State Implementation Plan (SIP) for particulate matter 10 microns or less in diameter (PM10), particulate matter 2.5 microns or less in diameter (PM2.5), and Ozone address attainment of both the State and federal standards, for these pollutants, demonstrating conformity to the federal standards is also an indication of progress toward attainment of the State standards. Compliance with the State air quality standards is provided on the pages following this federal conformity discussion.

The EPA approved San Joaquin Valley reclassification of the ozone (8-hour) designation to extreme nonattainment in the Federal Register on May 5, 2010, even though the San Joaquin Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard. In accordance with the CAA, EPA uses the design value at the time of standard promulgation to assign nonattainment areas to one of several classes that reflect the severity of the nonattainment problem; classifications range from marginal nonattainment to extreme nonattainment. In the Federal Register on October 26, 2015, the EPA revised the primary and secondary standard to 0.070 parts per million (ppm) to provide increased public health protection against health effects associated with long- and short-term exposures. The previous ozone standard was set in 2010 at 0.075 ppm.

Fresno County is located in a nonattainment area for the 8-hour ozone standard, PM2.5 standard, and PM10 standard.

Tract 6475 Residential Development AQ/GHG
Regional Location

Figure 1

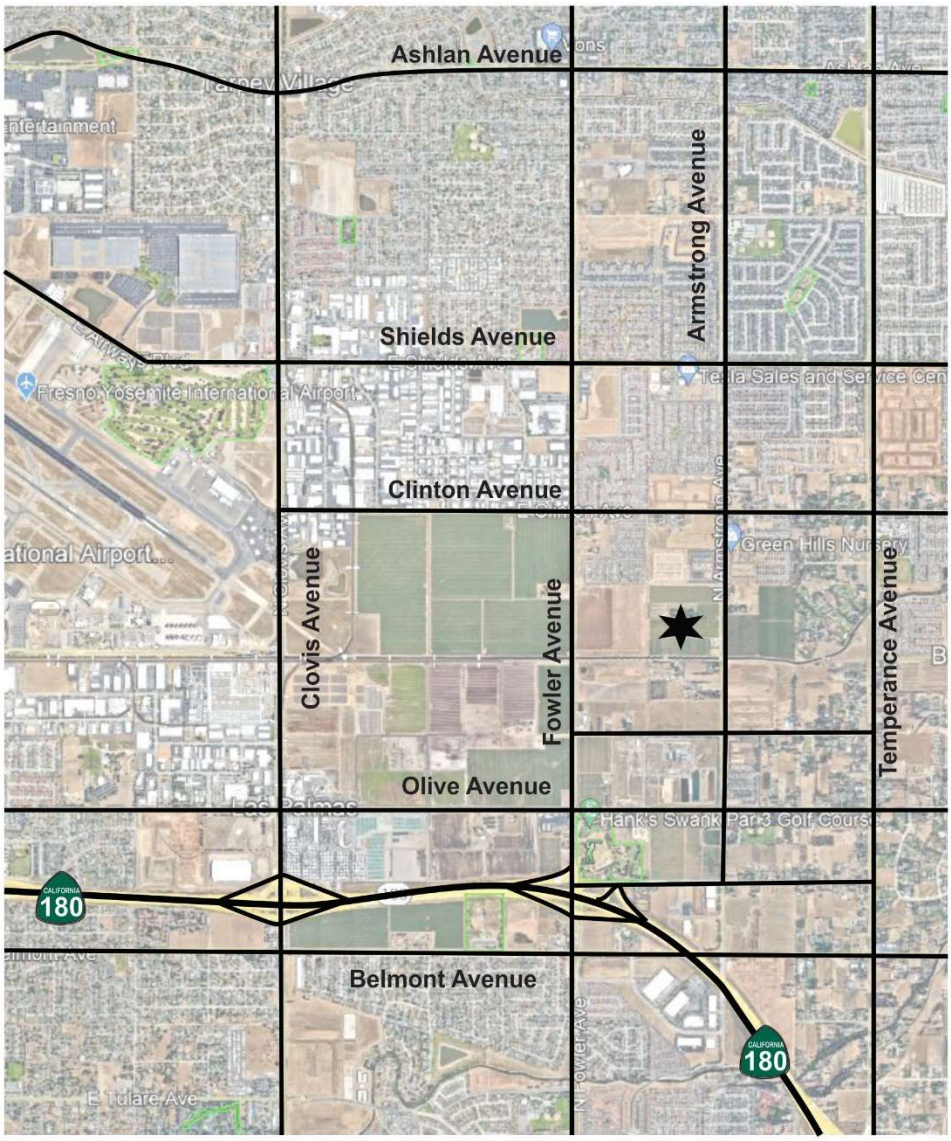


LEGEND

★ Project Location

VRPA TECHNOLOGIES, INC.

Tract 6475 Residential Development AQ/GHG Project Location — **Figure 2**



1.2.2 *Federal Regulations*

✓ **National Environmental Policy Act (NEPA)**

NEPA provides general information on the effects of federally funded projects. The Act was implemented by regulations included in the Code of Federal Regulations (40CFR6). The code requires careful consideration concerning environmental impacts of federal actions or plans, including projects that receive federal funds. The regulations address impacts on land uses and conflicts with state, regional, or local plans and policies, among others. They also require that projects requiring NEPA review seek to avoid or minimize adverse effects of proposed actions and to restore and enhance environmental quality as much as possible.

✓ **State Implementation Plan (SIP)/ Air Quality Management Plans (AQMPs)**

To ensure compliance with the NAAQS, EPA requires states to adopt SIP aimed at improving air quality in areas of nonattainment or a Maintenance Plan aimed at maintaining air quality in areas that have attained a given standard. New and previously submitted plans, programs, district rules, state regulations, and federal controls are included in the SIPs. Amendments made in 1990 to the federal CAA established deadlines for attainment based on an area's current air pollution levels. States must enact additional regulatory programs for nonattainment's areas in order to adhere with the CAA Section 172. In California, the SIPs must adhere to both the NAAQS and the California Ambient Air Quality Standards (CAAQS).

To ensure that State and federal air quality regulations are being met, Air Quality Management Plans (AQMPs) are required. AQMPs present scientific information and use analytical tools to identify a pathway towards attainment of NAAQS and CAAQS. The San Joaquin Valley Air Pollution Control District (SJVAPCD) develops the AQMPs for the region where the Fresno Council of Governments (Fresno COG) operates. The regional air districts begin the SIP process by submitting their AQMPs to the California Air Resources Board (CARB). CARB is responsible for revising the SIP and submitting it to EPA for approval. EPA then acts on the SIP in the Federal Register. The items included in the California SIP are listed in the Code of Federal Regulations Title 40, Chapter 1, Part 52, Subpart 7, Section 52.220.

✓ **Transportation Control Measures**

One particular aspect of the SIP development process is the assessment of available transportation control measures (TCMs) as a part of making progress towards clean air goals. TCMs are defined in Section 108(f)(1) of the CAA and are strategies designed to reduce vehicle miles traveled, vehicle idling, and associated air pollution. These goals are generally achieved by developing attractive and convenient alternatives to single-occupant vehicle use. Examples of TCMs include ridesharing programs, transportation infrastructure improvements such as adding bicycle and carpool lanes, and expansion of public transit.

✓ **Energy Policy Act of 1992 (EPAct)**

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of alternative fueled vehicles (AFVs). States are also required by the act to consider a variety of incentive programs to help promote AFVs.

1.2.3 *State Agencies*

✓ **California Air Resources Board (CARB)**

CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing its own air quality legislation called the California Clean Air Act (CCAA), adopted in 1988. CARB was created in 1967 from the merging of the California Motor Vehicle Pollution Control Board and the Bureau of Air Sanitation and its Laboratory.

CARB has primary responsibility in California to develop and implement air pollution control plans designed to achieve and maintain the NAAQS established by the EPA. Whereas CARB has primary responsibility and produces a major part of the SIP for pollution sources that are statewide in scope, it relies on the local air districts to provide additional strategies for sources under their jurisdiction. CARB combines its data with all local district data and submits the completed SIP to the EPA. The SIP consists of the emissions standards for vehicular sources and consumer products set by CARB, and attainment plans adopted by the Air Pollution Control Districts (APCDs) and Air Quality Management District's (AQMDs) and approved by CARB.

States may establish their own standards, provided the State standards are at least as stringent as the NAAQS. California has established California Ambient Air Quality Standards (CAAQS) pursuant to California Health and Safety Code (CH&SC) [§39606(b)] and its predecessor statutes.

The CH&SC [§39608] requires CARB to "identify" and "classify" each air basin in the State on a pollutant-by-pollutant basis. Subsequently, CARB designated areas in California as nonattainment based on violations of the CAAQSs. Designations and classifications specific to the SJVAB can be found in the next section of this document. Areas in the State were also classified based on severity of air pollution problems. For each nonattainment class, the CCAA specifies air quality management strategies that must be adopted. For all nonattainment categories, attainment plans are required to demonstrate a five percent-per-

year reduction in nonattainment air pollutants or their precursors, averaged every consecutive three-year period, unless an approved alternative measure of progress is developed. In addition, air districts in violation of CAAQS are required to prepare an Air Quality Attainment Plan (AQAP) that lays out a program to attain and maintain the CCAA mandates.

CARB, in consultation with MPOs, has provided each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. For the Fresno COG region, CARB set targets at six(6) percent per capita decrease in 2020 and a thirteen (13) percent per capita decrease in 2035 from a base year of 2005. Fresno COG's 2022 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which was adopted in July 2022, projects that the Fresno County region would achieve the prescribed emissions targets.

Other CARB duties include monitoring air quality. CARB has established and maintains, in conjunction with local APCDs and AQMDs, a network of sampling stations (called the State and Local Air Monitoring [SLAMS] network), which monitor the present pollutant levels in the ambient air.

Fresno County is in the CARB-designated, SJVAB. A map of the SJVAB is provided in Figure 3. In addition to Fresno County, the SJVAB includes Kings, Kern, Madera, Merced, San Joaquin, Stanislaus, and Tulare Counties. Federal and State standards for criteria pollutants are provided in Table 1.

Tract 6475 Residential Development AQ/GHG
San Joaquin Valley Air Basin

Figure 3

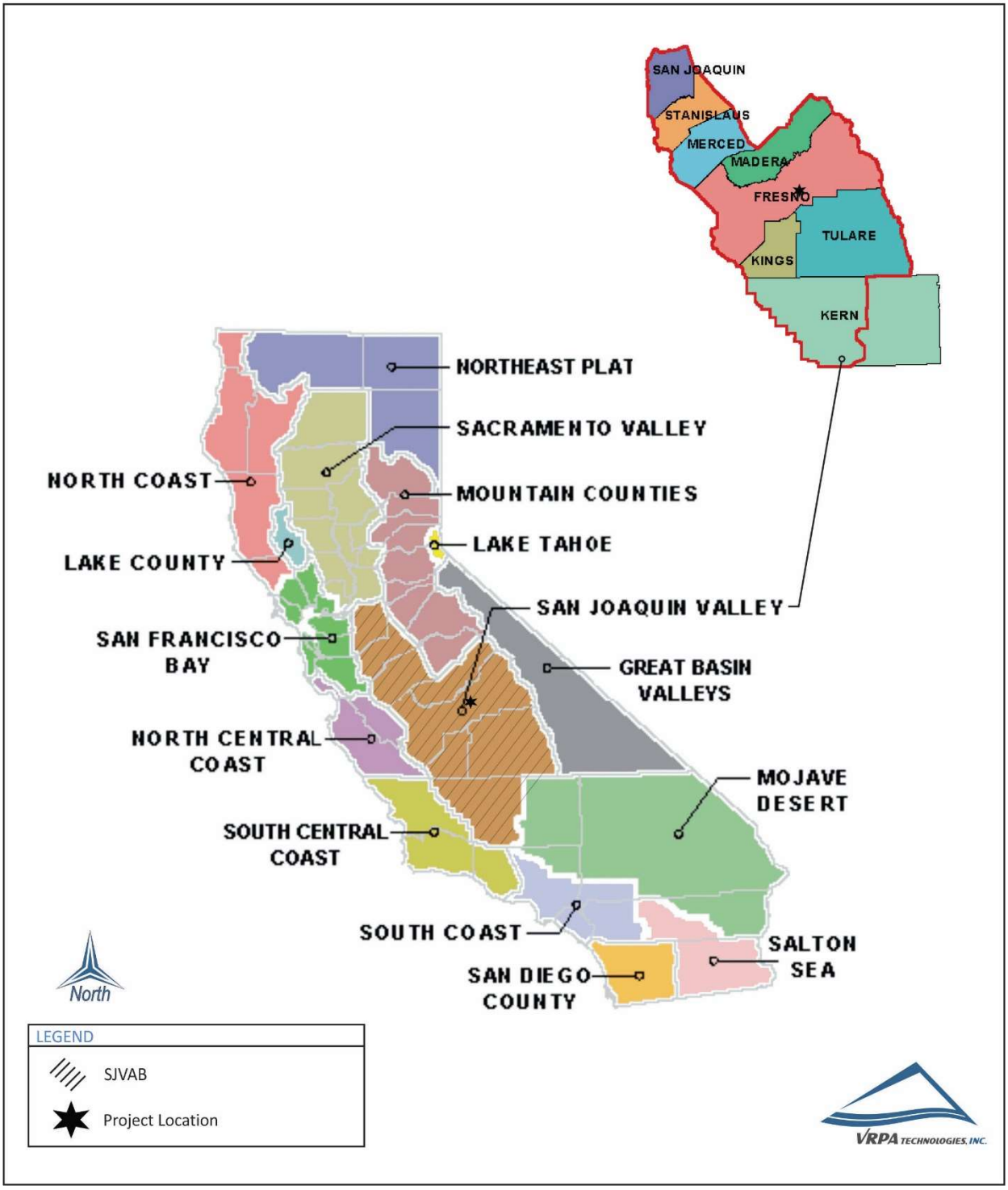


Table 1
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3) [8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	--	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10) [9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		--		
Fine Particulate Matter (PM2.5) [9]	24 Hour	--	--	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	--	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	--	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		--	--	
Nitrogen Dioxide (NO_2) [10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	--	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2) [11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	--	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	--		--	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for cetain areas) [11]	--	
	Annual Arithmetic Mean	--		0.030 ppm (for cetain areas) [11]	--	
Lead [12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	--	--	High Volume Sampler and Atomic Absorption
	Calendar Quarter	--		1.5 µg/m^3 (for certain areas) [11]	Same as Primary Standard	
	Rolling 3-Month Average	--		0.15 µg/m^3		
Visibility Reducing Particles [14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride [12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page ...

Footnotes:

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the U.S. EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m3 to 12.0 µg/m3. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 µg/m3, as was the annual secondary standard of 15 µg/m3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

1.2.4 *State Regulations*

✓ **CARB Mobile-Source Regulation**

The State of California is responsible for controlling emissions from the operation of motor vehicles in the State. Rather than mandating the use of specific technology or the reliance on a specific fuel, CARB's motor vehicle standards specify the allowable grams of pollutant per mile driven. In other words, the regulations focus on the reductions needed rather than on the manner in which they are achieved.

✓ **California Clean Air Act**

The CCAA was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute, the state's air quality goals, planning and regulatory strategies, and performance. The CCAA establishes more stringent ambient air quality standards than those included in the Federal CAA. CARB is the agency responsible for administering the CCAA. CARB established ambient air quality standards pursuant to the CH&SC [§39606(b)], which are similar to the federal standards. The SJVAPCD is one of 35 AQMDs that have prepared air quality management plans to accomplish a five percent (5%) annual reduction in emissions documenting progress toward the State ambient air quality standards.

✓ **Tanner Air Toxics Act**

California regulates Toxic Air Contaminants (TACs) primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and has adopted EPA's list of Hazardous Air Pollutants (HAPs) as TACs. Once a TAC is identified, CARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technology (BACT) to minimize emissions.

AB 2588 requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures. CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators).

These rules and standards provide for:

- More stringent emission standards for some new urban bus engines, beginning with 2002 model year engines.
- Zero-emission bus demonstration and purchase requirements applicable to transit agencies
- Reporting requirements under which transit agencies must demonstrate compliance with the urban transit bus fleet rule.

✓ **AB 1493 (Pavley)**

AB 1493 (Pavley) enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks. Regulations adopted by CARB would apply to 2009 and later model year vehicles. CARB estimated that the regulation would reduce climate change emissions from light duty passenger vehicles by an estimated 18 percent in 2020 and by 27 percent in 2030 [Association of Environmental Professionals (AEP) 2007)]. In 2005, the CARB requested a waiver from U.S. EPA to enforce the regulation, as required under the CAA. Despite the fact that no waiver had ever been denied over a 40-year period, the then Administrator of the EPA sent Governor Schwarzenegger a letter in December 2007, indicating he had denied the waiver. On March 6, 2008, the waiver denial was formally issued in the Federal Register. Governor Schwarzenegger and several other states immediately filed suit against the federal government to reverse that decision. On January 21, 2009, CARB requested that EPA reconsider denial of the waiver. EPA scheduled a re-hearing on March 5, 2009. On June 30, 2009, EPA granted a waiver of CAA preemption to California for its greenhouse gas emission standards for motor vehicles beginning with the 2009 model year.

✓ **Assembly Bill 32 (California Global Warming Solutions Act of 2006)**

California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in greenhouse gas (GHG) emissions and establishes a cap on statewide GHG emissions. AB 32 has achieved the goal of reducing statewide GHG emissions to 1990 levels by 2020. Now, the goal under AB 32 is to further reduce GHG emissions to 40% below 1990 levels by 2030.To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires CARB to adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrived at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state reduces GHG emissions enough to meet the cap. AB 32 also includes guidance on

instituting emissions reductions in an economically efficient manner, along with conditions to ensure that businesses and consumers are not unfairly affected by the reductions. Using these criteria to reduce statewide GHG emissions to 1990 levels by 2030 would represent an approximate 40 percent reduction in current emissions levels. However, CARB has discretionary authority to seek greater reductions in more significant and growing GHG sectors, such as transportation, as compared to other sectors that are not anticipated to significantly increase emissions.

CARB's 2017 Climate Change Scoping Plan builds on the efforts and plans encompassed in the initial Scoping Plan adopted in December of 2008. The current plan has identified new policies and actions to accomplish the State's 2030 GHG limit.

✓ **Senate Bill 375**

SB 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) that will prescribe land use allocation in that MPO's regional transportation plan. CARB, in consultation with MPOs, has provided each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. For the Fresno COG region, CARB set targets at six (6) percent per capita decrease in 2020 and a thirteen (13) percent per capita decrease in 2035 from a base year of 2018. The Fresno COG 2022 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which was adopted in July 2022, projects that the Fresno County region would achieve the prescribed emissions targets.

This law also extends the minimum time period for the regional housing needs allocation cycle from five years to eight years for local governments located within an MPO that meets certain requirements. City or county land use policies (including general plans) are not required to be consistent with the regional transportation plan (and associated SCS or APS). However, new provisions of CEQA incentivize (through streamlining and other provisions) qualified projects that are consistent with an approved SCS or APS, categorized as "transit priority projects."

✓ **Executive Order B-30-15**

Executive Order B-30-15, which was signed by Governor Brown in 2016, establishes a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. Executive Order B-30-15 requires MPO's to implement measures that will achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reductions targets.

✓ **California Global Warming Solutions Act of 2006: emissions limit, or SB 32**

SB 32 is a California Senate bill expanding upon AB 32 to reduce greenhouse gas (GHG) emissions. SB 32 was signed into law on September 8, 2016, by Governor Brown. SB 32 sets into law the mandated reduction target in GHG emissions as written into Executive Order B-30-15. SB 32 requires that there be a reduction in GHG emissions to 40% below the 1990 levels by 2030. Greenhouse gas emissions include carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons. The California Air Resources Board (CARB) is responsible for ensuring that California meets this goal. The provisions of SB 32 were added to Section 38566 of the Health and Safety Code subsequent to the bill's approval. The bill went into effect January 1, 2017. SB 32 builds onto Assembly Bill (AB) 32 written by Senator Fran Pavley and Assembly Speaker Fabian Nunez passed into law on September 27, 2006. AB 32 required California to reduce greenhouse gas emissions to 1990 levels by 2020 and SB 32 continues that timeline to reach the targets set in Executive Order B-30-15. SB 32 provides another intermediate target between the 2020 and 2050 targets set in Executive Order S-3-05.

1.2.5 *Regional Agencies*

✓ **San Joaquin Valley Air Pollution Control District**

The SJVAPCD is the agency responsible for monitoring and regulating air pollutant emissions from stationary, area, and indirect sources within Fresno County and throughout the SJVAB. The District also has responsibility for monitoring air quality and setting and enforcing limits for source emissions. CARB is the agency with the legal responsibility for regulating mobile source emissions. The District is precluded from such activities under State law.

The District was formed in mid-1991 and prepared and adopted the San Joaquin Valley Air Quality Attainment Plan (AQAP), dated January 30, 1992, in response to the requirements of the State CCAA. The CCAA requires each non-attainment district to reduce pertinent air contaminants by at least five percent (5%) per year until new, more stringent, 1988 State air quality standards are met.

Activities of the SJVAPCD include the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, issuance of permits for stationary sources of air pollution, inspection of stationary sources of air pollution and response to citizen complaints, monitoring of ambient air quality and meteorological conditions, and implementation of programs and regulations required by the FCAA and CCAA.

The SJVAPCD has prepared the following State Implementation Plans to address ozone, PM-10 and PM2.5 that currently apply to non-attainment areas:

- The 2022 Plan for the 2015 8-Hour Ozone Standard (2022 Ozone Plan) was adopted by SJVAPCD on December 15, 2022. The 2022 Ozone Plan was developed to ensure

attainment of the 70 parts per billion (ppb) 8-hour ozone standard.

- The 2016 Ozone Plan (2008 standard) was adopted by SJVAPCD on June 16, 2016 and subsequently adopted by ARB on July 21, 2016.
- The 2013 1-Hour Ozone Plan (revoked 1997 standard) was adopted by the SJVAPCD on September 19, 2013. EPA withdrew its approval of the plan due to litigation. The District plans to submit a "redesignation substitute" to EPA to maintain its attainment status for this revoked ozone standard.
- The 2024 Plan for the 2012 Annual PM2.5 Standard was adopted by SJVAPCD on June 20, 2024. The Plan was developed to ensure attainment of the federal health-based 2012 national ambient air quality standard (standard, or NAAQS) for fine particulate matter (PM2.5).
- The 2018 Plan for the 1997, 2006, and 2012 PM2.5 Standard was adopted by the SJVAPCD on November 15, 2018.
- The 2012 PM2.5 Plan (as revised in 2015) was approved by EPA on August 16, 2016 (effective September 30, 2016).
- The 2007 PM10 Maintenance Plan (as revised in 2015) was approved by EPA on July 8, 2016 (effective September 30, 2016).
- The 2006 PM10 Plan, adopted by SJVAPCD on February 16, 2006, is a continuation of the Air Districts strategy for achieving the PM10 NAAQS.

The SJVAPCD Plans identified above represent SJVAPCD's plan to achieve both state and federal air quality standards. The regulations and incentives contained in these documents must be legally enforceable and permanent. These plans break emissions reductions and compliance into different emissions source categories.

The SJVAPCD also prepared the *Guide for Assessing and Mitigation Air Quality Impacts* (GAMAQI), dated March 19, 2015. The GAMAQI is an advisory document that provides Lead Agencies, consultants, and project applicants with analysis guidance and uniform procedures for addressing air quality impacts in environmental documents. Local jurisdictions are not required to utilize the methodology outlined therein. This document describes the criteria that SJVAPCD uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for determining whether or not projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts.

1.2.6 *Regional Regulations*

The SJVAPCD has adopted numerous rules and regulations to implement its air quality plans. Following, are significant rules that will apply to the Project.

✓ **Regulation VIII – Fugitive PM10 Prohibitions**

Regulation VIII is comprised of District Rules 8011 through 8081, which are designed to reduce PM_{10} emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and track out, landfill operations, etc. The proposed Project will be required to comply with this regulation. Regulation VIII control measures are provided below:

1. *All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.*
2. *All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.*
3. *All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.*
4. *When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.*
5. *All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.*
6. *Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.*
7. *Within urban areas, track out shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday.*

✓ **Rule 8021 – Construction, Demolition, Excavation, and Other Earthmoving Activities**

District Rule 8021 requires owners or operators of construction projects to submit a Dust Control Plan to the District if at any time the project involves non-residential developments of five or more acres of disturbed surface area or moving, depositing, or relocating of more than 2,500 cubic yards per day of bulk materials on at least three days of the project or residential projects which include 10 or more acres of disturbed surface area. The proposed Project will meet these criteria and will be required to submit a Dust Control Plan to the District in order to comply with this rule.

- ✓ **Rule 4641 – Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations**

  If asphalt paving will be used, then paving operations of the proposed Project will be subject to Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations.

- ✓ **Rule 9510 – Indirect Source Review (ISR)**

  The purpose of this rule is to fulfill the District's emission reduction commitments in the PM10 and Ozone Attainment Plans, achieve emission reductions from construction activities, and to provide a mechanism for reducing emissions from the construction of and use of development projects through off-site measures. The rule is expected to reduce nitrogen oxides and particulates throughout the San Joaquin Valley by more than 10 tons per day.

1.2.7 *Local Plans*

- ✓ **City of Fresno General Plan**

  California State Law requires every city and county to adopt a comprehensive General Plan to guide its future development. The General Plan essentially serves as a "constitution for development"— the document that serves as the foundation for all land use decisions. The City of Fresno 2035 General Plan Update (2014) includes various elements, including air quality and greenhouse gases, that address local concerns and provides goals and policies to achieve its development goals.

2.0 Environmental Setting

This section describes existing air quality within the San Joaquin Valley Air Basin and in Fresno County, including the identification of air pollutant standards, meteorological and topological conditions affecting air quality, and current air quality conditions. Air quality is described in relation to ambient air quality standards for criteria pollutants such as, ozone, carbon monoxide, and particulate matter. Air quality can be directly affected by the type and density of land use change and population growth in urban and rural areas.

2.1 Geographical Location

The SJVAB is comprised of eight counties: Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare. Encompassing 24,840 square miles, the San Joaquin Valley is the second largest air basin in California. Cumulatively, counties within the Air Basin represent approximately 16 percent of the State's geographic area. The Air Basin is bordered by the Sierra Nevada Mountains on the east (8,000 to 14,492 feet in elevation), the Coastal Range on the west (4,500 feet in elevation), and the Tehachapi Mountains on the south (9,000 feet elevation). The San Joaquin Valley is open to the north extending to the Sacramento Valley Air Basin.

2.2 Topographic Conditions

Fresno County is located within the San Joaquin Valley Air Basin [as determined by the California Air Resources Board (CARB)]. Air basins are geographic areas sharing a common "air shed." A description of the Air Basin in the County, as designated by CARB, is provided in the paragraph below. Air pollution is directly related to the region's topographic features, which impact air movement within the Basin.

Wind patterns within the SJVAB result from marine air that generally flows into the Basin from the San Joaquin River Delta. The Coastal Range hinders wind access into the Valley from the west, the Tehachapi's prevent southerly passage of airflow, and the high Sierra Nevada Mountain Range provides a significant barrier to the east. These topographic features result in weak airflow that becomes restricted vertically by high barometric pressure over the Valley. As a result, the SJVAB is highly susceptible to pollutant accumulation over time. Most of the surrounding mountains are above the normal height of summer inversion layers (1,500-3,000 feet).

2.3 Climate Conditions

Fresno is located in one of the most polluted air basins in the country. Temperature inversions can trap air within the Valley, thereby preventing the vertical dispersal of air pollutants. In addition to topographic conditions, the local climate can also contribute to air quality problems. Climate in Fresno is characterized by warm, dry summers and cool winters with significant Tule fog.

Ozone, classified as a "regional" pollutant, often afflicts areas downwind of the original source of precursor emissions. Ozone can be easily transported by winds from a source area. Peak ozone levels tend to be higher in the southern portion of the Valley, as the prevailing summer winds sweep precursors downwind of northern source areas before concentrations peak. The separate designations reflect the fact that ozone precursor transport depends on daily meteorological conditions.

Other primary pollutants, carbon monoxide (CO), for example, may form high concentrations when wind speed is low. During the winter, Fresno experiences cold temperatures and calm conditions that increase the likelihood of a climate conducive to high CO concentrations.

Precipitation and fog tend to reduce or limit some pollutant concentrations. Ozone needs sunlight for its formation, and clouds and fog block the required radiation. CO is slightly water-soluble, so precipitation and fog tends to "reduce" CO concentrations in the atmosphere. PM10 is somewhat "washed" from the atmosphere with precipitation. Precipitation in the San Joaquin Valley is strongly influenced by the position of the semi-permanent subtropical high-pressure belt located off the Pacific coast. In the winter, this high- pressure system moves southward, allowing Pacific storms to move through the San Joaquin Valley. These storms bring in moist, maritime air that produces considerable precipitation on the western, upslope side of the Coast Ranges. Significant precipitation also occurs on the western side of the Sierra Nevada. On the valley floor, however, there is some down slope flow from the Coast Ranges and the resultant evaporation of moisture from associated warming results in a minimum of precipitation. Nevertheless, the majority of the precipitation falling in the San Joaquin Valley is produced by those storms during the winter. Precipitation during the summer months is in the form of convective rain showers and is rare. It is usually associated with an influx of moisture into the San Joaquin Valley through the San Francisco area during an anomalous flow pattern in the lower layers of the atmosphere. Although the hourly rates of precipitation from these storms may be high, their rarity keeps monthly totals low.

Precipitation on the San Joaquin Valley floor and in the Sierra Nevada decreases from north to south. Stockton in the north receives about 20 inches of precipitation per year, Fresno in the center, receives about 10 inches per year, and Bakersfield at the southern end of the valley receives less than 6 inches per year. This is primarily because the Pacific storm track often passes through the northern part of the state while the southern part of the state remains protected by the Pacific High. Precipitation in the San Joaquin Valley Air Basin (SJVAB) is confined primarily to the winter months with some also occurring in late summer and fall. Average annual rainfall for the entire San Joaquin Valley is approximately 5 to 16 inches. Snowstorms, hailstorms, and ice storms occur infrequently in the San Joaquin Valley and severe occurrences of any of these are very rare.

The winds and unstable air conditions experienced during the passage of storms result in periods of low pollutant concentrations and excellent visibility. Between winter storms, high pressure and light winds allow cold moist air to pool on the San Joaquin Valley floor. This creates strong

low-level temperature inversions and very stable air conditions. This situation leads to the San Joaquin Valley's famous Tule Fogs. The formation of natural fog is caused by local cooling of the atmosphere until it is saturated (dew point temperature). This type of fog, known as radiation fog, is more likely to occur inland. Cooling may also be accomplished by heat radiation losses or by horizontal movement of a mass of air over a colder surface. This second type of fog, known as advection fog, generally occurs along the coast.

Conditions favorable to fog formation are also conditions favorable to high concentrations of CO and PM10. Ozone levels are low during these periods because of the lack of sunlight to drive the photochemical reaction. Maximum CO concentrations tend to occur on clear, cold nights when a strong surface inversion is present and large numbers of fireplaces are in use. A secondary peak in CO concentrations occurs during morning commute hours when a large number of motorists are on the road and the surface inversion has not yet broken.

The water droplets in fog, however, can act as a sink for CO and nitrogen oxides (NOx), lowering pollutant concentrations. At the same time, fog could help in the formation of secondary particulates such as ammonium sulfate. These secondary particulates are believed to be a significant contributor of winter season violations of the PM10 and PM2.5 standards.

2.4 Anthropogenic (Man-made) Sources

In addition to climatic conditions (wind, lack of rain, etc.), air pollution can be caused by anthropogenic or man-made sources. Air pollution in the SJVAB can be directly attributed to human activities, which cause air pollutant emissions. Human causes of air pollution in the Valley consist of population growth, urbanization (gas-fired appliances, residential wood heaters, etc.), mobile sources (i.e., cars, trucks, airplanes, trains, etc.), oil production, agriculture, and other socioeconomic activities. The most significant factors, which are accelerating the decline of air quality in the SJVAB, are the Valley's rapid population growth and its associated increases in traffic, urbanization, and industrial activity.

Carbon monoxide emissions overwhelmingly come from mobile sources in the San Joaquin Valley; on-road vehicles contributed 38 percent, while other mobile vehicles, such as trains, planes, and off-road vehicles, contribute another 20 percent in 2021 according to emission projections from the CARB. Motor vehicles account for significant portions of regional gaseous and particulate emissions. Local large employers such as industrial plants can also generate substantial regional gaseous and particulate emissions. In addition, construction and agricultural activities can generate significant temporary gaseous and particulate emissions (dust, ash, smoke, etc.).

Ozone is the result of a photochemical reaction between Oxides of nitrogen (NOx) and Reactive Organic Gases (ROG). Mobile sources contribute 84 percent of all NOx emitted from anthropogenic sources based on data provided in Appendix B of the Air District's 2016 Ozone

Plan. In addition, mobile sources contribute 26 percent of all the ROG emitted from sources within the San Joaquin Valley.

The principal factors that affect air quality in and around Fresno are:

1. The sink effect, climatic subsidence and temperature inversions and low wind speeds
2. Automobile and truck travel
3. Increases in mobile and stationary pollutants generated by local urban growth

Automobiles, trucks, buses and other vehicles using hydrocarbon (HC) fuels release exhaust products into the air. Each vehicle by itself does not release large quantities; however, when considered as a group, the cumulative effect is significant.

Other sources may not seem to fit into any one of the major categories or they may seem to fit in a number of them. These could include agricultural uses, dirt roads, animal shelters; animal feed lots, chemical plants and industrial waste disposal, which may be a source of dust, odors, or other pollutants. For Fresno County, this category includes several agriculturally related activities, such as plowing, harvesting, dusting with herbicides and pesticides and other related activities. Finally, industrial contaminants and their potential to produce various effects depend on the size and type of industry, pollution controls, local topography, and meteorological conditions. Major sources of industrial emissions in Fresno County consist of agricultural production and processing operations.

The primary contributors of PM10 emissions in the San Joaquin Valley are farming activities (22%) and road dust, both paved and unpaved (35%) in 2020 according to emission projections from the CARB. Fugitive windblown dust from “open” fields contributed 14 percent of the PM10.

The four major sources of air pollutant emissions in the SJVAB include industrial plants, motor vehicles, construction activities, and agricultural activities. Industrial plants account for significant portions of regional gaseous and particulate emissions. Motor vehicles, including those from large employers, generate substantial regional gaseous and particulate emissions. Finally, construction and agricultural activities can generate significant temporary gaseous and particulate emissions (dust, ash, smoke, etc.). In addition to these primary sources of air pollution, urban areas upwind from Fresno County including areas north and west of the San Joaquin Valley, can cause or generate emissions that are transported into Fresno County. All four of the major pollutant sources affect ambient air quality throughout the Air Basin.

2.4.1 *Motor Vehicles*

Automobiles, trucks, buses and other vehicles using hydrocarbon fuels release exhaust products into the air. Each vehicle by itself does not release large quantities; however, when considered as a group, the cumulative effect is significant.

2.4.2 *Agricultural and Other Miscellaneous Activities*

Other sources may not seem to fit into any one of the major categories or they may seem to fit in a number of them. These could include agricultural uses, dirt roads, animal shelters, animal feed lots, chemical plants and industrial waste disposal, which may be a source of dust, odors, or other pollutants. For Fresno, this category includes several agriculturally related activities, such as plowing, harvesting, dusting with herbicides and pesticides and other related activities.

2.4.3 *Industrial Plants*

Industrial contaminants and their potential to produce various effects depend on the size and type of industry, pollution controls, local topography, and meteorological conditions. Major sources of industrial emissions in Fresno County consist of agricultural production and processing operations.

2.5 San Joaquin Valley Air Basin Monitoring

SJVAPCD and the CARB maintain numerous air quality monitoring sites throughout each County in the Air Basin to measure ozone, PM2.5, and PM10. It is important to note that the federal ozone 1-hour standard was revoked by the EPA and is no longer applicable for federal standards. The closest monitoring station to the Project is located at Fresno-Garland Monitoring Station. The station monitors particulates, ozone, carbon monoxide, and nitrogen dioxide. Monitoring data for the past three years is summarized in Table 2.

Table 3 identifies Fresno County's attainment status. As indicated, the SJVAB is nonattainment for Ozone (1 hour and 8 hour) and PM. In accordance with the FCAA, EPA uses the design value at the time of standard promulgation to assign nonattainment areas to one of several classes that reflect the severity of the nonattainment problem; classifications range from marginal nonattainment to extreme nonattainment. The FCAA contains provisions for changing the classifications using factors such as clean air progress rates and requests from States to move areas to a higher classification.

On April 16, 2004 EPA issued a final rule classifying the SJVAB as extreme nonattainment for Ozone, effective May 17, 2004 (69 FR 20550). The (federal) 1-hour ozone standard was revoked on June 6, 2005. However, many of the requirements in the 1-hour attainment plan (SIP) continue to apply to the SJVAB. The current ozone plan is the (federal) 8-hour ozone plan adopted in 2007. The SJVAB was reclassified from a "serious" nonattainment area for the 8-hour ozone standard to "extreme" effective June 4, 2010.

Table 2
Maximum Pollutant Levels at Fresno
Fresno-Garland Monitoring Station

Pollutant	Time Averaging	2020 Maximums	2021 Maximums	2022 Maximums	Standards National	Standards State
Ozone (O_3)	1 hour	0.119 ppm	0.112 ppm	0.096 ppm	0.113 ppm	0.114 ppm
Ozone (O_3)	8 hour	0.099ppm	0.093 ppm	0.083 ppm	0.070 ppm	0.070 ppm
Nitrogen Dioxide (NO_2)	1 hour	47.5 ppm	56.3 ppm	54.7 ppm	46 ppm	54 ppm
Nitrogen Dioxide (NO_2)	Annual Average	10 ppm	8 ppm	8 ppm	8 ppm	9 ppm
Particulates (PM_{10})	24 hour	296.4 µg/m^3	281.0 µg/m^3	116.1 µg/m^3	42 µg/m^3	48 µg/m^3
Particulates (PM_{10})	Federal Annual Arithmetic Mean	48 µg/m^3	41.4 µg/m^3	37.2 µg/m^3	-	18 µg/m^3
Particulates ($PM_{2.5}$)	24 hour	193.7 µg/m^3	104.6 µg/m^3	41.9 µg/m^3	15.5 µg/m^3	-
Particulates ($PM_{2.5}$)	Federal Annual Arithmetic Mean	18.6 µg/m3	15.7 µg/m3	-	-	18 µg/m3

Source: California Air Resources Board (ADAM) Air Pollution Summaries

"-"represents insufficient data available to determine the value.

Table 3
Fresno County Attainment Status

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone - 1 Hour	Revoked in 2005	Nonattainment
Ozone - 8 Hour	Nonattainment/Extreme	No State Standard
PM10	Attainment	Nonattainment
PM2.5	Nonattainment	Nonattainment
Carbon Monoxide	Unclassified/Attainment	Unclassified
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Unclassified/Attainment	Attainment
Lead (Particulate)	Unclassified/Attainment	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified

Source: CARB Website, 2024

a. Though the Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).

Notes:

National Designation Categories

Non-Attainment Area: Any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant.

Unclassified/Attainment Area: Any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant or meets the national primary or secondary ambient air quality standard for the pollutant.

State Designation Categories

Unclassified: A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or non-attainment.

Attainment: A pollutant is designated attainment if the State standard for that pollutant was not violated at any site in the area during a three-year period.

Non-attainment: A pollutant is designated non-attainment if there was at least one violation of a State standard for that pollutant in the area.

Non-Attainment/Transitional: A subcategory of the non-attainment designation. An area is designated non-attainment/transitional to signify that the area is close to attaining the standard for the pollutant.

2.6 Air Quality Standards

The FCAA, first adopted in 1963, and periodically amended since then, established National Ambient Air Quality Standards (NAAQS). A set of 1977 amendments determined a deadline for the attainment of these standards. That deadline has passed. Other CAA amendments, passed in 1990, share responsibility with the State in reducing emissions from mobile sources.

In 1988, the State of California passed the CCAA (State 1988 Statutes, Chapter 568), which set forth a program for achieving more stringent California Ambient Air Quality Standards. The CARB implements State ambient air quality standards, as required in the CCAA, and cooperates with the federal government in implementing pertinent sections of the FCAA Amendments (FCAAA). Further, CARB regulates vehicular emissions throughout the State. The SJVAPCD regulates stationary sources, as well as some mobile sources. Attainment of the more stringent State PM10 Air Quality Standards is not currently required.

The EPA uses six "criteria pollutants" as indicators of air quality and has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called the NAAQS.

The SJVAPCD operates regional air quality monitoring networks that provide information on average concentrations of pollutants for which State or federal agencies have established ambient air quality standards. Descriptions of nine pollutants of importance in Fresno County follow.

2.6.1 *Ozone (1-hour and 8-hour)*

The most severe air quality problem in the Air Basin is the high level of ozone. Ozone occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. Here, ground level, or "bad" ozone, is an air pollutant that damages human health, vegetation, and many common materials. It is a key ingredient of urban smog. The troposphere extends to a level about 10 miles up, where it meets the second layer, the stratosphere. The stratospheric, or "good" ozone layer, extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays.

"Bad" ozone is what is known as a photochemical pollutant. It needs reactive organic gases (ROG), NOx, and sunlight. ROG and NOx are emitted from various sources throughout Fresno County. In order to reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors.

Significant ozone formation generally requires an adequate amount of precursors in the atmosphere and several hours in a stable atmosphere with strong sunlight. High ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

Ozone is a regional air pollutant. It is generated over a large area and is transported and spread by wind. Ozone, the primary constituent of smog, is the most complex, difficult to control, and pervasive of the criteria pollutants. Unlike other pollutants, ozone is not emitted directly into the air by specific sources. Ozone is created by sunlight acting on other air pollutants (called precursors), specifically NOx and ROG. Sources of precursor gases to the photochemical reaction that form ozone number in the thousands. Common sources include consumer products, gasoline vapors, chemical solvents, and combustion products of various fuels. Originating from gas stations, motor vehicles, large industrial facilities, and small businesses such as bakeries and dry cleaners, the ozone-forming chemical reactions often take place in another location, catalyzed by sunlight and heat. High ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins. Approximately 50 million people lived in counties with air quality levels above the EPA's health-based national air quality standard in 1994. The highest levels of ozone were recorded in Los Angeles, closely followed by the San Joaquin Valley. High levels also persist in other heavily populated areas, including the Texas Gulf Coast and much of the Northeast.

While the ozone in the upper atmosphere absorbs harmful ultraviolet light, ground-level ozone is damaging to the tissues of plants, animals, and humans, as well as to a wide variety of inanimate materials such as plastics, metals, fabrics, rubber, and paints. Societal costs from ozone damage include increased medical costs, the loss of human and animal life, accelerated replacement of industrial equipment, and reduced crop yields.

✓ ***Health Effects***

While ozone in the upper atmosphere protects the earth from harmful ultraviolet radiation, high concentrations of ground-level ozone can adversely affect the human respiratory system. Many respiratory ailments, as well as cardiovascular disease, are aggravated by exposure to high ozone levels. Ozone also damages natural ecosystems, such as: forests and foothill communities; agricultural crops; and some man-made materials, such as rubber, paint, and plastic. High levels of ozone may negatively affect immune systems, making people more susceptible to respiratory illnesses, including bronchitis and pneumonia. Ozone accelerates aging and exacerbates pre-existing asthma and bronchitis and, in cases with high concentrations, can lead to the development of asthma in active children. Active people, both children and adults, appear to be more at risk from ozone exposure than those with a low level of activity. Additionally, the elderly and those with respiratory disease are also considered sensitive populations for ozone.

People who work or play outdoors are at a greater risk for harmful health effects from ozone. Children and adolescents are also at greater risk because they are more likely than adults to spend time engaged in vigorous activities. Research indicates that children under 12 years of age spend nearly twice as much time outdoors daily than adults. Teenagers spend at least twice as much time as adults in active sports and outdoor activities. In addition, children

inhale more air per pound of body weight than adults, and they breathe more rapidly than adults. Children are less likely than adults to notice their own symptoms and avoid harmful exposures.

Ozone is a powerful oxidant—it can be compared to household bleach, which can kill living cells (such as germs or human skin cells) upon contact. Ozone can damage the respiratory tract, causing inflammation and irritation, and it can induce symptoms such as coughing, chest tightness, shortness of breath, and worsening of asthmatic symptoms. Ozone in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. Exposure to levels of ozone above the current ambient air quality standard leads to lung inflammation and lung tissue damage and a reduction in the amount of air inhaled into the lungs.

The CARB found ozone standards in Fresno County nonattainment of Federal and State standards.

2.6.2 *Suspended PM (PM10 and PM2.5)*

Particulate matter pollution consists of very small liquid and solid particles that remain suspended in the air for long periods. Some particles are large or concentrated enough to be seen as soot or smoke. Others are so small they can be detected only with an electron microscope. Particulate matter is a mixture of materials that can include smoke, soot, dust, salt, acids, and metals. Particulate matter is emitted from stationary and mobile sources, including diesel trucks and other motor vehicles; power plants; industrial processes; wood-burning stoves and fireplaces; wildfires; dust from roads, construction, landfills, and agriculture; and fugitive windblown dust. PM10 refers to particles less than or equal to 10 microns in aerodynamic diameter. PM2.5 refers to particles less than or equal to 2.5 microns in aerodynamic diameter and are a subset of PM10. Particulates of concern are those that are 10 microns or less in diameter. These are small enough to be inhaled, pass through the respiratory system and lodge in the lungs, possibly leading to adverse health effects.

In the western United States, there are sources of PM10 in both urban and rural areas. Because particles originate from a variety of sources, their chemical and physical compositions vary widely. The composition of PM10 and PM2.5 can also vary greatly with time, location, the sources of the material and meteorological conditions. Dust, sand, salt spray, metallic and mineral particles, pollen, smoke, mist, and acid fumes are the main components of PM10 and PM2.5. In addition to those listed previously, secondary particles can also be formed as precipitates from chemical and photochemical reactions of gaseous sulfur dioxide (SO2) and NOx in the atmosphere to create sulfates (SO4) and nitrates (NO3). Secondary particles are of greatest concern during the winter months where low inversion layers tend to trap the precursors of secondary particulates.

The District's 2008 PM2.5 Plan built upon the aggressive emission reduction strategy adopted in

the 2007 Ozone Plan and strives to bring the valley into attainment status for the 1997 NAAQS for PM2.5. The District's 2012 PM2.5 Plan provides multiple control strategies to reduce emissions of PM2.5 and other pollutants that form PM2.5. The plan's comprehensive control strategy includes regulatory actions, incentive programs, technology advancement, policy and legislative positions, public outreach, participation and communication, and additional strategies.

✓ ***Health Effects***

PM10 and PM2.5 particles are small enough—about one-seventh the thickness of a human hair, or smaller—to be inhaled and lodged in the deepest parts of the lung where they evade the respiratory system's natural defenses. Health problems begin as the body reacts to these foreign particles. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, and coughing, bronchitis, and respiratory illnesses in children. Recent mortality studies have shown a statistically significant direct association between mortality and daily concentrations of particulate matter in the air. Non-health-related effects include reduced visibility and soiling of buildings. PM10 can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. PM10 and PM2.5 can aggravate respiratory disease and cause lung damage, cancer, and premature death.

Although particulate matter can cause health problems for everyone, certain people are especially vulnerable to adverse health effects of PM10. These "sensitive populations" include children, the elderly, exercising adults, and those suffering from chronic lung disease such as asthma or bronchitis. Of greatest concern are recent studies that link PM10 exposure to the premature death of people who already have heart and lung disease, especially the elderly. Acidic PM10 can also damage manmade materials and is a major cause of reduced visibility in many parts of the United States.

The CARB found PM10 standards in Fresno County in attainment of Federal standards and nonattainment for State standards. The CARB found PM2.5 standards in Fresno County nonattainment of Federal and State standards.

2.6.3 *Carbon Monoxide (CO)*

Carbon monoxide (CO) is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. CO is an odorless, colorless, poisonous gas that is highly reactive. CO is a byproduct of motor vehicle exhaust, contributes more than two thirds of all CO emissions nationwide. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions. These emissions can result in high concentrations of CO, particularly in local areas with heavy traffic congestion. Other sources of CO emissions include industrial processes and fuel combustion in sources such as boilers and incinerators. Despite an overall

downward trend in concentrations and emissions of CO, some metropolitan areas still experience high levels of CO.

✓ ***Health Effects***

CO enters the bloodstream and binds more readily to hemoglobin than oxygen, reducing the oxygen-carrying capacity of blood and thus reducing oxygen delivery to organs and tissues. The health threat from CO is most serious for those who suffer from cardiovascular disease. Healthy individuals are also affected but only at higher levels of exposure. At high concentrations, CO can cause heart difficulties in people with chronic diseases and can impair mental abilities. Exposure to elevated CO levels is associated with visual impairment, reduced work capacity, reduced manual dexterity, poor learning ability, difficulty performing complex tasks, and in prolonged, enclosed exposure, death.

The adverse health effects associated with exposure to ambient and indoor concentrations of CO are related to the concentration of carboxyhemoglobin (COHb) in the blood. Health effects observed may include an early onset of cardiovascular disease; behavioral impairment; decreased exercise performance of young, healthy men; reduced birth weight; sudden infant death syndrome (SIDS); and increased daily mortality rate.

Most of the studies evaluating adverse health effects of CO on the central nervous system examine high-level poisoning. Such poisoning results in symptoms ranging from common flu and cold symptoms (shortness of breath on mild exertion, mild headaches, and nausea) to unconsciousness and death.

The CARB found CO standards in Fresno County as unclassified/attainment of Federal standards and attainment for State standards.

2.6.4 *Nitrogen Dioxide (NO2)*

Nitrogen oxides (NOx) is a family of highly reactive gases that are primary precursors to the formation of ground-level ozone and react in the atmosphere to form acid rain. NOx is emitted from combustion processes in which fuel is burned at high temperatures, principally from motor vehicle exhaust and stationary sources such as electric utilities and industrial boilers. A brownish gas, NOx is a strong oxidizing agent that reacts in the air to form corrosive nitric acid, as well as toxic organic nitrates. EPA regulates only nitrogen dioxide (NO2) as a surrogate for this family of compounds because it is the most prevalent form of NOx in the atmosphere that is generated by anthropogenic (human) activities.[1]

✓ ***Health Effects***

NOx is an ozone precursor that combines with Reactive Organic Gases (ROG) to form ozone.

1 United States Environmental Protection Agency (EPA), Nitrogen Oxides (NOx). Why and How They Are Controlled, 456/F-99-006R, November 2019

See the ozone section above for a discussion of the health effects of ozone.

Direct inhalation of NOx can also cause a wide range of health effects. NOx can irritate the lungs, cause lung damage, and lower resistance to respiratory infections such as influenza. Short-term exposures (e.g., less than 3 hours) to low levels of nitrogen dioxide (NO2) may lead to changes in airway responsiveness and lung function in individuals with preexisting respiratory illnesses. These exposures may also increase respiratory illnesses in children. Long-term exposures to NO2 may lead to increased susceptibility to respiratory infection and may cause irreversible alterations in lung structure. Other health effects associated with NOx are an increase in the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO2 may lead to eye and mucus membrane aggravation, along with pulmonary dysfunction. NOx can cause fading of textile dyes and additives, deterioration of cotton and nylon, and corrosion of metals due to production of particulate nitrates. Airborne NOx can also impair visibility. NOx is a major component of acid deposition in California. NOx may affect both terrestrial and aquatic ecosystems. NOx in the air is a potentially significant contributor to a number of environmental effects such as acid rain and eutrophication in coastal waters. Eutrophication occurs when a body of water suffers an increase in nutrients that reduce the amount of oxygen in the water, producing an environment that is destructive to fish and other animal life.

NO2 is toxic to various animals as well as to humans. Its toxicity relates to its ability to combine with water to form nitric acid in the eye, lung, mucus membranes, and skin. Studies of the health impacts of NO2 include experimental studies on animals, controlled laboratory studies on humans, and observational studies.

In animals, long-term exposure to NOx increases susceptibility to respiratory infections, lowering their resistance to such diseases as pneumonia and influenza. Laboratory studies show susceptible humans, such as asthmatics, exposed to high concentrations of NO2, can suffer lung irritation and, potentially, lung damage. Epidemiological studies have also shown associations between NO2 concentrations and daily mortality from respiratory and cardiovascular causes as well as hospital admissions for respiratory conditions.

NOx contributes to a wide range of environmental effects both directly and when combined with other precursors in acid rain and ozone. Increased nitrogen inputs to terrestrial and wetland systems can lead to changes in plant species composition and diversity. Similarly, direct nitrogen inputs to aquatic ecosystems such as those found in estuarine and coastal waters can lead to eutrophication as discussed above. Nitrogen, alone or in acid rain, also can acidify soils and surface waters. Acidification of soils causes the loss of essential plant nutrients and increased levels of soluble aluminum, which is toxic to plants. Acidification of surface waters creates conditions of low pH and levels of aluminum that are toxic to fish and other aquatic organisms.

The CARB found NO2 standards in Fresno County as unclassified/attainment of Federal standards and attainment for State standards.

2.6.5 *Sulfur Dioxide (SO2)*

The major source of sulfur dioxide (SO2) is the combustion of high-sulfur fuels for electricity generation, petroleum refining and shipping. High concentrations of SO2 can result in temporary breathing impairment for asthmatic children and adults who are active outdoors. Short-term exposures of asthmatic individuals to elevated SO2 levels during moderate activity may result in breathing difficulties that can be accompanied by symptoms such as wheezing, chest tightness, or shortness of breath. Other effects that have been associated with longer-term exposures to high concentrations of SO2, in conjunction with high levels of PM, include aggravation of existing cardiovascular disease, respiratory illness, and alterations in the lungs' defenses. SO2 also is a major precursor to PM2.5, which is a significant health concern and a main contributor to poor visibility. In humid atmospheres, sulfur oxides can react with vapor to produce sulfuric acid, a component of acid rain.

The CARB found SO2 standards in Fresno County as unclassified for Federal standards and attainment for State standards.

2.6.6 *Lead (Pb)*

Lead, a naturally occurring metal, can be a constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, so it essentially persists forever. Lead was used until recently to increase the octane rating in automobile fuel. Since the 1980s, lead has been phased out in gasoline, reduced in drinking water, reduced in industrial air pollution, and banned or limited in consumer products. Gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels; however, the use of leaded fuel has been mostly phased out. Since this has occurred the ambient concentrations of lead have dropped dramatically.

Exposure to lead occurs mainly through inhalation of air and ingestion of lead in food, water, soil, or dust. It accumulates in the blood, bones, and soft tissues and can adversely affect the kidneys, liver, nervous system, and other organs. Excessive exposure to lead may cause neurological impairments such as seizures, mental retardation, and behavioral disorders. Even at low doses, lead exposure is associated with damage to the nervous systems of fetuses and young children. Effects on the nervous systems of children are one of the primary health risk concerns from lead. In high concentrations, children can even suffer irreversible brain damage and death. Children 6 years old and under are most at risk, because their bodies are growing quickly.

The CARB found Lead standards in Fresno County as unclassified/attainment of Federal standards and attainment for State standards.

2.6.7 *Toxic Air Contaminants (TAC)*

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TAC) are another group of pollutants of concern. TAC are injurious in small quantities and are regulated despite

the absence of criteria documents. The identification, regulation and monitoring of TAC is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TAC are regulated on the basis of risk rather than specification of safe levels of contamination. The ten TAC are acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (diesel PM). Caltrans' guidance for transportation studies references the Federal Highway Administration (FHWA) memorandum titled "Interim Guidance on Air Toxic Analysis in NEPA Documents" which discusses emissions quantification of six "priority" compounds of 21 Mobile Source Air Toxics (MSAT) identified by the United States Environmental Protection Agency (USEPA). The six "priority" compounds are diesel exhaust (particulate matter and organic gases), benzene, 1,3-butadiene, acetaldehyde, formaldehyde, and acrolein.

Some studies indicate that diesel PM poses the greatest health risk among the TAC listed above. A 10-year research program (California Air Resources Board 1998) demonstrated that diesel PM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to diesel PM poses a chronic health risk. In addition to increasing the risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

Diesel PM differs from other TAC in that it is not a single substance but a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies, depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TAC, however, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. The CARB has made preliminary concentration estimates based on a diesel PM exposure method. This method uses the CARB emissions inventory's PM10 database, ambient PM10 monitoring data, and the results from several studies to estimate concentrations of diesel PM. Table 4 depicts the CARB Handbook's recommended buffer distances associated with various types of common sources.

Existing air quality concerns within Fresno and the entire SJVAB are related to increases of regional criteria air pollutants (e.g., ozone and particulate matter), exposure to toxic air contaminants, odors, and increases in greenhouse gas emissions contributing to climate change. The primary source of ozone (smog) pollution is motor vehicles. Particulate matter is caused by dust, primarily dust generated from construction and grading activities, and smoke which is emitted from fireplaces, wood-burning stoves, and agricultural burning.

TABLE 4

Recommendations on Siting New Sensitive Land Uses Such As Residences, Schools, Daycare Centers, Playgrounds, or Medical Facilities*

SOURCE CATEGORY	ADVISORY RECOMMENDATIONS
Freeways and High-Traffic Roads [1]	- Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	- Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). - Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	- Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. - Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	- Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the ARB on the status of pending analyses of health risks.
Refineries	- Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	- Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	- Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. - Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations.
Gasoline Dispensing Facilities	- Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.

1: The recommendation to avoid siting new sensitive land uses within 500 feet of a freeway was identified in CARB's Air Quality and Land Use Handbook published in 2005. CARB recently published a technical advisory to the Air Quality and Land Use Handbook indicating that new research has demonstrated promising strategies to reduce pollution exposure along transportation corridors.

*Notes:
• These recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.
• Recommendations are based primarily on data showing that the air pollution exposures addressed here (i.e., localized) can be reduced as much as 80% with the recommended separation.
• The relative risk for these categories varies greatly (see Table 1-2). To determine the actual risk near a particular facility, a site-specific analysis would be required. Risk from diesel PM will decrease over time as cleaner technology phases in.
• These recommendations are designed to fill a gap where information about existing facilities may not be readily available and are not designed to substitute for more specific information if it exists. The recommended distances take into account other factors in addition to available health risk data (see individual category descriptions).
• Site-specific project design improvements may help reduce air pollution exposures and should also be considered when siting new sensitive land uses.
• This table does not imply that mixed residential and commercial development in general is incompatible. Rather it focuses on known problems like dry cleaners using perchloroethylene that can be addressed with reasonable preventative actions.
• A summary of the basis for the distance recommendations can be found in the ARB Handbook: Air Quality and Land Use Handbook: A Community Health Perspective.

Source: SJVAPCD 2024

2.6.8 *Odors*

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

The intensity of an odor source's operations and its proximity to sensitive receptors influences the potential significance of odor emissions. The SJVAPCD has identified some common types of facilities that have been known to produce odors in the SJVAB. The types of facilities that are known to produce odors are shown in Table 5 along with a reasonable distance from the source within which, the degree of odors could possibly be significant. The Project does not propose any uses that would be potential odor sources; however, the information presented in Table 5 will be used as a screening level analysis to determine if the Project would be impacted by existing odor sources in the study area. Such information is presented for informational purposes, but it is noted that the environment's effect on the Project, including exposure to potential odors, would not be an impact for CEQA purposes.

TABLE 5
Screening Levels for Potential Odor Sources

Type of Facility	Distance
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Compositing Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g. auto body shops)	1 mile
Food Processing Facility	1 mile
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile

Source: SJVAPCD 2024

2.6.9 *Naturally Occurring Asbestos (NOA)*

Asbestos is a term used for several types of naturally occurring fibrous minerals found in many parts of California. The most common type of asbestos is chrysotile, but other types are also found in California. Asbestos is commonly found in ultramafic rock and near fault zones. The amount of asbestos that is typically present in these rocks' ranges from less than 1% up to approximately 25% and sometimes more. It is released from ultramafic rock when it is broken or crushed. This can happen when cars drive over unpaved roads or driveways, which are surfaced with these rocks, when land is graded for building purposes, or at quarrying operations. Asbestos is also released naturally through weathering and erosion. Once released from the rock, asbestos can become airborne and may stay in the air for long periods of time. Asbestos is hazardous and can cause lung disease and cancer dependent upon the level of exposure. The longer a person is exposed to asbestos and the greater the intensity of the exposure, the greater the chances for a health problem.

The proposed Project's construction phase may cause asbestos to become airborne due to the construction activities that will occur on site. The Project would be required to submit a Dust Control Plan under the SJVAPCD's Rule 8021.

2.6.10 *Greenhouse Gas Emissions*

Gases that trap heat in the atmosphere are often called greenhouse gases. Some greenhouse gases such as carbon dioxide occur naturally and are emitted to the atmosphere through natural processes and human activities. Other greenhouse gases (e.g., fluorinated gases) are created and emitted solely through human activities. The principal greenhouse gases that enter the

atmosphere because of human activities are:

- ✓ **Carbon Dioxide (CO2):** Carbon dioxide enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and also as a result of other chemical reactions (e.g., manufacture of cement, asphalt paving, truck trips). Carbon dioxide is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.
- ✓ **Methane (CH4):** Methane is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.
- ✓ **Nitrous Oxide (N2O):** Nitrous oxide is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.
- ✓ **Fluorinated Gases:** Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are synthetic, powerful greenhouse gases that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances (i.e., CFCs, HCFCs, and halons). These gases are typically emitted in smaller quantities, but because they are potent greenhouse gases, they are sometimes referred to as High Global Warming Potential gases ("High GWP gases").

3.0 Air-Quality Impacts

3.1 Methodology

The impact assessment for air quality focuses on potential effects the Project might have on air quality within the Fresno region. The SJVAPCD has established thresholds of significance for determining environmental significance. These thresholds separate a project's short-term emissions from its long-term emissions. The short-term emissions are mainly related to the construction phase of a project, which are recognized to be short in duration. The long-term emissions are primarily related to the activities that will occur indefinitely as a result of Project operations. Impacts will be evaluated both on the basis of CEQA Appendix G criteria and SJVAPCD significance criteria. The impacts to be evaluated will be those involving construction and operational emissions of criteria pollutants. The SJVAPCD has established thresholds for certain pollutants shown in Table 6.

Table 6
SJVAPCD Air Quality Thresholds of Significance

Project Type	Ozone Precursor Emissions (tons/year)					
	CO	NO_X	ROG	SO_X	PM_{10}	$PM_{2.5}$
Construction Emissions	100	10	10	27	15	15
Operational Emissions (Permitted Equipment and Activities)	100	10	10	27	15	15
Operational Emissions (Non-Permitted Equipment and Activities)	100	10	10	27	15	15

Source: SJVAPCD 2024

3.1.1 *CalEEMod*

CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects. The model quantifies direct emissions from construction and operations (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use.

The model is an accurate and comprehensive tool for quantifying air quality impacts from land use projects throughout California. The model can be used for a variety of situations where an air quality analysis is necessary or desirable such as CEQA and NEPA documents, pre-project planning, compliance with local air quality rules and regulations, etc.

3.2 Short-Term Impacts

Short-term impacts are mainly related to the construction phase of a project and are recognized to be short in duration. Construction air quality impacts are generally attributable to dust and exhaust pollutants generated by equipment and vehicles. Fugitive dust is emitted both during construction activity and as a result of wind erosion over exposed earth surfaces. Clearing and earth moving activities do comprise major sources of construction dust emissions, but traffic and general disturbances of soil surfaces also generate significant dust emissions. Further, dust generation is dependent on soil type and soil moisture. Exhaust pollutants are the non-useable gaseous waste products produced during the combustion process. Engine exhaust contains CO, HC, and NOx pollutants which are harmful to the environment.

Adverse effects of construction activities cause increased dust-fall and locally elevated levels of total suspended particulate. Dust-fall can be a nuisance to neighboring properties or previously completed developments surrounding or within the Project area and may require frequent washing during the construction period.

PM10 emissions can result from construction activities of the Project. The SJVAPCD has determined that compliance with Regulation VIII and other control measures will constitute sufficient mitigation to reduce PM10 impacts to a level considered less-than significant for most development projects. Even with implementation of District Regulation VIII and District Rule 9510, large development projects may not be able to reduce project specific construction impacts below District thresholds of significance.

Ozone precursor emissions are also an impact of construction activities and can be quantified through calculations. Numerous variables factored into estimating total construction emission include level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, weather conditions, number of construction personnel, and amount of materials to be transported onsite or offsite. Additional exhaust emissions would be associated with the transport of workers and materials. Because the specific mix of construction equipment is not presently known for this Project, construction emissions were estimated using CalEEMod Model defaults for construction equipment.

Table 7 shows the CalEEMod estimated construction emissions that would be generated from construction of the Project. Results of the analysis show that emissions generated from construction of the Project will not exceed the SJVAPCD emission thresholds.

Table 7
Project Construction Emissions (tons/year)

Summary Report	CO	NO_X	ROG	SO_x	PM_{10}	$PM_{2.5}$	CO2e
Project Construction Emissions	2.00	1.76	0.40	<0.005	0.32	0.18	356.00
SJVAPCD Level of Significance	100	10	10	27	15	15	None
Does the Project Exceed Standard?	No	No	No	No	No	No	No

Source: CalEEMod

3.3 Long-Term Emissions

Long-Term emissions from the Project would be generated primarily by mobile source (vehicle) emissions from the Project site and area sources such as lawn maintenance equipment.

3.3.1 *Localized Operational Emissions – Ozone/Particulate Matter*

The Fresno County area is nonattainment for Federal and State air quality standards for ozone, attainment of Federal standards for PM10 and nonattainment for State standards, and nonattainment for Federal and State standards for PM2.5. Nitrogen oxides and reactive organic gases are regulated as ozone precursors. Significant criteria have been established for criteria pollutant emissions as documented in Section 3.1. Operational emissions have been estimated for the Project using the CalEEMod Model and detailed results are included in Appendix A of this report.

Results of the CalEEMod analysis are shown in Table 8. Results indicate that the annual operational emissions from the Project will be less than the SJVAPCD emission thresholds for criteria pollutants.

Table 8
Project Operational Emissions (tons/year)

Summary Report	CO	NO_X	ROG	SO_x	PM_{10}	$PM_{2.5}$	CO2e
Project Opeational Emissions	2.54	0.37	0.80	0.01	0.45	0.17	614.00
SJVAPCD Level of Significance	100	10	10	27	15	15	None
Does the Project Exceed Standard?	No	No	No	No	No	No	No

Source: CalEEMod

3.3.2 *Other Localized Operational Emissions*

✓ **Carbon Monoxide**

The SJVAPCD is currently in unclassified/attainment for Federal standards and unclassified for State standards for CO. An analysis of localized CO concentrations is typically warranted to ensure that standards are maintained. Also, an analysis is required to ensure that localized

concentrations don't reach potentially unhealthful levels that could affect sensitive receptors (residents, school children, hospital patients, the elderly, etc.).

Typically, high CO concentrations are associated with roadways or intersections operating at an unacceptable Level of Service (LOS). CO "Hot Spot" modeling is required if a traffic study reveals that the project will reduce the LOS on one or more streets to E or F or if the project will worsen an existing LOS F.

To analyze the Cumulative Year 2046 Plus Project "worst case" CO concentrations at study roadway segments, the analysis methodology considered the highest annual maximum CO concentration reported in 2013, using 1.0 PPM as an estimate of the background concentration for the 8-hour standard and 2.2 PPM for the 1-hour standard (source: CARB annual publications). Other modeling assumptions include a wind speed of .5 m/s, flat topography, 1,000-meter mixing height, and a 5-degree wind deviation.

✓ **Toxic Air Contaminants (TAC)**

The SJVAPCD's Guidance Document, Guidance for Assessing and Mitigating Air Quality Impacts – 2015, identifies the need for projects to analyze the potential for adverse air quality impacts to sensitive receptors. Sensitive receptors refer to those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality). Land uses that have the greatest potential to attract these types of sensitive receptors include schools, parks, playgrounds, daycare centers, nursing homes, hospitals, and residential communities. From a health risk perspective, the Project is a Type B Project in that it may potentially place sensitive receptors in the vicinity of existing sources.

The first step in evaluating the potential for impacts to sensitive receptors for TAC's from the Project is to perform a screening level analysis. For Type B Projects, one type of screening tool is found in the CARB Handbook: Air Quality and Land Use Handbook: A Community Perspective. This handbook includes a table (depicted in Table 4) with recommended buffer distances associated with various types of common sources. The screening level analysis for the Project shows that TAC's are not a concern based upon the recommendations provided in Table 4. An evaluation of nearby land uses considering CARB's Pollution Mapping Tool shows that the Project will not place sensitive receptors in the vicinity of existing toxic sources. The Project is located a 1 mile from the State Route (SR) 180 freeway. Table 4 indicates that new sensitive land uses shouldn't be sited within 500 feet of a freeway/urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day. The Project is located more than 1 miles from the SR 180 freeway. As a result, a health risk assessment is not needed at this time.

✓ **Odors**

Typically, odors are regarded as an annoyance rather than a health hazard. However,

manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the SJVAPCD. Any project with the potential to frequently expose members of the public to objectionable odors should be deemed to have a significant impact.

The SJVAPCD requires that an analysis of potential odor impacts be conducted for the following two situations:

- Generators – projects that would potentially generate odorous emissions proposed to be located near existing sensitive receptors or other land uses where people may congregate, and
- Receivers – residential or other sensitive receptor projects or other projects built for the intent of attracting people locating near existing odor sources.

The Project will not generate odorous emissions given the nature or characteristics of the Project. The intensity of an odor source's operations and its proximity to sensitive receptors influences the potential significance of odor emissions. The SJVAPCD has identified some common types of facilities that have been known to produce odors in the SJV Air Basin. The types of facilities that are known to produce odors are shown in Table 5 above along with a reasonable distance from the source within which, the degree of odors could possibly be significant. None of the facilities shown in Table 5 are located within two (2) miles of the Project.

✓ **Naturally Occurring Asbestos (NOA)**

Asbestos is a term used for several types of naturally occurring fibrous minerals found in many parts of California. The most common type of asbestos is chrysotile, but other types are also found in California. Construction of the Project may cause asbestos to become airborne due to the construction activities that will occur on site. The Project would be

required to submit a Dust Control Plan under the SJVAPCD's Rule 8021. Compliance with Rule 8021 would limit fugitive dust emissions from construction, demolition, excavation, extraction, and other earthmoving activities associated with the Project.

The Dust Control Plan may include the following measures:

1. Water wetting of road surfaces
2. Rinse vehicles and equipment
3. Wet loads of excavated material, and
4. Cover loads of excavated material

✓ **Greenhouse Gas Emissions**

CARB, in consultation with MPOs, has provided each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. For the Fresno COG region, CARB set targets at six (6) percent per capita decrease in 2020 and a thirteen (13) percent per capita decrease in 2035 from a base year of 2005. Fresno COG's 2018 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which was adopted in July 2022, projects that the Fresno County region would achieve the prescribed emissions targets.

In 2009, the SJVAPCD adopted the following guidance documents applicable to projects within the San Joaquin Valley:

- ✓ Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (SJVAPCD 2009), and
- ✓ District Policy: Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency (SJVAPCD 2009).

This guidance and policy are the reference documents referenced in the SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts adopted in March 2015 (SJVAPCD 2015). Consistent with the District Guidance and District Policy above, SJVAPCD (2015) acknowledges the current absence of numerical thresholds, and recommends a tiered approach to establish the significance of the GHG impacts on the environment:

i. If a project complies with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, then the project would be determined to have a less than significant individual and cumulative impact for GHG emissions;
ii. If a project does not comply with an approved GHG emission reduction plan or mitigation program, then it would be required to implement Best Performance Standards (BPS); and
iii. If a project is not implementing BPS, then it should demonstrate that its GHG emissions would be reduced or mitigated by at least 29 percent compared to Business as Usual (BAU).

As shown in Table 9, the Project would generate 903.59 Metric Tons of Carbon Dioxide Equivalent per year (MTCO2eq./year) using an operational year of 2005, which includes area, energy, mobile, waste, and water sources. "Business as usual" (BAU) is referenced in CARB's AB 32 Scoping Plan as emissions projected to occur in 2020 if the average baseline emissions during the 2002-2004 period grew to 2020 levels, without control or Best Performance Standards (BPS) offsets. As a result, an estimate of the Project's operational emissions in 2005 were compared to operational emissions in 2020 in order to determine if the Project meets the 29% emission reduction. The SJVAPCD has reviewed relevant scientific information related to GHG emissions and has determined that they are not able to determine a specific quantitative level of GHG emissions increase, above which a project would have a significant impact on the environment, and below which would have an insignificant impact. As a result, the SJVAPCD has determined that projects achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG. Results of the analysis show that the Project's GHG emissions in the year 2020 is 755.10 MTCO2eq./year. This represents an achievement of 16% GHG emission reduction on the basis of BAU, which does not meet the 29% GHG emission reduction target.

In the event that a local air district's guidance for addressing GHG impacts does not use numerical GHG emissions thresholds, at the lead agency's discretion, a neighboring air district's GHG threshold may be used to determine impacts. On April 20, 2022, the Bay Area Air Quality Management District (BAAQMD) adopted new Project Level Climate Impact Thresholds of Significance which rely upon necessary design elements to achieve California's long-term climate goal of carbon neutrality by 2045. Chapter 3 of BAAQMD's 2022 CEQA Guidelines indicates that a land use project will have a less than significant impact related to operational GHG emissions if:

✓ It includes the following project design elements - **(Part A)**

- Buildings
  - The project will not include natural gas appliances or natural gas plumbing.
  - The project will not result in any wasteful, inefficient, or unnecessary energy use as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines
- Transportation
  - The project will achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target that reflects the recommendations provided in the Governor's

Office of Planning and Research's *Technical Advisory on Evaluating Transportation Impacts in CEQA*:

i. Residential projects: 15 percent below the existing VMT per capita
ii. Office projects: 15 percent below the existing VMT per employee
iii. Retail projects: no net increase in existing VMT

- The project will achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

Project Design Elements - Buildings

Development of the Project will not include natural gas appliances or natural gas plumbing per Project representatives. In addition, the proposed Project will use energy-efficient materials, modern construction practices, and new appliances, following Appliance Efficiency Regulations (Title 20, California Code of Regulations [CCR] Sections 1601-1608). Energy consumption during construction and operation will align with typical residential usage but will vary based on personal choices and building design. The Project, located in an urban area and residential land use under the Fresno General Plan, will comply with the City's energy efficiency policies (General Plan Policies RC-8-a through RC-8-k), ensuring it does not result in wasteful or inefficient energy consumption. The Project is also subject to CCR, Title 24 building standards which would improve the Project's energy efficiency and consumption. The Title 24 California Building Standards Code is a wide-ranging set of requirements for energy conservation and green design that apply to the structural, mechanical, electrical, and plumbing systems in a building.

Project Design Elements - Transportation

The Fresno City Council adopted the *CEQA Guidelines for Vehicles Miles Traveled* on June 25, 2020, which establishes the City of Fresno's threshold of significance for CEQA transportation studies as it relates to VMT. In addition, Fresno COG's *Fresno County SB 743 Implementation Technical Report* (March 2021) also establishes threshold of significance for CEQA transportation studies as it relates to VMT. Both documents indicate that projects that generate a low volume of daily traffic are presumed to create a less than significant impact to VMT and GHG emissions. As noted in the City of Fresno's *CEQA Guidelines for Vehicles Miles Traveled* and Fresno COG's *Fresno County SB 743 Implementation Technical Report*, the emissions of GHG from a project with up to 500 ADT would typically be less than significant. The Project proposes to develop 53 single family dwelling units which is projected to generate 500 daily trips based upon the Institute of Transportation Engineers (ITE) Trip Generation Handbook (53 dwelling units X 9.43[Land Use Code 210 Average Rate] = 499.79). Project design elements also include 'ready to charge' capabilities for each residential unit, to be compliant with off-street electric vehicle requirements in the most recently adopted 2022 CALGreen TIER 2 Residential Measures (A4.106.8).

The Project will meet the project specific design elements identified in **Part A** of the BAAQMD

Project Level Climate Impact Thresholds of Significance. The Project will not conflict with or obstruct California's long-term climate goal of carbon neutrality by 2045. As a result, the Project would have a less than significant impact related to GHG emissions.

Alternative GHG Thresholds

CARB and the South Coast Air Quality Management District (SCAQMD) guidance identifies a numeric threshold of 7,000 and 10,000 MTCO2eq./year, respectively, for annual GHG emissions. While existing GHG emission thresholds developed by other lead agencies were based on consistency with meeting AB 32 goals, they provide some perspective on the GHG emissions generated by the Project. Table 10 shows the yearly GHG emissions generated by the Project as determined by the CalEEMod model, which is approximately 91% less than the threshold identified by CARB and 94% less than the threshold identified by the SCAQMD.

Table 9
2005/2020 Operational greenhouse Gas Emissions

Summary Report	CO_2e
Operational Emissions Per Year (2005)	903.59 MT/yr
Operational Emissions Per Year (2020)	755.10 MT/yr
SJVAPCD Level of Significance	29% Reduction Compared to BAU
Does the Project Meet the Standard	No

Source: CalEEMod

Table 10
Project Operational Greenhouse Gas Emissions

Summary Report	CO_2e
Project Operational Emissions Per Year(Plus amortized construction emissions)	625.9 MT/yr

Source: CalEEMod

4.0 Impact Determinations and Recommended Mitigation

In accordance with CEQA, the effects of a project are evaluated to determine if it will result in project-specific significant adverse impacts on the environment. The criteria used to determine the significance of an air quality or greenhouse gas impact are based on the following thresholds of significance, which come from Appendix G of the CEQA Guidelines. Accordingly, air quality or greenhouse gas impacts resulting from the Project are considered significant if the Project would:

Air Quality

a) Conflict with or obstruct implementation of the applicable air quality plan?
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?
c) Expose sensitive receptors to substantial pollutant concentrations?
d) Result in other emissions such as those leading to odors adversely affecting a substantial number of people?

Greenhouse Gas Emissions

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

4.1 Air Quality

4.1.1 *Conflict with or obstruct implementation of the applicable air quality plan*

As stated in Section 1.2.5 (Regional Agencies), the SJVAPCD is responsible for monitoring and regulating air pollutant emissions from stationary, area, and indirect sources within Fresno County. This includes monitoring air quality and setting and enforcing limits for source emissions. The SJVAPCD has adopted numerous air quality plans, including the 2022 Ozone Plan, 2016 Ozone Plan, 2013 1-Hour Ozone Plan, 2007 PM10 Maintenance Plan, and 2024 Plan for the 2012 Annual PM2.5 Standard to assure attainment of EPA Ozone, PM10 and PM2.5 standards. These air quality plans were created to bring the SJVAB into compliance with the requirements of the federal and state standards.

Consistency with the SJVAPCD's air quality plan(s) would ensure a project is not in conflict with or obstructing the implementation of the air quality plan(s). A project would be consistent with the SJVAPCD's air quality plan(s) if the pollutants emitted from construction and operation of the

project would not exceed the SJVAPCD emission thresholds or cause a significant impact on air quality. The SJVAPCD established the significance thresholds identified in Table 6 (Section 3.1) for purposes of determining if a project will have significant air quality impact.

The annual emissions from the construction phase of the Project will be less than the applicable SJVAPCD emission thresholds for criteria pollutants as shown in Table 7. The construction emissions are therefore considered less than significant with the implementation of the SJVAPCD applicable Regulation VIII control measures. Furthermore, results of the analysis indicate that operational emissions from the Project will not exceed the SJVAPCD emissions threshold for any emissions as shown in Table 8. As a result, the Project will not conflict with or obstruct implementation of any air quality plans. Therefore, no mitigation is needed.

4.1.2 *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard*

The Fresno County area is nonattainment for Federal and State air quality standards for ozone, in attainment of Federal standards and nonattainment for State standards for PM10, and nonattainment for Federal and State standards for PM2.5. The SJVAPCD has prepared the 2022 Ozone Plan, 2016 Ozone Plan, 2013 1-Hour Ozone Plan, 2007 PM10 Maintenance Plan, and 2024 Plan for the 2012 Annual PM2.5 Standard to achieve Federal and State standards for improved air quality in the SJVAB regarding ozone and PM. Inconsistency with any of the plans would be considered a cumulatively adverse air quality impact. As discussed in Section 4.1.1, consistency with the SJVAPCD's air quality plan(s) would ensure a project is not in conflict with or obstructing the implementation of the air quality plan(s). The Project's annual construction and operational emissions would not exceed the SJVAPCD emissions threshold for any emissions as identified in Table 6.

Project specific emissions that exceed the thresholds of significance for criteria pollutants would be expected to result in a cumulatively considerable net increase of any criteria pollutant for which the County is in non-attainment under applicable federal or state ambient air quality standards. It should be noted that a project is not characterized as cumulatively insignificant when project emissions fall below thresholds of significance. The Project does not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment since results of the analysis show that emissions generated from construction and operation of the Project will be less than the applicable SJVAPCD emission thresholds for criteria pollutants. Therefore, no mitigation is needed.

4.1.3 *Expose sensitive receptors to substantial pollutant concentrations*

Sensitive receptors refer to those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality). Land uses that have the greatest potential to attract these types of sensitive receptors

include schools, parks, playgrounds, daycare centers, nursing homes, hospitals, and residential communities. From a health risk perspective, the Project is a Type B project in that it may potentially place sensitive receptors in the vicinity of existing sources.

The first step in evaluating the potential for impacts to sensitive receptors for TAC's from the Project is to perform a screening level analysis. For Type B Projects, one type of screening tool is found in the CARB Handbook: Air Quality and Land Use Handbook: A Community Perspective. This handbook includes a table (depicted in Table 4) with recommended buffer distances associated with various types of common sources. The screening level analysis for the Project shows that TAC's are not a concern based upon the recommendations provided in Table 4. An evaluation of nearby land uses considering CARB's Pollution Mapping Tool shows that the Project will not place sensitive receptors in the vicinity of existing toxic sources. The Project is located a 1 mile from the State Route (SR) 180 freeway. Table 4 indicates that new sensitive land uses shouldn't be sited within 500 feet of a freeway/urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day. The Project is located more than 1 mile from the SR 180 freeway. Therefore, no mitigation is needed.

Short-Term Impacts

The annual emissions from the construction phase of the Project will be less than the applicable SJVAPCD emission thresholds for criteria pollutants as shown in Table 7. The construction emissions are therefore considered less than significant with the implementation of the SJVAPCD applicable Regulation VIII control measures, which are provided below.

1. *All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.*
2. *All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.*
3. *All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.*
4. *When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.*
5. *All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.*
6. *Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.*

7. *Within urban areas, track out shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday.*

Naturally Occurring Asbestos (NOA)

The proposed Project's construction phase may cause asbestos to become airborne due to the construction activities that will occur on site. In order to control naturally-occurring asbestos dust, the Project will be required to submit a Dust Control Plan under the SJVAPCD's Rule 8021. The Dust Control Plan may include the following measures:

1. Water wetting of road surfaces
2. Rinse vehicles and equipment
3. Wet loads of excavated material, and
4. Cover loads of excavated material

Long-Term Impacts

Long-Term emissions from the Project are generated primarily by mobile source (vehicle) emissions from the project site and area sources such as lawn maintenance equipment. Emissions from long-term operations generally represent a project's most substantial air quality impact. Table 8 summarizes the Project's operational impacts by pollutant. Results indicate that operational emissions from the Project will not exceed the SJVAPCD emissions threshold for any emissions, hence no mitigations are required.

4.1.4 *Result in other emissions such as those leading to odors adversely affecting a substantial number of people*

The SJVAPCD requires that an analysis of potential odor impacts be conducted for the following two situations:

- ✓ Generators – projects that would potentially generate odorous emissions proposed to be located near existing sensitive receptors or other land uses where people may congregate, and

- ✓ Receivers – residential or other sensitive receptor projects or other projects built for the intent of attracting people located near existing odor sources.

The proposed Project will not generate odorous emissions given the nature or characteristics of residential developments. The intensity of an odor source's operations and its proximity to sensitive receptors influences the potential significance of odor emissions. The SJVAPCD has identified some common types of facilities that have been known to produce odors in the SJV Air Basin. The types of facilities that are known to produce odors are shown in Table 5 above along with a reasonable distance from the source within which, the degree of odors could possibly be

significant. None of the facilities shown in Table 5 are located within two (2) miles of the Project. Therefore, no mitigation is needed.

4.2 Greenhouse Gas Emissions

4.2.1 *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment*

In 2009, the SJVAPCD adopted the following guidance documents applicable to projects within the San Joaquin Valley:

- ✓ Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (SJVAPCD 2009), and
- ✓ District Policy: Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency (SJVAPCD 2009).

This guidance and policy are the reference documents referenced in the SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts adopted in March 2015 (SJVAPCD 2015). Consistent with the District Guidance and District Policy above, SJVAPCD (2015) acknowledges the current absence of numerical thresholds, and recommends a tiered approach to establish the significance of the GHG impacts on the environment:

i. If a project complies with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, then the project would be determined to have a less than significant individual and cumulative impact for GHG emissions;
ii. If a project does not comply with an approved GHG emission reduction plan or mitigation program, then it would be required to implement Best Performance Standards (BPS); and
iii. If a project is not implementing BPS, then it should demonstrate that its GHG emissions would be reduced or mitigated by at least 29 percent compared to Business as Usual (BAU).

As shown in Table 9, the Project would generate 903.59 Metric Tons of Carbon Dioxide Equivalent per year (MTCO2eq./year) using an operational year of 2005, which includes area, energy, mobile, waste, and water sources. "Business as usual" (BAU) is referenced in CARB's AB 32 Scoping Plan as emissions projected to occur in 2020 if the average baseline emissions during the 2002-2004 period grew to 2020 levels, without control or Best Performance Standards (BPS) offsets. As a result, an estimate of the Project's operational emissions in 2005 were compared to operational emissions in 2020 in order to determine if the Project meets the 29% emission reduction. The SJVAPCD has reviewed relevant scientific information related to GHG emissions and has determined that they are not able to determine a specific quantitative level of GHG emissions increase, above which a project would have a significant impact on the environment, and below which would have an insignificant impact. As a result, the SJVAPCD has determined

that projects achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less than significant individual and cumulative impact for GHG. Results of the analysis show that the Project's GHG emissions in the year 2020 is 755.10 MTCO2eq./year. This represents an achievement of 16% GHG emission reduction on the basis of BAU, which does not meet the 29% GHG emission reduction target.

In the event that a local air district's guidance for addressing GHG impacts does not use numerical GHG emissions thresholds, at the lead agency's discretion, a neighboring air district's GHG threshold may be used to determine impacts. On April 20, 2022, the Bay Area Air Quality Management District (BAAQMD) adopted new Project Level Climate Impact Thresholds of Significance which rely upon necessary design elements to achieve California's long-term climate goal of carbon neutrality by 2045. Chapter 3 of BAAQMD's 2022 CEQA Guidelines indicates that a land use project will have a less than significant impact related to operational GHG emissions if:

- ✓ It includes the following project design elements - **(Part A)**
  - Buildings
    - The project will not include natural gas appliances or natural gas plumbing.
    - The project will not result in any wasteful, inefficient, or unnecessary energy use as determined by the analysis required under CEQA Section 2100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines
  - Transportation
    - The project will achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target that reflects the recommendations provided in the Governor's Office of Planning and Research's *Technical Advisory on Evaluating Transportation Impacts in CEQA*:
      i. Residential projects: 15 percent below the existing VMT per capita
      ii. Office projects: 15 percent below the existing VMT per employee
      iii. Retail projects: no net increase in existing VMT
    - The project will achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

<u>Project Design Elements - Buildings</u>

Development of the Project will not include natural gas appliances or natural gas plumbing per Project representatives. In addition, the proposed Project will use energy-efficient materials, modern construction practices, and new appliances, following Appliance Efficiency Regulations (Title 20, California Code of Regulations [CCR] Sections 1601-1608). Energy consumption during construction and operation will align with typical residential usage but will vary based on personal choices and building design. The Project, located in an urban area and residential land use under the Fresno General Plan, will comply with the City's energy efficiency policies (General Plan Policies RC-8-a through RC-8-k), ensuring it does not result in wasteful or inefficient energy consumption. The Project is also subject to CCR, Title 24 building standards which would improve the Project's energy efficiency and consumption. The Title 24 California Building Standards Code is a wide-ranging set of requirements for energy conservation and green design that apply to the structural, mechanical, electrical, and plumbing systems in a building.

Project Design Elements - Transportation

The Fresno City Council adopted the *CEQA Guidelines for Vehicles Miles Traveled* on June 25, 2020, which establishes the City of Fresno's threshold of significance for CEQA transportation studies as it relates to VMT. In addition, Fresno COG's *Fresno County SB 743 Implementation Technical Report* (March 2021) also establishes threshold of significance for CEQA transportation studies as it relates to VMT. Both documents indicate that projects that generate a low volume of daily traffic are presumed to create a less than significant impact to VMT and GHG emissions. As noted in the City of Fresno's *CEQA Guidelines for Vehicles Miles Traveled* and Fresno COG's *Fresno County SB 743 Implementation Technical Report*, the emissions of GHG from a project with up to 500 ADT would typically be less than significant. The Project proposes to develop 53 single family dwelling units which is projected to generate 500 daily trips based upon the Institute of Transportation Engineers (ITE) Trip Generation Handbook (53 dwelling units X 9.43[Land Use Code 210 Average Rate] = 499.79). Project design elements also include 'ready to charge' capabilities for each residential unit, to be compliant with off-street electric vehicle requirements in the most recently adopted 2022 CALGreen TIER 2 Residential Measures (A4.106.8).

The Project will meet the project specific design elements identified in **Part A** of the BAAQMD Project Level Climate Impact Thresholds of Significance. The Project will not conflict with or obstruct California's long-term climate goal of carbon neutrality by 2045. As a result, the Project would have a less than significant impact related to GHG emissions.

Alternative GHG Thresholds

CARB and the South Coast Air Quality Management District (SCAQMD) guidance identifies a numeric threshold of 7,000 and 10,000 MTCO2eq./year, respectively, for annual GHG emissions. While existing GHG emission thresholds developed by other lead agencies were based on consistency with meeting AB 32 goals, they provide some perspective on the GHG emissions generated by the Project. Table 10 shows the yearly GHG emissions generated by the Project as

determined by the CalEEMod model, which is approximately 91% less than the threshold identified by CARB and 94% less than the threshold identified by the SCAQMD.

Based on the assessment above, the Project will not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. Therefore, any impacts would be less than significant.

4.2.2 *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases*

California passed the California Global Warming Solutions Act of 2006. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. Under AB 32, CARB must adopt regulations by January 1, 2011 to achieve reductions in GHGs to meet the 1990 emission cap by 2020. On December 11, 2008, CARB adopted its initial Scoping Plan, which functions as a roadmap of CARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB's 2017 Climate Change Scoping Plan builds on the efforts and plans encompassed in the initial Scoping Plan. The current plan has identified new policies and actions to accomplish the State's 2030 GHG limit. Below is a list of applicable strategies in the Scoping Plan and the Project's consistency with those strategies.

- ✓ California Light-Duty Vehicle GHG Standards – Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs for long-term climate change goals.
  - The Project is consistent with this reduction measure. This measure cannot be implemented by a particular project or lead agency since it is a statewide measure. When this measure is implemented, standards would be applicable to light-duty vehicles that would access the Project. The Project would not conflict or obstruct this reduction measure.
- ✓ Energy Efficiency – Pursuit of comparable investment in energy efficiency from all retail providers of electricity in California. Maximize energy efficiency building and appliance standards.
  - The Project is consistent with this reduction measure. Though this measure applies to the State to increase its energy standards, the Project would comply with this measure through existing regulation. The Project would not conflict or obstruct this reduction measure.
- ✓ Low Carbon Fuel – Development and adoption of the low carbon fuel standard.
  - The Project is consistent with this reduction measure. This measure cannot be implemented by a particular project or lead agency since it is a statewide measure. When this measure is implemented, standards would be applicable to the fuel used by vehicles

that would access the Project. The Project would not conflict or obstruct this reduction measure.

SB 375 requires MPOs to adopt a SCS or APS that will prescribe land use allocation in that MPO's regional transportation plan. CARB, in consultation with MPOs, has provided each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. For the Fresno COG region, CARB set targets at six (6) percent per capita decrease in 2020 and a thirteen (13) percent per capita decrease in 2035 from a base year of 2005. Fresno COG's 2022 RTP/SCS, which was adopted in July 2022, projects that the Fresno County region would achieve the prescribed emissions targets.

Executive Order B-30-15 establishes a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. Executive Order B-30-15 requires MPO's to implement measures that will achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reductions targets.

If a local air district's guidance for addressing GHG impacts does not use numerical GHG emissions thresholds, at the lead agency's discretion, a neighboring air district's GHG threshold may be used to determine impacts. The BAAQMD adopted new Project Level Climate Impact Thresholds of Significance On April 20, 2022, which rely upon necessary design elements to achieve California's long-term climate goal of carbon neutrality by 2045. The Project will not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases since it will meet the project specific design elements identified in Part A of the BAAQMD Project Level Climate Impact Thresholds of Significance (See Section 4.2.1 above). As a result, the Project would have a less than significant impact related to GHG emissions.

Appendix-A

CalEEMod Report

Tract 6475 Residential Development Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Tract 6475 Residential Development
Construction Start Date	2/1/2025
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	25.4
Location	36.76718162788498, -119.67597556189511
County	Fresno
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2417
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	53.0	Dwelling Unit	17.2	103,350	620,781	—	170	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	32.5	32.5	29.7	29.1	0.06	1.23	9.31	10.5	1.14	3.68	4.82	—	6,720	6,720	0.27	0.06	0.63	6,745
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.01	3.38	31.7	30.7	0.06	1.37	19.8	21.1	1.26	10.1	11.4	—	6,706	6,706	0.27	0.06	0.02	6,731
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.30	2.21	9.66	10.9	0.02	0.40	1.37	1.77	0.37	0.59	0.96	—	2,138	2,138	0.09	0.02	0.16	2,148
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.42	0.40	1.76	2.00	< 0.005	0.07	0.25	0.32	0.07	0.11	0.18	—	354	354	0.01	< 0.005	0.03	356

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.90	3.28	29.7	29.1	0.06	1.23	9.31	10.5	1.14	3.68	4.82	—	6,720	6,720	0.27	0.06	0.63	6,745

2026	32.5	32.5	10.0	13.7	0.02	0.38	0.12	0.50	0.35	0.03	0.38	—	2,584	2,584	0.10	0.04	0.56	2,597
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.01	3.38	31.7	30.7	0.06	1.37	19.8	21.1	1.26	10.1	11.4	—	6,706	6,706	0.27	0.06	0.02	6,731
2026	1.36	1.14	10.0	13.5	0.02	0.38	0.12	0.50	0.35	0.03	0.38	—	2,571	2,571	0.10	0.04	0.01	2,584
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.28	1.08	9.66	10.9	0.02	0.40	1.37	1.77	0.37	0.59	0.96	—	2,138	2,138	0.09	0.02	0.16	2,148
2026	2.30	2.21	3.85	5.25	0.01	0.15	0.05	0.19	0.14	0.01	0.15	—	972	972	0.04	0.01	0.09	977
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.23	0.20	1.76	2.00	< 0.005	0.07	0.25	0.32	0.07	0.11	0.18	—	354	354	0.01	< 0.005	0.03	356
2026	0.42	0.40	0.70	0.96	< 0.005	0.03	0.01	0.04	0.02	< 0.005	0.03	—	161	161	0.01	< 0.005	0.02	162

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.31	5.79	2.50	26.4	0.07	1.81	2.11	3.92	1.74	0.53	2.28	318	4,124	4,441	4.54	0.15	8.79	4,608
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.83	5.32	2.65	22.2	0.07	1.80	2.11	3.91	1.74	0.53	2.27	318	3,902	4,220	4.56	0.16	0.95	4,382
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.85	4.40	2.05	13.9	0.04	0.45	2.03	2.48	0.44	0.51	0.95	94.2	3,479	3,574	3.50	0.15	4.14	3,710
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.89	0.80	0.37	2.54	0.01	0.08	0.37	0.45	0.08	0.09	0.17	15.6	576	592	0.58	0.02	0.68	614

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.86	1.76	1.31	11.0	0.03	0.02	2.11	2.13	0.02	0.53	0.55	—	2,601	2,601	0.12	0.13	8.05	2,651
Area	5.38	4.00	0.66	15.2	0.04	1.74	—	1.74	1.68	—	1.68	288	566	854	1.36	< 0.005	—	888
Energy	0.06	0.03	0.52	0.22	< 0.005	0.04	—	0.04	0.04	—	0.04	—	938	938	0.10	0.01	—	942
Water	—	—	—	—	—	—	—	—	—	—	—	4.09	18.8	22.9	0.42	0.01	—	36.5
Waste	—	—	—	—	—	—	—	—	—	—	—	25.4	0.00	25.4	2.54	0.00	—	89.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.74	0.74
Total	7.31	5.79	2.50	26.4	0.07	1.81	2.11	3.92	1.74	0.53	2.28	318	4,124	4,441	4.54	0.15	8.79	4,608
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.67	1.56	1.50	9.86	0.02	0.02	2.11	2.13	0.02	0.53	0.55	—	2,388	2,388	0.14	0.14	0.21	2,433
Area	5.10	3.73	0.63	12.1	0.04	1.74	—	1.74	1.68	—	1.68	288	558	846	1.36	< 0.005	—	880
Energy	0.06	0.03	0.52	0.22	< 0.005	0.04	—	0.04	0.04	—	0.04	—	938	938	0.10	0.01	—	942
Water	—	—	—	—	—	—	—	—	—	—	—	4.09	18.8	22.9	0.42	0.01	—	36.5
Waste	—	—	—	—	—	—	—	—	—	—	—	25.4	0.00	25.4	2.54	0.00	—	89.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.74	0.74
Total	6.83	5.32	2.65	22.2	0.07	1.80	2.11	3.91	1.74	0.53	2.27	318	3,902	4,220	4.56	0.16	0.95	4,382
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.65	1.55	1.38	9.50	0.02	0.02	2.03	2.05	0.02	0.51	0.53	—	2,393	2,393	0.12	0.13	3.40	2,439
Area	3.14	2.82	0.16	4.21	0.01	0.39	—	0.39	0.38	—	0.38	64.7	129	194	0.31	< 0.005	—	202
Energy	0.06	0.03	0.52	0.22	< 0.005	0.04	—	0.04	0.04	—	0.04	—	938	938	0.10	0.01	—	942
Water	—	—	—	—	—	—	—	—	—	—	—	4.09	18.8	22.9	0.42	0.01	—	36.5
Waste	—	—	—	—	—	—	—	—	—	—	—	25.4	0.00	25.4	2.54	0.00	—	89.0

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.74	0.74
Total	4.85	4.40	2.05	13.9	0.04	0.45	2.03	2.48	0.44	0.51	0.95	94.2	3,479	3,574	3.50	0.15	4.14	3,710
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.30	0.28	0.25	1.73	< 0.005	< 0.005	0.37	0.37	< 0.005	0.09	0.10	—	396	396	0.02	0.02	0.56	404
Area	0.57	0.51	0.03	0.77	< 0.005	0.07	—	0.07	0.07	—	0.07	10.7	21.4	32.1	0.05	< 0.005	—	33.4
Energy	0.01	0.01	0.10	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	155	155	0.02	< 0.005	—	156
Water	—	—	—	—	—	—	—	—	—	—	—	0.68	3.11	3.79	0.07	< 0.005	—	6.05
Waste	—	—	—	—	—	—	—	—	—	—	—	4.21	0.00	4.21	0.42	0.00	—	14.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
Total	0.89	0.80	0.37	2.54	0.01	0.08	0.37	0.45	0.08	0.09	0.17	15.6	576	592	0.58	0.02	0.68	614

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.09	< 0.005	0.05	—	0.05	0.05	—	0.05	—	188	188	0.01	< 0.005	—	188
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.22	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	31.1	31.1	< 0.005	< 0.005	—	31.2
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.04	0.45	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	80.7	80.7	< 0.005	< 0.005	0.01	82.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.58	4.58	< 0.005	< 0.005	0.01	4.66
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.77
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.87	0.83	< 0.005	0.04	—	0.04	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.54	0.54	—	0.28	0.28	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.05	0.53	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	94.2	94.2	< 0.005	< 0.005	0.01	95.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.67	2.67	< 0.005	< 0.005	< 0.005	2.72
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	0.26	2.44	2.33	0.01	0.10	—	0.10	0.09	—	0.09	—	542	542	0.02	< 0.005	—	544

Dust From Material Movement	—	—	—	—	—	—	0.76	0.76	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.45	0.42	< 0.005	0.02	—	0.02	0.02	—	0.02	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Dust From Material Movement	—	—	—	—	—	—	0.14	0.14	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.05	0.74	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	121	121	< 0.005	0.01	0.45	123
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.05	0.60	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	108	108	< 0.005	0.01	0.01	109
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.16	9.16	< 0.005	< 0.005	0.02	9.31
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.52	1.52	< 0.005	< 0.005	< 0.005	1.54
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.65	0.54	5.05	6.30	0.01	0.21	—	0.21	0.19	—	0.19	—	1,159	1,159	0.05	0.01	—	1,163

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.92	1.15	< 0.005	0.04	—	0.04	0.04	—	0.04	—	192	192	0.01	< 0.005	—	193
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.04	0.71	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	116	116	< 0.005	< 0.005	0.43	118
Vendor	0.01	< 0.005	0.12	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	74.5	74.5	< 0.005	0.01	0.19	78.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.58	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.01	104
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	74.7	74.7	< 0.005	0.01	0.01	78.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.02	0.28	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	51.4	51.4	< 0.005	< 0.005	0.09	52.3
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	36.1	36.1	< 0.005	0.01	0.04	37.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.51	8.51	< 0.005	< 0.005	0.01	8.65
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.97	5.97	< 0.005	< 0.005	0.01	6.24
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.36	3.36	4.42	0.01	0.13	—	0.13	0.12	—	0.12	—	816	816	0.03	0.01	—	819
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.61	0.81	< 0.005	0.02	—	0.02	0.02	—	0.02	—	135	135	0.01	< 0.005	—	136

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.04	0.65	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	113	113	< 0.005	< 0.005	0.39	115
Vendor	0.01	< 0.005	0.12	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	73.1	73.1	< 0.005	0.01	0.17	76.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.05	0.53	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	101	101	< 0.005	< 0.005	0.01	102
Vendor	0.01	< 0.005	0.12	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	73.3	73.3	< 0.005	0.01	< 0.005	76.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.01	0.18	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	35.5	35.5	< 0.005	< 0.005	0.06	36.1
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	24.9	24.9	< 0.005	< 0.005	0.03	26.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.87	5.87	< 0.005	< 0.005	0.01	5.97
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.13	4.13	< 0.005	< 0.005	< 0.005	4.32
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.39	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.03	0.51	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.0	89.0	< 0.005	< 0.005	0.31	90.6

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.49	4.49	< 0.005	< 0.005	0.01	4.56
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.74	0.74	< 0.005	< 0.005	< 0.005	0.76
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	32.3	32.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	1.77	1.77	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	0.32	0.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.13	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	22.7	22.7	< 0.005	< 0.005	0.08	23.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.14	1.14	< 0.005	< 0.005	< 0.005	1.16
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.86	1.76	1.31	11.0	0.03	0.02	2.11	2.13	0.02	0.53	0.55	—	2,601	2,601	0.12	0.13	8.05	2,651
Total	1.86	1.76	1.31	11.0	0.03	0.02	2.11	2.13	0.02	0.53	0.55	—	2,601	2,601	0.12	0.13	8.05	2,651
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.67	1.56	1.50	9.86	0.02	0.02	2.11	2.13	0.02	0.53	0.55	—	2,388	2,388	0.14	0.14	0.21	2,433
Total	1.67	1.56	1.50	9.86	0.02	0.02	2.11	2.13	0.02	0.53	0.55	—	2,388	2,388	0.14	0.14	0.21	2,433

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.30	0.28	0.25	1.73	< 0.005	< 0.005	0.37	0.37	< 0.005	0.09	0.10	—	396	396	0.02	0.02	0.56	404
Total	0.30	0.28	0.25	1.73	< 0.005	< 0.005	0.37	0.37	< 0.005	0.09	0.10	—	396	396	0.02	0.02	0.56	404

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	277	277	0.04	0.01	—	280
Total	—	—	—	—	—	—	—	—	—	—	—	—	277	277	0.04	0.01	—	280
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	277	277	0.04	0.01	—	280
Total	—	—	—	—	—	—	—	—	—	—	—	—	277	277	0.04	0.01	—	280
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	45.8	45.8	0.01	< 0.005	—	46.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	45.8	45.8	0.01	< 0.005	—	46.3

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06	0.03	0.52	0.22	< 0.005	0.04	—	0.04	0.04	—	0.04	—	661	661	0.06	< 0.005	—	663
Total	0.06	0.03	0.52	0.22	< 0.005	0.04	—	0.04	0.04	—	0.04	—	661	661	0.06	< 0.005	—	663
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.06	0.03	0.52	0.22	< 0.005	0.04	—	0.04	0.04	—	0.04	—	661	661	0.06	< 0.005	—	663
Total	0.06	0.03	0.52	0.22	< 0.005	0.04	—	0.04	0.04	—	0.04	—	661	661	0.06	< 0.005	—	663
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	0.01	0.10	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	109	109	0.01	< 0.005	—	110
Total	0.01	0.01	0.10	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	—	109	109	0.01	< 0.005	—	110

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	2.72	1.34	0.63	12.1	0.04	1.74	—	1.74	1.68	—	1.68	288	558	846	1.36	< 0.005	—	880

Consumer Product	2.21	2.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.18	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.28	0.26	0.03	3.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.04	8.04	< 0.005	< 0.005	—	8.07
Total	5.38	4.00	0.66	15.2	0.04	1.74	—	1.74	1.68	—	1.68	288	566	854	1.36	< 0.005	—	888
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	2.72	1.34	0.63	12.1	0.04	1.74	—	1.74	1.68	—	1.68	288	558	846	1.36	< 0.005	—	880
Consumer Products	2.21	2.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.18	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	5.10	3.73	0.63	12.1	0.04	1.74	—	1.74	1.68	—	1.68	288	558	846	1.36	< 0.005	—	880
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.11	0.06	0.03	0.50	< 0.005	0.07	—	0.07	0.07	—	0.07	10.7	20.8	31.5	0.05	< 0.005	—	32.7
Consumer Products	0.40	0.40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipm	0.03	0.02	< 0.005	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.66	0.66	< 0.005	< 0.005	—	0.66
Total	0.57	0.51	0.03	0.77	< 0.005	0.07	—	0.07	0.07	—	0.07	10.7	21.4	32.1	0.05	< 0.005	—	33.4

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	4.09	18.8	22.9	0.42	0.01	—	36.5
Total	—	—	—	—	—	—	—	—	—	—	—	4.09	18.8	22.9	0.42	0.01	—	36.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	4.09	18.8	22.9	0.42	0.01	—	36.5
Total	—	—	—	—	—	—	—	—	—	—	—	4.09	18.8	22.9	0.42	0.01	—	36.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.68	3.11	3.79	0.07	< 0.005	—	6.05
Total	—	—	—	—	—	—	—	—	—	—	—	0.68	3.11	3.79	0.07	< 0.005	—	6.05

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	25.4	0.00	25.4	2.54	0.00	—	89.0
Total	—	—	—	—	—	—	—	—	—	—	—	25.4	0.00	25.4	2.54	0.00	—	89.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	25.4	0.00	25.4	2.54	0.00	—	89.0
Total	—	—	—	—	—	—	—	—	—	—	—	25.4	0.00	25.4	2.54	0.00	—	89.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	4.21	0.00	4.21	0.42	0.00	—	14.7
Total	—	—	—	—	—	—	—	—	—	—	—	4.21	0.00	4.21	0.42	0.00	—	14.7

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.74	0.74
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.74	0.74
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.74	0.74
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.74	0.74
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	2/1/2025	3/1/2025	5.00	20.0	—
Site Preparation	Site Preparation	3/2/2025	3/16/2025	5.00	10.0	—
Grading	Grading	3/17/2025	4/28/2025	5.00	30.0	—
Building Construction	Building Construction	4/29/2025	6/23/2026	5.00	300	—
Paving	Paving	6/24/2026	7/22/2026	5.00	20.0	—
Architectural Coating	Architectural Coating	7/23/2026	8/20/2026	5.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40

Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	7.70	LDA,LDT1,LDT2
Demolition	Vendor	—	4.00	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT

Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	7.70	LDA,LDT1,LDT2
Site Preparation	Vendor	—	4.00	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	7.70	LDA,LDT1,LDT2
Grading	Vendor	—	4.00	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	19.1	7.70	LDA,LDT1,LDT2
Building Construction	Vendor	5.67	4.00	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	7.70	LDA,LDT1,LDT2
Paving	Vendor	—	4.00	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	3.82	7.70	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	4.00	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	209,284	69,761	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	—	—
Site Preparation	—	—	15.0	0.00	—
Grading	—	—	90.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.58

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	0.58	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005

2026	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	500	506	453	180,434	2,952	2,983	2,674	1,064,540

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	27
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	27
Conventional Wood Stoves	0
Catalytic Wood Stoves	3
Non-Catalytic Wood Stoves	3
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

209283.75	69,761	0.00	0.00	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	495,369	204	0.0330	0.0040	2,062,353

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	2,135,688	10,415,279

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	47.2	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	30.9	annual days of extreme heat
Extreme Precipitation	1.20	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	1	1	4
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	88.7
AQ-PM	95.8
AQ-DPM	69.7
Drinking Water	96.9
Lead Risk Housing	6.12
Pesticides	78.3
Toxic Releases	69.5
Traffic	17.6
Effect Indicators	—
CleanUp Sites	78.0
Groundwater	10.6
Haz Waste Facilities/Generators	86.8
Impaired Water Bodies	0.00
Solid Waste	70.4
Sensitive Population	—
Asthma	64.0

Cardio-vascular	36.8
Low Birth Weights	41.7
Socioeconomic Factor Indicators	—
Education	24.6
Housing	40.9
Linguistic	4.59
Poverty	27.0
Unemployment	57.2

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	62.01719492
Employed	61.79905043
Median HI	71.61555242
Education	—
Bachelor's or higher	71.98768125
High school enrollment	100
Preschool enrollment	30.45040421
Transportation	—
Auto Access	89.83703323
Active commuting	1.039394328
Social	—
2-parent households	63.32606185
Voting	45.32272552
Neighborhood	—
Alcohol availability	55.28037983

Park access	15.89888361
Retail density	26.16450661
Supermarket access	38.39343
Tree canopy	62.78711664
Housing	—
Homeownership	97.81855511
Housing habitability	88.84896702
Low-inc homeowner severe housing cost burden	42.83331195
Low-inc renter severe housing cost burden	82.80508148
Uncrowded housing	50.16040036
Health Outcomes	—
Insured adults	66.66238932
Arthritis	96.4
Asthma ER Admissions	38.5
High Blood Pressure	96.5
Cancer (excluding skin)	82.6
Asthma	76.7
Coronary Heart Disease	97.0
Chronic Obstructive Pulmonary Disease	95.5
Diagnosed Diabetes	96.0
Life Expectancy at Birth	44.1
Cognitively Disabled	56.3
Physically Disabled	39.7
Heart Attack ER Admissions	53.6
Mental Health Not Good	71.0
Chronic Kidney Disease	97.1
Obesity	84.3
Pedestrian Injuries	71.7

Physical Health Not Good	93.9
Stroke	96.9
Health Risk Behaviors	—
Binge Drinking	7.9
Current Smoker	73.9
No Leisure Time for Physical Activity	72.6
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	1.8
Elderly	93.7
English Speaking	89.1
Foreign-born	23.6
Outdoor Workers	60.6
Climate Change Adaptive Capacity	—
Impervious Surface Cover	78.8
Traffic Density	13.9
Traffic Access	0.0
Other Indices	—
Hardship	37.4
Other Decision Support	—
2016 Voting	49.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	58.0
Healthy Places Index Score for Project Location (b)	58.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No

Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

2005 Tract 6475 Residential - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2005 Tract 6475 Residential

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	53.00	Dwelling Unit	17.21	95,400.00	152

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	25
Climate Zone	3			**Operational Year**	2005
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Windspeed changed to be consistent with WEB version of CalEEMod for Project

Land Use -

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	PrecipitationFrequency	45	25
tblProjectCharacteristics	WindSpeed	2.2	2.7
tblWoodstoves	NumberCatalytic	17.21	0.00
tblWoodstoves	NumberNoncatalytic	17.21	0.00

2.0 Emissions Summary

2005 Tract 6475 Residential - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2003																464.0424
2004																176.4814
Maximum																**464.0424**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2003																464.0419
2004																176.4812
Maximum																**464.0419**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area																23.7650
Energy																107.8780
Mobile																737.2746
Waste																27.5188
Water																7.1582
Total																**903.5946**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area																23.7650
Energy																107.8780
Mobile																737.2746
Waste																27.5188
Water																7.1582
Total																**903.5946**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2003	1/28/2003	5	20	
2	Site Preparation	Site Preparation	1/29/2003	2/11/2003	5	10	
3	Grading	Grading	2/12/2003	3/25/2003	5	30	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Building Construction	Building Construction	3/26/2003	5/18/2004	5	300	
5	Paving	Paving	5/19/2004	6/15/2004	5	20	
6	Architectural Coating	Architectural Coating	6/16/2004	7/13/2004	5	20	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 0

Residential Indoor: 193,185; Residential Outdoor: 64,395; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29
Demolition	Excavators	3	8.00	158	0.38
Grading	Excavators	2	8.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	19.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2003

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road																39.9295
Total																**39.9295**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2003

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																1.4548
Total																**1.4548**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road																39.9295
Total																**39.9295**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2003

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																1.4548
Total																**1.4548**

3.3 Site Preparation - 2003

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust																0.0000
Off-Road																20.1165
Total																**20.1165**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2003

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																0.8729
Total																**0.8729**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust																0.0000
Off-Road																20.1164
Total																**20.1164**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2003

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																0.8729
Total																**0.8729**

3.4 Grading - 2003

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust																0.0000
Off-Road																98.6154
Total																**98.6154**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2003

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																2.9095
Total																**2.9095**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust																0.0000
Off-Road																98.6153
Total																**98.6153**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2003

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																2.9095
Total																**2.9095**

3.5 Building Construction - 2003

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road																265.9606
Total																**265.9606**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2003

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																15.6641
Worker																18.5192
Total																**34.1833**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road																265.9603
Total																**265.9603**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2003

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																15.6641
Worker																18.5192
Total																**34.1833**

3.5 Building Construction - 2004

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road																130.9955
Total																**130.9955**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2004

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																7.7151
Worker																9.1214
Total																**16.8365**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road																130.9954
Total																**130.9954**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2004

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																7.7151
Worker																9.1214
Total																**16.8365**

3.6 Paving - 2004

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road																24.2355
Paving																0.0000
Total																**24.2355**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2004

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																1.4548
Total																**1.4548**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road																24.2355
Paving																0.0000
Total																**24.2355**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2004

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																1.4548
Total																**1.4548**

3.7 Architectural Coating - 2004

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating																0.0000
Off-Road																2.5711
Total																**2.5711**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2004

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																0.3879
Total																**0.3879**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating																0.0000
Off-Road																2.5711
Total																**2.5711**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2004

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																0.3879
Total																**0.3879**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated																737.2746
Unmitigated																737.2746

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	500.32	505.62	453.15	1,448,249	1,448,249
Total	500.32	505.62	453.15	1,448,249	1,448,249

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.40	15.90	35.70	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.477591	0.081668	0.164575	0.168109	0.036290	0.006715	0.016687	0.017024	0.000893	0.000307	0.021194	0.000966	0.007982

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated																39.4890
Electricity Unmitigated																39.4890
NaturalGas Mitigated																68.3890
NaturalGas Unmitigated																68.3890

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	1.27399e+006																68.3890
Total																	**68.3890**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	1.27399e+006																68.3890
Total																	**68.3890**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	422620				39.4890
Total					**39.4890**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	422620				39.4890
Total					**39.4890**

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated																23.7650
Unmitigated																23.7650

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating																0.0000
Consumer Products																0.0000
Hearth																23.0964
Landscaping																0.6686
Total																**23.7650**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating																0.0000
Consumer Products																0.0000
Hearth																23.0964
Landscaping																0.6686
Total																**23.7650**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				7.1582
Unmitigated				7.1582

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	3.45316 / 2.17699				7.1582
Total					**7.1582**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	3.45316 / 2.17699				7.1582
Total					**7.1582**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				27.5188
Unmitigated				27.5188

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	54.72				27.5188
Total					**27.5188**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	54.72				27.5188
Total					**27.5188**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2020 Tract 6475 Residential

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	53.00	Dwelling Unit	17.21	95,400.00	152

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	25
Climate Zone	3			**Operational Year**	2020
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Windspeed changed to be consistent with WEB version of CalEEMod for Project

Land Use -

Woodstoves - No Wood Stoves

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	250.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	250.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	250.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	250.00
tblProjectCharacteristics	PrecipitationFrequency	45	25
tblProjectCharacteristics	WindSpeed	2.2	2.7
tblWoodstoves	NumberCatalytic	17.21	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblWoodstoves	NumberNoncatalytic	17.21	0.00

2.0 Emissions Summary

2020 Tract 6475 Residential - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018																410.5772
2019																154.9769
Maximum																**410.5772**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018																410.5768
2019																154.9767
Maximum																**410.5768**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area																23.7549
Energy																107.8780
Mobile																588.7933
Waste																27.5188
Water																7.1582
Total																**755.1031**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area																23.7549
Energy																107.8780
Mobile																588.7933
Waste																27.5188
Water																7.1582
Total																**755.1031**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2018	1/26/2018	5	20	
2	Site Preparation	Site Preparation	1/27/2018	2/9/2018	5	10	
3	Grading	Grading	2/10/2018	3/23/2018	5	30	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Building Construction	Building Construction	3/24/2018	5/17/2019	5	300	
5	Paving	Paving	5/18/2019	6/14/2019	5	20	
6	Architectural Coating	Architectural Coating	6/15/2019	7/12/2019	5	20	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 90

Acres of Paving: 0

Residential Indoor: 193,185; Residential Outdoor: 64,395; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29
Demolition	Excavators	3	8.00	158	0.38
Grading	Excavators	2	8.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	19.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road																35.3660
Total																**35.3660**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																1.1112
Total																**1.1112**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road																35.3660
Total																**35.3660**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																1.1112
Total																**1.1112**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust																0.0000
Off-Road																17.5152
Total																**17.5152**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																0.6667
Total																**0.6667**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust																0.0000
Off-Road																17.5152
Total																**17.5152**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																0.6667
Total																**0.6667**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust																0.0000
Off-Road																85.6341
Total																**85.6341**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																2.2224
Total																**2.2224**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust																0.0000
Off-Road																85.6340
Total																**85.6340**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																2.2224
Total																**2.2224**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road																240.4197
Total																**240.4197**

2020 Tract 6475 Residential - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																13.4960
Worker																14.1459
Total																**27.6418**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road																240.4194
Total																**240.4194**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																13.4960
Worker																14.1459
Total																**27.6418**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road																117.0853
Total																**117.0853**

2020 Tract 6475 Residential - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																6.5588
Worker																6.7694
Total																**13.3282**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road																117.0852
Total																**117.0852**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																6.5588
Worker																6.7694
Total																**13.3282**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road																20.6371
Paving																0.0000
Total																**20.6371**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																1.0797
Total																**1.0797**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road																20.6371
Paving																0.0000
Total																**20.6371**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																1.0797
Total																**1.0797**

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating																0.0000
Off-Road																2.5587
Total																**2.5587**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																0.2879
Total																**0.2879**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating																0.0000
Off-Road																2.5586
Total																**2.5586**

2020 Tract 6475 Residential - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																0.2879
Total																**0.2879**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated																588.7933
Unmitigated																588.7933

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	500.32	505.62	453.15	1,448,249	1,448,249
Total	500.32	505.62	453.15	1,448,249	1,448,249

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.40	15.90	35.70	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.489561	0.052889	0.176631	0.176383	0.029641	0.007517	0.014416	0.021679	0.000782	0.000295	0.025081	0.001647	0.003479

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated																39.4890
Electricity Unmitigated																39.4890
NaturalGas Mitigated																68.3890
NaturalGas Unmitigated																68.3890

2020 Tract 6475 Residential - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	1.27399e+006																68.3890
Total																	**68.3890**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	1.27399e+006																68.3890
Total																	**68.3890**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	422620				39.4890
Total					**39.4890**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	422620				39.4890
Total					**39.4890**

6.0 Area Detail

6.1 Mitigation Measures Area

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated																23.7549
Unmitigated																23.7549

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating																0.0000
Consumer Products																0.0000
Hearth																23.0964
Landscaping																0.6585
Total																**23.7549**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating																0.0000
Consumer Products																0.0000
Hearth																23.0964
Landscaping																0.6585
Total																**23.7549**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				7.1582
Unmitigated				7.1582

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	3.45316 / 2.17699				7.1582
Total					**7.1582**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	3.45316 / 2.17699				7.1582
Total					**7.1582**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				27.5188
Unmitigated				27.5188

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	54.72				27.5188
Total					**27.5188**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	54.72				27.5188
Total					**27.5188**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix C

LIVE OAK
ASSOCIATES, INC.

BIOLOGICAL EVALUATION
LENNAR HOMES TRACT 6475
FRESNO COUNTY, CALIFORNIA

Prepared by:

LIVE OAK ASSOCIATES, INC.

Austin Pearson, Vice President
Rebekah Jensen, Senior Project Manager and Ecologist

Prepared for:

Connor Callaway
Lennar Homes of California, LLC
8080 N. Palm, Suite 110
Fresno, CA 93711

April 19, 2024 PN 2798-01

EXECUTIVE SUMMARY

Live Oak Associates, Inc. (LOA) investigated the biological resources of an approximately 10-acre site proposed for a residential development ("project"), and evaluated potential project-related impacts to such resources pursuant to the California Environmental Quality Act (CEQA). The site is located in the eastern outskirts of Fresno, approximately 900 feet outside of city limits, in unincorporated Fresno County, California. The project is the subdivision of the existing parcel into 53 single-family lots and subsequent full residential buildout of the parcel.

LOA's analysis was based on a reconnaissance-level field survey conducted on March 13, 2024. At that time, the site consisted of agricultural fields, an associated access road, the fenced side yard of an off-site residence, and the adjoining shoulder of Armstrong Avenue. It was vegetated with crop species, common grasses and forbs, and a few ornamental trees. It did not contain wildlife movement corridors, sensitive natural communities, designated critical habitat, or aquatic features likely to be considered jurisdictional by the U.S. Army Corps of Engineers, Regional Water Quality Control Board, or California Department of Fish and Wildlife.

The project site has the potential to be used for nesting by various avian species protected by state and federal laws, and Swainson's hawks, a California Threatened species, could nest in trees in close proximity to the project site. The project site also has the potential to support roosting by native bat species, possibly including the pallid bat, a California Species of Special Concern. Construction-related mortality and disturbance of nesting birds and raptors including the Swainson's hawk, and construction-related mortality of roosting bats, are considered potentially significant impacts of the project. By limiting construction to lower-risk times of year if feasible, conducting preconstruction surveys for nesting birds and roosting bats, avoiding any active nests or maternity roosts that are found, and humanely evicting bats from any non-maternity roosts, these impacts can be reduced to a less than significant level under CEQA.

No other biological resources would be significantly impacted by project implementation. Impacts are considered less than significant for all regionally-occurring special status plant species, 19 of 21 regionally-occurring special status animal species, wildlife movement corridors, sensitive natural communities, jurisdictional waters, and designated critical habitat. The project appears to be consistent with County of Fresno General Plan policies related to biological resources, and is presumably not subject to any Habitat Conservation Plans or Natural Community Conservation Plans.

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1.0 INTRODUCTION

This technical report, prepared by Live Oak Associates, Inc. (LOA) in support of California Environmental Quality Act (CEQA) review, describes the biological resources of an approximately 10-acre site ("project site") proposed for a residential development ("project"), and evaluates the potential impacts to biological resources associated with project implementation. The project site is located in the eastern outskirts of Fresno, approximately 900 feet outside of city limits, in unincorporated Fresno County, California (Figure 1). It may be found on the *Clovis* U.S. Geological Survey (USGS) 7.5-minute quadrangle, in Section 27 of Township 13 South, Range 21 East, Mount Diablo Base and Meridian (Figure 2).

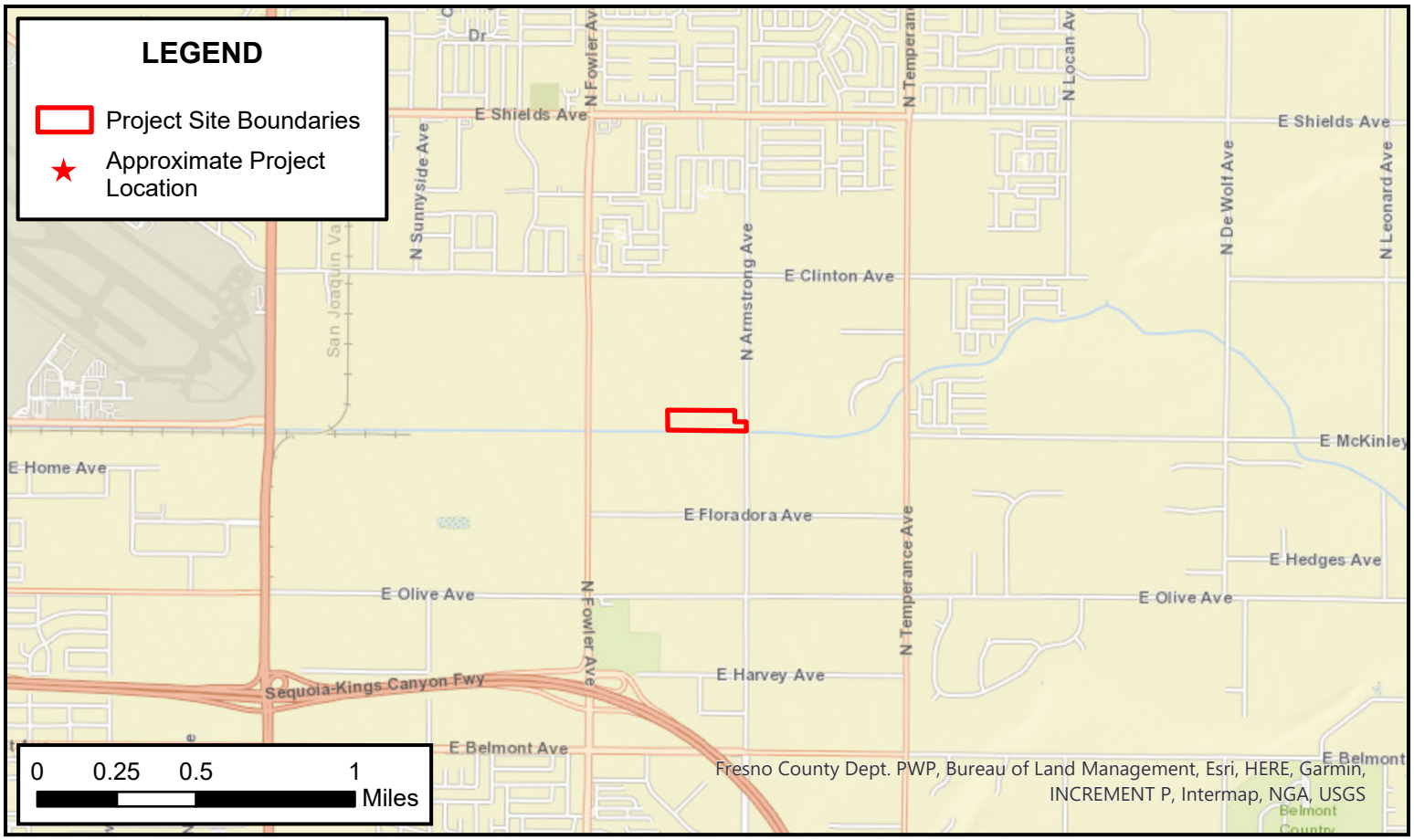
1.1 PROJECT DESCRIPTION

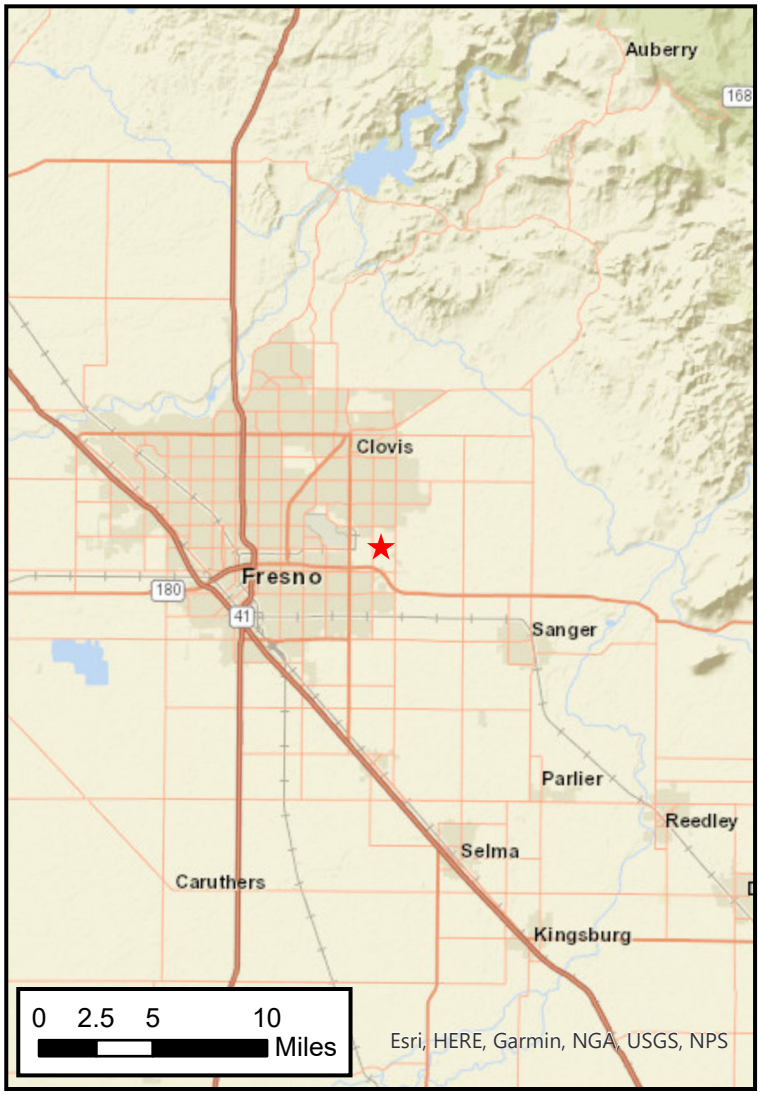
Lennar Homes of California, LLC proposes a residential development on an approximately 10-acre parcel east of Fresno. The property will be subdivided into 53 lots and developed with residential housing, streets, utilities, and other infrastructure, and a recreational trail along the southern boundary.

1.2 REPORT OBJECTIVES

This report summarizes a biological study conducted by LOA to facilitate environmental review pursuant to CEQA. As such, the report's objectives are to:

- Characterize the project site's existing biological resources, including biotic habitats, flora and fauna, soils, and aquatic resources
- Evaluate the project site's potential to support sensitive resources such as special status species, sensitive natural communities, and jurisdictional waters and wetlands
- Summarize all state and federal natural resource protection laws that may be relevant to project implementation
- Identify and discuss potential project-related impacts to biological resources within the context of CEQA and other state and federal laws
- Identify avoidance and mitigation measures that would reduce the magnitude of project-related impacts in a manner consistent with CEQA and species-specific guidelines



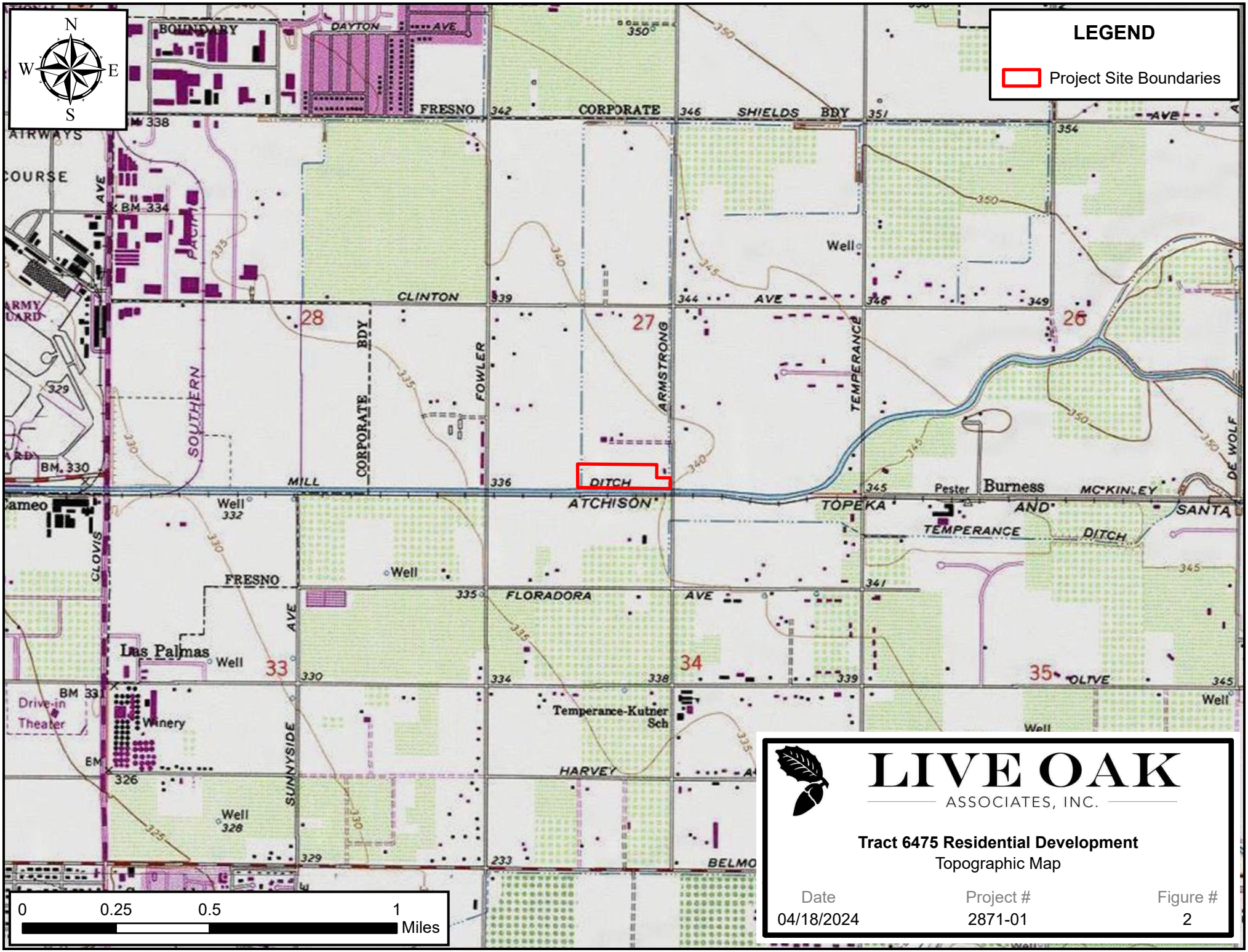




LIVE OAK
ASSOCIATES, INC.

Tract 6475 Residential Development
Vicinity Map

Date	Project #	Figure #
04/18/2024	2871-01	1



LIVE OAK
ASSOCIATES, INC.

Tract 6475 Residential Development
Topographic Map

Date	Project #	Figure #
04/18/2024	2871-01	2

1.3 STUDY METHODOLOGY

A reconnaissance-level field survey of the project site was conducted on March 13, 2024 by LOA ecologist Austin Pearson. The survey consisted of walking and driving through the project site while identifying its principal land uses, biotic habitats, flora, and fauna, and assessing its potential to support special status species and other sensitive resources. The survey did not include a formal aquatic resources delineation or focused surveys for special status species. The survey was sufficient to assess the significance of possible biological impacts associated with project implementation, and to assess the need for more detailed studies that could be warranted if sensitive resources were identified in this initial survey.

LOA conducted an analysis of potential project impacts based on the known and potential biotic resources of the project site. Sources of information used in the preparation of this analysis included the *California Natural Diversity Data Base* (CDFW 2024), *Online Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2024), and manuals, reports, and references related to plants and animals of the project vicinity.

2.0 EXISTING CONDITIONS

2.1 REGIONAL SETTING

The project site is located in the southeastern San Joaquin Valley of California, approximately 8 miles west of the base of the Sierra Nevada foothills. The San Joaquin Valley is bordered by the Sierra Nevada to the east, the Tehachapi Mountains to the south, the California coastal ranges to the west, and the Sacramento-San Joaquin Delta to the north.

Like most of California, the San Joaquin Valley experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures commonly exceed 90 degrees Fahrenheit, and the relative humidity is generally very low. Winter temperatures rarely exceed 70 degrees Fahrenheit, with daytime highs often below 60 degrees Fahrenheit. Annual precipitation in the project vicinity varies considerably from year to year, but averages approximately 11 inches, almost all of which falls between the months of October and March (Western Regional Climate Center 2018). Nearly all precipitation falls in the form of rain.

The project site is located between the San Joaquin River and Kings River. Both rivers originate in the Sierra Nevada and pass within 9 to 10 miles of the project site at their closest point. The project site is adjoined to the south by Mill Ditch, a diversion of Kings River that flows via the Fresno Canal.

The site is located in the outskirts of Fresno, at the interface of urban and rural land uses. It is bordered to the north and east by orchards, to the south by Mill Ditch and, beyond that, rural residential properties, and to the west by a new residential subdivision.

2.2 PROJECT SITE

The project site has level topography and sits at an elevation of approximately 340 feet above sea level. At the time of LOA's field survey, it consisted of agricultural fields, an associated access road, the fenced side yard of an off-site residence, and the adjoining shoulder of Armstrong Avenue.

The site contains a single soil mapping unit, Ramona loam (NRCS 2024). This soil is associated with dry alluvial fans and terraces. It is not classified as hydric, meaning it does not have the propensity to pond water and support the growth of wetland vegetation.

Lists of the vascular plant species observed within the project site and the terrestrial vertebrates using, or potentially using, the site are provided in Appendices A and B, respectively. Representative photographs are presented in Appendix C.

2.3 LAND USES / BIOTIC HABITATS

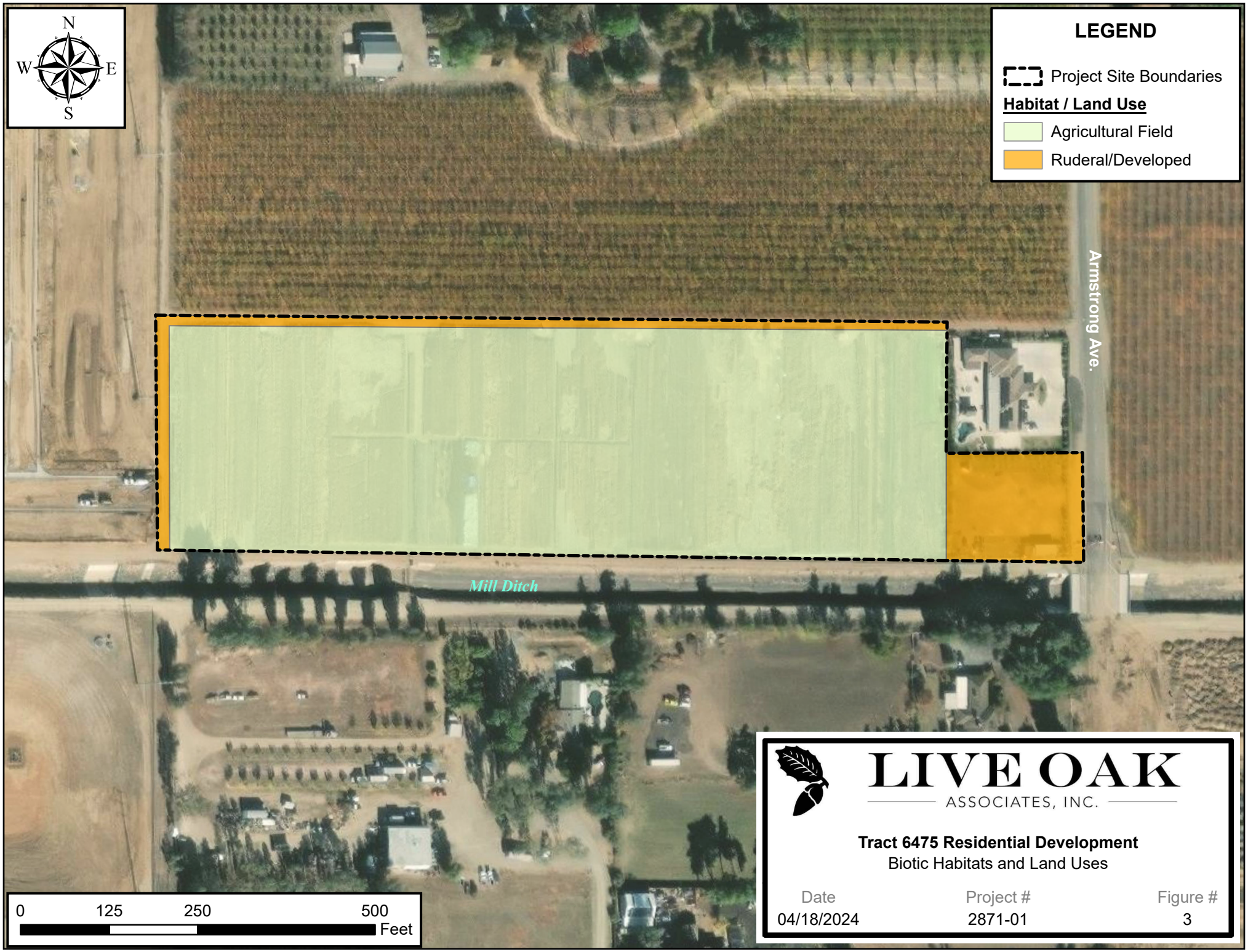
Two biotic habitats / land uses were identified within the project site: agricultural field and ruderal. These habitats / land uses are depicted in Figure 3 and described in more detail in the following sections.

2.3.1 Agricultural Field

At the time of LOA's field survey, the project site consisted primarily of fields that had recently been used for vegetable production. While some of the fields had been disked since the previous growing season, others contained remnant crops. Observed crops, both dead and alive, included tomatoes, peppers, pumpkins, onions, cilantro, parsley, and mustard. The fields also contained dense growth of common weeds including annual bluegrass (*Poa annua*), prickly lettuce (*Lactuca serriola*), red-stem filaree (*Erodium cicutarium*), shepherd's purse (*Capsella bursa-pastoris*), and curly dock (*Rumex crispus*).

The wildlife value of the site's fields is expected to fluctuate seasonally based on crop cover and time since disking. It is most likely to support common, disturbance-tolerant places associated with open habitats, and may also be used incidentally by species associated with the nearby Mill Ditch. Reptiles expected to occur here include the western fence lizard (*Sceloporus occidentalis*), common kingsnake (*Lampropeltis californiae*), and Pacific gopher snake (*Pituophis catenifer catenifer*). Common amphibians such as the western toad (*Bufo boreas*) and Sierran treefrog (*Pseudacris sierra*) may breed in Mill Ditch and subsequently disperse through the fields.

The site's fields may be used for foraging by a number of common avian species. These include the western kingbird (*Tyrannus verticalis*) in the summer, the Say's phoebe (*Sayornis saya*) and



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savannah sparrow (*Passerculus sandwichensis*) in the winter, and the Brewer's blackbird (*Euphagus cyanocephalus*), house finch (*Haemorhous mexicanus*), American kestrel (*Falco sparverius*) and red-tailed hawk (*Buteo jamaicensis*) year-round. The fields could potentially support nesting by the mourning dove (*Zenaida macroura*) and killdeer (*Charadrius vociferus*), both ground-nesting species.

Small mammal use of the site's agricultural fields is expected to include the deer mouse (*Peromyscus maniculatus*), California vole (*Microtus californicus*), Botta's pocket gopher (*Thomomys bottae*), and California ground squirrel (*Otospermophilus beecheyi*). Mammalian predators expected to use the site's fields include the raccoon (*Procyon lotor*) and striped skunk (*Mephitis mephitis*). Due to the proximity of residences, domestic dogs (*Canis familiaris*) and cats (*Felis catus*) may also occur here from time to time.

2.3.2 Ruderal / Developed

The site also included several areas that can best be described as ruderal/developed. These included the fenced side yard of an off-site residence, the shoulder of Armstrong Avenue, and an agricultural access road at the site's western and northern boundaries. At the time of LOA's field survey, the residential side yard contained several outbuildings, piles of debris, a chicken coop, and a parked semi truck. It was vegetated with mowed grass and common weeds such as cheeseweed mallow (*Malva parviflora*), fiddleneck (*Amsinckia* sp.), and common chickweed (*Stellaria media*). A fan palm (*Washingtonia* sp.) and several citrus trees grew around the perimeter. The on-site portion of the Armstrong Avenue shoulder was barren at time of the survey, while the agricultural access road supported sparse growth of weeds including barnyard barley (*Hordeum murinum*) and cheeseweed mallow.

The project site's ruderal lands are of relatively low wildlife value due to their degraded nature and regular anthropogenic disturbance. However, the species listed above for the agricultural fields could use or pass through the site's ruderal lands from time to time, and certain disturbance-tolerant species may be attracted to this land use type. For example, the house finch and black phoebe (*Sayornis nigricans*) often nest in or on buildings and may use the site's outbuildings for this purpose. The outbuildings may also support the house mouse (*Mus musculus*), Norway rat (*Rattus norvegicus*), and various species of roosting bats.

2.4 SPECIAL STATUS PLANTS AND ANIMALS

Many species of plants and animals within the state of California have low populations, limited distributions, or both. Such species may be considered "rare" and are vulnerable to extirpation as the state's human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described more fully in Section 3.3, state and federal laws have provided CDFW and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as threatened or endangered under state and federal endangered species legislation. Others have been designated as "candidates" for such listing. Still others have been designated as "species of special concern" by the CDFW. The California Native Plant Society (CNPS) has developed its own ranking system, California Rare Plant Ranks (CRPR), for native plants considered rare, threatened, or endangered. Plants with a CRPR ranking of 1 or 2 meet the definitions of the California Endangered Species Act and are eligible for state listing. Collectively, all of the aforementioned plants and animals are referred to as "special status species."

The California Natural Diversity Data Base (CNDDB) (CDFW 2024) was queried for special status species occurrences in the nine USGS 7.5-minute quadrangles containing and immediately surrounding the project site *(Clovis, Lanes Bridge, Friant, Academy, Round Mountain, Sanger, Malaga, Fresno South,* and *Fresno North*). These species, and their potential to occur on site, are listed in Table 1 on the following pages. Sources of information for Table 1 included *California's Wildlife, Volumes I, II, and III* (Zeiner et. al 1988), *The Jepson Manual: Vascular Plants of California, second edition* (Baldwin et al. 2012), CNPS's *Online Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2024), Calflora.org, and eBird.org.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

PLANTS

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence on the Project Site
Succulent owl's clover (*Castilleja campestris var. succulenta*)	FT, CE, CRPR 1B	Occurs in freshwater wetlands, and occasionally in non-wetlands in Valley grassland and foothill woodlands, between 130 and 2,000 ft. in elevation. Blooms April-May.	**Absent**. Suitable habitat for this species is absent from the project site and adjacent lands.
California jewelflower (*Caulanthus californicus*)	FE, CE, CRPR 1B	Occurs in chenopod scrub, pinyon and juniper woodland, and valley and foothill grassland in sandy soils. Elevations between 200 and 3,300 feet. Blooms February-May.	**Absent**. Suitable habitat for this species is absent from the project site and adjacent lands.
San Joaquin Valley orcutt grass (*Orcuttia inaequalis*)	FT, CE CRPR 1B	Occurs in Central Valley vernal pools between 130 and 820 ft. in elevation. Requires deep pools with prolonged periods of inundation. Blooms April-Sept.	**Absent**. Suitable habitat for this species is absent from the project site and adjacent lands.
Hairy orcutt grass (*Orcuttia pilosa*)	FE, CE CRPR 1B	Occurs in Central Valley vernal pools between 65 and 1,215 ft. in elevation. Requires deep pools with prolonged periods of inundation. Blooms May-Sept.	**Absent**. Suitable habitat for this species is absent from the project site and adjacent lands.
Hartweg's golden sunburst (*Pseudobahia bahiifolia*)	FE, CE CRPR 1B	Occurs in grasslands of the western foothills of the Sierra Nevada in heavy clay soils of the Porterville, Cibo, Mt. Olive and Centerville soil series, between 230 and 525 ft. in elevation. Blooms March-April.	**Absent**. Suitable habitat and soils for this species are absent from the project site and adjacent lands.
San Joaquin adobe sunburst (*Pseudobahia peirsonii*)	FT, CE, CRPR 1B	Annual sunflower occurs in grasslands of the Sierra Nevada foothills in heavy clay soils of the Porterville and Centerville series, between 300 and 2,625 ft. in elevation. Blooms March-April.	**Absent**. Suitable habitat and soils for this species are absent from the project site and adjacent lands.
Greene's tuctoria (*Tuctoria greenei*)	FE, CR CRPR 1B	Occurs in vernal pools between 130 and 3,740 ft. in elevation. Requires deep pools with prolonged periods of inundation. Blooms May-Sept.	**Absent**. Suitable habitat for this species is absent from the project site and adjacent lands.

CNPS-Listed Species

Hoover's calycadenia (*Calycadenia hooveri*)	CRPR 1B	Occurs in valley grasslands and foothill woodlands between 200 and 980 ft. in elevation. Blooms June-September.	**Absent**. Suitable habitat for this species is absent from the project site and adjacent lands.
Bristly sedge (*Carex comosa*)	CRPR 2B	Found at the margins of lakes and other marsh habitats within valley and foothill grassland and coastal prairie ecosystems. Elevations up to 2,000 ft. Blooms May-September.	**Absent**. Suitable habitat for this species is absent from the project site and adjacent lands.
Dwarf downingia (*Downingia pusilla*)	CRPR 2B	Occurs in vernal pools in valley and foothill grassland habitats up to 1,460 ft. in elevation. Blooms March-May.	**Absent**. Suitable vernal pool habitat for this species is absent from the project site and adjacent lands.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

PLANTS (cont'd)

CNPS-Listed Species

Species	Status	Habitat	Occurrence on the Project Site
Spiny-sepaled button-celery (*Eryginum spinosepalum*)	CRPR 1B	Occurs in vernal pools in valley and foothill grasslands of the San Joaquin Valley between 330 and 840 ft. in elevation. Blooms April-May.	**Absent**. Suitable habitat for this species is absent from the project site and adjacent lands.
California satintail (*Imperata brevifolia*)	CRPR 2B	Found in wetland seeps and riparian areas within various types of scrub, chaparral, and desert communities up to 4,000 feet in elevation. Blooms September-May.	**Absent.** Suitable habitat for this species is absent from the project site and adjacent lands.
Forked hare-leaf (*Lagophylla dichotoma*)	CRPR 1B	Occurs in woodland and valley and foothill grassland habitats, sometimes in clay soils, at elevations from 165 to 3,150 ft. Blooms April-May.	**Absent**. Suitable habitat for this species is absent from the project site and adjacent lands.
Madera leptosiphon (*Leptosiphon serrulatus*)	CRPR 1B	Occurs in openings in cismontane woodland between 980 and 1,400 ft. in elevation. Blooms April-May	**Absent**. Suitable habitat for this species is absent from the project site and adjacent lands, and the site is situated below its elevational distribution.
Pincushion navarretia (*Navarretia myersii ssp. myersii*)	CRPR 1B	Found in vernal pools within annual grassland habitats at elevations up to 1,000 ft. Blooms April-May.	**Absent**. Suitable habitat for this species is absent from the project site and adjacent lands.
Sanford's arrowhead (*Sagittaria sanfordii*)	CRPR 1B	Occurs in shallow freshwater marshes, ponds, sloughs, and ditches of the Central Valley and Sierra Nevada foothills up to 2,100 ft. in elevation. Blooms May-October.	**Absent**. Suitable habitat for this species is absent from the project site. Mill Ditch adjacent to the site does not carry permanent flows of water and is presumably also unsuitable.

ANIMALS

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Crotch bumblebee (*Bombus crotchii*)	CCE	Once common in the Central Valley, this species is now absent from most of it, particularly in the central portion of its historic range. Where present, it is associated with open grassland and scrub habitats, where it relies on food plants of the *Asclepias, Chaenactis, Lupinus, Medicago, Phacelia,* and *Salvia* genera (Williams et al. 2014).	**Absent.** Any habitat for this species that may have once been present on the project site would have been lost when the site was converted to intensive agriculture and other anthropogenic uses. Moreover, the site is located in a portion of the Central Valley in which the Crotch bumblebee now appears to be absent.
Valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*)	FT	Lives in mature elderberry shrubs of California's Central Valley and Sierra foothills, generally along waterways and in floodplains.	**Absent.** Current accepted VELB distribution does not include the San Joaquin Valley south of Merced County.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Occurs in vernal pools, clear to tea-colored water in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** Suitable vernal pool habitat for this species is absent from the project site and surrounding lands.
California tiger salamander (CTS) (*Ambystoma californiense*)	FT, CT	Found primarily in annual grasslands; requires vernal pools for breeding and rodent burrows for aestivation. Although most CTS aestivate within 0.4 mile of their breeding pond, outliers may aestivate up to 1.3 miles away (Orloff 2011).	**Absent.** The site is situated in a matrix of residential and intensive agricultural uses within which this species would not have been able to persist. The closest known extant occurrences are located over 8 miles away, in the grassland complexes northeast of Clovis (CDFW 2024).

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS (cont'd)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence on the Project Site
Western spadefoot (*Spea hammondii*)	FPT, CSC	Occurs in grasslands of San Joaquin Valley, where it breeds in vernal pools or other seasonal wetlands and aestivates in underground refugia such as rodent burrows. Baumberger et al. (2019) recorded a mean maximum distance of around 230 feet between breeding and aestivation sites, with an overall maximum of 890 feet.	**Absent.** The site is situated in a matrix of residential and intensive agricultural uses within which this species would not have been able to persist. The closest CNDDB occurrences are located over 8 miles away, in the grassland complexes northeast of Clovis. Although an iNaturalist record of the western spadefoot is mapped somewhat closer to the site, the record states that the sighting was actually made in Madera County and the coordinates were randomized due to the species' sensitive status.
Western pond turtle (*Actinemys marmorata*)	FPT, CSC	Found in ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires partially submerged rocks or logs or sandy banks for basking sites. Nesting takes place in open areas, on a variety of soil types, and up to ¼ mile away from water.	**Unlikely.** Aquatic habitat is absent from the project site itself, and all such habitats in the near project vicinity appear unsuitable for this species. Mill Ditch adjacent to the site does not carry permanent flows of water, is largely unvegetated, and lacks basking structures; as such, it is not expected to support pond turtles. Several borrow pits on a property located immediately southwest of the site appear to regularly pond water; however, per Google Earth, the borrow pits have been in active use since their establishment in 2007 or 2008, and are also unlikely to support this species. The closest CNDDB occurrence is nearly 8 miles to the north at the Enterprise Canal. An iNaturalist sighting is mapped somewhat closer to the site, but the coordinates were randomized due to the species' sensitive status, and the actual location of the sighting is unknown.
Swainson's hawk (*Buteo swainsoni*)	CT	This breeding migrant to California nests in mature trees in riparian areas and oak savannah, and occasionally in lone trees at the margins of agricultural fields. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.	**Possible.** The project site is situated in the outskirts of Fresno, in a landscape increasingly dominated by residential developments and other uses incompatible with Swainson's hawk ecology. However, the site represents potential foraging habitat for this species, and trees adjacent to the site could conceivably be used for nesting. Given that Swainson's hawks are occasionally sighted in the general vicinity (eBird 2024), there is some chance for this species to occur on site from time to time.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS (cont'd)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence on the Project Site
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT, CE	Frequents valley foothill and desert riparian habitats in scattered locations in California.	**Absent**. This species has been extirpated from the project vicinity.
Least Bell's vireo (*Vireo bellii pusillus*)	FE, CE	Uncommon. Occurs in riparian habitat, especially dense, low-growing thickets of willow and mesquite, often with a taller overstory of willows, cottonwoods, and sycamores. Forages in adjacent chaparral and coastal sage scrub.	**Absent.** Suitable habitat for this species is absent from the project site and vicinity.
Tricolored blackbird (*Agelaius tricolor)*	CT	Nests colonially near fresh water in dense cattails or tules, in thickets of willows or shrubs, and increasingly in grain fields. Forages in grassland and cropland areas.	**Possible.** Tricolored blackbirds are occasionally sighted in the general project vicinity (eBird 2024), and may occasionally pass through or forage on site. This species is not expected to nest on site or in the near vicinity. Analysis of aerial imagery indicates the site's agricultural fields are typically planted to row vegetables, and not to crops suitable for tricolored blackbird nesting such as wheat or triticale. Adjacent lands consist of orchards, residential developments, and other uses incompatible with tricolored blackbird nesting ecology, such that individuals of this species are unlikely to be drawn into this landscape for this purpose.
Fresno kangaroo rat (*Dipodomys nitratoides exilis*)	FE, CE	Historically occupied chenopod scrub and grassland communities on the San Joaquin Valley floor east of the wetlands of the San Joaquin River and Fresno Slough, but no populations are presently known. Associated with bare alkaline clay-based soils in level terrain.	**Absent**. The project site does not contain suitable habitat for the Fresno kangaroo rat, and no known populations of this species remain in Fresno County.
San Joaquin kit fox (SJKF) (*Vulpes macrotis mutica*)	FE, CT	Frequents desert alkali scrub and annual grasslands and may forage in adjacent agricultural habitats. Utilizes enlarged ground squirrel burrows as denning habitat. May become adapted to urban environments, as has occurred in the cities of Bakersfield, Taft, and Coalinga.	**Unlikely.** The SJKF is extremely uncommon in the project vicinity; there is only one CNDDB occurrence of this species within a 10-mile radius of the site, and it is historical in nature, mapped generally to the Sanger area sometime in the 1980s. The site is situated in a matrix of residential developments, orchards, and other land uses generally incompatible with kit fox ecology. There is no known record of urban-adapted kit foxes in or around Fresno. While portions of the project site are theoretically suitable for kit fox foraging and denning, this species is highly unlikely to occur in the project vicinity such that it would be able to access the site.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS (cont'd)

California Species of Special Concern or Fully Protected

Species	Status	Habitat	Occurrence on the Project Site
Hardhead (*Mylopharadon conocephalus*)	CSC	Occurs in clear deep streams with a slow but present flow, in a low to mid-elevation environment. May also inhabit lakes or reservoirs. Spawns in pools, runs, or rifles with a gravel and rocky substrate.	**Absent.** Suitable aquatic habitat is absent from the project site.
Northern California legless lizard (*Anniella pulchra*)	CSC	Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Requires moist soils.	**Absent.** Suitable habitat for this species is absent from the project site and vicinity.
Coast horned lizard (*Phrynosoma blainvillii*)	CSC	Ranges from the central and southern California coast inland through the western Sierra Nevada, where it is found in grassland and open areas within woodland and forest habitats. Often found in sandy areas including washes and floodplains.	**Absent.** Suitable habitat for this species is absent from the project site and vicinity..
California glossy snake (*Arizona elegans occidentalis*)	CSC	Inhabits arid scrub, rocky washes, grasslands, and chaparral, where it forages nocturnally, hiding in underground burrows during the day. Prefers loose, sandy soils.	**Absent.** Suitable habitat for this species is absent from the project site and vicinity.
Burrowing owl (*Athene cunicularia*)	CSC	Frequents open, dry annual or perennial grasslands, deserts, and scrublands characterized by low growing vegetation. Dependent upon burrowing mammals, most notably the California ground squirrel, for nest burrows.	**Unlikely.** The project site is situated in the outskirts of Fresno, in a landscape dominated by residential development, orchards, and other uses incompatible with burrowing owl ecology. Although burrowing owls may sometimes become established in urban open spaces, as has been documented at the Fresno-Yosemite International Airport (CDFW 2024, eBird 2024), the project site and adjacent properties do not contain habitats that would be likely to attract or support this species.
Pallid bat (*Antrozous pallidus*)	CSC	Found in grasslands, chaparral, and woodlands, where it feeds on ground- and vegetation-dwelling arthropods, and occasionally takes insects in flight. Prefers to roost in rock crevices, but many also use tree cavities, caves, bridges, and buildings.	**Possible**. The pallid bat could forage on or over the site, and could potentially roost in the site's outbuildings.
Spotted bat (*Euderma maculatum*)	CSC	Typically associated with prominent rocky habitats where it roosts in crevices, but is known to occur in a wide range of habitats. Forages in large open habitats, including Ponderosa pine forests and marshlands.	**Possible.** The spotted bat could forage over the site, but roosting habitat is absent.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS (cont'd)

California Species of Special Concern or Fully Protected

Species	Status	Habitat	Occurrence on the Project Site
Western mastiff bat (*Eumops perotis* ssp. *californicus*)	CSC	Frequents open, semi-arid to arid habitats, including conifer, and deciduous woodlands, coastal scrub, grasslands, palm oasis, chaparral and urban. Roosts in cliff faces, high buildings, and tunnels.	**Possible.** The western mastiff bat could forage over the site, but roosting habitat is absent.
American badger (*Taxidea taxus*)	CSC	Found in drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Utilize subterranean burrows, usually self-dug, for rest and reproduction.	**Unlikely.** The site's disturbed nature and urban setting make it highly unlikely to be occupied or utilized by American badgers.

OCCURRENCE DESIGNATIONS AND STATUS CODES

Present: Species observed on the site at time of field surveys or during recent past.
Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.
Possible: Species not observed on the site, but it could occur there from time to time.
Unlikely: Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient.
Absent: Species not observed on the site and precluded from occurring there because habitat requirements not met.

STATUS CODES

FE	Federally Endangered
FT	Federally Threatened
FC	Federal Candidate
CE	California Endangered
CT	California Threatened
CCE	California Candidate Endangered
CFP	California Fully Protected
CSC	California Species of Special Concern
CR	California Rare

CRPR CODES

1A	Plants Presumed Extinct in California
1B	Plants Rare, Threatened, or Endangered in California and elsewhere
2	Plants Rare, Threatened, or Endangered in California, but more common elsewhere

2.5 JURISDICTIONAL WATERS

Jurisdictional waters are those rivers, creeks, drainages, lakes, ponds, reservoirs, and wetlands that are subject to the authority of the USACE, CDFW, and/or the RWQCB. In general, the USACE regulates navigable waters, tributaries to navigable waters, and wetlands with a continuous surface connection to these waters, where wetlands are defined by the presence of hydric soils, hydrophytic vegetation, and wetland hydrology. All waters under USACE jurisdiction are also regulated by the RWQCB as waters of the State. Additionally, the RWQCB asserts jurisdiction over certain isolated features disclaimed by the USACE. The CDFW has jurisdiction over waters that have a defined bed and bank. The regulation of jurisdictional waters is discussed in more detail in Section 3.2.7.

Aquatic features, including any potentially jurisdictional waters or wetlands, are absent from the project site.

2.6 SENSITIVE NATURAL COMMUNITIES

California contains a wide range of natural communities, or unique assemblages of plants and animals. These communities have largely been classified and mapped by CDFW as part of their Vegetation Classification and Mapping Program (VegCAMP). Natural communities are assigned state and global ranks according to their rarity and the magnitude and trend of the threats they face. Any natural community with a state rank of 3 or lower (on a 1 to 5 scale) is considered "sensitive" and must be considered in CEQA review.

The project site does not contain or adjoin any sensitive natural communities.

2.7 WILDLIFE MOVEMENT CORRIDORS

Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation.

The project site does not contain any features likely to function as wildlife movement corridors. Mill Ditch adjacent to the site may facilitate some wildlife movement through the surrounding matrix of residential and intensive agricultural uses, but is unlikely to function as a regionally important movement corridor due to its disturbed nature and limited vegetative cover, and because it does not interconnect blocks of natural land or other high-value wildlife areas.

2.8 DESIGNATED CRITICAL HABITAT

The USFWS often designates areas of "critical habitat" when it lists species as threatened or endangered. Critical habitat is a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

Designated critical habitat is absent from the project site and immediate vicinity. The nearest unit of critical habitat is located approximately 8 miles northeast of the project site at its closest point, and is designated for the protection of the succulent owl's-clover (*Castilleja campestris var. succulenta*).

3.0 RELEVANT GOALS, POLICIES, AND LAWS

3.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

In California, any project carried out or approved by a public agency that will result in a direct or reasonably foreseeable indirect physical change in the environment must comply with CEQA. The purpose of CEQA is to ensure that a project's potential impacts on the environment are evaluated and methods for avoiding or reducing these impacts are considered before the project is allowed to move forward. A secondary aim of CEQA is to provide justification to the public for the approval of any projects involving significant impacts on the environment.

According to Section 15382 of the CEQA Guidelines, a significant effect on the environment means a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest." Although the lead agency may set its own CEQA significance thresholds, project impacts to biological resources are generally considered to be significant if they would meet any of the following criteria established in Appendix G of the CEQA Guidelines:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS.
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Furthermore, CEQA Guidelines Section 15065(a) requires the lead agency to make "mandatory findings of significance" if there is substantial evidence that a project may:

- Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of an endangered, rare or threatened species.
- Achieve short-term environmental goals to the detriment of long-term environmental goals.
- Produce environmental effects that are individually limited but cumulatively considerable, meaning that the incremental effects of the project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects.

3.2 OTHER RELEVANT LAWS AND POLICIES

3.2.1 Fresno County General Plan

Cities and counties adopt general plans to guide future development and to protect and/or enhance natural and cultural resources. In general, projects must be consistent with the goals and policies of these general plans. The County of Fresno's general plan was adopted in 2000, and has a planning horizon of 15 to 25 years.

The Open Space and Conservation Element of the Fresno County General Plan includes a number of goals, policies, and implementation programs concerning biological resources. Policies of particular relevance to the project are summarized as follows: 1) the County shall support the "no-net-loss" wetlands policies of the USACE, USFWS, and CDFW, and shall require new development to fully mitigate the loss of regulated wetlands, 2) the County shall require new development to be designed in such a manner that pollutants and siltation do not significantly degrade the area, value, or function of wetlands, 3) the County shall require new developments to preserve and enhance native riparian habitat unless public safety concerns require removal of habitat, and shall require riparian protection zones around natural watercourses, 4) the County shall identify and conserve remaining upland habitat areas adjacent to wetland and riparian areas that are critically important to wildlife species associated with those wetland and riparian areas, 5) where practicable, the County shall support efforts to avoid the "net" loss of important wildlife

habitat, and should preserve in a natural state those areas defined as habitats for rare and endangered animal and plant species, 6) if loss of important habitat for special status species or other valuable wildlife resources cannot be avoided, the County shall impose adequate mitigation, 7) the County shall require adequate buffer zones between construction activities and significant wildlife resources, 8) the County shall support the preservation of significant areas of natural vegetation, e.g. oak woodlands, riparian areas, and vernal pools, and 9) the County shall require that new developments preserve natural woodlands to the maximum extent possible.

3.2.2 Threatened and Endangered Species

In California, imperiled plants and animals may be afforded special legal protections under the California Endangered Species Act (CESA) and/or Federal Endangered Species Act (FESA). Species may be listed as "threatened" or "endangered" under one or both Acts, and/or as "rare" under CESA. Under both Acts, "endangered" means a species is in danger of extinction throughout all or a significant portion of its range, and "threatened" means a species is likely to become endangered within the foreseeable future. Under CESA, "rare" means a species may become endangered if their present environment worsens. Both Acts prohibit "take" of listed species, defined under CESA as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" (California Fish and Game Code, Section 86), and more broadly defined under FESA to include "harm" (16 USC, Section 1532(19), 50 CFR, Section 17.3). The USFWS commonly interprets "take" to include the loss of habitat utilized by a listed species.

When state and federally listed species have the potential to be impacted by a project, the USFWS and CDFW must be included in the CEQA process. These agencies review the environmental document to determine the adequacy of its treatment of endangered species issues and to make project-specific recommendations for the protection of listed species. Projects that may result in the "take" of listed species must generally enter into consultation with the USFWS and/or CDFW pursuant to FESA and CESA, respectively. In some cases, incidental take authorization(s) from these agencies may be required before the project can be implemented.

3.2.3 Migratory Birds

The Federal Migratory Bird Treaty Act (FMBTA: 16 USC 703-712) prohibits killing, possessing, or trading in any bird species covered in one of four international conventions to which the United States is a party, except in accordance with regulations prescribed by the Secretary of the Interior. The name of the act is misleading, as it actually covers almost all birds native to the United States, even those that are non-migratory. The FMBTA encompasses whole birds, parts of birds, and bird nests and eggs.

Native birds are also protected under California state law. The California Fish and Game Code makes it unlawful to take or possess any non-game bird covered by the FMBTA (Section 3513), as well as any other native non-game bird (Section 3800), even if incidental to lawful activities.

3.2.4 Birds of Prey

Birds of prey are also protected in California under provisions of the State Fish and Game Code, Section 3503.5, 1992), which states that it is "unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFW.

3.2.5 Nesting Birds

In California, protection is afforded to the nests and eggs of all birds. California Fish and Game Code (Section 3503) states that it is "unlawful to take, possess, or needlessly destroy the nest or eggs of any bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Breeding-season disturbance that causes nest abandonment and/or loss of reproductive effort is considered a form of "take" by the CDFW.

3.2.6 Habitat Conservation Plans and Natural Community Conservation Plans

Section 10 of the federal Endangered Species Act establishes a process by which non-federal projects can obtain authorization to incidentally take listed species, provided take is minimized

and thoroughly mitigated. A Habitat Conservation Plan (HCP), developed by the project applicant in collaboration with the USFWS and/or NMFS, ensures that such minimization and mitigation will occur, and is a prerequisite to the issuance of a federal incidental take permit. Similarly, a Natural Community Conservation Plan (NCCP), developed by the project applicant in collaboration with CDFW, provides for the conservation of biodiversity within a project area, and permits limited incidental take of state-listed species.

3.2.7 Wetlands and Other Jurisdictional Waters

Section 404 of the federal Clean Water Act (CWA) regulates the discharge of dredged or fill material into "navigable waters" (33 U.S.C. §1344), defined in the CWA as "the waters of the United States, including the territorial seas" (33 U.S.C. §1362(7)). The CWA does not supply a definition for waters of the U.S., and that has been the subject of considerable debate since the CWA's passage in 1972. A variety of regulatory definitions have been promulgated by the two federal agencies responsible for implementing the CWA, the Environmental Protection Agency (EPA) and USACE. These definitions have been interpreted, and in some cases, invalidated, by federal courts.

Waters of the U.S. are presently defined by the EPA and USACE's joint 2023 Revised Definition of 'Waters of the U.S.' Rule (2023 WOTUS Rule), issued in January 2023 and amended in August 2023. Generally speaking, waters of the U.S. include:

- Waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide
- The territorial seas
- Interstate waters
- Impoundments of waters otherwise defined as waters of the United States under the definition
- Tributaries to other waters of the U.S. that are relatively permanent, standing or continuously flowing bodies of water
- Wetlands adjacent to other waters of the U.S. that have a continuous surface connection to those waters

The 2023 WOTUS Rule also defines a number of exclusions from the definition of waters of the U.S., many of which are longstanding exclusions from earlier regulatory regimes. These generally include:

- Waste treatment systems
- Prior converted cropland
- Ditches excavated wholly in and draining only dry land that do not carry a relatively permanent flow of water
- Certain artificial features, e.g. irrigation basins, swimming pools, borrow pits, and artificially irrigated areas
- Swales and erosional features characterized by low volume, infrequent, or short duration flow

All activities that involve the discharge of dredge or fill material into waters of the U.S. are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values.

Under the Porter-Cologne Water Quality Control Act of 1969, the State Water Resources Control Board (SWRCB) has regulatory authority to protect the water quality of all surface water and groundwater in the State of California ("waters of the State"). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into waters of the State through the issuance of various permits and orders. Discharges into waters of the State that are also waters of the U.S. require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining a Section 404 Clean Water Act permit. Discharges into waters of the State that are not also waters of the U.S. require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB.

The SWRCB and RWQCBs also administer the federal National Pollution Discharge Elimination System (NPDES) program, which is concerned with the discharge of stormwater and other pollutants into water bodies. Projects that disturb one or more acres of soil must obtain coverage under the SWRCB's current NPDES Construction Stormwater General Permit. A prerequisite for permit coverage is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Other types of pollutant discharges into waters of the U.S.,

such as wastewater, may require coverage under a different NPDES general permit, and in some cases an individual permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities that may substantially modify such waters through the diversion or obstruction of their natural flow, change or use of any material from their bed or bank, or the deposition of debris require a Notification of Lake or Streambed Alteration. If CDFW determines that the activity may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. Such an agreement typically stipulates that certain measures will be implemented to protect the habitat values of the lake or drainage in question.

4.0 IMPACTS AND MITIGATIONS

The following discussions address the potential impacts to biological resources associated with future residential buildout of Tract 6475. In the absence of a detailed site plan, it is assumed that the full 10 acres will be developed.

4.1 POTENTIALLY SIGNIFICANT PROJECT IMPACTS/MITIGATION

4.1.1 Potential Project Impacts to Nesting Birds and Raptors including the Swainson's Hawk

Potential Impacts. The project site has the potential to be used for nesting by several avian species, primarily those that nest in ground vegetation or barren areas, or in association with the built environment. Likely species include the mourning dove, killdeer, house finch, and black phoebe. The site's few trees are small and of low nesting value, but nevertheless have the potential to be used by certain species including American robins (*Turdus migratorius*) and northern mockingbirds (*Mimus polyglottos*). Larger trees occur on nearby lands; these could support nesting by a wide variety of birds and raptors, possibly including the Swainson's hawk (*Buteo swainsoni*), a California Threatened species. If birds or raptors are nesting on or near the site at the time of future residential buildout, individual birds could be killed or disturbed such that they would abandon their nests. Construction-related mortality of nesting birds and construction-related disturbance leading to nest abandonment are potentially significant impacts of the project. Moreover, such incidents would violate the Migratory Bird Treaty Act, California Fish and Game Code, and, in the case of the Swainson's hawk, the California Endangered Species Act.

Swainson's hawks are not expected to be adversely affected by project-related loss of habitat. Nesting habitat is altogether absent from the project site, and potential foraging habitat consists of approximately 10 acres of agricultural fields and ruderal areas that are expected to be visited only occasionally by individuals of this species given the urban setting, and are unlikely to represent an important part of any individual foraging range. Similar or higher quality foraging habitat for this species is regionally abundant. For these reasons, project-related loss of habitat for the Swainson's hawk is considered less than significant under CEQA.

Mitigation. The following measures will be implemented for the protection of nesting birds and raptors including the state-threatened Swainson's hawk.

> ***Mitigation Measure 4.1.1a (Construction Timing).*** If feasible, future construction activities will take place entirely outside of the avian nesting season, typically defined as February 1 to August 31.
>
> ***Mitigation Measure 4.1.1b (Preconstruction Surveys*).** If construction must occur between February 1 and August 31, a qualified biologist will conduct surveys for active bird nests within 7 days prior to the start of work during this period. The survey area will encompass the site and accessible surrounding lands within ¼ mile for nesting Swainson's hawks, 500 feet for other nesting raptors, and 250 feet for nesting birds.
>
> ***Mitigation Measure 4.1.1c (Avoidance of Active Nests*).** Should any active nests be discovered in or near proposed construction zones, the biologist will identify a suitable construction-free buffer around the nest. This buffer will be identified on the ground with flagging or fencing, and will be maintained until the biologist has determined that the young have fledged and are capable of foraging independently.

Implementation of the above measures will reduce potential project impacts to nesting birds and raptors, including the state-threatened Swainson's hawk, to a less than significant level under CEQA and ensure compliance with state and federal laws protecting these species.

4.1.2 Potential Project Impacts to Roosting Bats including the Pallid Bat

Potential Impacts. A few native bat species have the potential to roost in the project site's outbuildings. Among these are the pallid bat (*Antrozous pallidus*), a California Species of Special Concern. It is assumed that these structures will be removed to accommodate residential construction. Any bats roosting in the structures at the time of their demolition and removal are likely to be injured or killed. Construction-related injury or mortality of the pallid bat and other roosting bats is considered a potentially significant impact of the project.

The project will not result in a significant loss of roosting or foraging habitat for the pallid bat. Although a few potential roost structures may be removed, numerous similar structures will remain available elsewhere in the project vicinity. The site does not offer unique foraging habitat for the pallid bat, nor is it likely to represent an important part of any individual foraging range, given its disturbed nature and urban setting. Similar and higher quality foraging habitats are abundant in the project vicinity and elsewhere in the region.

Mitigation. The following measures will be implemented for the protection of roosting bats including the special-status pallid bat.

> ***Mitigation Measure 4.1.2a* (*Construction Timing*).** To avoid potential impacts to maternity bat roosts, and if feasible, removal of the site's outbuildings will occur outside of the period between April 15 and September 30. This is the time frame within which colony-nesting bats in the vicinity generally assemble, give birth, nurse their young, and ultimately disperse.
>
> ***Mitigation Measure 4.1.2b* (*Pre-construction Surveys*).** Within 10 days prior to the removal of the site's outbuildings, a qualified biologist will survey the structures for roosting bats. The biologist will look for individuals, guano, and staining, and will listen for bat vocalizations. If necessary, the biologist will wait for nighttime emergence of bats from roost sites.
>
> ***Mitigation Measure 4.1.2c* (*Avoidance of Maternity Roosts*).** Should any active maternity bat roosts be discovered, the biologist will identify a suitable construction-free buffer around the maternity roost. The buffer will be identified on the ground with flagging or fencing, and will be maintained until the biologist has determined that the nursery is no longer active.
>
> ***Mitigation Measure 4.1.2d* (*Humane Eviction of Non-breeding Bats*).** If a non-breeding bat colony is found in structures to be removed, the individuals will be humanely evicted, under the direction of a qualified biologist, to ensure that bats are not physically harmed by demolition/removal activities.

Implementation of the above measures will reduce potential construction-related impacts to the pallid bat and other roosting bats to a less than significant level under CEQA.

4.2 LESS THAN SIGNIFICANT PROJECT IMPACTS

4.2.1 Potential Project Impacts to Special Status Plants

Potential Impacts. Sixteen special status plant species have been documented in the general vicinity of the project site (see Table 1). All 16 species are considered absent from or unlikely to occur on the project site due to an absence of suitable habitat and/or soils, the site's being situated outside of the species' distribution, or a combination thereof. The project is not expected to adversely affect these species, either directly or indirectly, and impacts are considered less than significant under CEQA.

Mitigation. No mitigation is warranted.

4.2.2 Project Impacts to Special Status Animal Species Absent from or Unlikely to Occur on the Project Site

Potential Impacts. Twenty-one special status animal species have been documented in the general vicinity of the project site, or are known to occur regionally (Table 1). Of these, 16 are considered absent from or unlikely to occur on the site due to the absence of suitable habitat, the site's urban setting and other landscape factors, and/or the site's being situated outside of the species' known distribution. These comprise the Crotch bumblebee (*Bombus crotchii*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), vernal pool fairy shrimp (*Branchinecta lynchi*), California tiger salamander (*Ambystoma californiense*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), least Bell's vireo (*Vireo bellii pusillus*), Fresno kangaroo rat (*Dipodomys nitratoides exilis*), San Joaquin kit fox (*Vulpes macrotis mutica*), hardhead (*Mylopharadon conocephalus*), western spadefoot (*Spea hammondii*), western pond turtle (*Actinemys marmorata*), northern California legless lizard (*Anniella pulchra*), coast horned lizard (*Phrynosoma blainvillii*), California glossy snake (*Arizona elegans occidentalis*), burrowing owl (*Athene cunicularia*), and American badger (*Taxidea taxus*). Because these species have no appreciable potential to occur on site, they are not expected to be affected by the project, directly or indirectly. Project impacts are considered less than significant under CEQA.

Mitigation. Mitigation measures are not warranted.

4.2.3 Project Impacts to Special Status Animal Species that Would Use the Site for Foraging Only

Potential Impacts. Three special status animal species, the tricolored blackbird (*Agelaius tricolor*), spotted bat (*Euderma maculatum*), and western mastiff bat (*Eumops perotis* ssp. *californicus*), have the potential to forage on the site from time to time but would not utilize the site or immediately adjacent lands for breeding, roosting, or other activities in which they would be vulnerable to construction-related injury, mortality, or disturbance (see Table 1). Individuals of these species are unlikely to be injured or killed by construction activities because they are highly mobile while foraging and would be expected to simply avoid active work areas.

The project would not adversely affect any of these species through loss of foraging habitat. The site does not offer unique habitat for any of these species, nor is it likely to represent an important part of any individual foraging range, given its disturbed nature and urban setting. Similar and higher quality habitats are abundant in the project vicinity and elsewhere in the region. For these reasons, impacts to the tricolored blackbird, spotted bat, and western mastiff bat are considered less than significant under CEQA.

Mitigation. Mitigation is not warranted.

4.2.4 Project Impacts to Wildlife Movement Corridors

Potential Impacts. As discussed, Mill Ditch adjacent to the site may facilitate some wildlife movement through the surrounding matrix of residential and intensive agricultural uses, but is unlikely to function as a regionally important movement corridor due to its disturbed nature and limited vegetative cover, and because it does not interconnect blocks of natural land or other high-value wildlife areas. Wildlife utilizing this corridor would presumably already tolerate a fairly high level of anthropogenic disturbance, and are not expected to be substantially affected by residential buildout of the project site. Project impacts to wildlife movement corridors are considered less than significant under CEQA.

Mitigation. Mitigation is not warranted.

4.2.5 Project Impacts to Sensitive Natural Communities and Critical Habitat

Potential Impacts. The project site does not contain or adjoin any sensitive natural communities or designated critical habitat. There will be no impact to such resources.

Mitigation. Mitigation is not warranted.

4.2.6 Project Impacts to Jurisdictional Waters

Potential Impacts. As discussed, the project site does not contain any aquatic features. There will be no impacts to jurisdictional waters associated with proposed residential buildout.

Mitigation. Mitigation is not warranted.

4.2.7 Consistency with Local Policies and Ordinances

Potential Impacts. The project appears consistent with Fresno County General Plan policies related to biological resources.

Mitigation. Mitigation measures are not warranted.

4.2.8 Consistency with Habitat Conservation Plans and Natural Community Conservation Plans

Potential Impacts. There are no known HCPs or NCCPs that would apply to the project.

Mitigation. Mitigation measures are not warranted.

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APPENDIX A: VASCULAR PLANT LIST

APPENDIX A
VASCULAR PLANTS OF THE PROJECT SITE

In addition to the site's crop species, the plants listed below were observed on the project site during LOA's March 13, 2024 surveys. The U.S. Fish and Wildlife Service wetland indicator status of each plant, if available, has been shown following its common name.

OBL - Obligate
FACW - Facultative Wetland
FAC - Facultative
FACU - Facultative Upland
UPL - Upland

ARECACEAE – Palm Family		
Washingtonia sp.	Fan Palm	
ASTERACEAE – Sunflower Family		
Lactuca serriola	Prickly Lettuce	FACU
Pseudognaphalium luteoalbum	Jersey Cudweed	FAC
Senecio vulgaris	Common Groundsel	FACU
Sonchus oleraceus	Sow Thistle	UPL
BORAGINACEAE- Borage Family		
Amsinckia sp.	Fiddleneck	UPL
BRASSICACEAE – Mustard Family		
Capsella bursa-pastoris	Shepherd's Purse	FACU
CARYOPHYLLACEAE – Pink Family		
Stellaria media	Chickweed	FACU
FABACEAE – Legume Family		
Medicago polymorpha	Bur Clover	FACU
GERANIACEAE – Geranium Family		
Erodium cicutarium	Redstem Filaree	UPL
Erodium moschatum	Whitestem Filaree	UPL
LAMIACEAE – Mint Family		
Lamium amplexicaule	Henbit Deadnettle	UPL
MALVACEAE—Mallow Family		
Malva parviflora	Cheeseweed	UPL
MONTIACEAE – Miner's Lettuce Family		
Calandrinia menziesii	Red Maids	UPL
POACEAE – Grass Family		
Bromus sp.	Brome	
Poa annua	Annual Bluegrass	FAC
POLYGONACEAE – Smartweed Family		
Rumex crispus	Curly Dock	FAC

APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR ON THE PROJECT SITE

APPENDIX B
TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR ON THE PROJECT SITE

The species listed below are those that may be expected to routinely and predictably use or pass through the project site during some or all of the year. An asterisk denotes a species observed on or immediately adjacent to the site during surveys conducted for the current project by LOA on March 13, 2024.

CLASS: AMPHIBIA
ORDER: ANURA (Frogs and Toads)
FAMILY: BUFONIDAE (True Toads)
Western Toad (*Bufo boreas*)
FAMILY: HYLIDAE (Treefrogs and Relatives)
Pacific Tree Frog (*Pseudacris regilla*)
CLASS: REPTILIA
ORDER: SQUAMATA (Lizards and Snakes)
SUBORDER: SAURIA (Lizards)
FAMILY: PHRYNOSOMATIDAE
Side-blotched Lizard (*Uta stansburiana*)
Western Fence Lizard (*Sceloporus occidentalis*)
FAMILY: TEIIDAE (Whiptails and relatives)
Western Whiptail (*Cnemidophorus tigris*)
SUBORDER: SERPENTES (Snakes)
FAMILY: COLUBRIDAE (Colubrids)
Pacific Gopher Snake (*Pituophis catenifer catenifer*)
Common Kingsnake (*Lampropeltis californiae*)
FAMILY: VIPERIDAE (Vipers)
Western Rattlesnake (*Crotalus viridis*)

CLASS: AVES
ORDER: CICONIIFORMES (Herons, Storks, Ibises and Relatives)
FAMILY: ARDEIDAE (Bitterns, Herons, and Egrets)
Great Blue Heron (*Ardea herodi*as)
Great Egret (*Ardea alba*)
FAMILY: CATHARTIDAE (New World Vultures)
Turkey Vulture (*Cathartes aura*)
ORDER: FALCONIFORMES (Vultures, Hawks, and Falcons)
FAMILY: ACCIPITRIDAE (Hawks, Old World Vultures, and Harriers)
Red-tailed Hawk (*Buteo jamaicensis*)
Red-shouldered Hawk (*Buteo lineatus*)
FAMILY: FALCONIDAE (Caracaras and Falcons)
American Kestrel (*Falco sparverius*)
ORDER: GALLIFORMES (Megapodes, Currassows, Pheasants, and Relatives)
FAMILY: ODONTOPHORIDAE (New World Quails)
California Quail (*Callipepla californica*)
ORDER: CHARADRIIFORMES (Shorebirds, Gulls, and relatives)

FAMILY: CHARADRIIDAE (Plovers and relatives)
*Killdeer (*Charadrius vociferus*)
ORDER: COLUMBIFORMES (Pigeons and Doves)
FAMILY: COLUMBIDAE (Pigeons and Doves)
Rock Pigeon (*Columba livia*)
*Mourning Dove (*Zenaida macroura*)
Eurasian Collared Dove (*Streptopelia decaocto*)
ORDER: STRIGIFORMES (Owls)
FAMILY: TYTONIDAE (Barn Owls)
Barn Owl (*Tyto alba*)
FAMILY: STRIGIDAE (Typical Owls)
Great Horned Owl (*Bubo virginianus*)
ORDER: PICIFORMES (Woodpeckers and relatives)
FAMILY: PICIDAE (Woodpeckers)
Northern Flicker (*Colaptes auratus*)
Nuttall's Woodpecker (*Picoides nuttallii*)
ORDER: APODIFORMES (Swifts and Hummingbirds)
FAMILY: TROCHILIDAE (Hummingbirds)
Black-chinned Hummingbird (*Archilochus alexandri*)
Anna's Hummingbird (*Calypte anna*)
ORDER: PASSERIFORMES (Perching Birds)
FAMILY: TYRANNIDAE (Tyrant Flycatchers)
Black Phoebe (*Sayornis nigricans*)
Say's Phoebe (*Sayornis saya*)
Western Kingbird (*Tyrannus verticalis*)
FAMILY: CORVIDAE (Jays, Magpies, and Crows)
California Scrub Jay (*Aphelocoma coerulescens*)
American Crow (*Corvus brachyrhynchos*)
Common Raven (*Corvus corax*)
FAMILY: ALAUDIDAE (Larks)
Horned Lark (*Eremophila alpestris*)
FAMILY: HIRUNDINIDAE (Swallows)
Cliff Swallow (*Petrochelidon pyrrhonota*)
Barn Swallow (*Hirundo rustica*)
Northern Rough-winged Swallow (*Stelgidopteryx serripennis*)
FAMILY: AEGITHALIDAE (Bushtits)
Bushtit (*Psaltriparus minimus*)
FAMILY: TROGLODYTIDAE (Wrens)
House Wren (*Troglodytes aedon*)
FAMILY: REGULIDAE (Kinglets)
Ruby-crowned Kinglet (*Regulus calendula*)
FAMILY: TURDIDAE (Thrushes)
Western Bluebird (*Sialia mexicana*)
American Robin (*Turdus migratorius*)
FAMILY: MIMIDAE (Mockingbirds and Thrashers)
Northern Mockingbird (*Mimus polyglottos*)

FAMILY: PARULIDAE (Wood Warblers and Relatives)
*Yellow-rumped Warbler (*Dendroica coronata*)
FAMILY: STURNIDAE (Starlings and Allies)
*European Starling (*Sturnus vulgaris*)
FAMILY: MOTACILLIDAE (Wagtails and Pipits)
American Pipit (*Anthus rubrescens*)
FAMILY: EMBERIZIDAE (Sparrows)
Savannah Sparrow (*Passerculus sandwichensis*)
White-crowned Sparrow (*Zonotrichia leucophrys*)
Golden-crowned Sparrow (*Zonotrichia atricapilla*)
FAMILY: ICTERIDAE (Blackbirds, Orioles and Allies)
Western Meadowlark (*Sturnella neglecta*)
Red-winged Blackbird (*Agelaius phoeniceus*)
Great-tailed Grackle (*Quiscalus mexicanus*)
Brewer's Blackbird (*Euphagus cyanocephalus*)
Brown-headed Cowbird (*Molothrus ater*)
Bullock's Oriole (*Icterus bullockii*)
FAMILY: FRINGILLIDAE (Finches)
*House Finch (*Carpodacus mexicanus*)
Lesser Goldfinch (*Carduelis psaltria*)
FAMILY: PASSERIDAE (Old World Sparrows)
House Sparrow (*Passer domesticus*)

CLASS: MAMMALIA
ORDER: DIDELPHIMORPHIA (Marsupials)
FAMILY: DIDELPHIDAE (Opossums)
Virginia Opossum (*Didelphis virginiana*)
ORDER: INSECTIVORA (Shrews and Moles)
FAMILY: TALPIDAE (Moles)
Broad-footed Mole (*Scapanus latimanus*)
ORDER: CHIROPTERA (Bats)
FAMILY: VESPERTILIONIDAE (Vespertilionid Bats)
Yuma Myotis (*Myotis yumanensis*)
California Myotis (*Myotis californicus*)
Western Pipistrelle (*Pipistrellus hesperus*)
Big Brown Bat (*Eptesicus fuscus*)
Pale Big-eared Bat (*Corynorhinus townsendii pallescens*)
FAMILY: MOLOSSIDAE (Free-tailed Bat)
Brazilian Free-tailed Bat (*Tadarida brasiliensis*)
ORDER: LAGOMORPHA (Rabbits, Hares, and Pikas)
FAMILY: LEPORIDAE (Rabbits and Hares)
Audubon's Cottontail (*Sylvilagus audubonii*)
ORDER: RODENTIA (Rodents)
FAMILY: SCIURIDAE (Squirrels, Chipmunks, and Marmots)
*California Ground Squirrel (*Otospermophilus beecheyi*)
FAMILY: GEOMYIDAE (Pocket Gophers)
Botta's Pocket Gopher (*Thomomys bottae*)

FAMILY: MURIDAE (Mice, Rats and Voles)
Western Harvest Mouse (*Reithrodontomys megalotis*)
Deer Mouse (*Peromyscus maniculatus*)
Norway Rat (*Rattus norvegicus*)
House Mouse (*Mus musculus*)
California Vole (*Microtus californicus*)
FAMILY: HETEROMYIDAE (Kangaroo Rats)
Heermann's Kangaroo Rat (*Dipodomys heermanni*)
ORDER: CARNIVORA (Carnivores)
FAMILY: CANIDAE (Foxes, Wolves, and Relatives)
Red Fox (*Vulpes vulpes*)
Coyote (*Canis latrans*)
*Domestic Dog (*Canis familiaris*)
FAMILY: PROCYONIDAE (Raccoons and Relatives)
Raccoon (*Procyon lotor*)
FAMILY: MUSTELIDAE (Weasels and Relatives)
Striped Skunk (*Mephitis mephitis*)
FAMILY: FELIDAE (Cats)
Feral Cat (*Felis cattus*)

APPENDIX C: REPRESENTATIVE PHOTOS OF THE PROJECT SITE



Photos 1 (above) and 2 (below). The project site's agricultural fields.





Photos 3 (above) and 4 (below). The project site's fenced residential side yard.





Photo 5 (above). Armstrong Avenue frontage within the project site. **Photo 6 (below).** Agricultural access road along the site's northern boundary.



Appendix D

Cultural Resource Study and Historic Resource Evaluation for the Tract 6475 Project, City of Fresno, Fresno County, California

Ward Stanley, Cheyenne Good-Peery, and Carlos van Onna

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September 2024
draft

USGS Clovis, CA 7.5' quadrangle, T 13S, R 21E, Section 27; APN 574-130-05
10.92 acres surveyed
Resources: Mill Ditch

MANAGEMENT SUMMARY

At the request of Lennar Homes of California, LLC, Applied EarthWorks, Inc. (Æ) completed a cultural resource study of Assessor's Parcel Number 574-130-05 for the proposed Tract 6475 Project (Project) in the city of Fresno, Fresno County, California. The proposed Project includes development of a 56 unit single-family residential complex and associated street improvements on 10.92-acres.

As part of the California Environmental Quality Act (CEQA) review process, the Development Review Committee of the City of Fresno (City) has requested a cultural resource study be conducted for the proposed Project to assist with the identification of historical resources within the Project area. CEQA mandates that public agencies determine whether a proposed project will cause a significant change to the environment, including cultural resources. To assist Lennar Homes of California, LLC in fulfilling their responsibility under CEQA, Æ conducted a cultural resource study to identify whether there are historical resources (i.e., cultural resources listed or eligible for listing in the California Register of Historical Resources [CRHR]) within the Project area.

For this study Æ conducted a records search at the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS); desktop research to better understand the history of land use in the Project area; a search of the Native American Heritage Commission's (NAHC) Sacred Lands File, and nongovernmental outreach to local tribes and individuals. Æ subsequently completed an intensive pedestrian survey of the 10.92-acre Project area to identify archaeological and historical built-environment cultural resources and evaluated one historical built-environment resource for listing in the CRHR.

The SSJVIC records search revealed no cultural resource investigations have occurred within the Project area and four investigations have occurred in the 0.5-mile search radius. They further reported no cultural resources within the Project area or within a 0.5-mile search radius.

A search of the NAHC's Sacred Land File did not identify Native American cultural resources within or near the Project area and no specific information was gleaned from outreach with local tribal representatives; however, Bob Pennell, Cultural Resources Director for the Table Mountain Rancheria, requested a formal meeting with the City regarding this Project.

Æ conducted an archaeological and historic built-environment pedestrian survey of the entire Project area on March 29, 2024. No surface precontact or historic-era isolated artifacts, archaeological features, or sites were discovered. Æ identified one historic-era structure, a 1,278-foot-long segment of the Mill Ditch, along the southern boundary of the Project area. Through application of the CRHR evaluation criteria, Æ found the Mill Ditch significant for its association with early Fresno County irrigation under Criterion 1 and for its association with local irrigation pioneer Moses J. Church under Criterion 2. However, the recorded segment does not retain sufficient integrity to convey this significance. Therefore, the 1,278-foot-long segment of the Mill Ditch in the Project area is not eligible for inclusion in the CRHR and does not qualify as a historical resource under CEQA. No further action is recommended for the management of this segment of the Mill Ditch.

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Æ's cultural resource study did not identify any historical resources within the Project area. However, if cultural resources are discovered during Project activities, all work should halt until a qualified archaeologist can assess the find. Additionally, if human remains are uncovered during construction, the Project operator shall immediately halt work within 50 feet of the find, contact the Fresno County Coroner to evaluate the remains, and follow the procedures and protocols set forth in CEQA Guidelines Section 15064.4I(1). If the remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American, then the California Health and Safety Code 7050.5 and Public Resource Code 5097.98 require that the county coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendant, who will be afforded the opportunity to recommend treatment of the human remains following protocols in California Public Resources Code 5097.98.

Field notes, maps, and a complete set of photographs from the current study are on file at Æ's office in Fresno, California. A copy of the final version of this report will be submitted to the SSJVIC of the CHRIS at California State University, Bakersfield.

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1
INTRODUCTION

At the request of Lennar Homes of California, LLC (Lennar), Applied EarthWorks, Inc. (Æ) conducted a cultural resource study of Assessor Parcel Number 574-130-05 for the proposed Tract 6475 Project (Project), which includes construction of a residential development and associated street improvements to the existing Armstrong Avenue and newly proposed McKinley Avenue within the city of Fresno, Fresno County, California (Figure 1-1). The Project is in the southwest quarter of Section 27, Township 13 South, Range 21 East as depicted on the U.S. Geological Survey (USGS) 1981 Clovis, California, 7.5-minute topographic quadrangle (Figure 1-2).

1.1 PROJECT DESCRIPTION

Lennar is proposing to construct a 56-unit residential development on 10.92-acres of vacant land between Armstrong and Fowler avenues (Figure 1-3). The development includes associated street improvements to the existing Armstrong Avenue, construction of the newly proposed McKinley Avenue, installation of fencing, asphalt pedestrian trail, and landscaping. The landscaping will be installed on the northern bank of Mill Ditch along with a rock-lined access into the ditch at its eastern end within the Project area. The current zoning for the development is Medium and Low Density Residential.

1.2 REGULATORY CONTEXT

As part of the building permitting process, the City of Fresno (City) is responsible for compliance with the California Environmental Quality Act (CEQA) and its implementation guidelines codified in the California Code of Regulations (CCR), Title 14, Chapter 3, Section 15000 et seq. CEQA mandates that public agencies determine whether a proposed project will cause a significant change to the environment, including unique archaeological resources and non-unique archaeological resources that meet criteria of historical resources (CCR Title 14 Section 15064.5 et seq., California Public Resources Code [PRC] Section 5020.1(j), and PRC Section 21083.2). Per PRC 5020.1(j) historical resources include, but are not limited to, "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" listed or determined eligible for listing in the California Register of Historical Resources (CRHR; see also CCR Title 14 Section 15064.5[a] et seq.). The determination of eligibility is based on a set of significance criteria found at CCR Title 14 Section 15064.5.

CEQA defines a substantial adverse change to a historical resource as the "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired" (14 CCR Section 15064.5[b][1]). Where substantial adverse change is unavoidable and the unique archaeological or historical resource cannot be preserved in an undisturbed state, the lead agency shall require mitigation measures to minimize substantial adverse changes to the resource's significance (PRC Section 21083.2[c]). It is further stipulated that the "lead agency shall ensure

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Figure 1-1 Project vicinity in Fresno County, California.

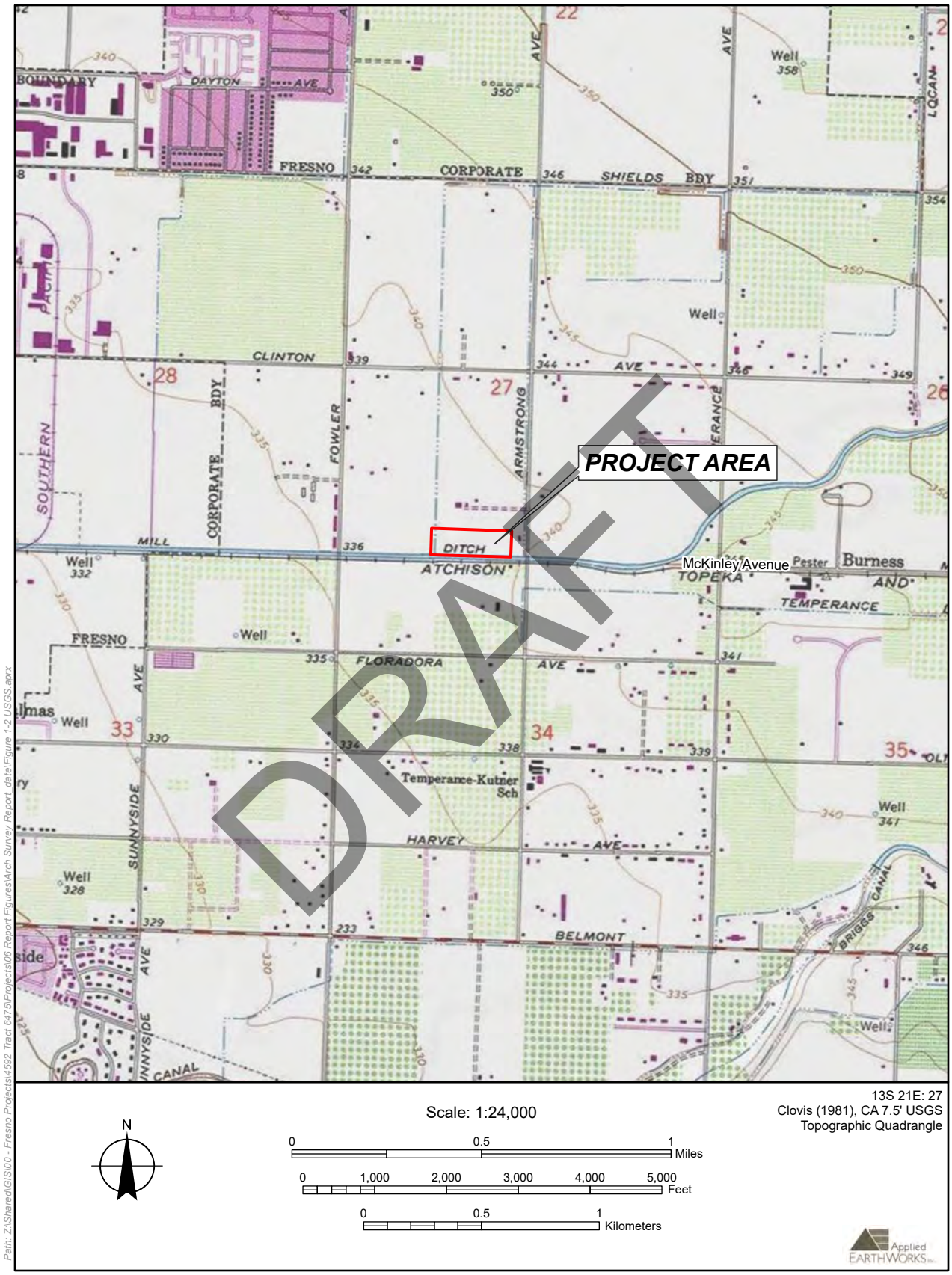


Figure 1-2 Project location on the USGS Clovis 7.5-minute topographic quadrangle.



Figure 1-3 Aerial view of the Project Area.

that any adopted measures to mitigate or avoid significant adverse changes are fully enforceable through permit conditions, agreements, or other measures" (14 CCR Section 15064.5[b][4]; PRC Section 5020.1[q]).

For the purposes of this report, a cultural resource is defined as a precontact or historical (i.e., 45 years old or older) archaeological site or a historical building, structure, or object. A tribal cultural resource (TCR), as defined in PRC Section 21074(a), is a site, feature, place, cultural landscape, sacred place or object that is of cultural value to a California Native American tribe and is either listed or eligible for listing in the CRHR or included in a local register of historical resources. A TCR may also be a resource determined by the lead agency, at its discretion and with substantial evidence, pursuant to CRHR criteria for a historical resource (PRC Section 5024.1[c]). Additionally, as defined at PRC Section 21074(c), a historical resource, a unique archaeological resource, or a non-unique archaeological resource may also be a TCR if it conforms to the criteria of a TCR in PRC Section 21074(a).

To assist Lennar in fulfilling City permitting requirements in support of CEQA, *Æ* carried out a cultural resource study to identify whether there are historical resources within the Project area that could be impacted by the Project. *Æ*'s study included a records search at the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS) at California State University, Bakersfield; desktop research to better understand the history of land use in the Project area; and a search of the Native American Heritage Commission's (NAHC) Sacred Lands File and non-government-to-government outreach with local tribal representatives. Additionally, *Æ* completed a pedestrian survey of the 10.92-acre Project area to identify, record and evaluate the significance (i.e., CRHR-eligibility) of cultural resources within the Project area. TCRs are not included in *Æ*'s identification efforts; however, the City will conclude the presence and or absence of TCR's through their Assembly Bill 52 consultation.

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1.3 PROJECT PERSONNEL

Æ Principal Archaeologist Anna Hoover (M.S., Registered Professional Archaeologist [RPA] 28576661) served as Principal Investigator and Project Manager. *Æ* Principal Archaeologist Emerita Mary Baloian (Ph.D., RPA 15189) reviewed the report for technical accuracy. *Æ* Principal Architectural Historian Carlos van Onna (M.A.) oversaw the built-environment portion of the Project. *Æ* Associate Archaeologist Ward Stanley (B.A.) conducted the archaeological pedestrian survey and was the primary author of the report. Staff Architectural Historian Julio Olivares (M.A.) conducted the built-environment pedestrian survey. *Æ* Associate Architectural Historian Cheyenne Good-Peery served as co-author of the report. Résumés for key personnel are in Appendix A.

1.4 REPORT ORGANIZATION

This document consists of six chapters. Following this introduction, Chapter 2 describes the environmental and cultural setting of the Project area. Chapter 3 presents *Æ*'s methods for the cultural resource study, including archival research, records search, NAHC Sacred Lands File search, and pedestrian survey. Results of the study efforts are discussed in Chapter 4, while Chapter 5 provides the eligibility evaluation for listing in the CRHR for the one cultural resource

identified in the Project area. Chapter 6 contains a summary and recommendations, and a complete listing of references cited is provided in Chapter 7. Appendix A provides résumés for key personnel; Appendix B presents the results of the records search; Appendix C contains the results from the NAHC search of the Sacred Lands File, letters to local tribal representatives, copies of email responses from tribes, and a communications log detailing all correspondence. Appendix D contains the California Department of Parks and Recreation (DPR) cultural resource forms.

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2
SETTING

This chapter provides information on natural conditions and resources that would have played a role in human occupation and resource utilization within the Project area. The archaeological overview discusses previous studies that have defined the temporal-cultural divisions of precontact occupation in the area. The ethnographic section describes the native people who have lived within the Project area during the late precontact and early historic eras, while the historic context section provides specific details about relevant historic trends and developments in the Project vicinity. Understanding local history is critical for defining important local, state, and/or regional events, trends, or patterns in history and the precontact period; and interpreting the significance of precontact and historic-era resources. Detailed information about the ownership history and historical development of the Project area is outlined in Section 4.2.

2.1 NATURAL SETTING

The Project area is in the eastern half of the San Joaquin Valley, approximately 10 miles from the base of the Sierra Nevada foothills. The San Joaquin Valley and its northern counterpart, the Sacramento Valley, make up the Great Valley—a 50-mile-wide lowland that extends approximately 500 miles south from the Cascade Range to the Tehachapi Mountains (Norris and Webb 1990). The upper levels of the Great Valley floor are composed of alluvium and flood materials. Below these strata are layers of marine and nonmarine rocks, including claystone, sandstone, shale, basalt, andesite, and serpentine. The Great Valley is primarily drained by its two prominent hydrologic features, the Sacramento and San Joaquin rivers, which flow into San Francisco Bay. Between the Mesozoic and Cenozoic eras, the Great Valley served as a shallow marine embayment containing numerous lakes, primarily within the San Joaquin Valley (Norris and Webb 1990). Waters began to diminish about 10 million years ago, eventually dwindling to the drainages, tributaries, and small lakes that exist today (Hill 1984).

The San Joaquin Valley is bounded by the Sacramento–San Joaquin River Delta to the north, the Sierra Nevada to the east, the Coast Ranges to the west, and the Tehachapi Mountains to the south. Before historic drainage projects and modern reclamation, seasonal flooding produced extensive wetlands. Lakes, marshes, and sloughs once covered more than 3,100 square miles (5,000 square kilometers) in the San Joaquin Valley (Moratto 1984). The largest of these was ancient Tulare Lake, which occupied a structural basin formed by downwarping and extended as much as 28 miles (45 kilometers) from shore to shore (Davis et al. 1959).

The development of agriculture within the county resulted in the replacement of native plants and animals with domesticated species. Common native plants included white, blue, and live oaks as well as walnut, cottonwood, willow, and tule. Also predominant were bulrush and cattail, various grasses, flowers, and saltbrush. The previously swampy valley floor once provided a lush habitat for a variety of animals. Large mammals included mule deer, tule elk, pronghorn, grizzly and black bears, and mountain lions (Preston 1981). Other mammals noted are the gray wolf, valley coyote, bobcat, gray and kit foxes, and rabbits. Birds like the American osprey, redwing blackbird, marsh hawk, willow and Nuttall woodpeckers, western meadowlark, and quail flocked to the area. The lakes, rivers, and streams throughout the vicinity provided habitat for

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anadromous and freshwater fish, including Chinook salmon, white sturgeon, Sacramento perch, rainbow trout, thick-tailed chub, and Sacramento sucker (Preston 1981).

2.2 PRECONTACT HISTORY AND ARCHAEOLOGY

Establishing a chronological framework and gaining a better understanding of diachronic changes in settlement organization and land use are important research domains for archaeology and to place cultural resources within the Project area into a contemporary, linear timeline. It is important to note that these chronological segments are unique to archaeology and are often not ascribed to by the local Native American tribes, who have their own traditions and culture that define their place in the natural world.

The San Joaquin Valley prehistoric record is among the least understood of all regions in California. Reconstruction of past cultural patterns, particularly in the southern San Joaquin Valley, has been hampered by two key factors: geomorphology and human activity (Dillon 2002; Siefkin 1999). The valley floor that encompasses the Project area has been inundated with thick alluvial deposits resulting from granitic and sedimentary outflow from the Kings, Tulare, and Kaweah rivers, particularly during mass flood events. This pattern has continued for millennia and has resulted in the burial of early to middle Holocene archaeological sites, estimated to be buried at depths up to 10 meters along the lower stretches of the San Joaquin Valley drainage systems (Moratto 1984). Thus, compared to other regions in the state, there is a paucity of archaeological research and a related lack of data from which to build a complete understanding of past human behavior specific to Fresno County.

Nevertheless, available data for sites in valley lacustrine environments help identify key cultural changes within the Project area. The summary of cultural traits presented below is based on a review of San Joaquin Valley lacustrine, riverine, and valley floor site data discussed in Rosenthal et al. (2007). Cultural periods and accompanying dates (given as calibrated calendar years [cal B.C. or A.D.]) are based on chronologies established by Rosenthal et al. (2007), Moratto (1984), McGuire and Garfinkel (1980), and Bennyhoff and Fredrickson (Fredrickson 1973, 1974).

The Paleoindian Period (13,450–10,500 cal B.P.) is represented by ephemeral lacustrine sites dominated by atlatl dart and spear projectile points. The earliest evidence of distinct valley cultural patterns is associated with the Lower Archaic Period (10,500–7,500 cal B.P.), when crescents and stemmed projectile points were first used. Sites from this period contain dietary evidence of freshwater fish, waterfowl, mussels, deer, and pronghorn. The Middle Archaic (7500–2500 cal B.P.) includes a time when semipermanent villages first appeared along riverbanks in tandem with larger, more established lacustrine villages. Flaked stone tools were used in abundance, while ground stone tool kits emerged along with long-distance trade and exchange networks focused on obsidian, shell beads, and ornaments.

New cultural patterns emerged during the Upper Archaic Period (2500–850 cal B.P.) when a distinct shift in burial practices and new differences in site and artifact types appeared across the valley (Moratto 1984; Rosenthal et al. 2007). In particular, the emergence of mound sites throughout the valley along riparian zones and marsh environments occurred. Widespread proliferation of specialized technology is evident, including new types of bone tools, projectile

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points, and ceremonial objects such as wands and blades. Paleoethnobotanical studies also suggest an expansion in the use of labor-intensive and seasonally abundant resources, including acorns, pine nuts, salmon, and shellfish. Similarly, the Emergent Period, extending from 850 cal B.P to the historic era, is marked by more diverse settlement and burial patterns across the valley, coupled with the replacement of atlatl and dart tool kits with bow-and-arrow technology (i.e., small corner-notched and Desert series projectile points) at about 900 cal B.P. Fishing tool kits also expanded to include more efficient harpoons, bone fishhooks, and gorge hooks. In the Tulare Basin, pottery obtained via trade appears as well as baked clay balls used for cooking and making carved clay effigies.

2.3 ETHNOGRAPHIC SETTING

At the time of first contact with the Spanish missionaries, the Yokuts, including Southern Valley, Northern Valley, and Foothill groups, collectively inhabited the San Joaquin Valley as well as the eastern foothills of the Sierra Nevada from the Calaveras River southward to the Kern River (Wallace 1978a, 1978b). The Yokuts language belongs to the broader Penutian family, which subsumes a relatively diverse assemblage of languages including Miwok, Costanoan, Maiduan, and Wintuan (Silverstein 1978). Compared to other Penutian languages, however, Yokuts shows considerable internal linguistic homogeneity, especially given the extent of its geographic distribution. Dialects differ minimally and were mutually intelligible, at least among individuals from contiguous groups. This relative lack of linguistic differentiation suggests that ancestors of the Yokuts entered California after the arrival and subsequent radiation of the more linguistically diverse Penutian groups such as the Miwok and Costanoan (Moratto 1984).

The Project area is within territory that could reasonably be ascribed to both the Gashowu, a tribelet that occupied the drainages of Big Dry Creek and Little Dry Creek, and the Wéchikit, another Yokuts group that occupied lands along the Kings River near Sanger (Kroeber 1976; Latta 1999; Wallace 1978a). Wallace and Kroeber use the alternate names Wechihit/Wechahit and Wetehit.

Two major settlements are attributed to the Gashowu: *Pohonui*, below Letcher on Big Dry Creek, and *Yokau*, on Little Dry Creek in Auberry Valley (Kroeber 1976). These villages appear to have been central year-round settlements that were occupied more intensively in the winter. Food-gathering forays in the spring or summer expanded the Gashowu range to the lowlands of present-day Clovis and Fresno, possibly including the Project area. The primary settlements attributed to the Wéchikit were *Musanau*, between the channels of the Kings River near Sanger, and *Wewio*, on Wahtoke Creek (Latta 1999). Little is known regarding these villages, as the Wéchikit population had died off before Kroeber (1976) performed his fieldwork in the early twentieth century. Both Kroeber and Wallace identified the Wéchikit as an independent and distinct group, although Latta questioned to what extent they were distinct from the surrounding Yokuts tribelets.

Intensive European exploration of Yokuts territory did not take place until the early nineteenth century (Wallace 1978b). Native American populations in the San Joaquin Valley were significantly reduced by disease, and settlement patterns were disrupted as a result of recruitment for Mission Soledad, Mission San Luis Obispo, Mission San Antonio de Padua, and Mission San Juan Bautista. Additional reduction of the Native American population resulted from exposure to

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a series of parasitic diseases (i.e., malaria) and viral epidemics (e.g., influenza) that began in 1833. The diseases struck with such virulence that by 1846 an estimated 40–75 percent of Native Americans had died during outbreaks in California. The Southern Valley Yokuts, residing in their lake-slough-marsh environment, would have been particularly vulnerable to malaria. In 1850, the estimated population of the 15 tribelets of the Southern Valley Yokuts was 15,700; this population was reduced to approximately 3,680 by the mid-twentieth century (Cook 1955).

2.4 HISTORIC CONTEXT

The following themes addressed herein provide a framework for evaluating historical archaeological sites and built-environment resources within the Project area and include regional development in the nineteenth and twentieth centuries.

2.4.1 Exploration and Settlement

Drawn to California by the gold rush in 1849, the decline of gold discoveries saw most miners descending from the foothills and looking to other pursuits. The town of Centerville—located along the Kings River in a relatively lush portion of the valley—became an early agricultural and cattle center in the 1850s and 1860s. During this time, farms were generally located near a perennial water source. This constraint on early agriculture kept the valley's two major industries—farming and ranching—in balance. Competition for real estate was minimized because agricultural producers had little interest in expanding into pasturelands that were unsuitable for farming due to the lack of water.

In the late 1860s, land speculators began acquiring enormous portions of federal land in the Central Valley. The San Francisco based German Land Association owned approximately 80,000 acres in the valley. In 1868, A. Y. Easterby of Napa County purchased 5,000 of those acres with the hopes of using extensive water conveyance systems to convert the valley's dry soils into fertile farmlands, greatly expanding the land available for crops. Easterby partnered with Moses Church—a former sheepherder from Napa County—to begin constructing one of the area's first irrigation systems. In 1869, Church contracted engineer Robert Edmiston and began the work on a small scale by extending an existing ditch eastward to nearby Fancher Creek. The creek brought water from the Kings River to the ditch, which subsequently conveyed it to farms across Fresno County (Elliott 1882; Shallat 1978; Willison 1980). The extended eastern portion of the ditch would become the precursor to the larger, more formally designed Fresno Canal, while the west end of the ditch was named the Mill Ditch. A detailed history of the Mill Ditch is in Section 4.4.2.

Following the success of this venture, in 1871, Easterby and Church connected with other prominent men in Fresno County and filed an incorporation charter for the Fresno Canal and Irrigation Company (FCIC), with Moses serving as head. The FCIC completed construction of the first main head gate of the Fresno Canal on the Kings River that allowed 2,000 acre-feet of water to be diverted into the newly constructed irrigation system (Elliott 1882). The Fresno Canal was the FCIC's primary channel. Although it runs a relatively short 12 miles, the Fresno Canal is the source of numerous large branch canals that still irrigate the fields south, west, and east of the Fresno-Clovis metropolitan area, including the Mill Ditch, which runs through the Project area.

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The 1874 “no fence” law, which underscored the growing dominance of agricultural interests, obligated ranchers to contain their cattle and sheep (Vandor 1919a). In effect, the stockman no longer had the entire extent of the San Joaquin Valley at his disposal and was now burdened with the cost of fencing in his herds and flocks where they were less likely to trample growing crops. By 1875, Church’s FCIC owned and operated more than 100 miles of waterways that irrigated numerous agricultural colonies. For Church and other land promoters, the intended effect of irrigation was to increase the value of their properties so that they could be subdivided and sold to newly arriving settlers interested in farming at a hefty profit.

2.4.2 The Colony System and Expansion of Agriculture (1875–1920)

In 1875, mining investor and fledgling farmer Bernhard Marks convinced William S. Chapman, Fresno County’s largest landholder and former owner of the land that is now the Project area, and William H. Martin, a San Francisco financier, that it could be very lucrative to sell land and irrigation rights in Fresno County. An investor could purchase these on a large scale, subdivide the land, and then sell small, irrigated lots at a profit. This practice became known as the colony farm system. The trio first established the Central California Colony southwest of present-day Fresno. It consisted of 192 twenty-acre lots that were sold for $1,000 with no interest and easy payment terms. The venture proved successful, and soon other investors established their own colonies in the area. In a colony, farmers with limited funds and experience could unite and tackle the challenges of cultivating a section, or part of it, together (Nash 1959).

Temperance Colony, directly south of the Project area, was founded around 1875 by Moses J. Church as the Church Colony, or Church Temperance Colony. In addition to being the primary founder of the FCIC, Church was a Seventh Day Adventist and imagined the colony for “those who abstained from the use of intoxicants” (Thickens 1946). For this reason, the colony came to be known as Temperance Colony, named for the temperance movement that was a nationwide effort to bring a halt to frequently destructive alcohol abuse (Library of Congress 2020). Lots in the colony were assured of irrigation and were primarily used to cultivate grapes and other fruits.

As more colonies were established, the irrigation system was expanded. The increase in agricultural products also spurred the development of related industries, including nurseries and farm implement manufacturers. The immigration of a large number of colonists also promoted expansion of commercial ventures that offered food, clothing, and other staples.

Although a variety of crops were grown on the small colony farms, most of the valley was covered in wheat fields in the 1870s. However, when several small grape growers began turning huge profits producing raisins in the 1880s, wheat fields were quickly overtaken by vineyards. This trend gained steam when a nationwide surplus in the grain market and attendant drop in the price of wheat caused valley farmers to shift their attention to these newer crops. Although many fields were covered with vineyards, orchards of citrus, apricots, peaches, and figs became more common in the Fresno area.

The Reclamation Act of 1902 facilitated the further proliferation of smaller farms. This law granted subsidized irrigation water to farmers, provided that the agricultural lands did not exceed 160 acres and that the recipient of the water resided on the property. The bill was intended to assist small farmers while at the same time implementing a legal structure to restrain the

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accumulation of agricultural lands by wealthy property owners. However, difficulties in enforcing the act, loopholes inherent within the statute, and changes to the law over the years have allowed individual farmers to receive cheap irrigation water well beyond the 160-acre limitation. Much of the San Joaquin Valley has been converted into arable land under the 1902 Reclamation Act.

With farms and irrigation firmly established, agricultural production in the county boomed. However, market forces would drive farmers to continue to alter and diversify their crops. In the early 1900s, there was a glut in the grape and raisin market—one of several that would occur in the century (Hall 1986). During this same time, cotton served as rotation crop for dairy farmers or an alternative row crop when prices for food commodities were low (Hall 1986). Such decisions, however, are not always driven exclusively by supply and demand. In the 1910s, many grape and raisin growers switched from the muscat variety to the Thompson Seedless, presently the most popular table grape in the nation. Compared to the muscat, the Thompson grape was less sticky and, more importantly, seedless—two factors that facilitated the packaging and marketing of the product (Hall 1986).

2.4.3 Agricultural Evolution (1920–1950)

The types of crops grown in the valley continued to be dictated by market demands. Wheat was revived to meet the demands of World War I, and production continued until the 1921 depression. The war also spurred the cotton industry. The burgeoning olive industry was stifled for more than a decade when a case of botulism was traced to a can of California olives, resulting in a significant decrease in demand. Grape producers were flush as a result of a booming war economy and the successful Thompson Seedless. However, market saturation and enactment of Prohibition produced such widespread bankruptcies and foreclosures that the grape and raisin industry did not fully recover until World War II.

The ever-increasing expanses of agricultural fields required vast quantities of water for irrigation. By 1920, the rate of water being pumped from the aquifer was greater than the recharge rate. During the 1920s, a state water plan, which called for the construction of dams, canals, and other water facilities, was drafted. Because of this plan, the San Joaquin Valley received assistance through the Central Valley Project (CVP) Act of 1933. The CVP was a massive water conveyance system constructed to alleviate local shortages and balance water supply throughout much of the state (JRP Historical Consulting Services and California Department of Transportation 2000). Construction of the CVP was delayed by World War II, but by the early 1950s the project, which includes the Delta-Mendota Canal, the Madera Canal, the Friant-Kern Canal, and Friant Dam, was functioning as an integrated system. A 1953 Bureau of Reclamation report estimates: “About 500,000 acres of irrigated land which would have reverted to dry farmed land or native pasture without project water retained a market value of $212,750,000 more than they would have without project water, and over $60 million of value has been added to dry land that has been irrigated with project water since 1944” (U.S. Bureau of Reclamation 1956).

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2.4.4 Modern Agriculture (1950–Present)

Even with federal subsidies, farming was a risky and expensive venture. In the 1950s, mechanization and scientific advances contributed to the consolidation of farmland and allowed farmers to easily expand the number of acres in production. Hundreds if not thousands of acres, which previously required numerous workers to sow and harvest, could now be cultivated and managed with only a fraction of the labor. On the west side of Fresno County, farms averaged more than 2,000 acres. Because of the 1902 Reclamation Act, getting water for these large farms became a hotbed issue and a political focus until the 1980s. Much of this land was irrigated by water derived from federal projects such as the San Luis Dam, Pine Flat Dam, or Friant Dam, and, therefore, in theory was subject to the Reclamation Act. Although most farms were technically too large to qualify for federally subsidized water, various political machinations allowed Central Valley farmers to continue to thrive.

In 1982, Congress was finally persuaded to update the Reclamation Act to reflect more modern times. The Reclamation Reform Act, which raised the limitation for federally subsidized water to 960 acres and eliminated the residency restriction, allowed small farmers to increase production. Nevertheless, farming remains a speculative venture, vulnerable to tumultuous market fluctuations. Active interest by the federal government in the form of subsidies, infrastructural projects, and extensive federally funded scientific research has brought some stability, allowing smaller farms to maintain a competitive edge (Clough 1986). In 2000, the average farm comprised 374 acres, with families or individuals, not corporations, driving production (Pollock 2000). In 2017, this number was down to 328 acres. The national average was 444 acres (California Department of Food & Agriculture 2018).

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3
METHODS

This chapter describes methods used to complete the cultural resource study of the Project area. This includes a records search to identify previous cultural resources and studies within and adjacent to the Project area, archival research, Native American outreach, and intensive archaeological and built-environment pedestrian surveys.

3.1 RECORDS SEARCH

At Æ's request, the SSJVIC performed a records search to identify previously recorded resources and prior cultural resources studies within the Project area and surrounding 0.5-mile search radius. Sources consulted by SSJVIC personnel include archaeological site and survey base maps, reports of previous investigations, and cultural resource records (Appendix B).

3.2 ARCHIVAL RESEARCH

Prior to the pedestrian surveys, Æ conducted background and archival research to identify areas within the Project area where extant historic-era buildings, structures, or objects might be present, or where archaeological deposits might exist. Desktop and online library research focused on historical maps, aerial images, atlases, and photographs. Æ reviewed and compiled information from various sources including:

- General Land Office maps (https://glorecords.blm.gov/default.aspx.; 1869);
- Aerial photographs available through the Map Aerial Locator Tool maintained by California State University, Fresno (http://malt.lib.csufresno.edu/MALT/; 1937, 1950, 1957);
- USGS maps (https://ngmdb.usgs.gov/topoview; Clovis 1923 and 1946; Fresno 1955, 1960, 1966, 1982);
- Library of Congress, Digital Collections, Sanborn Fire Insurance Maps Collection (https://www.loc.gov/collections/sanborn-maps/about-this-collection/; Fresno 1885, 1888, 1898);
- Fresno County Assessor Maps (https://www.fresnocountyca.gov/Departments/Assessor/Parcel-Maps; APN 574-130-05);
- Fresno County Surveyor's Office GIS, available through the Fresno County GIS Portal (https://gisportal.co.fresno.ca.us/portal/home/; APN 574-130-05);
- Fresno County Atlases and historic images available through the Online Archive of California database, San Joaquin Valley Library System (https://calisphere.org/collections/17170/);
- Æ's in-house library, which includes maps and local histories.

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The results of the archival research were used in preparing the cultural setting and historic context in Chapter 2 and the CRHR evaluation in Chapter 5.

3.3 NATIVE AMERICAN OUTREACH

Pursuant to California PRC 5097.9, state and local agencies cooperate with and assist the NAHC in its efforts to preserve and protect area of sacred or special cultural and spiritual significance to Native Americans. Æ contacted the NAHC to request a search of its Sacred Lands File to identify Native American resources within and surrounding the Project area and to obtain the names and contact information for individuals knowledgeable of such resources.

The NAHC responded with its findings and attached a list of Native American tribes and individuals culturally affiliated with the area. Æ sent a letter and follow up email summarizing the cultural resource study to each of the contacts identified by the NAHC. In the letter, Æ sought input on known sacred areas within the Project area and surrounding region. Æ followed up with a telephone call to each Native American contact to confirm that the correspondence was received and to provide an opportunity for comment.

Sending letters and recording responses received are part of Æ's standard tribal outreach to complete a cultural resource study and is not part of formal government-to-government consultation. Æ's provided their findings to Lennar to share with the City who is responsible for conducting formal government-to-government consultation with Native American tribes under Assembly Bill 52. Æ's Native American outreach documentation is in Appendix C.

3.4 ARCHAEOLOGICAL AND BUILT-ENVIRONMENT RESOURCE RECORDING

Æ Associate Archaeologist Ward Stanley and Staff Architectural Historian Julio Olivares conducted an intensive pedestrian survey of the Project area to identify archaeological and historic built-environment resources. The archaeological survey entailed walking parallel transects spaced no more than 10 meters apart in all surveyable areas. Representative views of the survey, field conditions, and surrounding environment were digitally photographed on an Apple iPad mini. For the built-environment field survey, surveyors walked the length of the canal segment within the Project area to confirm the findings of preliminary desktop review and record the segment of the Mill Ditch within the Project area on the necessary DPR 523-series cultural resource forms.

Æ's surveyors recorded their field methods and observations on digital Æ Daily Work Record and Survey Field Record forms. ESRI Field Maps and Survey 123 digital applications were used to collect geospatial data. All photographs and field notes are on file at Æ's office in Fresno, California.

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4
FINDINGS

This chapter provides results of the SSJVIC records search, archival research, and describes the pedestrian surveys, including observations of field conditions and cultural resources identified within the Project area.

4.1 RECORDS SEARCH

On March 11, 2024, the SSJVIC responded to Æ's records search request (Records Search File No. 24-096). The SSJVIC reported no previously recorded cultural resources or previous cultural resource investigations within the Project area. Four previous cultural resources studies have been conducted within a 0.5-mile radius of the Project area; however, and no previously recorded cultural resources have been recorded within this radius (Appendix B).

4.1.1 Previously Cultural Resource Studies within 0.5-Mile Search Radius

Four previous cultural resource studies were conducted within a 0.5-mile radius of the Project area (Table 4-1; Appendix B). All four studies were completed in 2019 in support of residential development projects in the north and eastern portion of the 0.5-mile search radius and beyond. No cultural resources were identified as a result of these investigations.

Table 4-1
Previous Cultural Resource Studies within the 0.5-mile Search Radius

CHRIS Report No.	Author(s)	Year	Title
FR-003008	Peak, M. A.	2019	*Cultural Resource Assessment for the Floradora-Armstrong Reorganization-Annexation Area and Tentative Tract 6201 and Tract 6235 Developments, Fresno County California*
FR-003013	Peak, M. A.	2019	*Cultural Resource Assessment for the Tentative Tract 6241 Development, Fresno County California*
FR-003014	Peak, M. A.	2019	*Cultural Resource Assessment for the Meadowood II Tract 6281 Development, Fresno County California*
FR-003016	Peak, M. A.	2019	*Cultural Resource Assessment for the Meadowood I Tract 6285 Development, Fresno County California*

4.2 ARCHIVAL RESEARCH

Æ consulted historical topographic maps and aerial photographs to determine the ownership history and the potential for historic-era cultural resources with the Project area. The review revealed the presence of a portion of one historic-era built-environment resource within the Project area: the Mill Ditch, which may also be referred to in records as the Church Ditch, the Sperry Mill Ditch, Mill Creek Canal, Fresno Mill Ditch, and the Limbaugh Dam Ditch (Grunsky 1898; Shallat 1978). It also revealed that the subject property and surrounding area appears to have been used for agricultural purposes historically to the present day. Æ reviewed all available ownership records for the Project area to determine whether historically notable individuals were

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once associated with the parcel. The ownership history of the Project area is summarized in Table 4-2.

Table 4-2
Ownership History for the Project Area

Date	Source	Description
Township 13S, Range 21E, Section 27		
1869	General Land Office Agricultural Scrip Patents, Nos. 1133, 1135, 1134, 1136	Four separate patents, each containing 160 acres (full section), were deeded to William S. Chapman on August 20, through agricultural public land scrips, which "may provide Colleges for the benefit of Agriculture and the Mechanic Arts."
1885	*Detail Irrigation Map, Fresno Sheet,* William Hammond Hall. California Dept. of Engineering. On file at David Rumsey Map Collection. 1891 *Historical Atlas of Fresno County,* Thos. Thompson. On file at Online Archive of California.	Full section owned by George H. Eggers. Eggers was also shown as the owner of this corner in the 1891 county atlas.
Subdivision No. 14—SE corner of SW 1/4 of Section 27		
1907–1935	1907 *Atlas of Fresno County*, William Harvey. On file at Online Archive of California. 1909, 1911, 1913 *Atlas of Fresno County,* W. C. Guard. On file at Online Archive of California. 1920, 1930, 1935 *Progressive Atlas of Fresno County,* Progressive Map Service. On file at Online Archive of California.	Owned by August R. Halemeier (also spelled Halemeir); Halemeier also owned Subdivision No. 11 at this time. Halemeier was also shown as the owner of this land in the 1909, 1911, 1913, 1920, 1930, and 1935 county atlases.

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4.2.1 Project-Specific History

The earliest available General Land Office maps indicate that Township 13 South, Range 21 East of Section 27, as well as three other sections, were deeded to William S. Chapman on August 20, 1869, through a patent for agricultural public land scrips. The Mill Ditch was originally constructed prior to 1869 as a simple earthen structure created manually with shovel and pick by early San Joaquin Valley farmers. During Chapman's ownership, Moses J. Church improved the small "pick and shovel" ditch and expanded it using horse-drawn scrapers (Shallat 1978). Church subsequently led, with the help of associates A.Y. Easterby, Frederick Roeding, and Chapman, the formalization of the Mill Ditch (Vandor 1919a). The Mill Ditch was one of the first ditches improved as part of Church's large-scale irrigation venture, which was integral to the establishment of the FCIC by 1871. The FCIC undertook wide-reaching economic and irrigation activities and was one of the leading water conveyance developers and successful enterprises of the Fresno area during the latter part of the nineteenth century and early part of the twentieth century (Shallat 1978). It was purchased by the Fresno Irrigation District in 1921.

Church served as the director of the FCIC and is known as the "Father of Irrigation" for his contributions to the advancement of irrigation infrastructure throughout Fresno County (Letson 2010). Church likely oversaw the construction of hundreds of canals and ditches throughout his leadership of the FCIC. Chapman is a pioneer of Fresno County and one of the most successful

land speculators in California, who owned vast holdings in the County that were developed into agricultural colonies. His holdings would prove pivotal in the establishment of an irrigation system across Fresno County. Easterby of Napa was also a pioneer of Fresno County, particularly with regard to agriculture and wheat production. He owned and developed a large ranch tract east of what is now the city of Fresno, which became the Easterby Colony (Vandor 1919a). Roeding was another pioneer of Fresno County noted as a "scientific nursery[man]," who donated a portion of his large landholding to the city of Fresno to become Roeding Park (Vandor 1919a).

Following improvements to the ditch on Chapman's property, Church and Easterby designated the east end of the ditch as the Fresno Canal and the west end as the Mill Ditch in the establishment of the FCIC (Figures 4-1 and 4-2; Fresno Irrigation District 2024; Unknown 1884). The FCIC constructed the Fresno Canal to divert water from the Kings River via the Fancher Creek branch to the Mill Ditch, which conveyed water through what would become Fresno's downtown to the agricultural colonies in the southeast (Shallat 1978; Thickens 1946; Vandor 1919a). The FCIC, chartered in 1871, was one of the earliest large-scale irrigation ventures in the San Joaquin Valley, whose success spurned a long-running period of irrigation construction in the county. As stated in *Water and the Rise of Public Ownership on the Fresno Plain*, "The incorporation of the Fresno Canal [and Irrigation] Company launched a quarter century of fevered canal construction" (Shallat 1978). The FCIC was the largest purveyor of water in Fresno County from 1871 to 1921 (Shallat 1978).

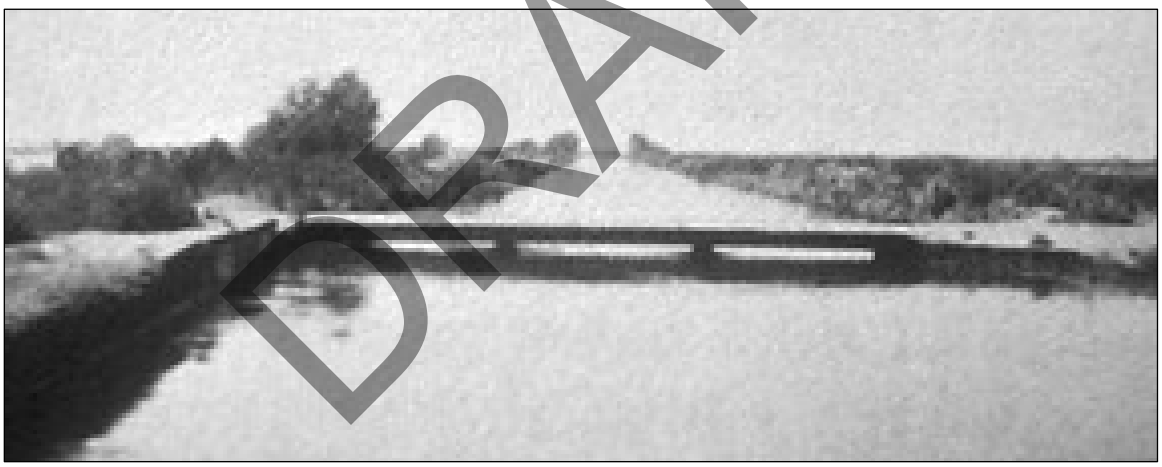


Figure 4-1 Historic image of the Fresno Canal, circa 1872.

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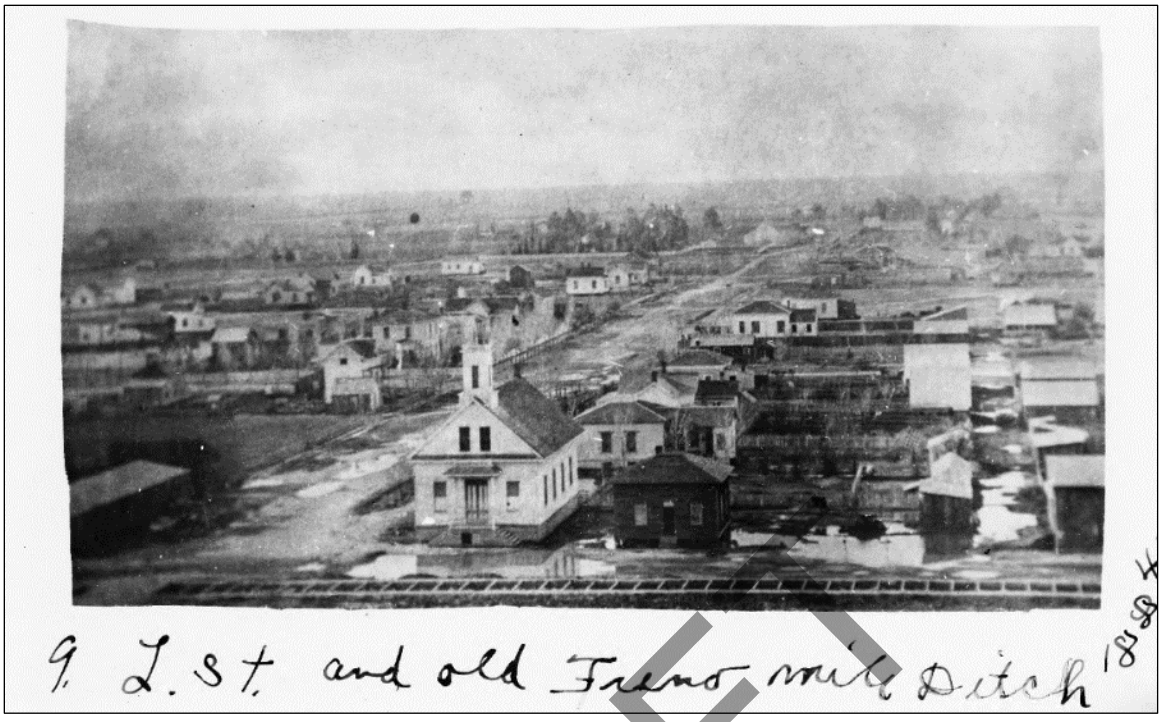


Figure 4-2 Photograph of the intersection of L Street and Fresno Street with the Mill Ditch braced with timbers in the foreground, circa 1884.

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For many years after the establishment of the Mill Ditch within the FCIC system in 1871, the ditch was used to help operate a flour and grist mill in the center of downtown Fresno (Figure 4-4; Sanborn Map Company 1885). The flour and grist mill, originally a wood-clad building, was first owned by Moses J. Church in 1883 and operated as M. J. Church's Champion Flour Mill (Figure 4-3; L. W. Klein 1901; Letson 2012; Vandor 1919a). The mill was improved with brick cladding in 1892, and was purchased by Sperry Flour Company, a commercial chain, in 1893, who continued the building's operation as a flour mill (Figure 4-9; Letson 2012; Vandor 1919a). After running through the mill's power facilities, the water continued through downtown via the Mill Ditch to irrigate the agricultural colonies, southwest of the center of Fresno.



Figure 4-3 Historical advertisement for the Sperry Flour Co. mill in Fresno, circa 1901.

Around the turn of the twentieth century, an increasing number of larger agricultural parcels in Fresno County were subdivided into smaller individual lots. These smaller lots were owned by farmers who cultivated vineyards, tree fruits, citrus, or other premium crops that could be profitably grown on a small scale. This farmland was irrigated from water transported through a series of canals and ditches. These water conveyance systems were vital to agricultural development.

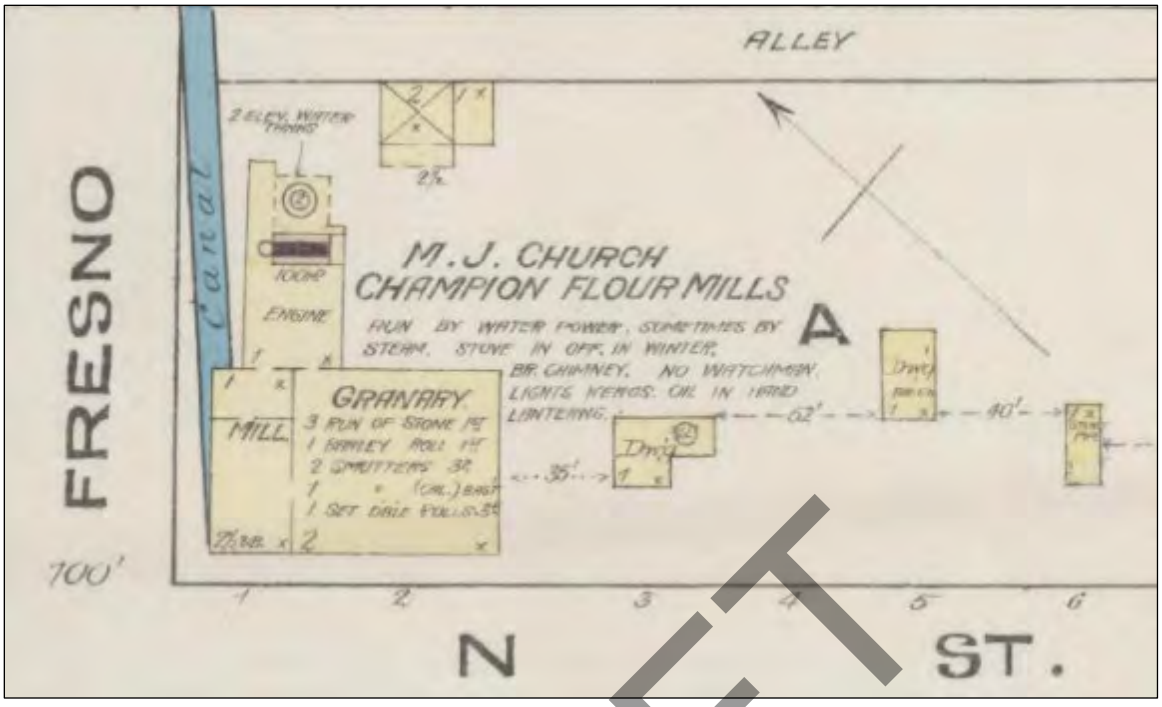


Figure 4-4 Sanborn Fire Insurance map from 1885 showing the Mill Ditch and Church Flour Mill.

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The 1885 California Department of Engineering *Detail Irrigation Map, Fresno Sheet* as well as the 1891 *Historical Atlas of Fresno County* show George H. Eggers as the owner of Section 27. Eggers was a Fresno County pioneer, prominent viticulturalist, and founder of the Eggers Colony and Eggers & Co. vineyard enterprise (Fresno Republican 1880; Vandor 1919a). The Eggers Colony, immediately west and north of the Project area, cultivated muscat grapes among other varieties for wine production and purchase at the Eggers Winery (Vandor 1919b). Although Eggers was owner of the parcel from circa 1885 to 1907, no research indicated that the subject parcel was ever formally considered part of the Eggers Colony (Guard 1909; Hall 1885; Thompson 1891). The Mill Ditch is first mapped and labeled on the 1885 Fresno County Irrigation Map, as well as the 1885 Sanborn Fire Insurance maps for the City of Fresno.

Major canals, most of which were constructed during a substantial boom in irrigation expansion between 1870 and 1890, brought water from the San Joaquin and Kings rivers to the Fresno region. By 1890, as a main irrigation channel through the center of the city of Fresno, the Mill Ditch developed sanitation issues and was declared a public nuisance (Vandor 1919a). In 1892, the city council obtained an injunction, which forced the FCIC to fill the Mill Ditch where it transected the downtown City limits (Shallat 1978; Vandor 1919a). The west end of the ditch was undergrounded and renamed as part of remediation efforts undertaken in 1892 (Grunsky 1898; Vandor 1919a). As part of the abatement of the Mill Ditch, a new 10-inch-diameter pipe was installed underground where the ditch was filled to continue supplying water to the colonies southwest of the city limits (Sanborn Map Company 1885, 1888). As a result, the ditch no longer operated for power production; however, it continued to operate as an integral irrigation canal for the FCIC system. Between 1896 and 1897, the ditch was extended and improved by Moses J. Church, as part of the first unit of the FCIC system (Elliott 1882; Shallat 1978; Willison 1980).

Available Fresno County atlases show that Subdivision No. 14, or the southeast corner of the southwest quarter of Section 27, was owned by viticulturalist August H. Halemeier, also spelled Halemeir in some records, between 1907 and 1935. A 1937 aerial photograph suggests that Halemeier primarily used the parcel for agricultural production (Agricultural Adjustment Administration 1937). The Mill Ditch is visible in the earliest available aerial photograph captured in 1937 (Agricultural Adjustment Administration 1937; Hall 1885).

A 1923 USGS topographical map, the first available topographical map of the area, shows a railway just south of the Mill Ditch, outside of the Project area, labeled "Fresno Interurban Railroad." This railroad was adopted as part of the San Joaquin Valley branch of the Atchison, Topeka, and Santa Fe Railroad and was decommissioned in 1992. Today, this segment of the railroad is no longer extant.

Subsequent historical topographic maps and aerial photographs suggest that the subject property has been used for agricultural purposes to the present day. *Æ*'s review did not suggest that any buildings or structures other than the Mill Ditch were historically present within the Project area. Modern maps label the underground portion of the Mill Ditch, as well as the portion that supplies water to the colonies to the southwest, as the Dry Creek Ditch (Fresno Irrigation District 2018). Today, the Mill Ditch continues to receive its water from the Fresno Canal, operates as an irrigation canal within the Fresno Irrigation District, and continues to irrigate agricultural parcels and lateral ditches within Fresno County (Fresno Irrigation District 2018). The segment through the Project area remains aboveground in its historic alignment.

4.3 NATIVE AMERICAN OUTREACH

On February 28, 2024, *Æ* requested a search of the NAHC's Sacred Lands File (SLF) and a Tribal contact list. On March 5, 2024, the NAHC provided a response stating that its search results were negative for the presence of cultural resources in the Project area (Appendix C). They cautioned that the absence of specific site information in the Sacred Land Files does not indicate the absence of cultural resources in the Project area and supplied a list of individuals to be contacted for information regarding locations of sacred or special sites of cultural or spiritual significance in the Project area.

On March 7, 2024, *Æ* sent a letter via email and U.S. Postal Service describing the Project and its location to:

- Chairperson Robert Ledger of the Dumna Wo-Wah Tribal Government;
- Environmental/Heritage Manager Mary Stalter of the North Fork Rancheria of Mono Indians;
- Chairperson Fred Beihn of the North Fork Rancheria of Mono Indians;
- Tribal Compliance Officer Timothy Perez of the Northern Valley Yokut/Ohlone Tribe;
- Tribal Historic Preservation Officer Heather Aiery of the Picayune Rancheria of the Chukchansi Indians;

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- Chairperson Tracey Hopkins of the Picayune Rancheria of the Chukchansi Indians;
- Cultural Specialist II Samantha McCarty of the Santa Rosa Rancheria Tachi Yokut Tribe;
- Cultural Specialist I Nichole Escalon of the Santa Rosa Rancheria Tachi Yokut Tribe;
- Tribal Historic Preservation Officer Shana Powers of the Santa Rosa Rancheria Tachi Yokut Tribe;
- Director of Cultural Resource Preservation Jazzmyn Gegere of the Southern Sierra Miwuk Nation;
- Chairperson Sandra Chapman of the Southern Sierra Miwuk Nation;
- Chairperson Michelle Heredia-Cordova of the Table Mountain Rancheria;
- Cultural Resource Director Bob Pennell of the Table Mountain Rancheria;
- Chairperson David Alvarez of the Traditional Choinumni Tribe;
- Environmental Department Kerri Vera of the Tule River Indian Tribe;
- Tribal Archaeologist Joey Garfield of the Tule River Indian Tribe;
- Chairperson Neil Peyron of the Tule River Indian Tribe, and
- Chairperson Kenneth Woodrow of the Wuksachi Indian Tribe/Eshom Valley Band.

On March 25, 2024, Æ received a response letter from Cultural Resource Director Bob Pennell of the Table Mountain Rancheria requesting the records search results from the SSJVIC and a meeting to discuss the project. Director of Cultural Resource Preservation Jazzmyn Gegere of the Southern Sierra Miwuk Nation deferred to the Picayune Rancheria. Tribal Historic Preservation Officer Heather Airey of the Picayune Rancheria of the Chukchansi Indians declined interest in the Project. The Santa Rosa Rancheria Tachi Yokut responded deferring interest to tribes more local to the Project area. Æ followed up by telephone on April 9, 2024, to those Native American contacts who had not yet responded to confirm that they received Æ's correspondence and to provide an opportunity to comment. To date, no further responses from tribal representatives have been received. A log detailing Æ's outreach efforts and responses is in Appendix C.

4.4 ARCHAEOLOGICAL SURVEY

4.4.1 Survey Conditions and Findings

Æ Associate Archaeologist Ward Stanley conducted an intensive archaeological pedestrian survey on March 29, 2024, of the entire 10.92-acre Project area. The survey area is a flat field with furrows throughout (Figure 4-5) and is bound by the Mill Ditch to the south, neighborhood development to the west, an olive grove to the north, and a single residence to the east. Forbs and grasses covered much of the survey area resulting in an average of 25 percent ground visibility

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throughout the Project area (Figures 4-5 and 4-6). In the west half of the parcel, ground visibility increased to 25–50 percent due to recent tilling (Figure 4-7). Dirt access roads run along the north, west, and southern Project boundary. The southern access road is adjacent to the Mill Ditch and is comprised of introduced sandy soils with gravel affording 100 percent ground visibility (Figure 4-8). The western and northern access roads were moderately covered with grass reducing ground visibility to 25–50 percent (Figure 4-9). Soil throughout the Project area is a brown silty to sandy loam with light amounts of gravel including granite, quartz, and basalt. Several of the basalt gravels were clearly introduced as they showed signs of crushing by a gravel processing plant and uniformity in shape and material with other gravels. The gravels range in size from 2 to 3 centimeters. Modern refuse was moderate throughout the entire Project area and no historical or precontact cultural resources were identified.


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Figure 4-5 Furrows and moderate vegetation cover, facing north.



Figure 4-6 Forbs and grasses offering less than 25 percent ground visibility, facing northwest.



Figure 4-7 Recent tilling and survey conditions with 50 percent ground visibility, facing north.

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Figure 4-8 Access road along the southern Project boundary adjacent to Mill Ditch, facing west.



Figure 4-9 Access road along the northern Project area boundary, facing east.

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4.5 BUILT-ENVIRONMENT FINDINGS

The built-environment field survey confirmed the presence of one historic-era structure within the Project area—a segment of the Mill Ditch. The northern embankment of the Mill Ditch runs along the southern edge of the Project area boundary. Æ recorded a 1,278-foot-long segment of the Mill Ditch within the Project area. Available ownership records convey that the Mill Ditch was originally constructed by early San Joaquin Valley farmers prior to 1869. The recorded segment is described in greater detail below.

4.5.1 Mill Ditch

The Mill Ditch is approximately 8.3 miles long and serves as a main feeder and irrigation canal headed at the Fresno Canal and the Fresno Canal Basin approximately 2.5 miles southeast of the Project area and presently terminates at the Dry Creek Canal and Herndon Canal approximately 4.8 miles west of the Project area (Fresno Irrigation District 2018). Historically, the Mill Ditch extended much farther southwest, running through the center of downtown Fresno to feed branch ditches and canals irrigating the early Fresno County colonies (Elliott 1882; Shallat 1978; Willison 1980). These downstream portions have since been renamed.

A 1,278-foot-long segment of the Mill Ditch runs east to west through the southern end of the Project area (Figure 1-3). The segment within the Project area is partially earthen and partially concrete-lined. The concrete-lined portion includes several small sections of crumbling concrete abutted by concrete rubble, and the spaces between the concrete sections of the ditch segment are unlined. The banks of the earthen portion of the ditch appear to have been treated with rubble and stone to help minimize eroding (Figure 4-10). Signs of animal burrowing and vegetation intrusion are also present (Figure 4-11). The concrete-lined portion of the segment is crumbling at the edges and has significant pitting, cracking, and spalling (Figure 4-12). The banks of the ditch segment serve as dirt operation and maintenance roads for the ditch, and as such the top of each bank range from 12 to 20 feet wide (Figure 4-13). The ditch segment is 50 feet wide from bank to bank, and it includes a concrete water gate structure at the east end, as well as a concrete drop structure toward the west end. The bed of the ditch segment could not be recorded due to water conveyance at the time of recordation.

The water gate at the east end of the segment consists of a concrete chamber containing a circular iron door operated by a manual gate wheel (Figure 4-14). Toward the west end of the segment, the drop structure consists of a concrete slope with two concrete weir structures, which were mostly covered by water at the time of recordation (Figures 4-15 and 4-16). A modern red metal grate bridge with safety handrails crosses the width of the ditch over the drop structure. The east end of the segment is immediately east of where the ditch underpasses the concrete Armstrong Avenue bridge outside the Project area.

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Figure 4-10 Mill Ditch segment from the north bank, with detail of vegetation intrusion on the earthen banks, facing southwest.



Figure 4-11 Segment condition showing erosion and animal burrowing on the earthen bank, facing south.

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Figure 4-12 Segment conditions showing deterioration on concrete lining, facing northeast.



Figure 4-13 Top of north bank that serves as dirt operation and maintenance road, facing west.

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Figure 4-14 Water gate on the north bank at the east end of the Mill Ditch segment.



Figure 4-15 Drop structure toward the west end of the Mill Ditch segment, facing northeast.



Figure 4-16 Slope and weirs within the drop structure, facing southwest.

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5
HISTORIC RESOURCE EVALUATION

This chapter presents the CRHR evaluation criteria and eligibility evaluation of the Mill Ditch. The details of the evaluation are provided below while additional information is provided on the DPR 523-series forms in Appendix E.

5.1 EVALUATION CRITERIA

To determine whether the Project will have a significant impact on a potential historical resource, cultural resources within the Project area must be evaluated for eligibility to be listed in the CRHR. If a resource qualifies as a historical resource, the potential for the Project to cause a significant adverse change to the qualities of the resource that make it eligible will require assessment, and the impacts may be subject to mitigation to reduce the impacts to less than significant. Cultural resources that are not eligible for listing in the CRHR do not require further consideration. The National Park Service (NPS) has established a process for identifying, evaluating, and assessing effects to historic properties (i.e., cultural resources eligible for listing in the National Register of Historic Places). Practically speaking, determinations made within a federal regulatory context are almost always universally accepted for purposes of identifying, evaluating, and assessing impacts under CEQA. Thus, the NPS guidelines are applicable herein.

The first threshold in this process is to ascertain whether a site or built-environment resource within the Project area is old enough to be considered a historical resource and, accordingly, eligible for listing in the CRHR. To be eligible for listing in the CRHR, an archaeological or built-environment resource must be 45 years old or older. Documentation of resources less than 45 years old also may be filed if those resources have been formally evaluated, regardless of the outcome of the evaluation (Office of Historic Preservation 1995). If a resource is found to meet this age criterion, the following sequential steps apply:

- Classifying the resource as a district, archaeological site, building, structure, or object;
- Determining the theme, context, and relevant thematic period of significance with which the resource is associated;
- Determining whether the resource is historically important under a set of significance criteria; and
- If significant, determining whether the resource retains integrity.

In California, historical resources are usually classified according to *Instructions for Recording Historical Resources*, published by the California Office of Historic Preservation in 1995. This handbook contains listings of resource categories for historical and precontact sites as well as standing structures. For built-environment resources, it is additionally helpful to define a property's type (e.g., commercial vs. residential, urban vs. rural, agricultural vs. industrial).

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The significance of a historical resource is best understood and judged in relation to a historic context (Office of Historic Preservation 1995). The evaluation process essentially weighs the relative importance of events, people, and places against the larger backdrop of history. Within this process, the context provides the comparative standards and/or examples as well as the theme(s) necessary for this assessment. According to the NPS (1997b), a theme is a pattern or trend that has influenced the history of an area over time. A theme is typically couched in geographic (i.e., local, state, or national) and temporal terms to focus and facilitate the evaluation process.

Significance is based on how well a subject resource represents one or more themes through its associations with important events or people and/or through its inherent qualities. A resource must demonstrate more than just association with a theme; it must be a good representative of the theme, capable of illustrating the various thematic elements of a time and place in history.

According to the CEQA Guidelines, for a historical resource to be eligible for listing in the CRHR, it must meet at least one of the criteria defined in California PRC 5024.1(c):

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

2. Is associated with the lives of persons important in our past.

3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

4. Has yielded, or may be likely to yield, information important in history or prehistory.

If a resource does not possess historical significance, a discussion of integrity is not required.

5.2 ASPECTS OF INTEGRITY

To be included in the CRHR, a resource must not only possess historical significance but also the physical means to convey such significance—that is, it must possess integrity. Integrity refers to the degree to which a resource retains and expresses its original character. To facilitate this assessment, the NPS (1997a) provides the following definition of the seven aspects of integrity. These aspects of integrity have been adopted by the CRHR.

1. Location is the place where the historic property was constructed or the place where the historic event occurred;

2. Design is the combination of elements that create the form, plan, space, structure, and style of a property;

3. Setting is the physical environment of a historic property;

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4. Materials are the physical elements that were combined or deposited during a particular period and in a particular pattern or configuration to form a historic property;

5. Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;

6. Feeling is a property's expression of the aesthetic or historic sense of a particular period of time; and

7. Association is the direct link between an important historic event or person and a historic property.

5.3 CRHR EVALUATION

Æ evaluated the 1,278-foot-long segment of the Mill Ditch for CRHR-eligibility, which entailed an assessment of historical significance of the entire Mill Ditch and integrity of the recorded segment.

5.3.1 Mill Ditch

5.3.1.1 Significance

To ascertain whether the Mill Ditch segment within the Project area possesses historical significance and has the potential to be eligible for inclusion in the CRHR, a formal discussion of the evaluation criteria is required.

Criterion 1—Associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States: The Mill Ditch is directly associated with the establishment of the FCIC, a prominent pioneering irrigation company that spurned rapid irrigation development in Fresno County from its inception in 1871 until its purchase by the Fresno Irrigation District in 1921. The FCIC was one of the earliest large-scale irrigation ventures in the San Joaquin Valley, and as such, it was exemplary of the larger-scale water conveyance systems that would later dominate this region of the state and allow agriculture to become a prominent California industry. Major canals, most of which were constructed during a substantial boom in irrigation expansion between 1870 and 1890, brought water from the San Joaquin and Kings rivers to the Fresno region. These water conveyance systems were vital to agricultural development. Around the turn of the nineteenth to twentieth centuries, an increasing number of larger agricultural parcels in Fresno County were subdivided into smaller individual lots.

The Mill Ditch operated to irrigate agricultural lots and to help operate the original Church Champion Flour Mill in the center of downtown Fresno (Sanborn Map Company 1885; The Constructor-Civil Engineering Home 2024; Vandor 1919a). The Mill Ditch, improved and expanded starting in 1869, served as an early foundational waterway for this larger FCIC system and is representative of this historically and economically critical period. Therefore, the Mill Ditch is significant under Criterion 1 at the local and state levels for its direct association with the FCIC, early irrigation, and agricultural development within Fresno County.

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Criterion 2—Associated with the lives of persons important to local, California, or national history: The Mill Ditch was originally constructed by early San Joaquin Valley farmers prior to 1869. Between 1869 and 1871, Moses J. Church improved and expanded the Mill Ditch, one of the first early ditches that was part of the wide-reaching economic and irrigation activities undertaken to establish the FCIC. The FCIC would become the leading water conveyance developer and one of the most successful enterprises of the Fresno area during the latter part of the nineteenth century and early part of the twentieth (Shallat 1978). The FCIC was the largest purveyor of water in Fresno County from 1871 to 1921 (Shallat 1978). Church led these efforts, served as the director of the FCIC, and would become known as the "Father of Irrigation" in Fresno County (Shallat 1978). In this role, Church likely oversaw the construction of hundreds of canals and ditches throughout his career as the head of the FCIC.

The Mill Ditch is documented as one of the first ditches that was part of Church's earliest large-scale venture to improve water distribution and increase agricultural field capacity. As a result, the Mill Ditch was a foundational and integral branch of the FCIC system that is representative of the success of Church and his associates and their efforts to grow the agricultural industry. Therefore, the Mill Ditch is significant under Criterion 2 for its direct association with Moses J. Church, a forefather to large-scale irrigation in Fresno County.

Criterion 3—Embodies the distinctive characteristics of a type, period, region, or method or construction, or represents the work of a master, or possesses high artistic values: Significance under Criterion 3, when applied to canals, ditches, and similar linear structures, is measured by distinctive or innovative design, methods of construction, or involvement of a historically significant builder or engineer. This is often problematic because linear features such as canals and transmission lines are continually subject to modernization, leading to the physical removal of such key features. In these cases, archival materials, especially photographs and diagrams, can be helpful to assess significance.

Unfortunately, research did not reveal innovative or novel technological features that would garner significance of the Mill Ditch. The ditch incorporates typical features of this type of construction including check structures, gates, pipes, and secondary field channels. Likewise, the ditch crosses level terrain that did not pose noteworthy engineering challenges. Although Church, the first director of the FCIC, is considered a noteworthy entrepreneur and figure within the context of early water conveyance of the San Joaquin Valley, he is not noted as a builder or engineer who made significant technological advances in this context. The Mill Ditch is representative of the wide, channelized, open ditches that served as primary conveyance structures for the FCIC system of the time and is a structure that consists of simply constructed features that are common to this construction type and do not represent an engineering and technological achievement. It represents the earliest methods employed for water conveyance that were simple and based on gravity flow across even terrain. Therefore, the Mill Ditch is not considered significant under Criterion 3 as a distinctive type or method of construction.

Criterion 4—Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation: Criterion 4 applies to built-environment resources if further study has the potential to yield information that cannot be obtained from other sources. The history of Fresno County irrigation development is well documented. Structural analysis of the Mill Ditch is unlikely to yield new information not readily

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available through historical research. And, in its current form, it largely has a contemporary appearance. *Æ* has exhausted available documentary sources and no additional information could be gleaned from subsequent field visits and intensive recordation. Therefore, *Æ* does not anticipate that any additional information can be identified that would prove the resource to be significant. The Mill Ditch is not considered significant under Criterion 4.

5.3.1.2 Integrity

The Mill Ditch has been recommended significant under CRHR Criteria 1 and 2. This discussion addresses whether the Mill Ditch segment within the Project area retains sufficient integrity to convey that historical significance. This analysis applies the seven aspects of integrity described by the NPS (2002): location, design, setting, materials, workmanship, feeling, and association.

Of the seven aspects of integrity, the recorded segment of the Mill Ditch retains integrity of location, design, and association. This ditch segment is still in its original alignment and place; there is no evidence of re-channelization. The essential form, plan, and structure of the ditch segment has not changed, and it still functions as originally intended. Integrity of setting, however, is compromised by the transformation of what were primarily large, open agricultural fields to a mixture of agricultural, residential, and urban land uses due to the continually growing population of the Fresno area. Immediate examples of this are residential development to the south and installation of a contemporary road bridge spanning the ditch. Integrity of materials and workmanship has been diminished by modern improvements utilizing new construction methods, equipment, and materials, such as replacement of concrete lining and updating of deteriorating operation features. Early canals often gave the appearance of an overgrown creek with freely growing vegetation along the banks of the canal; by contrast, the recorded ditch segment appears fairly well groomed, with minimal vegetation on its banks and substantial installations such as a water gate structure and a drop structure with weirs utilizing concrete. Integrity of feeling has therefore also been affected by the modern improvements constructed to accommodate the immense growth of the urban population in Fresno County and demand for water. As a result of substantial alterations, the recorded segment of the Mill Ditch does not retain sufficient historic integrity to convey its significance.

It should be noted that the integrity assessment only pertains to a small portion of the overall Mill Ditch, 1,278 feet out of a total length of 8.3 miles. Evaluating the integrity of the entire length of the ditch is outside the scope of the current investigation. Further, it is uncertain to what extent the recorded segment reflects the integrity of the Mill Ditch as a whole—also beyond this study's goals.

5.3.1.3 Eligibility

The Mill Ditch is significant under CRHR Criteria 1 and 2. The period of significance is between 1869, the earliest known construction date for the Mill Ditch, and 1921, when the FCIC was purchased by the Fresno Irrigation District. However, because the 1,278-foot-long segment of the Mill Ditch within the Project area does not retain historic integrity, the recorded segment is not eligible for listing in the CRHR and, therefore, does not qualify as a historical resource for the purposes of CEQA.

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6
SUMMARY AND MANAGEMENT RECOMMENDATIONS

At the request of Lennar, Æ conducted a cultural resource study for the proposed Tract 6475 Project in the city of Fresno. The Project will involve the construction of 56 single-family housing units and associated street improvements to the existing Armstrong Avenue and newly proposed McKinley Avenue, installation of fencing, and asphalt trails. Landscaping will be installed on the northern bank of the Mill Ditch, along with a rock-lined access into the ditch on the eastern end. The Project is subject to CEQA, which mandates public agencies determine whether a proposed project will cause a significant change to the environment, including cultural resources. The 10.92-acre Project area on APN 574-130-05 is between Fowler and Armstrong avenues and directly north of the Mill Ditch.

To assist Lennar in fulfilling their responsibility under CEQA, Æ conducted a cultural resource study to identify historical resources (i.e., cultural resources listed or eligible for listing in the CRHR) within the Project area. Accordingly, Æ performed background research, obtained a records search from the SSJVIC, requested a search of the NAHC's SLF, conducted outreach to local tribal representatives, and performed an archaeological and historic built-environment pedestrian survey of the Project area. Additionally, Æ recorded a 1,278-foot-long segment of the Mill Ditch in the Project area and evaluated the resource for CRHR-eligibility.

6.1 SUMMARY

The records search conducted by the SSJVIC reported no previous cultural resource investigations or previously recorded cultural resources within the Project area. Additionally, the SSJVIC revealed four previous cultural resource investigations and no previously recorded cultural resources within the 0.5-mile search radius.

The NAHC's SLF search identified no previously recorded tribal resources within or near the Project area. Æ reached out to the interested individuals and tribal communities on the NAHC contact list. Four tribes responded to Æ's outreach efforts. Table Mountain Rancheria responded requesting the records search results from the SSJVIC and a meeting to discuss the Project. Lennar will provide a copy of the final version of this report to the tribe and convey the request for a formal meeting to the City. The Santa Rosa Rancheria Tachi Yokut responded deferring interest to tribes more local to the Project area. The Southern Sierra Miwuk Nation deferred their response to the Picayune Rancheria of the Chukchansi Indians, who declined interest in the Project. Formal government-to-government consultation under Assembly Bill 52 will be conducted by the City. No additional information regarding sensitive or sacred sites was obtained through Æ's Native American outreach efforts.

Æ conducted an archaeological and historic built-environment survey of the entire 10.92-acre Project area. Although modern refuse was observed throughout the Project area, Æ did not identify any precontact or historic-era archaeological sites, features, or isolated artifacts in the Project area. Æ identified one historic-era built-environment structure, a 1,278-foot-long segment of the Mill Ditch, along the southern boundary of the Project area. Through application of the CRHR evaluation criteria, Æ found the Mill Ditch significant for its association with early

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Fresno County irrigation under CRHR Criterion 1 and for its association with local irrigation pioneer Moses J. Church under Criterion 2. However, the recorded segment does not retain sufficient integrity to convey this significance. The 1,278-foot-long segment of the Mill Ditch in the Project area is therefore not eligible for inclusion in the CRHR. No further action is recommended for the management of this resource.

6.2 RECOMMENDATIONS

Although Æ's study did not identify historical resources within the Project area, general recommendations are provided below in the unlikely event that unanticipated cultural materials are discovered during ground-disturbing activities.

6.2.1 Inadvertent Discoveries

If unknown precontact or historic-era cultural resources are encountered during Project activities, all ground disturbance within 50 feet of the find shall cease until a qualified archaeologist can evaluate the significance of the resource and recommend appropriate treatment measures. If necessary, per CEQA Guidelines Section 15126.4(b)(3)(A), project redesign and preservation in place shall be the preferred means to avoid impacts to significant cultural resources (i.e., historical resources). Consistent with CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that a historical resource cannot be avoided, the qualified archaeologist shall develop mitigation practices in consultation with the City, which may include data recovery or other appropriate measures. The City shall consult with interested Native American representatives in determining appropriate mitigation for unearthed cultural resources if the resources are precontact or Native American in nature. If preservation in place is not possible and additional studies or data recovery mitigation is necessary, the qualified archaeologist shall prepare a report documenting these studies and/or additional mitigation of the resource. A copy of the report shall be provided to City and the SSJVIC. Construction can recommence based on the direction of the qualified archaeologist and with the City's concurrence.

6.2.2 Inadvertent Discoveries of Human Remains

Æ advises that in the event human remains are uncovered during Project activities, the Fresno County Coroner is to be notified to evaluate the remains, and follow the procedures and protocols set forth in CEQA Guidelines Section 15064.4 (e)(1). If the remains are identified to be those of a Native American person, California Health and Safety Code 7050.5 requires that the county coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendant, who will be afforded the opportunity to recommend means for treatment of the human remains following protocols in California PRC 5097.98.

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APPENDIX A

Personnel Qualifications

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ANNA HOOVER

Principal Archaeologist

Areas of Expertise

- Cultural resources management
- Prehistoric archaeology of southern California
- Indigenous archaeology and Native American/descendant community coordination
- Federal, state, local environmental laws and regulations
- Training, capacity building
- Traditional Cultural Property and Landscape analysis

Years of Experience

- 25

Education

M.S., Anthropology, focus Archaeology, 2003, University of California, Riverside

B.S., Anthropology, 2000, University of California, Riverside

B.A., Linguistics, 2000, University of California, Riverside

A.A., English, 1996, Long Beach City College

Registrations/Certifications

- Registered Professional Archaeologist 28576661 (current)
- Cultural Consultant, Riverside County #171 (current)

Permits/Licensure

- Field Director, California BLM Statewide Cultural Resources Use Permit CA-21-21

Professional Associations

- Society of California Archaeology
- Association of Environmental Professionals

Professional Experience

2023–	Principal Archaeologist, Applied EarthWorks, Inc.
2020–2022	Senior Archaeologist, Applied EarthWorks, Inc.
2017–2023	Senior Ethnoarchaeologist, Cultural Geographics Consulting
2007–2017	Deputy Tribal Historic Preservation Officer, Pechanga Band of Luiseño Mission Indians
2001–2015	Archaeological Assistant, San Bernardino County Coroner
2002–2007	Senior Archaeologist, L&L Environmental, Inc.

Technical Qualifications

Ms. Hoover has more than 24 years of experience in archaeological, cultural, and tribal resource management in southern California, Alta and Baja California, and Yucatan, Mexico. Ms. Hoover has collaborated with governmental agencies, environmental consultants, and indigenous communities to develop sustainable and practical applications for the identification and preservation of archaeological and tribal cultural resources, including landscapes and large, geographical features. As a capable Project Manager, she has coordinated dozens of CRM projects during all phases of development, including managing logistics and communications with various clients, lead agencies, Tribal communities, and project staff. Ms. Hoover is the designated archaeologist of record for three Native American Tribal Historic Preservation Offices (THPOs) in southern California.

Ms. Hoover has authored, co-authored, reviewed, and contributed to hundreds of California Environmental Quality Act (CEQA), Section 106 of the National Historic Preservation Act (NHPA), and National Environmental Policy Act (NEPA) technical reports; Programmatic, Memoranda, and Master Agreements; THPO development applications and associated tribal ordinances and historic preservation guidance; ethnographic studies and National Register of Historic Places eligibility forms; and other compliance and mitigation documents.

Ms. Hoover has presented collaborative projects, personal research, cultural resources education, and environmental regulation guidance trainings to a wide variety of audiences, including topics such as AB 52, SB 18 and CEQA guidance, cultural and tribal consultation best practices, and Tribal Monitoring Program trainings. She has contributed to CalTHPO organizational committees, participated in development of California and Federal archaeological and tribal consultation policies, and contributed to a published book on Tribal GIS applications.

DRAFT

MARY CLARK BALOIAN

Principal Archaeologist

Areas of Expertise

- Cultural resource management
- Prehistoric archaeology
- Project management

Years of Experience

- 30

Education

Ph.D., Anthropology, Southern Methodist University, 2003

M.A., Anthropology, Southern Methodist University, 1995

B.A., Anthropology, University of California, Davis, 1989

Registrations/Certifications

- Registered Professional Archaeologist 15189

Permits/Licensure

- Principal Investigator, California BLM Statewide Cultural Resources Use Permit CA-18-22

Professional Affiliations

- Society for American Archaeology
- Society for California Archaeology

Professional Experience

2021–2023	Principal Archaeologist, subconsultant for Applied EarthWorks, Inc., Fresno, California
2000–2020	President (2015–2020), Managing Principal (2015–2020), Regional Manager (2012–2014), Assistant Division Manager (2010–2011), Principal Archaeologist/Project Manager (2016–present), Senior Archaeologist/Project Manager (2000–2015), Applied EarthWorks, Inc., Fresno, California
1998–2001	Adjunct Faculty Member, Fresno City College, Fresno, California
1995–1996	Staff Archaeologist, Applied EarthWorks, Inc., Fresno, California
1994–1995	Staff Archaeologist, INFOTEC Research, Inc., Fresno, California
1992–1994	Teaching Assistant, Southern Methodist University, Dallas, Texas
1989–1991	Archaeological Project Leader, California Department of Transportation, Sacramento

Technical Qualifications

Dr. Clark Baloian has been involved in archaeology in California and the western United States since 1987. Her areas of expertise include the prehistory of the San Joaquin Valley, Sierra Nevada, Great Basin, central California coast, and the Iron Age of West Africa. Dr. Baloian has served as Principal Investigator/Project Manager, Field Supervisor, Crew Chief, or Field Technician for projects throughout California, Oregon, Nevada, New Mexico, Texas, Hawaii, and West Africa. Her experience in cultural resource management includes research design, data acquisition, laboratory analysis, and preparation of technical reports and compliance documents; she also has completed the Advisory Council on Historic Preservation course in National Historic Preservation Act (NHPA) Section 106 compliance policies and procedures. Her analytic skills include lithic and ceramic analyses as well as settlement pattern studies and spatial analysis, which were the foci of her doctoral research. As a Principal Archaeologist and subconsultant for Applied EarthWorks, Dr. Baloian provides quality assurance, high-level technical review, CEQA and Section 106 oversight, and overall professional guidance for project work, as needed.

DRAFT

CARLOS VAN ONNA

Principal Architectural Historian

Areas of Expertise

- Cultural resource management
- Architectural history
- Historic preservation

Years of Experience

- 12

Education

Ph.D. candidate, Architectural History, Utrecht University

M.A., Architectural History and Historic Preservation, Utrecht University, 2010–2011

B.A., Art History, Utrecht University, 2007–2010

Professional Experience

2023–	Principal Architectural Historian, Applied EarthWorks, Inc., Hemet, California
2023	Senior Architectural Historian, PaleoWest, LLC, Los Angeles, California
2022–2023	Senior Planner, Office of Historic Preservation, City of Dallas, Texas
2019–2021	Senior Architectural Historian, Applied EarthWorks, Inc., Fresno, California
2017–2019	Editor/Translator, SDI Media, Los Angeles, California
2016–2017	Subcontractor, GPA Consulting, Los Angeles, California
2015–2016	Project Manager, City of Amsterdam, The Netherlands
2014–2015	Visiting Scholar, Columbia University, New York
2011–2014	Advisor on Cultural History and Urban Development, City of Amsterdam, The Netherlands

Technical Qualifications

Mr. van Onna has been involved in cultural resources management since 2011. His areas of expertise include built environment investigations, preparation of historic resource evaluation reports, and other required documentation for cultural resource management projects. As a Principal Architectural Historian for Applied EarthWorks, Mr. van Onna meets the Secretary of the Interior's professional qualification standards in architectural history. He has prepared technical reports for historical built environment resources to satisfy compliance requirements under the National Historic Preservation Act (NHPA) Section 106 and the California Environmental Quality Act (CEQA), including significance evaluations and eligibility recommendations for inclusion in the National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR). Mr. van Onna has previously worked for the City of Amsterdam, Netherlands, coordinating its Municipal Landmarks Project and completing numerous built environment surveys, studies, and historical significance assessments. More recently, he worked for the city of Dallas as a senior planner in the Office of Historic Preservation. At Applied EarthWorks, he leads built environment studies, provides guidance and assistance to project managers and staff, and conducts review of technical documents. Additional skills include archival research, architectural photography, editing, and quality assurance. Through his pursuit of a doctoral degree at Utrecht University, he explores the role of historic preservation in urban public spaces in the United States.

DRAFT

WARD STANLEY

Associate Archaeologist

Areas of Expertise

- California archaeology—Sierra Nevada
- Survey, excavation, and site recordation
- Geographic Information System applications
- Construction Monitoring
- Project administration support
- Re-creation of aboriginal technology

Years of Experience

- 15

Education

B.A., Anthropology, Kansas State University, 2008

Permits/Licensure

- Field Director, California BLM Statewide Cultural Resources Use Permit CA-21-21

Registrations/Certifications

- OSHA 40-hour HAZWOPER (2022) Supervisor 8-hour HAZWOPER (2022)
- Heartsaver First Aid CPR AED Certification (2022)

Professional Experience

2021–	Associate Archaeologist/Field Supervisor, Applied EarthWorks, Inc., Fresno, California
2015–2020	Staff Archaeologist/Field Supervisor, Applied EarthWorks, Inc., Fresno, California
2011–2017	Archaeological Field Technician/Crew Supervisor, Sierra National Forest and Lassen National Forest
2009–2011	Archaeological Field Technician/Crew Supervisor, Malheur National Forest
2008–2009	Archaeological Field Technician, Plumas National Forest

Technical Qualifications

Mr. Stanley's archaeological experience includes archaeological testing, data recovery excavation, survey, and documentation of both prehistoric and historical resources, and report completion in the Central Valley and Sierra Nevada's in California. He has supervised field crews for several large-scale projects for Sierra, Lassen, Plumas, and Malheur National Forests. This work included prefield research, pedestrian survey, site recording, and report preparation. Mr. Stanley is knowledgeable about Section 106 of the National Historic Preservation Act and associated regulations and processes; he also has experience working with local Native American tribes. In addition to working for the Sierra National Forest, he has served as lead archaeological resource advisor on four separate wildland fires and was responsible for coordinating protection of archaeological resources from suppression efforts. Additionally, he produced assessment damage reports for two fires. For Applied EarthWorks, Mr. Stanley has served as field supervisor for implementation of the Crane Valley Hydroelectric Power Project Historic Properties Management Plan, which includes monitoring of impacts to resources and implementing management measures to avoid or minimize adverse effects to historic properties within the Crane Valley Archaeological District. Served as Field Supervisor for Tract 920 Project requiring monitoring, site testing, and data recovery. Mr. Stanley is knowledgeable in the recreation of California sinew backed bows, self-bows, arrows; atlatl and darts, hand-fire drill, cordage, soapstone artifacts, flintknapping, and pigment processing.

DRAFT

CHEYENNE GOOD-PEERY

Staff Architectural Historian

Areas of Expertise

- Architectural history
- California history
- Environmental history
- Archival and historical research
- CEQA/NEPA application and analysis
- Secretary of the Interior's Standards for the Preservation of Historic Properties

Years of Experience

- 2

Education

B.A., Art History, East Tennessee State University, Johnson City, TN, 2019 (with great distinction)

B.A., Foreign Languages-French, East Tennessee State University, Johnson City, TN, 2019 (with great distinction)

Professional Affiliations

- California Preservation Foundation

Professional Experience

2021– Staff Architectural Historian, Applied EarthWorks, Inc., Fresno, California.

Technical Qualifications

Ms. Good-Peery is a Staff Architectural Historian at Applied EarthWorks, Inc. She received dual Bachelor of Arts degrees in Art History and French from East Tennessee State University in 2019. Ms. Good-Peery's professional responsibilities include policy consistency analysis, historical resource evaluation, significance evaluation, integrity assessment, built environment monitoring, archival and historical research, and architectural field surveys. She maintains all measures to satisfy compliance requirements under Section 106 of the NRHP, CEQA, and local regulations. Since joining Applied EarthWorks, Inc., Ms. Good-Peery has employed her educational background for projects throughout California's central valley, central coast, and southern California, including Fresno, Mariposa, Merced, Kern, Tulare, San Benito, San Luis Obispo, Santa Barbara, San Bernardino, Riverside and Los Angeles Counties. She has prepared evaluations for various types of state historic resources and at-risk properties and performed Section 110 condition assessments at military installations. She has assessed potential adverse effects under 36 CFR 800.5 in support of projects dealing with sensitive or eligible resources. She has also reviewed projects for consistency with the SOI Standards for the Treatment of Historic Properties. She is knowledgeable of urban, rural, residential, commercial, civic, agricultural, transportation, and scientific related properties.

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APPENDIX B

Records Search Results

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*Archaeological site locations are exempt from the California Public Records Act, as specified in Government Code 7927.005, and from the Freedom of Information Act (5 U.S.C. 552[b][3]), under the legal authority of both the NHPA (PL 89-665, as amended, Section 304[a]) and the Archaeological Resources Protection Act (PL 96-95, Section 9[a]).

CHRIS Data Request Form

ACCESS AND USE AGREEMENT NO.: 116.00 **IC FILE NO.:**

To: Southern San Joaquin Valley ☐ Information Center

Print Name: Nicole Saenz Date: February 28, 2024

Affiliation: Applied EarthWorks, Inc.

Address: 1391 W. Shaw Ave., Suite C

City: Fresno State: CA Zip: 93711-3600

Phone: (559) 229-1856 Fax: Email: nsaenz@appliedearthworks.com

Billing Address (if different than above):

Billing Email: kdenny@appliedearthworks.com Billing Phone:

Project Name / Reference: 4592 Tract 6475

Project Street Address: Southeast corner of N. Arstrong Ave and E. Weldon Ave Fresno, CA

County or Counties: Fresno County

Township/Range/UTMs: 13S, 21E, Sections 27, 28, 33, 34

USGS 7.5' Quad(s): Clovis (1981), CA

PRIORITY RESPONSE (Additional Fee): yes ☐ / no ☐

TOTAL FEE NOT TO EXCEED: $ 550.00
(If blank, the Information Center will contact you if the fee is expected to exceed $1,000.00)

Special Instructions:

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Information Center Use Only

Date of CHRIS Data Provided for this Request:

Confidential Data Included in Response: yes ☐ / no ☐

Notes:

CHRIS Data Request Form

Mark the request form as needed. Attach a PDF of your project area (with the radius if applicable) mapped on a 7.5' USGS topographic quadrangle to scale 1:24000 ratio 1:1 neither enlarged nor reduced and include a shapefile of your project area, if available. Shapefiles are the current CHRIS standard for submitting digital spatial data for your project area or radius. **Check with the appropriate IC for current availability of digital data products.**

- Documents will be provided in PDF format. Paper copies will only be provided if PDFs are not available at the time of the request or under specially arranged circumstances.
- Location information will be provided as a digital map product (Custom Maps or GIS data) unless the area has not yet been digitized. In such circumstances, the IC may provide hand drawn maps.
- In addition to the $150/hr. staff time fee, client will be charged the Custom Map fee when GIS is required to complete the request [e.g., a map printout or map image/PDF is requested and no GIS Data is requested, or an electronic product is requested (derived from GIS data) but no mapping is requested].

For product fees, see the CHRIS IC Fee Structure on the OHP website.

1. Map Format Choice:

Select One: Custom GIS Maps ☐ GIS Data ☒ Custom GIS Maps **and** GIS Data ☐ No Maps ☐

Any selection below left unmarked will be considered a "no. "

2. Location Information:

	Within project area	Within 0.5 mi. radius
ARCHAEOLOGICAL Resource Locations[1]	yes ☒ / no ☐	yes ☒ / no ☐
NON-ARCHAEOLOGICAL Resource Locations	yes ☒ / no ☐	yes ☒ / no ☐
Report Locations[1]	yes ☒ / no ☐	yes ☒ / no ☐
"Other" Report Locations[2]	yes ☐ / no ☒	yes ☐ / no ☒

3. Database Information:
(contact the IC for product examples, or visit the SSJVIC website for examples)

	Within project area	Within 0.5 mi. radius
ARCHAEOLOGICAL Resource Database[1]		
List (PDF format)	yes ☒ / no ☐	yes ☒ / no ☐
Detail (PDF format)	yes ☒ / no ☐	yes ☒ / no ☐
Excel Spreadsheet	yes ☒ / no ☐	yes ☒ / no ☐
NON-ARCHAEOLOGICAL Resource Database		
List (PDF format)	yes ☒ / no ☐	yes ☒ / no ☐
Detail (PDF format)	yes ☒ / no ☐	yes ☒ / no ☐
Excel Spreadsheet	yes ☒ / no ☐	yes ☒ / no ☐
Report Database[1]		
List (PDF format)	yes ☒ / no ☐	yes ☒ / no ☐
Detail (PDF format)	yes ☒ / no ☐	yes ☒ / no ☐
Excel Spreadsheet	yes ☒ / no ☐	yes ☒ / no ☐
Include "Other" Reports [2]	yes ☐ / no ☒	yes ☐ / no ☒

4. Document PDFs (paper copy only upon request)**:**

	Within project area	Within 0.5 mi. radius
ARCHAEOLOGICAL Resource Records[1]	yes ☒ / no ☐	yes ☒ / no ☐
NON-ARCHAEOLOGICAL Resource Records	yes ☒ / no ☐	yes ☒ / no ☐
Reports[1]	yes ☒ / no ☐	yes ☐ / no ☒
"Other" Reports[2]	yes ☐ / no ☒	yes ☐ / no ☒

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CHRIS Data Request Form

5. Eligibility Listings and Documentation:

	Within project area	Within 0.5 mi. radius
OHP Built Environment Resources Directory[3]:		
Directory listing only (Excel format)	yes ☐ / no ☒	yes ☐ / no ☒
Associated documentation[4]	yes ☐ / no ☒	yes ☐ / no ☒
OHP Archaeological Resources Directory[1,5]:		
Directory listing only (Excel format)	yes ☐ / no ☒	yes ☐ / no ☒
Associated documentation[4]	yes ☐ / no ☒	yes ☐ / no ☒
***California Inventory of Historic Resources* (1976):**		
Directory listing only (PDF format)	yes ☐ / no ☒	yes ☐ / no ☒
Associated documentation[4]	yes ☐ / no ☒	yes ☐ / no ☒

6. Additional Information:

The following sources of information may be available through the Information Center. However, several of these sources are now available on the OHP website and can be accessed directly. The Office of Historic Preservation makes no guarantees about the availability, completeness, or accuracy of the information provided through these sources. Indicate below if the Information Center should review and provide documentation (if available) of any of the following sources as part of this request.

Caltrans Bridge Survey	yes ☐ / no ☐
Ethnographic Information	yes ☐ / no ☐
Historical Literature	yes ☐ / no ☐
Historical Maps	yes ☐ / no ☐
Local Inventories	yes ☐ / no ☐
GLO and/or Rancho Plat Maps	yes ☐ / no ☐
Shipwreck Inventory	yes ☐ / no ☐
Soil Survey Maps	yes ☐ / no ☐

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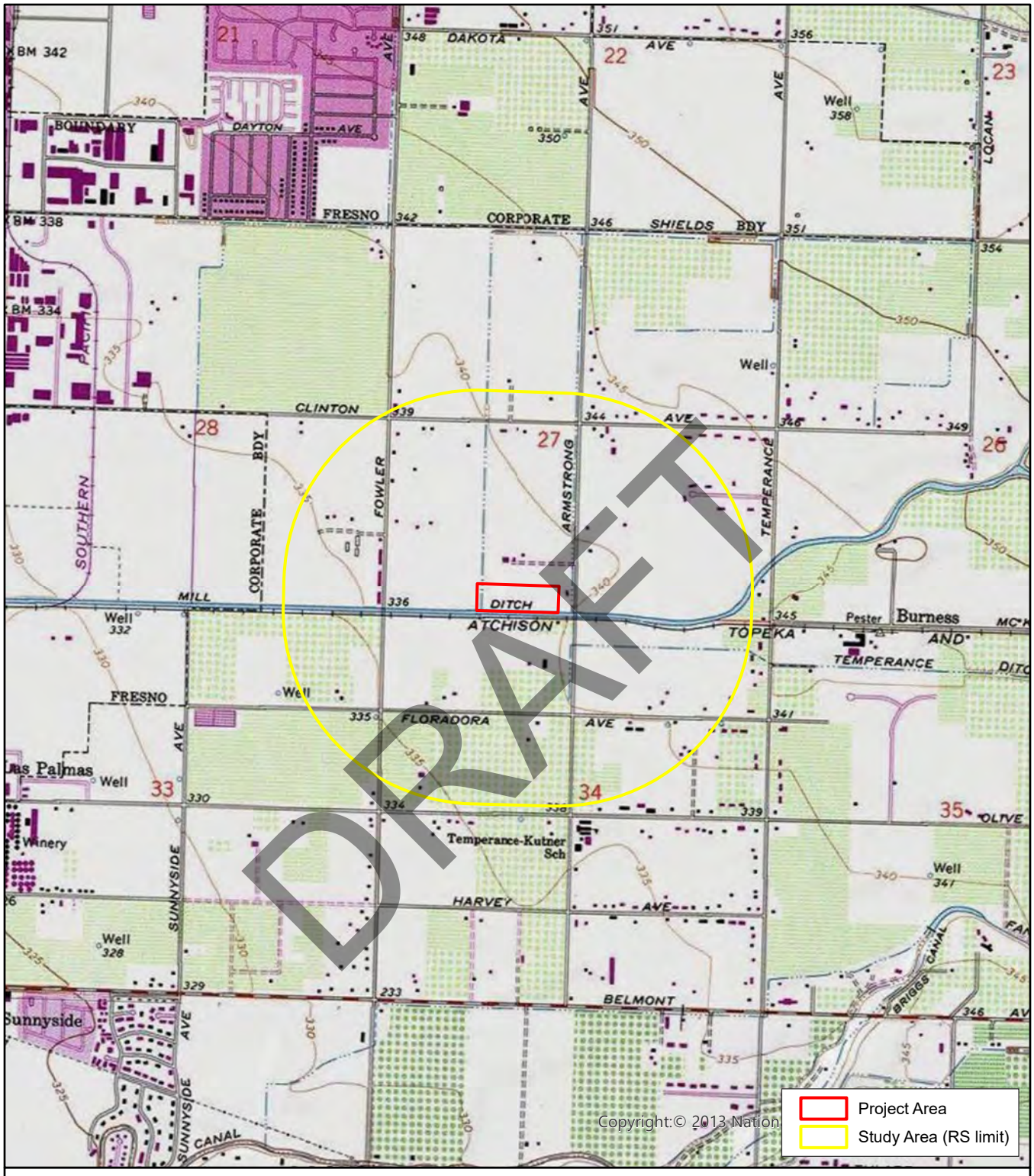
[1] In order to receive archaeological information, requestor must meet qualifications as specified in Section III of the current version of the California Historical Resources Information System Information Center Rules of Operation Manual and be identified as an Authorized User or Conditional User under an active CHRIS Access and Use Agreement.

[2] "Other" Reports GIS layer consists of report study areas for which the report content is almost entirely non-fieldwork related (e.g., local/regional history, or overview) and/or for which the presentation of the study area boundary may or may not add value to a record search.

[3] Provided as Excel spreadsheets with no cost for the rows; the only cost for this component is IC staff time. Includes, but not limited to, information regarding National Register of Historic Places, California Register of Historical Resources, California State Historical Landmarks, California State Points of Historical Interest, and historic building surveys. Previously known as the HRI and then as the HPD, it is now known as the Built Environment Resources Directory (BERD). The Office of Historic Preservation compiles this documentation and it is the source of the official status codes for evaluated resources.

[4] Associated documentation will vary by resource. Contact the IC for further details.

[5] Provided as Excel spreadsheets with no cost for the rows; the only cost for this component is IC staff time. Previously known as the Archaeological Determinations of Eligibility, now it is known as the Archaeological Resources Directory (ARD). The Office of Historic Preservation compiles this documentation and it is the source of the official status codes for evaluated resources.



Record Search location map for the *Project - AE4592*.

California Historical Resources Information System



Fresno
Kern
Kings
Madera
Tulare

Southern San Joaquin Valley Information Center
California State University, Bakersfield
Mail Stop: 72 DOB
9001 Stockdale Highway
Bakersfield, California 93311-1022
(661) 654-2289
E-mail: ssjvic@csub.edu
Website: www.csub.edu/ssjvic

3/11/2024

Nicole Saenz
Applied EarthWorks, Inc.
1391 W. Shaw Ave., Suite C
Fresno, CA 93711

Re: 4592 Tract 6475
Records Search File No.: 24-096

The Southern San Joaquin Valley Information Center received your record search request for the project area referenced above, located on Clovis USGS 7.5' quad. The following reflects the results of the records search for the project area and the 0.5 mile radius:

As indicated on the data request form, the locations of resources and reports are provided in the following format: ☐ custom GIS maps ☒ GIS data

Resources within project area:	None
Resources within 0.5 mile radius:	None
Reports within project area:	None
Reports within 0.5 mile radius:	FR-03008, 03013, 03014, 03016

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Resource Database Printout (list): ☐ enclosed ☐ not requested ☒ nothing listed

Resource Database Printout (details): ☐ enclosed ☐ not requested ☒ nothing listed

Resource Digital Database Records: ☐ enclosed ☐ not requested ☒ nothing listed

Report Database Printout (list): ☒ enclosed ☐ not requested ☐ nothing listed

Report Database Printout (details): ☒ enclosed ☐ not requested ☐ nothing listed

Report Digital Database Records: ☒ enclosed ☐ not requested ☐ nothing listed

Resource Record Copies: ☐ enclosed ☐ not requested ☒ nothing listed

Report Copies: ☐ enclosed ☐ not requested ☒ nothing listed

OHP Built Environment Resources Directory: ☐ enclosed ☒ not requested ☐ nothing listed

Archaeological Determinations of Eligibility: ☐ enclosed ☒ not requested ☐ nothing listed

CA Inventory of Historic Resources (1976): ☐ enclosed ☒ not requested ☐ nothing listed

Caltrans Bridge Survey: Not available at SSJVIC; please see https://dot.ca.gov/programs/environmental-analysis/cultural-studies/california-historical-bridges-tunnels

Ethnographic Information: Not available at SSJVIC

Historical Literature: Not available at SSJVIC

Historical Maps: Not available at SSJVIC; please see http://historicalmaps.arcgis.com/usgs/

Local Inventories: Not available at SSJVIC

GLO and/or Rancho Plat Maps: Not available at SSJVIC; please see http://www.glorecords.blm.gov/search/default.aspx#searchTabIndex=0&searchByTypeIndex=1 and/or http://www.oac.cdlib.org/view?docId=hb8489p15p;developer=local;style=oac4;doc.view=items

Shipwreck Inventory: Not available at SSJVIC; please see https://www.slc.ca.gov/shipwrecks/

Soil Survey Maps: Not available at SSJVIC; please see http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,

Jeremy E David
Assistant Coordinator

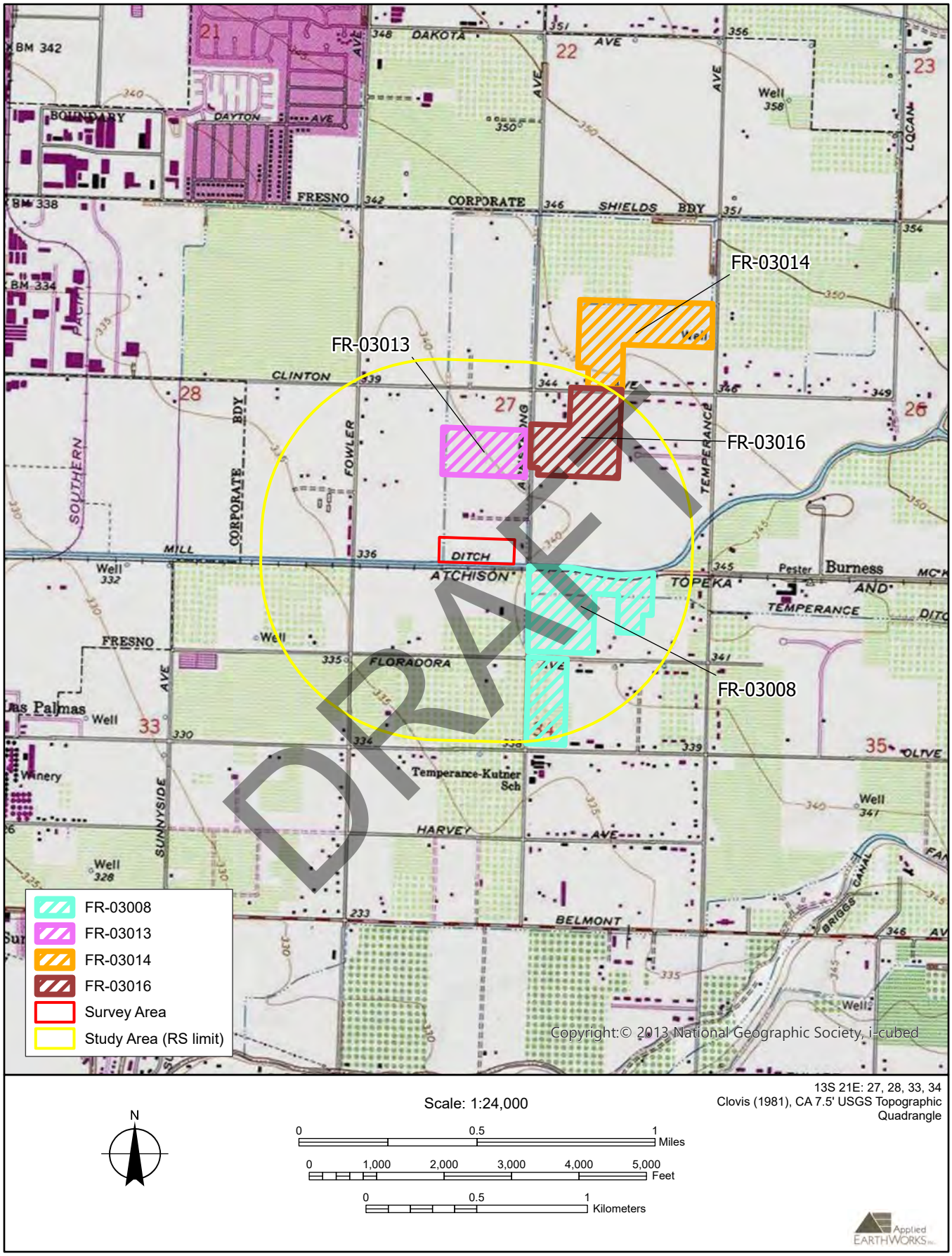
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Report List

SSJVIC Record Search 24-096

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
FR-03008	Submitter - Job #19-049/50	2019	Peak, Melinda A.	Cultural Resource Assessment for the Floradora-Armstrong Reorganization-Annexation Area and Tentative Tract 6201 and Tract 6235 Developments, Fresno County California	Peak & Associates, Inc.	
FR-03013	Submitter - Job #19-051	2019	Peak, Melinda A.	Cultural Resource Assessment for the Tentative Tract 6241 Development, Fresno County California	Peak & Associates, Inc.	
FR-03014	Submitter - Job #19-083	2019	Peak, Melinda A.	Cultural Resource Assessment for the Meadowood II Tract 6281 Development, Fresno County California	Peak & Associates, Inc.	
FR-03016	Submitter - Job #19-084	2019	Peak, Melinda A.	Cultural Resource Assessment for the Meadowood I Tract 6285 Development, Fresno County California	Peak & Asssociates, Inc.	

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Record Search location map for the *Project - AE4592*.

APPENDIX C

Native American Outreach

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Native American Outreach

Tract 6475 Cultural Resource Inventory and Evaluation

Organization	Name	Letter	Email	Phone	Summary of Contact
Dumna Wo-Wah Tribal Government	Robert Ledger	03/07/24	03/06/24	Message left 4/9/24	No response to date
North Fork Rancheria of Mono Indians	Mary Stalter	3/7/2024	Email returned undeliverable	—	No longer affiliated with tribal management
North Fork Rancheria of Mono Indians	Fred Beihn	3/7/2024	3/6/2024	Message left 4/9/24	No response to date
Northern Valley Yokut / Ohlone Tribe	Timothy Perez	03/07/24	03/06/24	Message left 4/9/24	No response to date
Picayune Rancheria of the Chukchansi Indians	Heather Airey	03/07/24	03/06/24	Called 4/9/2024	Declined interest in the project
Picayune Rancheria of the Chukchansi Indians	Tracey Hopkins	03/07/24	03/06/24	—	—
Santa Rosa Rancheria Tachi Yokut Tribe	Samantha McCarty	03/07/24	03/06/24	Called 4/9/2024	Email response 4/9/24 deferring interest to more local tribes.
Santa Rosa Rancheria Tachi Yokut Tribe	Nichole Escalon	03/07/24	03/06/24	Called 4/9/2024	Looking into project, will respond soon.
Santa Rosa Rancheria Tachi Yokut Tribe	Shana Powers	03/07/24	03/06/24	—	—
Southern Sierra Miwuk Nation	Jazzmyn Gegere	03/07/24	03/06/24	Called 4/9/2024	Deferred to Picayune Rancheria
Southern Sierra Miwuk Nation	Sandra Chapman	03/07/24	03/06/24	—	—
Table Mountain Rancheria	Michelle Heredia-Cordova	03/07/24	03/06/24	—	—
Table Mountain Rancheria	Bob Pennell	03/07/24	03/06/24	—	Letter received 3/25/24 requesting records search results and a meeting to discuss the project
Traditional Choinumni Tribe	David Alvarez	03/07/24	Email returned undeliverable	Message left 4/9/24	No response to date
Tule River Indian Tribe	Kerri Vera	03/07/24	03/06/24	Message left 4/9/24	No response to date
Tule River Indian Tribe	Joey Garfield	—	—	—	—
Tule River Indian Tribe	Neil Peyron	03/07/24	03/06/24	Message left 4/9/24	No response to date
Wuksachi Indian Tribe/Eshom Valley Band	Kenneth Woodrow	03/07/24	03/06/24	Called 4/9/2024; no voicemail	No response to date

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Sacred Lands File & Native American Contacts List Request

Native American Heritage Commission
1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691
916-373-3710
916-657-5390 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Date: February 28, 2024

Project: 4592 Tract 6475

County: Fresno

USGS Quadrangle Name: Clovis (1981), CA

Township: 13S **Range:** 21E **Section(s):** 27

Company/Firm/Agency: Applied EarthWorks, Inc.

Contact Person: Nicole Saenz

Street Address: 1391 W. Shaw Ave., Suite C

City: Fresno **Zip:** 93711

Phone: (559) 229-1856 x 121

Fax: (559) 229-2019

Email: nsaenz@appliedearthworks.com

Project Description: Applied Earthworks, Inc. has been contracted to do an archaeological and built environment study on 10.92-acres on Assessor Parcel Number 574-130-05 for a proposed housing development.

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NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Reginald Pagaling
Chumash

VICE-CHAIRPERSON
Buffy McQuillen
Yokayo Pomo, Yuki, Nomlaki

SECRETARY
Sara Dutschke
Miwok

PARLIAMENTARIAN
Wayne Nelson
Luiseño

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
Laurena Bolden
Serrano

COMMISSIONER
Reid Milanovich
Cahuilla

COMMISSIONER
Vacant

EXECUTIVE SECRETARY
Raymond C. Hitchcock
Miwok, Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

March 5, 2024

Nicole Saenz
Applied EarthWorks, Inc.

Via Email to: nsaenz@appliedearthworks.com

Re: 4592 Tract 6475 Project, Fresno County

Dear Ms. Saenz:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Cameron.vela@nahc.ca.gov.

Sincerely,

Cameron Vela

Cameron Vela
Cultural Resources Analyst

Attachment

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Native American Heritage Commission
Native American Contact List
Fresno County
3/5/2024

Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Email Address	Cultural Affiliation
Dumna Wo-Wah Tribal Government	N	Robert Ledger, Chairperson	2191 West Pico Ave. Fresno, CA, 93705	(559) 540-6346	ledgerrobert@ymail.com	Foothill Yokut Mono
North Fork Rancheria of Mono Indians	F	Mary Stalter, Environmental/Heritage Manager	P.O. Box 929 North Fork, CA, 93643	(559) 877-2461	mstalter@nfr-nsn.gov	Mono
North Fork Rancheria of Mono Indians	F	Fred Beihn, Chairperson	P.O. Box 929 North Fork, CA, 93643	(559) 877-2461	fbeihn@nfr-nsn.gov	Mono
Northern Valley Yokut / Ohlone Tribe	N	Timothy Perez, Tribal Compliance Officer	P.O. Box 717 Linden, CA, 95236	(209) 662-2788	huskanam@gmail.com	Costanoan Northern Valley Yokut
Picayune Rancheria of the Chukchansi Indians	F	Heather Airey, Tribal Historic Preservation Officer	P.O. Box 2226 Oakhurst, CA, 93644	(559) 795-5986	hairey@chukchansi-nsn.gov	Foothill Yokut
Picayune Rancheria of the Chukchansi Indians	F	Tracey Hopkins, Chairperson	P.O. Box 2226 Oakhurst, CA, 93644	(559) 412-5590	council@chukchansi-nsn.gov	Foothill Yokut
Santa Rosa Rancheria Tachi Yokut Tribe	F	Samantha McCarty, Cultural Specialist II	P.O. Box 8 Lemoore, CA, 93245	(559) 633-3440	smccarty@tachi-yokut-nsn.gov	Southern Valley Yokut
Santa Rosa Rancheria Tachi Yokut Tribe	F	Nichole Escalon, Cultural Specialist I	P.O. Box 8 Lemoore, CA, 93245	(559) 924-1278	nescalone@tachi-yokut-nsn.gov	Southern Valley Yokut
Santa Rosa Rancheria Tachi Yokut Tribe	F	Shana Powers, THPO	P.O. Box 8 Lemoore, CA, 93245	(559) 423-3900	spowers@tachi-yokut-nsn.gov	Southern Valley Yokut
Southern Sierra Miwuk Nation	N	Jazzmyn Gegere, Director of Cultural Resource Preservation	P.O. Box 186 Mariposa, CA, 95338	(209) 742-3104	preservation@southernsierramiwuknation.org	Miwok Northern Valley Yokut Paiute
Southern Sierra Miwuk Nation	N	Sandra Chapman, Chairperson	P.O. Box 186 Mariposa, CA, 95338	(559) 580-7871	sandra47roy@gmail.com	Miwok Northern Valley Yokut Paiute
Table Mountain Rancheria	F	Michelle Heredia-Cordova, Chairperson	P.O. Box 410 Friant, CA, 93626	(559) 822-2587	mhcordova@tmr.org	Yokut
Table Mountain Rancheria	F	Bob Pennell, Cultural Resource Director	P.O. Box 410 Friant, CA, 93626	(559) 325-0351	rpennell@tmr.org	Yokut
Traditional Choinumni Tribe	N	David Alvarez, Chairperson	2415 E. Houston Avenue Fresno, CA, 93720	(559) 217-0396	davealvarez@sbcglobal.net	Foothill Yokut
Tule River Indian Tribe	F	Kerri Vera, Environmental Department	P. O. Box 589 Porterville, CA, 93258	(559) 783-8892	kerri.vera@tulerivertribe-nsn.gov	Yokut
Tule River Indian Tribe	F	Joey Garfield, Tribal Archaeologist	P. O. Box 589 Porterville, CA, 93258	(559) 783-8892	joey.garfield@tulerivertribe-nsn.gov	Yokut
Tule River Indian Tribe	F	Neil Peyron, Chairperson	P.O. Box 589 Porterville, CA, 93258	(559) 781-4271	neil.peyron@tulerivertribe-nsn.gov	Yokut
Wuksachi Indian Tribe/Eshom Valley Band	N	Kenneth Woodrow, Chairperson	1179 Rock Haven Ct. Salinas, CA, 93906	(831) 443-9702	kwood8934@aol.com	Foothill Yokut Mono

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed 4592 Tract 6475 Project, Fresno County.

Record: PROJ-2024-001290
Report Type: List of Tribes
Counties: Fresno
NAHC Group: Al

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Applied EARTHWORKS Inc.

1391 W. Shaw Ave., Suite C
Fresno, CA 93711-3600
O: (559) 229-1856 | F: (559) 229-2019
www.appliedearthworks.com

March 6, 2024

Samantha McCarty, Cultural Specialist II
Santa Rosa Rancheria Tachi Yokut Tribe
P.O. Box 8
Lemoore, CA, 93245
(559) 633-3440
Transmitted via USPS and email (smccarty@tachi-yokut-nsn.gov)

RE: Tract 6475 Survey Project in Fresno, Fresno County, California

Dear Samantha McCarty,

Applied EarthWorks, Inc. (*Æ*) is providing cultural resource services, including archaeological survey, in support of proposed residential development with associated street improvements to Armstrong Avenue and improvements to the northern bank of the adjacent Mill Ditch (Project). The Project boundaries are in the City of Fresno, Fresno County, California.

The project area is the 10.92-acre Assessor Parcel Number 574-130-05, as shown on the Clovis (1981), CA 7.5-minute U.S. Geological Survey topographic quadrangle (see enclosed map). The project does involve new construction, including multiple ground-breaking activities related to construction and development. Therefore, a cultural resource study is required.

On behalf of the City of Fresno, *Æ* is conducting Native American outreach and performing other tasks related to cultural resource management. The project is subject to the requirements of the California Environmental Quality Act and, as lead agency, the City of Fresno is responsible for any formal government-to-government consultation required. This communication is not intended to initiate Assembly Bill 52 consultation.

Æ has requested a sacred lands file search from the Native American Heritage Commission. The results were received on March 5, 2024 and indicated a negative result. Your name and address were provided to us by the NAHC as someone who may have additional information and/or concerns about the project.

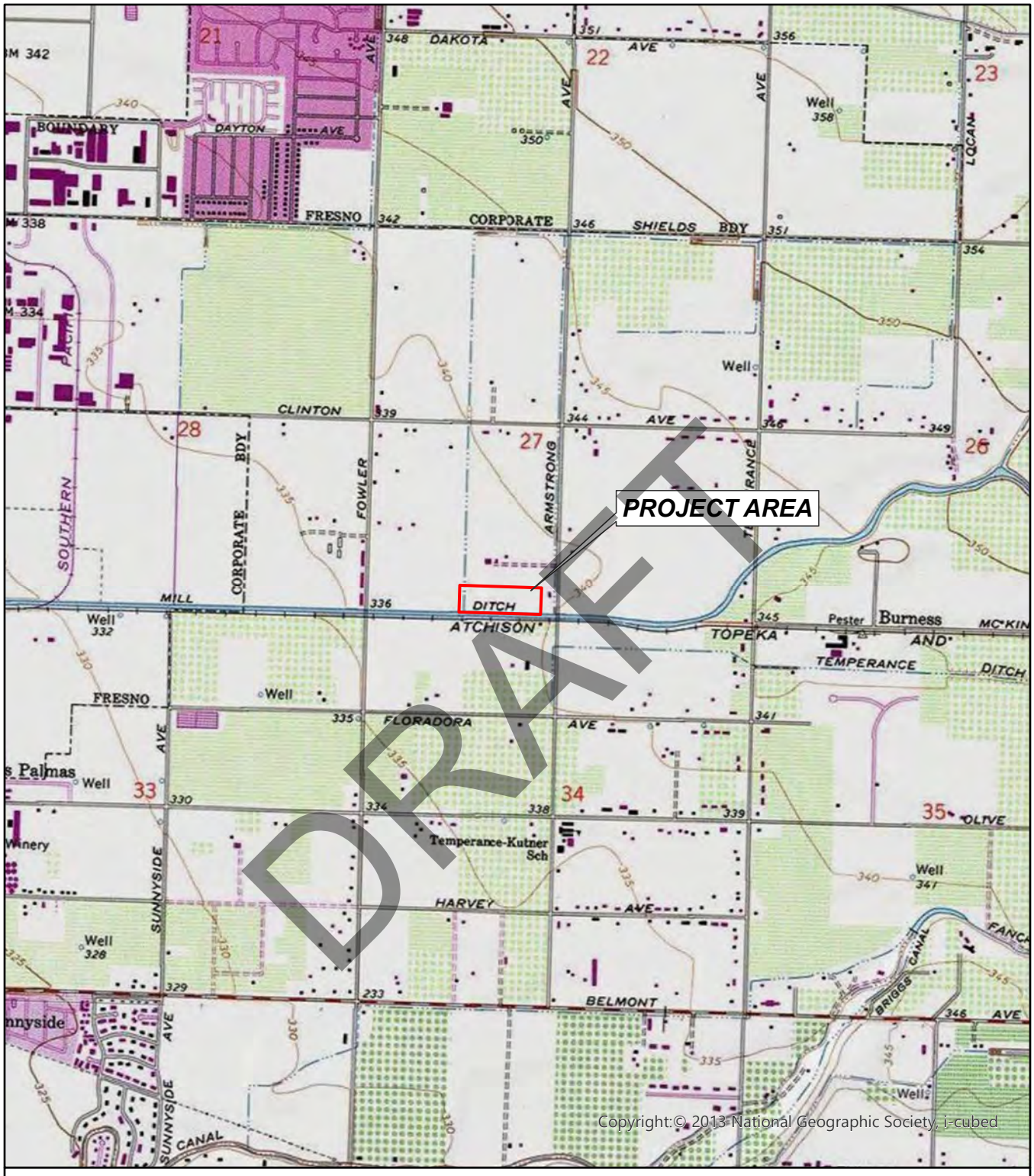
If you have information about tribal or cultural resources in the area or if you have any interest in the project, please email/phone me or send a letter to my attention. Your comments will be included in our cultural resource report unless noted otherwise. You can contact me during normal business hours (559-229-1856 ext. 121) or via email at nsaenz@appliedearthworks.com if you have any questions or need additional information.

Sincerely,

Nicole Saenz, M.S.
Staff Anthropologist, Fresno Office
Applied EarthWorks, Inc.

encl.: Project Map

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Project location map for the *Project - AE4592*.

TABLE MOUNTAIN RANCHERIA
TRIBAL GOVERNMENT OFFICE

CERTIFIED 8088 4532

March 13, 2024

Nicole Saenz, M.S.
Staff Anthropologist, Fresno Office
Applied EarthWorks, Inc.
1391 W. Shaw Ave., Suite C
Fresno, CA 93711

RE: Tract 6475 Survey Project in Fresno, Fresno County, California

Dear: Nicole Saenz,

Table Mountain Rancheria is responding to your letter dated March 6, 2024, regarding proposed Tract 6475 Survey Project in Fresno, Fresno County, California. Thank you for notifying Table Mountain Rancheria of the potential development and request for consultation. The Rancheria is very interested in this project as it lies within our cultural area of interest.

If you have already conducted a record search, please provide Table Mountain Rancheria with copies of any cultural resource report you may have.

At this time, please contact our office at (559) 325-0351 or rpennell@tmr.org to coordinate a discussion and meeting date regarding your project.

Sincerely,

Robert Pennell
Tribal Cultural Resources Director

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Michelle Heredia-Cordova
Tribal Chairperson

Richard L. Jones
Tribal Vice-Chairperson

Jenna Gosselaar
Tribal Secretary/Treasurer

Samantha Toles-Rodriguez
Tribal Council Member-At-Large

Mark Martinez
Tribal Council Member-At-Large

23736
Sky Harbour Road
Post Office
Box 410
Friant
California
93626
(559) 822-2587
Fax
(559) 822-2693

Nicole Saenz <nsaenz@appliedearthworks.com>

Tract 6475 Fresno Archaeology Project

2 messages

Nicole Saenz <nsaenz@appliedearthworks.com> Wed, Mar 6, 2024 at 2:35 PM
To: Samantha McCarty <SMcCarty@tachi-yokut-nsn.gov>
Cc: Anna Hoover <ahoover@appliedearthworks.com>, Monica Ruth <mruth@appliedearthworks.com>

Dear Samantha McCarty,
Applied EarthWorks, Inc. is providing archaeological services for a project in Sanger, Fresno County, CA. As a result of a recent Native American Heritage Commission (NAHC) Sacred Lands Search for these projects, your name and contact information was provided by the NAHC as someone who may have additional information and/or concerns about this project.

Please kindly review the attached letter and project area map and respond with any comments or concerns you may have. Please note that our outreach is not formal government to government consultation, but an opportunity for you to provide information for the archaeological report.

We appreciate your time and consideration.

--

Nicole Saenz M.S. | **Applied EarthWorks, Inc.**
Staff Anthropologist - Osteologist - Project Administrator | (She/Her)

1391 W. Shaw Ave., Suite C
Fresno, CA 93711-3600
Office 559-229-1856 x121
www.appliedearthworks.com

Archaeology | Paleontology | Historical Architecture | GIS

Santa Rosa Rancheria Tachi Yokut Cultiral Specialist II.pdf
1644K

DRAFT

Samantha McCarty <SMcCarty@tachi-yokut-nsn.gov> Tue, Apr 9, 2024 at 3:11 PM
To: Nicole Saenz <nsaenz@appliedearthworks.com>
Cc: Anna Hoover <ahoover@appliedearthworks.com>, Monica Ruth <mruth@appliedearthworks.com>, Nichole Escalon <nescalon@tachi-yokut-nsn.gov>, Shana Powers <SPowers@tachi-yokut-nsn.gov>

Hi Nicole,

Thank you for contacting us regarding the Tract 6475 Survey Project in Fresno. Due to the location of the project, we will be deferring to the tribes that are more local to the area.

Please do not hesitate to reach out if you have any further questions, comments, or concerns. Thank you.

Sincerely,

Samantha McCarty

Santa Rosa Rancheria Tachi-Yokut Tribe
Cultural Specialist II
SMcCarty@tachi-yokut-nsn.gov
Cell: (559) 633-6640
Direct Line: (559) 925-2591

Office: (559) 924-1278 x 4091

***PLEASE KEEP ALL CULTURAL STAFF IN EMAILS UNLESS STATED OTHERWISE**

From: Nicole Saenz <nsaenz@appliedearthworks.com>
Sent: Wednesday, March 6, 2024 2:35 PM
To: Samantha McCarty <SMcCarty@tachi-yokut-nsn.gov>
Cc: Anna Hoover <ahoover@appliedearthworks.com>; Monica Ruth <mruth@appliedearthworks.com>
Subject: Tract 6475 Fresno Archaeology Project

[Quoted text hidden]

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APPENDIX D

Cultural Resource Records

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*Archaeological site locations are exempt from the California Public Records Act, as specified in Government Code 7927.005, and from the Freedom of Information Act (5 U.S.C. 552[b][3]), under the legal authority of both the NHPA (PL 89-665, as amended, Section 304[a]) and the Archaeological Resources Protection Act (PL 96-95, Section 9[a]).

State of California — The Resources Agency **Primary #**
DEPARTMENT OF PARKS AND RECREATION **HRI #**
PRIMARY RECORD
Trinomial
NRHP Status Code

Other Listings
Review Code Reviewer Date

P1. Other Identifier: Church Ditch, Sperry Mill Ditch, Mill Creek Ditch, Fresno Mill Ditch, Limbaugh Dam Ditch

*__P2.__ **Location: a. County:** Fresno ☐ **Not for Publication** ☒ **Unrestricted**
b. USGS 7.5′ Quad: Clovis and Fresno North **Date:** 1981
T13S R 20E; Sec. 25, 26, 35 / T 13S, R 21E; Sec. 25, 26, 27, 28, 29, 30, 36 / T13S R 22E; Sec. 31 M.D. **B.M.**
c. Address: N/A
d. UTM: NAD 83, Zone 11N; Head 265472 **mE** / 4071613 **mN**
Terminus 253320 **mE** / 4072336 **mN**
e. Other Locational Data: N/A

***P3a. Description:** The Mill Ditch is approximately 8.3 miles long and runs east to west. Æ recorded a 1,278-foot-long segment of the Mill Ditch. The recorded segment is partially earthen and partially concrete-lined. The concrete-lined portion includes several small sections of crumbling concrete abutted by concrete rubble, and the spaces between the concrete sections of the ditch segment are unlined. The banks of the earthen portion of the ditch appear to have been treated with rubble and stone to help minimize eroding. Signs of animal burrowing and vegetation intrusion are also present. The concrete-lined portion of the segment is crumbling at the edges and has significant pitting, cracking, and spalling. The banks of the ditch segment serve as dirt operation and maintenance roads for the ditch, and as such the top of each bank ranges from 12 to 20 feet wide. (see Continuation Sheet)

***P3b. Resource Attributes:** HP20. Canal/Aqueduct

***P4. Resources Present:** ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other:

***P5a. Photograph or Drawing:**



P5b. Description of Photo: Mill Ditch segment from north bank, facing southwest.

***P6. Date Constructed/Age and Sources:**
☐ Prehistoric ☒ Historic ☐ Both
Circa 1869

***P7. Owner and Address:**
Fresno Irrigation District,
2907 South Maple Avenue,
Fresno, CA 93725

***P8. Recorded By:**
C, Good-Peery, J. Olivares
Applied EarthWorks, Inc.
1391 W. Shaw Avenue,
Fresno, CA 93711

***P9. Date Recorded:** March 29, 2024

***P10. Survey Type:** ☒ Intensive
☐ Reconnaissance ☐ Other
Describe: Pedestrian survey

***P11. Report Citation:** Ward Stanley, Cheyenne Good-Peery, and Carlos van Onna 2024 *Cultural Resource Study and Historic Resource Evaluation for the Tract 6475 Project, Fresno, Fresno County, California.* Applied EarthWorks, Inc., Fresno, California. Prepared for Lennar Homes of California, LLC, Fresno, California.

***Attachments:**
☐ NONE
☒ Building, Structure, and Object Record
☒ Photograph Record
☒ Location Map
☐ Archaeological Record
☐ Milling Station Record
☐ Other (list):
☒ Sketch Map
☐ District Record
☐ Rock Art Record
☒ Continuation Sheet
☒ Linear Feature Record
☐ Artifact Record

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***P3a. Description (continued):** The ditch segment is 50 feet wide from bank to bank, and it includes a concrete water gate structure at the east end, as well as a concrete drop structure toward the west end. The bed of the ditch segment could not be recorded due to water conveyance at the time of recordation.

The water gate at the east end of the segment consists of a concrete chamber containing a circular iron door operated by a manual gate wheel. Toward the west end of the segment, the drop structure consists of a concrete slope with two concrete weir structures, which were mostly covered by water at the time of recordation. A modern red metal grate bridge with safety handrails crosses the width of the ditch over the drop structure. The east end of the segment is immediately east of where the ditch underpasses the concrete Armstrong Avenue bridge.

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B1. Historic Name: Church Ditch, Sperry Mill Ditch, Limbaugh Dam Ditch

B2. Common Name: Mill Creek Ditch, Fresno Mill Ditch

B3. Original Use: Carrier Canal and Irrigation Ditch **B4. Present Use:** Irrigation Ditch

***B5. Architectural Style:** N/A (utilitarian)

***B6. Construction History (construction date, alterations, and dates of alterations):** The Mill Ditch was originally constructed prior to 1869, when it was deeded to William S. Chapman, as a simple earthen structure created manually with shovel and pick by early San Joaquin Valley farmers. During Chapman's ownership, Moses J. Church improved the small "pick and shovel" ditch and expanded it using horse-drawn scrapers, which was integral to the establishment of the Fresno Canal and Irrigation Company (FCIC) by 1871 (Shallat 1978). Between 1896 and 1897, the ditch was further extended and improved by Church (Elliott 1882:102; Shallat 1978:12; Willison 1980:68–71). Since the purchase of the of the FCIC by the Fresno Irrigation District in 1921, modern improvements have been made utilizing new construction methods, equipment, and materials, such as replacement of concrete lining, updating of deteriorating operation features, and installation of a water gate structure and a drop structure with weirs utilizing concrete. Today, the Mill Ditch continues to receive its water from the Fresno Canal, operates as an irrigation canal within the Fresno Irrigation District, and continues to irrigate agricultural parcels and lateral ditches within Fresno County (Fresno Irrigation District 2018). The subject Mill Ditch segment remains aboveground in its historic alignment.

***B7. Moved?:** ☒ No ☐ Yes ☐ Unknown Date: Original Location:

***B8. Related Features:** None.

B9. a. Architect: N/A **b. Builder:** Moses J. Church / Fresno Canal and Irrigation Company

***B10. Significance:** Theme: Early Irrigation Development Area: Fresno County
Period of Significance: 1869-1921 Property Type: Canal Applicable Criteria: 1, 2

The Mill Ditch serves as a main feeder and irrigation canal headed at the Fresno Canal and the Fresno Canal Basin and presently terminates at the Dry Creek Canal and Herndon Canal (Fresno Irrigation District 2018). Historically, the Mill Ditch extended much farther southwest, running through the center of downtown Fresno to feed branch ditches and canals irrigating the early Fresno County colonies (Elliott 1882:102; Shallat 1978:12; Willison 1980:68–71). These downstream portions have since been renamed.

The earliest available General Land Office maps indicate that Section 27 of Township 13 South, Range 21 East, as well as three other sections were deeded to William S. Chapman on August 20, 1869, through a patent for agricultural public land scrips. The Mill Ditch was originally constructed prior to 1869 as a simple earthen structure created manually with shovel and pick by early San Joaquin Valley farmers. During Chapman's ownership, Moses J. Church improved the small "pick and shovel" ditch and expanded it using horse-drawn scrapers (Shallat 1978). Church subsequently led, with the help of associates A.Y. Easterby, Frederick Roeding, and Chapman, the formalization of the Mill Ditch (Vandor 1919a). The Mill Ditch was one of the first ditches improved as part of Church's large-scale irrigation venture, which was integral to the establishment of the FCIC by 1871. The FCIC undertook wide-reaching economic and irrigation activities and was one of the leading water conveyance developers and successful enterprises of the Fresno area during the latter part of the nineteenth century and early part of the twentieth century (Shallat 1978). It was purchased by the Fresno Irrigation District in 1921.

Moses J. Church served as the director of the FCIC and is known as the "Father of Irrigation" for his contributions to the advancement of irrigation infrastructure throughout Fresno County (Letson 2010). Church likely oversaw the construction of hundreds of canals and ditches throughout his leadership of the FCIC. William S. Chapman is a pioneer of Fresno County and one of the most successful land speculators in California, who owned vast holdings in the County that were developed into agricultural colonies. His holdings would prove pivotal in the establishment of an irrigation system across Fresno County. A.Y. Easterby of Napa was also a pioneer of Fresno County, particularly with regard to agriculture and wheat production. He owned and developed a large ranch tract east of what is now the city of Fresno, which became the Easterby Colony (Vandor 1919a). F. Roeding was another pioneer of Fresno County noted as a "scientific nursery[man]," who donated a portion of his large landholding to the city of Fresno to become Roeding Park (Vandor 1919a).

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Following improvements to the ditch on Chapman's property, Church and Easterby designated the east end of the ditch as the Fresno Canal and the west end as the Mill Ditch in the establishment of the FCIC. The FCIC constructed the Fresno Canal to divert water from the Kings River via the Fancher Creek branch to the Mill Ditch, which conveyed water through what would become Fresno's downtown to the agricultural colonies in the southeast (Shallat 1978:12; Thickens 1946:169; Vandor 1919a:178). The FCIC, chartered in 1871, was one of the earliest large-scale irrigation ventures in the San Joaquin Valley, whose success spurned a long-running period of irrigation construction in the county. As stated in *Water and the Rise of Public Ownership on the Fresno Plain*, "The incorporation of the Fresno Canal [and Irrigation] Company launched a quarter century of fevered canal construction" (Shallat 1978). The FCIC was the largest purveyor of water in Fresno County from 1871 to 1921 (Shallat 1978).

For many years after the establishment of the Mill Ditch within the FCIC system in 1871, the ditch was used to help operate a flour and grist mill in the center of downtown Fresno. The flour and grist mill, originally a wood-clad building, was first owned by Moses J. Church in 1883 and operated as M. J. Church's Champion Flour Mill (Letson 2012; Vandor 1919a). The mill was improved with brick cladding in 1892, and was purchased by Sperry Flour Company, a commercial chain, in 1893, who continued the building's operation as a flour mill (Figure 4-9; Letson 2012; Vandor 1919a). After running through the mill's power facilities, the water continued through downtown via the Mill Ditch to irrigate the agricultural colonies, southwest of the center of Fresno.

Around the turn of the twentieth century, an increasing number of larger agricultural parcels in Fresno County were subdivided into smaller individual lots. These smaller lots were owned by farmers who cultivated vineyards, tree fruits, citrus, or other premium crops that could be profitably grown on a small scale. This farmland was irrigated from water transported through a series of canals and ditches. These water conveyance systems were vital to agricultural development.

The 1885 California Department of Engineering *Detail Irrigation Map, Fresno Sheet* as well as the 1891 *Historical Atlas of Fresno County* show George H. Eggers as the owner of Section 27. Eggers was a Fresno County pioneer, prominent viticulturalist, and founder of the Eggers Colony and Eggers & Co. vineyard enterprise (Fresno Republican 1880; Vandor 1919a). The Eggers Colony cultivated muscat grapes among other varieties for wine production and purchase at the Eggers Winery (Vandor 1919b). Although Eggers was owner of the parcel from circa 1885 to 1907, no research indicated that the subject parcel was ever formally considered part of the Eggers Colony (Guard 1909; Hall 1885; Thompson 1891). The Mill Ditch is first mapped and labeled on the 1885 Fresno County Irrigation Map, as well as the 1885 Sanborn Fire Insurance maps for the City of Fresno.

Major canals, most of which were constructed during a substantial boom in irrigation expansion between 1870 and 1890, brought water from the San Joaquin and Kings rivers to the Fresno region. By 1890, as a main irrigation channel through the center of the city of Fresno, the Mill Ditch developed sanitation issues and was declared a public nuisance (Vandor 1919a). In 1892, the city council obtained an injunction, which forced the FCIC to fill the Mill Ditch where it transected the downtown City limits (Shallat 1978; Vandor 1919a). The west end of the ditch was undergrounded and renamed as part of remediation efforts undertaken in 1892 (Grunsky 1898; Vandor 1919a). As part of the abatement of the Mill Ditch, a new 10-inch-diameter pipe was installed underground where the ditch was filled to continue supplying water to the colonies southwest of the city limits (Sanborn Map Company 1885, 1888). As a result, the ditch no longer operated for power production; however, it continued to operate as an integral irrigation canal for the FCIC system. Between 1896 and 1897, the ditch was extended and improved by Moses J. Church, as part of the first unit of the FCIC system (Figure 4-7; Elliott 1882:102; Shallat 1978:12; Willison 1980:68–71).

Available Fresno County atlases show that Subdivision No. 14, or the southeast corner of the southwest quarter of Section 27, was owned by viticulturalist August H. Halemeier, also spelled Halemeir in some records, between 1907 and 1935. A 1937 aerial photograph suggests that Halemeier primarily used the parcel for agricultural production (Agricultural Adjustment Administration 1937). The Mill Ditch is visible in the earliest available aerial photograph captured in 1937 (Agricultural Adjustment Administration 1937; Hall 1885).

A 1923 USGS topographical map, the first available topographical map of the area, shows a railway just south of the Mill Ditch labeled "Fresno Interurban Railroad." This railroad was adopted as part of the San Joaquin Valley branch of the Atchison, Topeka, and Santa Fe Railroad and was decommissioned in 1992. Today, this segment of the railroad is no longer extant.

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Subsequent historical topographic maps and aerial photographs suggest that the subject property has been used for agricultural purposes to the present day. Modern maps label the underground portion of the Mill Ditch, as well as the portion that supplies water to the colonies to the southwest, as the Dry Creek Ditch (Fresno Irrigation District 2018). Today, the Mill Ditch continues to receive its water from the Fresno Canal, operates as an irrigation canal within the Fresno Irrigation District, and continues to irrigate agricultural parcels and lateral ditches within Fresno County (Fresno Irrigation District 2018). The segment remains aboveground in its historic alignment.

Æ evaluated the 1,278-foot-long segment of the Mill Ditch for CRHR-eligibility, which entailed an assessment of historical significance of the entire Mill Ditch and integrity of the recorded segment.

Evaluation

Criterion 1—Associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States: The Mill Ditch is directly associated with the establishment of the FCIC, a prominent pioneering irrigation company that spurned rapid irrigation development in Fresno County from its inception in 1871 until its purchase by the Fresno Irrigation District in 1921. The FCIC was one of the earliest large-scale irrigation ventures in the San Joaquin Valley, and as such, it was exemplary of the larger-scale water conveyance systems that would later dominate this region of the state and allow agriculture to become a prominent California industry. Major canals, most of which were constructed during a substantial boom in irrigation expansion between 1870 and 1890, brought water from the San Joaquin and Kings rivers to the Fresno region. These water conveyance systems were vital to agricultural development. Around the turn of the nineteenth to twentieth centuries, an increasing number of larger agricultural parcels in Fresno County were subdivided into smaller individual lots.

The Mill Ditch operated to irrigate agricultural lots and to help operate the original Church Champion Flour Mill in the center of downtown Fresno (Sanborn Map Company 1885; The Constructor-Civil Engineering Home 2024; Vandor 1919c). The Mill Ditch, improved and expanded starting in 1869, served as an early foundational waterway for this larger FCIC system and is representative of this historically and economically critical period. Therefore, the Mill Ditch is significant under Criterion 1 at the local and state levels for its direct association with the FCIC, early irrigation, and agricultural development within Fresno County.

Criterion 2—Associated with the lives of persons important to local, California, or national history: The Mill Ditch was originally constructed by early San Joaquin Valley farmers prior to 1869. Between 1869 and 1871, Moses J. Church improved and expanded the Mill Ditch, one of the first early ditches that was part of the wide-reaching economic and irrigation activities undertaken to establish the FCIC. The FCIC would become the leading water conveyance developer and one of the most successful enterprises of the Fresno area during the latter part of the nineteenth century and early part of the twentieth (Shallat 1978). The FCIC was the largest purveyor of water in Fresno County from 1871 to 1921 (Shallat 1978). Church led these efforts, served as the director of the FCIC, and would become known as the "Father of Irrigation" in Fresno County (Shallat 1978). In this role, Church likely oversaw the construction of hundreds of canals and ditches throughout his career as the head of the FCIC.

The Mill Ditch is documented as one of the first ditches that was part of Church's earliest large-scale venture to improve water distribution and increase agricultural field capacity. As a result, the Mill Ditch was a foundational and integral branch of the FCIC system that is representative of the success of Church and his associates and their efforts to grow the agricultural industry. Therefore, the Mill Ditch is significant under Criterion 2 for its direct association with Moses J. Church, a forefather to large-scale irrigation in Fresno County.

Criterion 3—Embodies the distinctive characteristics of a type, period, region, or method or construction, or represents the work of a master, or possesses high artistic values: Significance under Criterion 3, when applied to canals, ditches, and similar linear structures, is measured by distinctive or innovative design, methods of construction, or involvement of a historically significant builder or engineer. This is often problematic because linear features such as canals and transmission lines are continually subject to modernization, leading to the physical removal of such key features. In these cases, archival materials, especially photographs and diagrams, can be helpful to assess significance.

Unfortunately, research did not reveal innovative or novel technological features that would garner significance of the Mill Ditch. The ditch incorporates typical features of this type of construction including check structures, gates, pipes, and secondary field channels. Likewise, the ditch crosses level terrain that did not pose noteworthy engineering challenges. Although Church, the first director of the FCIC, is considered a noteworthy entrepreneur and figure within the context of early water conveyance of the San Joaquin Valley, he is not noted as a builder or engineer who made

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significant technological advances in this context. The Mill Ditch is representative of the wide, channelized, open ditches that served as primary conveyance structures for the FCIC system of the time and is a structure that consists of simply constructed features that are common to this construction type and do not represent an engineering and technological achievement. It represents the earliest methods employed for water conveyance that were simple and based on gravity flow across even terrain. Therefore, the Mill Ditch is not considered significant under Criterion 3 as a distinctive type or method of construction.

Criterion 4—Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation: Criterion 4 applies to built-environment resources if further study has the potential to yield information that cannot be obtained from other sources. The history of Fresno County irrigation development is well documented. Structural analysis of the Mill Ditch is unlikely to yield new information not readily available through historical research. And, in its current form, it largely has a contemporary appearance. Æ has exhausted available documentary sources and no additional information could be gleaned from subsequent field visits and intensive recordation. Therefore, Æ does not anticipate that any additional information can be identified that would prove the resource to be significant. The Mill Ditch is not considered significant under Criterion 4.

Integrity

The Mill Ditch has been recommended significant under CRHR Criteria 1 and 2. This discussion addresses whether the Mill Ditch segment within the Project area retains sufficient integrity to convey that historical significance. This analysis applies the seven aspects of integrity described by the NPS (2002): location, design, setting, materials, workmanship, feeling, and association.

Of the seven aspects of integrity, the recorded segment of the Mill Ditch retains integrity of location, design, and association. This ditch segment is still in its original alignment and place; there is no evidence of re-channelization. The essential form, plan, and structure of the ditch segment has not changed, and it still functions as originally intended. Integrity of setting, however, is compromised by the transformation of what were primarily large, open agricultural fields to a mixture of agricultural, residential, and urban land uses due to the continually growing population of the Fresno area. Immediate examples of this are residential development to the south and installation of a contemporary road bridge spanning the ditch. Integrity of materials and workmanship has been diminished by modern improvements utilizing new construction methods, equipment, and materials, such as replacement of concrete lining and updating of deteriorating operation features. Early canals often gave the appearance of an overgrown creek with freely growing vegetation along the banks of the canal; by contrast, the recorded ditch segment appears fairly well groomed, with minimal vegetation on its banks and substantial installations such as a water gate structure and a drop structure with weirs utilizing concrete. Integrity of feeling has therefore also been affected by the modern improvements constructed to accommodate the immense growth of the urban population in Fresno County and demand for water. As a result of substantial alterations, the recorded segment of the Mill Ditch does not retain sufficient historic integrity to convey its significance.

It should be noted that the integrity assessment only pertains to a small portion of the overall Mill Ditch, 1,278 feet out of a total length of 8.3 miles. Evaluating the integrity of the entire length of the ditch is outside the scope of the current investigation. Further, it is uncertain to what extent the recorded segment reflects the integrity of the Mill Ditch as a whole—also beyond this study's goals.

Eligibility

The Mill Ditch is significant under CRHR Criteria 1 and 2. The period of significance is between 1869, the earliest known construction date for the Mill Ditch, and 1921, when the FCIC was purchased by the Fresno Irrigation District. However, because the 1,278-foot-long segment of the Mill Ditch within the Project area does not retain historic integrity, the recorded segment is not eligible for listing in the CRHR and, therefore, does not qualify as a historical resource for the purposes of CEQA

.B11. Additional Resource Attributes (list attributes and codes): None.

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B13. Remarks: None.

***B14. Evaluator:** Cheyenne Good-Peery and Carlos van Onna
Date of Evaluation: April 22, 2024

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Sketch Map

This space reserved for official comments.

LINEAR FEATURE RECORD

L1. Historic and/or Common Name: Church Ditch, Sperry Mill Ditch, Mill Creek Ditch, Fresno Mill Ditch, Limbaugh Dam Ditch

L2a. Portion Described: ☐ Entire Resource ☒ Segment ☐ Point Observation **Designation:**

b. Location of point or segment: NAD 83, Zone 11N; segment east end: 261336 **mE** / 4072125 **mN**
segment west end: 260997 **mE** / 4072136 **mN**

L3. Description: Æ recorded a 1,278-foot-long segment of the Mill Ditch. The recorded segment is partially earthen, partially concrete-lined. The concrete-lined portion includes several small sections of crumbling concrete abutted by concrete rubble, and the spaces between the concrete sections of the ditch segment are unlined. The banks of the ditch segment serve as dirt operation and maintenance roads for the ditch, and as such the top of each bank ranges in width from approximately 12 to 20 feet. The recorded segment includes a concrete water gate structure at the east end, as well as a concrete drop structure toward the west end. The bed of the ditch segment could not be recorded due to water conveyance at the time of recordation.

The water gate structure at the east end of the segment consists of a concrete chamber containing a circular iron door operated by a manual gate wheel. Toward the west end of the segment, the drop structure consists of a concrete slope with two concrete weir structures, which were mostly covered by water at the time of recordation. A modern red metal grate bridge with safety handrails crosses the width of the ditch over the drop structure. The east end of the recorded segment is immediately east of where the ditch underpasses the concrete Armstrong Avenue road bridge. The bridge was not recorded as part of the segment.

L4. Dimensions:

a. Top Width: 50 feet
b. Bottom Width: Approximately 28 feet
c. Height or Depth: N/A
d. Length of Segment: 1,278 feet

L4e. Sketch or Cross Section ☐ attached **Facing:** ☒ none

L5. Associated Resources: Water gate and water drop structure

L6. Setting: The recorded segment runs through the eastern outskirts of the city of Fresno, through a mixture of agricultural, residential, and urban landscapes.

L7. Integrity Considerations: The banks of the earthen portion of the ditch are eroding and partially reinforced with rubble and stone. Signs of animal burrowing and vegetation intrusion are also present. The concrete-lined portion of the segment is crumbling at the edges and has significant pitting, cracking, and spalling.

L8a. Photo, Map, or Drawing:



L8b. Description of Photo, Map, or Drawing: Drop structure at west end of the recorded segment, facing northeast.

L9. Remarks: None.

L10. Form Prepared By: Cheyenne Good-Peery

L11. Date: June 27, 2024

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Top of north bank of Mill Ditch segment, which serves as dirt operation and maintenance road, facing west.



Water gate on the north bank at the east end of the Mill Ditch segment, facing west.



Erosion and animal burrowing on the earthen bank of the Mill Ditch segment, facing south.



Deterioration on concrete lining of Mill Ditch segment, facing northeast.



Water gate on the north bank at the east end of the Mill Ditch segment, facing east.



Slope and weirs within the drop structure, facing southwest.

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State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary #
HRI#
Trinomial

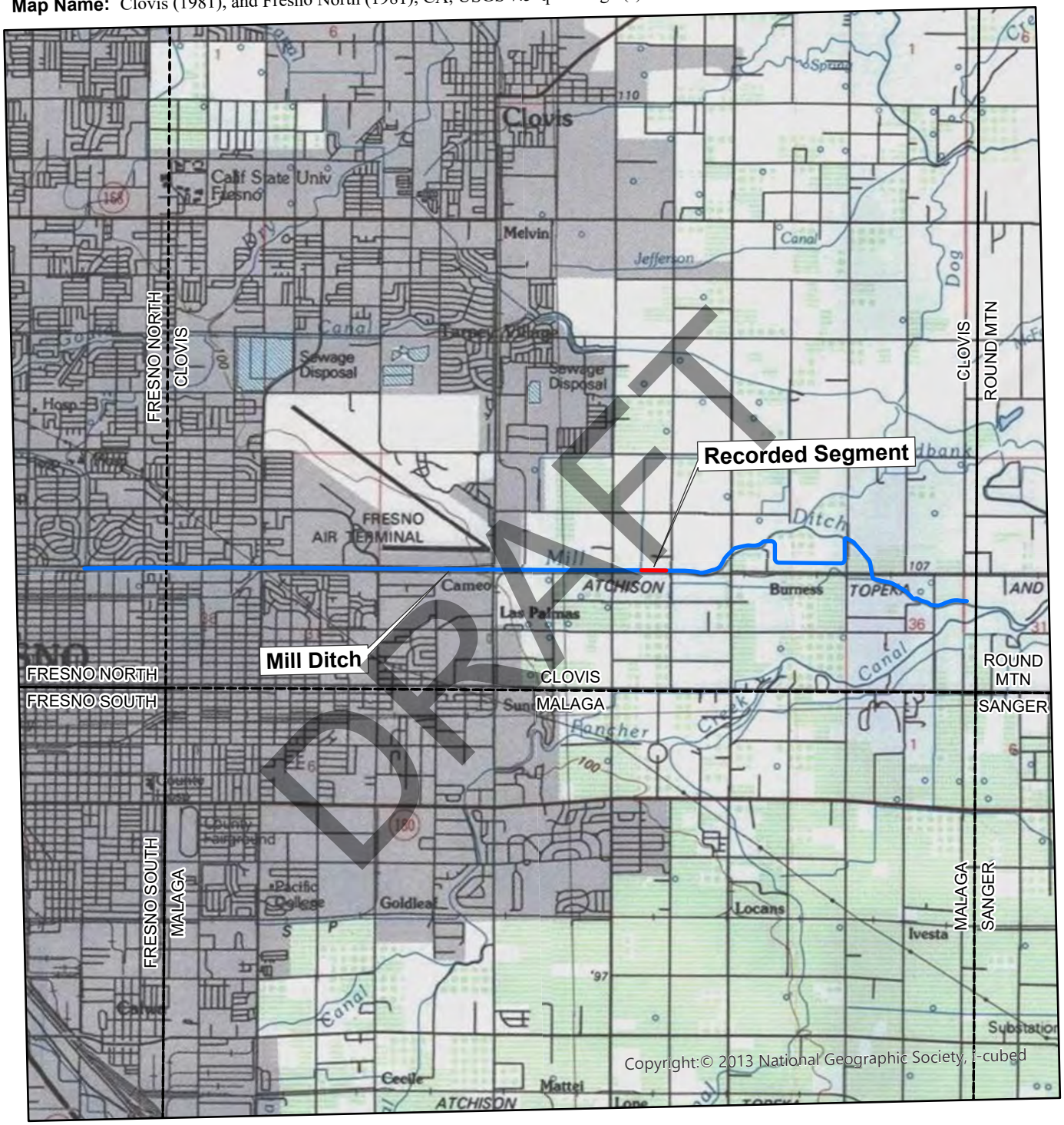
Page 11 **of** 12

Resource Name or #: Mill Ditch

Scale: 1:24,000

Map Name: Clovis (1981), and Fresno North (1981), CA, USGS 7.5' quadrangle(s)

Date: 1981



Scale: 1:80,000

N

0 1 2 3 4 Miles

0 2,500 5,000 7,500 10,000 12,500 15,000 Feet

0 1 2 3 Kilometers

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
SKETCH MAP

Primary #
HRI#
Trinomial

Page 12 **of** 12 ***Resource Name or #:** Mill Ditch

***Drawn by:** J. Haller ***Scale:** 1 inch equals 233 feet ***Date of map:** June 2024



Appendix E

January 17, 2025

Jaymie Brauer
QK, Inc.
5080 California Avenue, Suite 220
Bakersfield, CA 93612

RE: Paleontological Records Search – Tentative Tract Map 6475 Project, Fresno, California

Dear Ms. Brauer:

This letter presents the results of a paleontological records search conducted for the Tentative Tract Map (TTM) 6475 project ("Project") site, located in the City of Fresno, Fresno County, California. The Project site is located on Assessor's Parcel Number (APN) 574-130-05, which lies along the north side of Mill Ditch, between Armstrong Avenue to the east and Laverne Avenue to the west, and is bordered to the north by existing agricultural uses (Figure 1). The Project proposes to subdivide 5.42 net acres of the property into 53 single-family residential lots and four outlots.

Methods

A review of published geological maps covering the Project site and surrounding area was conducted to determine the specific geologic units underlying the Project site. Each geologic unit was subsequently assigned a paleontological resource potential following guidelines developed by the Society of Vertebrate Paleontology (SVP, 2010). In addition, a search of the paleontological collection records housed at the San Diego Natural History Museum (SDNHM) was conducted in order to determine if any documented fossil collection localities occur within the Project site or within the immediate surrounding area.

Results

Published geological reports (e.g., Matthews and Burnett, 1965) covering the Project area indicate that the proposed Project has the potential to impact recent alluvial fan deposits in the Great Valley (correlated with the late Pleistocene-age Modesto Formation). This geologic unit and its paleontological potential are summarized below.

The SDNHM does not have any recorded fossil localities that lie within one mile of the Project site.

Modesto Formation – The Modesto Formation consists of relatively recent sediments of late Pleistocene-age (approximately 120,000 to 11,700 years old) derived from erosion of the Sierra Nevada mountains to the northeast and deposited by streams flowing downhill into the southern San Joaquin basin. While the SDNHM does not have any documented nearby localities, the Modesto Formation is known to preserve significant fossils remains, as evidenced by a well-preserved and diverse vertebrate fauna discovered at a Caltrans construction site located along SR 99, about seven miles southeast of Merced. Fossils were collected from 39 localities discovered at varying depths of two to 27 feet below original ground surface, and include skeletal elements of freshwater fishes (e.g., minnows, three-spine sticklebacks), amphibians (e.g., frogs, toads), reptiles (e.g., turtles, snakes), birds (e.g., geese, quail,

scrub jays, mocking birds, robins, meadowlark), small mammals (e.g., shrews, rabbits, ground squirrels, kangaroo rats, pack rats, gophers, mice), large-bodied herbivores (e.g., ground sloths, mammoth, horse, camel, llama, deer, bison), and carnivores (dire wolf, coyote, mountain lions) (Gust et al., 2012). Based on the known fossil productivity of the Modesto Formation in this region, it is assigned a high paleontological resource potential.

Summary and Recommendations

The high paleontological potential of the Modesto Formation suggests that construction of the proposed Project may result in impacts to paleontological resources. Any proposed excavation activities that extend deep enough to encounter previously undisturbed deposits of this geologic unit (i.e., grading, borehole augering, trenching, or other miscellaneous excavations that extend below the depth any previously imported artificial fill, topsoil, or disturbed sediments present within the Project site) have the potential to impact the paleontological resources preserved therein. If such excavation is required for Project construction, implementation of a complete paleontological resource mitigation program during ground-disturbing activities is recommended.

If you have any questions concerning these findings please feel free to contact me at kmccomas@sdnhm.org.

Sincerely,



Katie M. McComas, M.S.
Senior Paleontologist
San Diego Natural History Museum

Enc: Figure 1: Project map and one-mile radius buffer.

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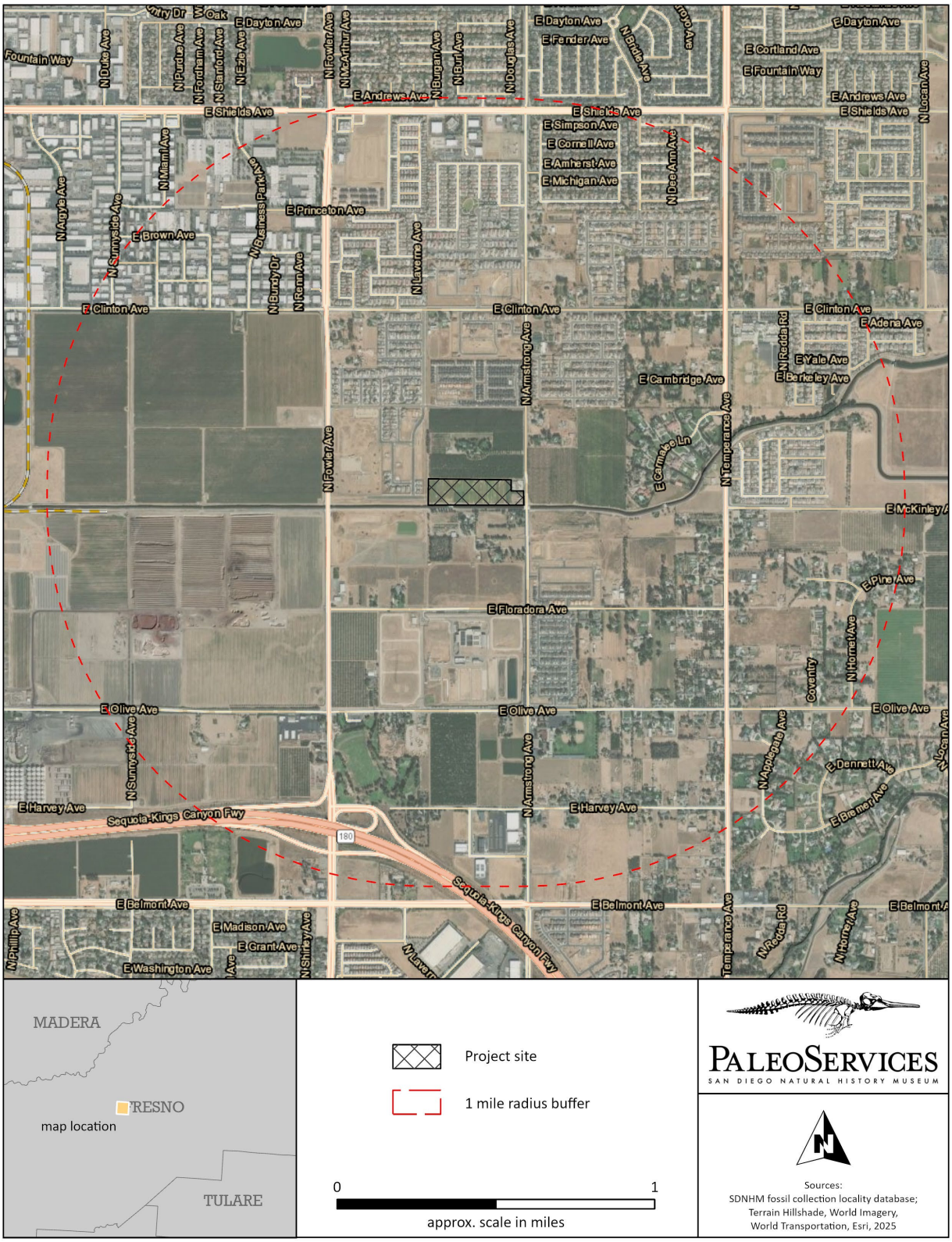


Figure 1: Records search map of the Project site.

Appendix F

ACOUSTICAL ANALYSIS

TRACT 6475
FRESNO, CALIFORNIA

WJVA Project No. 24-13

PREPARED FOR

LENNAR HOMES OF CALIFORNIA, INC.
8080 NORTH PALM AVENUE, SUITE 110
FRESNO, CALIFORNIA 93711

PREPARED BY

WJV ACOUSTICS, INC.
VISALIA, CALIFORNIA

wjv acoustics

MARCH 6, 2024

INTRODUCTION

The project, Tract 6475, is a proposed 56-lot single-family residential development to be located in Fresno, California. The project site is located north of (and adjacent to) Mill Ditch and the future alignment of E. McKinley Avenue, west of N. Fowler Avenue. The applicant, Lennar Homes, has requested an acoustical analysis to quantify project site noise exposure and determine noise mitigation requirements. This analysis, prepared by WJV Acoustics, Inc. (WJVA), is based upon a project site lot layout plan provided by the project applicant, traffic data provided by the Fresno Council of Governments (Fresno COG) and the findings of on-site noise level measurements. Revisions to the site plan may affect the findings and recommendations of this report. The site plan is provided as Figure 1.

Appendix A provides a description of the acoustical terminology used in this report. Unless otherwise stated, all sound levels reported are in A-weighted decibels (dB). A-weighting de-emphasizes the very low and very high frequencies of sound in a manner similar to the human ear. Most community noise standards utilize A-weighting, as it provides a high degree of correlation with human annoyance and health effects. Appendix B provides typical A-weighted sound levels for common noise sources.

NOISE EXPOSURE CRITERIA

General Plan

The City of Fresno General Plan Noise Element provides noise level criteria for land use compatibility for both transportation and non-transportation noise sources. The General Plan sets noise compatibility standards for transportation noise sources in terms of the Day-Night Average Level (L_{dn}). The L_{dn} represents the time-weighted energy average noise level for a 24-hour day, with a 10 dB penalty added to noise levels occurring during the nighttime hours (10:00 p.m.-7:00 a.m.). The L_{dn} represents cumulative exposure to noise over an extended period of time and are therefore calculated based upon *annual average* conditions. Table I provides the General Plan noise level standards for transportation noise sources.

TABLE I

CITY OF FRESNO GENERAL PLAN NOISE LEVEL STANDARDS TRANSPORTATION (NON-AIRCRAFT) NOISE SOURCES

Noise-Sensitive Land Use	Outdoor Activity Areas[1]	Interior Spaces	
	L_{dn}/CNEL, dB	L_{dn}/CNEL, dB	L_{eq} dB[2]
Residential	65	45	---
Transient Lodging	65	45	---
Hospitals, Nursing Homes	65	45	---
Theaters, Auditoriums, Music Halls	---	---	35
Minnewawaes, Meeting Halls	65	---	45
Office Buildings	---	---	45
Schools, Libraries, Museums	---	---	45

1 Where the location of the outdoor activity areas is unknown or is not applicable, the exterior noise level standard shall be applied to the property line of the receiving land use.

2 As determined for a typical worst-case hour during periods of use.

Source: City of Fresno General Plan

Implementation Policy NS-1-a of the General Plan provides guidance in regards to the development of new noise sensitive land uses (including residential developments).

> ***Desirable and Generally Acceptable Exterior Noise Environment.*** *Establish 65 dBA L_{dn} or CNEL as the standard for the desirable maximum average exterior noise levels for defined usable exterior areas of residential and noise-sensitive uses for noise, but designate 60 dBA L_{dn} or CNEL (measured at the property line) for noise generated by stationary sources impinging upon residential and noise- sensitive uses. Maintain 65 dBA L_{dn} or CNEL as the maximum average exterior noise levels for non-sensitive commercial land uses, and maintain 70 dBA L_{dn} or CNEL as maximum average exterior noise level for industrial land uses, both to be measured at the property line of parcels where noise is generated which may impinge on neighboring properties.*

The General Plan also provides noise level standards for non-transportation (stationary) noise sources. The General Plan noise level standards for non-transportation noise sources are identical to those provided in the City's Municipal code, provided below in Table II.

Implementation Policy NS-1-i of the General Plan Noise Element provides guidance in regards to mitigation for new developments and projects that have potential to result in a noise-related impact at existing noise-sensitive land uses.

> ***Mitigation by New Development.*** *Require an acoustical analysis where new development of industrial, commercial or other noise generating land uses (including transportation facilities such as roadways, railroads, and airports) may result in noise levels that exceed the noise level exposure criteria established by [Table I] and [Table II] to determine impacts, and require developers to mitigate these impacts in conformance with Tables 9-2 and 9-3 as a condition of permit approval through appropriate means.*
>
> *Noise mitigation measures may include:*
>
> - *The screening of noise sources such as parking and loading facilities, outdoor activities, and mechanical equipment;*
> - *Providing increased setbacks for noise sources from adjacent dwellings;*
> - *Installation of walls and landscaping that serve as noise buffers;*
> - *Installation of soundproofing materials and double-glazed windows; and*
> - *Regulating operations, such as hours of operation, including deliveries and trash pickup.*
>
> *Alternative acoustical designs that achieve the prescribed noise level reduction may be approved by the City, provided a qualified Acoustical Consultant submits information demonstrating that the alternative designs will achieve and maintain the specific targets for outdoor activity areas and interior spaces. As a last resort, developers may propose to construct noise walls along roadways when compatible with aesthetic concerns and neighborhood character. This would be a developer responsibility, with no City funding.*

Implementation Policy NS-1-j of the General Plan Noise Element provides guidance in regards to the establishment of a significance threshold when determining an increase in noise levels over existing ambient noise levels.

> ***Significance Threshold.*** *Establish, as a threshold of significance for the City's environmental review process, that a significant increase in ambient noise levels is*

assumed if the project would increase noise levels in the immediate vicinity by 3 dB L_{dn} or CNEL or more above the ambient noise limits established in this General Plan Update.

Commentary: When an increase in noise would result in a "significant" impact (increase of three dBA or more) to residents or businesses, then noise mitigation would be required to reduce noise exposure. If the increase in noise is less than three dBA, then the noise impact is considered insignificant and no noise mitigation is needed. By setting a specific threshold of significance in the General Plan, this policy facilitates making a determination of environmental impact, as required by the California Environmental Quality Act. It helps the City determine whether (1) the potential impact of a development project on the noise environment warrants mitigation, or (2) a statement of overriding considerations will be required.

Municipal Code

Section 15-2506 of the City of Fresno Municipal code establishes hourly acoustical performance standards for non-transportation noise sources. The standards, provided in Table II, are made more restrictive during the nighttime hours of 10:00 p.m. to 7:00 a.m. Additionally, the municipal code states that when ambient noise levels exceed or equal the levels described in Table II, mitigation shall only be required to limit noise to the existing ambient noise levels, plus five (5) dB. Section 15-2506 of the Municipal Code is consistent with Implementing Policy NS-1-I of the Noise Element of the City of Fresno General Plan (adopted 12/18/14).

TABLE II

NON-TRANSPORTATION NOISE LEVEL STANDARDS, dBA
CITY OF FRESNO MUNICIPAL CODE, SECTION 15-2506

Daytime (7 a.m.-10 p.m.)		Nighttime (10 p.m.-7 a.m.)	
L_{eq}	L_{max}	L_{eq}	L_{max}
50	70	45	60

Source: City of Fresno Municipal Code

Additional guidance is provided in Section 10-102(b) of the City's Municipal Code. Section 10 provides existing ambient noise levels to be applied to various districts, further divided into various hours of the day. Table III describes the assumed minimum ambient noise levels by district and time. Section 10-102(b) states *"For the purpose of this ordinance, ambient noise level is the level obtained when the noise level is averaged over a period of fifteen minutes, without inclusion of the offending noise, at the location and time of day at which a comparison with the offending noise is to be made. Where the ambient noise level is less than that designated in this section, however, the noise level specified herein shall be deemed to be the ambient noise level for that location".*

TABLE III

ASSUMED MINIMUM AMBIENT NOISE LEVEL, dBA
CITY OF FRESNO MUNICIPAL CODE, SECTION 10-102(B)

DISTRICT	TIME	SOUND LEVEL, dB L_{eq}
RESIDENTIAL	10 PM TO 7 AM	50
RESIDENTIAL	7 PM TO 10 PM	55
RESIDENTIAL	7 AM TO 7 PM	60
COMMERCIAL	10 PM TO 7 AM	60
COMMERCIAL	7 AM TO 10 PM	65
INDUSTRIAL	ANYTIME	70

Source: City of Fresno Municipal Code

Section 10-106 (Prima Facie Violation) States *"Any noise or sound exceeding the ambient noise level at the properly line of any person offended thereby, or, if a condominium or apartment house, within any adjoining living unit, by more than five decibels shall be deemed to prima facie evidence of a violation of Section 8-305."*

For noise sources that are not transportation related, which usually includes commercial or industrial activities and other stationary noise sources (such as amplified music), it is common to assume that a 3-5 dB increase in noise levels represents a substantial increase in ambient noise levels. This is based on laboratory tests that indicate that a 3 dB increase is the minimum change perceptible to most people, and a 5 dB increase is perceived as a "definitely noticeable change."

Appendix A provides definitions of the acoustical terminology used in this report. Unless otherwise stated, all sound levels reported in this analysis are A-weighted sound pressure levels in decibels (dB). A-weighting de-emphasizes the very low and very high frequencies of sound in a manner similar to the human ear. Most community noise standards utilize A-weighted sound levels, as they correlate well with public reaction to noise. Appendix B provides typical A-weighted sound levels for common noise sources.

PROJECT SITE NOISE EXPOSURE

The project site is located north of (and adjacent to) the future alignment of E. McKinley Avenue, west of N. Fowler Avenue. The project site is currently exposed traffic noise associated with vehicles on N. Fowler Avenue and will be additionally exposed to traffic noise associated with vehicles on E. McKinley Avenue at a future date. The distance from center of the backyards of the closest proposed lots to the centerline of the future alignment of E. McKinely Avenue is approximately 60 feet. The distance from center of the backyards of the closest proposed lots to the centerline of N. Fowler Avenue is approximately 230 feet.

Traffic Noise Exposure

Noise exposure from traffic on adjacent roadways was calculated for existing and future (2046) conditions (E. McKinley for future conditions only) using the FHWA Traffic Noise Model and traffic data obtained from Fresno COG. A description of the noise model, applied data, methodology and findings is provided below.

WJVA utilized the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108). The FHWA Model is a standard analytical method used for roadway traffic noise calculations. The model is based upon reference energy emission levels for automobiles, medium trucks (2 axles) and heavy trucks (3 or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly L_{eq} values for free-flowing traffic conditions, and is generally considered to be accurate within ±1.5 dB. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Noise level measurements and concurrent traffic counts were conducted by WJVA staff within the project site on February 29, 2024. The purpose of the measurement was to evaluate the accuracy of the FHWA Model in describing traffic noise exposure within the project site. The traffic noise measurement site was located at a setback distance of approximately 40 feet from the centerline of N. Fowler Avenue. The posted speed limit was 45 mph (miles per hour). The project vicinity and noise monitoring site location are provided as Figure 2. A photograph showing the N. Fowler Avenue noise measurement site is provided as Figure 3. A traffic noise calibration was not conducted along E. McKinley Avenue as the roadway has yet to be constructed in the project vicinity.

Noise monitoring equipment consisted of Larson-Davis Laboratories Model LDL-820 sound level analyzer equipped with a B&K Type 4176 1/2” microphone. The equipment complies with the specifications of the American National Standards Institute (ANSI) for Type I (Precision) sound level meters. The meter was calibrated in the field prior to use with a B&K Type 4230 acoustic calibrator to ensure the accuracy of the measurements. The microphone was located on a tripod at 5 feet above the ground. The project site presently consists of undeveloped land and a portion is currently used for industrial purposes.

Noise measurements were conducted in terms of the equivalent energy sound level (L_{eq}). Measured L_{eq} values were compared to L_{eq} values calculated (predicted) by the FHWA Model using as inputs the traffic volumes, truck mix and vehicle speed observed during the noise measurements. The results of the comparison are shown in Table IV.

From Table IV it may be determined that the traffic noise levels predicted by the FHWA Model were 1.0 dB lower than those measured for the conditions observed at the time of the noise measurements for N. Fowler Avenue. This is considered to be reasonable agreement with the model and therefore no adjustments to the model are necessary.

TABLE IV

COMPARISON OF MEASURED AND PREDICTED (FHWA MODEL) NOISE LEVELS TRACT 6475, FRESNO

	N. Fowler Ave.
Measurement Start Time	4:00 p.m.
Observed # Autos/Hr.	1,176
Observed # Medium Trucks/Hr.	36
Observed # Heavy Trucks/Hr.	24
Observed Speed (MPH)	45
Distance, ft. (from center of roadway)	40
L_{eq}, dBA (Measured)	71.4
L_{eq}, dBA (Predicted)	70.4
Difference between Predicted and Measured L_{eq}, dBA	**1.0**

Note: FHWA "soft" site assumed for calculations.
Source: WJV Acoustics, Inc.

Annual Average Daily Traffic (AADT) data for N. Fowler Avenue E. McKinely in the project vicinity was obtained from Fresno COG. Truck percentages and the day/night distribution of traffic were estimated by WJVA, based upon previous studies conducted in the project vicinity since project-specific data were not available from government sources. A speed limit of 45 mph was assumed for both roadways. Table V summarizes annual average traffic data used to model noise exposure within the project site.

TABLE V

TRAFFIC NOISE MODELING ASSUMPTIONS
TRACT 6475, FRESNO

	E. McKinley Ave	N. Fowler Ave	
	2046	Existing	2046
Annual Avenue Daily Traffic (AADT)	4,048	3,838	4,587
Day/Night Split (%)	90/10		
Assumed Vehicle Speed (mph)	40		
% Medium Trucks (% AADT)	2		
% Heavy Trucks (% AADT)	1		

Sources: Fresno COG
WJV Acoustics, Inc.

Using data from Table V, the FHWA Model, annual average traffic noise exposure was calculated for the closest proposed backyards from E. McKinley Avenue and N. Fowler Avenue. Table VI provides the noise exposure levels for E. McKinley Avenue and N. Fowler Avenue, at the closest proposed residential lots to the roadways.

TABLE VI

MODELED TRAFFIC NOISE LEVELS, W. MINNEWAWA AVENUE, dB, L_{dn}
TRACT 6375, FRESNO

Roadway	Existing Conditions	2046 Conditions
E. McKinley Avenue (west of N. Fowler Avenue)	--	61
N. Fowler Avenue (north of E. McKinley Avenue)	52	53

Source: WJV Acoustics
Fresno COG

Reference to Table VI indicates that the traffic noise exposure at the closest proposed lots to E. McKinley Avenue would be approximately 61 dB L_{dn} for future (2046) traffic conditions on E. McKinley Avenue, and that traffic noise exposure for the closest proposed lots to N. Fowler Avenue would be approximately 52 dB L_{dn} and 53 dB L_{dn} for existing and future (2046) traffic conditions, respectively. The noise exposure levels do not exceed the City's 65 dB L_{dn} exterior noise level standard, and mitigation measures are therefore not required for compliance with the City's exterior noise level standard.

Interior Noise Exposure:

The City of Fresno interior noise level standard is 45 dB L_{dn}. The worst-case noise exposure within the proposed residential development would be approximately 61 dB L_{dn} (2046 conditions). This means that the proposed residential construction must be capable of providing a minimum outdoor-to-indoor noise level reduction (NLR) of approximately 16 dB (61-45=16).

A specific analysis of interior noise levels was not performed. However, it may be assumed that residential construction methods complying with current building code requirements will reduce exterior noise levels by approximately 25 dB if windows and doors are closed. This will be sufficient for compliance with the City's 45 dB L_{dn} interior standard at all proposed lots. Requiring that it be possible for windows and doors to remain closed for sound insulation means that air conditioning or mechanical ventilation will be required.

CONCLUSIONS AND RECOMMENDATIONS

The proposed 56-lot single-family residential development will comply with all City of Fresno exterior and interior noise level standards, provided the following mitigation measures are incorporated into final project design.

- Mechanical ventilation or air conditioning must be provided for all homes so that windows and doors can remain closed for sound insulation purposes.

The conclusions and recommendations of this acoustical analysis are based upon the best information known to WJV Acoustics Inc. (WJVA) at the time the analysis was prepared concerning the proposed lot layout plan, project site elevation, traffic volumes and roadway configurations. Any significant changes in these factors will require a reevaluation of the findings of this report. Additionally, any significant future changes in motor vehicle technology, noise regulations or other factors beyond WJVA's control may result in long-term noise results different from those described by this analysis.

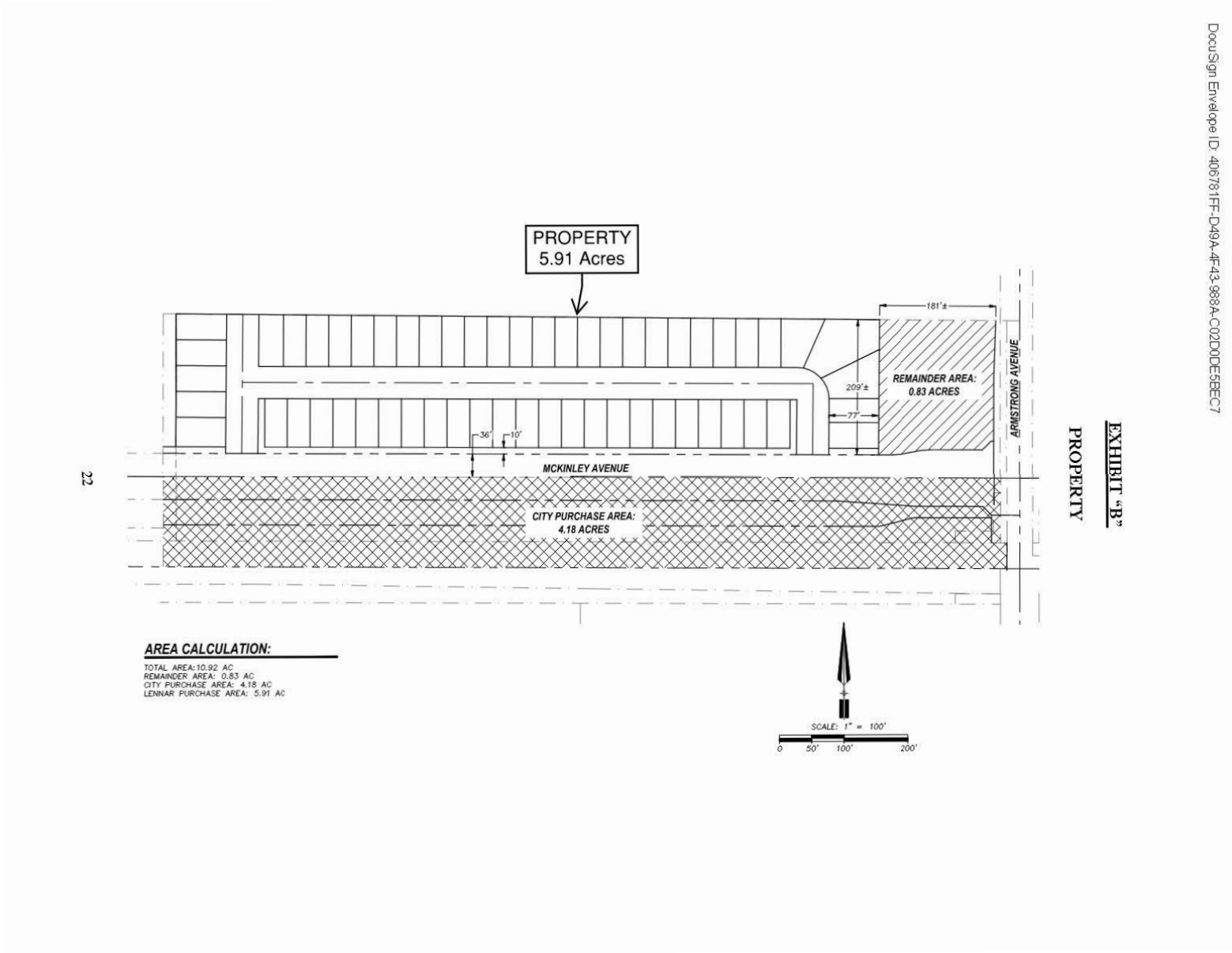
Respectfully submitted,



Walter J. Van Groningen
President

WJV:wjv

FIGURE 1: SITE PLAN



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FIGURE 2: PROJECT SITE VICINITY AND NOISE MEASUREMENT LOCATION



FIGURE 3: N. FOWLER AVENUE NOISE MEASUREMENT SITE



APPENDIX A

ACOUSTICAL TERMINOLOGY

AMBIENT NOISE LEVEL: The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

CNEL: Community Noise Equivalent Level. The average equivalent sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and ten decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m.

DECIBEL, dB: A unit for describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).

DNL/L_{dn}: Day/Night Average Sound Level. The average equivalent sound level during a 24-hour day, obtained after addition of ten decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m.

L_{eq}: Equivalent Sound Level. The sound level containing the same total energy as a time varying signal over a given sample period. L_{eq} is typically computed over 1, 8 and 24-hour sample periods.

NOTE: The CNEL and DNL represent daily levels of noise exposure averaged on an annual basis, while L_{eq} represents the average noise exposure for a shorter time period, typically one hour.

L_{max}: The maximum noise level recorded during a noise event.

L_n: The sound level exceeded "n" percent of the time during a sample interval (L_{90}, L_{50}, L_{10}, etc.). For example, L_{10} equals the level exceeded 10 percent of the time.

A-2

ACOUSTICAL TERMINOLOGY

NOISE EXPOSURE CONTOURS: Lines drawn about a noise source indicating constant levels of noise exposure. CNEL and DNL contours are frequently utilized to describe community exposure to noise.

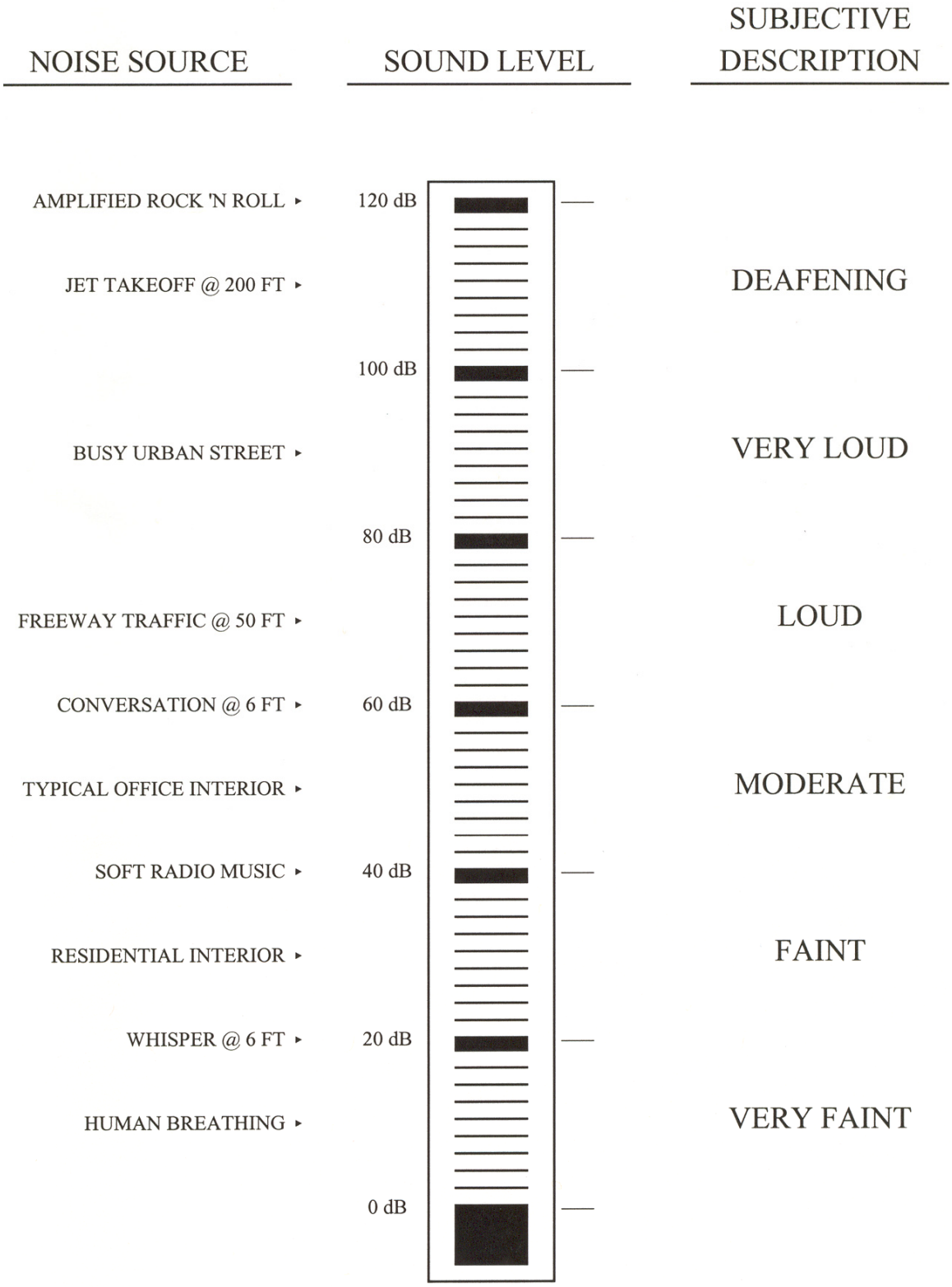
NOISE LEVEL REDUCTION (NLR): The noise reduction between indoor and outdoor environments or between two rooms that is the numerical difference, in decibels, of the average sound pressure levels in those areas or rooms. A measurement of "noise level reduction" combines the effect of the transmission loss performance of the structure plus the effect of acoustic absorption present in the receiving room.

SEL or SENEL: Sound Exposure Level or Single Event Noise Exposure Level. The level of noise accumulated during a single noise event, such as an aircraft overflight, with reference to a duration of one second. More specifically, it is the time-integrated A-weighted squared sound pressure for a stated time interval or event, based on a reference pressure of 20 micropascals and a reference duration of one second.

SOUND LEVEL: The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.

SOUND TRANSMISSION CLASS (STC): The single-number rating of sound transmission loss for a construction element (window, door, etc.) over a frequency range where speech intelligibility largely occurs.

APPENDIX B
EXAMPLES OF SOUND LEVELS



March 7, 2024 Project No. 014-24032

Mr. Rabie Mekideche
Lennar Homes of California, Inc.
8080 North Palm Avenue, Suite 110
Fresno, California 93711
Rabie.mckideche@lennar.com

RE: Phase I Environmental Site Assessment
Singh Property
2045 North Armstrong Avenue
APN 547-130-05
Fresno, California 93727

Dear Mr. Mekideche:

Krazan & Associates, Inc., (Krazan) completed a Phase I Environmental Site Assessment at the above-referenced site summarized in a report dated March 7, 2024. Please note that the earliest date of source review was on February 16, 2024. This report is considered viable within 180 days of that date. We appreciate the opportunity to serve your environmental due diligence needs.

During the course of this assessment, Krazan identified no evidence of recognized environmental condition (REC), controlled recognized environmental conditions (CRECs), or historical RECs (HRECs) in connection with the subject site as defined by ASTM E 1527-21; however, the following ASTM Non-Scope Considerations, and site development issues were identified in connection with the subject site:

ASTM Non-Scope Considerations

- The structure located on the subject site appears to been constructed prior to 1978. It is unknown if the on-site structure contains asbestos-containing materials (ACMs) or lead-based paint (LBP). An asbestos and/or LBP survey and sampling of the on-site structure was not included within the scope of this assessment. However, based on the apparent dates of construction, ACMs and LBP may be present at the subject site. Prior to the disturbance of any of the suspect ACMs or LBP at the subject site via renovation or demolition, comprehensive asbestos and LBP surveys are recommended.

- Based on Krazan's reconnaissance of the subject site, evidence was not apparent to suggest that the site contained a wetland. However, according to the U.S. Fish & Wildlife Services (USFWS) National Wetlands Inventory available via the USFWS Internet website, two (2) designated Riverine wetlands appear to be located within the eastern, southern, and western boundaries of the subject site. No irrigation ditches were observed for the riverine located on the western and eastern boundaries. The riverine is described as an unknown perennial subsystem (5), an unconsolidated bottom (UB), is semipermanently flooded (F), and was excavated by humans (X). This irrigation system has either been piped or destroyed. The second riverine is the Mill Ditch located on the southern boundary of the subject site. Mill Ditch is described as intermittent subsystem (4), a streambed (SB), seasonally flooded (C), and was excavated by humans (X). During Krazan's site reconnaissance Mill Ditch was dry with no water. If further assessment of the referenced designated wetlands is desired, Krazan recommends that a qualified biologist be consulted.

Site Development Issues

- Krazan's review of historical aerial photographs and the subject site reconnaissance indicates that two (2) wells were located on the subject site. If the existing water well and/or any additional water wells identified during the planned redevelopment of the subject site are not to be utilized, it/they should be properly destroyed in accordance with State and local guidelines.

- A septic system is associated with the on-site dwelling and located within the subject site. The presence of the septic systems is not anticipated to have adversely impacted the subject site due to their presumed use for domestic purposes only. If a septic system is identified during the planned redevelopment of the subject site, it should be properly abandoned/closed or destroyed in accordance with State and local guidelines.

- It has been Krazan's experience that chemical analysis of shallow soil samples for persistent pesticides/herbicides in current or former agricultural areas does not typically result in concentrations reported above regulatory screening levels; however, it has also been Krazan's recent experience that Federal, State and local agencies and/or financial lending institutions have at times required "pesticide screening" of properties with current and/or former agricultural uses. If pesticide screening or further assessment is required by a government agency or financial lending institution, Krazan can assist with those requests.

Our firm specializes in full-service Site Development Engineering with considerable project management experience. When you are interested in proceeding with the recommended work, Krazan can evaluate your unique circumstances and prepare a Phase II Proposal/Cost Estimate for the additional assessment including the proposed scope of work, budget, and anticipated project schedule.

If you have any questions regarding the information presented in this report, please call me at (559) 348-2200.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.



Remington R. Alexander. PE
Environmental Regional Manager

RRA/mlt

PHASE I ENVIRONMENTAL SITE ASSESSMENT

SINGH PROPERTY
2045 N. ARMSTRONG AVENUE
APN 574-130-05
FRESNO, CALIFORNIA 93727

Project No. 014-24032
March 7, 2024

Prepared for:
Mr. Rabie Mekideche
Lennar Homes of California, LLC
8080 North Palm Avenue, Suite 110
Fresno, California 93711

Prepared by:
Krazan & Associates, Inc.
215 West Dakota Avenue
Clovis, California 93612
(559) 348-2200

Krazan & ASSOCIATES, INC.
SITE DEVELOPMENT ENGINEERS

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EXECUTIVE SUMMARY

Krazan & Associates, Inc. (Krazan) has conducted a Phase I Environmental Site Assessment (ESA) of the approximately 10.92-acre property with an address of 2045 N. Armstrong Avenue with an associated Fresno County Assessor's Parcel Number (APN) 574-130-05 located approximately 1,000 feet south of Weldon Avenue and west of Armstrong Avenue in the city of Fresno, California (subject site).

At the time of Krazan's March 6, 2024 site reconnaissance, the subject site was utilized as agricultural purposes and a rural residence. Krazan's historical research indicates that the subject site: 1) was utilized for agricultural purposes from at least 1937 to the present, and 2) was occupied by structures since at least 1979 to the present.

Lennar Homes of California, LLC is proposing to develop the subject site for residential use.

The subject site address was not identified on any Federal, State or local regulatory database indicating that a release of hazardous materials has impacted the subject site.

During the course of this assessment, Krazan identified no evidence of recognized environmental condition (REC), controlled recognized environmental conditions (CRECs), or historical RECs (HRECs) in connection with the subject site as defined by ASTM E 1527-21; however, the following ASTM Non-Scope Considerations, and site development issues were identified in connection with the subject site:

ASTM Non-Scope Considerations

- The structure located on the subject site appears to been constructed prior to 1978. It is unknown if the on-site structure contains asbestos-containing materials (ACMs) or lead-based paint (LBP). An asbestos and/or LBP survey and sampling of the on-site structure was not included within the scope of this assessment. However, based on the apparent dates of construction, ACMs and LBP may be present at the subject site. Prior to the disturbance of any of the suspect ACMs or LBP at the subject site via renovation or demolition, comprehensive asbestos and LBP surveys are recommended.

- Based on Krazan's reconnaissance of the subject site, evidence was not apparent to suggest that the site contained a wetland. However, according to the U.S. Fish & Wildlife Services (USFWS) National Wetlands Inventory available via the USFWS Internet website, two (2) designated Riverine wetlands appear to be located within the eastern, southern, and western boundaries of the subject site. No irrigation ditches were observed for the riverine located on the western and eastern boundaries. The riverine is described as an unknown perennial subsystem (5), an unconsolidated bottom (UB), is semipermanently flooded (F), and was excavated by humans (X). This irrigation system has either been piped or destroyed. The second riverine is the Mill Ditch located on the southern boundary of the subject site. Mill Ditch is described as intermittent subsystem (4), a streambed (SB), seasonally flooded (C), and was excavated by humans (X). During Krazan's site reconnaissance Mill Ditch was dry with no water. If further assessment of the referenced designated wetlands is desired, Krazan recommends that a qualified biologist be consulted.

Site Development Issues

- Krazan's review of historical aerial photographs and the subject site reconnaissance indicates that two (2) wells were located on the subject site. If the existing water well and/or any additional water wells identified during the planned redevelopment of the subject site are not to be utilized, it/they should be properly destroyed in accordance with State and local guidelines.

- A septic system is associated with the on-site dwelling and located within the subject site. The presence of the septic systems is not anticipated to have adversely impacted the subject site due to their presumed use for domestic purposes only. If a septic system is identified during the planned

redevelopment of the subject site, it should be properly abandoned/closed or destroyed in accordance with State and local guidelines.

- It has been Krazan's experience that chemical analysis of shallow soil samples for persistent pesticides/herbicides in current or former agricultural areas does not typically result in concentrations reported above regulatory screening levels; however, it has also been Krazan's recent experience that Federal, State and local agencies and/or financial lending institutions have at times required "pesticide screening" of properties with current and/or former agricultural uses. If pesticide screening or further assessment is required by a government agency or financial lending institution, Krazan can assist with those requests.

1.0 INTRODUCTION

The subject site is located approximately 1,000 feet south of Weldon Avenue and west of Armstrong Avenue. The subject site has an address of 2045 N. Armstrong Avenue with an associated Fresno County Assessor Parcel Number (APN) 574-130-05 located in the city of Fresno, California. The subject site consists of one (1) parcel measuring approximately 10.92 acres in area. The subject site is currently utilized as a rural residence and agricultural purposes. Krazan's historical research indicates that the subject site: 1) was utilized for agricultural purposes from at least 1937 to the present, and 2) was occupies by a structure since at least 1979 to the present.

Krazan conducted the Phase I ESA of the subject site in conformance with the American Society for Testing and Materials (ASTM) E 1527-21 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.* This Phase I ESA constitutes all appropriate inquiry (AAI) designed to identify recognized environmental conditions (RECs) in connection with the previous ownership and uses of the subject site as defined by ASTM E 1527-21.

ASTM E 1527-21 Section 1.1.1 *Recognized Environmental Conditions* – In defining a standard of good commercial and customary practice for conducting an environmental site assessment of a parcel of property, the goal of the processes established by this practice is to identify recognized environmental conditions. The term recognized environmental conditions means: 1) the presence of hazardous substances or petroleum due to a release to the environment; 2) the likely presence of hazardous substances or petroleum products due to a likely release to the environment; or 3) the presence of hazardous substances or petroleum products under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions.

It is incumbent upon the user to read this Phase I ESA report in its entirety. If not otherwise defined within the text of this report, please refer to the Glossary of Terms Section following the References Section for definitions of terms and acronyms utilized within this Phase I ESA report.

Previous Environmental Assessments

No previous environmental reports of the subject site was provided to Krazan by Lennar Homes of California, LLC.

2.0 PURPOSE AND SCOPE OF ASSESSMENT

2.1 Purpose

According to ASTM E 1527-21, the purpose of this practice is to define good commercial and customary practice in the United States of America for conducting an *environmental site assessment* of a parcel of *commercial real estate* with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. §9601) and *petroleum products.* As such, this practice is intended to permit a *user* to satisfy one of the requirements to qualify for the *innocent landowner, contiguous property owner,* or *bona fide prospective purchaser* limitation on CERCLA liability (hereinafter, the *landowner liability protections,* or *LLPs*): that is, the practice that constitutes *all appropriate inquiries* into the previous ownership and uses of the *property* consistent with good commercial and customary practice as defined at 42 U.S.C. §9601(35)(B).

2.2 Scope of Work

The scope of work for this Phase I ESA conforms to ASTM E 1527-21. The Phase I ESA includes the following scope of work: a) a site reconnaissance of existing on-site conditions and observations of adjacent property uses, b) a review of user-provided documents c) a review of historical aerial photographs, a review of pertinent building permit records, cross-reference directories, historical Sanborn Fire Insurance Maps (SFIMs), and interview(s) with person(s) knowledgeable of the previous and current ownership and uses of the subject site, d) a review of local regulatory agency records, and e) a review of local, State, and Federal regulatory agency lists compiled by Environmental Data Resources, Inc. (EDR).

Krazan was provided written authorization to conduct the Phase I ESA by Mr. Rabie Mekideche of Lennar Homes of California, LLC on February 8, 2024 in response to Krazan's February 7, 2024 Proposal/Cost Estimate No. P24-067.

3.0 SUBJECT SITE SETTING

The subject site is located approximately 1,000 feet south of Weldon Avenue and west of Armstrong Avenue located in the city of Fresno, California. The subject site has an addresses of 2045 N. Armstrong Avenue with an associated with APN: 574-130-05. General properties information and uses are summarized in the following table. Refer to Figures No. 1 –3 for subject site details.

Subject Site Information Summary	
Current Owner:	Mr. Sukhwinder Singh
Assessor's Parcel Numbers:	574-130-05
Addresses:	2045 N. Armstrong Avenue
Historical Addresses:	None Identified
General Location:	1,000 feet south of Weldon Avenue & west of Armstrong Avenue
Acreage:	10.92 acres
Zoning:	Annexed Rural Residential // Residential Single-Family, Medium Density (ANX, RS-5)
Existing Use:	Agricultural Land, Rural Residence
Number of Buildings:	Three (3)
Original Construction Date:	Before 1979
Proposed Use:	Residential Development
Electricity:	Pacific Gas & Electric (PG&E)
Natural Gas:	PG&E
Potable Water:	City of Fresno // On-site Well
Sanitary Sewer:	City of Fresno // On-site Septic System
Latitude / Longitude (degrees):	36.765462, -119.674927
Topographic Map:	U.S. Geological Survey, 7.5-minute, Clovis Quadrangle, California
Public Land Survey System (PLSS):	10.92 acres of the SE¼ of the SW¼ of Section 27 Township 13 South, Range 21 East , Mount Diablo Principal Meridian, CA
Topography:	Approximately 342 feet above mean sea level
Approximate Depth to Groundwater:	87 feet (bgs), State of California Department of Water Resources (DWR)*
Regional Groundwater Flow Direction:	West, DWR*

Notes: *State of California, Department of Water Resources, *Sustainable Groundwater Management Act (SGMA) Data Viewer, Spring 2023*

3.1 Geology and Hydrogeology

The subject site is located within the San Joaquin Valley, a broad structural trough bound by the Sierra Nevada and Coast Ranges of California. The San Joaquin Valley, which comprises the southern portion of the Great Valley of California, has been filled with several thousand feet of sedimentary deposits. Sediments in the eastern valley, derived from the erosion of the Sierra Nevada, have been deposited by

major to minor west-flowing drainages and their tributaries. Near-surface sediments are dominated by sands and silty sands with lesser silts, minor clays, and gravel. The sedimentary deposits in the region form large coalescing alluvial fans with gentle slopes. Groundwater in the area of the subject site is reported to be first encountered at a depth of 87 feet bgs. The groundwater flow direction in the subject site vicinity is generally toward the west.

4.0 SITE BACKGROUND

A review of historical SFIMs, historic USGS topographic maps, reasonably ascertainable city cross-reference directories, historical aerial photographs, local agency records and previous environmental reports, as made available to Krazan, were utilized to assess the history of the subject site.

4.1 Sanborn Fire Insurance Maps

Krazan reviews SFIMs to evaluate prior land use of the subject site and the adjacent properties. SFIMs typically exist for cities with populations of 2,000 or more, the coverage dependent on the location of the subject site within the city limits. Krazan contracted with Environmental Data Resources, Inc. (EDR) to provide copies of available SFIMs for the subject site and the adjacent properties. EDR's search of SFIMs revealed no coverage for the subject site and the adjacent properties. Refer to Appendix A – *EDR – Certified Sanborn® Map Report* for details.

4.2 USGS Topographic Quadrangle Map

Krazan reviewed the 7.5-minute Clovis topographic quadrangle maps dated 1923, 1946, 1947, 1964, 1972, 1981, 2012, 2015, 2018, & 2021. According to the review of the historical topographic quadrangle maps, the subject site was undeveloped land on each year since at least 1981. The subject site and adjacent/vicinity property usage is summarized in the following table. Refer to Appendix A – *EDR - Historical Topo Map Report* for details.

Topographic Maps Summary		
Year	***Site Usage***	***Adjacent Property Usage***
1923, 1946, 1947, 1964	The subject site is depicted as undeveloped land. Armstrong Avenue is located on the eastern boundary of the subject site. An Atchison Topeka & Santa Fe (AT&SF) railroad spur is depicted on the southern boundary of the subject site. Mills Ditch is depicted on the southern boundary of the subject site (1946).	Undeveloped land is depicted to the north, east, and west of the subject site. A rural residence and agricultural land is depicted south of the subject site.
1972, 1981	The subject site is depicted as undeveloped land.	A rural residence and agricultural land is depicted to the north and south of the subject site. Undeveloped land is depicted on the east and west of subject site.
2012, 2015, 2018, 2021	Structures and specific property usage are not depicted on these maps. Cherry Avenue is depicted north of the subject site.	Structures and specific property usage are not depicted on these maps.

Krazan's review of historic topographic maps did not identify evidence of environmental concern at the subject site or the adjacent property uses.

4.3 City Cross-Reference Directories

Krazan contracted with EDR to provide a review of available city cross-reference directories for the subject site and the adjacent properties. EDR provided available directories dated between 1965 and 2020. A summary of cross-reference directory information is presented in the following table. Refer to Appendix A – *EDR - City Directory Image Report* for details.

Cross-Reference Directories Summary		
Address	***Owner / Occupant***	***Years***
Subject Site		
Current		
2045 N. Armstrong Avenue	Jimmie Bier Sukhwinder Singh Sidhu Transport	2002-2010 2017-2020 2020
Historic		
Not Listed	Not Listed	N/A
Adjacent Properties		
Adjacent to the North		
2187 N. Armstrong Avenue	Not Listed	N/A
Adjacent to the East		
Not Listed	Not Listed	N/A
Adjacent to the South		
1869 N. Armstrong Avenue	Not Listed	N/A
1945 N. Armstrong Avenue	Residential	2000-2020
Adjacent to the West		
2006-2042 N. Laverne Avenue	Not Listed	N/A

Information obtained from the review of cross-reference directories is consistent with that obtained from other historical sources during the course of this assessment. Krazan's review of city cross-reference directories did not identify evidence of current or historic RECs based on subject site or the adjacent property uses.

4.4 Aerial Photograph Interpretation

Historical aerial photographs were obtained from EDR and reviewed to assess the history of the subject site and the adjacent properties. The aerial photograph summary is provided in the following table. Refer to Appendix A – *Aerial Photo Decade Package* for details.

Aerial Photograph Review Summary		
Year	***Site Use***	***Adjacent Properties***
1937, 1946, 1962, 1967, 1973	The subject site appears to be utilized as agricultural land. Armstrong Avenue is located on the eastern boundary of the subject site. Mill Ditch, followed by AT&SF railroad spur is located on the southern boundary.	Agricultural land is located to the north, south, and west of the subject site. Undeveloped land is located to the east of the subject site. A rural residence is located to the south of the subject site. Agricultural land is located to the east of the subject site (1962).
1979, 1984, 1987, 1998, 2006, 2009, 2012, 2016, 2020	A rural residence is located on the eastern portion of the subject site near Armstrong Avenue. The remainder of the subject site is utilized as agricultural land. AT&SF railroad spur has been removed. A shed is located in the southeastern portion of the subject site (1984). The rural residence has been expanded (2020).	Agricultural land is located to the north, east, south, and west of the subject site. Rural residences are located to the north and south of the subject site.

Krazan's historical research indicates that the subject site: 1) was utilized for agricultural purposes from at least 1937 to the present, and 2) was occupied by structures since at least 1979 to the present.

4.5 Municipal Records

City of Fresno – Public Works Department

On February 16, 2024, a building permit records request was submitted to the City of Fresno – Public Works Department for the subject site. As of the date of this report, City of Fresno – Public Works Department has not responded. If any prevalent information is received from City of Fresno – Public Works Department, the information will be forwarded by Krazan.

Fresno County Public Works and Development Department

On February 16, 2024, a building permit records request was submitted to the Fresno County Public Works and Development Department (FCPWDD) for the subject site. As of the date of this report, FCPWDD has not responded. If any prevalent information is received from FCPWDD, the information will be forwarded by Krazan.

4.6 Previous Environmental Assessments

No previous environmental reports were provided to Krazan by the User for review and inclusion into this report.

4.7 Agricultural Chemicals

Review of historical aerial photographs indicates that the subject site was in different stages of agricultural production from at least 1937 to present. Although the potential exists that environmentally persistent pesticides/herbicides may have been historically applied to crops grown on the subject site 1) no material evidence of the use of environmentally persistent pesticides/herbicides was obtained during the course of this assessment, and 2) it is anticipated that any environmentally persistent pesticides/herbicides potentially located on site will be dislocated and diluted as a result of the grading and trenching operations which will be conducted in connection with the planned residential development of the property. Therefore, given the above-referenced factors and Krazan's experience in the subject site vicinity, the potential for elevated concentrations of environmentally persistent pesticides/herbicides related to crop and orchard cultivation to exist in the near-surface soils of common agricultural ground at concentrations which would require regulatory action appears to be low.

5.0 USER-PROVIDED INFORMATION

A review of user-provided information was conducted in order to help identify pertinent information regarding potential environmental impacts associated with the subject site.

5.1 Environmental Liens/Activity and Use Limitations Report

An Environmental Lien/Activity and Use Limitations (EL/AUL) Report provides results from a search of available land title records for environmental cleanup liens institutional controls (ICs), environmental land use controls (LUCs), environmental activity and use limitations (AULs), or declaration of environmental use restrictions (DEULs) which may have been filed against the subject site or exist in connection with the subject site as indicated by the subject site EL/AUL Reports.

An Environmental Lien/Activity and Use Limitations (EL/AUL) Report for the subject site was not provided to, or obtained by Krazan in connection with this assessment.

5.2 Title Report

A title report is reviewed to identify potential environmental deed restrictions, environmental liens, or environmental activity and use limitations (AULs) which may have occurred on or exist in connection with the subject site. Neither a Preliminary Title report nor Final Title Report for the subject site parcel number was provided to Krazan. *The absence of the title report represents a data gap.*

5.3 Interviews

Krazan conducts interviews with the owner of the subject site, a key site manager, subject site occupant(s), and/or the previous owner/occupant(s) of the subject site. The interview(s) is/are designed to provide pertinent information regarding potential environmental impacts associated with the subject site.

Subject Site Owner

On March 5, 2024**,** an interview was conducted with Mr. Sukhwinder Singh the owner of the subject site. During the interview, Mr. Singh indicated that the subject site is utilized as residential. Mr. Singh also indicated that there are two (2) on-site wells and septic system within the subject site. Mr. Singh indicated he has no knowledge of the presence of UST or AST being located on the subject site, no hazardous materials or imported soil within the subject site. Mr. Singh stated he is not aware of any burn pits, clarifiers, or any activity use limitations (AUL) associated with the subject site. Mr. Singh indicated that the reason

for preparation of this Phase I ESA is related to a proposed property sale. Additionally, Mr. Singh indicated that the purchase price of the subject site reasonably reflects fair market value.

Previous Subject Site Owner Interview

A Phase I ESA interview with a previous owner and/or occupant of the subject site was not reasonably available. Consequently, information regarding the history and historical uses of the subject site obtained from an interview of a previous owner and/or occupant constitutes a data gap.

5.4 Phase I Environmental Site Assessment User Questionnaire

In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the *Brownfields Amendments*), the *user* must provide the following information (if available) to the *environmental professional*. Failure to provide this information could result in a determination that *all appropriate inquiry* is not complete. The user is asked to provide information or knowledge of the following:

1. Environmental cleanup liens that are filed or recorded against the site.
2. Activity and land use limitations that are in place on the site or that have been filed or recorded in a registry.
3. Specialized knowledge or experience of the person seeking to qualify for the LLPs.
4. Relationship of the purchase price to the fair market value of the *property* if it were not contaminated.
5. Commonly known or *reasonably ascertainable* information about the *property*.
6. The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation.
7. The reason for preparation of this Phase I ESA.

On March 5, 2024, a completed Phase I ESA User questionnaire was received from Mr. Rabie Mekideche, with Lennar Homes of California, LLC, Krazan's client and the Phase I ESA user. According to the questionnaire responses, Mr. Mekideche, to the best of his knowledge as the user of this Phase I ESA, was not aware of any environmental cleanup liens and/or activity or land use limitations which have been filed or recorded against the subject site. Mr. Mekideche indicated that the subject site was previously used for agricultural purposes. Mr. Mekideche has no specialized knowledge or experience of the prior nature of the chemical utilization on the subject site. Mr. Mekideche indicated that he is not aware of any obvious indications pointing to the presence or likely presence of contamination of the subject property. Mr.

Mekideche indicated that the purchase price of the subject site reasonably reflects fair market value and indicated that the reason for preparation of this Phase I ESA is related to a property purchase. Refer to Appendix B – Phase I ESA Questionnaires for details.

6.0 SITE RECONNAISSANCE

A site reconnaissance, which included a visual observation of the subject site and surrounding properties, was conducted by Mr. Remington Alexander, Krazan's Environmental Professional, on March 6, 2024. Mr. Alexander was not escorted during the site reconnaissance. The objective of the site reconnaissance is to obtain information indicating the likelihood of identifying recognized environmental conditions, including hazardous substances and petroleum products, in connection with the property (including soils, surface waters, and groundwater).

6.1 Observations

The following table summarizes the subject site features encountered during our site reconnaissance. Observed features are noted in the table below and described in detail below the table. Refer to Figure No. 3 - *Site Map* and *Photographs* for locations and details pertaining to site-specific features discussed in this section of the report.

Site Reconnaissance Summary		
Features	***Observed***	***Not Observed***
Structures (existing)	X	
Evidence of Past Uses (foundations, debris)		X
Hazardous Substances and/or Petroleum Products (including containers)		X
Aboveground Storage Tanks (ASTs)	X	
Underground Storage Tanks (USTs) or evidence of USTs		X
Evidence of Underground Pipelines (non-irrigation)		X
Strong, Pungent, or Noxious Odors		X
Pools of Liquid likely to be Hazardous Materials or Petroleum Products		X
Drums		X
Unidentified Substance Containers	X	
Potential Polychlorinated Biphenyl (PCB)-Containing Equipment	X	
Subsurface Hydraulic Equipment		X
Heating/Ventilation/Air Conditioning (HVAC)		X
Stains or Corrosion on Floors, Walls or Ceilings		X
Floor Drains, Sumps, or Oil/Water Clarifiers		X
Storm Drains		X
Pits, Ponds, or Lagoons		X
Stained Soil and/or Pavement		X
Soil/Debris Piles		X
Stressed Vegetation		X
Waste or Wastewater (including stormwater) Discharges to Surface/Surface Waters		X

Site Reconnaissance Summary (continued)		
Features	***Observed***	***Not Observed***
Wells (Irrigation, Domestic, Dry, Injection, Abandoned, Monitoring Wells)	X	
Septic Systems		X
High-voltage, tower-mounted transmission lines	X	

The subject site consists of one (1) rural residence, an open trailer storage area with a chicken coop, and agricultural land. The rural residences is a single-story structure with a swimming pool and what appears as a pool house. A propane tank is located north of the rural residence with no signs of soil staining. A well is located to the north of the rural residence. Pole mounted transformers are located on the eastern boundary; No soil staining was observed near the pole mounted transformers.

An open storage area is located south of the rural residence, only a truck and trailer were observed within this area. No stress vegetation was observed. A chicken coop is located in the southern portion of this open space. Inside the chicken coop was one (1) AST and one (1) steel tank. Both the AST and steel tank appears to not be used as motor vehicle fuel storage and no soil staining was observed underneath the AST and the steel tank. Another well is located on the southeastern portion of the subject site. A Shed was observed in the southeastern portion of the subject site and appears to be utilized as equipment storage.

The remainder of the subject site is currently fallow agricultural land; no soil staining or stress vegetation was observed within this area. A high-voltage transmission line is located on the western boundary and Mill Ditch is located on the southern boundary of the subject site.

During the visual observations of the subject site, no hazardous materials or hazardous waste were observed. Exposed surface soils did not exhibit obvious signs of discoloration. No obvious evidence (vent pipes, fill pipes, dispensers, etc.) of USTs was noted within the areas observed. No standing water or major depressions were observed on the subject site. No indications of former structures, such as foundation, were observed on the subject site.

6.2 Adjacent Streets and Property Usage

The following table summarizes the current adjacent streets and adjacent property uses observed during the site reconnaissance:

Adjacent Streets and Property Usage		
Direction	***Adjacent Street***	***Adjacent Property Usage***
North	None	Rural Residence & Agricultural Land
East	Armstrong Avenue	Agricultural Land
South	Mill Ditch	Rural Residence
West	None	Residential Development

Based on the observed uses of the properties located immediately adjacent to the subject site, it is unlikely that these properties present an environmental concern in connection with the subject site.

6.3 ASTM Non-Scope Considerations

According to ASTM E 1527-21, there may be environmental issues or conditions at assessed properties that are outside the scope of the Phase I ESA practice (non-scope considerations). Some substances may be present in quantities and under conditions that may lead to contamination of the subject site or of nearby properties but are not included in CERCLA's definition of hazardous substances (42 U.S.C. §9601[14]). ASTM Non-scope considerations appropriate for the subject site are discussed below.

Asbestos-Containing Materials

Asbestos is a group of naturally occurring mineral fibers that have been used commonly in a variety of building construction materials for insulation and as a fire-retardant. Because of its fiber strength and heat resistant properties, asbestos has been used for a wide range of manufactured goods, mostly in building materials, vehicle brakes, and heat-resistant fabrics, packaging, gaskets, and coatings. When asbestos-containing materials (ACMs) are damaged or disturbed by repair, remodeling, or demolition activities, microscopic asbestos fibers may become airborne and can be inhaled into the lungs, where they can cause significant health problems.

Based on aerial photographs, the existing structure has been located on the subject site since prior to 1978. An asbestos survey and sampling of the on-site dwelling and out-building was not included within the scope of this assessment; however, based on the date of construction, ACMs may be present at the subject site. Prior to the disturbance of any of the suspect ACMs at the subject site via renovation or demolition, a comprehensive asbestos survey is recommended.

Lead-Based Paint

Although lead-based paint (LBP) was banned in 1978, many buildings constructed prior to 1978 have paint that contains lead. Lead from paint, chips, and dust can pose serious health hazards if not addressed properly.

Based on aerial photographs, the existing structure has been located on the subject site since prior to 1978. It is unknown if the on-site structures contain LBP. An LBP survey and sampling of the on-site dwelling and out-buildings was not included within the scope of this assessment; however, based on the date of construction, LBP may be present at the subject site. Prior to the disturbance of any suspect LBP at the subject site via renovation or demolition, a comprehensive LBP survey is recommended.

Radon

Radon is a radioactive gas that is found in certain geologic environments and is formed by the natural breakdown of radium, which is found in the earth's crust. A radon survey was not included within the scope of this investigation; however, the State of California Department of Public Health (CDPH) maintains a statewide database of radon results in designated geographic areas. Radon detection devices are placed in homes throughout the study region to determine geographic regions with elevated radon concentrations. The U.S. EPA has set the safety standard for radon gas in homes to be 4.0 picocuries per liter (pCi/L).

The US EPA has prepared a map to assist National, State and local organizations to target their resources and to implement radon-resistant building codes. The map divides the country into three Radon Zones, Zone 1 being those areas with the average predicted indoor radon concentration in residential dwellings exceeding the EPA Action Limit of 4.0 pCi/L. It is important to note that the EPA has found homes with elevated levels of radon in all three zones, and the EPA recommends site-specific testing in order to determine radon levels at a specific location. However, the map does give a valuable indication of the propensity of radon gas accumulation in structures. Review of the EPA Map of Radon Zones places the Property in Zone 2, where average predicted indoor radon concentration levels may be between 2.0 and 4.0 pCi/L; a moderate potential. Therefore, the available data suggests that the potential for radon to adversely impact the subject site appears to be low.

Wetlands

As defined by the U.S. EPA and the Department of Army, Corps of Engineers, wetlands are "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in

saturated soil conditions." Jurisdictional wetlands are regulated under Section 404 of the Clean Water Act (1972, 1977, and 1987, and also the 1985 and 1990 Farm Bills), and are important for protection of aquatic waterfowl and species, water purification, and flood control. According to Corps of Engineers standards initially developed in 1987, three basic criteria are currently used to define wetlands:

- Wetland hydrology - areas exhibiting surface or near-surface saturation or inundation at some point in time (greater than 12.5 percent of growing season defined on basis of frost-free days) during an average rainfall year.

- Hydrophilic vegetation - frequency of occurrence of wetland indicator plants (plant life growing in water, soil, or substrate that is periodically deficient in oxygen as a result of excessive water content).

- Hydric soil - landscape patterns identified by saturation, flooding, or ponding long enough during the growing season (generally seven days) which develop characteristic color changes in the upper part of the soil as a result of anaerobic conditions.

Krazan's March 4, 2024 review of the U. S. Fish & Wildlife Service (USFWS) National Wetlands Inventory for surface waters and wetlands available via the USFWS Internet website identified three types of documented wetlands on the subject site and site vicinity. Two (2) designated Riverine wetlands appear to be located within the eastern, southern, and western boundaries of the subject site. No irrigation ditches were observed for the riverine located on the western and eastern boundaries. The riverine is described as an unknown perennial subsystem (5), an unconsolidated bottom (UB), is semipermanently flooded (F), and was excavated by humans (X). This irrigation system has either been piped or destroyed. The second riverine is the Mill Ditch located on the southern boundary of the subject site. Mill Ditch is described as intermittent subsystem (4), a streambed (SB), seasonally flooded (C), and was excavated by humans (X). During Krazan's site reconnaissance Mill Ditch was dry with no water. If further assessment of the referenced designated wetlands is desired, Krazan recommends that a qualified biologist be consulted. Refer to Figure 4 – *Wetlands Map* for details.

Environmental Non-Compliance Issues

No material non-compliance issues were identified in connection with the subject site in the process of preparing this report.

Activity and Use Limitations

No activity and use limitations were identified in connection with the subject site in the process of preparing this report.

6.4 Regulatory Agency Records Review

A review of Federal and State regulatory databases was conducted to help determine if hazardous materials have been handled, stored, or generated on the subject site and/or the adjacent properties and businesses. The Federal and State environmental databases consulted in the course of this assessment were compiled by Environmental Data Resources, Inc. (EDR) and identified facilities within the search distances specified in ASTM 1527-21. Krazan did not verify the locations and distances of every property listed by the EDR Radius Map Report. Krazan verified the location and distances of the properties Krazan deemed as having the potential to adversely impact the subject site. The actual location of the listed properties may differ from the EDR listing. No EDR-listed unmapped (non-geocoded) sites identified were determined to be located on or adjacent to the subject site. Refer to Appendix C – *EDR Radius Map Report* for details.

Regulatory records are reviewed based on the following criteria: 1) properties with known soils and/or groundwater releases considered to represent the potential for impact to the subject site that are located within 1,760 feet of the subject site for constituents of concern impacts or 528 feet of the subject site for petroleum hydrocarbon impacts; 2) properties that are adjacent or in proximity to the subject site included within the EDR regulatory database report or noted during the site reconnaissance to possibly handle, store, or generate hazardous materials. Applicable property records are discussed below.

No Federal Superfund – National Priorities List (NPL) sites were determined to be located within a one-mile radius of the subject site according to the State of California Environmental Protection Agency (CalEPA) – Department of Toxic Substances Control Envirostor database and the Environmental Data Resources, Inc. (EDR) database report.

State of California Environmental Protection Agency

Krazan's March 4, 2024 review of the State of California Environmental Protection Agency (CalEPA) – Department of Toxic Substances Control (DTSC) Envirostor database available via the DTSC's Internet Website indicated that no records of cleanup sites including State response sites, voluntary cleanup sites, school cleanup sites, military or school evaluation sites or corrective action sites are listed for the subject site, the adjacent properties, or properties located within a 500-foot radius of the subject site. Based on the site reconnaissance and records review, DTSC sites are not considered a concern to this assessment.

State of California Regional Water Quality Control Board - GeoTracker

Krazan's March 4, 2024 review of the State of California Regional Water Quality Control Board (RWQCB) GeoTracker database available via RWQCB Internet Website indicated that no cleanup sites or permitted facilities are listed for the subject site, adjacent properties, or properties located within the subject site vicinity.

California Department of Conservation, California Geologic Energy Management Division

Krazan's March 4, 2024 review of the State of California Department of Conservation, California Geologic Energy Management Division (CalGEM) GIS Online Mapping System identified that the subject site is within the Inland District and that no plugged and abandoned or producing oil wells are located on the subject site, the adjacent properties, or within the vicinity of the subject site.

State of California Governor's Office of Emergency Services – Spill Report Database

Krazan's review of the State of California Office of Emergency Services (Cal OES) Spill Reports database, available via the Cal OES website did not identify any hazardous materials spill reports in the vicinity of the subject site or the adjacent properties.

Fresno County Department of Public Health, Environmental Health Systems

The Fresno County Department of Public Health, Environmental Health System (FCEHS) is the lead regulatory agency or Certified Unified Program Agency (CUPA) for hazardous materials handling facilities in Fresno County. On February 28, 2024 a public records request was submitted on the FCEHS's online document portal for the subject site address and the surrounding properties. The portal search did identified one (1) facilities located on the subject site or near adjacent/vicinity properties.

Adjacent/Vicinity Properties

AAA NL Mobile 7710
1869 N. Armstrong Avenue
South of the subject site

According to FCEHS, this facility is a hazardous waste generator, has motor vehicle fuel/oil/propane in either an AST or UST, and is enrolled in the County CUPA. All inspections indicated this facility stores used tires prior to hauling to a recycling facility and the hazardous waste generation is below the minimal reporting limit. No violations or releases were reported. Based on the evidence provided this facility is not an environmental concern connected to the subject site.

Fresno Fire Department

The Fresno Fire Department (FFD) has jurisdiction for fire protection of the subject site and the immediate vicinity. FFD indicated there are no fire incident reports on file of the subject site.

Local Area Tribal Records

No Indian reservations, USTs on Indian land, or LUSTs on Indian land were reported on the subject site, adjacent properties, or vicinity properties in the EDR-provided database report.

Regulatory Database Review

Several agencies have published documents that list businesses or properties which have handled hazardous materials or waste or may have experienced site contamination. The lists consulted in the course of our assessment were compiled by EDR and Krazan and represent reasonably ascertainable current listings. Krazan did not verify the locations and distances of every property listed by EDR. Krazan verified the location and distances of the properties Krazan deemed as having the potential to adversely impact the subject site. The actual location of the listed properties may differ from the EDR listing. No EDR-listed mapped (non-geocoded) site was identified within the subject site and one (1) EDR-listed in given radius parameter of properties around the subject site.

Adjacent/Vicinity Properties

Ranch #25 (HIST UST, SWEEPS UST, Hist UST, CA FID UST)
2187 N. Armstrong Avenue
North of the subject site

According the EDR report, this facility registered a 550-gallons UST for motor vehicle fuel in the year 1988 with the State Water Resources Control Board. No violations or releases where reported. Based on aerial images of the facility, it appears this facility has multiple AST, indicating the UST is no longer in use. Based on the evidence provided this facility is not environmental concern connected to the subject site.

Hazardous Materials Migration in Soils and/or Groundwater

The remaining properties within the specified search radius of the subject site which appeared on local, state, or federally published lists of sites that use or have had releases of hazardous materials or petroleum products are of sufficient distance and/or situated hydraulically cross- or downgradient from the subject site such that impact to the subject site via groundwater migration is unlikely. In general, potentially hazardous materials released from facilities approximately located hydraulically upgradient within subject site vicinity, or in a hydraulically cross-gradient direction in proximity to the site, may have a reasonable

potential of migrating to the subject site via groundwater flow. This opinion is based on the assumption that non-vaporous hazardous materials generally do not migrate large distances laterally within the soil, but rather tend to migrate with groundwater in the general direction of groundwater flow. However, the potential for migration of volatile hazardous materials may include movement within soils, groundwater flow or potentially omni-directionally if present in a vaporous state.

Hazardous Materials Migration in Vapor

Hazardous materials or petroleum product vapors which may have the potential to migrate into the subsurface of the subject site may be caused by the release of vapors from contaminated soil or groundwater either on or in the vicinity of the subject site from current or historical uses of the subject site and/or adjacent or vicinity properties. Current or past land uses such as gasoline stations (using petroleum hydrocarbons), dry cleaning establishments (using chlorinated volatile organic compounds), former manufactured gas plant sites (using volatile and semi-volatile organic compounds), and former industrial sites such as those that had vapor degreasing or other parts-cleaning operations (using chlorinated volatile organic compounds) are of particular concern. Constituent of concern vapors are capable of migrating great distances omni-directionally along subsurface conduits such as pipelines, utility lines, sewer and stormwater lines, and building foundations.

Based on Krazan's observations and review of State and local regulatory agency records and the EDR regulatory database report, no listings of concern related to potential vapor migration were determined to be associated with the subject site, adjacent properties, or properties located within the subject site vicinity. The rationale supporting this opinion includes the following:

- Relevant sites had undergone investigation and remediation sufficient to receive regulatory agency closure.
- Sites with reported releases of minor quantities of constituents of concern (COCs), or COCs of limited volatility impacting soil only were considered of minimal concern.
- Sites with reported releases of COCs including volatile organic compounds (VOCs) were either of sufficient distance or hydraulically down- or cross-gradient from the subject site such that they do not appear to represent a significant potential for vapor migration on the subject site.

No engineering control sites, sites with institutional controls, or sites with deed restrictions were listed for the subject site, adjacent sites or vicinity properties in the EDR Report.

7.0 DISCUSSION OF FINDINGS

Summary of Conclusions		
Apparent Evidence of RECs/CRECs or PAOCs from	***Not Noted***	***Noted***
Historical Uses	X	
Current Uses	X	
Adjacent of Vicinity Property Uses	X	

Historical Uses

Based on Krazan's review of historical aerial photographs, historical topographic maps, and historical cross-reference directories, and contacts with the local regulatory agencies, there is no material evidence to suggest that RECs exist in connection with the historical uses of the subject site.

Current Uses

Based on Krazan's site reconnaissance, contacts with local regulatory agencies, and an interview with the key site manager of the subject site, there is no evidence that RECs exist in connection with the current uses of the subject site.

Adjacent or Vicinity Property Uses

Based on Krazan's field observations, review of the EDR government database report, and consultation with local regulatory agencies, there is no evidence that recognized environmental conditions exist in connection with the subject site from adjacent or vicinity property uses.

7.1 Evaluation of Data Gaps/Data Failure

In accordance with ASTM E 1527-21 guidance, data gaps represent a lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice. Data failure represents the failure to achieve the historical research objectives of this practice even after reviewing the standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.

The following is a summary of data gaps encountered in the process of preparing this report including an observation as to the presumed significance of that data gap to the conclusions of this assessment:

- Absence of an Environmental Lien Search or Final Title Report (Sections 5.1 and 5.2)

  A Final Title Report or Environmental Lien Search was not provided by the Phase I ESA User; therefore, a data gap exists. Taken in consideration with the available information obtained in the course of preparing this report in conjunction with professional experience, there is no evidence to suggest that this data gap might alter the conclusions of this assessment. However, the content of an environmental lien search or final title report is unknown.

- Absence of Interview with Owner, User, & Previous Owner (Section 5.3)

  A Phase I ESA interview with the Owner, User, previous owner of the subject site was not reasonably ascertainable. Consequently, information regarding the history and historical uses of the subject site obtained from an interview of the previous owner of the subject site constitutes a data gap. Taken in consideration with the available information obtained in the course of preparing this report in connection with professional experience, there is no evidence to suggest that this data gap might alter the conclusions of this assessment.

8.0 CONCLUSIONS

We have conducted a Phase I ESA of the subject site in conformance with the scope and limitations of the ASTM E 1527-21 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* guidance documents. Any deviations from this practice were previously described in this report. During the course of this assessment, Krazan identified no evidence of recognized environmental condition (REC), controlled recognized environmental conditions (CRECs), or historical RECs (HRECs) in connection with the subject site as defined by ASTM E 1527-21; however, the following ASTM Non-Scope Considerations, and site development issues were identified in connection with the subject site:

ASTM Non-Scope Considerations

- The structure located on the subject site appears to been constructed prior to 1978. It is unknown if the on-site structure contains asbestos-containing materials (ACMs) or lead-based paint (LBP). An asbestos and/or LBP survey and sampling of the on-site structure was not included within the scope of this assessment. However, based on the apparent dates of construction, ACMs and LBP may be present at the subject site. Prior to the disturbance of any of the suspect ACMs or LBP at the subject site via renovation or demolition, comprehensive asbestos and LBP surveys are recommended.

- Based on Krazan's reconnaissance of the subject site, evidence was not apparent to suggest that the site contained a wetland. However, according to the U.S. Fish & Wildlife Services (USFWS) National Wetlands Inventory available via the USFWS Internet website, two (2) designated Riverine wetlands appear to be located within the eastern, southern, and western boundaries of the subject site. No irrigation ditches were observed for the riverine located on the western and eastern boundaries. The riverine is described as an unknown perennial subsystem (5), an unconsolidated bottom (UB), is semipermanently flooded (F), and was excavated by humans (X). This irrigation system has either been piped or destroyed. The second riverine is the Mill Ditch located on the southern boundary of the subject site. Mill Ditch is described as intermittent subsystem (4), a streambed (SB), seasonally flooded (C), and was excavated by humans (X). During Krazan's site reconnaissance Mill Ditch was dry with no water. If further assessment of the referenced designated wetlands is desired, Krazan recommends that a qualified biologist be consulted.

Site Development Issues

- Krazan's review of historical aerial photographs and the subject site reconnaissance indicates that two (2) wells were located on the subject site. If the existing water well and/or any additional water wells identified during the planned redevelopment of the subject site are not to be utilized, it/they should be properly destroyed in accordance with State and local guidelines.

- A septic system is associated with the on-site dwelling and located within the subject site. The presence of the septic systems is not anticipated to have adversely impacted the subject site due to their presumed use for domestic purposes only. If a septic system is identified during the planned

redevelopment of the subject site, it should be properly abandoned/closed or destroyed in accordance with State and local guidelines.

- It has been Krazan's experience that chemical analysis of shallow soil samples for persistent pesticides/herbicides in current or former agricultural areas does not typically result in concentrations reported above regulatory screening levels; however, it has also been Krazan's recent experience that Federal, State and local agencies and/or financial lending institutions have at times required "pesticide screening" of properties with current and/or former agricultural uses. If pesticide screening or further assessment is required by a government agency or financial lending institution, Krazan can assist with those requests.

9.0 RELIANCE

This report was prepared solely for use by Client and should not be provided to any other person or entity without Krazan & Associates' prior written consent. No party other than Client may rely on this report without Krazan & Associates' express prior written consent. Reliance rights for third parties will only be in effect once requested by Client and authorized by Krazan & Associates with authorization granted by way of a Reliance Letter. The Reliance Letter will require that the relying party(ies) agree to be bound to the terms and conditions of the agreement between Client and Krazan & Associates as if originally issued to the relying party(ies), or as so stipulated in the Reliance Letter.

10.0 LIMITATIONS

The site reconnaissance and research of the subject site has been limited in scope. This type of assessment is undertaken with the calculated risk that the presence, full nature, and extent of contamination would not be revealed by visual observation alone. Although a thorough site reconnaissance was conducted in accordance with ASTM Guidelines and employing a professional standard of care, no warranty is given, either expressed or implied, that hazardous material contamination or buried structures, which would not have been disclosed through this investigation, do not exist at the subject site. Therefore, the data obtained are clear and accurate only to the degree implied by the sources and methods used.

The findings presented in this report were based upon field observations during a single property visit, review of available data, and discussions with local regulatory and advisory agencies. Observations describe only the conditions present at the time of this investigation. The data reviewed and observations made are limited to accessible areas and currently available records searched. Krazan cannot guarantee the completeness or accuracy of the regulatory agency records reviewed. Additionally, in evaluating the property, Krazan has relied in good faith upon representations and information provided by individuals noted in the report with respect to present operations and existing property conditions, and the historical uses of the property. It must also be understood that changing circumstances in the property usage, proposed property usage, subject site zoning, and changes in the environmental status of the other nearby properties can alter the validity of conclusions and information contained in this report. Therefore, the data obtained are clear and accurate only to the degree implied by the sources and methods used.

This report is provided for the exclusive use of the client noted on the cover page and shall be subject to the terms and conditions in the applicable contract between the client and Krazan. Any third-party use of this report, including use by Client's lender, shall also be subject to the terms and conditions governing the work in the contract between the client and Krazan. The unauthorized use of, reliance on, or release of the information contained in this report without the express written consent of Krazan is strictly prohibited and will be without risk or liability to Krazan.

Conclusions and recommendations contained in this report are based on the evaluation of information made available during the course of this assessment. It is not warranted that such data cannot be superseded by future environmental, legal, geotechnical or technical developments. Consequently, given the possibility for unanticipated hazardous conditions to exist on a subject site which may not have been discovered, this Phase I ESA is not intended as the basis for a buyer or developer of real property to waive their rights of recovery based upon environmental unknowns. Parties that choose to waive rights of recovery prior to site development do so at their own risk.

Parties who seek to rely upon Phase I Environmental Site Assessment reports dated more than 180 days prior to the date of reliance do so at their own risk. This limitation in reliance is based on the potential for physical changes at the site, changes in circumstances, technological and professional advances, and guidance related to the continued viability of Environmental Site Assessment reports, user's responsibilities, and requirements for updating of components of the inquiry as stated in the ASTM Standard E 1527-21.

11.0 QUALIFICATIONS

This Phase I ESA was conducted under the supervision or responsible charge of Krazan's undersigned environmental assessor with oversight from the undersigned environmental professional. The work was conducted in accordance with ASTM E 1527-21 guidance, generally accepted industry standards for environmental due diligence in place at the time of the preparation of this report, and Krazan's quality-control policies.

We declare that, to the best of our professional knowledge and belief, we meet the definition of environmental professional as defined in §312.10 of 40 CFR 312 and we have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.



Remington R. Alexander, PE
Environmental Regional Manager

RRA/mlt

REFERENCES

American Society for Testing and Materials (ASTM), *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment (ESA) Process*, ASTM Designation: E 1527-21.

City of Fresno Fire Department.

Fresno County Public Works and Development Department

City of Fresno – Public Works Department

Singh, Mr. Sukwinder, owner of the subject site.

Environmental Data Resources, Inc. (EDR), Aerial photographs, Microsoft® Research Maps.

Environmental Data Resources, Inc. (EDR), Certified Sanborn Map Report.

Environmental Data Resources, Inc. (EDR), City Directory Abstract.

Environmental Data Resources, Inc. (EDR), Regulatory Database Report.

Environmental Data Resources, Inc. (EDR), Topographic Map Report.

Environmental Protection Agency (EPA), *UST Finder* Website: UST Finder (arcgis.com)

State of California Department of Toxic Substances Control, Envirostor Website:

State of California Geologic Energy Management Division (CalGEM) Maps Website: https://www.conservation.ca.gov/calgem/Pages/WellFinder.aspx

State of California Regional Water Quality Control Board, GeoTracker Website: http://geotracker.swrcb.ca.gov

State of California, Department of Water Resources, *Sustainable Groundwater Management Act (SGMA) Data Viewer, Spring, 2023,* https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#gwlevels

State of California, Governor's Office of Emergency Services, *Spill Release Reporting:* http://www.caloes.ca.gov/office-of-the-director/operations/response-operations/fire-rescue/hazardous-materials/spill-release-reporting/

Fresno County Department of Public Health, Environmental Health Document Portal.

U.S. Environmental Protection Agency (EPA) *Map of Radon Zones*.

U.S. Fish & Wildlife Service National Wetland Inventory *Wetlands Mapper:* http://www.fws.gov/wetlands/Data/Mapper.html

U.S. Geological Survey, 7.5-minute Clovis, California topographic quadrangle map, dated 2021.

GLOSSARY OF TERMS

Subject Site: The real property being investigated under this Phase I ESA.

Adjacent Properties: Properties which are contiguous with the subject site, or would be contiguous except for a street, road, or other public thoroughfare.

Subject Site Vicinity: Properties located within a 500-foot radius of the subject site.

Environmental Professional: A person meeting the education, training, and experience requirements as set forth in 40 CFR §312.10(b). The EP may be an independent contractor or an employee of the user.

User: The party seeking to use Practice E 1527 to complete an environmental site assessment of the subject site. A user may include, without limitation, a potential purchaser of the subject site, a potential tenant of the subject site, an owner of the subject site, a lender, or a property manager.

Recognized Environmental Condition (REC): In defining a standard of good commercial and customary practice for conducting an environmental site assessment of a parcel of property, the goal of the processes established by this practice is to identify recognized environmental conditions. The term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions.

Controlled Recognized Environmental Condition (CREC): A recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). For example, if a leaking underground storage tank has been cleaned up to a commercial use standard, but does not meet unrestricted residential cleanup criteria, this would be considered a CREC. The "control" is represented by the restriction that the property use remains commercial. A condition considered by the environmental professional to be a CREC shall be listed in the findings section of the Phase I ESA report and as an REC in the conclusions section. A condition identified as a CREC does not imply that the environmental professional has evaluated or confirmed the adequacy, implementation, or continued effectiveness of the required control that has been, or is intended to be, implemented.

Historical Recognized Environmental Condition (HREC): A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release an HREC, the environmental professional must determine whether the past release is an REC at the time the Phase I ESA is conducted (for example, if there has been change in the regulatory criteria). If the EP considers the past release to be an REC at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as an REC.

GLOSSARY OF TERMS (continued)

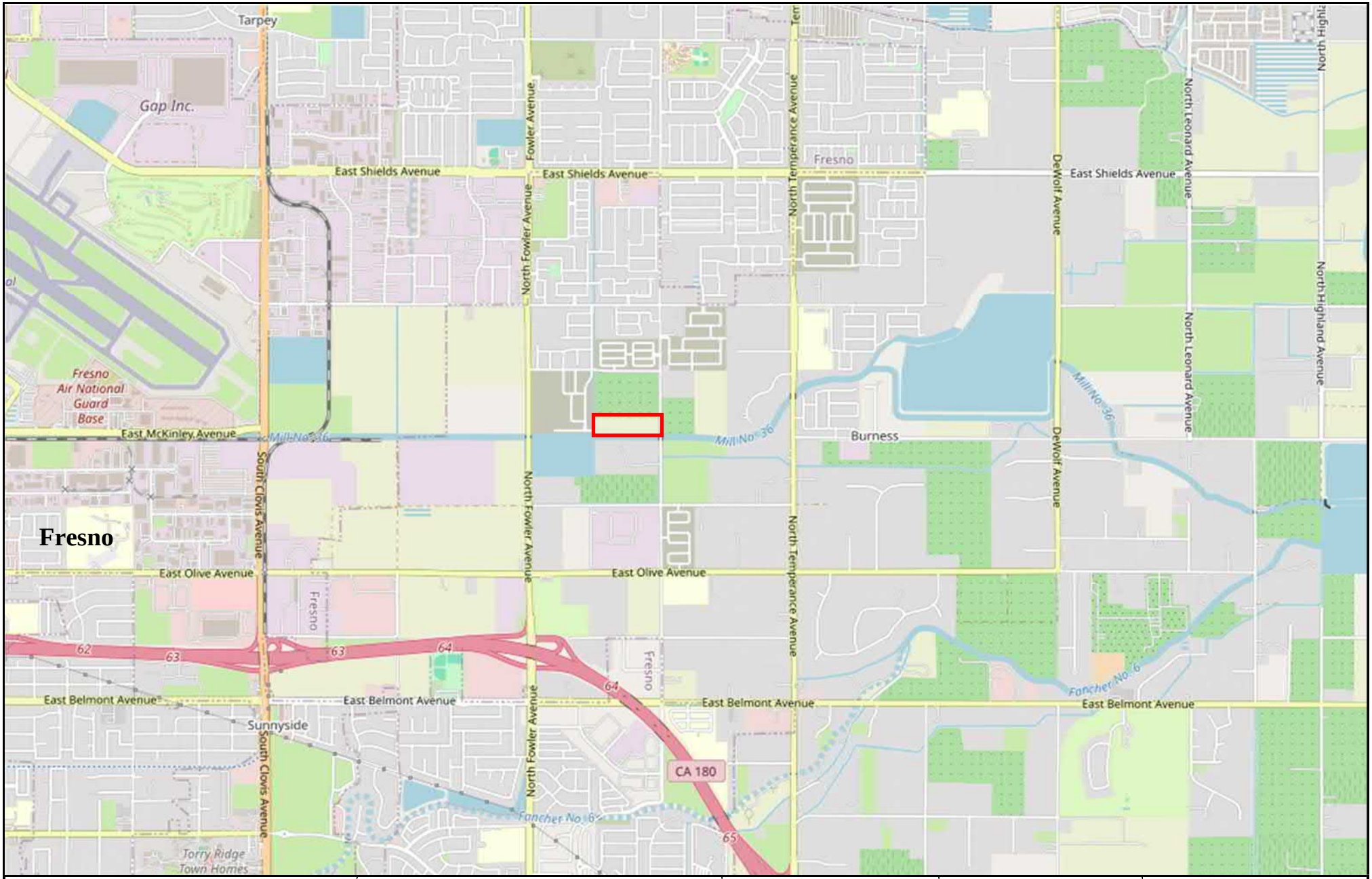
Potential Area of Concern (PAOC): A term adopted to provide an alternative designation to the REC and HREC for a range of environmental issues related to current subject site uses, historical subject site uses, or from adjacent and/or vicinity property uses. The PAOC is utilized to emphasize full disclosure and provide the User with conclusions and recommendations related to potential environmental issues in connection with the subject site based on Krazan's professional experience in cases where official documentation or other evidence may be absent in order to identify an REC or HREC, thereby aiding the User's considerations of environmental due diligence risk tolerance.

Migrate/migration: For the purposes of this practice, "migrate" and "migration" refer to the movement of hazardous substances or petroleum products in any form, including, for example, solid and liquid at the surface or subsurface, and vapor in the subsurface. Vapor migration in the subsurface is described in ASTM E 2600-10 guidance; however, nothing in the E 1527-21 practice should be construed to require application of the E 2600-10 standard to achieve compliance with AAI.

De minimis condition: A condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Condition determined to be *de minimis conditions* are not RECS or CRECs.

Data Gap: A lack of or inability to obtain information required by this practice despite good faith efforts by the Environmental Professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice, including, but not limited to the site reconnaissance and interviews.

Data Failure: A failure to achieve the historical research objectives even after reviewing the standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.



Legend Subject Site Boundary N 1,250 5,000 US Feet	**Vicinity Map** **Singh Property** 2045 N. Armstrong Avenue APN: 574-130-05 Fresno, California 93727	**Scale:** 1" = 2,500′ **Drawn By:** RA **Project No:** 014-24032	**Date:** March 2024 **Approved By:** RA **Figure No:** 1

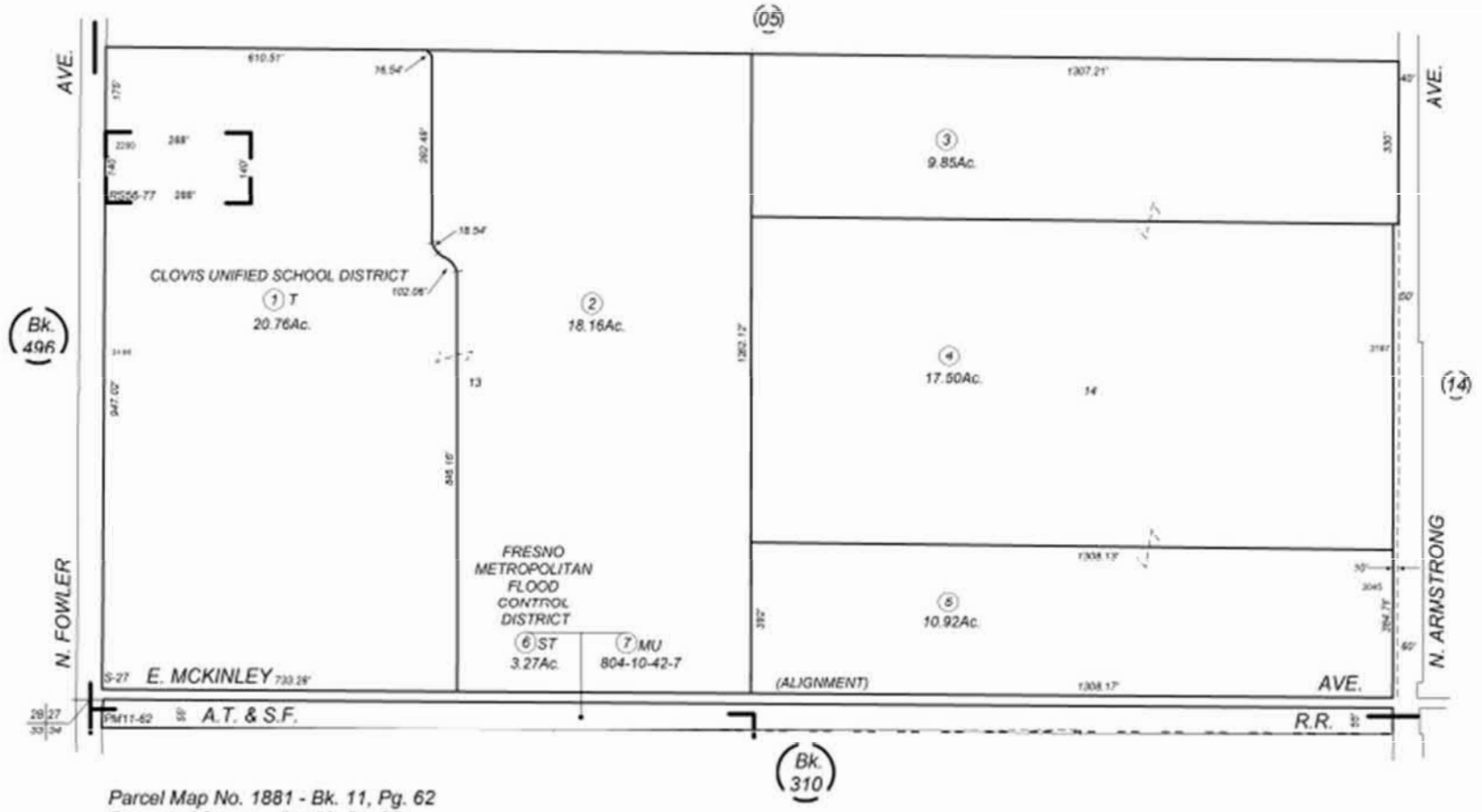
Krazan
SITE DEVELOPMENT ENGINEERS
With Offices Serving the Western United States

-NOTE-
This map is for Assessment purposes only. it is not to be construed as portraying legal ownership or divisions of land for purposes of zoning or subdivision law.

SUBDIVIDED LAND IN POR SEC. 27 T.13S., R.21E., M.D.B.&M.

Tax Rate Area
5-463
76-052

574-13



Parcel Map No. 1881 - Bk. 11, Pg. 62
Record of Survey - Bk. 56, Pg. 77
Subdivision of SEc. 27, T.13S., R.21E., M.D.B.&M. - Plat Bk. 5, Pg. 14

Assessor's Map Bk. 574 - Pg. 13
County of Fresno, Calif.

Note - Assessor's Block Numbers Shown in Ellipses
Assessor's Parcel Numbers Shown in Circles

3/26/2020

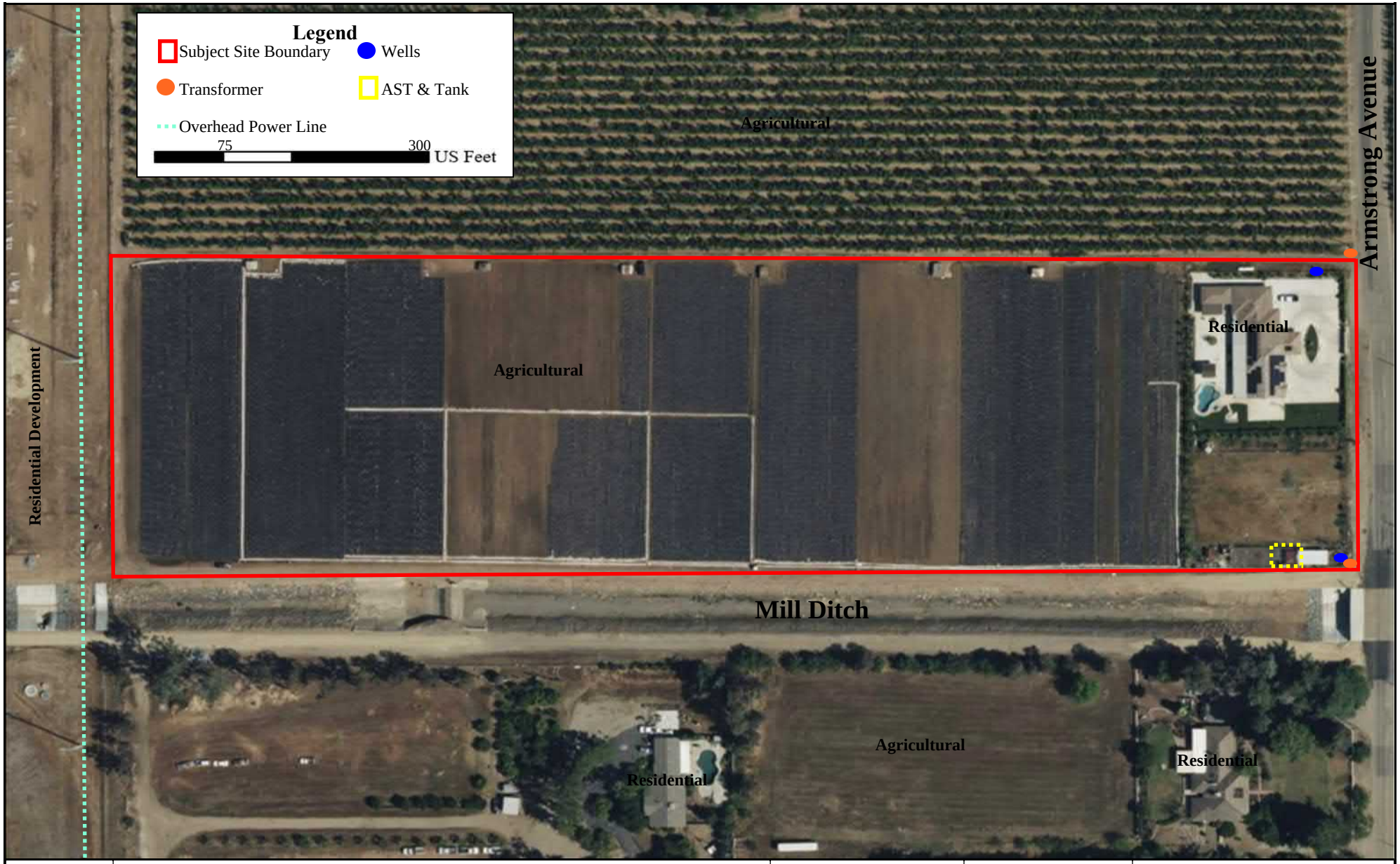
Legend

Subject Site Boundary

N

Parcel Map		**Scale:** NTS	**Date:** March 2024
Singh Property 2045 N. Armstrong Avenue APN: 574-130-05 Fresno, California 93727		**Drawn By:** RA	**Approved By:** RA
		Project No: 014-24032	**Figure No:** 2

Krazan
SITE DEVELOPMENT ENGINEERS
With Offices Serving the Western United States



N	**Site Map**	**Scale:** 1" = 150′	**Date:** March 2024	Krazan SITE DEVELOPMENT ENGINEERS *With Offices Serving the Western United States*
	Singh Property 2045 N. Armstrong Avenue APN: 574-130-05 Fresno, California 93727	**Drawn By:** RA	**Approved By:** RA	
		Project No: 014-24032	**Figure No:** 3	

U.S. Fish and Wildlife Service

National Wetlands Inventory

01424032



March 7, 2024

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



Photo 1: Northeastern-facing view of the subject site from the southwestern boundary.



Photo 2: Western-facing view of the subject site from Eastern Boundary



Photo 3: View of the open space located on the eastern boundary of the subject site.



Photo 4: View of the shed and the chicken coop located in the southwestern portion of the subject site.



Photo 5: View of the AST and tank located within the chicken coop located in the southwestern portion of the subject site.



Photo 6: View of the propane tank located on the northwestern portion of the subject site.



Photo 7: View of the well located in the northwestern portion of the subject site.



Photo 8: View of the well located in the southwestern portion of the subject site.



Photo 9: View of the pole mounted transformer located in the southwestern portion of the subject site.



Photo 10: View of the overhead power line located on western boundary of the subject site.



Photo 11: View of the agricultural field located within the subject site.



Photo 12: View of the agricultural land located north of the subject site.



Photo 13: View of the agricultural land located east of the subject site.



Photo 14: View of Mill Ditch and the rural residence located south of the subject site.



Photo 15: View of the residential development located west of the subject site.

Appendix A

Singh Property

2045 N. Armstrong Avenue

Fresno, CA 93727

Inquiry Number: 7572019.3

February 16, 2024

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

02/16/24

Site Name:

Singh Property
2045 N. Armstrong Avenue
Fresno, CA 93727
EDR Inquiry # 7572019.3

Client Name:

Krazan & Associates, Inc.
215 West Dakota
Clovis, CA 93612
Contact: Melanie Thomas

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Krazan & Associates, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 7F57-463F-B9ED

PO # 01424032

Project Singh Property

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 7F57-463F-B9ED

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Singh Property

2045 N. Armstrong Avenue

Fresno, CA 93727

Inquiry Number: 7572019.4

February 16, 2024

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

02/16/24

Site Name:

Singh Property
2045 N. Armstrong Avenue
Fresno, CA 93727
EDR Inquiry # 7572019.4

Client Name:

Krazan & Associates, Inc.
215 West Dakota
Clovis, CA 93612
Contact: Melanie Thomas

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Krazan & Associates, Inc. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# 01424032
Project: Singh Property

Coordinates:

Latitude:	36.765448 36° 45' 56" North
Longitude:	-119.675436 -119° 40' 32" West
UTM Zone:	Zone 11 North
UTM X Meters:	261196.21
UTM Y Meters:	4072191.82
Elevation:	342.00' above sea level

Maps Provided:

2021	1946
2018	1923
2015	
2012	
1981	
1972	
1964	
1947	

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2021 Source Sheets



Clovis
2021
7.5-minute, 24000



Malaga
2021
7.5-minute, 24000

2018 Source Sheets



Clovis
2018
7.5-minute, 24000



Malaga
2018
7.5-minute, 24000

2015 Source Sheets



Clovis
2015
7.5-minute, 24000



Malaga
2015
7.5-minute, 24000

2012 Source Sheets



Clovis
2012
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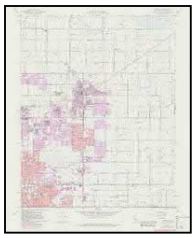


Malaga
2012
7.5-minute, 24000

Topo Sheet Key

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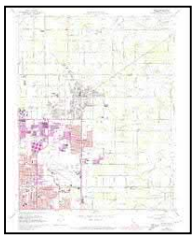


Clovis
1981
7.5-minute, 24000
Aerial Photo Revised 1978



Malaga
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7.5-minute, 24000
Aerial Photo Revised 1978

1972 Source Sheets



Clovis
1972
7.5-minute, 24000
Aerial Photo Revised 1972

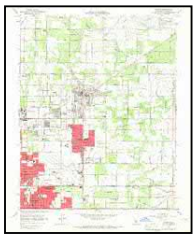


Malaga
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Aerial Photo Revised 1972

1964 Source Sheets



Malaga
1964
7.5-minute, 24000
Aerial Photo Revised 1962



Clovis
1964
7.5-minute, 24000
Aerial Photo Revised 1962

1947 Source Sheets



Clovis
1947
7.5-minute, 24000



Malaga
1947
7.5-minute, 24000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1946 Source Sheets



Malaga
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7.5-minute, 24000



Clovis
1946
7.5-minute, 24000

1923 Source Sheets



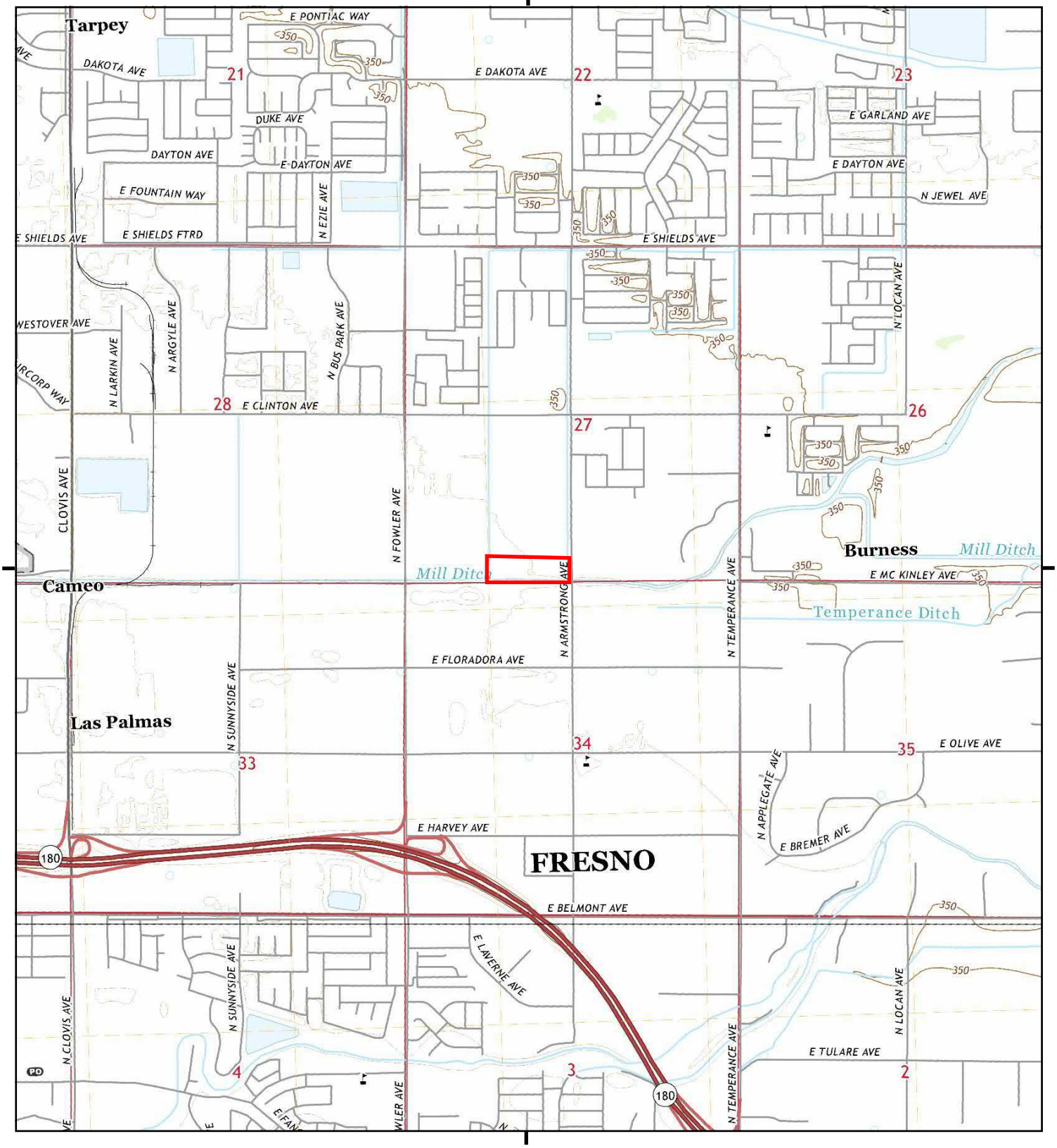
Clovis
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7.5-minute, 31680



Malaga
1923
7.5-minute, 31680

Historical Topo Map

2021



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W E
SW S SE

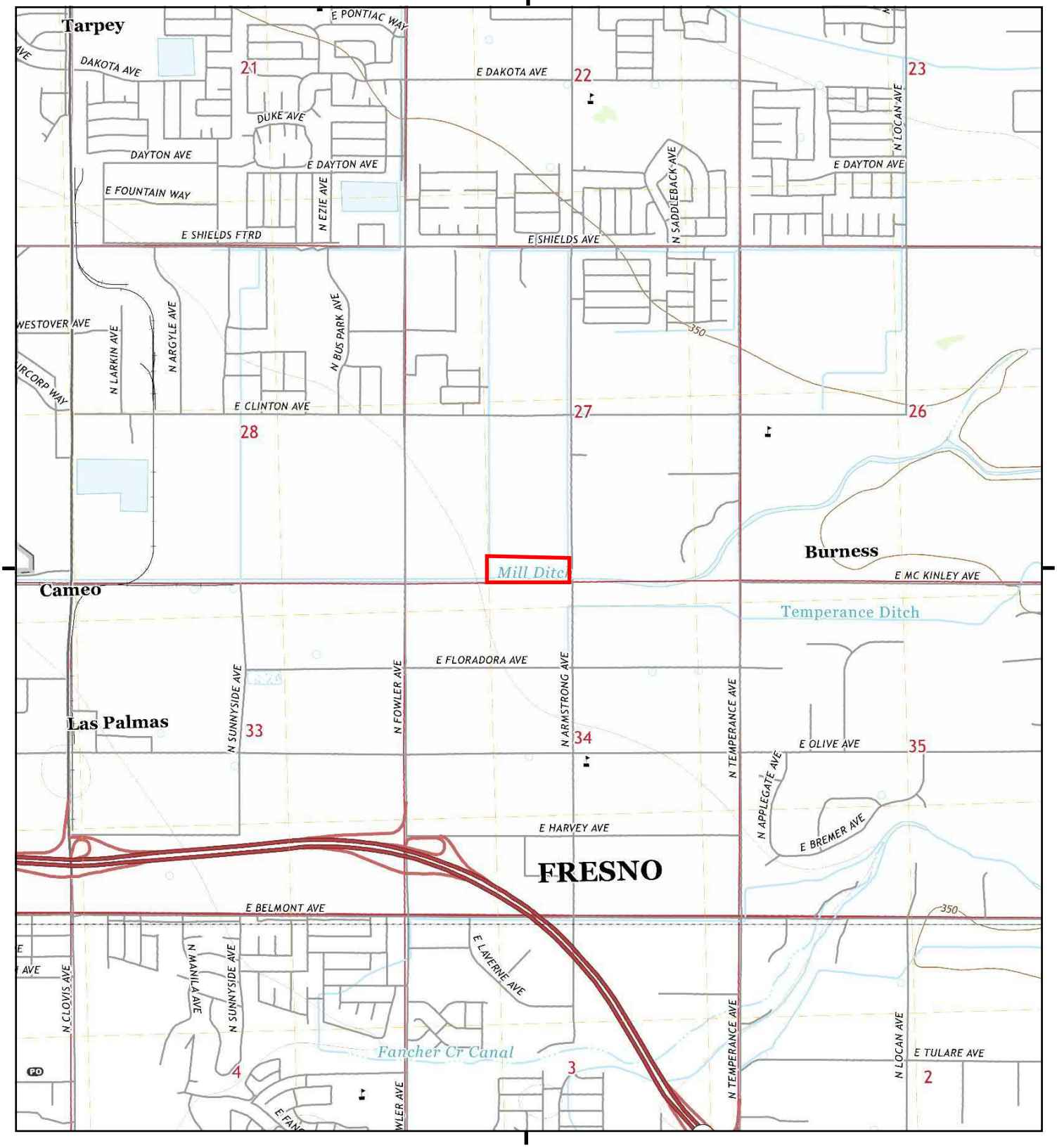
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S, Malaga, 2021, 7.5-minute

SITE NAME: Singh Property
ADDRESS: 2045 N. Armstrong Avenue
Fresno, CA 93727
CLIENT: Krazan & Associates, Inc.

N

Historical Topo Map

2018



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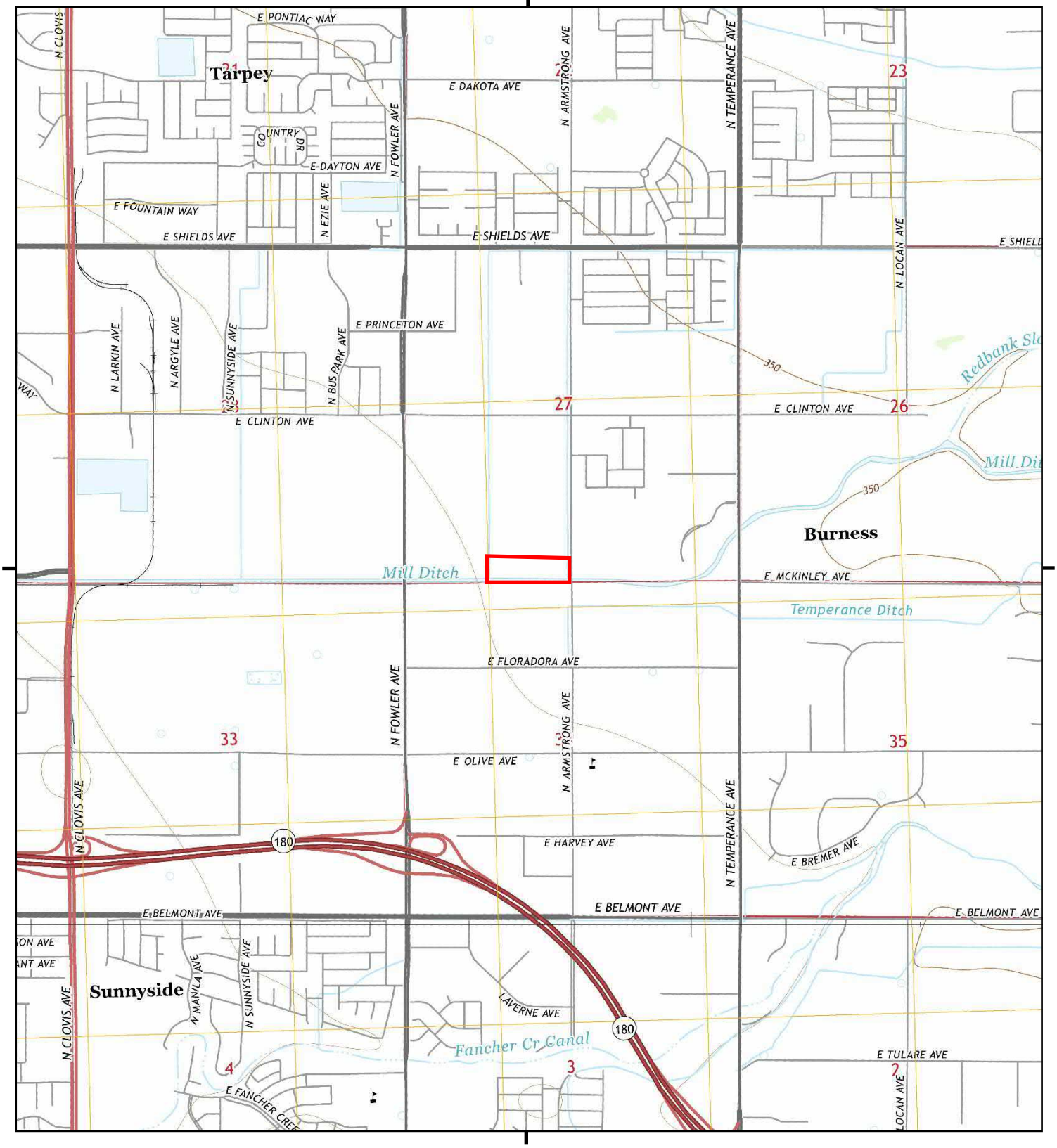
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S, Malaga, 2018, 7.5-minute

SITE NAME: Singh Property
ADDRESS: 2045 N. Armstrong Avenue
Fresno, CA 93727
CLIENT: Krazan & Associates, Inc.

N

Historical Topo Map

2015



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SW S SE

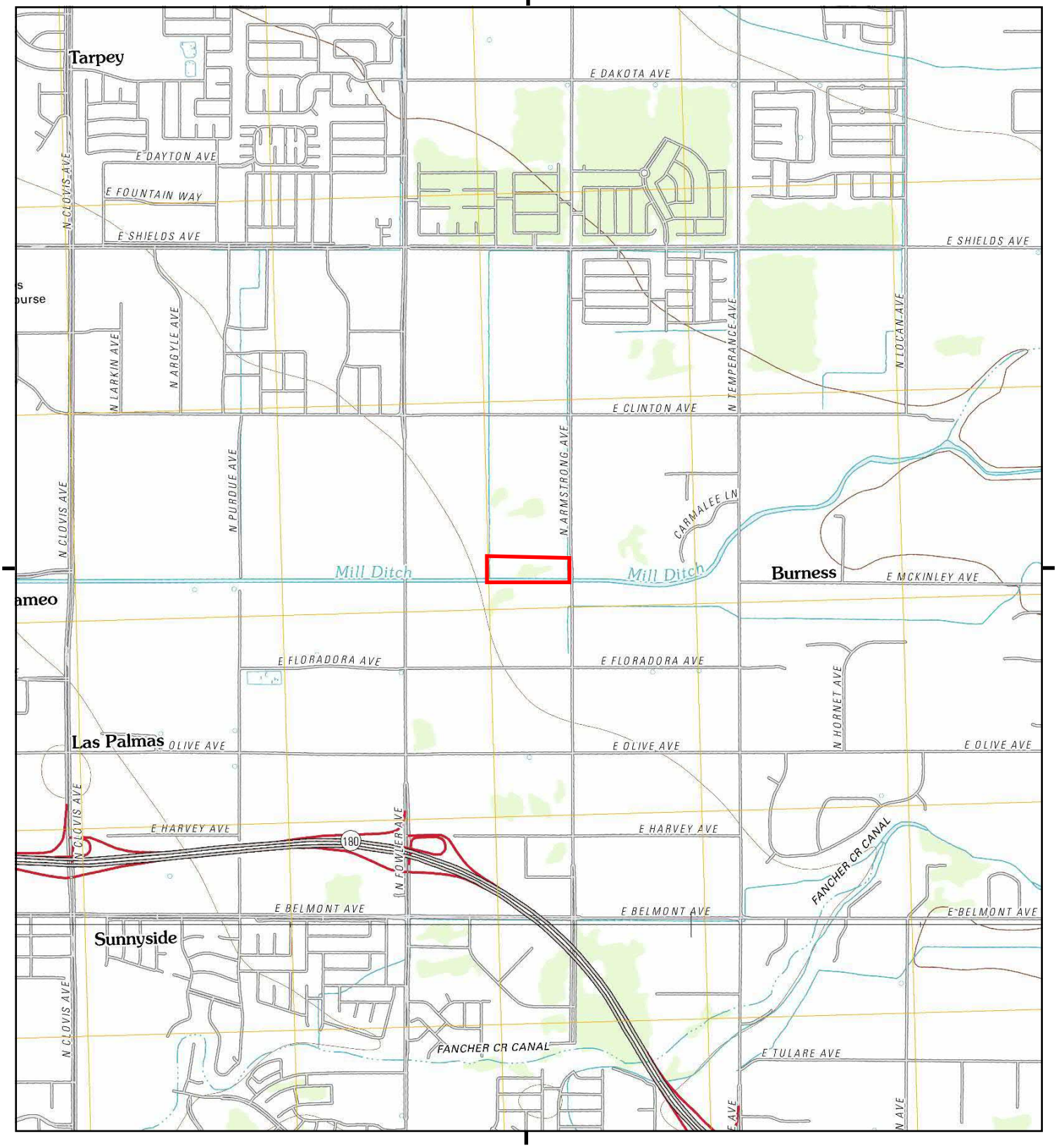
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S, Malaga, 2015, 7.5-minute

SITE NAME: Singh Property
ADDRESS: 2045 N. Armstrong Avenue
Fresno, CA 93727
CLIENT: Krazan & Associates, Inc.

N

Historical Topo Map

2012



This report includes information from the following map sheet(s).

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W E
SW S SE

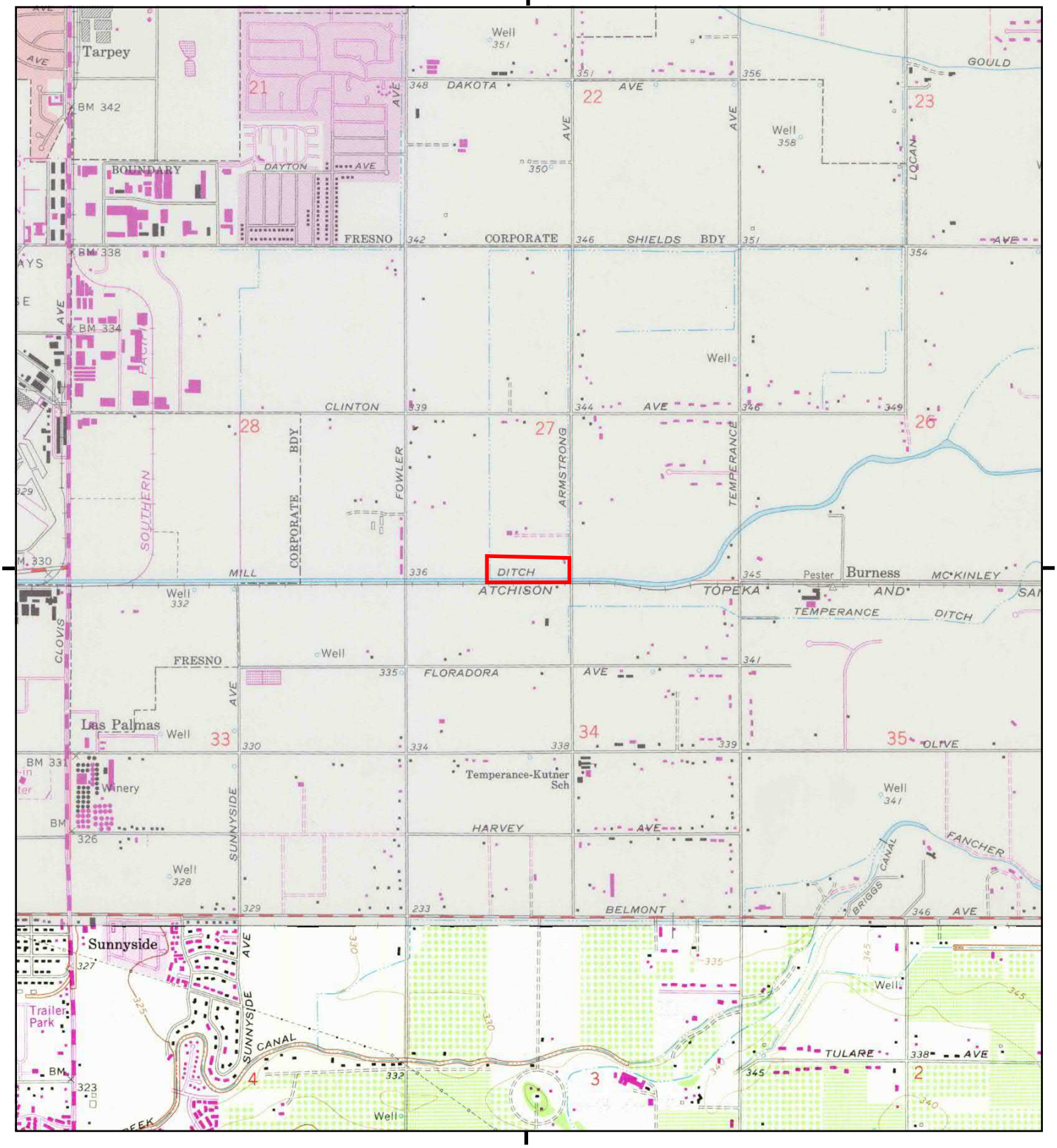
TP, Clovis, 2012, 7.5-minute
S, Malaga, 2012, 7.5-minute

SITE NAME: Singh Property
ADDRESS: 2045 N. Armstrong Avenue
Fresno, CA 93727
CLIENT: Krazan & Associates, Inc.

N

Historical Topo Map

1981



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

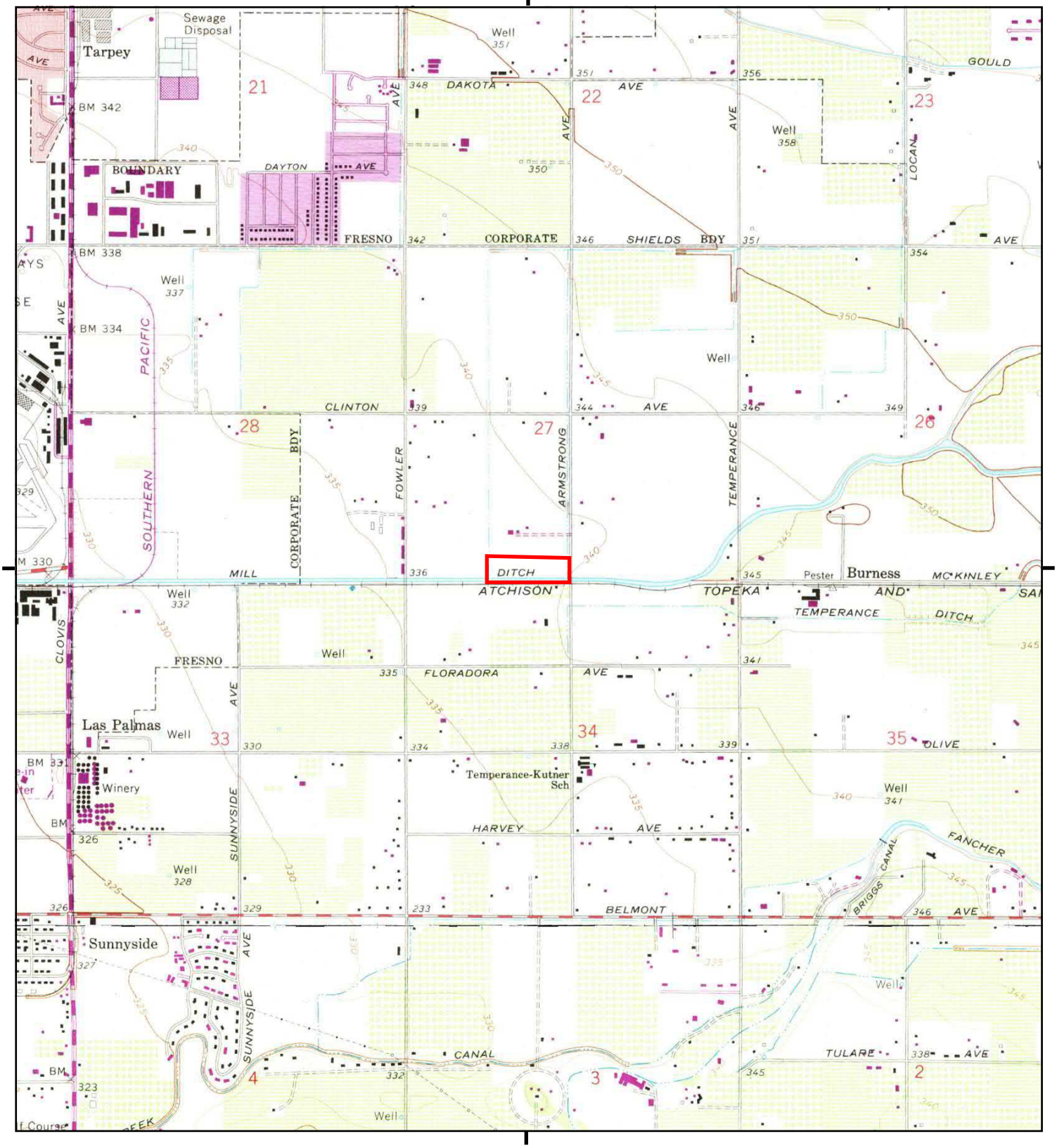
TP, Clovis, 1981, 7.5-minute
S, Malaga, 1981, 7.5-minute

SITE NAME: Singh Property
ADDRESS: 2045 N. Armstrong Avenue
Fresno, CA 93727
CLIENT: Krazan & Associates, Inc.

N

Historical Topo Map

1972



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

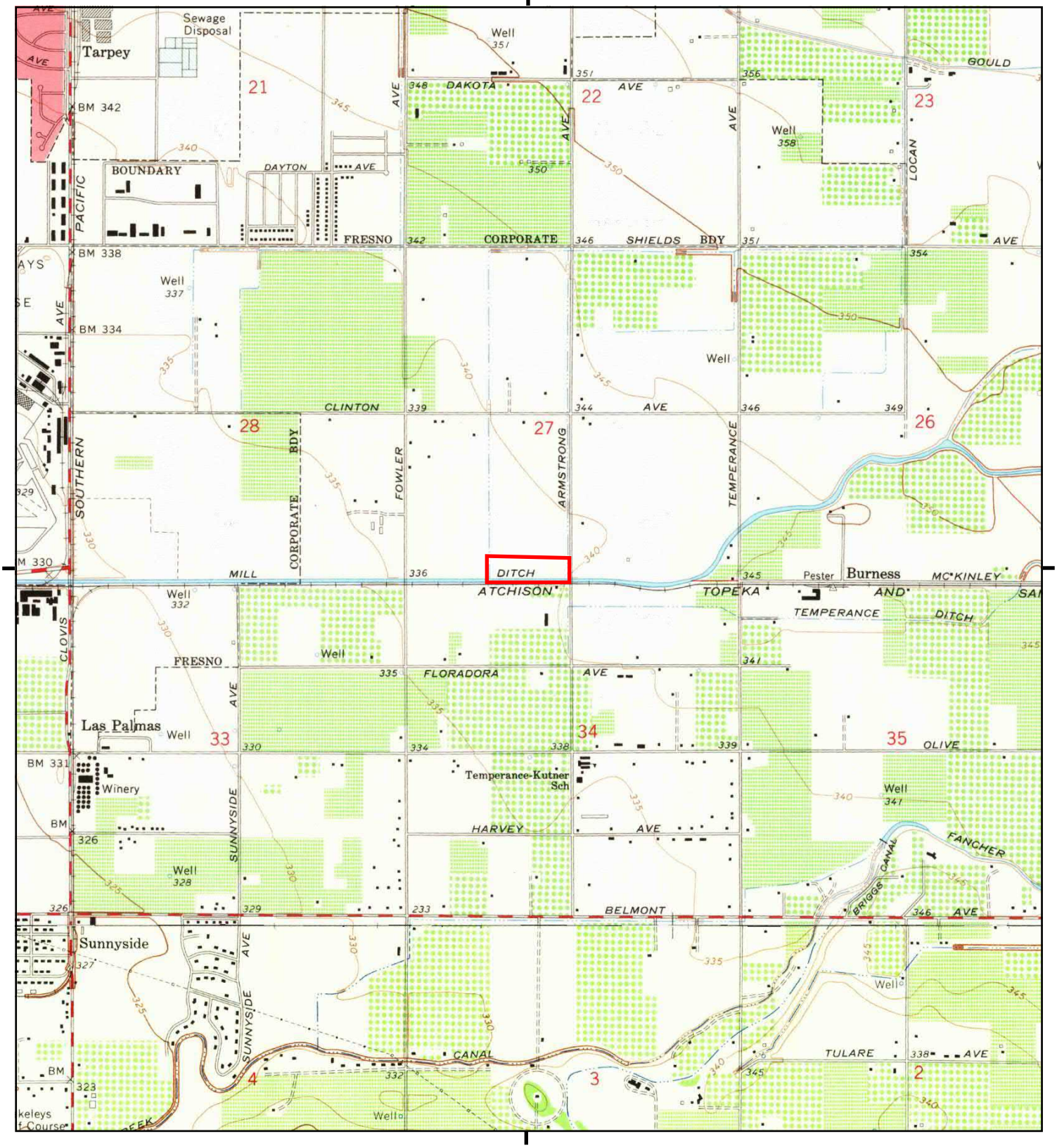
TP, Clovis, 1972, 7.5-minute
S, Malaga, 1972, 7.5-minute

SITE NAME: Singh Property
ADDRESS: 2045 N. Armstrong Avenue
Fresno, CA 93727
CLIENT: Krazan & Associates, Inc.

N

Historical Topo Map

1964



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

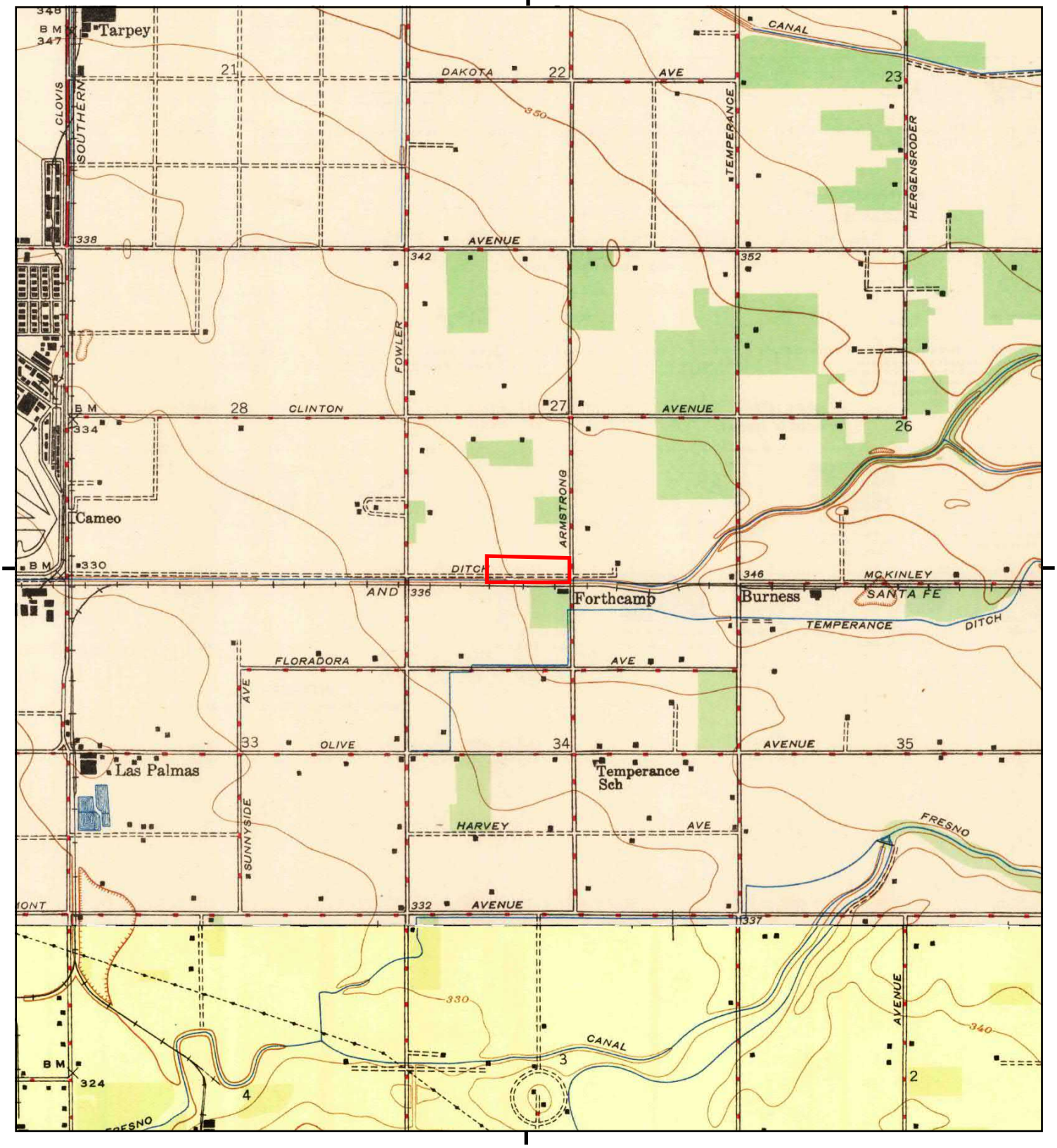
TP, Clovis, 1964, 7.5-minute
S, Malaga, 1964, 7.5-minute

SITE NAME: Singh Property
ADDRESS: 2045 N. Armstrong Avenue
Fresno, CA 93727
CLIENT: Krazan & Associates, Inc.

N

Historical Topo Map

1947



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

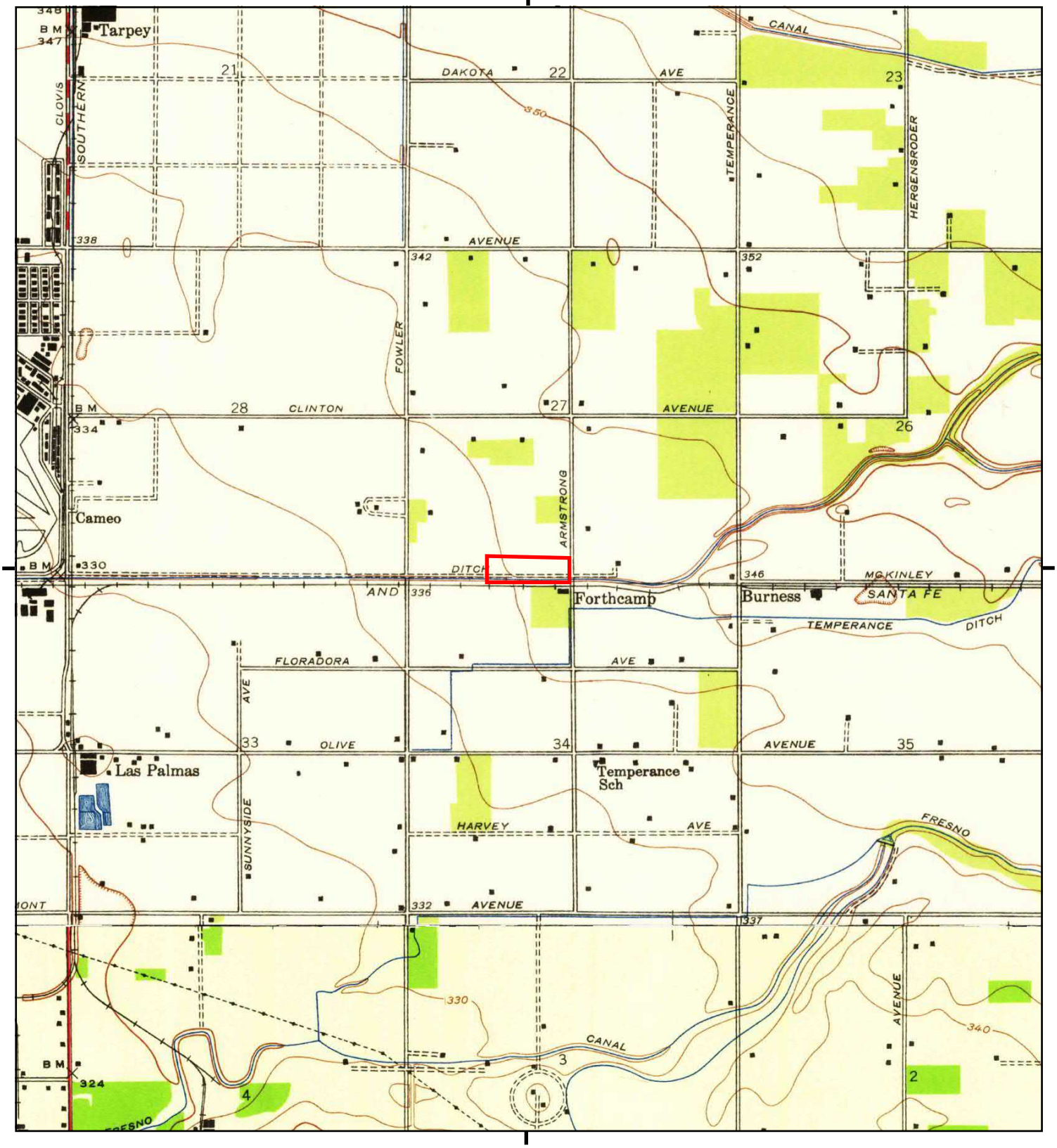
TP, Clovis, 1947, 7.5-minute
S, Malaga, 1947, 7.5-minute

SITE NAME: Singh Property
ADDRESS: 2045 N. Armstrong Avenue
Fresno, CA 93727
CLIENT: Krazan & Associates, Inc.

N

Historical Topo Map

1946



This report includes information from the following map sheet(s).

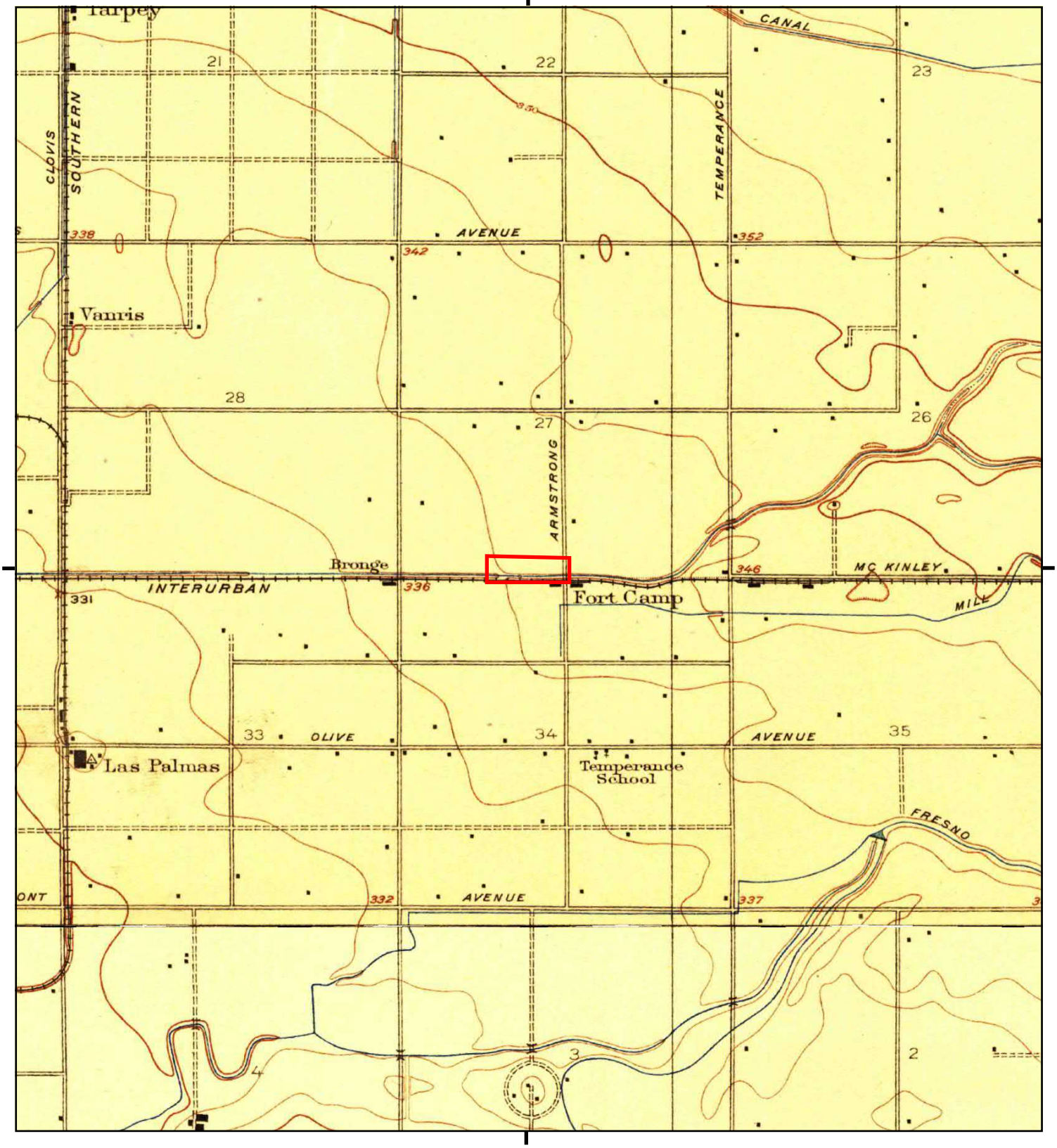
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Clovis, 1946, 7.5-minute
S, Malaga, 1946, 7.5-minute

SITE NAME: Singh Property
ADDRESS: 2045 N. Armstrong Avenue
Fresno, CA 93727
CLIENT: Krazan & Associates, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Clovis, 1923, 7.5-minute
S, Malaga, 1923, 7.5-minute

SITE NAME: Singh Property
ADDRESS: 2045 N. Armstrong Avenue
Fresno, CA 93727
CLIENT: Krazan & Associates, Inc.

N

Singh Property
2045 N. Armstrong Avenue
Fresno, CA 93727

Inquiry Number: 7572019.5
February 20, 2024

The EDR-City Directory Abstract

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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Executive Summary

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City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at approximately five year intervals.

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1922 through current. This report compiles information gathered in this review by geocoding the latitude and longitude of properties identified and gathering information about properties within 660 feet of the target property.

Summary information obtained is provided in the text of this report.

RECORD SOURCES

The EDR City Directory Report accesses a variety of business directory sources, including Haines, InfoUSA, Polk, Cole, Bresser, and Stewart. Listings marked as EDR Digital Archive access Cole and InfoUSA records. The various directory sources enhance and complement each other to provide a more thorough and accurate report.

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Year	Source	TP	Adjoining	Text Abstract	Source Image
2020	EDR Digital Archive	X	X	X	-
2017	Cole Information	X	X	X	-
2014	Cole Information	X	X	X	-
2010	Cole Information	X	X	X	-
2005	Cole Information	X	X	X	-
2002	R.L. Polk & Co Publishers	X	X	X	-
2000	Cole Information	-	X	X	-
1996	R.L. Polk & Co Publishers	-	-	-	-
1995	Cole Information	-	-	-	-
1992	Cole Information	-	-	-	-
1990	R.L. Polk & Co Publishers	-	-	-	-
1986	R.L. Polk & Co Publishers	-	-	-	-
1980	R.L. Polk & Co Publishers	-	-	-	-
1975	R.L. Polk & Co Publishers	-	-	-	-
1970	R.L. Polk & Co Publisher	-	-	-	-
1965	R.L. Polk & Co Publisher	-	-	-	-

EXECUTIVE SUMMARY

Year	Source	TP	Adjoining	Text Abstract	Source Image
1962	R. L. Polk & Co.	-	-	-	-
1958	R. L. Polk & Co.	-	-	-	-
1952	R.L. Polk & Co Publishers	-	-	-	-
1947	R.L. Polk & Co Publishers	-	-	-	-
1942	R.L. Polk & Co Publishers	-	-	-	-
1937	R.L. Polk & Co Publishers	-	-	-	-
1932	R.L. Polk & Co Publishers	-	-	-	-
1927	Cole Information	-	-	-	-
1922	Polk-Husted Directory Co.	-	-	-	-

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

2045 N. Armstrong Avenue
Fresno, CA 93727

FINDINGS DETAIL

Target Property research detail.

ARMSTRONG AVE

2045 ARMSTRONG AVE

Year	*Uses*	*Source*
2002	Bier Jimmie J Jr & Jean 81+ A	R.L. Polk & Co Publishers

N ARMSTRONG AVE

2045 N ARMSTRONG AVE

Year	*Uses*	*Source*
2020	SIDHU TRANSPORT	EDR Digital Archive
	SUKHWINDER SINGH	EDR Digital Archive
2017	SUKHWINDER SINGH	Cole Information
2014	OCCUPANT UNKNOWN	Cole Information
2010	JIMMIE BIER	Cole Information
2005	JIMMIE BIER	Cole Information

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

ARMSTRONG AVE

1945 ARMSTRONG AVE

Year	Uses	Source
2002	Sanders Frank J 81 A	R.L. Polk & Co Publishers
	Sanders Jane	R.L. Polk & Co Publishers

1995 ARMSTRONG AVE

Year	Uses	Source
2002	Sanders Linda A 81 A	R.L. Polk & Co Publishers

N ARMSTRONG AVE

1945 N ARMSTRONG AVE

Year	Uses	Source
2020	ALMA VERA	EDR Digital Archive
	JOSE VERA	EDR Digital Archive
2017	JOSE VERA	Cole Information
2014	JOSE VERA	Cole Information
2010	JOSE VERA	Cole Information
2005	ALAN SHIMIZU	Cole Information
2000	ALAN SHIMIZU	Cole Information

FINDINGS

ADJOINING PROPERTY: ADDRESSES NOT IDENTIFIED IN RESEARCH SOURCE

The following Adjoining Property addresses were researched for this report, and the addresses were not identified in research source.

Address Researched	Address Not Identified in Research Source
1945 ARMSTRONG AVE	2020, 2017, 2014, 2010, 2005, 2000, 1996, 1995, 1992, 1990, 1986, 1980, 1975, 1970, 1965, 1962, 1958, 1952, 1947, 1942, 1937, 1932, 1927, 1922
1945 N ARMSTRONG AVE	2020, 2017, 2014, 2010, 2002, 2000, 1996, 1995, 1992, 1990, 1986, 1980, 1975, 1970, 1965, 1962, 1958, 1952, 1947, 1942, 1937, 1932, 1927, 1922
1945 N ARMSTRONG AVE	2020, 2017, 2014, 2010, 2005, 2002, 1996, 1995, 1992, 1990, 1986, 1980, 1975, 1970, 1965, 1962, 1958, 1952, 1947, 1942, 1937, 1932, 1927, 1922
1945 N ARMSTRONG AVE	2017, 2014, 2010, 2005, 2002, 2000, 1996, 1995, 1992, 1990, 1986, 1980, 1975, 1970, 1965, 1962, 1958, 1952, 1947, 1942, 1937, 1932, 1927, 1922
1945 N ARMSTRONG AVE	2020, 2014, 2010, 2005, 2002, 2000, 1996, 1995, 1992, 1990, 1986, 1980, 1975, 1970, 1965, 1962, 1958, 1952, 1947, 1942, 1937, 1932, 1927, 1922
1945 N ARMSTRONG AVE	2020, 2017, 2010, 2005, 2002, 2000, 1996, 1995, 1992, 1990, 1986, 1980, 1975, 1970, 1965, 1962, 1958, 1952, 1947, 1942, 1937, 1932, 1927, 1922
1945 N ARMSTRONG AVE	2020, 2017, 2014, 2005, 2002, 2000, 1996, 1995, 1992, 1990, 1986, 1980, 1975, 1970, 1965, 1962, 1958, 1952, 1947, 1942, 1937, 1932, 1927, 1922
1995 ARMSTRONG AVE	2020, 2017, 2014, 2010, 2005, 2000, 1996, 1995, 1992, 1990, 1986, 1980, 1975, 1970, 1965, 1962, 1958, 1952, 1947, 1942, 1937, 1932, 1927, 1922

TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

Address Researched	Address Not Identified in Research Source
2045 N. Armstrong Avenue	2000, 1996, 1995, 1992, 1990, 1986, 1980, 1975, 1970, 1965, 1962, 1958, 1952, 1947, 1942, 1937, 1932, 1927, 1922

Singh Property

2045 N. Armstrong Avenue

Fresno, CA 93727

Inquiry Number: 7572019.8

February 16, 2024

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

02/16/24

Site Name:

Singh Property
2045 N. Armstrong Avenue
Fresno, CA 93727
EDR Inquiry # 7572019.8

Client Name:

Krazan & Associates, Inc.
215 West Dakota
Clovis, CA 93612
Contact: Melanie Thomas

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	*Scale*	*Details*	*Source*
2020	1"=500'	Flight Year: 2020	USDA/NAIP
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
1998	1"=500'	Acquisition Date: January 01, 1998	USGS/DOQQ
1987	1"=500'	Flight Date: June 17, 1987	USDA
1984	1"=500'	Flight Date: June 09, 1984	USDA
1979	1"=500'	Flight Date: September 04, 1979	USDA
1973	1"=500'	Flight Date: May 08, 1973	USDA
1967	1"=500'	Flight Date: May 02, 1967	USDA
1962	1"=500'	Flight Date: August 09, 1962	USGS
1957	1"=500'	Flight Date: August 14, 1957	USDA
1950	1"=500'	Flight Date: January 31, 1950	USDA
1946	1"=500'	Flight Date: April 22, 1946	USGS
1937	1"=500'	Flight Date: October 05, 1937	USDA

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INQUIRY #: 7572019.8
YEAR: 2020
= 500'
N
EDR


INQUIRY #: 7572019.8
YEAR: 2016
= 500'
N
EDR


INQUIRY #: 7572019.8
YEAR: 2012
= 500'
N
EDR



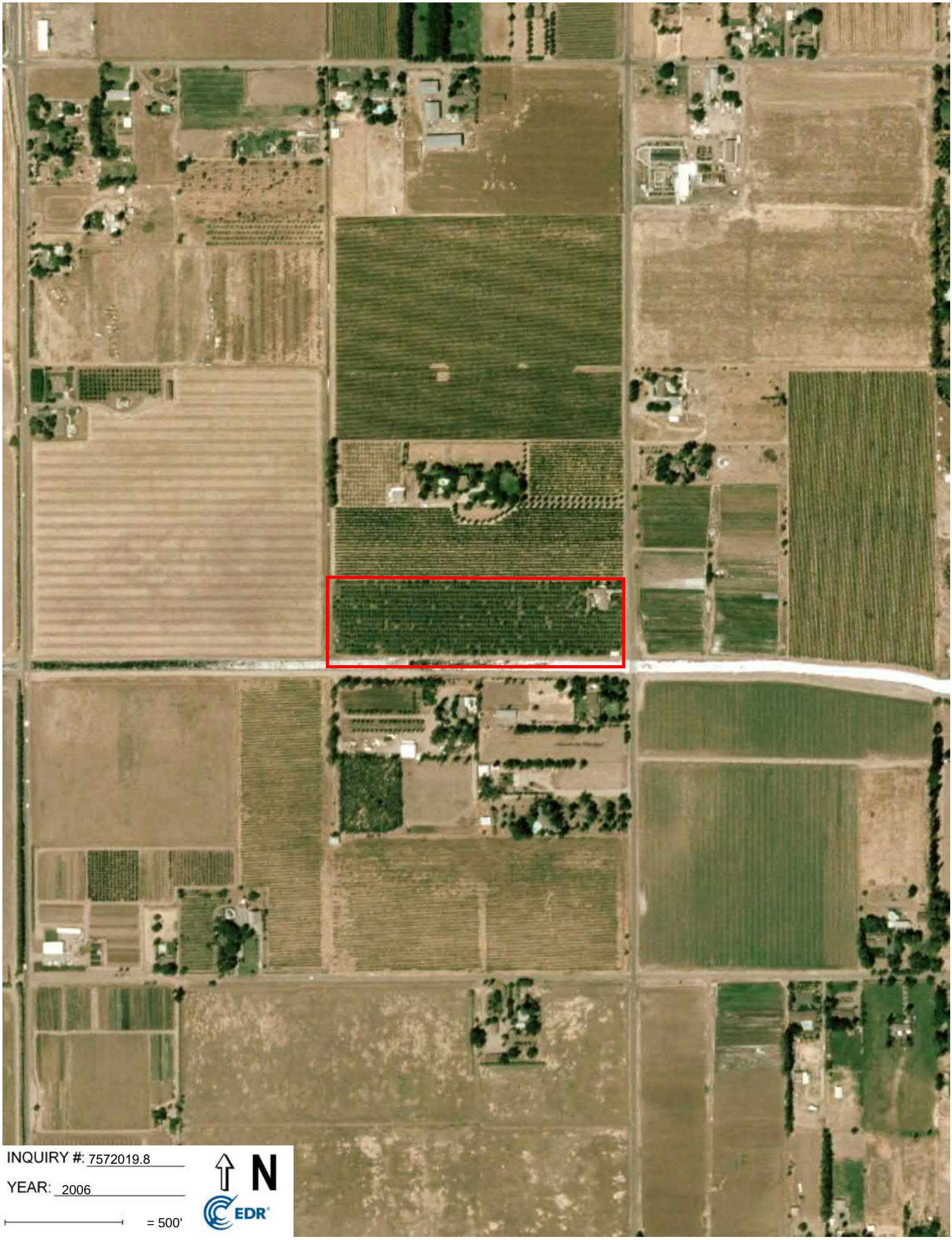
INQUIRY #: 7572019.8

YEAR: 2009

= 500'

N

EDR



INQUIRY #: 7572019.8

YEAR: 2006

= 500'

N

EDR



INQUIRY #: 7572019.8

YEAR: 1998

= 500'

N

EDR


INQUIRY #: 7572019.8
YEAR: 1987
= 500'
N
EDR


INQUIRY #: 7572019.8
YEAR: 1984
= 500'
N
EDR



INQUIRY #: 7572019.8

YEAR: 1979

= 500'

N

EDR



INQUIRY #: 7572019.8

YEAR: 1973

= 500'

N

EDR


INQUIRY #: 7572019.8
YEAR: 1967
= 500'
N
EDR



INQUIRY #: 7572019.8

YEAR: 1962

= 500'

N

EDR



INQUIRY #: 7572019.8

YEAR: 1957

= 500'

N

EDR



INQUIRY #: 7572019.8

YEAR: 1950

= 500'

N

EDR



INQUIRY #: 7572019.8

YEAR: 1946

= 500'

N

EDR


INQUIRY #: 7572019.8
YEAR: 1937
= 500'
N
EDR

Appendix B

Krazan & ASSOCIATES, INC.

GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

PHASE I ESA
PROPERTY OWNER QUESTIONNAIRE

Property Name: SUKHWINDER SINGH
Address/APN: 2045 N. ARMSTRONG AVE / 574-130-05
City/State/Zip: FRESNO CA 93727

Name: MR. SINGH Company: _____

Date: 3-5-24 Phone: _____

Knowledge of Previous Owner(s) and Phone Number? NO

How are you associated with the subject site? OWNER

How long have you been associated with the subject site? _____

What is the subject site currently used for? Residential

Are there structures on the subject site? **Yes** **No** How many? _____

Do you know of any previous structures on the subject site? **Yes** **(No)**
If so, describe uses. _____

Do you have knowledge of the presence of underground storage tanks (UST) or aboveground storage tanks (AST) being located on the subject property (current or historical)? **Yes** **(No)**
(If so, please provide info including number, size, contents, and locations.)

Currently: _____ Historically: _____

Do you know of any chemicals, hazardous materials and/or persistent pesticides/herbicides (such as DDT) being used, stored or discharged on the subject site? **Yes** **(No)**
If so, please list any chemicals / hazardous materials and their location(s). _____

Do you have any knowledge of imported soil on the subject property? **Yes** **(No)**
If so, please indicate the origin and location of the imported soil? _____

Do you know of any buried materials such as garbage dumps, burn pits or underground pipelines located on the subject site? **Yes** **No**
If so, please specify and indicate the location(s). _____

_____

_____

Do you know of any septic systems located on the subject property (current or historical)? **Yes** **No**
If so, how many currently? backyard If so, how many historically? _____

Do you know of any domestic or agricultural water wells located on the subject property (current or historical)? **Yes** **No**
If so, how many currently? 2 If so, how many historically? N/A

Do you know of any dry wells located on the subject property (current or historical)? **Yes** **No**

Do you know of any environmental monitoring wells located on the subject property (current or historical)? **Yes** **No**

Do you know of any drainage or disposal ponds located on the subject property? **Yes** **No**

Is the subject property connected to municipal water and/or sewer systems? **Yes** **No**

Do you know of obvious indications pointing to the presence or likely presence of contamination of the subject property? **Yes** **No**
If so, please specify and indicate location. _____

_____

Do you have any concerns about adjacent property usage such as gasoline stations, industrial uses, or USTs/ASTs on adjacent properties? **Yes** **No**

Are you aware of any environmental cleanup liens against the subject property that are filled or recorded under federal, tribal, state, or local law? **Yes** **No**

Have there been any previous commercial and/or industrial (non-residential) tenants/occupants on the subject property or in on-site buildings? **Yes** **No**
If so, please list: _____

_____

Are you aware of any activity use limitations (AULs) such as engineering controls, land use restrictions, or institutional controls that are in place at the subject property and/or have been filed or recorded in a registry under federal, tribal, state, or local law? **Yes** **No**
If so, please specify. _____

_____

_____

Do you have specialized knowledge or experience related to the subject property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the subject property or an adjacent property so that you would have specialized knowledge of the chemicals and processes used by this type of business? **Yes** **No**
If so, please specify and briefly explain. _____

Do you know the past uses of the subject property? **Yes** **No**
If so, briefly explain. Farming

Do you have knowledge of the current or historical presence of vehicle repair-related features (i.e. sumps, oil/water clarifiers, subsurface hydraulic vehicle hoists, etc.)? **Yes** **No**
If so, briefly explain. _____

Do you know of specific chemicals that are present or once were present at the subject property?
Yes **No**
If so, briefly explain. _____

Do you know of any spills or other chemical releases that have taken place at the subject property?
Yes **No**
If so, briefly explain. _____

Are you aware of, or have you been notified of, any contamination issues to soil or groundwater either at the subject property or in the vicinity of the subject site? **Yes** **No**
If so, briefly explain. _____

What is the reason for preparation of this Phase I ESA? (Property purchase/sale; bank loan; proposed development, etc.) Selling

If purchase price has been established, does it reasonably reflect fair market value? Yes

Are there any proposed changes in the uses of the subject site? **Yes** **No**
If so, please specify. _____

Name: SUKHWINDER SINGH Date: 03-05-2024
(Please Print)

Signature: _____

PHASE I ESA
USER QUESTIONNAIRE

Property Name: Singh Property

Address/APN: NW of McKinley and Armstrong

City/State/Zip: Fresno, CA 93727

Respondent Information:

Name: Rabie Mekideche

Company: Lennar Homes of California

Date: March 5, 2024

Phone: 559-488-9548

Introduction

"In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfield Revitalization Act of 2001 (the 'Brownfields Amendments'), the *user* must provide the following inquiries required by 40 CFR §§ 312.25, 312.28, 312.29, 312.30 and 312.31. The *user* should provide the following information (if available) to the environmental professional. Failure to provide this information could result in a determination that '*all appropriate inquiry*' is not complete." - American Society for Testing and Materials (ASTM) E1527-21 Appendix X3. User Questionnaire

1. Are you aware of any environmental cleanup liens against the subject site that are filed or recorded under federal, tribal, state, or local law?
I am not aware of any environmental cleanup liens against the subject site that are filled or recorded under federal, tribal, state or local law.

2. Are you aware of any activity use limitations (AULs) such as engineering controls, land use restrictions, or institutional controls that are in place at the subject site and/or have been filed or recorded in a registry under federal, tribal, state, or local law?
I am not aware of any activity use limitations filed or recorded on the property.

3. As the user of the Phase I Environmental Site Assessment (ESA), do you have any specialized knowledge or experience related to the subject site or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the subject site or an adjacent property so that you would have specialized knowledge of the chemicals and processes used by this type of business?
I do not have any specialized knowledge or experience related to the subject site or nearby property.

4. Does the purchase price being paid for the subject site reasonably reflect the fair market value of the subject site? **(Yes)** **No**

A. If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the subject site?
N/A

5. Are you aware of commonly known or reasonably ascertainable information about the subject site that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example:

A. Do you know the past uses of the subject site? If so, briefly explain.
I am aware that the subject site was previously used for agricultural purposes.

B. Do you know of specific chemicals that are present or once were present at the subject site? If so, briefly explain.
I am not aware of any specific chemicals that are present or were once present on the subject site.

C. Do you know of spills or other chemical releases that have taken place at the subject site? If so, briefly explain.
I am not aware of any spills or other chemical releases that have taken place at the subject site.

D. Do you know of any environmental cleanups that have taken place at the subject site? If so, briefly explain.
I am not aware of any environmental cleanups on the subject site.

6. As the user of the Phase I ESA, based on your knowledge and experience related to the subject site, are there any obvious indicators that point to the presence or likely presence of contamination at the subject site?
Based on my knowledge and experience related to the subject site, I have found no obvious indicators that point to the presence or likely presence of contamination at the subject site.

7. What is the reason for preparation of this Phase I ESA? (Property purchase/sale; bank loan; proposed development; etc.)
Property Purchase.

I, the user of this Phase I ESA (or authorized representative of the User), do hereby attest that I have carefully considered the questions herein and have presented answers to the best of my knowledge and ability based upon the Responsibilities of the User as required within ASTM E1527-21 guidance.

Name: Rabie Mekideche Date: March 5, 2024
(Please Print)

Signature 

Appendix C

Singh Property
2045 N. Armstrong Avenue
Fresno, CA 93727

Inquiry Number: 7572019.2s
February 16, 2024

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
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Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527 - 21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247 - 16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528 - 22) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

2045 N. ARMSTRONG AVENUE
FRESNO, CA 93727

COORDINATES

Latitude (North):	36.7654480 - 36° 45' 55.61''
Longitude (West):	119.6754360 - 119° 40' 31.56''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	261190.4
UTM Y (Meters):	4071989.2
Elevation:	342 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	50005747 CLOVIS, CA
Version Date:	2021
South Map:	50005800 MALAGA, CA
Version Date:	2021

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20200705
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
2045 N. ARMSTRONG AVENUE
FRESNO, CA 93727

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	AAA NL MOBILE 7710	1869 N ARMSTRONG AVE	RCRA NonGen / NLR	Lower	242, 0.046, SW
A2	AAA NL MOBILE 7710	1869 N ARMSTRONG	CERS HAZ WASTE, CUPA Listings, CERS	Lower	242, 0.046, SW
B3	RANCH #25	2187 N ARMSTRONG AVE	HIST UST	Higher	244, 0.046, NE
B4	RANCH #25	2187 N ARMSTRONG AVE	SWEEPS UST, HIST UST, CA FID UST	Higher	244, 0.046, NE
5	CITY OF FRESNO WELL	2220 N ARMSTRONG AVE	CUPA Listings, CERS	Higher	1068, 0.202, NNE
C6	AJ SEBASTO	2204 N FOWLER AVE	HIST UST	Lower	1254, 0.237, West
C7	A.J. SEBASTO	2204 N FOWLER AVE	SWEEPS UST, CA FID UST, CUPA Listings, HWTS,...	Lower	1254, 0.237, West
8	CLOVIS USD - PROPOSE	SE INTERSECTION OF T	ENVIROSTOR, SCH	Higher	3574, 0.677, ENE
D9	T H AGRICULTURE & NU	7183 EAST MCKINLEY A	ENVIROSTOR, HIST Cal-Sites, DEED, CA BOND EXP....	Higher	3933, 0.745, East
D10	T.H. AGRICULTURE & N	7183 E MCKINLEY AVE	Delisted NPL, SEMS, RCRA-SQG, US ENG CONTROLS, US...	Higher	3933, 0.745, East

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS ---------- Corrective Action Report

Lists of Federal RCRA TSD facilities

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Lists of Federal RCRA generators

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-VSQG ---------- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROLS ---------- Institutional Controls Sites List

Federal ERNS list

ERNS ---------- Emergency Response Notification System

EXECUTIVE SUMMARY

Lists of state- and tribal (Superfund) equivalent sites

RESPONSE ---- State Response Sites

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF ---- Solid Waste Information System

Lists of state and tribal leaking storage tanks

LUST ---- Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST ---- Leaking Underground Storage Tanks on Indian Land
CPS-SLIC ---- Statewide SLIC Cases

Lists of state and tribal registered storage tanks

FEMA UST ---- Underground Storage Tank Listing
UST ---- Active UST Facilities
AST ---- Aboveground Petroleum Storage Tank Facilities
INDIAN UST ---- Underground Storage Tanks on Indian Land

Lists of state and tribal voluntary cleanup sites

INDIAN VCP ---- Voluntary Cleanup Priority Listing
VCP ---- Voluntary Cleanup Program Properties

Lists of state and tribal brownfield sites

BROWNFIELDS ---- Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ---- Waste Management Unit Database
SWRCY ---- Recycler Database
HAULERS ---- Registered Waste Tire Haulers Listing
INDIAN ODI ---- Report on the Status of Open Dumps on Indian Lands
ODI ---- Open Dump Inventory
DEBRIS REGION 9 ---- Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS ---- Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ---- Delisted National Clandestine Laboratory Register
SCH ---- School Property Evaluation Program
CDL ---- Clandestine Drug Labs
Toxic Pits ---- Toxic Pits Cleanup Act Sites
US CDL ---- National Clandestine Laboratory Register

EXECUTIVE SUMMARY

Local Lists of Registered Storage Tanks

CERS TANKS	California Environmental Reporting System (CERS) Tanks

Local Land Records

LIENS	Environmental Liens Listing
LIENS 2	CERCLA Lien Information
DEED	Deed Restriction Listing

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
CHMIRS	California Hazardous Material Incident Report System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
MINES MRDS	Mineral Resources Data System
FINDS	Facility Index System/Facility Registry System
ECHO	Enforcement & Compliance History Information

UXO ---- Unexploded Ordnance Sites
DOCKET HWC ---- Hazardous Waste Compliance Docket Listing
FUELS PROGRAM ---- EPA Fuels Program Registered Listing
PFAS NPL ---- Superfund Sites with PFAS Detections Information
PFAS FEDERAL SITES ---- Federal Sites PFAS Information
PFAS TRIS ---- List of PFAS Added to the TRI
PFAS TSCA ---- PFAS Manufacture and Imports Information
PFAS RCRA MANIFEST ---- PFAS Transfers Identified In the RCRA Database Listing
PFAS ATSDR ---- PFAS Contamination Site Location Listing
PFAS WQP ---- Ambient Environmental Sampling for PFAS
PFAS NPDES ---- Clean Water Act Discharge Monitoring Information
PFAS ECHO ---- Facilities in Industries that May Be Handling PFAS Listing
PFAS ECHO FIRE TRAINING ---- Facilities in Industries that May Be Handling PFAS Listing
PFAS PART 139 AIRPORT ---- All Certified Part 139 Airports PFAS Information Listing
AQUEOUS FOAM NRC ---- Aqueous Foam Related Incidents Listing
BIOSOLIDS ---- ICIS-NPDES Biosolids Facility Data
PFAS ---- PFAS Contamination Site Location Listing
AQUEOUS FOAM ---- Former Fire Training Facility Assessments Listing
CHROME PLATING ---- Chrome Plating Facilities Listing
Cortese ---- "Cortese" Hazardous Waste & Substances Sites List
DRYCLEANERS ---- Cleaner Facilities
EMI ---- Emissions Inventory Data
ENF ---- Enforcement Action Listing
Financial Assurance ---- Financial Assurance Information Listing
ICE ---- Inspection, Compliance and Enforcement
HIST CORTESE ---- Hazardous Waste & Substance Site List
HWP ---- EnviroStor Permitted Facilities Listing
HWT ---- Registered Hazardous Waste Transporter Database
HWTS ---- Hazardous Waste Tracking System
HAZNET ---- Facility and Manifest Data
MINES ---- Mines Site Location Listing
MWMP ---- Medical Waste Management Program Listing
NPDES ---- NPDES Permits Listing
PEST LIC ---- Pesticide Regulation Licenses Listing
PROC ---- Certified Processors Database
Notify 65 ---- Proposition 65 Records
HAZMAT ---- Hazardous Material Facilities
UIC ---- UIC Listing
UIC GEO ---- UIC GEO (GEOTRACKER)
WASTEWATER PITS ---- Oil Wastewater Pits Listing
WDS ---- Waste Discharge System
WIP ---- Well Investigation Program Case List
MILITARY PRIV SITES ---- MILITARY PRIV SITES (GEOTRACKER)
PROJECT ---- PROJECT (GEOTRACKER)
WDR ---- Waste Discharge Requirements Listing
CIWQS ---- California Integrated Water Quality System
CERS ---- CERS
NON-CASE INFO ---- NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS ---- OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS ---- PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT ---- SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ ---- Well Stimulation Project (GEOTRACKER)
UST FINDER RELEASE ---- UST Finder Releases Database
UST FINDER ---- UST Finder Database

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---- EDR Proprietary Manufactured Gas Plants

EXECUTIVE SUMMARY

EDR Hist Auto---------- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner---------- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF---------- Recovered Government Archive Solid Waste Facilities List
RGA LUST---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal Delisted NPL sites

Delisted NPL: The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may deleted from the NPL where no further response is appropriate.

A review of the Delisted NPL list, as provided by EDR, and dated 12/26/2023 has revealed that there is 1 Delisted NPL site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
T.H. AGRICULTURE & N EPA ID:: CAD009106220 Site ID:: 901128	***7183 E MCKINLEY AVE***	***E 1/2 - 1 (0.745 mi.)***	***D10***	***46***

Lists of state- and tribal hazardous waste facilities

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where

environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 10/23/2023 has revealed that there are 2 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CLOVIS USD - PROPOSE Status: No Further Action Facility Id: 60001940	***SE INTERSECTION OF T***	***ENE 1/2 - 1 (0.677 mi.)***	***8***	***21***
T H AGRICULTURE & NU Status: Certified / Operation & Maintenance Facility Id: 10280334	***7183 EAST MCKINLEY A***	***E 1/2 - 1 (0.745 mi.)***	***D9***	***25***

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Hazardous waste / Contaminated Sites

HIST Cal-Sites: Formerly known as ASPIS, this database contains both known and potential hazardous substance sites. The source is the California Department of Toxic Substance Control. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

A review of the HIST Cal-Sites list, as provided by EDR, and dated 08/08/2005 has revealed that there is 1 HIST Cal-Sites site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
T H AGRICULTURE & NU	***7183 EAST MCKINLEY A***	***E 1/2 - 1 (0.745 mi.)***	***D9***	***25***

CERS HAZ WASTE: List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

A review of the CERS HAZ WASTE list, as provided by EDR, and dated 10/16/2023 has revealed that there is 1 CERS HAZ WASTE site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
AAA NL MOBILE 7710	***1869 N ARMSTRONG***	***SW 0 - 1/8 (0.046 mi.)***	***A2***	***11***

Local Lists of Registered Storage Tanks

SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are

2 SWEEPS UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
RANCH #25 Status: A Tank Status: A Comp Number: 32783	***2187 N ARMSTRONG AVE***	***NE 0 - 1/8 (0.046 mi.)***	***B4***	***14***

Lower Elevation	Address	Direction / Distance	Map ID	Page
A.J. SEBASTO Status: A Tank Status: A Comp Number: 44254	***2204 N FOWLER AVE***	***W 1/8 - 1/4 (0.237 mi.)***	***C7***	***19***

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 3 HIST UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
RANCH #25 Facility Id: 00000032783	2187 N ARMSTRONG AVE	NE 0 - 1/8 (0.046 mi.)	B3	14
RANCH #25	***2187 N ARMSTRONG AVE***	***NE 0 - 1/8 (0.046 mi.)***	***B4***	***14***

Lower Elevation	Address	Direction / Distance	Map ID	Page
AJ SEBASTO Facility Id: 00000044254	2204 N FOWLER AVE	W 1/8 - 1/4 (0.237 mi.)	C6	18

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there are 2 CA FID UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
RANCH #25 Facility Id: 10006413 Status: A	***2187 N ARMSTRONG AVE***	***NE 0 - 1/8 (0.046 mi.)***	***B4***	***14***

Lower Elevation	Address	Direction / Distance	Map ID	Page
A.J. SEBASTO Facility Id: 10007317 Status: A	***2204 N FOWLER AVE***	***W 1/8 - 1/4 (0.237 mi.)***	***C7***	***19***

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 12/04/2023 has revealed that there is 1 RCRA NonGen / NLR site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
AAA NL MOBILE 7710 EPA ID:: CAL000272576	1869 N ARMSTRONG AVE	SW 0 - 1/8 (0.046 mi.)	A1	9

ROD: Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid the cleanup.

A review of the ROD list, as provided by EDR, and dated 12/26/2023 has revealed that there is 1 ROD site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
T.H. AGRICULTURE & N EPA ID:: CAD009106220	***7183 E MCKINLEY AVE***	***E 1/2 - 1 (0.745 mi.)***	***D10***	***46***

CA BOND EXP. PLAN: Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

A review of the CA BOND EXP. PLAN list, as provided by EDR, and dated 01/01/1989 has revealed that there is 1 CA BOND EXP. PLAN site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
T H AGRICULTURE & NU	***7183 EAST MCKINLEY A***	***E 1/2 - 1 (0.745 mi.)***	***D9***	***25***

CUPA Listings: A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

A review of the CUPA Listings list, as provided by EDR, has revealed that there are 3 CUPA Listings sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CITY OF FRESNO WELL Database: CUPA FRESNO, Date of Government Version: 06/28/2021 Facility Id: FA0283561	***2220 N ARMSTRONG AVE***	***NNE 1/8 - 1/4 (0.202 mi.)***	***5***	***16***

Lower Elevation	Address	Direction / Distance	Map ID	Page
AAA NL MOBILE 7710 Database: CUPA FRESNO, Date of Government Version: 06/28/2021	***1869 N ARMSTRONG***	***SW 0 - 1/8 (0.046 mi.)***	***A2***	***11***

Facility Id: FA0277371

A.J. SEBASTO ***2204 N FOWLER AVE*** ***W 1/8 - 1/4 (0.237 mi.)*** ***C7*** ***19***

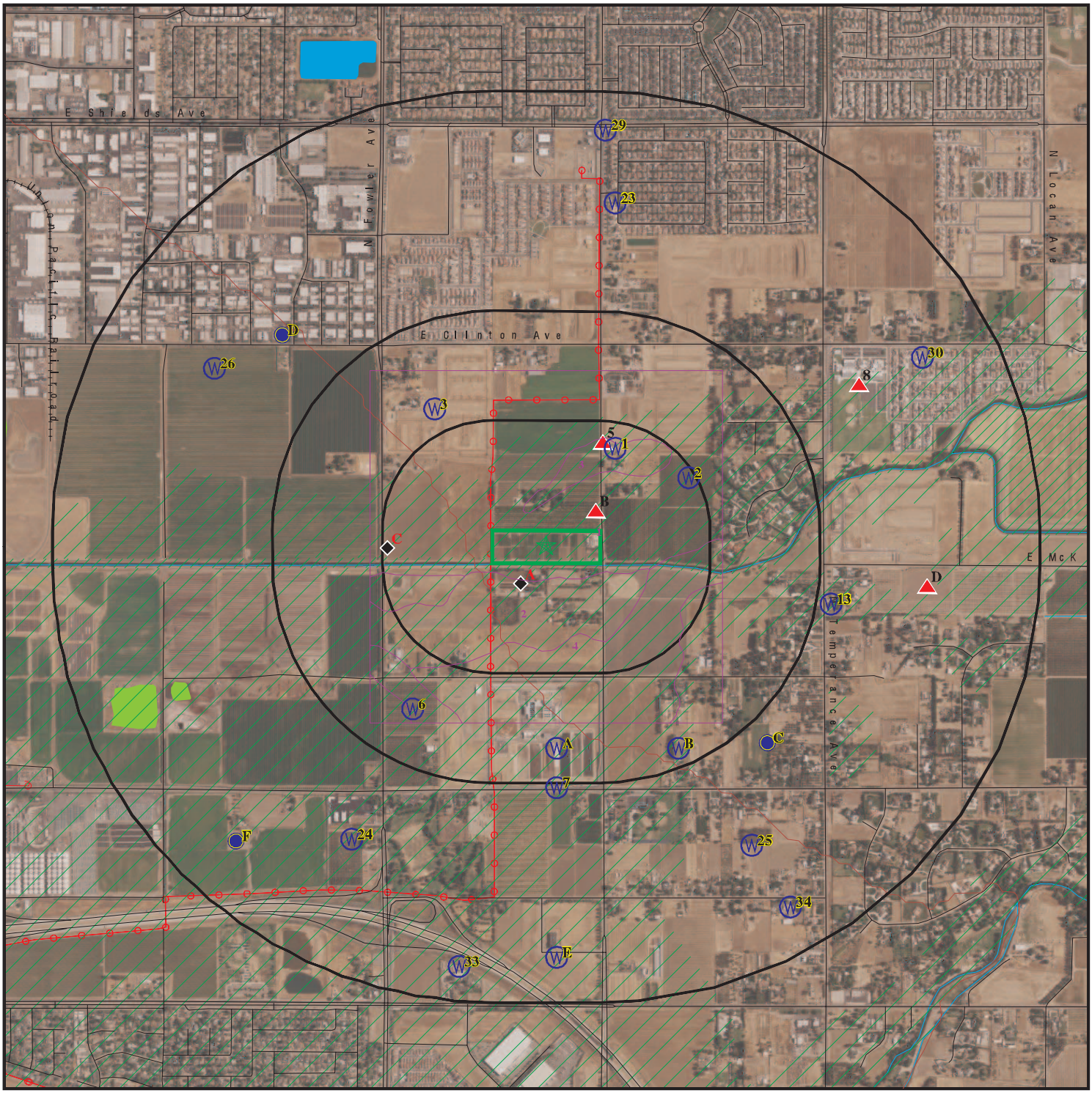
Database: CUPA FRESNO, Date of Government Version: 06/28/2021
Facility Id: FA0284649

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 2 records.

Site Name	Database(s)
FOWLER-MCKINLEY ELEMENTARY SCHOOL	ENVIROSTOR, SCH
PROPOSED TEMPERANCE ELEMENTARY SCH	ENVIROSTOR, SCH

OVERVIEW MAP - 7572019.2S



0 1/4 1/2 1 Miles

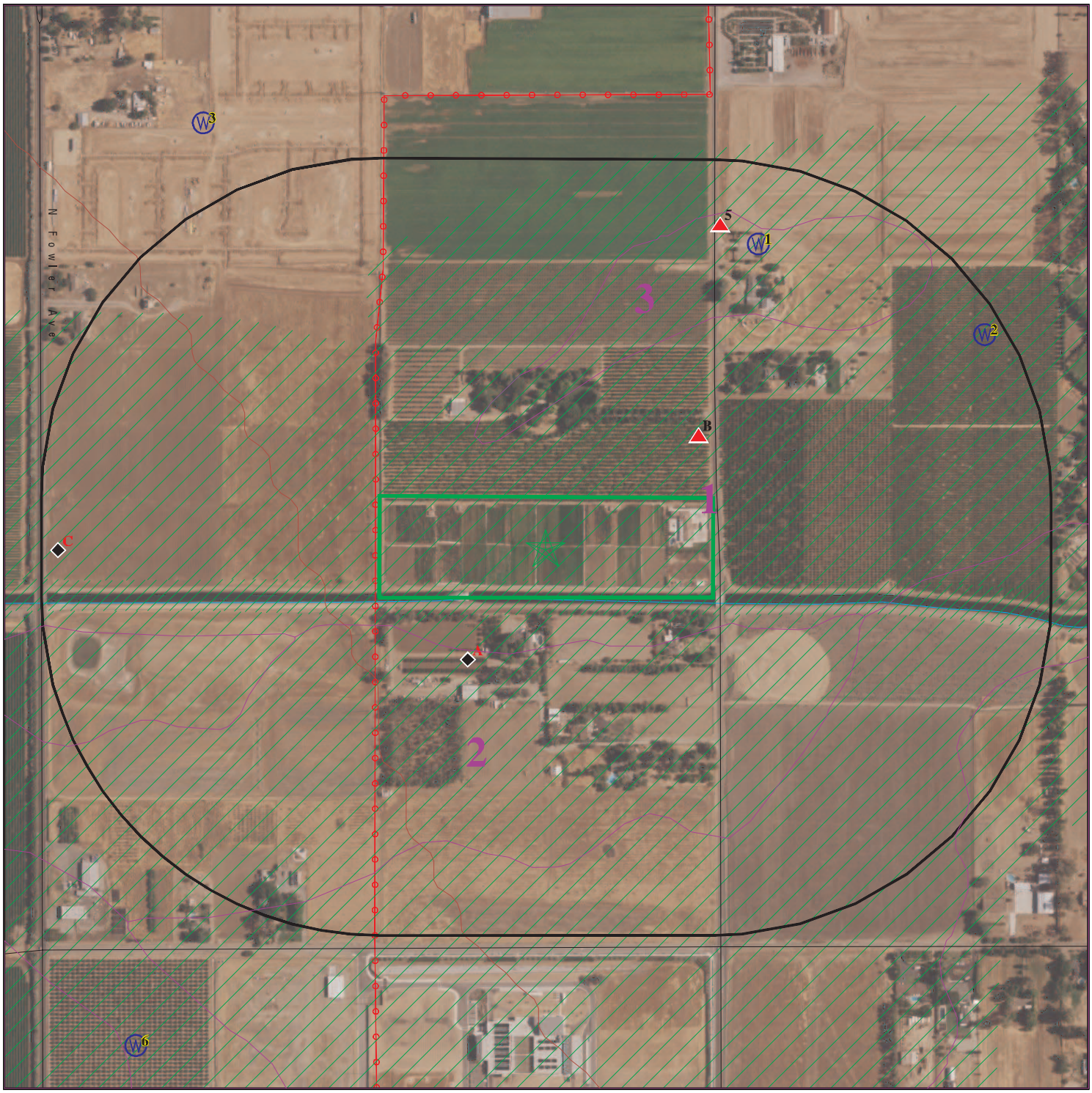
- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Singh Property	CLIENT:	Krazan & Associates, Inc.
ADDRESS:	2045 N. Armstrong Avenue Fresno CA 93727	CONTACT:	Melanie Thomas
		INQUIRY #:	7572019.2s
LAT/LONG:	36.765448 / 119.675436	DATE:	February 16, 2024 7:59 pm

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DETAIL MAP - 7572019.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

Power transmission lines

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Singh Property	CLIENT:	Krazan & Associates, Inc.
ADDRESS:	2045 N. Armstrong Avenue Fresno CA 93727	CONTACT:	Melanie Thomas
		INQUIRY #:	7572019.2s
LAT/LONG:	36.765448 / 119.675436	DATE:	February 16, 2024 8:02 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Lists of Federal NPL (Superfund) sites								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Lists of Federal Delisted NPL sites								
Delisted NPL	1.000		0	0	0	1	NR	1
Lists of Federal sites subject to CERCLA removals and CERCLA orders								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Lists of Federal CERCLA sites with NFRAP								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA facilities undergoing Corrective Action								
CORRACTS	1.000		0	0	0	0	NR	0
Lists of Federal RCRA TSD facilities								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA generators								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
Lists of state- and tribal (Superfund) equivalent sites								
RESPONSE	1.000		0	0	0	0	NR	0
Lists of state- and tribal hazardous waste facilities								
ENVIROSTOR	1.000		0	0	0	2	NR	2
Lists of state and tribal landfills and solid waste disposal facilities								
SWF/LF	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
Lists of state and tribal leaking storage tanks								
LUST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
Lists of state and tribal registered storage tanks								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
Lists of state and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
Lists of state and tribal brownfield sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	1	NR	1
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		1	0	NR	NR	NR	1
US CDL	0.001		0	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		1	1	NR	NR	NR	2
HIST UST	0.250		2	1	NR	NR	NR	3
CERS TANKS	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		1	1	NR	NR	NR	2
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		1	0	NR	NR	NR	1
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	1	NR	1
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
MINES MRDS	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250		0	0	NR	NR	NR	0
PFAS FEDERAL SITES	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
PFAS TRIS	0.250		0	0	NR	NR	NR	0
PFAS TSCA	0.250		0	0	NR	NR	NR	0
PFAS RCRA MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		0	0	NR	NR	NR	0
PFAS NPDES	0.250		0	0	NR	NR	NR	0
PFAS ECHO	0.250		0	0	NR	NR	NR	0
PFAS ECHO FIRE TRAINING	0.250		0	0	NR	NR	NR	0
PFAS PART 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
BIOSOLIDS	0.001		0	NR	NR	NR	NR	0
PFAS	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	1	NR	1
CHROME PLATING	0.500		0	0	0	NR	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		1	2	NR	NR	NR	3
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
HWTS	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
HAZMAT	0.250		0	0	NR	NR	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
PROJECT	0.001		0	NR	NR	NR	NR	0
WDR	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001		0	NR	NR	NR	NR	0
CERS	0.001		0	NR	NR	NR	NR	0
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
UST FINDER RELEASE	0.500		0	0	0	NR	NR	0
UST FINDER	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	7	5	0	6	0	18

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1
SW
< 1/8
0.046 mi.
242 ft.

AAA NL MOBILE 7710
1869 N ARMSTRONG AVE
FRESNO, CA 93727

Site 1 of 2 in cluster A

RCRA NonGen / NLR

1025866839
CAL000272576

Relative:
Lower

Actual:
341 ft.

RCRA Listings:

Date Form Received by Agency:	20191015
Handler Name:	Aaa Nl Mobile 7710
Handler Address:	N ARMSTRONG AVE
Handler City,State,Zip:	FRESNO, CA 93727
EPA ID:	CAL000272576
Contact Name:	LARRY MARQUEZ
Contact Address:	N ARMSTRONG AVE
Contact City,State,Zip:	FRESNO, CA 93727
Contact Telephone:	559-255-8129
Contact Fax:	559-255-2821
Contact Email:	ADLMOBILE1@GMAIL.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Private
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ca
State District:	CA
Mailing Address:	8248
Mailing City,State,Zip:	FRESNO, CA 93747
Owner Name:	Larry Marquez
Owner Type:	Private
Operator Name:	Larry Marquez
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

AAA NL MOBILE 7710 (Continued) **1025866839**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20191023
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: LARRY MARQUEZ	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	1869 N ARMSTRONG AVE
Owner/Operator City,State,Zip:	FRESNO, CA 93727
Owner/Operator Telephone:	559-255-8129
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	559-255-2821
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: LARRY MARQUEZ	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	1869 N ARMSTRONG AVE
Owner/Operator City,State,Zip:	FRESNO, CA 93727
Owner/Operator Telephone:	559-255-8129
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	559-255-2821
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20191015
Handler Name: AAA NL MOBILE 7710	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Ca
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

AAA NL MOBILE 7710 (Continued) **1025866839**

List of NAICS Codes and Descriptions:
NAICS Code: 81111
NAICS Description: AUTOMOTIVE MECHANICAL AND ELECTRICAL REPAIR AND MAINTENANCE

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

A2 **AAA NL MOBILE 7710** **CERS HAZ WASTE** **S106735695**
SW **1869 N ARMSTRONG** **CUPA Listings** **N/A**
< 1/8 **FRESNO, CA 93727** **CERS**
0.046 mi.
242 ft. **Site 2 of 2 in cluster A**

Relative: **Lower**
Actual: **341 ft.**

CERS HAZ WASTE:
Name: AAA NL MOBILE 7710
Address: 1869 N ARMSTRONG
City,State,Zip: FRESNO, CA 93727
Site ID: 559371
CERS ID: 10690612
CERS Description: Hazardous Waste Generator

CUPA FRESNO:
Name: AAA NL MOBILE 7710
Address: 1869 N ARMSTRONG
City,State,Zip: FRESNO, CA 93727
Region: FRESNO
Cross Street: Not reported
Facility ID: FA0277371
APM Number: 31008207
Program Element: MV FUEL/OIL/PROPANE ONLY IN AGST/UST MODEL PL

Name: AAA NL MOBILE 7710
Address: 1869 N ARMSTRONG
City,State,Zip: FRESNO, CA 93727
Region: FRESNO
Cross Street: Not reported
Facility ID: FA0277371
APM Number: 31008207
Program Element: WASTE TIRE FACILITY

Name: AAA NL MOBILE 7710
Address: 1869 N ARMSTRONG
City,State,Zip: FRESNO, CA 93727
Region: FRESNO
Cross Street: Not reported
Facility ID: FA0277371
APM Number: 31008207
Program Element: HAZARDOUS WASTE GENERATOR (CESQG)

CERS:
Name: AAA NL MOBILE 7710

AAA NL MOBILE 7710 (Continued) **S106735695**

Address: 1869 N ARMSTRONG
City,State,Zip: FRESNO, CA 93727
Site ID: 559371
CERS ID: 10690612
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 559371
Site Name: AAA NL MOBILE 7710
Violation Date: 05-29-2015
Citation: 22 CCR 16 66266.130 - California Code of Regulations, Title 22, Chapter 16, Section(s) 66266.130
Violation Description: Failure to properly handle, manage, label, and recycle used oil and fuel filters.
Violation Notes: Returned to compliance on 07/28/2015. needs to cleanup secondary containement
Violation Division: Fresno County Department of Public Health
Violation Program: HW
Violation Source: CERS,

Evaluation:
Eval General Type: Other/Unknown
Eval Date: 04-16-2014
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: verifying census tract --57.03
Eval Division: Fresno County Department of Public Health
Eval Program: HW
Eval Source: CERS,

Eval General Type: Compliance Evaluation Inspection
Eval Date: 05-29-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: needs to clean up 2nd containment and keep receipts
Eval Division: Fresno County Department of Public Health
Eval Program: HW
Eval Source: CERS,

Affiliation:
Affiliation Type Desc: CUPA District
Entity Name: Fresno County Community Health Department
Entity Title: Not reported
Affiliation Address: 1221 Fulton St., 3rd FloorP.O. Box 11867
Affiliation City: Fresno
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 93775
Affiliation Phone: (559) 600-3271,

Affiliation Type Desc: Legal Owner
Entity Name: Larry Marquez
Entity Title: Not reported
Affiliation Address: 1869 N ARMSTRONG
Affiliation City: FRESNO
Affiliation State: CA
Affiliation Country: United States

AAA NL MOBILE 7710 (Continued) **S106735695**

Affiliation Zip:	93727
Affiliation Phone:	(559) 908-1190,
Affiliation Type Desc:	Parent Corporation
Entity Name:	AAA NL MOBILE 7710
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	Identification Signer
Entity Name:	Diane Marquez
Entity Title:	spouse
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	Operator
Entity Name:	Larry Marquez
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(559) 908-1190,
Affiliation Type Desc:	Document Preparer
Entity Name:	Diane Marquez
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	Environmental Contact
Entity Name:	Larry Marquez
Entity Title:	Not reported
Affiliation Address:	1869 N ARMSTRONG
Affiliation City:	FRESNO
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	93727
Affiliation Phone:	,
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	1869 N ARMSTRONG

AAA NL MOBILE 7710 (Continued) **S106735695**

Affiliation City:	FRESNO
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	93727
Affiliation Phone:	,

B3 **RANCH #25** **HIST UST** **U001587818**
NE **2187 N ARMSTRONG AVE** **N/A**
< 1/8 **FRESNO, CA 93616**
0.046 mi.
244 ft. **Site 1 of 2 in cluster B**

Relative: HIST UST:
Higher

Actual:
343 ft.

Name:	RANCH #25
Address:	2187 N ARMSTRONG AVE
City,State,Zip:	FRESNO, CA 93616
File Number:	Not reported
URL:	Not reported
Region:	STATE
Facility ID:	00000032783
Facility Type:	Other
Other Type:	FARM
Contact Name:	PAUL WILLIAMSON
Telephone:	2094451574
Owner Name:	H. P. METZLER AND SONS
Owner Address:	5286 SOUTH DEL REY AVENUE
Owner City,St,Zip:	DEL REY, CA 93616
Total Tanks:	0001
Tank Num:	001
Container Num:	970009
Year Installed:	Not reported
Tank Capacity:	00000550
Tank Used for:	PRODUCT
Type of Fuel:	PREMIUM
Container Construction Thickness:	Not reported
Leak Detection:	Visual

B4 **RANCH #25** **SWEEPS UST** **S101621156**
NE **2187 N ARMSTRONG AVE** **HIST UST** **N/A**
< 1/8 **FRESNO, CA 93616** **CA FID UST**
0.046 mi.
244 ft. **Site 2 of 2 in cluster B**

Relative: SWEEPS UST:
Higher

Actual:
343 ft.

Name:	RANCH #25
Address:	2187 N ARMSTRONG AVE
City:	FRESNO
Status:	Active
Comp Number:	32783
Number:	9
Board Of Equalization:	Not reported
Referral Date:	07-01-85
Action Date:	Not reported
Created Date:	02-29-88

RANCH #25 (Continued) **S101621156**

Owner Tank Id: 970009
SWRCB Tank Id: 10-000-032783-000001
Tank Status: A
Capacity: 550
Active Date: 07-01-85
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: 1

HIST UST:
Name: RANCH 25
Address: 2187 N ARMSTRONG AVENUE
City,State,Zip: FRESNO, CA 93616
File Number: 00024365
URL: https://documents.geotracker.waterboards.ca.gov/ustpdfs/pdf/00024365.pdf
Region: Not reported
Facility ID: Not reported
Facility Type: Not reported
Other Type: Not reported
Contact Name: Not reported
Telephone: Not reported
Owner Name: Not reported
Owner Address: Not reported
Owner City,St,Zip: Not reported
Total Tanks: Not reported

Tank Num: Not reported
Container Num: Not reported
Year Installed: Not reported
Tank Capacity: Not reported
Tank Used for: Not reported
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Not reported

Click here for Geo Tracker PDF:

CA FID UST:
Facility ID: 10006413
Regulated By: UTNKA
Regulated ID: 00032783
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 2094451574
Mail To: Not reported
Mailing Address: P O BOX
Mailing Address 2: Not reported
Mailing City,St,Zip: FRESNO 93616
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

5
NNE
1/8-1/4
0.202 mi.
1068 ft.

CITY OF FRESNO WELL 347
2220 N ARMSTRONG AVE
FRESNO, CA 93727

CUPA Listings **S116348293**
CERS **N/A**

Relative:
Higher

Actual:
343 ft.

CUPA FRESNO:

Name:	CITY OF FRESNO WELL 347
Address:	2220 N ARMSTRONG AVE
City,State,Zip:	FRESNO, CA 93727
Region:	FRESNO
Cross Street:	CLINTON
Facility ID:	FA0283561
APM Number:	31004126
Program Element:	HAZARDOUS MATERIALS HANDLER - WELL SITE

CERS:

Name:	CITY OF FRESNO WELL 347
Address:	2220 N ARMSTRONG AVE
City,State,Zip:	FRESNO, CA 93727
Site ID:	704920
CERS ID:	10694167
CERS Description:	Chemical Storage Facilities

Violations:

Site ID:	704920
Site Name:	CITY OF FRESNO WELL 347
Violation Date:	08-23-2023
Citation:	HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description:	Failure to complete and electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.
Violation Notes:	Returned to compliance on 09/27/2023. VIOLATION: Failure to complete and electronically submit initially, annually, or triennially, a business plan when storing/handling a hazardous material at or above reportable quantities. (HSC 6.95 25505, 25508(a)(1)) OBSERVATION: The business failed to complete and electronically submit a business plan annually when handling hazardous materials at or above the reportable threshold quantities. Observed last submittal was in 2021. CORRECTIVE ACTION: Complete and electronically submit a business plan in the California Electronic Reporting System (CERS). 9/8/23 received incomplete CERS submittal; observed 9/27/23 all elements for CERS submittal is complete.
Violation Division:	Fresno County Department of Public Health
Violation Program:	HMRRP
Violation Source:	CERS,

Evaluation:

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	08-23-2023
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	Facility is not yet operational as well site but does have bleach ad polyphosphate on site at chemical enclosure. Operator states it should have been reactivated eff 9/2022 and is determined to be kept active. Please complete an annual CERS submittals within 30 days for the facility for this year 2023 and complete all required elements of the hazardous material business plan. If any questions please call local

CITY OF FRESNO WELL 347 (Continued) **S116348293**

CUPA at 600-3271.

Eval Division:	Fresno County Department of Public Health
Eval Program:	HMRRP
Eval Source:	CERS,

Coordinates:

Site ID:	704920
Facility Name:	CITY OF FRESNO WELL 347
Env Int Type Code:	HMBP
Program ID:	10694167
Coord Name:	Not reported
Ref Point Type Desc:	Entrance point of a facility or station,
Latitude:	36.767974
Longitude:	-119.672430

Affiliation:

Affiliation Type Desc:	Document Preparer
Entity Name:	ROBERT LITTLE
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	Parent Corporation
Entity Name:	City of Fresno Well Site Organization
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	CUPA District
Entity Name:	Fresno County Community Health Department
Entity Title:	Not reported
Affiliation Address:	1221 Fulton St., 3rd FloorP.O. Box 11867
Affiliation City:	Fresno
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	93775
Affiliation Phone:	(559) 600-3271,
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	1910 E. UNIVERSITY AVE.
Affiliation City:	FRESNO
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	93703
Affiliation Phone:	,

CITY OF FRESNO WELL 347 (Continued) **S116348293**

Affiliation Type Desc:	Identification Signer
Entity Name:	ROBERT LITTLE
Entity Title:	WATER SYSTEMS SUPERVISOR
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	,
Affiliation Type Desc:	Environmental Contact
Entity Name:	ROBERT LITTLE
Entity Title:	Not reported
Affiliation Address:	1910 E. UNIVERSITY AVE.
Affiliation City:	FRESNO
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	93703
Affiliation Phone:	,
Affiliation Type Desc:	Legal Owner
Entity Name:	CITY OF FRESNO, WATER DIVISION
Entity Title:	Not reported
Affiliation Address:	1910 E. UNIVERSITY AVE.
Affiliation City:	FRESNO
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	93703
Affiliation Phone:	(559) 621-5300,
Affiliation Type Desc:	Operator
Entity Name:	CITY OF FRESNO / DPU / WATER DIVISION
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(559) 621-5300,

C6 **AJ SEBASTO** **HIST UST** **U001592856**
West **2204 N FOWLER AVE** **N/A**
1/8-1/4 **FRESNO, CA 93727**
0.237 mi.
1254 ft. **Site 1 of 2 in cluster C**

Relative: HIST UST:
Lower

Actual: Name:	AJ SEBASTO
338 ft. Address:	2204 N FOWLER AVE
City,State,Zip:	FRESNO, CA 93727
File Number:	000236e0
URL:	https://documents.geotracker.waterboards.ca.gov/ustpdfs/pdf/000236e0.pdf
Region:	STATE
Facility ID:	00000044254
Facility Type:	Other
Other Type:	FARM
Contact Name:	A.J. SEBASTO

AJ SEBASTO (Continued) **U001592856**

Telephone: 2092914792
Owner Name: A.J. SEBASTO
Owner Address: 2204 N. FOWLER AVE.
Owner City,St,Zip: FRESNO, CA 93727
Total Tanks: 0002

Tank Num: 001
Container Num: 1
Year Installed: 1969
Tank Capacity: 00000350
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Container Construction Thickness: Not reported
Leak Detection: None

Tank Num: 002
Container Num: 2
Year Installed: 1981
Tank Capacity: 00000500
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Container Construction Thickness: Not reported
Leak Detection: None

Click here for Geo Tracker PDF:

C7 **A.J. SEBASTO** **SWEEPS UST** **S101581963**
West **2204 N FOWLER AVE** **CA FID UST** **N/A**
1/8-1/4 **FRESNO, CA 93727** **CUPA Listings**
0.237 mi. **HWTS**
1254 ft. **Site 2 of 2 in cluster C** **HAZNET**

Relative: **Lower**
Actual: **338 ft.**

SWEEPS UST:
Name: A.J. SEBASTO
Address: 2204 N FOWLER AVE
City: FRESNO
Status: Active
Comp Number: 44254
Number: 9
Board Of Equalization: Not reported
Referral Date: 07-01-85
Action Date: Not reported
Created Date: 02-29-88
Owner Tank Id: 1
SWRCB Tank Id: 10-000-044254-000001
Tank Status: A
Capacity: 350
Active Date: 07-01-85
Tank Use: M.V. FUEL
STG: P
Content: LEADED
Number Of Tanks: 2

Name: A.J. SEBASTO
Address: 2204 N FOWLER AVE
City: FRESNO
Status: Active
Comp Number: 44254

A.J. SEBASTO (Continued) **S101581963**

Number: 9
Board Of Equalization: Not reported
Referral Date: 07-01-85
Action Date: Not reported
Created Date: 02-29-88
Owner Tank Id: 2
SWRCB Tank Id: 10-000-044254-000002
Tank Status: A
Capacity: 500
Active Date: 07-01-85
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

CA FID UST:
Facility ID: 10007317
Regulated By: UTNKA
Regulated ID: 00044254
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 2092914792
Mail To: Not reported
Mailing Address: 2204 N FOWLER AVE
Mailing Address 2: Not reported
Mailing City,St,Zip: FRESNO 93727
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

CUPA FRESNO:
Name: ALFRED SEBASTO PROPERTY
Address: 2204 N FOWLER AVE
City,State,Zip: FRESNO, CA 93727
Region: FRESNO
Cross Street: Not reported
Facility ID: FA0284649
APM Number: 31004117
Program Element: UST REMOVAL/CLOSURE W/2 TANKS

HWTS:
Name: ALFRED SEBASTO
Address: 2204 N FOWLER AVE
Address 2: Not reported
City,State,Zip: FRESNO, CA 93727
EPA ID: CAC002846803
Inactive Date: 04/29/2016
Create Date: 01/28/2016
Last Act Date: Not reported
Mailing Name: Not reported
Mailing Address: 2691 MUNCIE AVE
Mailing Address 2: Not reported

A.J. SEBASTO (Continued) **S101581963**

Mailing City,State,Zip:	CLOVIS, CA 93619
Owner Name:	ALFRED SEBASTO
Owner Address:	2691 MUNCIE AVE
Owner Address 2:	Not reported
Owner City,State,Zip:	CLOVIS, CA 93619
Owner Phone:	Not reported
Owner Fax:	Not reported
Contact Name:	ALFRED SEBASTO
Contact Address:	2691 MUNCIE AVE
Contact Address 2:	Not reported
City,State,Zip:	CLOVIS, CA 93619
Contact Phone:	Not reported
Contact Fax:	Not reported
Facility Status:	Inactive
Facility Type:	TEMPORARY
Category:	STATE
Latitude:	36.767987
Longitude:	-119.682121

HAZNET:

Name:	ALFRED SEBASTO
Address:	2204 N FOWLER AVE
Address 2:	Not reported
City,State,Zip:	FRESNO, CA 93727
Contact:	ALFRED SEBASTO
Telephone:	5593248984
Mailing Name:	Not reported
Mailing Address:	2691 MUNCIE AVE
Year:	2016
Gepaid:	CAC002846803
TSD EPA ID:	CAL000282598
CA Waste Code:	223 - Unspecified oil-containing waste
Disposal Method:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.18765

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8 **CLOVIS USD - PROPOSED K-6 SCHOOL** **ENVIROSTOR** **S114002227**
ENE **SE INTERSECTION OF TEMPERANCE & CLINTON AVENUES** **SCH** **N/A**
1/2-1 **FRESNO, CA 93727**
0.677 mi.
3574 ft.

Relative:
Higher

Actual:
348 ft.

ENVIROSTOR:

Name:	CLOVIS USD - PROPOSED K-6 SCHOOL
Address:	SE INTERSECTION OF TEMPERANCE & CLINTON AVENUES
City,State,Zip:	FRESNO, CA 93727
Facility ID:	60001940
Status:	No Further Action
Status Date:	04/17/2014
Site Code:	104722
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	20
NPL:	NO
Regulatory Agencies:	SMBRP

CLOVIS USD - PROPOSED K-6 SCHOOL (Continued) **S114002227**

Lead Agency:	SMBRP
Program Manager:	Jose Luevano
Supervisor:	Jose Salcedo
Division Branch:	Northern California Schools & Santa Susana
Assembly:	08
Senate:	12
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	36.77082
Longitude:	-119.6626
APN:	310-052-21, 31005221
Past Use:	AGRICULTURAL - ROW CROPS, AGRICULTURAL - ROW CROPS
Potential COC:	Arsenic Chlordane DDD DDE DDT Lead Arsenic Chlordane DDD DDE DDT Lead Polychlorinated biphenyls (PCBs
Confirmed COC:	No Contaminants found 30001-NO 30004-NO 30006-NO 30007-NO 30008-NO 30013-NO No Contaminants found 30018-NO
Potential Description:	NMA, SOIL, SOIL, UE
Alias Name:	310-052-21
Alias Type:	APN
Alias Name:	31005221
Alias Type:	APN
Alias Name:	104722
Alias Type:	Project Code (Site Code)
Alias Name:	60001940
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Other Report
Completed Date:	12/11/2013
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Workplan
Completed Date:	01/21/2014
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Fieldwork
Completed Date:	02/03/2014
Comments:	PEA Workplan implemented. DTSC PM on site.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	04/17/2014
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	12/19/2014
Comments:	Not reported

CLOVIS USD - PROPOSED K-6 SCHOOL (Continued) **S114002227**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	11/12/2013
Comments:	EOA signed by both parties.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

SCH:

Name:	CLOVIS USD - PROPOSED K-6 SCHOOL
Address:	SE INTERSECTION OF TEMPERANCE & CLINTON AVENUES
City,State,Zip:	FRESNO, CA 93727
Facility ID:	60001940
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	20
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Jose Luevano
Supervisor:	Jose Salcedo
Division Branch:	Northern California Schools & Santa Susana
Site Code:	104722
Assembly:	08
Senate:	12
Special Program Status:	Not reported
Status:	No Further Action
Status Date:	04/17/2014
Restricted Use:	NO
Funding:	School District
Latitude:	36.77082
Longitude:	-119.6626
APN:	310-052-21, 31005221
Past Use:	AGRICULTURAL - ROW CROPS, AGRICULTURAL - ROW CROPS
Potential COC:	Arsenic, Arsenic, Chlordane, DDD, DDE, DDT, Lead, Arsenic, Arsenic, Chlordane, DDD, DDE, DDT, Lead, Polychlorinated biphenyls (PCBs
Confirmed COC:	No Contaminants found, , 30001-NO, 30001-NO, 30004-NO, 30006-NO, 30007-NO, 30008-NO, 30013-NO, No Contaminants found, 30018-NO
Potential Description:	NMA, SOIL, SOIL, UE
Alias Name:	310-052-21
Alias Type:	APN
Alias Name:	31005221
Alias Type:	APN
Alias Name:	104722
Alias Type:	Project Code (Site Code)
Alias Name:	60001940

CLOVIS USD - PROPOSED K-6 SCHOOL (Continued) **S114002227**

Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 12/11/2013
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 01/21/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 02/03/2014
Comments: PEA Workplan implemented. DTSC PM on site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 04/17/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 12/19/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 11/12/2013
Comments: EOA signed by both parties.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

D9 East 1/2-1 0.745 mi. 3933 ft. **Site 1 of 2 in cluster D**

T H AGRICULTURE & NUTRITION, L.L.C.
7183 EAST MCKINLEY AVENUE
FRESNO, CA 93727

ENVIROSTOR
HIST Cal-Sites
DEED
CA BOND EXP. PLAN
Cortese

S105960412
N/A

Relative: Higher

Actual: 349 ft.

ENVIROSTOR:

Name:	T H AGRICULTURE & NUTRITION, L.L.C.
Address:	7183 EAST MCKINLEY AVENUE
City,State,Zip:	FRESNO, CA 93727
Facility ID:	10280334
Status:	Certified / Operation & Maintenance
Status Date:	01/12/2006
Site Code:	100146
Site Type:	Federal Superfund
Site Type Detailed:	State Response or NPL
Acres:	5
NPL:	DELISTED
Regulatory Agencies:	SMBRP, RWQCB 5F - Central Valley, US EPA, FRESNO COUNTY
Lead Agency:	SMBRP
Program Manager:	Scott Yuen
Supervisor:	Joseph Tapia
Division Branch:	Engineering & Special Projects
Assembly:	08
Senate:	14
Special Program:	Not reported
Restricted Use:	YES
Site Mgmt Req:	REM, DAY, ELD, HOS, LUC, MON, EX, GW, OIL, NOWN, NDAM, FOOD, COV, RES
Funding:	Responsible Party
Latitude:	36.76415
Longitude:	-119.6598
APN:	310-062-09
Past Use:	MANUFACTURING - PESTICIDES, PESTICIDE/INSECTIDE/RODENTICIDE STORAGE
Potential COC:	DDD DDE DDT Endrin Toxaphene Chloroform 1,2-Dibromo-3-chloropropane (DBCP 1,2-Dichloroethane (EDC Dieldrin 1,2,3-Trichloropropane
Confirmed COC:	DDD DDE DDT Endrin 1,2,3-Trichloropropane Toxaphene Chloroform 1,2-Dibromo-3-chloropropane (DBCP 1,2-Dichloroethane (EDC Dieldrin
Potential Description:	AQUI, SOIL, WELL
Alias Name:	DEPESTER WESTERN, INC
Alias Type:	Alternate Name
Alias Name:	OLIN CORPORATION
Alias Type:	Alternate Name
Alias Name:	T H AGRICULTURE & NUTRITION CO, INC.
Alias Type:	Alternate Name
Alias Name:	T H AGRICULTURE AND NUTRITION CO. INC.
Alias Type:	Alternate Name
Alias Name:	T.H. AGRICULTURE & NUTRITION CO, INC.
Alias Type:	Alternate Name
Alias Name:	THAN
Alias Type:	Alternate Name
Alias Name:	THOMPSON HAYWARD AG & NUTRITION COMPANY
Alias Type:	Alternate Name
Alias Name:	THOMPSON HAYWARD CHEMICAL COMPANY
Alias Type:	Alternate Name
Alias Name:	310-062-09
Alias Type:	APN
Alias Name:	CAD009106220
Alias Type:	EPA Identification Number
Alias Name:	110002634828

T H AGRICULTURE & NUTRITION, L.L.C. (Continued) **S105960412**

Alias Type: EPA (FRS #)
Alias Name: SLT5FQ384331
Alias Type: GeoTracker Global ID
Alias Name: CAD980636161
Alias Type: HWTS Identification Code
Alias Name: P11082
Alias Type: PCode
Alias Name: 100146
Alias Type: Project Code (Site Code)
Alias Name: 10280334
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 5 Year Review Workplan
Completed Date: 08/20/2007
Comments: Approved Workplan for 5-Year Review

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 5 Year Review Reports
Completed Date: 10/23/2008
Comments: DTSC approval letter.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 08/24/2007
Comments: Fact Sheet Reviewed, and Revised by DTSC PPS and circulated to Branch Chiefs for approval. Upon approval sent to RP for distribution

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 5 Year Review Reports
Completed Date: 06/11/2015
Comments: minor revision to be sent, approval of FYR done in letter of 6/11/2015
Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 12/24/1997
Comments: RA -- A REMOVAL ACTION CONSISTING OF THE EXCAVATION, TRANS- PORTATION AND OFFSITE INCINERATION OF APPROXIMATELY 10 CY OF ORGANOCHLORINE PESTICIDE AND VOLATILE ORGANIC CON- TAMINATED SOIL WAS COMPLETED.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Plan
Completed Date: 06/30/1999
Comments: Agricultural chemical formulating, packaging, & warehousing plant. Contaminants include DDT, chloroform, xylene, dieldrin, 1,2-DCA, dinoseb, toxaphene, alpha BHC, beta BHC, gamma BHC, and aldrin.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report

T H AGRICULTURE & NUTRITION, L.L.C. (Continued) **S105960412**

Completed Date: 07/24/1990
Comments: The provision of an alternative water supply via City of Fresno water line extension and connection of approximately 63 residents

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operation and Maintenance Plan
Completed Date: 09/23/2005
Comments: DTSC entered into an Operation and Maintenance Agreement with THAN that includes provisions for an Operation, Maintenance and Monitoring Plan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: National Priority List Delisting Document
Completed Date: 08/24/2006
Comments: Completion of 30 day Public Comment Period in the National Register. Published in US EPA Environmental News Press release.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 03/31/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Well Decommissioning Workplan
Completed Date: 10/27/2016
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 07/27/2007
Comments: Inspection Report to included in Final 5-Year Review Report.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 02/07/1997
Comments: RAW A removal action workplan for removal of approximately Ten (10) cubic yards of pesticide contaminated soil was approved. A notice of exemption will be filed in accordance with the California Environmental Quality Act.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Completion Report
Completed Date: 06/30/2003
Comments: RMDL--Final remedial action consisting of construction of a composite clay and vegetated soil cap was completed. The final remedial action also includes monitored natural attenuation of impacted groundwater which has been in place since RAP approval (6/30/1999).

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

T H AGRICULTURE & NUTRITION, L.L.C. (Continued) **S105960412**

Completed Document Type:	Design/Implementation Workplan
Completed Date:	06/28/2002
Comments:	DES - The final design for site soils was approved. The approved design entails the removal of two on-site structures, the abandonment of several monitoring wells that are no longer needed, and the construction of a cap over the entire 5 acre site property. The cap will be constructed of a geosynthetic clay liner placed over prepared on-site soils which will then be overlayed with 18 inches of clean imported fill. The final surface will be hydroseeded with a low maintenance mix to prevent erosion.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Remedial Investigation / Feasibility Study
Completed Date:	06/30/1993
Comments:	Remedial Investigation/Feasibility Study approved.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Completion Report
Completed Date:	08/15/1991
Comments:	VAPOR: the removal and treatment of an estimated 6,500 pounds of xylenes and ethylbenzene by soil vapor extraction completed in 1991.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Completion Report
Completed Date:	06/30/1989
Comments:	Removal Action (DEMOL): Building demolition. Soil removal.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Screening
Completed Date:	02/10/1987
Comments:	Site Screening Done.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Completion Report
Completed Date:	09/30/1984
Comments:	Removal Action (SOIL): Soil removal.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Financial Assurance Documentation
Completed Date:	08/07/2015
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Operation and Maintenance Report
Completed Date:	04/06/2016
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Financial Assurance Documentation

T H AGRICULTURE & NUTRITION, L.L.C. (Continued) **S105960412**

Completed Date: 12/18/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Amendment - Order/Agreement
Completed Date: 05/08/1987
Comments: required implementation of Interim Remedial Measures consisting of the provision of an alternative water supply for those parties impacted by groundwater contamination and the complete investigation and remediation of the site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operation and Maintenance Report
Completed Date: 11/30/2012
Comments: Single monitoring report, no comments required unless results identify necessary action to follow pursuant to contingency plan in O&M Plan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Financial Assurance Documentation
Completed Date: 12/19/2014
Comments: Initial Cost Estimate for O&M-FA, new/revised estimate currently being developed as part of 2nd 5-yr review.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Financial Assurance Documentation
Completed Date: 02/03/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 5 Year Review Workplan
Completed Date: 01/26/2018
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 5 Year Review Reports
Completed Date: 04/07/2020
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operation and Maintenance Report
Completed Date: 06/11/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 06/11/2015
Comments: Reviewed and approved on as part of the 2nd 5 Year Review.

T H AGRICULTURE & NUTRITION, L.L.C. (Continued) **S105960412**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	CEQA - Initial Study/ Neg. Declaration
Completed Date:	06/30/1999
Comments:	Intial Study and Negative Declaration for the Remedial Action Plan

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Land Use Restriction
Completed Date:	09/29/2005
Comments:	The land use controls include preclusion of sensitive uses, protection of cap, and a soil management plan

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	CEQA - Notice of Exemption
Completed Date:	02/20/1997
Comments:	CEQA/NOE -- A Notice of Exemption under CEQA was signed for a small removal action involving ten cubic yards of pesticide contaminated soil.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Amendment - Order/Agreement
Completed Date:	01/05/1991
Comments:	Modified the existing order to reflect the progress the respondent, THAN, had made in complying with the order and to incorporate modifications in the domestic well sampling program and the Remedial Investigation and Feasibility Study (RIFS) and to provide new mechanism in approving or disapproving proposed technical modifications of the RIFS.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Unilateral Order (I/SE, RAO, CAO, EPA AO)
Completed Date:	02/28/1987
Comments:	ISE Issued to four respondents, supersedes previous Order dated May 28, 1985.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Unilateral Order (I/SE, RAO, CAO, EPA AO)
Completed Date:	05/30/1985
Comments:	ISE Determination of Imminent or Substantial Endangerment and Remedial Action Order (I or SE and RAO) to five named respondents on May 28, 1985.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	* Discovery
Completed Date:	12/16/1981
Comments:	Facility Identified: Phone Book (AKA: Olin Corp). RWQCB & HWMB/Enforcement handling site investigation.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Certification

T H AGRICULTURE & NUTRITION, L.L.C. (Continued) **S105960412**

Completed Date: 01/12/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 5 Year Review Workplan
Completed Date: 06/03/2013
Comments: approval letter memorializing approval after reviews and revisions completed in february 2013.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 05/14/2013
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operation and Maintenance Report
Completed Date: 07/15/2013
Comments: Report Submitted

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 04/16/2019
Comments: Approval letter

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 08/05/2019
Comments: approval letter

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 04/13/2020
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 06/02/2021
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operation & Maintenance Order/Agreement
Completed Date: 09/29/2005
Comments: Completed

Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: Five-Year Review Reports
Future Due Date: 2024
Schedule Area Name: Not reported

T H AGRICULTURE & NUTRITION, L.L.C. (Continued) **S105960412**

Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Calsite:
Name: T H AGRICULTURE & NUTRITION, L.L.C.
Address: 7183 EAST MCKINLEY AVENUE
City: FRESNO
Region: SACRAMENTO
Facility ID: 10280334
Facility Type: NPRP
Type: NPL SITE, RP-FUNDED
Branch: CC
Branch Name: CENTRAL CALIFORNIA
File Name: Not reported
State Senate District: 01011985
Status: ANNUAL WORKPLAN (AWP) - ACTIVE SITE
Status Name: ANNUAL WORKPLAN - ACTIVE SITE
Lead Agency: ENVIRONMENTAL PROTECTION AGENCY
NPL: Listed
SIC Code: 28
SIC Name: MANU - CHEMICALS & ALLIED PRODUCTS
Access: Not reported
Cortese: Not reported
Hazardous Ranking Score: Not reported
Date Site Hazard Ranked: Not reported
Groundwater Contamination: Confirmed
Staff Member Responsible for Site: KSHADDY
Supervisor Responsible for Site: Not reported
Region Water Control Board: Not reported
Region Water Control Board Name: Not reported
Lat/Long Direction: Not reported
Lat/Long (dms): 0 0 0 / 0 0 0
Lat/long Method: Not reported
Lat/Long Description: Not reported
State Assembly District Code: 29
State Senate District Code: 14
Facility ID: 10280334
Activity: DISC
Activity Name: DISCOVERY
AWP Code: Not reported
Proposed Budget: 0
AWP Completion Date: Not reported
Revised Due Date: Not reported
Comments Date: 12161981
Est Person-Yrs to complete: 0
Estimated Size: Not reported
Request to Delete Activity: Not reported
Activity Status: AWP
Definition of Status: ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals): 0
Liquids Treated (Gals): 0
Action Included Capping: Not reported
Well Decommissioned: Not reported
Action Included Fencing: Not reported
Removal Action Certification: Not reported

T H AGRICULTURE & NUTRITION, L.L.C. (Continued) **S105960412**

Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	10280334
Activity:	RA
Activity Name:	REMOVAL ACTION
AWP Code:	SOIL
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	09301984
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	10280334
Activity:	ORDER
Activity Name:	I/SE, IORSE, FFA, FFSRA, VCA, EA
AWP Code:	ISE
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	05301985
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	10280334
Activity:	SS
Activity Name:	SITE SCREENING
AWP Code:	Not reported

T H AGRICULTURE & NUTRITION, L.L.C. (Continued) **S105960412**

Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	02101987
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	10280334
Activity:	ORDER
Activity Name:	I/SE, IORSE, FFA, FFSRA, VCA, EA
AWP Code:	ISE
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	02281987
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	10280334
Activity:	RA
Activity Name:	REMOVAL ACTION
AWP Code:	DEMOL
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	06301989
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE

T H AGRICULTURE & NUTRITION, L.L.C. (Continued) **S105960412**

Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	10280334
Activity:	RA
Activity Name:	REMOVAL ACTION
AWP Code:	H20
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	07241990
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	N
Activity Comments:	THE EXTENSION OF THE FRESNO CITY WATER SYSTEM TO RESIDENTS IMPACTED BYGW CONTAMINATION. BULK OF WORK DONE 8/89 - 3/90 WITH SOME RESIDUALWORK DONE 7/90.
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	10280334
Activity:	ORDER
Activity Name:	I/SE, IORSE, FFA, FFSRA, VCA, EA
AWP Code:	ISE
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	01051991
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported

T H AGRICULTURE & NUTRITION, L.L.C. (Continued) **S105960412**

For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	10280334
Activity:	RA
Activity Name:	REMOVAL ACTION
AWP Code:	VAPOR
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	08151991
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	N
Activity Comments:	SOIL VAPOR EXTRACTION WITH THERMAL OXIDATION. CUBIC FEET PER MINUTEUNKNOWN.
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	10280334
Activity:	RIFS
Activity Name:	REMEDIAL INVESTIGATION / FEASIBILITY STUDY
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	06301993
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	10280334
Activity:	RAP
Activity Name:	REMEDIAL ACTION PLAN / RECORD OF DECISION
AWP Code:	Not reported

T H AGRICULTURE & NUTRITION, L.L.C. (Continued) **S105960412**

Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	06301999
Est Person-Yrs to complete:	0
Estimated Size:	S
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	10280334
Activity:	DES
Activity Name:	DESIGN
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	06282002
Est Person-Yrs to complete:	0.32000
Estimated Size:	L
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	10280334
Activity:	RMDL
Activity Name:	REMEDIAL ACTION (RAP REQUIRED)
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	06302003
Est Person-Yrs to complete:	0
Estimated Size:	L
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE

T H AGRICULTURE & NUTRITION, L.L.C. (Continued) **S105960412**

Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	X
Well Decommissioned:	X
Action Included Fencing:	X
Removal Action Certification:	N
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	10280334
Activity:	CERT
Activity Name:	CERTIFICATION
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	09302004
Revised Due Date:	04302005
Comments Date:	Not reported
Est Person-Yrs to complete:	0
Estimated Size:	L
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	10280334
Activity:	OM
Activity Name:	OPERATION & MAINTENANCE
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	11302034
Revised Due Date:	Not reported
Comments Date:	Not reported
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0

T H AGRICULTURE & NUTRITION, L.L.C. (Continued) **S105960412**

For Residential Reuse:	0
Unknown Type:	0
Facility ID:	10280334
Activity:	CEQA
Activity Name:	CEQA INCLUDING NEGATIVE DECS
AWP Code:	NOE
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	02201997
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	10280334
Activity:	RAW
Activity Name:	REMOVAL ACTION WORKPLAN
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	02071997
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	10280334
Activity:	RA
Activity Name:	REMOVAL ACTION
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported

T H AGRICULTURE & NUTRITION, L.L.C. (Continued) **S105960412**

Comments Date:	12241997
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	10
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	N
Activity Comments:	EXCAVATION, TRANSPORTATION AND OFF-SITE INCINERATION OF APPROXIMATELY10 CUBIC YARDS OF ORGANOCHLORINE PESTICIDE AND VOLATILE ORGANICCONTAMINATED SOIL.
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	10280334
Activity:	CEQA
Activity Name:	CEQA INCLUDING NEGATIVE DECS
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	06301999
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Alternate Address:	7183 EAST MCKINLEY AVENUE
Alternate City,St,Zip:	FRESNO, CA 93727
Background Info:	five named respondents on May 28, 1985. This order was superseded by a new I or SE and RAO issued by DTSC to four respondents on January 23, 1987. This new Order was subsequently amended on May 8, 1987 and January 1, 1991. The 1987 Order was very detailed and required implementation of Interim Remedial Measures consisting of the provision of an alternative water supply for those parties impacted by groundwater contamination and the complete investigation and remediation of the site. This Order, as amended, is still in force. As part of the investigation of the site, a comprehensive chemical inventory was prepared. The inventory attempted to

T H AGRICULTURE & NUTRITION, L.L.C. (Continued) **S105960412**

identify all chemicals handled at the site including but not limited to: active ingredients in pesticide formulation; inert ingredients in pesticide formulations; carrier solvents; laboratory chemicals; and chemical constituents present in trade name products handled at the facility. More than 500 individual chemical compounds were identified in the inventory.
More than 1,400 soil samples were collected during the Remedial Investigation (RI) conducted at the site. These samples were analyzed for up to 215 organic chemicals, 13 priority pollutant metals, and other selected inorganic chemicals. Eighty-five chemicals were identified in one or more of the soil samples collected. These eighty-five chemicals were screened for inclusion in a list of chemicals of concern (COCs) for subsequent evaluation in a baseline risk assessment and for the ultimate identification of remediation goals.
More than 1,800 groundwater samples were collected from groundwater monitoring, domestic and irrigation wells at or near the site during the RI. Up to 196 chemicals were analyzed for in those groundwater samples. Sixty-six organic and inorganic chemicals were detected at least once in the groundwater samples collected.
Between 1984 and 1991, four removal actions (RAs) were conducted at the site. These included: the excavation and disposal of approximately 14,700 cubic yards of contaminated soil and debris in 1984; the demolition of five on-site structures and soil excavation from beneath them resulting in the off-site disposal of 5,100 tons of chemically-affected building debris and 10,000 cubic yards of contaminated soil in 1989; the provision of an alternative water supply via City of Fresno water line extension and connection of approximately 63 residents in 1990; and the removal and treatment of an estimated 6,500 pounds of xylenes and ethylbenzene by soil vapor extraction completed in 1991. In addition, a small removal action consisting of the excavation and off-site incineration of approximately 10 cubic yards of pesticide contaminated soil from a small drainage system was completed in 1997.
DTSC approved the final RI/FS report for the site in June of 1993.
DTSC approved a final Remedial Action Plan (RAP) for the site in June 1999. The remedy selected in the RAP consist of natural attenuation of the chemicals of concern (COCs) in groundwater, the construction of a cap on-site, administrative controls limiting use of and access to the site, the continued monitoring of groundwater and contingencies for response actions should the monitoring indicate an increase of concentration of COCs in groundwater above prescribed action levels.
The T H Agriculutre & Nutrition, L.L.C. (THAN) site is located in a rural residential area east of the City of Fresno. The site consists of a 5-acre parcel which was utilized by a succession of owners for the formulation, packaging and warehousing of agricultural chemicals between 1951 and 1981. The plant was completely closed in 1983. The 5-acre facility is surrounded on the south, east and west by an additional 20 acres owned by THAN that has historically been planted with almond trees and grape vines.
The THAN site is listed on the U.S. Environmental Protection

T H AGRICULTURE & NUTRITION, L.L.C. (Continued) **S105960412**

Agency's National Priority List, But the California Department of Toxic Substances Control (DTSC) has been designated as the lead agency for conducting oversight of the responsible party's remediation activities at the site.
Historically, site facilities consisted of a main brick plant building connected to a wooden warehouse, an office building and various outbuildings and storage areas. A second warehouse (stee was constructed by THAN in 1971. Five of the on-site buildings were demolished in 1989 in accordance with a DTSC approved Removal Action (RA) workplan. Currently there are three primary structures present on-site; the steel warehouse, the office building and a pump house.
DTSC issued a Determination of Imminent or Substantial Endangerment and Remedial Action Order (I or SE and RAO) to

Comments Date: 01231987
Comments: Second Determination of Imminent or Substantial Endangerment and
Comments Date: 01231987
Comments: Remedial Action Order issued by DTSC superseding the first Order.
Comments Date: 02071997
Comments: RAW A removal action workplan for removal of approximately
Comments Date: 02071997
Comments: Ten (10) cubic yards of pesticide contaminated soil was
Comments Date: 02071997
Comments: approved. A notice of exemption will be filed in accordance
Comments Date: 02071997
Comments: with the California Environmental Quality Act.
Comments Date: 02101987
Comments: Site Screening Done.
Comments Date: 02201997
Comments: CEQA/NOE -- A Notice of Exemption under CEQA was signed for a
Comments Date: 02201997
Comments: small removal action involving ten cubic yards of pesticide
Comments Date: 02201997
Comments: contaminated soil.
Comments Date: 03041982
Comments: Questionnaire sent.
Comments Date: 05281985
Comments: First Determination of Imminent or Substantial Endangerment and
Comments Date: 05281985
Comments: Remedial Action Order issued by DTSC.
Comments Date: 05301990
Comments: Removal Action (H20): Bottled water provided. Waterline
Comments Date: 05301990
Comments: connected.
Comments Date: 06282002
Comments: DES - The final design for site soils was approved. The approved
Comments Date: 06282002
Comments: design entails the removal of two on-site structures, the
Comments Date: 06282002
Comments: abandonment of several monitoring wells that are no longer
Comments Date: 06282002
Comments: needed, and the construction of a cap over the entire 5 acre site
Comments Date: 06282002
Comments: property. The cap will be constructed of a geosynthetic clay
Comments Date: 06282002
Comments: liner placed over prepared on-site soils which will then be
Comments Date: 06282002

T H AGRICULTURE & NUTRITION, L.L.C. (Continued) **S105960412**

Comments:	overlayed with 18 inches of clean imported fill. The final
Comments Date:	06282002
Comments:	surface will be hydroseeded with a low maintenance mix to prevent
Comments Date:	06282002
Comments:	erosion.
Comments Date:	06301989
Comments:	Removal Action (DEMOL): Building demolition. Soil removal.
Comments Date:	06301993
Comments:	Remedial Investigation/Feasibility Study approved.
Comments Date:	06301999
Comments:	A Remedial Action Plan was approved for the site. The RAP
Comments Date:	06301999
Comments:	identifies a soil remedy consisting of a cap along with
Comments Date:	06301999
Comments:	administrative controls (deed restriction, O & M, fencing).
Comments Date:	06301999
Comments:	For groundwater a remedy consisting of monitored natural
Comments Date:	06301999
Comments:	attenuation will be utilized. The remedy includes provisions
Comments Date:	06301999
Comments:	for contingent extraction with treatment as necessary of ground-
Comments Date:	06301999
Comments:	water to ensure the protection of public health.
Comments Date:	06301999
Comments:	Not reported
Comments Date:	06301999
Comments:	CEQA -- A Notice of Determination was signed along with the
Comments Date:	06301999
Comments:	approval of a negative declaration associated with the approval
Comments Date:	06301999
Comments:	of a RAP.
Comments Date:	06302003
Comments:	RMDL--Final remedial action consisting of construction of a
Comments Date:	06302003
Comments:	composite clay and vegetated soil cap was completed. The final
Comments Date:	06302003
Comments:	remedial action also includes monitored natural attenuation of
Comments Date:	06302003
Comments:	impacted groundwater which has been in place since RAP approval
Comments Date:	06302003
Comments:	(6/30/1999).
Comments Date:	07151991
Comments:	Removal Action (VAPOR): Soil vapor extraction.
Comments Date:	07191982
Comments:	Questionnaire Received: Currently owned by Thompson-Hayward.
Comments Date:	07251991
Comments:	Agricultural chemical formulating, packaging, & warehousing
Comments Date:	07251991
Comments:	plant. Contaminants include DDT, chloroform, xylene,
Comments Date:	07251991
Comments:	dieldrin, 1,2-DCA, dinoseb, toxaphene, alpha BHC, beta BHC,
Comments Date:	07251991
Comments:	gamma BHC, and aldrin.
Comments Date:	09301984
Comments:	Removal Action (SOIL): Soil removal.
Comments Date:	12161981
Comments:	Facility Identified: Phone Book (AKA: Olin Corp).

T H AGRICULTURE & NUTRITION, L.L.C. (Continued) **S105960412**

Comments Date: 12161981
Comments: RWQCB & HWMB/Enforcement handling site investigation.
Comments Date: 12211981
Comments: Abandoned Site Program (ASP) Records Search: Sacto files.
Comments Date: 12241997
Comments: RA -- A REMOVAL ACTION CONSISTING OF THE EXCAVATION, TRANS-
Comments Date: 12241997
Comments: PORTATION AND OFFSITE INCINERATION OF APPROXIMATELY 10
Comments Date: 12241997
Comments: CY OF ORGANOCHLORINE PESTICIDE AND VOLATILE ORGANIC CON-
Comments Date: 12241997
Comments: TAMINATED SOIL WAS COMPLETED.
ID Name: EPA IDENTIFICATION NUMBER
ID Value: CAD009106220
ID Name: HWIS IDENTIFICATION CODE
ID Value: CAD980636161
ID Name: BEP DATABASE PCODE
ID Value: P11082
ID Name: EPA IDENTIFICATION NUMBER
ID Value: CAD981616303
ID Name: CALSTARS CODE
ID Value: 100146
Alternate Name: DEPESTER WESTERN, INC
Alternate Name: OLIN CORPORATION
Alternate Name: THOMPSON HAYWARD CHEMICAL COMPANY
Alternate Name: THAN
Alternate Name: THOMPSON HAYWARD AG & NUTRITION COMPANY
Alternate Name: T H AGRICULTURE AND NUTRITION CO. INC.
Alternate Name: T H AGRICULTURE & NUTRITION CO, INC.
Alternate Name: T.H. AGRICULTURE & NUTRITION CO, INC.
Alternate Name: T H AGRICULTURE & NUTRITION, L.L.C.
Alternate Name: Not reported
Special Programs Code: MSCA
Special Programs Name: MULTI-SITE COOPERATIVE AGREEMENT

DEED:
Name: T H AGRICULTURE & NUTRITION, L.L.C.
Address: 7183 EAST MCKINLEY AVENUE
City,State,Zip: FRESNO, CA 93727
Envirostor ID: 10280334
Area: PROJECT WIDE
Sub Area: Not reported
Site Type: FEDERAL SUPERFUND
Status: CERTIFIED / OPERATION & MAINTENANCE
Agency: Not reported
Covenant Uploaded: Not reported
Deed Date(s): Not reported
File Name: Envirostor Land Use Restrictions

CA BOND EXP. PLAN:
Reponsible Party: NPL SITE CLEANUP WORKPLAN
Project Revenue Source Company: Not reported
Project Revenue Source Addr: Not reported
Project Revenue Source City,St,Zip: Not reported
Project Revenue Source Desc: THAN has, to date, funded all remedial activities at the site. Successive owners at the site included Ciba-Geigy Corporation, Olin Corporation, De Pester

T H AGRICULTURE & NUTRITION, L.L.C. (Continued) **S105960412**

Western, Inc. (Nevada), De Pester Western, Inc. (California) and THAN. The status of agreementsbetween THAN and other responsible parties is unknown. THAN has indicated continued interest in funding future RI/FS work. EPA has informed DHS and THAN that a RI/FS work plan would be developed independently by EPA's contractor should THAN violate any condition of the order. The Department has budgeted $600,000 for direct costs associated with the site. If bond monies are used, DHS will undertake appropriate cost recovery actions.

Site Description: The THAN site is located in a rural residential area of 2 to 100 acre parcels. The site comprises 5 acres within 25 acres owned by THAN. From 1951 to 1981, a succession of owners operated a plant at the site for the formulation, packaging and warehousing of a variety of agricultural chemicals. The plant was completely closed in February, 1983. Extensive ground water contamination of the onsite shallow water bearing zone has been documented. Offsite contamination of nearby individual water wellshas also been verified, indicating movement of the plume toward the City of Fresno.

Hazardous Waste Desc: Over 350 toxic and hazardous chemicals and substances have been handled or formulated at the site. Over 20 contaminants have been detected in onsite wells. These contaminants consist of solvents, pesticides and herbicides. Some of the chemicals havea demonstrated ability to migrate through soils into ground water.

Threat To Public Health & Env: The population served by ground water within a three mile radius of the plant is estimated at 30,000 to 35,000 people. There are an estimated 40 privately owned domestic wells within a one-half mile radius of the plant and nine community water supply wells within 3 miles downgradient of the site. Detectable levels of 1,2-dibromo-3-chloropropane, dieldrin, chloroform, heptachlor, alpha benzene hexachloride (BHC) and gamma BHC have been found in an increasing number of privately owned wells sincemonitoring began in 1981. The Fresno area has been designated by EPA as having a sole-source aquifer for drinking water supply. The site poses a potential public threat to drinking water supplies.

Site Activity Status: The RWQCB and DHS have been working with THAN to accomplish site remediation. DHS adopted a determination of imminent and substantial endangerment and a remedial action order in May, 1985 that required THAN to address characterization and remediation of the site in accordance with EPA guidance documents (RI/FS format). The order also required development of an IRM for ground water. Both DHS and the RWQCB have been reviewing and commenting on the various reports submitted by THAN per the conditions of the order. The THAN site is listed on EPA's NPL; EPA has been involved in an advisory capacity. DHS reissued a Director's Order in February, 1987 that specified a monitoring well drilling program to characterize the ground water contaminant plume. The new order was amended in April, 1987. THAN is complying with the order and installed the required monitoring wells. Additionally, THAN has offered to fund connections of all impacted residences to the Fresno metropolitan water system. DHS iscurrently working with all involved agencies on implementation of this proposal. THAN has proposed demolition and removal of all onsite buildings previously involved with operations relating to the processing of ag-chemicals to occur late 1988 or early 1989. The Department has prepared all necessary environmental (CEQA) documents related to the demolition proposal.

CORTESE:

Name: T H AGRICULTURE & NUTRITION, L.L.C.
Address: 7183 EAST MCKINLEY AVENUE
City,State,Zip: FRESNO, CA 93727
Region: CORTESE
Envirostor Id: 10280334
Global ID: Not reported
Site/Facility Type: FEDERAL SUPERFUND - DELISTED

T H AGRICULTURE & NUTRITION, L.L.C. (Continued) **S105960412**

Cleanup Status:	CERTIFIED / OPERATION & MAINTENANCE - LAND USE RESTRICTIONS
Status Date:	01/12/2006
Site Code:	100146
Latitude:	36.764156
Longitude:	-119.65984
Owner:	Not reported
Enf Type:	Not reported
Swat R:	Not reported
Flag:	envirostor
Order No:	Not reported
Waste Discharge System No:	Not reported
Effective Date:	Not reported
Region 2:	Not reported
WID Id:	Not reported
Solid Waste Id No:	Not reported
Waste Management Uit Name:	Not reported
File Name:	Haz Waste & Substances Sites

D10
East
1/2-1
0.745 mi.
3933 ft.

Site 2 of 2 in cluster D

Relative:
Higher

Actual:
349 ft.

T.H. AGRICULTURE & NUTRITION CO.
7183 E MCKINLEY AVE
FRESNO, CA 93727

Delisted NPL **1000146275**
SEMS **CAD009106220**
RCRA-SQG
US ENG CONTROLS
US INST CONTROLS
CPS-SLIC
ROD
PRP
CUPA Listings
CERS

Delisted NPL:

EPA Region:	9
EPA ID:	CAD009106220
Site ID:	901128
Name:	T.H. AGRICULTURE & NUTRITION CO.
Address:	7183 E MCKINLEY AVE
City,State,Zip:	FRESNO, CA 93727
Federal Description:	N
Latitude:	36.764728
NAI:	N
Native American Entity:	Not reported
Longitude:	-119.660501
Deleted Date:	2006-08-21 00:00:00

Narr:

Site Name:	T.H. Agriculture & Nutrition Co.
Site EPA ID:	CAD009106220
Deletion Date:	8/21/2006
Site Score:	42.24
Site List URL:	https://semspub.epa.gov/src/document/09/2400255
Site Progress URL:	https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0901128
Notice URL:	http://www.gpo.gov/fdsys/pkg/FR-2006-07-11/pdf/E6-10856.pdf
Delete URL:	http://www.gpo.gov/fdsys/pkg/FR-2006-08-21/pdf/E6-13745.pdf
Site Location URL:	https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=33cebcdfdd1b4c3a8b51d416956c41f1&query=Superfund_National_Priorities_List__NPL__Sites_with_Status_Information_7557,SITE_EPA_ID=%27CAD009106220%27
Federal Facility Indicator:	No

T.H. AGRICULTURE & NUTRITION CO. (Continued) **1000146275**

SEMS:

Site ID:	0901128
EPA ID:	CAD009106220
Name:	T.H. AGRICULTURE & NUTRITION CO.
Address:	7183 E MCKINLEY AVE
Address 2:	Not reported
City,State,Zip:	FRESNO, CA 93727
Cong District:	19,22
FIPS Code:	06019
Latitude:	36.764728
Longitude:	-119.660501
FF:	N
NPL:	Deleted from the Final NPL
Non NPL Status:	Not reported

SEMS Detail:

Region:	09
Site ID:	0901128
EPA ID:	CAD009106220
Site Name:	T.H. AGRICULTURE & NUTRITION CO.
NPL:	D
FF:	N
OU:	00
Action Code:	RS
Action Name:	RV ASSESS
SEQ:	1
Start Date:	1990-08-01 04:00:00
Finish Date:	1990-08-01 04:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0901128
EPA ID:	CAD009106220
Site Name:	T.H. AGRICULTURE & NUTRITION CO.
NPL:	D
FF:	N
OU:	00
Action Code:	SI
Action Name:	SI
SEQ:	1
Start Date:	1984-04-01 06:00:00
Finish Date:	1984-04-01 06:00:00
Qual:	H
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0901128
EPA ID:	CAD009106220
Site Name:	T.H. AGRICULTURE & NUTRITION CO.
NPL:	D
FF:	N
OU:	00
Action Code:	NF
Action Name:	NPL FINL
SEQ:	1
Start Date:	1986-06-10 04:00:00

T.H. AGRICULTURE & NUTRITION CO. (Continued) **1000146275**

Finish Date:	1986-06-10 04:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0901128
EPA ID:	CAD009106220
Site Name:	T.H. AGRICULTURE & NUTRITION CO.
NPL:	D
FF:	N
OU:	00
Action Code:	MA
Action Name:	ST COOP
SEQ:	1
Start Date:	1990-09-27 04:00:00
Finish Date:	Not reported
Qual:	Not reported
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0901128
EPA ID:	CAD009106220
Site Name:	T.H. AGRICULTURE & NUTRITION CO.
NPL:	D
FF:	N
OU:	00
Action Code:	CQ
Action Name:	CLSOUT R
SEQ:	1
Start Date:	2005-09-29 04:00:00
Finish Date:	2005-09-29 04:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0901128
EPA ID:	CAD009106220
Site Name:	T.H. AGRICULTURE & NUTRITION CO.
NPL:	D
FF:	N
OU:	00
Action Code:	ND
Action Name:	DELETION
SEQ:	1
Start Date:	2006-07-11 04:00:00
Finish Date:	2006-08-21 04:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0901128
EPA ID:	CAD009106220
Site Name:	T.H. AGRICULTURE & NUTRITION CO.
NPL:	D
FF:	N
OU:	00
Action Code:	AR

T.H. AGRICULTURE & NUTRITION CO. (Continued) **1000146275**

Action Name:	ADMIN REC
SEQ:	1
Start Date:	2000-08-10 04:00:00
Finish Date:	Not reported
Qual:	Not reported
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0901128
EPA ID:	CAD009106220
Site Name:	T.H. AGRICULTURE & NUTRITION CO.
NPL:	D
FF:	N
OU:	00
Action Code:	RS
Action Name:	RV ASSESS
SEQ:	2
Start Date:	1991-12-20 05:00:00
Finish Date:	1991-12-20 05:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0901128
EPA ID:	CAD009106220
Site Name:	T.H. AGRICULTURE & NUTRITION CO.
NPL:	D
FF:	N
OU:	00
Action Code:	PA
Action Name:	PA
SEQ:	1
Start Date:	1984-04-01 06:00:00
Finish Date:	1984-04-01 06:00:00
Qual:	H
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0901128
EPA ID:	CAD009106220
Site Name:	T.H. AGRICULTURE & NUTRITION CO.
NPL:	D
FF:	N
OU:	00
Action Code:	CM
Action Name:	PCOR
SEQ:	1
Start Date:	2004-06-24 04:00:00
Finish Date:	2004-06-24 04:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0901128
EPA ID:	CAD009106220
Site Name:	T.H. AGRICULTURE & NUTRITION CO.
NPL:	D

T.H. AGRICULTURE & NUTRITION CO. (Continued) **1000146275**

FF:	N
OU:	00
Action Code:	NP
Action Name:	PROPOSED
SEQ:	1
Start Date:	1984-10-15 05:00:00
Finish Date:	1984-10-15 05:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0901128
EPA ID:	CAD009106220
Site Name:	T.H. AGRICULTURE & NUTRITION CO.
NPL:	D
FF:	N
OU:	00
Action Code:	HR
Action Name:	HAZRANK
SEQ:	1
Start Date:	1984-04-01 06:00:00
Finish Date:	1984-04-01 06:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0901128
EPA ID:	CAD009106220
Site Name:	T.H. AGRICULTURE & NUTRITION CO.
NPL:	D
FF:	N
OU:	00
Action Code:	FE
Action Name:	5 YEAR
SEQ:	1
Start Date:	2007-04-03 04:00:00
Finish Date:	2008-09-30 04:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0901128
EPA ID:	CAD009106220
Site Name:	T.H. AGRICULTURE & NUTRITION CO.
NPL:	D
FF:	N
OU:	00
Action Code:	TU
Action Name:	NOID
SEQ:	1
Start Date:	2006-07-11 04:00:00
Finish Date:	2006-07-11 04:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0901128

T.H. AGRICULTURE & NUTRITION CO. (Continued) **1000146275**

EPA ID:	CAD009106220
Site Name:	T.H. AGRICULTURE & NUTRITION CO.
NPL:	D
FF:	N
OU:	00
Action Code:	FE
Action Name:	5 YEAR
SEQ:	2
Start Date:	2013-09-26 05:00:00
Finish Date:	2013-09-26 05:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0901128
EPA ID:	CAD009106220
Site Name:	T.H. AGRICULTURE & NUTRITION CO.
NPL:	D
FF:	N
OU:	00
Action Code:	FE
Action Name:	5 YEAR
SEQ:	3
Start Date:	2017-11-29 05:00:00
Finish Date:	2018-09-26 05:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0901128
EPA ID:	CAD009106220
Site Name:	T.H. AGRICULTURE & NUTRITION CO.
NPL:	D
FF:	N
OU:	00
Action Code:	CR
Action Name:	CI
SEQ:	1
Start Date:	2023-03-03 06:00:00
Finish Date:	Not reported
Qual:	Not reported
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0901128
EPA ID:	CAD009106220
Site Name:	T.H. AGRICULTURE & NUTRITION CO.
NPL:	D
FF:	N
OU:	01
Action Code:	RO
Action Name:	ROD
SEQ:	1
Start Date:	1999-06-20 04:00:00
Finish Date:	1999-06-20 04:00:00
Qual:	R
Current Action Lead:	St Ovrsght

T.H. AGRICULTURE & NUTRITION CO. (Continued) **1000146275**

Region: 09
Site ID: 0901128
EPA ID: CAD009106220
Site Name: T.H. AGRICULTURE & NUTRITION CO.
NPL: D
FF: N
OU: 01
Action Code: BF
Action Name: PRP RA
SEQ: 1
Start Date: 2002-06-28 04:00:00
Finish Date: 2004-09-29 04:00:00
Qual: FR
Current Action Lead: St Ovrsght

Region: 09
Site ID: 0901128
EPA ID: CAD009106220
Site Name: T.H. AGRICULTURE & NUTRITION CO.
NPL: D
FF: N
OU: 00
Action Code: EL
Action Name: PRP CR
SEQ: 1
Start Date: 1985-09-03 05:00:00
Finish Date: 1987-02-06 05:00:00
Qual: Not reported
Current Action Lead: St Ovrsght

Region: 09
Site ID: 0901128
EPA ID: CAD009106220
Site Name: T.H. AGRICULTURE & NUTRITION CO.
NPL: D
FF: N
OU: 00
Action Code: DS
Action Name: DISCVRY
SEQ: 1
Start Date: 1980-07-01 04:00:00
Finish Date: 1980-07-01 04:00:00
Qual: Not reported
Current Action Lead: St Perf

RCRA Listings:
Date Form Received by Agency: 19960901
Handler Name: Th Agriculture & Nutrition Co Inc
Handler Address: 7183 E MC KINLEY AVE
Handler City,State,Zip: FRESNO, CA 93727
EPA ID: CAD009106220
Contact Name: Not reported
Contact Address: Not reported
Contact City,State,Zip: Not reported
Contact Telephone: Not reported
Contact Fax: Not reported

T.H. AGRICULTURE & NUTRITION CO. (Continued) **1000146275**

Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Ca
State District:	5
Mailing Address:	PO BOX 7797
Mailing City,State,Zip:	FRESNO, CA 93747
Owner Name:	Not reported
Owner Type:	Not reported
Operator Name:	Not Required
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20020627
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

T.H. AGRICULTURE & NUTRITION CO. (Continued) **1000146275**

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: NOT REQUIRED	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	NOT REQUIRED
Owner/Operator City,State,Zip:	NOT REQUIRED, ME 99999
Owner/Operator Telephone:	415-555-1212
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: NOT REQUIRED	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	NOT REQUIRED
Owner/Operator City,State,Zip:	NOT REQUIRED, ME 99999
Owner/Operator Telephone:	415-555-1212
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	19960901
Handler Name:	TH AGRICULTURE & NUTRITION CO INC
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Ca
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	19800729
Handler Name:	TH AGRICULTURE & NUTRITION CO INC
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Ca
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Code:	32532
NAICS Description:	PESTICIDE AND OTHER AGRICULTURAL CHEMICAL MANUFACTURING

T.H. AGRICULTURE & NUTRITION CO. (Continued) **1000146275**

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

SIte:

Name:	T.H. AGRICULTURE & NUTRITION CO.
Address:	7183 E MCKINLEY AVE
Address 2:	Not reported
City,State,Zip:	FRESNO, CA 93727
Event Code:	Not reported
Action Taken Date:	06/20/1999
EPA ID:	CAD009106220
Action Name:	Record of Decision
Action ID:	1
Operable Unit:	01
Contaminated Media:	Soil
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	N
Fiscal Year:	1999
NPL Status:	Deleted from the Final NPL
Superfund Alternative Agreement:	N
Latitude:	36.764728
Longitude:	-119.660501

Media:

EPA ID:	CAD009106220
Contaminated Media:	Soil
Action ID:	1
Operable Unit:	01
Action Name:	Record of Decision
Action Taken Date:	06/20/1999
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	N
Fiscal Year:	1999
NPL Status:	Deleted from the Final NPL
Superfund Alternative Agreement:	N
Latitude:	36.764728
Longitude:	-119.660501

EPA ID:	CAD009106220
Contaminated Media:	Soil
Action ID:	1
Operable Unit:	01
Action Name:	Record of Decision
Action Taken Date:	06/20/1999
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported

T.H. AGRICULTURE & NUTRITION CO. (Continued) **1000146275**

Event:	Not reported
Federal Facility:	N
Fiscal Year:	1999
NPL Status:	Deleted from the Final NPL
Superfund Alternative Agreement:	N
Latitude:	36.764728
Longitude:	-119.660501

EPA ID:	CAD009106220
Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	01
Action Name:	Record of Decision
Action Taken Date:	06/20/1999
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	N
Fiscal Year:	1999
NPL Status:	Deleted from the Final NPL
Superfund Alternative Agreement:	N
Latitude:	36.764728
Longitude:	-119.660501

EPA ID:	CAD009106220
Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	01
Action Name:	Record of Decision
Action Taken Date:	06/20/1999
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	N
Fiscal Year:	1999
NPL Status:	Deleted from the Final NPL
Superfund Alternative Agreement:	N
Latitude:	36.764728
Longitude:	-119.660501

EPA ID:	CAD009106220
Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	01
Action Name:	Record of Decision
Action Taken Date:	06/20/1999
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	N
Fiscal Year:	1999
NPL Status:	Deleted from the Final NPL
Superfund Alternative Agreement:	N
Latitude:	36.764728

T.H. AGRICULTURE & NUTRITION CO. (Continued) **1000146275**

Longitude:	-119.660501
EPA ID:	CAD009106220
Contaminated Media:	Soil
Action ID:	1
Operable Unit:	01
Action Name:	Record of Decision
Action Taken Date:	06/20/1999
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	N
Fiscal Year:	1999
NPL Status:	Deleted from the Final NPL
Superfund Alternative Agreement:	N
Latitude:	36.764728
Longitude:	-119.660501
EPA ID:	CAD009106220
Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	01
Action Name:	Record of Decision
Action Taken Date:	06/20/1999
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	N
Fiscal Year:	1999
NPL Status:	Deleted from the Final NPL
Superfund Alternative Agreement:	N
Latitude:	36.764728
Longitude:	-119.660501
EPA ID:	CAD009106220
Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	01
Action Name:	Record of Decision
Action Taken Date:	06/20/1999
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	N
Fiscal Year:	1999
NPL Status:	Deleted from the Final NPL
Superfund Alternative Agreement:	N
Latitude:	36.764728
Longitude:	-119.660501
EPA ID:	CAD009106220
Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	01

T.H. AGRICULTURE & NUTRITION CO. (Continued) **1000146275**

Action Name:	Record of Decision
Action Taken Date:	06/20/1999
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	N
Fiscal Year:	1999
NPL Status:	Deleted from the Final NPL
Superfund Alternative Agreement:	N
Latitude:	36.764728
Longitude:	-119.660501

US INST CONTROLS:

Name:	T.H. AGRICULTURE & NUTRITION CO.
Address:	7183 E MCKINLEY AVE
Address 2:	Not reported
City,State,Zip:	FRESNO, CA 93727
EPA ID:	CAD009106220
Action Name:	Record of Decision
Action ID:	1
Operable Unit:	01
Actual Date:	06/20/1999
Contaminated Media:	Soil
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	N
Fiscal Year:	1999
NPL Status:	Deleted from the Final NPL
Superfund Alternative Agreement:	N
Latitude:	36.764728
Longitude:	-119.660501

CPS-SLIC:

Name:	THAN
Address:	7183 E MCKINLEY AVE
City,State,Zip:	FRESNO, CA 93727-9707
Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	05/12/2010
Global Id:	SLT5FQ384331
Lead Agency:	DEPARTMENT OF TOXIC SUBSTANCES CONTROL
Lead Agency Case Number:	10280334
Latitude:	36.7648
Longitude:	-119.663
Case Type:	Cleanup Program Site
Case Worker:	DD
Local Agency:	DEPARTMENT OF TOXIC SUBSTANCES CONTROL
RB Case Number:	SLT5FQ038
File Location:	DTSC
Potential Media Affected:	Not reported
Potential Contaminants of Concern:	Not reported
EPA Region:	9

T.H. AGRICULTURE & NUTRITION CO. (Continued) **1000146275**

Coordinate Source:	* USGS Quad map
Cuf Case:	NO
Quantity Released Gallons:	Not reported
Begin Date:	01/01/1986
Leak Reported Date:	01/02/1965
How Discovered:	Not reported
How Discovered Description:	Not reported
Discharge Source:	Not reported
Discharge Cause:	Not reported
Stop Method:	Not reported
Stop Description:	Not reported
No Further Action Date:	05/12/2010
CA Water Watershed Name:	South Valley Floor - Fresno (551.30)
Dwr Groundwater Subbasin Name:	San Joaquin Valley - Kings (5-022.08)
Disadvantaged Community:	Not reported
CA Enviroscreen 3 Score:	31-35%
CA Enviroscreen 4 Score:	40-45%
Military DOD Site:	No
Facility Project Subtype:	Not reported
RWQCB Region:	CENTRAL VALLEY RWQCB (REGION 5F)
Site History:	Regulatory oversight of the Site is provided by the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC). The Site was deleted from the National Priorities List (NPL) by the US. Environmental Protection Agency (EPA) in 2006 [EPA, 2006]. DTSC continues to provide regulatory oversight for maintenance of the site cap and for submittal of annual groundwater monitoring reports.

Click here to access the California GeoTracker records for this facility:

ROD:

Name:	T.H. AGRICULTURE & NUTRITION CO.
Address:	7183 E MCKINLEY AVE
City,State,Zip:	FRESNO, CA 93727
EPA ID:	CAD009106220
RG:	9
Site ID:	901128
Action:	GOVT ROD for PRP Remedy
Operable Unit Number:	ENTIRE SITE
SEQ ID:	1
Action Completion:	1999-06-20 00:00:00
NPL Status:	Deleted
Non NPL Status:	Not reported

PRP:

PRP Name:
NORTH AMERICAN PHILIPS CORP.
OLIN CORPORATION
SYNGENTA
SYNGENTA AG
T.H. AGRICULTURE & NUTRITION CO.

CUPA FRESNO:

Name:	TH AGRICULTURE & NUTRITION
Address:	7183 E MCKINLEY AVE
City,State,Zip:	FRESNO, CA 93727
Region:	FRESNO
Cross Street:	TEMPERANCE

T.H. AGRICULTURE & NUTRITION CO. (Continued) **1000146275**

Facility ID: FA0268619
APM Number: 31006209
Program Element: UST REMOVAL/CLOSURE W/1 TANK

Name: TH AGRICULTURE & NUTRITION
Address: 7183 E MCKINLEY AVE
City,State,Zip: FRESNO, CA 93727
Region: FRESNO
Cross Street: TEMPERANCE
Facility ID: FA0268619
APM Number: 31006209
Program Element: CONTAMINATED SITE - MISC/DTSC LEAD

CERS:
Name: T H AGRICULTURE & NUTRITION
Address: 7183 EAST MCKINLEY AVENUE
City,State,Zip: FRESNO, CA 93727-9707
Site ID: 497492
CERS ID: 110002634828
CERS Description: US EPA Air Emission Inventory System (EIS)

Name: THAN
Address: 7183 E MCKINLEY AVE
City,State,Zip: FRESNO, CA 93727-9707
Site ID: 689961
CERS ID: SLT5FQ384331
CERS Description: Cleanup Program Site

Count: 2 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
FRESNO	S123785057	FOWLER-MCKINLEY ELEMENTARY SCHOOL	NORTHEAST CORNER OF FOWLER AVE	93727	ENVIROSTOR, SCH
FRESNO	S126143205	PROPOSED TEMPERANCE ELEMENTARY SCH	WEST SIDE OF TEMPERANCE AVENUE	93727	ENVIROSTOR, SCH

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/26/2023
Date Data Arrived at EDR: 01/02/2024
Date Made Active in Reports: 01/24/2024
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 02/01/2024
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/26/2023
Date Data Arrived at EDR: 01/02/2024
Date Made Active in Reports: 01/24/2024
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 02/01/2024
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/26/2023
Date Data Arrived at EDR: 01/02/2024
Date Made Active in Reports: 01/24/2024
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 02/01/2024
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 12/20/2023
Date Data Arrived at EDR: 12/20/2023
Date Made Active in Reports: 01/24/2024
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 12/20/2023
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 02/01/2024
Next Scheduled EDR Contact: 04/22/2024
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 02/01/2024
Next Scheduled EDR Contact: 04/22/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/06/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/06/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/06/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/06/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/06/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/03/2023
Date Data Arrived at EDR: 08/07/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 64

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 02/02/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 10/26/2023
Date Data Arrived at EDR: 11/17/2023
Date Made Active in Reports: 02/13/2024
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/17/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 10/26/2023
Date Data Arrived at EDR: 11/17/2023
Date Made Active in Reports: 02/13/2024
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/17/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/18/2023
Date Data Arrived at EDR: 09/20/2023
Date Made Active in Reports: 12/11/2023
Number of Days to Update: 82

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 12/13/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

Lists of state- and tribal (Superfund) equivalent sites

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 10/23/2023
Date Data Arrived at EDR: 10/24/2023
Date Made Active in Reports: 01/11/2024
Number of Days to Update: 79

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/23/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Quarterly

Lists of state- and tribal hazardous waste facilities

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 10/23/2023
Date Data Arrived at EDR: 10/24/2023
Date Made Active in Reports: 01/11/2024
Number of Days to Update: 79

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/23/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Quarterly

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/06/2023
Date Data Arrived at EDR: 11/07/2023
Date Made Active in Reports: 02/05/2024
Number of Days to Update: 90

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 02/06/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Quarterly

Lists of state and tribal leaking storage tanks

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/22/2023
Number of Days to Update: 77

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Quarterly

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/14/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/19/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/19/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/28/2023
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35
Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36
Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11
Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

Lists of state and tribal registered storage tanks

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 11/16/2023
Date Data Arrived at EDR: 11/16/2023
Date Made Active in Reports: 02/13/2024
Number of Days to Update: 89
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/11/2024
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/28/2023
Number of Days to Update: 83
Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Semi-Annually

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases

UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 08/10/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/28/2023
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 11/30/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)

Military ust sites

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/27/2023
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Varies

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/25/2024
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/14/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/19/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

Lists of state and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/12/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27
Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 10/23/2023
Date Data Arrived at EDR: 10/24/2023
Date Made Active in Reports: 01/11/2024
Number of Days to Update: 79
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/23/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Quarterly

Lists of state and tribal brownfield sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 09/20/2023
Date Made Active in Reports: 12/08/2023
Number of Days to Update: 79
Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 12/13/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 08/15/2023
Date Data Arrived at EDR: 08/30/2023
Date Made Active in Reports: 12/01/2023
Number of Days to Update: 93
Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 12/14/2023
Next Scheduled EDR Contact: 03/25/2024
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 01/22/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/28/2023
Number of Days to Update: 83

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 11/29/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 11/16/2022
Date Data Arrived at EDR: 11/22/2022
Date Made Active in Reports: 02/13/2023
Number of Days to Update: 83

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 02/05/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 01/26/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 01/11/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 11/17/2023
Date Data Arrived at EDR: 11/17/2023
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/17/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 10/23/2023
Date Data Arrived at EDR: 10/24/2023
Date Made Active in Reports: 01/11/2024
Number of Days to Update: 79

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/23/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 09/28/2023
Date Made Active in Reports: 12/18/2023
Number of Days to Update: 81

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 01/29/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CERS HAZ WASTE: California Environmental Reporting System Hazardous Waste

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 10/16/2023
Date Data Arrived at EDR: 10/17/2023
Date Made Active in Reports: 01/09/2024
Number of Days to Update: 84

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 01/16/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 11/17/2023
Date Data Arrived at EDR: 11/17/2023
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/17/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing

Aboveground storage tank sites

Date of Government Version: 10/30/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 83

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 01/29/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Varies

CERS TANKS: California Environmental Reporting System (CERS) Tanks

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 10/16/2023
Date Data Arrived at EDR: 10/17/2023
Date Made Active in Reports: 01/09/2024
Number of Days to Update: 84

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 01/16/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Quarterly

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 08/22/2023
Date Data Arrived at EDR: 08/24/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 75

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/21/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 11/14/2023
Date Data Arrived at EDR: 12/22/2023
Date Made Active in Reports: 01/24/2024
Number of Days to Update: 33

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 02/01/2024
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 11/22/2023
Date Data Arrived at EDR: 11/22/2023
Date Made Active in Reports: 02/15/2024
Number of Days to Update: 85

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 11/22/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/18/2023
Date Data Arrived at EDR: 09/20/2023
Date Made Active in Reports: 11/14/2023
Number of Days to Update: 55

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 12/13/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 06/01/2023
Date Data Arrived at EDR: 07/18/2023
Date Made Active in Reports: 10/05/2023
Number of Days to Update: 79

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 01/18/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/22/2023
Number of Days to Update: 77

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/22/2023
Number of Days to Update: 77

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/04/2023
Date Data Arrived at EDR: 12/06/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/06/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 09/28/2023
Date Data Arrived at EDR: 11/10/2023
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 89

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 02/13/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 06/07/2021
Date Data Arrived at EDR: 07/13/2021
Date Made Active in Reports: 03/09/2022
Number of Days to Update: 239

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 01/10/2024
Next Scheduled EDR Contact: 04/22/2024
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 01/05/2024
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 07/30/2021
Date Data Arrived at EDR: 02/03/2023
Date Made Active in Reports: 02/10/2023
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/06/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/18/2023
Date Data Arrived at EDR: 09/20/2023
Date Made Active in Reports: 12/12/2023
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 12/13/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 01/29/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 02/02/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 06/14/2022
Date Made Active in Reports: 03/24/2023
Number of Days to Update: 283

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/14/2023
Next Scheduled EDR Contact: 03/25/2024
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 11/13/2023
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 86

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/15/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 10/19/2023
Date Data Arrived at EDR: 10/20/2023
Date Made Active in Reports: 01/16/2024
Number of Days to Update: 88

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/17/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/26/2023
Date Data Arrived at EDR: 01/02/2024
Date Made Active in Reports: 01/24/2024
Number of Days to Update: 22

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 02/01/2024
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 09/01/2023
Date Data Arrived at EDR: 09/27/2023
Date Made Active in Reports: 12/21/2023
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/12/2024
Next Scheduled EDR Contact: 04/19/2024
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 02/01/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 03/20/2023
Date Data Arrived at EDR: 04/04/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 66

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/05/2024
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/26/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/20/2023
Date Data Arrived at EDR: 09/01/2023
Date Made Active in Reports: 09/20/2023
Number of Days to Update: 19
Source: Nuclear Regulatory Commission
Telephone: 301-415-0717
Last EDR Contact: 01/11/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 04/14/2023
Date Made Active in Reports: 07/10/2023
Number of Days to Update: 87
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 11/27/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 11/27/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 02/02/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 12/19/2023
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 01/05/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 01/11/2024
Date Made Active in Reports: 01/16/2024
Number of Days to Update: 5

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 03/20/2023
Number of Days to Update: 11

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 12/06/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/02/2024
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/03/2023
Date Data Arrived at EDR: 03/03/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 98

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 01/29/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/15/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/26/2024
Date Data Arrived at EDR: 01/02/2024
Date Made Active in Reports: 01/24/2024
Number of Days to Update: 22

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 02/01/2024
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data
Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 01/02/2024
Date Data Arrived at EDR: 01/03/2024
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 1

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Quarterly

US MINES: Mines Master Index File
Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 11/01/2023
Date Data Arrived at EDR: 11/17/2023
Date Made Active in Reports: 02/13/2024
Number of Days to Update: 88

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 11/17/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing
This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 01/07/2022
Date Data Arrived at EDR: 02/24/2023
Date Made Active in Reports: 05/17/2023
Number of Days to Update: 82

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/20/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing
Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/20/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines
An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 11/28/2023
Date Data Arrived at EDR: 11/29/2023
Date Made Active in Reports: 12/11/2023
Number of Days to Update: 12

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 11/28/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Quarterly

MINES MRDS: Mineral Resources Data System
Mineral Resources Data System

Date of Government Version: 08/23/2022
Date Data Arrived at EDR: 11/22/2022
Date Made Active in Reports: 02/28/2023
Number of Days to Update: 98

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 11/20/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/03/2023
Date Data Arrived at EDR: 11/08/2023
Date Made Active in Reports: 11/20/2023
Number of Days to Update: 12

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 11/08/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing
A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 11/15/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: Varies

UXO: Unexploded Ordnance Sites
A listing of unexploded ordnance site locations

Date of Government Version: 09/06/2023
Date Data Arrived at EDR: 09/13/2023
Date Made Active in Reports: 12/11/2023
Number of Days to Update: 89

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 01/05/2024
Next Scheduled EDR Contact: 04/22/2024
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information
ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/23/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 93

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 11/10/2023
Date Data Arrived at EDR: 11/10/2023
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 89

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/13/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Quarterly

PFAS NPL: Superfund Sites with PFAS Detections Information

EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

Date of Government Version: 09/23/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 12/21/2023
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 703-603-8895
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

PFAS FEDERAL SITES: Federal Sites PFAS Information

Several federal entities, such as the federal Superfund program, Department of Defense, National Aeronautics and Space Administration, Department of Transportation, and Department of Energy provided information for sites with known or suspected detections at federal facilities.

Date of Government Version: 09/23/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 12/21/2023
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

PFAS TRIS: List of PFAS Added to the TRI

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) immediately added certain per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and provided a framework for additional PFAS to be added to TRI on an annual basis.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-566-0250
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

PFAS TSCA: PFAS Manufacture and Imports Information

EPA issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. EPA publishes non-confidential business information (non-CBI) and includes descriptive information about each site, corporate parent, production volume, other manufacturing information, and processing and use information.

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

PFAS RCRA MANIFEST: PFAS Transfers Identified In the RCRA Database Listing

To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: PFAS, PFOA, PFOS, PERFL, AFFF, GENX, GEN-X (plus the VT waste codes). These keywords were searched for in the following text fields: Manifest handling instructions (MANIFEST_HANDLING_INSTR), Non-hazardous waste description (NON_HAZ_WASTE_DESCRIPTION), DOT printed information (DOT_PRINTED_INFORMATION), Waste line handling instructions (WASTE_LINE_HANDLING_INSTR), Waste residue comments (WASTE_RESIDUE_COMMENTS).

Date of Government Version: 12/28/2023
Date Data Arrived at EDR: 12/28/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

PFAS ATSDR: PFAS Contamination Site Location Listing

PFAS contamination site locations from the Department of Health & Human Services, Center for Disease Control & Prevention. ATSDR is involved at a number of PFAS-related sites, either directly or through assisting state and federal partners. As of now, most sites are related to drinking water contamination connected with PFAS production facilities or fire training areas where aqueous film-forming firefighting foam (AFFF) was regularly used.

Date of Government Version: 06/24/2020
Date Data Arrived at EDR: 03/17/2021
Date Made Active in Reports: 11/08/2022
Number of Days to Update: 601

Source: Department of Health & Human Services
Telephone: 202-741-5770
Last EDR Contact: 01/22/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Varies

PFAS WQP: Ambient Environmental Sampling for PFAS

The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

Date of Government Version: 09/23/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

PFAS NPDES: Clean Water Act Discharge Monitoring Information

Any discharger of pollutants to waters of the United States from a point source must have a National Pollutant Discharge Elimination System (NPDES) permit. The process for obtaining limits involves the regulated entity (permittee) disclosing releases in a NPDES permit application and the permitting authority (typically the state but sometimes EPA) deciding whether to require monitoring or monitoring with limits. Caveats and Limitations: Less than half of states have required PFAS monitoring for at least one of their permittees and fewer states have established PFAS effluent limits for permittees. New rulemakings have been initiated that may increase the number of facilities monitoring for PFAS in the future.

Date of Government Version: 09/23/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 93

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

Date of Government Version: 09/23/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 12/21/2023
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

PFAS ECHO FIRE TRAINING: Facilities in Industries that May Be Handling PFAS Listing

A list of fire training sites was added to the Industry Sectors dataset using a keyword search on the permitted facilitys name to identify sites where fire-fighting foam may have been used in training exercises. Additionally, you may view an example spreadsheet of the subset of fire training facility data, as well as the keywords used in selecting or deselecting a facility for the subset. as well as the keywords used in selecting or deselecting a facility for the subset. These keywords were tested to maximize accuracy in selecting facilities that may use fire-fighting foam in training exercises, however, due to the lack of a required reporting field in the data systems for designating fire training sites, this methodology may not identify all fire training sites or may potentially misidentify them.

Date of Government Version: 09/23/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 12/21/2023
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

PFAS PART 139 AIRPORT: All Certified Part 139 Airports PFAS Information Listing

Since July 1, 2006, all certified part 139 airports are required to have fire-fighting foam onsite that meet military specifications (MIL-F-24385) (14 CFR 139.317). To date, these military specification fire-fighting foams are fluorinated and have been historically used for training and extinguishing. The 2018 FAA Reauthorization Act has a provision stating that no later than October 2021, FAA shall not require the use of fluorinated AFFF. This provision does not prohibit the use of fluorinated AFFF at Part 139 civilian airports; it only prohibits FAA from mandating its use. The Federal Aviation Administration?s document AC 150/5210-6D - Aircraft Fire Extinguishing Agents provides guidance on Aircraft Fire Extinguishing Agents, which includes Aqueous Film Forming Foam (AFFF).

Date of Government Version: 09/23/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 12/21/2023
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

AQUEOUS FOAM NRC: Aqueous Foam Related Incidents Listing

The National Response Center (NRC) serves as an emergency call center that fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. The spreadsheets posted to the NRC website contain initial incident data that has not been validated or investigated by a federal/state response agency. Response center calls from 1990 to the most recent complete calendar year where there was indication of Aqueous Film Forming Foam (AFFF) usage are included in this dataset. NRC calls may reference AFFF usage in the ?Material Involved? or ?Incident Description? fields.

Date of Government Version: 09/23/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 12/21/2023
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-267-2675
Last EDR Contact: 12/28/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 12/16/2016
Date Data Arrived at EDR: 01/06/2017
Date Made Active in Reports: 03/10/2017
Number of Days to Update: 63

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 12/27/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: No Update Planned

PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 12/27/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

BIOSOLIDS: ICIS-NPDES Biosolids Facility Data

The data reflects compliance information about facilities in the biosolids program.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 01/03/2024
Date Made Active in Reports: 01/16/2024
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 202-564-4700
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

PFAS: PFAS Contamination Site Location Listing
A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/27/2023
Number of Days to Update: 82
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 11/30/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Varies

AQUEOUS FOAM: Former Fire Training Facility Assessments Listing
Airports shown on this list are those believed to use Aqueous Film Forming Foam (AFFF), and certified by the Federal Aviation Administration (FAA) under Title 14, Code of Federal Regulations (CFR), Part 139 (14 CFR Part 139). This list was created by SWRCB using information available from the FAA. Location points shown are from the latitude and longitude listed on the FAA airport master record.

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/28/2023
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 916-341-5455
Last EDR Contact: 11/30/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Varies

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6
Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CHROME PLATING: Chrome Plating Facilities Listing
This listing represents chrome plating facilities the California State Water Resources Control Board staff identified as possibly being a source of Per- and polyfluoroalkyl substance (PFAS) contamination. Sites and locations were identified by staff with the Division of Water Quality in the California State Water Board. Data was collected from the CA Air Resources Board 2013 and 2018 - Cr VI emission survey, CA Emission Inventory, CA HAZ Waste discharge database and by reviewing storm water permits. Former chrome plating sites are also included that are open site investigation or remediation cases with the Regional Water Quality Control Boards and the Department of Toxic Substances Control.

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/27/2023
Number of Days to Update: 82
Source: State Water Resources Control Board
Telephone: 916-341-5455
Last EDR Contact: 11/30/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Varies

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 09/20/2023
Date Made Active in Reports: 12/08/2023
Number of Days to Update: 79
Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 12/13/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing
list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 03/31/2023
Date Data Arrived at EDR: 05/08/2023
Date Made Active in Reports: 07/31/2023
Number of Days to Update: 84

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Varies

DRYCLEAN FEATHER RIVER DIST: Feather River Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Feather River Air Quality Management District.

Date of Government Version: 03/08/2023
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 06/05/2023
Number of Days to Update: 88

Source: Feather River Air Quality Management District
Telephone: 530-634-7659
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN BUTTE CO DIST: Butte County Air Quality Management DistrictDrycleaner Facility Listing
Butte County Air Quality Management DistrictDrycleaner Facility Listing.

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 10/18/2023
Date Made Active in Reports: 01/16/2024
Number of Days to Update: 90

Source: Butte County Air Quality Management District
Telephone: 530-332-9400
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SACRAMENTO METO DIST: Sacramento Metropolitan Air Quality Management DistrictDrycleaner Facility Listing
A listing of drycleaner facility locations, for the Sacramento Metropolitan Air Quality Management District.

Date of Government Version: 08/15/2023
Date Data Arrived at EDR: 08/17/2023
Date Made Active in Reports: 10/31/2023
Number of Days to Update: 75

Source: Sacramento Metropolitan Air Quality Management District
Telephone: 916-874-3958
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SAN LUIS OB CO DIST: San Luis Obispo County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the San Luis Obispo County Air Pollution Control District.

Date of Government Version: 07/26/2023
Date Data Arrived at EDR: 07/27/2023
Date Made Active in Reports: 10/13/2023
Number of Days to Update: 78

Source: San Luis Obispo County Air Pollution Control District
Telephone: 805-781-5756
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SAN DIEGO CO DIST: San Diego County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the San Diego County Air Pollution Control District.

Date of Government Version: 08/08/2023
Date Data Arrived at EDR: 08/09/2023
Date Made Active in Reports: 10/26/2023
Number of Days to Update: 78

Source: San Diego County Air Pollution Control District
Telephone: 858-586-2616
Last EDR Contact: 08/08/2023
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN GLENN CO DIST: Glenn County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Glenn County Air Pollution Control District.

Date of Government Version: 05/02/2023
Date Data Arrived at EDR: 05/03/2023
Date Made Active in Reports: 07/25/2023
Number of Days to Update: 83

Source: Glenn County Air Pollution Control District
Telephone: 530-934-6500
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 08/31/2023
Date Data Arrived at EDR: 09/08/2023
Date Made Active in Reports: 11/27/2023
Number of Days to Update: 80

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 12/18/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: Annually

DRYCLEAN AMADOR: Amador Air District Drycleaner Facility Listing

A listing of drycleaner facility locations, for the Amador Air Quality Management District

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/13/2023
Number of Days to Update: 77

Source: Amador Air Quality Management District
Telephone: 209-257-0112
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN VENTURA CO DIST: Drycleaner Facility Listing

A listing of drycleaner facility locations, for the Ventura County Air Pollution Control District.

Date of Government Version: 01/04/2024
Date Data Arrived at EDR: 01/16/2024
Date Made Active in Reports: 02/08/2024
Number of Days to Update: 23

Source: Ventura County Air Pollution Control District
Telephone: 805-645-1421
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 11/14/2023
Date Data Arrived at EDR: 11/16/2023
Date Made Active in Reports: 02/12/2024
Number of Days to Update: 88

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 11/13/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: Varies

DRYCLEAN TEHAMA CO DIST: Tehama County Air Pollution Control District Drycleaner Facility Listing

A listing of drycleaner facility locations, for the Tehama County Air Pollution Control District.

Date of Government Version: 04/24/2019
Date Data Arrived at EDR: 04/24/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1468

Source: Tehama County Air Pollution Control District
Telephone: 530-527-3717
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SANTA BARB CO DIST: Santa Barbara County Air Pollution Control District Drycleaner Facility Listing

A listing of drycleaner facility locations, for the Santa Barbara County Air Pollution Control District.

Date of Government Version: 02/19/2019
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1475

Source: Santa Barbara County Air Pollution Control District
Telephone: 805-961-8867
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN NO SONOMA CO DIST: Norther Sonoma County County Air Pollution Control District Drycleaner Facility Listing

A listing of drycleaner facility locations, for the Northern Sonoma County Air Pollution Control District.,

Date of Government Version: 04/17/2019
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1475

Source: Santa Barbara County Air Pollution Control District
Telephone: 707-433-5911
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN NO SIERRA DIST: Northern Sierra Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Northern Sierra Air Quality Management District,

Date of Government Version: 05/07/2019
Date Data Arrived at EDR: 05/07/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1455

Source: Northern Sierra Air Quality Management District
Telephone: 530-274-9350
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN NO COAST UNIFIED DIST: North Coast Unified Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the North Coast Unified Air Quality Management District.

Date of Government Version: 11/30/2016
Date Data Arrived at EDR: 04/19/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1473

Source: North Coast Unified Air Quality Management District
Telephone: 707-443-3093
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN LAKE CO DIST: Lake County Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Lake County Air Quality Management District,

Date of Government Version: 04/29/2019
Date Data Arrived at EDR: 05/07/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1455

Source: Lake County Air Quality Management District
Telephone: 707-263-7000
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN GRANT: Grant Recipients List
Assembly Bill 998 (AB 998) established the Non-Toxic Dry Cleaning Incentive Program to provide financial assistance to the dry cleaning industry to switch from systems using perchloroethylene (Perc), an identified toxic air contaminant and potential human carcinogen, to non-toxic and non-smog forming alternatives.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 02/04/2021
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 816

Source: California Air Resources Board
Telephone: 916-323-0006
Last EDR Contact: 01/26/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Varies

DRYCLEAN CALAVERAS CO DIST: Calaveras County Environmental Management Agency Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Calaveras County Environmental Management Agency.

Date of Government Version: 06/17/2019
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1412

Source: Calaveras County Environmental Management Agency
Telephone: 209-754-6399
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

DRYCLEAN BAY AREA DIST: Bay Area Air Quality Management District Drycleaner Facility Listing
Bay Area Air Quality Management District Drycleaner Facility Listing.

Date of Government Version: 02/20/2019
Date Data Arrived at EDR: 05/30/2019
Date Made Active in Reports: 05/01/2023
Number of Days to Update: 1432

Source: Bay Area Air Quality Management District
Telephone: 415-516-1916
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN PLACER CO DIST: Placer County Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Placer County Air Quality Management District.

Date of Government Version: 05/15/2023
Date Data Arrived at EDR: 05/17/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 89

Source: Placer County Air Quality Management District
Telephone: 530-745-2335
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN YOLO-SOLANO DIST: Yolo-Solano Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Yolo-Solano Air Quality Management District.

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 78

Source: Yolo-Solano Air Quality Management District
Telephone: 530-757-3650
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 08/22/2023
Date Data Arrived at EDR: 08/24/2023
Date Made Active in Reports: 11/07/2023
Number of Days to Update: 75

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 11/21/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: Varies

DRYCLEAN SAN JOAQ VAL DIST: San Joaquin Valley Air Pollution Control District District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the San Joaquin Valley Air Pollution Control District.

Date of Government Version: 05/24/2023
Date Data Arrived at EDR: 05/30/2023
Date Made Active in Reports: 08/21/2023
Number of Days to Update: 83

Source: San Joaquin Valley Air Pollution Control District
Telephone: 559-230-6001
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN EAST KERN DIST: Eastern Kern Air Pollution Control District District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Eastern Kern Air Pollution Control District.

Date of Government Version: 01/12/2023
Date Data Arrived at EDR: 04/26/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 79

Source: Eastern Kern Air Pollution Control District
Telephone: 661-862-9684
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN IMPERIAL CO DIST: Imperial County Air Pollution Control District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Imperial County Air Pollution Control District

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 04/26/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 79

Source: Imperial County Air Pollution Control District
Telephone: 442-265-1800
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN MENDO CO DIST: Mendocino County Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Mendocino County Air Quality Management District.

Date of Government Version: 04/27/2023
Date Data Arrived at EDR: 04/28/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 77

Source: Mendocino County Air Quality Management District
Telephone: 707-463-4354
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN MOJAVE DESERT DIST: Mojave Desert Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Mojave Desert Air Quality Management District.

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 78
Source: Mojave Desert Air Quality Management District
Telephone: 760-245-1661
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN MONTEREY BAY DIST: Monterey Bay Air Quality Management District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Monterey Bay Air Quality Management District.

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 04/26/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 79
Source: Monterey Bay Air Quality Management District
Telephone: 831-647-9411
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

DRYCLEAN SHASTA CO DIST: Shasta County Air Quality Management District District Drycleaner Facility Listing
A listing of drycleaner facility locations, for the Shasta County Air Quality Management District.

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 78
Source: Shasta County Air Quality Management District
Telephone: 530-225-5674
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 09/11/2023
Data Release Frequency: Varies

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 06/09/2023
Date Made Active in Reports: 08/30/2023
Number of Days to Update: 82
Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 12/14/2023
Next Scheduled EDR Contact: 03/25/2024
Data Release Frequency: Varies

ENF: Enforcement Action Listing
A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 10/16/2023
Date Data Arrived at EDR: 10/17/2023
Date Made Active in Reports: 01/09/2024
Number of Days to Update: 84
Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 01/16/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 09/13/2023
Date Data Arrived at EDR: 09/14/2023
Date Made Active in Reports: 09/21/2023
Number of Days to Update: 7
Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 01/11/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 08/03/2023
Date Data Arrived at EDR: 08/16/2023
Date Made Active in Reports: 11/01/2023
Number of Days to Update: 77

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 02/05/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Varies

ICE: Inspection, Compliance and Enforcement
Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 02/07/2024
Date Data Arrived at EDR: 02/07/2024
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 0

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 02/07/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/07/2024
Date Data Arrived at EDR: 02/07/2024
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 0

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/07/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 10/02/2023
Date Data Arrived at EDR: 10/04/2023
Date Made Active in Reports: 12/27/2023
Number of Days to Update: 84

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Quarterly

HWTS: Hazardous Waste Tracking System
DTSC maintains the Hazardous Waste Tracking System that stores ID number information since the early 1980s and manifest data since 1993. The system collects both manifest copies from the generator and destination facility.

Date of Government Version: 10/26/2023
Date Data Arrived at EDR: 10/27/2023
Date Made Active in Reports: 01/29/2024
Number of Days to Update: 94

Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 12/26/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data
Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 07/05/2022
Date Made Active in Reports: 09/19/2022
Number of Days to Update: 76

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 01/03/2024
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Annually

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/27/2023
Number of Days to Update: 82

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 11/29/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 08/08/2023
Date Data Arrived at EDR: 08/29/2023
Date Made Active in Reports: 11/13/2023
Number of Days to Update: 76

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 11/22/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 11/06/2023
Date Data Arrived at EDR: 11/07/2023
Date Made Active in Reports: 02/05/2024
Number of Days to Update: 90

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 02/06/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 08/28/2023
Date Data Arrived at EDR: 08/29/2023
Date Made Active in Reports: 11/13/2023
Number of Days to Update: 76

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 11/22/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/27/2023
Number of Days to Update: 82

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 11/29/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 09/07/2023
Date Data Arrived at EDR: 09/08/2023
Date Made Active in Reports: 11/28/2023
Number of Days to Update: 81
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/25/2024
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 01/26/2021
Number of Days to Update: 82
Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 01/29/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Annually

SANTA CRUZ CO SITE MITI: Site Mitigation Listing
Sites may become contaminated with toxic chemicals through illegal dumping or disposal, from leaking underground storage tanks, or through industrial or commercial activities.The goal of the site mitigation program is to protect the public health and the environment while facilitating completion of contaminated site clean-up projects in a timely manner.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 06/23/2023
Date Made Active in Reports: 07/13/2023
Number of Days to Update: 20
Source: Santa Cruz Environmental Health Services
Telephone: 831-454-2761
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/28/2023
Number of Days to Update: 83
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 11/29/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/27/2023
Number of Days to Update: 82
Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 07/01/2021
Date Made Active in Reports: 09/29/2021
Number of Days to Update: 90
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 01/05/2024
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 12/12/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/27/2023
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/27/2023
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing
In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/28/2023
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 11/29/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System
The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 08/28/2023
Date Data Arrived at EDR: 08/29/2023
Date Made Active in Reports: 11/13/2023
Number of Days to Update: 76

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 11/22/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data
The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 10/16/2023
Date Data Arrived at EDR: 10/17/2023
Date Made Active in Reports: 01/09/2024
Number of Days to Update: 84
Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 01/16/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)
Non-Case Information sites

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/27/2023
Number of Days to Update: 82
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)
Other Oil & Gas Projects sites

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/27/2023
Number of Days to Update: 82
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)
Produced water ponds sites

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/27/2023
Number of Days to Update: 82
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)
Sampling point - public sites

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/27/2023
Number of Days to Update: 82
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 09/05/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/27/2023
Number of Days to Update: 82
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Varies

UST FINDER RELEASE: UST Finder Releases Database
US EPA's UST Finder data is a national composite of leaking underground storage tanks. This data contains information about, and locations of, leaking underground storage tanks. Data was collected from state sources and standardized into a national profile by EPA's Office of Underground Storage Tanks, Office of Research and Development, and the Association of State and Territorial Solid Waste Management Officials.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/31/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 79

Source: Environmental Protecton Agency
Telephone: 202-564-0394
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Semi-Annually

UST FINDER: UST Finder Database

EPA developed UST Finder, a web map application containing a comprehensive, state-sourced national map of underground storage tank (UST) and leaking UST (LUST) data. It provides the attributes and locations of active and closed USTs, UST facilities, and LUST sites from states and from Tribal lands and US territories . UST Finder contains information about proximity of UST facilities and LUST sites to: surface and groundwater public drinking water protection areas; estimated number of private domestic wells and number of people living nearby; and flooding and wildfires.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/04/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 106

Source: Environmental Protection Agency
Telephone: 202-564-0394
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 12/26/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 09/27/2023
Date Data Arrived at EDR: 09/28/2023
Date Made Active in Reports: 12/18/2023
Number of Days to Update: 81

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 12/26/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 04/27/2023
Date Data Arrived at EDR: 04/27/2023
Date Made Active in Reports: 07/13/2023
Number of Days to Update: 77

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 04/26/2023
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 12/26/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 09/12/2023
Date Data Arrived at EDR: 09/13/2023
Date Made Active in Reports: 12/04/2023
Number of Days to Update: 82

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 12/12/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 78

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 01/29/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 10/20/2023
Date Data Arrived at EDR: 10/24/2023
Date Made Active in Reports: 01/16/2024
Number of Days to Update: 84

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 01/22/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 10/24/2023
Date Data Arrived at EDR: 10/25/2023
Date Made Active in Reports: 01/16/2024
Number of Days to Update: 83

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 02/05/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/08/2022
Date Data Arrived at EDR: 08/09/2022
Date Made Active in Reports: 09/01/2022
Number of Days to Update: 23

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 01/22/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 06/28/2021
Date Data Arrived at EDR: 12/21/2021
Date Made Active in Reports: 03/03/2022
Number of Days to Update: 72

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 12/26/2023
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 01/11/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/12/2021
Date Data Arrived at EDR: 08/12/2021
Date Made Active in Reports: 11/08/2021
Number of Days to Update: 88

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 10/10/2023
Date Data Arrived at EDR: 10/11/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 85

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 01/11/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

KERN COUNTY:

CUPA KERN: CUPA Facility List
A listing of sites included in the Kern County Hazardous Material Business Plan.

Date of Government Version: 10/30/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 83

Source: Kern County Public Health
Telephone: 661-321-3000
Last EDR Contact: 02/12/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Varies

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 10/30/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 83

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 02/12/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 12/03/2020
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/14/2021
Number of Days to Update: 78

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 10/27/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 11/21/2023
Number of Days to Update: 20

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 01/09/2024
Next Scheduled EDR Contact: 04/22/2024
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 07/31/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 80

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 01/11/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/25/2024
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 10/01/2023
Date Data Arrived at EDR: 10/06/2023
Date Made Active in Reports: 12/27/2023
Number of Days to Update: 82

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 01/11/2024
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 10/09/2023
Date Data Arrived at EDR: 10/09/2023
Date Made Active in Reports: 12/27/2023
Number of Days to Update: 79

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 01/10/2024
Next Scheduled EDR Contact: 04/22/2024
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 01/12/2023
Date Made Active in Reports: 03/29/2023
Number of Days to Update: 76

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 01/04/2024
Next Scheduled EDR Contact: 04/22/2024
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 12/13/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills
This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 04/13/2023
Date Data Arrived at EDR: 07/13/2023
Date Made Active in Reports: 09/27/2023
Number of Days to Update: 76

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 01/11/2024
Next Scheduled EDR Contact: 04/22/2024
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory
A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 12/01/2023
Date Data Arrived at EDR: 12/13/2023
Date Made Active in Reports: 12/14/2023
Number of Days to Update: 1

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 12/13/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory
A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 09/01/2023
Date Data Arrived at EDR: 09/20/2023
Date Made Active in Reports: 12/08/2023
Number of Days to Update: 79

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 12/13/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 07/11/2023
Date Data Arrived at EDR: 10/17/2023
Date Made Active in Reports: 01/09/2024
Number of Days to Update: 84

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 01/19/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 01/04/2024
Next Scheduled EDR Contact: 04/22/2024
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 01/11/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 04/12/2023
Date Data Arrived at EDR: 05/02/2023
Date Made Active in Reports: 06/13/2023
Number of Days to Update: 42

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 01/11/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 72

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 12/18/2023
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Semi-Annually

MENDOCINO COUNTY:

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/22/2021
Date Data Arrived at EDR: 11/18/2021
Date Made Active in Reports: 11/22/2021
Number of Days to Update: 4

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 11/13/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 11/15/2023
Date Data Arrived at EDR: 11/20/2023
Date Made Active in Reports: 02/15/2024
Number of Days to Update: 87

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 02/12/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 03/02/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 78

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 11/13/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 10/04/2021
Date Data Arrived at EDR: 10/06/2021
Date Made Active in Reports: 12/29/2021
Number of Days to Update: 84

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 01/22/2024
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/13/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/13/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 10/31/2023
Date Data Arrived at EDR: 11/03/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 81

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 01/22/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 10/10/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 83

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/02/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 10/10/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 83

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/02/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 10/10/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 83

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/02/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 11/09/2023
Date Data Arrived at EDR: 11/09/2023
Date Made Active in Reports: 11/21/2023
Number of Days to Update: 12

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 11/01/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 01/11/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 09/29/2023
Date Data Arrived at EDR: 10/04/2023
Date Made Active in Reports: 12/27/2023
Number of Days to Update: 84
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/25/2024
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 09/29/2023
Date Data Arrived at EDR: 10/04/2023
Date Made Active in Reports: 12/27/2023
Number of Days to Update: 84
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/25/2024
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/07/2022
Date Data Arrived at EDR: 12/21/2022
Date Made Active in Reports: 03/16/2023
Number of Days to Update: 85
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 12/18/2023
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/07/2022
Date Data Arrived at EDR: 12/09/2022
Date Made Active in Reports: 03/01/2023
Number of Days to Update: 82
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 12/18/2023
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 01/17/2024
Date Data Arrived at EDR: 01/18/2024
Date Made Active in Reports: 01/26/2024
Number of Days to Update: 8
Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 01/11/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 11/08/2023
Date Data Arrived at EDR: 11/09/2023
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 90

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 01/29/2024
Next Scheduled EDR Contact: 05/12/2024
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 08/28/2023
Date Data Arrived at EDR: 08/29/2023
Date Made Active in Reports: 11/13/2023
Number of Days to Update: 76

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 11/27/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 04/04/2023
Date Data Arrived at EDR: 04/05/2023
Date Made Active in Reports: 06/27/2023
Number of Days to Update: 83

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 01/11/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing

A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 07/22/2021
Date Data Arrived at EDR: 10/19/2021
Date Made Active in Reports: 01/13/2022
Number of Days to Update: 86

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 01/11/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 11/21/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

CUPA SAN FRANCISCO CO: CUPA Facility Listing

Cupa facilities

Date of Government Version: 10/30/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 83

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 01/29/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Varies

LUST SAN FRANCISCO: Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 01/29/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 10/30/2023
Date Data Arrived at EDR: 11/01/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 83

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 01/29/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Quarterly

SAN FRANCISO COUNTY:

SAN FRANCISCO MAHER: Maher Ordinance Property Listing
a listing of properties that fall within a Maher Ordinance, for all of San Francisco

Date of Government Version: 10/15/2023
Date Data Arrived at EDR: 10/17/2023
Date Made Active in Reports: 01/11/2024
Number of Days to Update: 86

Source: San Francisco Planning
Telephone: 628-652-7483
Last EDR Contact: 01/18/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 12/05/2023
Next Scheduled EDR Contact: 03/25/2024
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 11/08/2023
Date Data Arrived at EDR: 11/09/2023
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 90

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 02/12/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 02/20/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 64
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/07/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 11/28/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28
Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 11/07/2023
Date Data Arrived at EDR: 11/08/2023
Date Made Active in Reports: 11/16/2023
Number of Days to Update: 8
Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 02/12/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22
Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13
Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 11/13/2023
Next Scheduled EDR Contact: 03/04/2024
Data Release Frequency: No Update Planned

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 02/09/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 11/21/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 09/15/2021
Date Data Arrived at EDR: 09/16/2021
Date Made Active in Reports: 12/09/2021
Number of Days to Update: 84

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 11/21/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 07/02/2021
Date Data Arrived at EDR: 07/06/2021
Date Made Active in Reports: 07/14/2021
Number of Days to Update: 8

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 12/12/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 06/30/2021
Date Data Arrived at EDR: 06/30/2021
Date Made Active in Reports: 09/24/2021
Number of Days to Update: 86

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 12/12/2023
Next Scheduled EDR Contact: 04/01/2024
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 02/08/2022
Date Data Arrived at EDR: 02/10/2022
Date Made Active in Reports: 05/04/2022
Number of Days to Update: 83

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 01/04/2024
Next Scheduled EDR Contact: 04/22/2024
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 08/03/2023
Date Data Arrived at EDR: 08/24/2023
Date Made Active in Reports: 09/12/2023
Number of Days to Update: 19

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 11/21/2023
Next Scheduled EDR Contact: 03/11/2024
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 08/01/2023
Date Data Arrived at EDR: 08/02/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 78

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 01/29/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 10/10/2023
Date Data Arrived at EDR: 10/11/2023
Date Made Active in Reports: 01/04/2024
Number of Days to Update: 85

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 01/11/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 10/07/2022
Date Data Arrived at EDR: 10/07/2022
Date Made Active in Reports: 12/21/2022
Number of Days to Update: 75

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 01/29/2024
Next Scheduled EDR Contact: 05/13/2024
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 01/11/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 09/26/2023
Date Data Arrived at EDR: 10/20/2023
Date Made Active in Reports: 01/11/2024
Number of Days to Update: 83

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 01/16/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/18/2023
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 02/02/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 09/26/2023
Date Data Arrived at EDR: 10/24/2023
Date Made Active in Reports: 01/11/2024
Number of Days to Update: 79

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 01/16/2024
Next Scheduled EDR Contact: 04/29/2024
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 08/28/2023
Date Data Arrived at EDR: 09/06/2023
Date Made Active in Reports: 11/28/2023
Number of Days to Update: 83

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/29/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 09/21/2023
Date Data Arrived at EDR: 10/04/2023
Date Made Active in Reports: 12/27/2023
Number of Days to Update: 84

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 12/18/2023
Next Scheduled EDR Contact: 04/08/2024
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 10/30/2023
Date Data Arrived at EDR: 11/03/2023
Date Made Active in Reports: 01/23/2024
Number of Days to Update: 81

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 01/22/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 11/06/2023
Date Data Arrived at EDR: 11/07/2023
Date Made Active in Reports: 01/31/2024
Number of Days to Update: 85

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 02/06/2024
Next Scheduled EDR Contact: 05/20/2024
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 12/27/2023
Next Scheduled EDR Contact: 04/15/2024
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 12/01/2023
Number of Days to Update: 1

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 01/26/2024
Next Scheduled EDR Contact: 05/06/2024
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 01/05/2024
Next Scheduled EDR Contact: 04/22/2024
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/18/2022
Number of Days to Update: 80

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 02/12/2024
Next Scheduled EDR Contact: 05/27/2024
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 11/29/2023
Next Scheduled EDR Contact: 03/18/2024
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.
Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

SINGH PROPERTY
2045 N. ARMSTRONG AVENUE
FRESNO, CA 93727

TARGET PROPERTY COORDINATES

Latitude (North):	36.765448 - 36° 45' 55.61''
Longitude (West):	119.675436 - 119° 40' 31.57''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	261190.4
UTM Y (Meters):	4071989.2
Elevation:	342 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	50005747 CLOVIS, CA
Version Date:	2021
South Map:	50005800 MALAGA, CA
Version Date:	2021

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

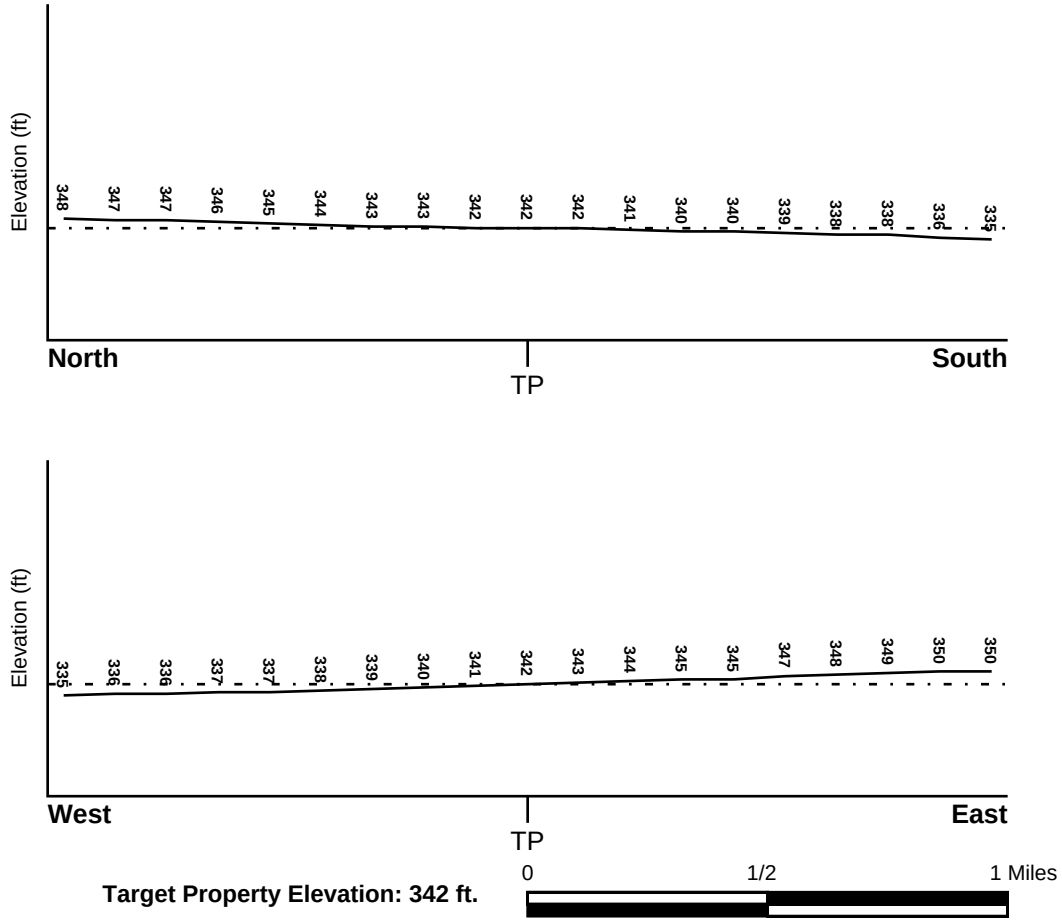
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General WSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06019C1595H	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06019C1590H	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
CLOVIS	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

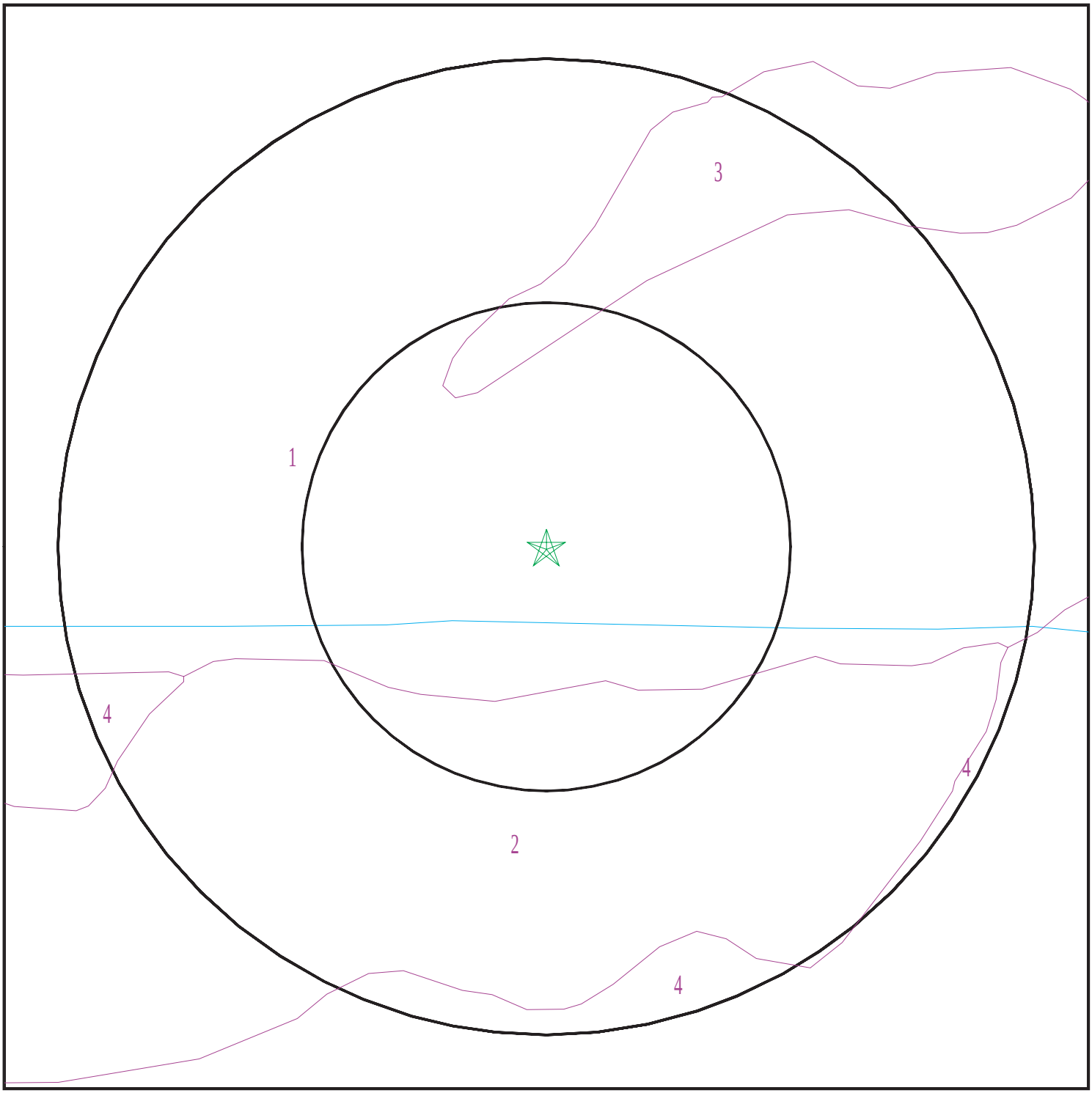
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 7572019.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Singh Property	CLIENT:	Krazan & Associates, Inc.
ADDRESS:	2045 N. Armstrong Avenue Fresno CA 93727	CONTACT:	Melanie Thomas
		INQUIRY #:	7572019.2s
LAT/LONG:	36.765448 / 119.675436	DATE:	February 16, 2024 8:02 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: RAMONA

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1
2	11 inches	24 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1
3	24 inches	38 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
4	38 inches	59 inches	coarse sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1

Soil Map ID: 2

Soil Component Name: ATWATER

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	24 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.6
2	24 inches	42 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.6

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
3	42 inches	59 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.6

Soil Map ID: 3

Soil Component Name: GREENFIELD

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.8 Min: 6.1
2	16 inches	38 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.8 Min: 6.1

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
3	38 inches	59 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.8 Min: 6.1

Soil Map ID: 4

Soil Component Name: HANFORD

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1
2	16 inches	72 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 7.3 Min: 6.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
2	USGS40000177437	1/4 - 1/2 Mile ENE
C12	USGS40000177334	1/2 - 1 Mile SE
13	USGS40000177378	1/2 - 1 Mile ESE
D22	USGS40000177486	1/2 - 1 Mile NW
26	USGS40000177477	1/2 - 1 Mile WNW
F31	USGS40000177295	1/2 - 1 Mile SW
34	USGS40000177256	1/2 - 1 Mile SE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

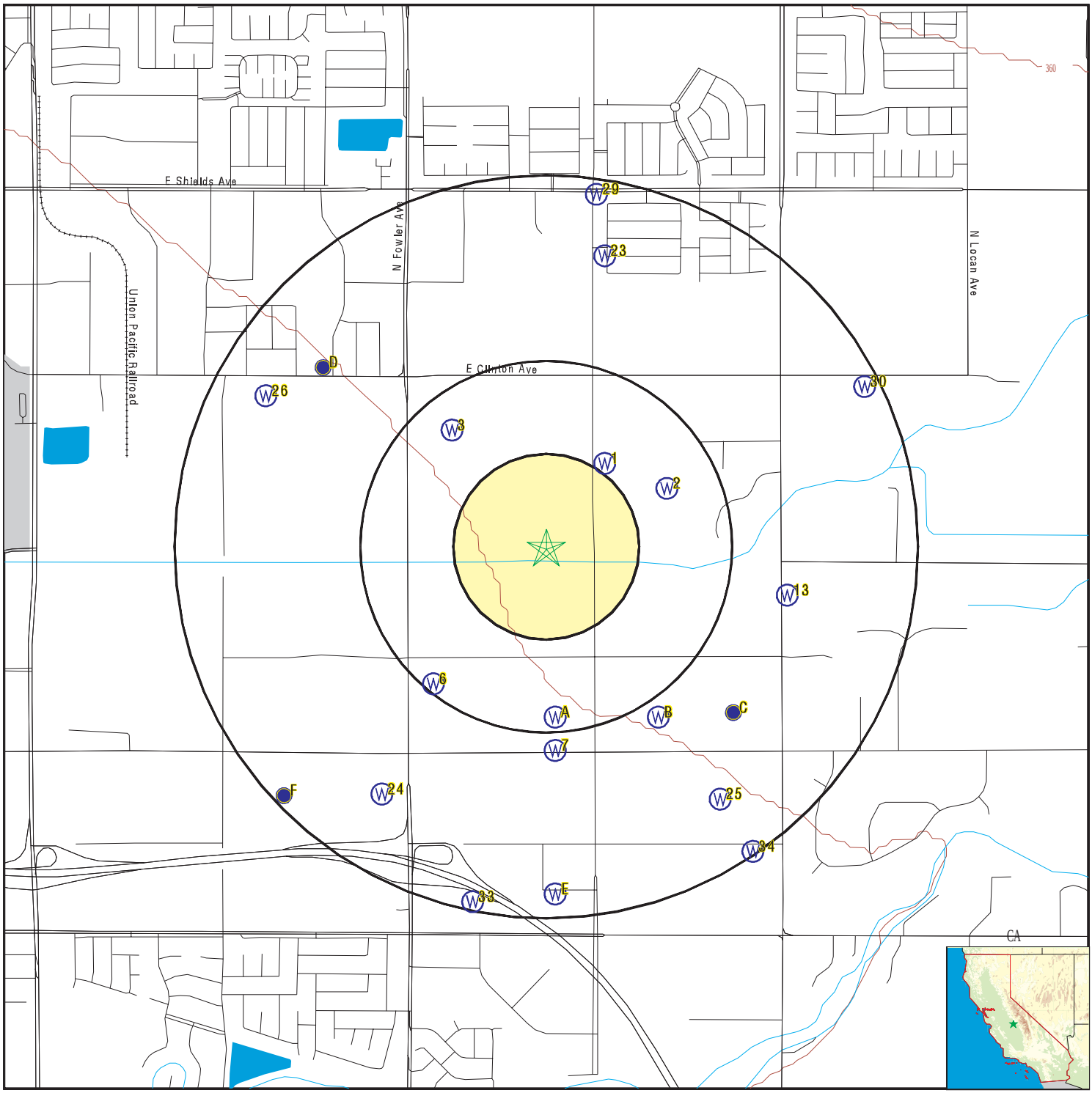
MAP ID	WELL ID	LOCATION FROM TP
1	CADDW2000024165	1/4 - 1/2 Mile NE
3	CADWR9000030351	1/4 - 1/2 Mile NW
A4	CADWR0000038126	1/4 - 1/2 Mile South
A5	CADWR0000022680	1/4 - 1/2 Mile South
6	CAEDF0000029692	1/4 - 1/2 Mile SW
7	CADWR9000030209	1/2 - 1 Mile South
B8	CADWR0000027318	1/2 - 1 Mile SSE
B9	CADWR0000020242	1/2 - 1 Mile SSE
B10	CADWR0000024029	1/2 - 1 Mile SSE
C11	CADWR9000030217	1/2 - 1 Mile SE
C14	CADWR0000022883	1/2 - 1 Mile SE
C15	CADWR0000012242	1/2 - 1 Mile SE
C16	CADWR0000007207	1/2 - 1 Mile SE
D17	CALLNL000001148	1/2 - 1 Mile NW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
D18	11823	1/2 - 1 Mile NW
D19	CADDW2000021689	1/2 - 1 Mile NW
D20	CAUSGSN00005702	1/2 - 1 Mile NW
D21	CADDW2000014838	1/2 - 1 Mile NW
23	CADDW2000007396	1/2 - 1 Mile NNE
24	CAEDF0000028502	1/2 - 1 Mile SSW
25	CADWR9000030170	1/2 - 1 Mile SE
E27	CADWR9000030144	1/2 - 1 Mile South
E28	CADWR0000000972	1/2 - 1 Mile South
29	CADWR9000030507	1/2 - 1 Mile North
30	CADWR9000030383	1/2 - 1 Mile ENE
F32	CAUSGSN00015375	1/2 - 1 Mile SW
33	CADWR0000012179	1/2 - 1 Mile SSW

PHYSICAL SETTING SOURCE MAP - 7572019.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Singh Property	CLIENT:	Krazan & Associates, Inc.
ADDRESS:	2045 N. Armstrong Avenue Fresno CA 93727	CONTACT:	Melanie Thomas
LAT/LONG:	36.765448 / 119.675436	INQUIRY #:	7572019.2s
		DATE:	February 16, 2024 8:02 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
NE
1/4 - 1/2 Mile
Higher

CA WELLS **CADDW2000024165**

GAMA:

Well ID:	CA1010007_697_697	Well Type:	MUNICIPAL
Source:	DDW	Other Names:	1010007-697
GAMA Pfas testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=CA1010007_697_697&store_num=		
GeoTracker Data:	Not Reported		

2
ENE
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000177437**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	013S021E27Q001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19610118	Well Depth:	92
Well Depth Units:	ft	Well Hole Depth:	196
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1963-10-21
Feet below surface:	28.91	Feet to sea level:	Not Reported
Note:	Not Reported		

3
NW
1/4 - 1/2 Mile
Lower

CA WELLS **CADWR9000030351**

State Well #:	13S21E27M001M	Station ID:	14124
Well Name:	Not Reported	Basin Name:	Kings
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

A4
South
1/4 - 1/2 Mile
Lower

CA WELLS **CADWR0000038126**

Well ID:	13S21E34A003M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	13S21E34A003M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=13S21E34A003M&store_num=		

GeoTracker Data: Not Reported

A5
South **CA WELLS** **CADWR0000022680**
1/4 - 1/2 Mile
Lower

Well ID:	13S21E34A002M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	13S21E34A002M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=13S21E34A002M&store_num=		
GeoTracker Data:	Not Reported		

6
SW **CA WELLS** **CAEDF0000029692**
1/4 - 1/2 Mile
Lower

Well ID:	AGW080012755-801	Well Type:	MONITORING
Source:	Agricultural Lands	Other Name:	801
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=AGLAND&samp_date=&global_id=AGW080012755&assigned_name=801&store_num=		
GeoTracker Data:	Not Reported		

7
South **CA WELLS** **CADWR9000030209**
1/2 - 1 Mile
Lower

State Well #:	13S21E34L001M	Station ID:	14130
Well Name:	Not Reported	Basin Name:	Kings
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

B8
SSE **CA WELLS** **CADWR0000027318**
1/2 - 1 Mile
Lower

Well ID:	13S21E35D003M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	13S21E35D003M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=13S21E35D003M&store_num=		
GeoTracker Data:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

B9
SSE **CA WELLS** **CADWR0000020242**
1/2 - 1 Mile
Lower

Well ID:	13S21E35D002M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	13S21E35D002M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=13S21E35D002M&store_num=		
GeoTracker Data:	Not Reported		

B10
SSE **CA WELLS** **CADWR0000024029**
1/2 - 1 Mile
Lower

Well ID:	13S21E35D001M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	13S21E35D001M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=13S21E35D001M&store_num=		
GeoTracker Data:	Not Reported		

C11
SE **CA WELLS** **CADWR9000030217**
1/2 - 1 Mile
Higher

State Well #:	13S21E34H002M	Station ID:	14129
Well Name:	Not Reported	Basin Name:	Kings
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

C12
SE **FED USGS** **USGS40000177334**
1/2 - 1 Mile
Higher

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	013S021E34H001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1960	Well Depth:	156
Well Depth Units:	ft	Well Hole Depth:	156
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1963-10-21
Feet below surface:	28.13	Feet to sea level:	Not Reported

Note: Not Reported

13
ESE **FED USGS** **USGS40000177378**
1/2 - 1 Mile
Higher

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	013S021E34A001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	160
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1963-10-21
Feet below surface:	27.33	Feet to sea level:	Not Reported
Note:	Not Reported		

C14
SE **CA WELLS** **CADWR0000022883**
1/2 - 1 Mile
Higher

Well ID:	13S21E35C001M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	13S21E35C001M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=13S21E35C001M&store_num=		
GeoTracker Data:	Not Reported		

C15
SE **CA WELLS** **CADWR0000012242**
1/2 - 1 Mile
Higher

Well ID:	13S21E35C002M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	13S21E35C002M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=13S21E35C002M&store_num=		
GeoTracker Data:	Not Reported		

C16
SE **CA WELLS** **CADWR0000007207**
1/2 - 1 Mile
Higher

Well ID:	13S21E35C003M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	13S21E35C003M	GAMA PFAS Testing:	Not Reported

Groundwater Quality Data: https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=13S21E35C003M&store_num=
GeoTracker Data: Not Reported

D17
NW
1/2 - 1 Mile
Lower

CA WELLS **CALLNL000001148**

Well ID:	101410	Well Type:	MUNICIPAL
Source:	Lawrence Livermore National Laboratory		
Other Name:	13S/21E-28H01 M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	Not Reported		
GeoTracker Data:	Not Reported		

Chemical:	Helium-4	Results:	.000000206847
Units:	cm3STP/g	Date:	04/10/2003
Chemical:	Krypton	Results:	.0000000760114
Units:	cm3STP/g	Date:	04/10/2003
Chemical:	Neon	Results:	.000000233952
Units:	cm3STP/g	Date:	04/10/2003
Chemical:	Xenon	Results:	.000000010394
Units:	cm3STP/g	Date:	04/10/2003
Chemical:	Tritium (Hydrogen 3)	Results:	10.62
Units:	pCi/L	Date:	05/15/2003
Chemical:	Helium-3/Helium-4	Results:	.000000923131
Units:	atom ratio	Date:	04/10/2003
Chemical:	Argon	Results:	.000342302
Units:	cm3STP/g	Date:	04/10/2003

D18
NW
1/2 - 1 Mile
Lower

CA WELLS **11823**

Seq:	11823	Prim sta c:	13S/21E-28H01 M
Frds no:	1010007235	County:	10
District:	11	User id:	AGE
System no:	1010007	Water type:	G
Source nam:	WELL 101	Station ty:	WELL/AMBNT/MUN/INTAKE
Latitude:	364622.0	Longitude:	1194105.0
Precision:	2	Status:	AU
Comment 1:	Not Reported	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported

Comment 7:	Not Reported		
System no:	1010007	System nam:	Fresno, City Of
Hqname:	Not Reported	Address:	2326 FRESNO STREET
City:	FRESNO	State:	CA
Zip:	93721	Zip ext:	2988
Pop serv:	390350	Connection:	99005
Area serve:	CITY OF FRESNO		

D19
NW
1/2 - 1 Mile
Lower

CA WELLS **CADDW2000021689**

GAMA:

Well ID:	CA1010007_614_614	Well Type:	MUNICIPAL
Source:	DDW	Other Names:	1010007-614
GAMA Pfas testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=CA1010007_614_614&store_num=		
GeoTracker Data:	Not Reported		

D20
NW
1/2 - 1 Mile
Lower

CA WELLS **CAUSGSN00005702**

Well ID:	USGS-364619119411301	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-364619119411301	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-364619119411301&store_num=		
GeoTracker Data:	Not Reported		

D21
NW
1/2 - 1 Mile
Lower

CA WELLS **CADDW2000014838**

GAMA:

Well ID:	CA1010007_235_235	Well Type:	MUNICIPAL
Source:	DDW	Other Names:	1010007-235
GAMA Pfas testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=CA1010007_235_235&store_num=		
GeoTracker Data:	Not Reported		

D22
NW
1/2 - 1 Mile
Lower

FED USGS **USGS40000177486**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	013S021E28H001M	Type:	Well

Description:	Not Reported	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19810603	Well Depth:	500
Well Depth Units:	ft	Well Hole Depth:	520
Well Hole Depth Units:	ft		

23
NNE **CA WELLS** **CADDW2000007396**
1/2 - 1 Mile
Higher

GAMA:

Well ID:	CA1010007_618_618	Well Type:	MUNICIPAL
Source:	DDW	Other Names:	1010007-618
GAMA Pfas testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=CA1010007_618_618&store_num=		
GeoTracker Data:	Not Reported		

24
SSW **CA WELLS** **CAEDF0000028502**
1/2 - 1 Mile
Lower

Well ID:	AGW080012756-802	Well Type:	MONITORING
Source:	Agricultural Lands	Other Name:	802
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=AGLAND&samp_date=&global_id=AGW080012756&assigned_name=802&store_num=		
GeoTracker Data:	Not Reported		

25
SE **CA WELLS** **CADWR9000030170**
1/2 - 1 Mile
Lower

State Well #:	13S21E34J002M	Station ID:	34099
Well Name:	13S21E34J002M	Basin Name:	Kings
Well Use:	Residential	Well Type:	Single Well
Well Depth:	100	Well Completion Rpt #:	00071931

26
WNW **FED USGS** **USGS40000177477**
1/2 - 1 Mile
Lower

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	013S021E28K001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported

Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19611122	Well Depth:	108
Well Depth Units:	ft	Well Hole Depth:	133
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1963-10-21
Feet below surface:	43.42	Feet to sea level:	Not Reported
Note:	Not Reported		

E27
South
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000030144**

State Well #:	13S21E34P001M	Station ID:	14132
Well Name:	Not Reported	Basin Name:	Kings
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

E28
South
1/2 - 1 Mile
Lower

CA WELLS **CADWR0000000972**

Well ID:	13S21E34J003M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	13S21E34J003M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=13S21E34J003M&store_num=		
GeoTracker Data:	Not Reported		

29
North
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000030507**

State Well #:	13S21E27C001M	Station ID:	34095
Well Name:	Not Reported	Basin Name:	Kings
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

30
ENE
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000030383**

State Well #:	13S21E26L001M	Station ID:	14123
Well Name:	Not Reported	Basin Name:	Kings
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

F31
SW
1/2 - 1 Mile
Lower

FED USGS **USGS40000177295**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	013S021E33K001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19460508	Well Depth:	43
Well Depth Units:	ft	Well Hole Depth:	102
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1963-10-21
Feet below surface:	44.23	Feet to sea level:	Not Reported
Note:	Not Reported		

F32
SW
1/2 - 1 Mile
Lower

CA WELLS **CAUSGSN00015375**

Well ID:	USGS-364521119411401	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-364521119411401	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-364521119411401&store_num=		
GeoTracker Data:	Not Reported		

33
SSW
1/2 - 1 Mile
Lower

CA WELLS **CADWR0000012179**

Well ID:	13S21E34K001M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	13S21E34K001M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=13S21E34K001M&store_num=		
GeoTracker Data:	Not Reported		

34
SE
1/2 - 1 Mile
Lower

FED USGS **USGS40000177256**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	013S021E34S001M	Type:	Well
Description:	Not Reported	HUC:	18030012

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19580514	Well Depth:	80
Well Depth Units:	ft	Well Hole Depth:	110
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1963-10-21
Feet below surface:	28.14	Feet to sea level:	Not Reported
Note:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
93727	20	0

Federal EPA Radon Zone for FRESNO County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 93727

Number of sites tested: 6

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.433 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

OTHER STATE DATABASE INFORMATION

Groundwater Ambient Monitoring & Assessment Program
State Water Resources Control Board
Telephone: 916-341-5577
The GAMA Program is Californias comprehensive groundwater quality monitoring program. GAMA collects data by testing the untreated, raw water in different types of wells for naturally-occurring and man-made chemicals. The GAMA data includes Domestic, Monitoring and Municipal well types from the following sources, Department of Water Resources, Department of Heath Services, EDF, Agricultural Lands, Lawrence Livermore National Laboratory, Department of Pesticide Regulation, United States Geological Survey, Groundwater Ambient Monitoring and Assessment Program and Local Groundwater Projects.

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

PHYSICAL SETTING SOURCE RECORDS SEARCHED

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

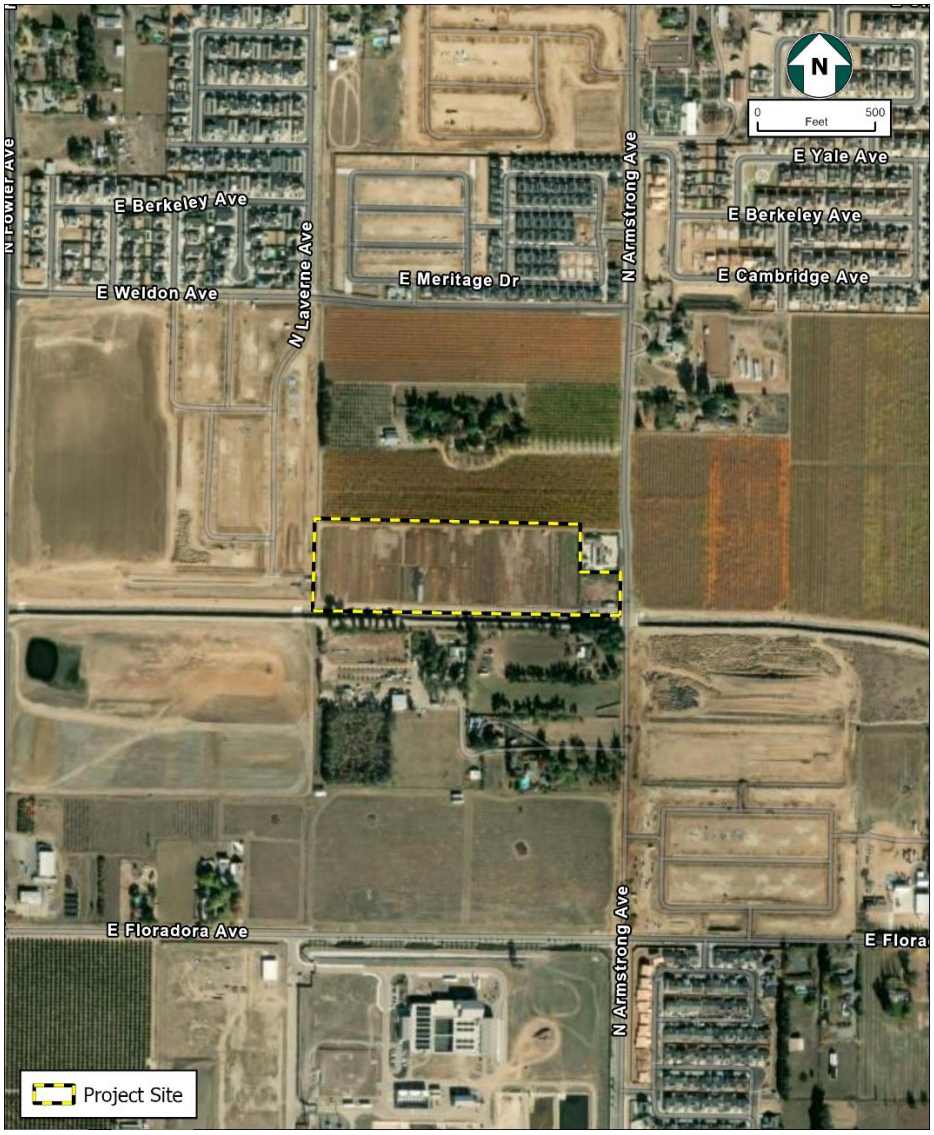
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Appendix G

WATER SUPPLY ASSESSMENT

LENNAR

TENTATIVE TRACT MAP 6475



OCTOBER 2024

WATER SUPPLY ASSESSMENT

TENTATIVE TRACT MAP 6475
PROPERTY

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Project #240186

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Appendices

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SECTION 1 - INTRODUCTION

1.1 - Regulatory Requirement

Senate Bill 610 (Chapter 643, Statutes of 2001) amended state law, effective January 1, 2002, to improve the link between information on water supply availability and land use decisions made by cities and counties. The statute requires detailed information regarding water availability to be provided to city and county decision-makers prior to approval of specified large development projects which are subject to CEQA (the California Environmental Quality Act) approval. These include residential, commercial, and industrial uses. The statute also requires this detailed information to be included in the administrative record that serves as the evidentiary basis for an entitlement action by the city or county on such projects. The statute-required water supply assessment (WSA) must examine the availability and sufficiency of an identified water supply under normal-year, single-dry-year, and multiple-dry-year conditions over a 20-year projection, accounting for the projected water demand of the project in addition to other existing and planned future uses of the identified water supply.

The State Department of Water Resources "Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001" (Guidebook) and the sample format presented in the Guidebook were used as guides in preparing this water supply assessment. Pertinent excerpts from the law stipulating requirements for water supply assessments precede Sections of this report. The full text of Chapter 643, Statutes of 2001 (SB 610) is included in Appendix A.

1.2 - Project Description and Location

. The project site is located on the north side of Mill Ditch, between Armstrong Avenue and Fowler Avenue (Figure 1-1 and Figure 1-2) in the City of Fresno (City). The project is within Section 27, Township 13 South, Range 21 East, Mount Diablo Base and Meridian (MDB&M).

The proposed project site is currently under agricultural cultivation and is bounded by agricultural land to the north and east, rural residential development to the south and properties under residential development to the west. The property is designated as Residential Medium Density by the City of Fresno General Plan .

The project is an approximately 8.73-acre parcel in eastern Fresno. The proposed property will have 53 single family residential lots developed on a net 5.42-acre portion of the 8.73-acre parcel (Figure 1-3). The existing residence on the northeast corner of the site is excluded from the proposed project.

1.3 - Project Water Requirements and Setting

Water needed for construction will be supplied from the City, which obtains groundwater from wells located on land within the City or surface water from the Friant-Kern Canal. The current water distribution system is adjacent to the project site. The construction process is estimated to take approximately 12 months. Construction water demands are estimated to

be approximately 225 gpd/acre for the duration of construction or 2.2 acre-feet, which is equivalent to approximately 717,000 gallons. Bottled drinking water will be provided for crews during construction activities.

Initial construction water usage will be in support of site preparation and grading activities. During earthwork for grading of access road foundations, building foundations and project components, the principal use of water would be for compaction and dust control. Smaller quantities would be required for preparation of the concrete required for foundations and other minor uses. After the earthwork activities, water usage will be used for dust suppression and normal construction water requirements that are associated with construction of the buildings, internal access roads, and revegetation.

The long-term average day operational water demand will be for the residential users and is anticipated to be approximately 13.41 million gallons per year or 47.89 acre-feet per year for the total build out of the project. This is based on each residential unit having an average day water demand of 693 gallons per day (based on the 198-gallon per capita/day average in the 2020 City of Fresno Urban Water Management Plan and 3.5 people per unit) across the entire buildout of 53 units for the project.

Figures 1-4 and 1-5 illustrate the location of the project site within the Tulare Lake Hydrologic Region, the San Joaquin Valley Groundwater Basin and the Kings Subbasin, and the borders of these water resource areas. Construction and operational water for the project will be from sources pumping groundwater from this basin or from the City surface water treatment plants. The Kings Subbasin does not have any adjudicated areas.

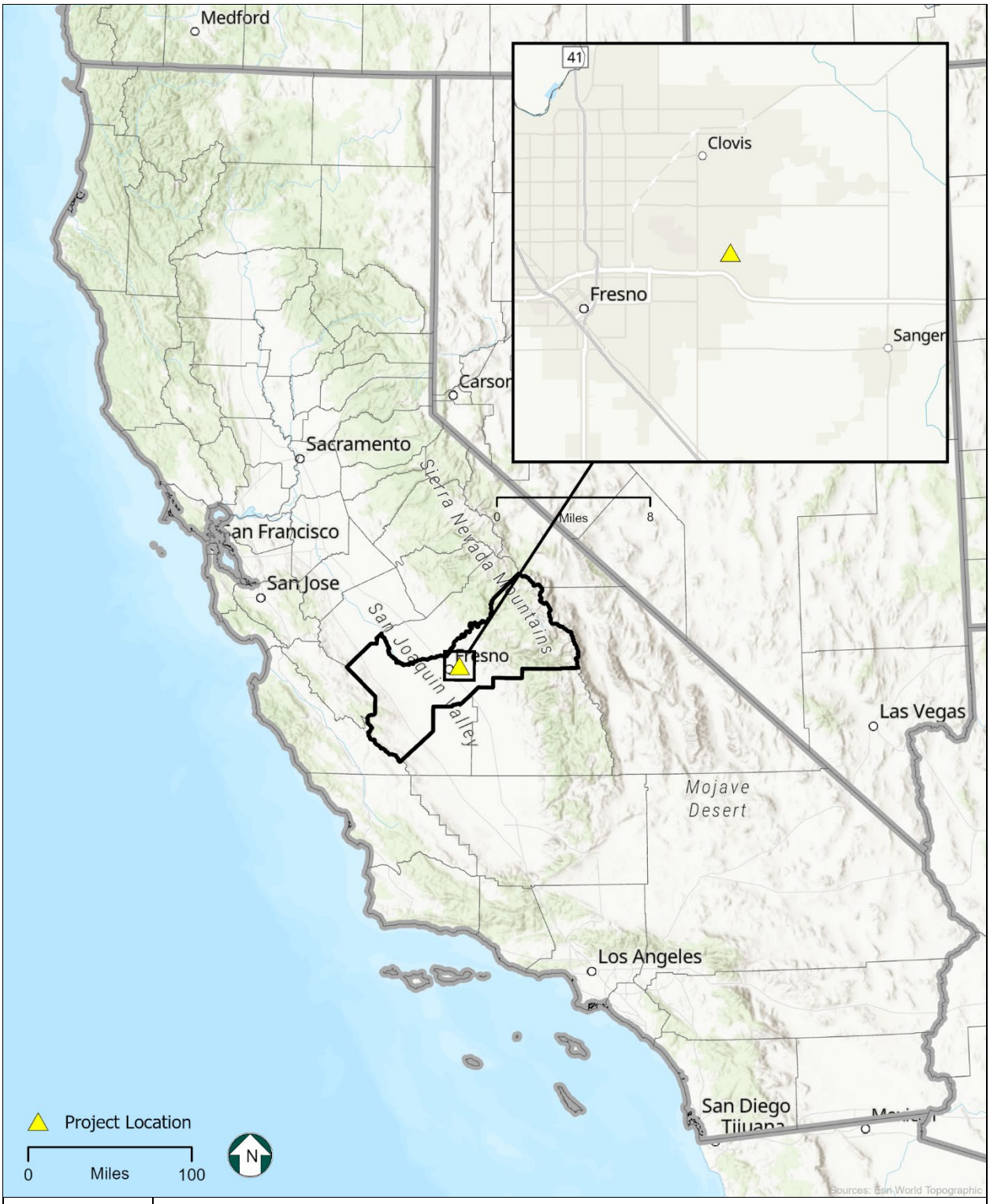


Figure 1-1
Regional Location

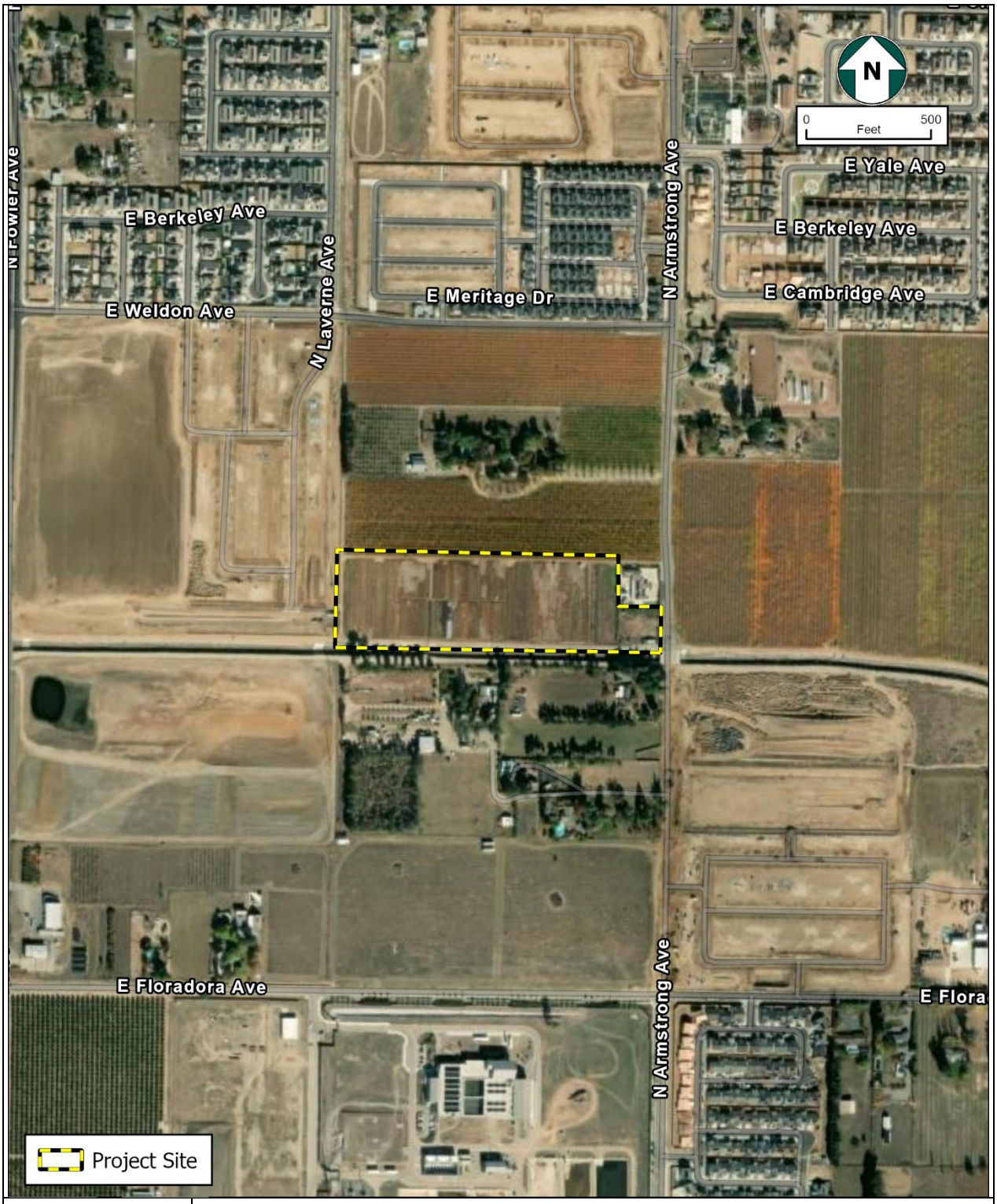


Figure 1-2
Project Site

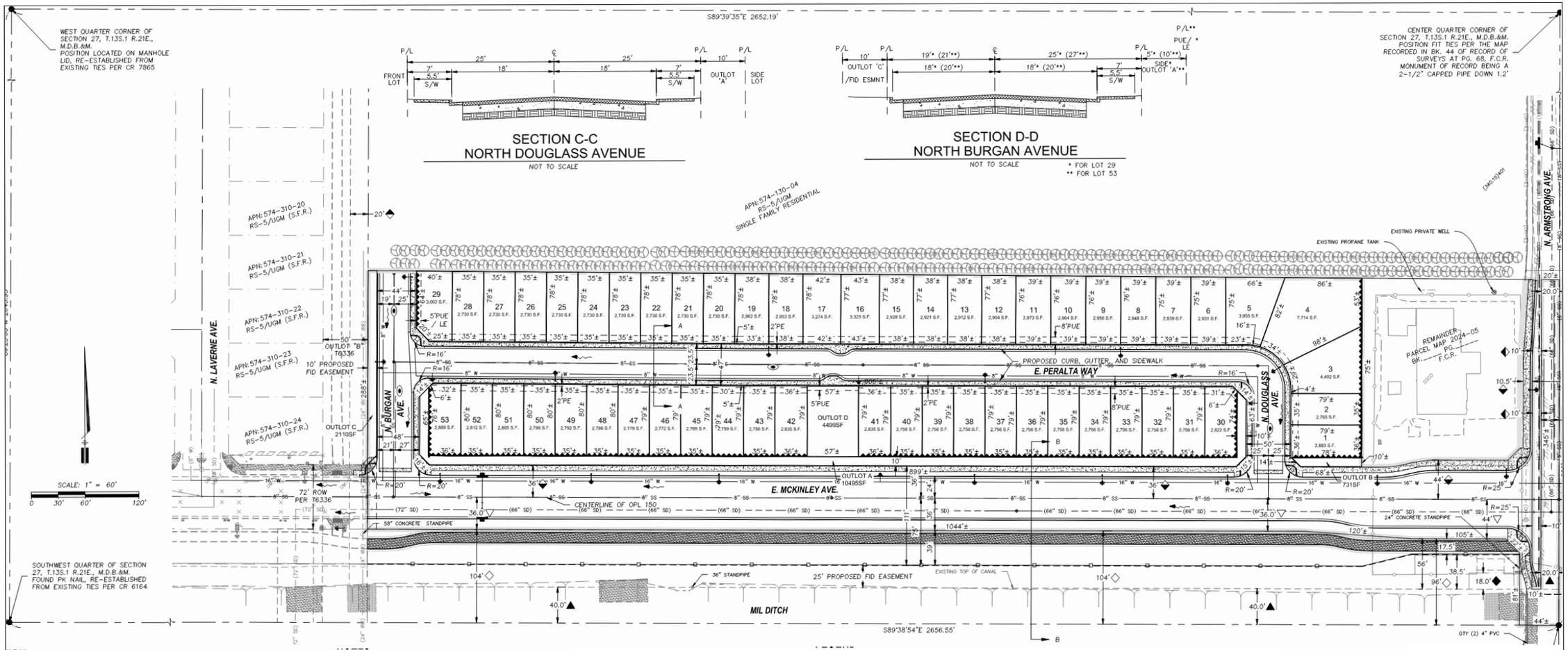


Figure 1-3
Project Site – Tentative Tract Map

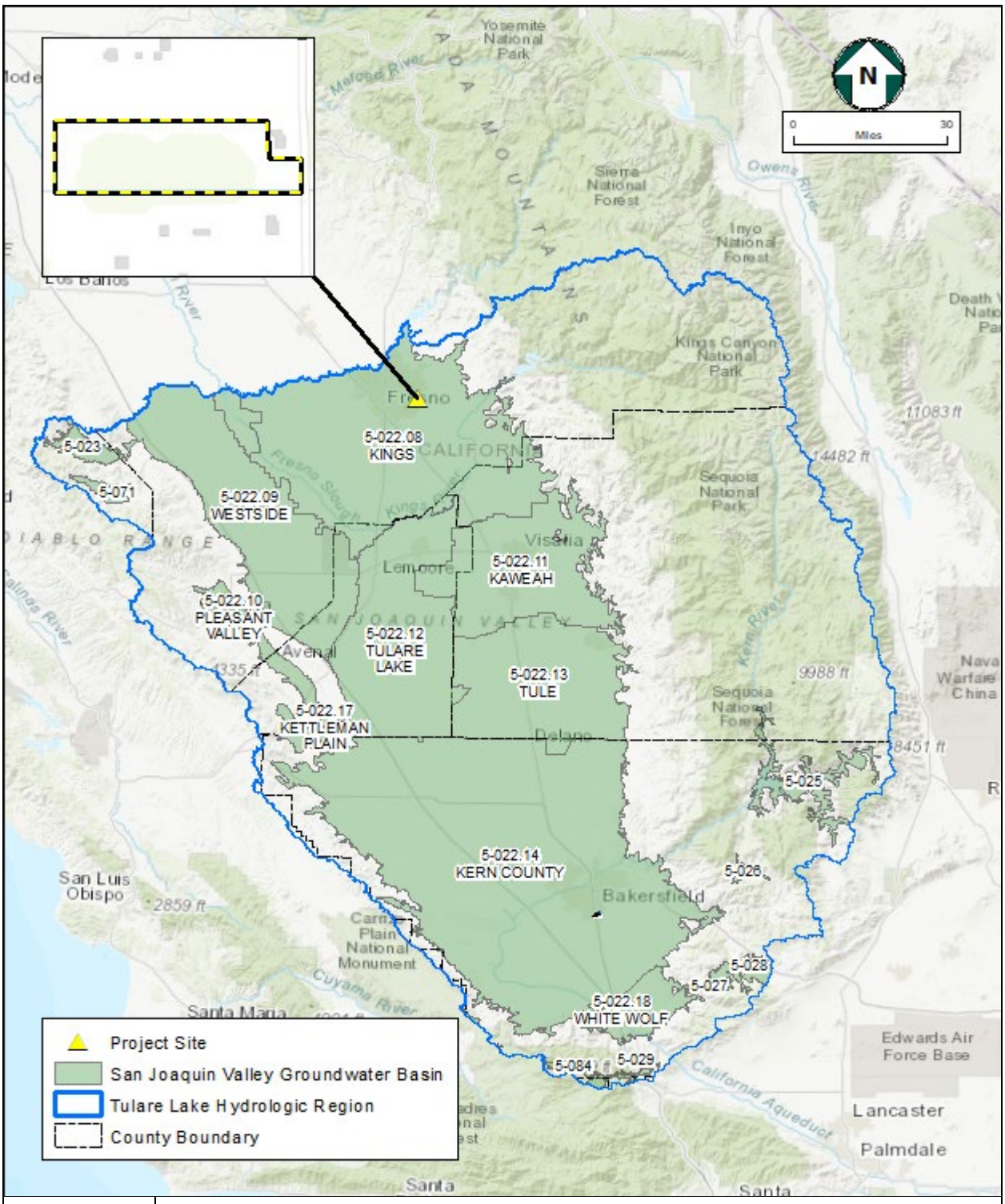


Figure 1-4
Tulare Lake Hydrologic Region

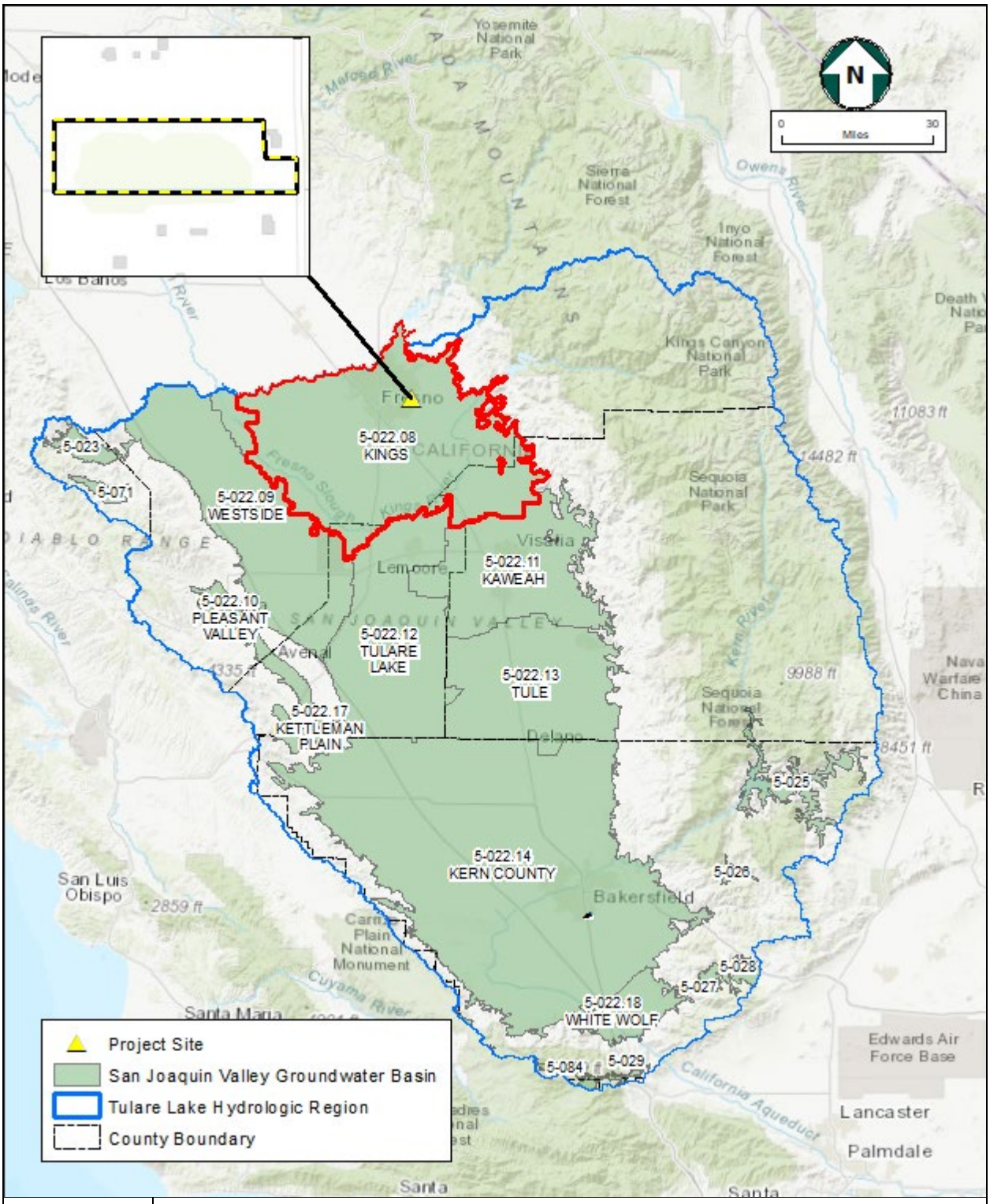


Figure 1-5
Kings Groundwater Subbasin

SECTION 2 - WATER RESOURCES/WATER SUPPLY

2.1 - Proposed Water Supply

The project will be served by a public water system as required by Water Code section 10910(b). The purpose of the Water Supply Assessment is to determine "If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g). If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses."

The City of Fresno is required to adopt an urban water management plan since the city serves more than 3,000 connections. The 2020 UWMP will be used for this water supply assessment. The 2020 UWMP will be used to obtain the following:

> "a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project."

In making the sufficiency determination, the public water system shall include an assessment of the following from Water Code Section 10910.

Water Code Section 10910

> (a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.
>
> (b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system whose service area includes the project site and any water system adjacent to the project site that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined in Section 10912, that may supply water for the project. If the city or county is not able to identify any public

water system that may supply water for the project, the city or county shall prepare the water assessment required by this part after consulting with any entity serving domestic water supplies whose service area includes the project site, the local agency formation commission, and any public water system adjacent to the project site.

(c) (1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

The project area consists of the General Plan land use of Residential Medium Density. The long-term average day operational water demand will be for the residential users and is anticipated to be approximately 13.41 million gallons per year or 47.89 acre-feet per year for the total build out of the project. This is based on each residential unit having an average day water demand of 693 gallons per day (based on the 198-gallon per capita/day average in the 2020 City of Fresno Urban Water Management Plan and 3.5 people per unit) across the entire buildout of 53 units for the project.

Project water supply during construction and for the developed properties is proposed to be from the City of Fresno.

2.2 - Hydrologic Region

The Water Supply Assessment evaluates the physical availability of and adequate groundwater supply, in all "water years" for a 20-year period.

This Assessment describes the relevant Hydrologic Region, Basin, and Subbasin, describes the principal water agency (City of Fresno) serving and regulating Basin water planning and surface water importation, and lists water sufficiency and planning documents regarding the Basin. Section 3 includes the latest (2020) City of Fresno projection of water availability (ground) for the Basin for a 20-year period under the normal, single dry and multiple dry year scenarios, as required by SB 610.

Water Code Section 10910

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water assessment:

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2)(A) A description of any groundwater basin or basins from which the proposed project will be supplied.

(B) For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree.

(C) For a basin that has not been adjudicated that is a basin designated as high- or medium-priority pursuant to Section 10722.4 , information regarding the following:

(i) Whether the department has identified the basin as being subject to critical conditions of overdraft pursuant to Section 12924 .

(ii) If a groundwater sustainability agency has adopted a groundwater sustainability plan or has an approved alternative, a copy of that alternative or plan.

(D) For a basin that has not been adjudicated that is a basin designated as low- or very low priority pursuant to Section 10722.4 , information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

2.2.1 - GROUNDWATER - THE TULARE LAKE HYDROLOGIC REGION

The California Department of Water Resources, (DWR) has divided the State into 10 Hydrologic Regions. The project site is located within the Tulare Lake Hydrologic Region in a Basin ranked as "high priority" in a statewide ranking of groundwater importance. The Region encompasses approximately 16,800 square miles (see Figure 1-4).

2.2.2 - THE KINGS GROUNDWATER SUBBASIN

As shown in Figure 2-1, the City of Fresno is located in the Kings Subbasin (DWR Subbasin 5-22.08) which is in the greater Tulare Lake hydrologic region (DWR Basin 5.22), and also within the larger San Joaquin Valley Groundwater Basin (CA Natural Resources Agency, 2018). The Kings Subbasin covers approximately 1,530 square miles. The Kings Subbasin is generally bounded: on the north by the San Joaquin River; on the west by the Fresno Slough; on the south by the Kings River and Cottonwood Creek; and on the east by the Sierra foothills.

Groundwater in the Basin is used for all water supply for the City of Fresno. The city participates in and is a member of the North Kings Groundwater Sustainability Agency (NKGSA). The NKGSA adopted a Groundwater Sustainability Plan on December 2019.

2.2.3 - SURFACE WATER

Surface water is now a primary water supply used to meet potable demands within the City. The City contracts with FID (Fresno Irrigation District) for Kings River water and with the USBR (United States Bureau of Reclamation) for CVP (Central Valley Project) water from the Friant-Kern Canal. The surface water supply is used either for potable uses through treatment and distribution or delivery to recharge basins for groundwater recharge.

The City, through an agreement originally executed in January 1961, secured a surface water supply from USBR CVP Friant Division. This agreement, for an annual water supply of 60,000 AF of Class 1 water, was last renewed in 2010 as a Section 9(d) contract that provides water from the San Joaquin River in perpetuity. The USBR CVP Friant Division facilities generally include: Friant Dam (Millerton Reservoir), the Friant-Kern Canal, and the Madera Canal. The Friant-Kern Canal is maintained and operated by the Friant Water Authority. The USBR water supply is a wholesale supply.

Construction of Friant Dam was completed in 1947 and began making diversions to the Friant- Kern Canal in 1949. Full operations of the CVP Friant Division did not commence until the Madera Canal was completed in 1951. Class 1 water was intended to be a supply that would be dependable in practically every year, regardless of the type of hydrologic WY. Class 2 water is essentially excess water available as determined by USBR and less reliable than Class 1 water.

Class 1 water has historically been very reliable until the 2006 San Joaquin River Restoration Settlement Agreement between the Department of the Interior and Commerce, the Natural Resources Defense Council, and the Friant Water Users Authority (which is now the Friant

Water Authority). The City is a member of the Friant Water Authority. The Settlement ended an 18-year legal dispute over the operation of Friant Dam brought by a coalition of conservation and fishing groups. The agreement characterized Class 1 deliveries by six hydrologic year types based on a recurrence over an 82-year simulation (1922–2003): wet, normal-wet, normal-dry, dry, critical- high, critical-low. The average simulated delivery is 53,680 AFY and the median simulated delivery, which is similar to normal year delivery, is 60,000 AFY. The median value is higher than the average value because 100% allocation of 60,000 AF is simulated in 50 of 82 years but the dry and critical years result in substantial reductions, which bring down the average allocation.

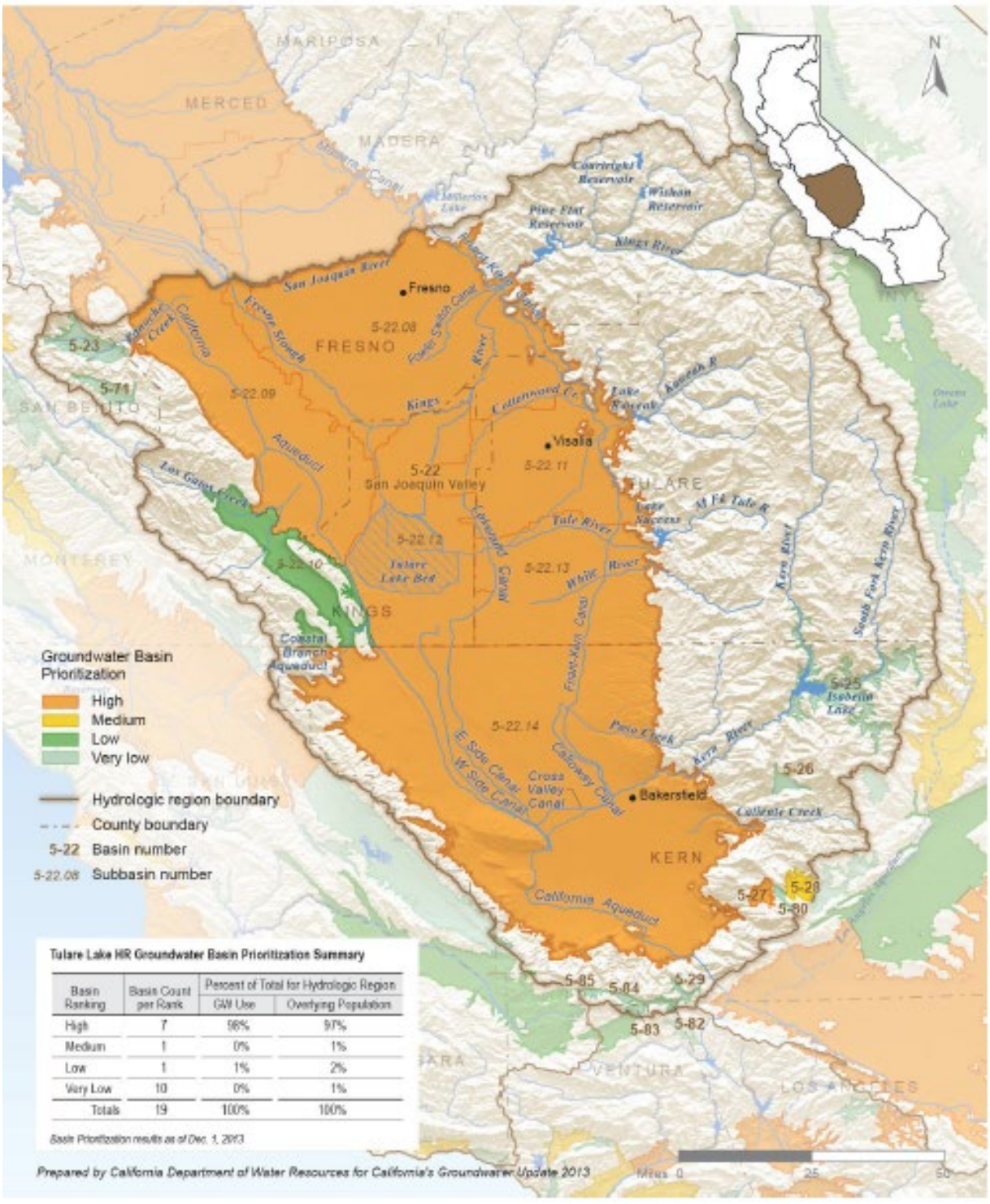


Figure 2-1
Tulare Lake Groundwater Basin Prioritization

2.3 - City of Fresno – 2020 UWMP

The proposed water for the project is located within the City of Fresno Sphere of Influence. As such, the city has detailed information regarding groundwater in the area.

The city has an estimated service population of approximately 550,217 people. In 2020, approximately 121,993 acre-feet (39,752 million gallons) of water was delivered to an estimated 140,150 water service connections of which approximately 91% of the water use is for residential services. The remainder are for commercial and industrial uses.

The city currently utilizes local groundwater and surface water as its source of water supply. Groundwater is extracted by 270 wells located within the city's sphere of influence. In addition to production wells, the city has three surface water treatment facilities.

The Planning Documents

The following documents were essential to the development of this report:

- City of Fresno, 2020 Urban Water Management Plan, July 2021
- North Kings GSA Groundwater Sustainability Plan (GSP), December 2019
- Department of Water Resources Bulletin 118

SECTION 3 - WATER SUPPLY SUFFICIENCY

Water Code Section 10910, Section 4.5

…(c)(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single, dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

The sufficiency of the project water supply is analyzed on two bases: the physical availability of the city to provide water in the amounts required for project construction and operation; and the estimates (in the 2020 City of Fresno Urban Water Management Plan) of normal water years, single dry water year and multiple dry water years, water supply and demand-related water availability with respect to projected water demand during a 20-year projection. The city is a participant in the North Kings Groundwater Sustainability Agency (SKGSA) that adopted a GSP in December 2019. The 2020 Urban Water Management Plan is in compliance with the NKGSA GSPs.

3.1 - Physical Availability

The information regarding the physical availability of water at and near to the project site supports the conclusion that the groundwater aquifer pumping history are sufficient for both project construction and project operation and that there will be sufficient water to serve project needs for 20 years under the water scenarios described below.

3.2 - The 2020 City of Fresno, Urban Water Management Plan – Water Years Adequacy Projections

The following text excerpted from the Urban Water Management Plan illustrates the total groundwater resources available to the City, and the projected usage demand on such supplies through 2045. The following text extract (Section 7.1.4 of the UWMP) explains the city water supply adequacy:

> *…the City is projected to have greater than 100,000 AF of available supply after meeting demands in normal years. The City's surface water supplies are reduced in a single dry year, but all potable demands are met and groundwater recharge of raw surface water is reduced. The City is projected to meet all demands during a five-year drought with its existing supplies. Potable demands are unrestricted, and non-potable water used for groundwater recharge is reduced in years three and four of a five-year drought.*

The following tables from the 2020 City of Fresno Urban Water Master Plan show the supply and demand comparisons for a normal year, single dry year, and five consecutive dry years.

3.2.1 - AVERAGE (OR NORMAL) YEAR

Normal year supply and demand projections and differences are presented in Table 3-1 (Table 7-1 in UWMP).

Table 3-1
Normal Year Supply and Demand Comparison (AF)

Table 7-1. Normal Year Supply and Demand Comparison (DWR 7-2R)

	2025	2030	2035	2040	2045
Groundwater	138,090	143,630	149,100	154,490	159,820
Surface Water – USBR	60,000	60,000	60,000	60,000	60,000
Surface Water – FID	125,030	131,600	131,600	131,600	131,600
Recycled Water	5,910	5,910	5,910	5,910	5,910
SUPPLY TOTALS	**329,030**	**341,140**	**346,610**	**352,000**	**357,330**
Potable Demand	136,504	147,356	154,210	161,076	167,947
Non-Potable (Groundwater Recharge) Demand	62,700	65,400	68,100	70,800	73,500
DEMAND TOTALS	**199,204**	**212,756**	**222,310**	**231,876**	**241,447**
DIFFERENCE:	**129,826**	**128,384**	**124,300**	**120,124**	**115,883**

As shown in Table 3-1, future water supplies are anticipated to be meet.

3.2.2 - SINGLE DRY YEAR

Projected supplies were compared to the increased demands for a single-dry year and are presented in Table 3-2 (Table 7-2 in UWMP).

Table 3-2
Retail: Single Dry Year Supply and Demand Comparison (AF)

Table 7-2. Single Dry Year Supply and Demand Comparison (DWR 7-3R)

	2025	2030	2035	2040	2045
Groundwater	138,090	143,630	149,100	154,490	159,820
Surface Water – USBR	0	0	0	0	0
Surface Water – FID	45,852	45,852	45,852	45,852	45,852
Recycled Water	5,910	5,910	5,910	5,910	5,910
SUPPLY TOTALS	**189,852**	**195,392**	**200,862**	**206,252**	**211,582**
Potable Demand	136,504	147,356	154,210	161,076	167,947
Non-Potable (Groundwater Recharge) Demand	27,588	28,776	29,964	31,152	32,340
DEMAND TOTALS	**164,092**	**176,132**	**184,174**	**192,228**	**200,287**
DIFFERENCE:	**25,760**	**19,260**	**16,688**	**14,024**	**11,295**

As shown in Table 3-2, anticipated groundwater supplies are sufficient to meet all demands through the year 2045 even under single-year drought conditions.

3.2.3 - Five Consecutive Dry-Year Reliability Assessment

Projected supplies were compared to the increased demands for five-consecutive dry-year scenarios and are presented in Table 3-3 (Table 7-3 in UWMP).

Table 3-3
Retail: Five Consecutive Dry Years Supply and Demand Comparison (AF)

Table 7-3. Multiple Dry Years Supply and Demand Comparison (DWR 7-4R)

		2025	2030	2035	2040	2045
FIRST YEAR	Groundwater	138,090	143,630	149,100	154,490	159,820
	Surface Water – USBR	30,000	30,000	30,000	30,000	30,000
	Surface Water – FID	99,725	99,725	99,725	99,725	99,725
	Recycled Water	5,910	5,910	5,910	5,910	5,910
	SUPPLY TOTALS	**273,725**	**279,265**	**284,735**	**290,125**	**295,455**
	Potable Demand	136,504	147,356	154,210	161,076	167,947
	Non-Potable Demand	62,700	65,400	68,100	70,800	73,500
	DEMAND TOTALS	**199,204**	**212,756**	**222,310**	**231,876**	**241,447**
	DIFFERENCE:	**74,521**	**66,509**	**62,425**	**58,249**	**54,008**
SECOND YEAR	Groundwater	138,090	143,630	149,100	154,490	159,820
	Surface Water – USBR	37,200	37,200	37,200	37,200	37,200
	Surface Water – FID	93,426	93,426	93,426	93,426	93,426
	Recycled Water	5,910	5,910	5,910	5,910	5,910
	SUPPLY TOTALS	**274,626**	**280,166**	**285,636**	**291,026**	**296,356**
	Potable Demand	136,504	147,356	154,210	161,076	167,947
	Non-Potable Demand	62,700	65,400	68,100	70,800	73,500
	DEMAND TOTALS	**199,204**	**212,756**	**222,310**	**231,876**	**241,447**
	DIFFERENCE:	**75,422**	**67,410**	**63,326**	**59,150**	**54,909**
THIRD YEAR	Groundwater	138,090	143,630	149,100	154,490	159,820
	Surface Water – USBR	0	0	0	0	0
	Surface Water – FID	73,568	73,568	73,568	73,568	73,568
	Recycled Water	5,910	5,910	5,910	5,910	5,910
	SUPPLY TOTALS	**217,568**	**223,108**	**228,578**	**233,968**	**239,298**
	Potable Demand	136,504	147,356	154,210	161,076	167,947
	Non-Potable Demand	53,763	46,281	43,526	40,677	37,761
	DEMAND TOTALS	**190,267**	**193,637**	**197,736**	**201,753**	**205,708**
	DIFFERENCE:	**27,301**	**29,471**	**30,842**	**32,215**	**33,589**

		2025	2030	2035	2040	2045
FOURTH YEAR	Groundwater	138,090	143,630	149,100	154,490	159,820
	Surface Water – USBR	0	0	0	0	0
	Surface Water – FID	45,852	45,852	45,852	45,852	45,852
	Recycled Water	5,910	5,910	5,910	5,910	5,910
	SUPPLY TOTALS	**189,852**	**195,392**	**200,862**	**206,252**	**211,582**
	Potable Demand	136,504	147,356	154,210	161,076	167,947
	Non-Potable Demand	26,047	18,564	15,810	12,960	10,045
	DEMAND TOTALS	**162,551**	**165,920**	**170,020**	**174,036**	**177,992**
	DIFFERENCE:	**27,301**	**29,471**	**30,842**	**32,215**	**33,589**
FIFTH YEAR	Groundwater	138,090	143,630	149,100	154,490	159,820
	Surface Water – USBR	45,000	45,000	45,000	45,000	45,000
	Surface Water – FID	125,840	125,840	125,840	125,840	125,840
	Recycled Water	5,910	5,910	5,910	5,910	5,910
	SUPPLY TOTALS	**314,840**	**320,380**	**325,850**	**331,240**	**336,570**
	Potable Demand	136,504	147,356	154,210	161,076	167,947
	Non-Potable Demand	62,700	65,400	68,100	70,800	73,500
	DEMAND TOTALS	**199,204**	**212,756**	**222,310**	**231,876**	**241,447**
	DIFFERENCE:	**115,636**	**107,624**	**103,540**	**99,364**	**95,123**

As shown in Table 3-3, anticipated groundwater supplies are sufficient to meet all demands through the year 2045 even under multiple-dry year drought conditions.

The long-term average day operational water demand will be for the residential users and is anticipated to be approximately 13.41 million gallons per year or 47.89 acre-feet per year for the total build out of the project. This is based on each residential unit having an average day water demand of 693 gallons per day (based on the 198-gallon per capita/day average in the 2020 City of Fresno Urban Water Management Plan and 3.5 people per unit) across the entire buildout of 53 units for the project.

The project is within the City Sphere of Influence and growth within the Sphere of Influence is what the UWMP considered in growth from 2025 to 2045. The project water demand is included in the projected increase in water demand of 42,243 MG from 2025 to 2045 (Table 3-3). The project long-term operational water demand is 0.014% (47.89 AF/336,570 AF) of the available water supply in the city.

The tables and accompanying text indicate that the responsible water agency for the project area has taken appropriate steps to assure that the total water supply for the service area will be adequate.

3.3 - Water Supply Management

The California Water Resources has defined the Kings Subbasin as "critically overdrafted". Overdraft occurs where the average annual amount of groundwater extraction exceeds the long-term average annual supply of water to the basin. Sustainable yield is defined as the amount of groundwater pumping that can occur while maintaining groundwater at sustainable levels and avoiding undesirable results. The NKGSA GSP estimates the sustainable yield of the Kings Subbasin at 1,140,000 acre-feet/year. This results in a shortfall of approximately -122,000 acre-feet/year for the entire subbasin (20,800 acre-feet/year initial responsibility for the North Kings GSA).

The NKGSA, along with the other GSAs in the Kings Basin, have determined the overdraft responsibility for each of the GSAs in the Subbasin by estimating their "groundwater impact," which is essentially their groundwater pumping minus any natural and artificial forms of recharge.

According to the NKGSA's GSP, there are several projects within the City of Fresno's geographic area that may be implemented to offset a portion of the GSA's groundwater extraction and eliminate long term overdraft of the Kings subbasin. According to the GSP, each project with be implemented either by the City of Fresno or the GSA. The projects will primarily help stabilize groundwater levels and increase the amount of groundwater in storage. Additionally, the projects can also provide groundwater quality benefits and/or reduce land subsidence. The GSP estimates that these projects would yield an estimated average annual volume of approximately 200,000 acre-feet/year if fully implemented as envisioned.

The project is accounted for in the UWMP and the UWMP is in agreement with the NKGSA GSP. Because of this, the project water demand is available from the groundwater in the area.

SECTION 4 - CONCLUSIONS

This Water Supply Assessment has provided the data and analysis needed to verify that a sufficient project water supply is physically available (Section 3.1) by the end of 2025, and that the project water supply is in accord with SB 610's normal year/dry year/multiple dry year requirements, sufficient (Section 3.2).

It is recommended that the City of Fresno conclude that the proposed water supplies for the project be found sufficient to meet the projected project water demands.

SECTION 5 - REFERENCES

2003. Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001. (online): http://www.water.ca.gov/pubs/use/sb_610_sb_221_guidebook/guidebook.pdf. Accessed February 1, 2021

California Department of Water Resources (DWR). 2015. California's Groundwater Bulletin 118.135 p.

City of Fresno, 2020 Urban Water Management Plan

APPENDIX A

CHAPTER 643, STATUTES OF 2001 (SENATE BILL 610)

Senate Bill No. 610
CHAPTER 643

An act to amend Section 21151.9 of the Public Resources Code, and to amend Sections 10631, 10656, 10910, 10911, 10912, and 10915 of, to repeal Section 10913 of, and to add and repeal Section 10657 of, the Water Code, relating to water.

[Filed with Secretary of State October 09, 2001. Approved by Governor October 09, 2001.]

LEGISLATIVE COUNSEL'S DIGEST

SB 610, Costa. Water supply planning.

(1) Existing law requires every urban water supplier to identify, as part of its urban water management plan, the existing and planned sources of water available to the supplier over a prescribed 5-year period. Existing law prohibits an urban water supplier that fails to prepare or submit its urban water management plan to the Department of Water Resources from receiving drought assistance from the state until the plan is submitted.

This bill would require additional information to be included as part of an urban water management plan if groundwater is identified as a source of water available to the supplier. The bill would require an urban water supplier to include in the plan a description of all water supply projects and programs that may be undertaken to meet total projected water use. The bill would prohibit an urban water supplier that fails to prepare or submit the plan to the department from receiving funding made available from specified bond acts until the plan is submitted. The bill, until January 1, 2006, would require the department to take into consideration whether the urban water supplier has submitted an updated plan, as specified, in determining eligibility for funds made available pursuant to any program administered by the department.

(2) Existing law, under certain circumstances, requires a city or county that determines an environmental impact report is required in connection with a project, as defined, to request each public water system that may supply water for the project to assess, among other things, whether its total projected water supplies will meet the projected water demand associated with the proposed project. Existing law requires the public water system to submit the assessment to the city or county not later than 30 days from the date on which the request was received and, in the absence of the submittal of an assessment, provides that it shall be assumed that the public water system has no information to submit. Existing law makes legislative findings and declarations concerning "Proposition C," a measure approved by the voters of San Diego County relating to regional growth management, and provides that the procedures established by a specified review board established in connection with that measure are deemed to comply with the requirements described above relating to water supply planning by a city or county.

This bill would revise those provisions. The bill, instead, would require a city or county that determines a project is subject to the California Environmental Quality Act to identify any public water system that may supply water for the project and to request those public water systems to

prepare a specified water supply assessment, except as otherwise specified. The bill would require the assessment to include, among other information, an identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project and water received in prior years pursuant to those entitlements, rights, and contracts. The bill would require the city or county, if it is not able to identify any public water system that may supply water for the project, to prepare the water supply assessment after a prescribed consultation. The bill would revise the definition of "project," for the purposes of these provisions, and make related changes.

The bill would prescribe a timeframe within which a public water system is required to submit the assessment to the city or county and would authorize the city or county to seek a writ of mandamus to compel the public water system to comply with requirements relating to the submission of the assessment.

The bill would require the public water system, or the city or county, as applicable, if that entity concludes that water supplies are, or will be, insufficient, to submit the plans for acquiring additional water supplies.

The bill would require the city or county to include the water supply assessment and certain other information in any environmental document prepared for the project pursuant to the act. By establishing duties for counties and cities, the bill would impose a state-mandated local program.

The bill would provide that the County of San Diego is deemed to comply with these water supply planning requirements if the Office of Planning and Research determines that certain requirements have been met in connection with the implementation of "Proposition C."

(3) The bill would incorporate additional changes in Section 10631 of the Water Code proposed by AB 901, to be operative only if this bill and AB 901 are enacted and become effective on or before January 1, 2002, each bill amends Section 10631 of the Water Code, and this bill is enacted last.
(4) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

DIGEST KEY

BILL TEXT

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1.

(a) The Legislature finds and declares all of the following:

(1) The length and severity of droughts in California cannot be predicted with any accuracy.

(2) There are various factors that affect the ability to ensure that adequate water supplies are available to meet all of California's water demands, now and in the future.

(3) Because of these factors, it is not possible to guarantee a permanent water supply for all water users in California in the amounts requested.

(4) Therefore, it is critical that California's water agencies carefully assess the reliability of their water supply and delivery systems.

(5) Furthermore, California's overall water delivery system has become less reliable over the last 20 years because demand for water has continued to grow while new supplies have not been developed in amounts sufficient to meet the increased demand.

(6) There are a variety of measures for developing new water supplies including water reclamation, water conservation, conjunctive use, water transfers, seawater desalination, and surface water and groundwater storage.

(7) With increasing frequency, California's water agencies are required to impose water rationing on their residential and business customers during this state's frequent and severe periods of drought.

(8) The identification and development of water supplies needed during multiple-year droughts is vital to California's business climate, as well as to the health of the agricultural industry, environment, rural communities, and residents who continue to face the possibility of severe water cutbacks during water shortage periods.

(9) A recent study indicates that the water supply and land use planning linkage, established by Part 2.10 (commencing with Section 10910) of Division 6 of the Water Code, has not been implemented in a manner that ensures the appropriate level of communication between water agencies and planning agencies, and this act is intended to remedy that deficiency in communication.

(b) It is the intent of the Legislature to strengthen the process pursuant to which local agencies determine the adequacy of existing and planned future water supplies to meet existing and planned future demands on those water supplies.

SEC. 2.

Section 21151.9 of the Public Resources Code is amended to read:

21151.9.

Whenever a city or county determines that a project, as defined in Section 10912 of the Water Code, is subject to this division, it shall comply with Part 2.10 (commencing with Section 10910) of Division 6 of the Water Code.

SEC. 3.

Section 10631 of the Water Code is amended to read:

10631.

A plan shall be adopted in accordance with this chapter and shall do all of the following:

(a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments as described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the location, amount, and sufficiency of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

(1) An average water year.

(2) A single dry water year.

(3) Multiple dry water years.

For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to replace that source with alternative sources or water demand management measures, to the extent practicable.

(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

(e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural.

(2) The water use projections shall be in the same five-year increments as described in subdivision (a).

(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

(A) Water survey programs for single-family residential and multifamily residential customers.

(B) Residential plumbing retrofit.

(C) System water audits, leak detection, and repair.

(D) Metering with commodity rates for all new connections and retrofit of existing connections.

(E) Large landscape conservation programs and incentives.

(F) High-efficiency washing machine rebate programs.

(G) Public information programs.

(H) School education programs.

(I) Conservation programs for commercial, industrial, and institutional accounts.

(J) Wholesale agency programs.

(K) Conservation pricing.

(L) Water conservation coordinator.

(M) Water waste prohibition.

(N) Residential ultra-low-flush toilet replacement programs.

(2) A schedule of implementation for all water demand management measures proposed or described in the plan.

(3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.

(4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of such savings on the supplier's ability to further reduce demand.

(g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:

(1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.

(2) Include a cost-benefit analysis, identifying total benefits and total costs.

(3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.

(4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.

(h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single dry, and multiple dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

(i) Urban water suppliers that are members of the California Urban Water Conservation Council and submit annual reports to that council in accordance with the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated September 1991, may submit the annual reports identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of subdivisions (f) and (g).

SEC. 3.5.

Section 10631 of the Water Code is amended to read:

10631.

A plan shall be adopted in accordance with this chapter and shall do all of the following:

(a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments as described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that

characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

(1) An average water year.

(2) A single dry water year.

(3) Multiple dry water years.

For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

(e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural.

(2) The water use projections shall be in the same five-year increments as described in subdivision (a).

(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

(A) Water survey programs for single-family residential and multifamily residential customers.

(B) Residential plumbing retrofit.

(C) System water audits, leak detection, and repair.

(D) Metering with commodity rates for all new connections and retrofit of existing connections.

(E) Large landscape conservation programs and incentives.

(F) High-efficiency washing machine rebate programs.

(G) Public information programs.

(H) School education programs.

(I) Conservation programs for commercial, industrial, and institutional accounts.

(J) Wholesale agency programs.

(K) Conservation pricing.

(L) Water conservation coordinator.

(M) Water waste prohibition.

(N) Residential ultra-low-flush toilet replacement programs.

(2) A schedule of implementation for all water demand management measures proposed or described in the plan.

(3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.

(4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.

(g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:

(1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.

(2) Include a cost-benefit analysis, identifying total benefits and total costs.

(3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.

(4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.

(h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed

description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single dry, and multiple dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

(i) Urban water suppliers that are members of the California Urban Water Conservation Council and submit annual reports to that council in accordance with the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated September 1991, may submit the annual reports identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of subdivisions (f) and (g).

SEC. 4.

Section 10656 of the Water Code is amended to read:

10656.

An urban water supplier that does not prepare, adopt, and submit its urban water management plan to the department in accordance with this part, is ineligible to receive funding pursuant to Division 24 (commencing with Section 78500) or Division 26 (commencing with Section 79000), or receive drought assistance from the state until the urban water management plan is submitted pursuant to this article.

SEC. 4.3.

Section 10657 is added to the Water Code, to read:

10657.

(a) The department shall take into consideration whether the urban water supplier has submitted an updated urban water management plan that is consistent with Section 10631, as amended by the act that adds this section, in determining whether the urban water supplier is eligible for funds made available pursuant to any program administered by the department.

(b) This section shall remain in effect only until January 1, 2006, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2006, deletes or extends that date.

SEC. 4.5.

Section 10910 of the Water Code is amended to read:

10910.

(a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.

(b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined in Section 10912, that may supply water for the project. If the city or county is not able to identify any public water system that may supply water for the project, the city or county shall prepare the water assessment required by this part after consulting with any entity serving domestic water supplies whose service area includes the project site, the local agency formation commission, and any public water system adjacent to the project site.

(c) (1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

(d) (1) The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts.

(2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall be demonstrated by providing information related to all of the following:

(A) Written contracts or other proof of entitlement to an identified water supply.

(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.

(C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.

(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

(e) If no water has been received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts, the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall also include in its water supply assessment pursuant to subdivision (c), an identification of the other public water

systems or water service contractholders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has identified as a source of water supply within its water supply assessments.

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water supply assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

(g) (1) Subject to paragraph (2), the governing body of each public water system shall submit the assessment to the city or county not later than 90 days from the date on which the request was received. The governing body of each public water system, or the city or county if either is required to comply with this act pursuant to subdivision (b), shall approve the assessment prepared pursuant to this section at a regular or special meeting.

(2) Prior to the expiration of the 90-day period, if the public water system intends to request an extension of time to prepare and adopt the assessment, the public water system shall meet with the city or county to request an extension of time, which shall not exceed 30 days, to prepare and adopt the assessment.

(3) If the public water system fails to request an extension of time, or fails to submit the assessment notwithstanding the extension of time granted pursuant to paragraph (2), the city or county may seek a writ of mandamus to compel the governing body of the public water system to comply with the requirements of this part relating to the submission of the water supply assessment.

(h) Notwithstanding any other provision of this part, if a project has been the subject of a water supply assessment that complies with the requirements of this part, no additional water supply assessment shall be required for subsequent projects that were part of a larger project for which a water supply assessment was completed and that has complied with the requirements of this part and for which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has concluded that its water supplies are sufficient to meet the projected water demand associated with the proposed project, in addition to the existing and planned future uses, including, but not limited to, agricultural and industrial uses, unless one or more of the following changes occurs:

(1) Changes in the project that result in a substantial increase in water demand for the project.

(2) Changes in the circumstances or conditions substantially affecting the ability of the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), to provide a sufficient supply of water for the project.

(3) Significant new information becomes available which was not known and could not have been known at the time when the assessment was prepared.

SEC. 5.

Section 10911 of the Water Code is amended to read:

10911.

(a) If, as a result of its assessment, the public water system concludes that its water supplies are, or will be, insufficient, the public water system shall provide to the city or county its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. If the city or county, if either is required to comply with this part pursuant to subdivision (b), concludes as a result of its assessment, that water supplies are, or will be, insufficient, the city or county shall include in its water supply assessment its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. Those plans may include, but are not limited to, information concerning all of the following:

(1) The estimated total costs, and the proposed method of financing the costs, associated with acquiring the additional water supplies.

(2) All federal, state, and local permits, approvals, or entitlements that are anticipated to be required in order to acquire and develop the additional water supplies.

(3) Based on the considerations set forth in paragraphs (1) and (2), the estimated timeframes within which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), expects to be able to acquire additional water supplies.

(b) The city or county shall include the water supply assessment provided pursuant to Section 10910, and any information provided pursuant to subdivision (a), in any environmental document prepared for the project pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.

(c) The city or county may include in any environmental document an evaluation of any information included in that environmental document provided pursuant to subdivision (b). The city or county shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses. If the city or county determines that water supplies will not be sufficient, the city or county shall include that determination in its findings for the project.

SEC. 6.

Section 10912 of the Water Code is amended to read:

10912.

For the purposes of this part, the following terms have the following meanings:

(a) "Project" means any of the following:

(1) A proposed residential development of more than 500 dwelling units.

(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

(4) A proposed hotel or motel, or both, having more than 500 rooms.

(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

(6) A mixed-use project that includes one or more of the projects specified in this subdivision.

(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

(b) If a public water system has fewer than 5,000 service connections, then "project" means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system's existing service connections.

(c) "Public water system" means a system for the provision of piped water to the public for human consumption that has 3000 or more service connections. A public water system includes all of the following:

(1) Any collection, treatment, storage, and distribution facility under control of the operator of the system which is used primarily in connection with the system.

(2) Any collection or pretreatment storage facility not under the control of the operator that is used primarily in connection with the system.

(3) Any person who treats water on behalf of one or more public water systems for the purpose of rendering it safe for human consumption.

SEC. 7.

Section 10913 of the Water Code is repealed.

SEC. 8.

Section 10915 of the Water Code is amended to read:

10915.

The County of San Diego is deemed to comply with this part if the Office of Planning and Research determines that all of the following conditions have been met:

(a) Proposition C, as approved by the voters of the County of San Diego in November 1988, requires the development of a regional growth management plan and directs the establishment of a regional planning and growth management review board.

(b) The County of San Diego and the cities in the county, by agreement, designate the San Diego Association of Governments as that review board.

(c) A regional growth management strategy that provides for a comprehensive regional strategy and a coordinated economic development and growth management program has been developed pursuant to Proposition C.

(d) The regional growth management strategy includes a water element to coordinate planning for water that is consistent with the requirements of this part.

(e) The San Diego County Water Authority, by agreement with the San Diego Association of Governments in its capacity as the review board, uses the association's most recent regional growth forecasts for planning purposes and to implement the water element of the strategy.

(f) The procedures established by the review board for the development and approval of the regional growth management strategy, including the water element and any certification process established to ensure that a project is consistent with that element, comply with the requirements of this part.

(g) The environmental documents for a project located in the County of San Diego include information that accomplishes the same purposes as a water supply assessment that is prepared pursuant to Section 10910.

SEC. 9.

Section 3.5 of this bill incorporates amendments to Section 10631 of the Water Code proposed by both this bill and AB 901. It shall only become operative if (1) both bills are enacted and become effective on or before January 1, 2002, (2) each bill amends Section 10631 of the Water Code, and (3) this bill is enacted after AB 901, in which case Section 3 of this bill shall not become operative.

SEC. 10.

No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because a local agency or school district has the authority to levy service charges, fees, or assessments sufficient to pay for the program or level of service mandated by this act, within the meaning of Section 17556 of the Government Code.

APPENDIX B

2020 CITY OF FRESNO, URBAN WATER MANAGEMENT PLAN

City of FRESNO
Department of Public Utilities

2020 Urban Water Management Plan

Final

JULY 2021

CITY OF FRESNO



Photo Credit: Downtown Fresno Partnership

City of FRESNO
Department of Public Utilities

CITY OF FRESNO

Final 2020 Urban Water Management Plan

JULY 2021



Prepared by Water Systems Consulting, Inc.

WSC

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ACRONYMS & ABBREVIATIONS

°F	degrees Fahrenheit
1,2,3-TCP	1,2,3-trichloropropane
AF	acre-feet
AFY	acre-feet per year
AMI	advanced metering infrastructure
AWE	Alliance for Water Efficiency
AWWA	American Water Works Association
BP04	Booster Pump 4
CII	Commercial, Institutional, and Industrial
CIMIS	California Irrigation Management Information System
City	City of Fresno
COG	Council of Governments
CPC	California Plumbing Code
CSUF	California State University Fresno
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
CVWAC	Central Valley Water Awareness Committee
CWC	California Water Code
CY	Calendar Year
DBCP	1,2-dibromo-3-chloropropane
DMM	Demand Management Measures
DDW	Department of Drinking Water
DPU	Department of Public Utilities
DRA	Drought Risk Assessment
DWR	Department of Water Resources
EDB	ethylene dibromide or 1,2-dibromoethane
ETo	Evapotranspiration
FID	Fresno Irrigation District
FMFCD	Fresno Metropolitan Flood Control District
GIS	Geographic Information System
GPCD	gallons per capita per day
GSA	Groundwater Sustainability Agency

GSP	Groundwater Sustainability Plan
HCF	hundred cubic feet
IGSM	Integrated Groundwater and Surface Water Model
Metro Plan	Fresno Metropolitan Water Resource Management Plan
mgd	million gallons per day
NESWTF	Northeast Surface Water Treatment Facility
NFWRF	North Fresno Wastewater Reclamation Facility
NKGSP	North Kings Groundwater Sustainability Plan
NRDC	Natural Resources Defense Council
PCE	perchloroethylene or tetrachloroethylene
PEIR	Programmatic Environmental Impact Report
PFAS	per- and polyfluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctanesulfonic acid
RHNA	Regional Housing Needs Allocation
RWMP	Recycled Water Master Plan
RWRF	Regional Wastewater Reclamation Facility
SB	Senate Bill
SBx7-7	Senate Bill x 7-7
SESWTF	Southeast Surface Water Treatment Facility
SGMA	Sustainable Groundwater Management Act
SOI	Sphere of Influence
sq mi	square miles
SWTF	Surface Water Treatment Facility
T-3 SWTF	T-3 Water Storage and Modular Surface Water Treatment Facility
TCE	trichloroethylene
TDS	total dissolved solids
TTDF	Tertiary Treatment and Disinfection Facility
USBR	United States Bureau of Reclamation
UV	ultraviolet
UWMP	Urban Water Management Plan
UWMP Act	Urban Water Management Planning Act
WSCP	Water Shortage Contingency Plan
WSIP	Water Storage Investment Program
WY	Water Year

CITY OF FRESNO

Executive Summary

This section summarizes the 2020 Urban Water Management Plan (UWMP) for the City of Fresno (City). It provides a lay description of the 2020 UWMP in a manner that is accessible to non-technical readers. This summary describes the fundamental purposes of the UWMP, including water service reliability, future challenges, and strategies for managing water reliability risks.

UWMPs are updated every five years and outline each suppliers' long-term water resource planning to ensure there is enough water to meet both existing and future demands. They set the roadmap for how the City will use water over the coming years.

The original Fresno water system began operations in 1876 as a non-profit organization established by a group of public-minded citizens. Today, the City covers approximately 115 square miles (sq mi) (73,500 acres) consisting largely of single-family residential, commercial, public, and industrial development. The City's General Plan projects buildout of the 106,000 acres planning area in 2056. This UWMP addresses the City's water service reliability, future challenges, and strategies for managing risks to water reliability through 2045. The City's Fresno Metropolitan Water Resource Management Plan (Metro Plan), which is currently being prepared, addresses a 50-year horizon – through 2070.

IN THIS SECTION

- Service Area Description
- Water Use
- Water Sources
- Water Supply Reliability

Purpose and Organization of the Plan

This plan comprises the 2020 UWMP for the City, as required by the California Urban Water Management Planning Act, which requires all urban water suppliers with more than 3,000 connections or distributing more than 3,000 acre-feet per year (AFY) to complete an UWMP every five years. As of the close of the 2020 calendar year, the City has over 139,500 residential, commercial, industrial, and institutional water service connections and produced nearly 122,000 acre-feet (AF) of water. As a result, the City is required to prepare and adopt an UWMP and submit it to the Department of Water Resources (DWR) by the July 1, 2021, due date.

Requirements for the UWMP include:

- Assessment of current and projected water supplies
- Evaluation of demand and customer types
- Evaluation of the reliability of water supplies
- Description of conservation measures implemented by the urban water supplier
- Response plan, in the event of a water shortage
- Comparison of demand and supply projections

The UWMP is a valuable planning document used for multiple purposes:

- Serves as a valuable resource to the community and other interested parties regarding water supply and demand, conservation, and water related information
- Meets a statutory requirement of the California Water Code (CWC)
- Provides a key source of information for water supply assessments and written verifications of water supply
- Supports regional long-range planning, including City and County General Plans
- Provides a standardized methodology for water utilities to assess their water resource needs and availability
- Provides a resource for regional involvement in the California Water Plan
- Provides for a plan during water drought situations

Outreach and Engagement

The City has coordinated the preparation of its 2020 UWMP with its water suppliers, Fresno County, the City of Clovis, nearby water agencies, and community members to develop a UWMP that adheres to the requirements of the CWC and plans for a resilient water future. In total, the City has coordinated preparation of the 2020 UWMP and solicited participation and comments with the following agencies**:**

- Bakman Water Company
- City of Clovis
- County of Fresno
- Fresno Irrigation District
- Fresno Metropolitan Flood Control District
- Friant Water Authority
- Garfield Water District
- Malaga County Water District
- Pinedale County Water District
- North Kings Groundwater Sustainability Agency
- US Bureau of Reclamation

Service Area Description

The City's General Plan planning area covers approximately 106,000 acres comprised of approximately 73,500 acres of incorporated land and 32,500 acres of unincorporated land. The City's water service area covers 70,400 acres consisting largely of single-family residential, commercial, public, and industrial development, shown in **Figure ES-6** (located at the end of the Executive Summary). The service area excludes areas served by the Bakman Water Company, Pinedale County Water District, Park Van Ness Mutual Water Company, California State University Fresno, and private groundwater users located within Fresno County islands. The City will eventually serve out to the Sphere of Influence (SOI) boundary adopted in the 2014 General Plan and includes all lands planned to be annexed by the City at the projected 2056 buildout of the General Plan, summarized in **Table ES-1**.

Table ES-1. Existing and Future Water Service Area

LAND USE CATEGORY	2020 WATER SERVICE AREA		2056 WATER SERVICE AREA	
	ACRES	PERCENT	ACRES	PERCENT
Single-Family Residential	27,700	39.3%	40,000	47.4%
Multifamily Residential	3,700	5.3%	3,800	4.5%
Commercial	4,500	6.4%	8,600	10.2%
Public Facility	5,600	8.0%	7,200	8.5%
Industrial	4,500	6.4%	9,300	11.0%
Open Space/ Landscape Irrigation	13,100	18.6%	11,000	13.0%
Mixed Use	0	0%	3,900	4.6%
Downtown	0	0%	600	0.7%
Vacant / Partially Vacant	11,300	15.9%	0	0%
TOTAL	**70,400**	**100%**	**84,400**	**100%**

Note: Acreage from City GIS Shapefile of Land Uses and aligns with the General Plan for buildout in year 2056.

Population Projections

The City experienced rapid growth since it was founded by the Central Pacific Railroad in 1872 up through the mid-1990s, when the City's annual growth rate was typically greater than 2%. From 1995 to 2015, the annual growth rate has decreased to an average of 1.3%, and since 2015, the rate has not surpassed 1.0%. Achieving General Plan buildout population estimates requires an average annual growth rate of 1.44% from 2020 to 2056. The City's water service area population is anticipated to continue to grow along with the City, with some slightly higher growth years anticipated in the next 10 years due to multiple large developments planned for completion in the near term. As a result, population growth, shown in **Figure ES-1** on the following page, occurs at an annual rate of ranging from 1.1–2.1% between 2020 and 2056.

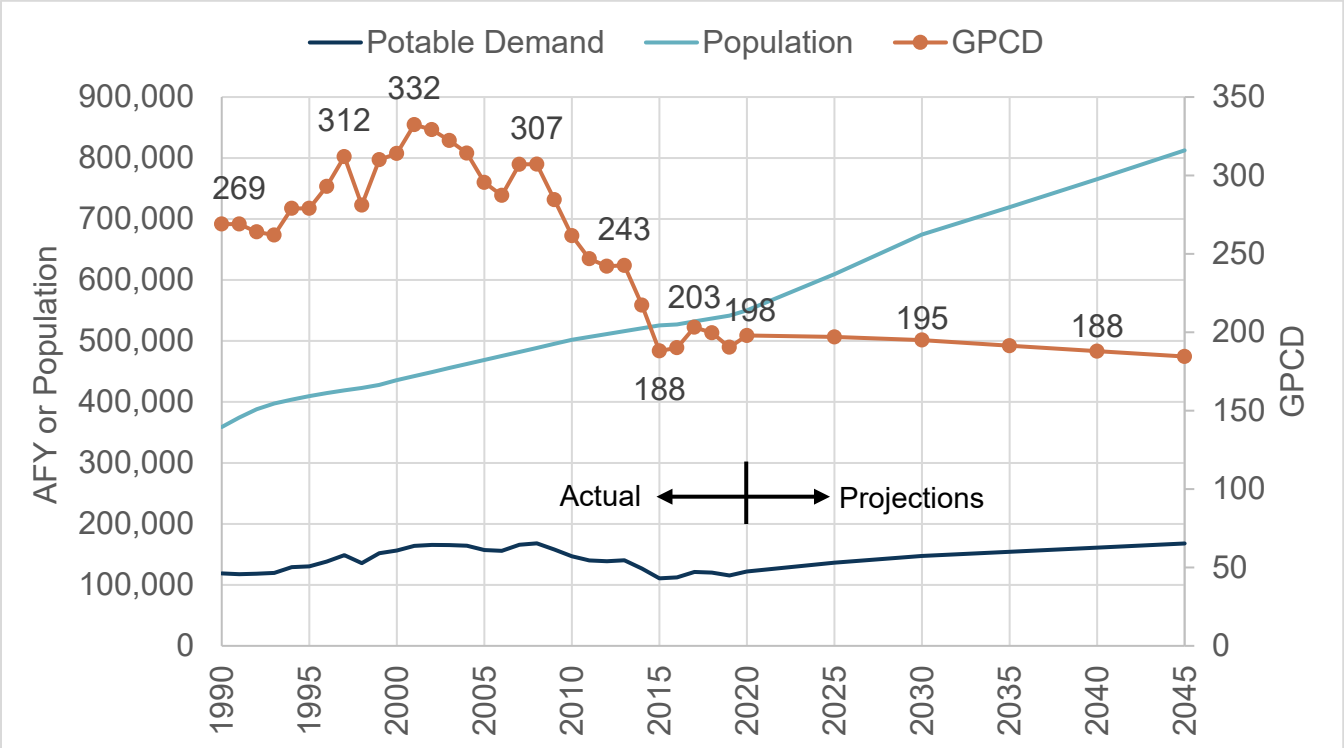
Water Use

Water consumption in the City is characterized by the typical demand sectors of residential, commercial, institutional, industrial, and irrigational. The difference between production and consumption is losses, which may be attributed to system leaks, meter inaccuracies, fire flows, theft, unmetered use, or other factors.

As shown in **Figure ES-1**, the City's water demand has decreased even as the City has grown over the past several decades, and demands are projected to grow slower than population growth. This trend is captured by the City's daily per capita water use, measured as gallons per capita per day (GPCD). For 2020, the City's water use averaged 198 GPCD based on 121,993 AF of water production and a service area population of 550,217. The City is far below its 2020 daily per capita water use target of 247 GPCD due to the extensive conservation efforts implemented by the City in the past decade.

The City also diverts raw surface water obtained from the United States Bureau of Reclamation (USBR) and the Fresno Irrigation District (FID) to recharge basins throughout the service area. The City coordinates with FID for the delivery of the recharge water, utilizing FID's existing system of channels and pipelines to covey the raw water, and with Fresno Metropolitan Flood Control District (FMFCD) to deliver water to FMFCD's stormwater retention and recharge basins or the City's own recharge basins. The raw surface water recharges the groundwater basin to sustain the groundwater supply for the City. The groundwater recharge volume can vary based on surface water supply availability and is represented as an addition to annual groundwater supplies. In addition, the City serves a limited number of customers secondary treated or tertiary treated and disinfected recycled water for agricultural irrigation or landscape irrigation, respectively.

Figure ES-1. City of Fresno Demand Projections



The City's per capita water usage is projected to continue to decline through 2045 due to more water efficiency in future construction and passive conservation; however, due to the increase in population the demand is expected to slowly increase in the next 25 years. The potable demand projections for normal water use are based on land use where future land use areas are expected to be more water efficient than existing land uses and buildings due to the California Plumbing Code (CPC) and use of higher efficiency appliances and landscapes. Demand for existing land uses is also expected to slowly reduce over time due to passive conservation, which includes the replacement of older water fixtures and appliances with more efficient types now required as part of the CPC.

Water Sources

The City relies on groundwater from the North Kings Subbasin; surface water from Central Valley Project (CVP), through a contract with the USBR; Kings River water, through a contract with FID; and recycled water. Water production in the City has consisted of 100% groundwater prior to the commissioning of the City's first surface water treatment facility (SWTF) in 2004. Since 2004, the City has invested in expanding its surface water treatment capabilities and now has three SWTFs that provide approximately half of all potable water demands in the service area.

Groundwater

The City overlies the Kings Subbasin, which is part of the greater San Joaquin Valley Groundwater Basin. The City is one of many water purveyors that use groundwater from the Kings Subbasin. The City has a network of over 270 municipal wells and currently operates approximately 202 municipal supply wells within the Kings Subbasin.

The City was a founding member of the North Kings Groundwater Sustainability Agency (North Kings GSA), which was formed following passage of the Sustainable Groundwater Management Act (SGMA) of 2014. This legislation created a statutory framework for groundwater management in California that can be sustained during the planning and implementation horizon without causing undesirable results. SGMA requires governments and water agencies of "critically overdrafted" basins to reach sustainability by 2040. The Kings Subbasin was designated a critically overdrafted basin by DWR and the North Kings GSA is working within the SGMA framework to reach groundwater sustainability.

Due to the City's investments in other supplies – surface water, recycled water, and conservation – groundwater levels beneath the City have already begun to recover from low levels experienced during the recent drought. The City plans to continue to use groundwater within a larger conjunctive use program that maximizes its existing water rights and surface water supply sources.

Surface Water

With the completion and operation of the Southeast Surface Water Treatment Facility (SESWTF), surface water is now a primary water supply used to meet potable demands within the City. The City contracts with FID for Kings River water and with USBR for CVP water from the Friant-Kern Canal. The surface water supply is used either for potable uses through treatment and distribution or delivery to recharge basins for groundwater recharge. The City has historically not used all its available FID allocation in any given year, although it pays a flat rate for its total allocation regardless of use. Water unused by the City is reallocated by FID to its other customers.

The City, through an agreement originally executed in 1961, secured a surface water supply from USBR CVP Friant Division for an annual water supply of 60,000 AF of Class 1 water. The agreement was last renewed in 2010 as a Section 9(d) contract that provides water from the San Joaquin River in perpetuity. Class 1 water has historically been very reliable until the 2006 San Joaquin River Restoration Settlement Agreement, which ended an 18-year legal dispute over the operation of Friant Dam brought by a coalition of conservation and fishing groups. The projected surface water available for the City from USBR is based on USBR simulations for the 2006 Settlement Agreement. Average simulated delivery is 53,680 AFY and the median simulated delivery is 60,000 AFY. However, very dry years have previously resulted in substantial reductions as demonstrated by the zero allocations that occurred in 2014 and 2015.

FID is one of 28 agencies that receives an entitlement of water from the Kings River through the Kings River Water Association. The City executed its most recent agreement with FID in 2016. The 2016 agreement identifies the City's contracted percentage of FID's Kings River water based on the City's water service area located within FID service area as a percentage of the FID land area. FID land area varies slightly every year because it is dependent on the acreage receiving water deliveries for that year rather than the total acreage within FID, and is roughly 200,000 acres. As the City incorporates new users and the water service area expands, the percentage of FID supply increases. However, the 2016 FID Agreement sets the City's maximum percentage of FID's Kings River water as 29.0%, which is expected to be reached between 2025 and 2030.

The City's potential supply from FID was projected using actual Kings River deliveries for 1964–2019. The average FID Kings River delivery over that time was 452,541 AF, which equates to an average potential City supply of 131,237 AF, assuming the maximum 29.0% City supply percentage. The projected City percentage of FID supplies was estimated based on City's water service area growth projections through buildout in 2056.

Recycled Water

The Fresno-Clovis Regional Wastewater Reclamation Facility (RWRF) has developed from what was once a sewer farm to what is now a state-of-the-art wastewater treatment facility. The RWRF treats flows from not only the City, but also sewered County areas (some county areas remain unsewered), the City of Clovis, Pinedale County Water District, and Pinedale Public Utility District. Flows received at this facility peaked at 81,100 AF in 2006 and have been steadily decreasing since, with the average influent flow about 63,000 AF over the last five years.

The City has three primary means of effluent disposal from the RWRF:

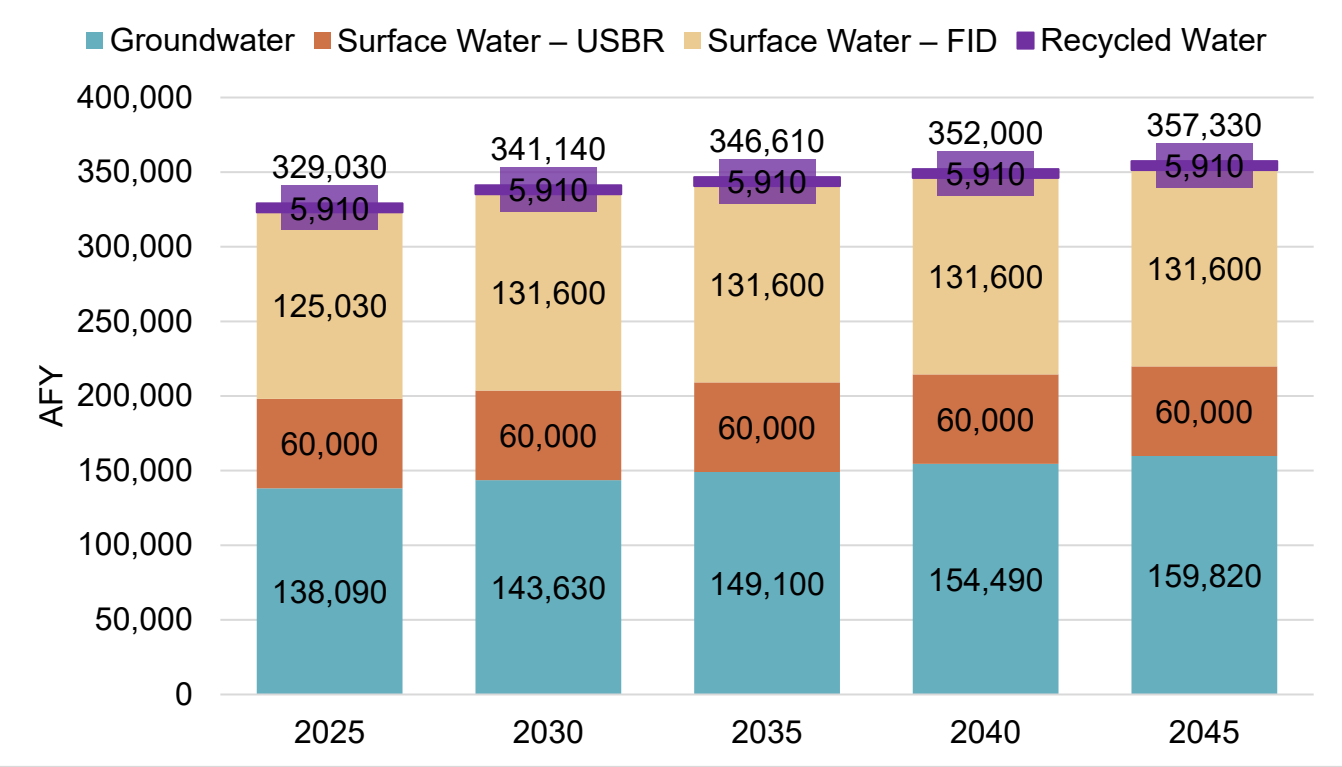
1. Undisinfected secondary effluent to on-site and off-site farmland for restricted irrigation
2. Undisinfected secondary effluent to percolation ponds
3. Disinfected tertiary effluent to the recycled water distribution system

The percolated effluent has been deemed equivalent to tertiary treated water by the State and the City has been extracting this water for reuse in areas within and surrounding the RWRF, as well as to FID's canals, through an exchange agreement for delivery to FID agricultural customers. The City recently constructed the Tertiary Treatment and Disinfection Facility (TTDF) at the RWRF and has constructed most of the southwest recycled water system, which is projected to increase deliveries from roughly 1,000 AFY today to eventually meet 5,800 AFY of non-potable demands. In addition, the City uses recycled water from the North Fresno Wastewater Reclamation Facility (NFWRF) to irrigate Copper River Ranch Golf Course.

Summary of Supplies

The City currently balances its surface water supplies and groundwater based on minimum production for operation of the SWTFs and minimum groundwater pumping to manage and control contamination plumes and prevent their spread. The minimum operation conditions typically occur in the low-demand winter months, and the City can increase surface water production during peak demand months when surface water is available. In normal and wet years, the City intends to rely on more surface water supply and recharge raw surface water to replenish the groundwater basin and build storage for dry years. In dry years, when surface water is less available, the City will ramp up well production to meet demands. The City is expected to continue this supply management strategy in the future. **Figure ES-2** shows the City's annual average projected water supplies through 2045.

Figure ES-2. Projected Water Supplies



Water Supply Reliability

The City currently manages its surface water and groundwater supply by maximizing surface water for potable use and intentional recharge during wet and normal years, while relying on groundwater during dry years. The City is currently updating its Metro Plan, which will recommend projects and programs to optimize the use of its supply portfolio and further improve supply resilience. Supply management tools are an expected outcome of the Metro Plan update; however, the City's ongoing supply management is intended to maximize local supplies and improve the groundwater basin storage. Current actions include enhanced groundwater management and intentional recharge, increased recycled water use, and continued conservation through the implementation of demand management measures.

Normal water year, single dry water year, and five-year consecutive drought period supply projections were made based on historic water allocations for surface water supplies, sustainable yield for groundwater, and projected utilization for recycled water. For surface water, the single dry year is based on 2015 allocations and the five-year drought is based on 2012 to 2016. Groundwater supplies, due to intentional recharge augmentation, remain reliable in all hydrologic conditions.

Despite severe reductions of surface water supplies during recent dry years, sufficient good-quality water was available to operate the SWTFs. The projected supplies and demands for a normal year, single dry year, and five-year consecutive drought, shown in **Figure ES-3** through **Figure ES-5** on the next page and in **Table 7-1** through **Table 7-3** in **Section 7.1.4**, demonstrate that the City is projected to have greater than 100,000 AF of available supply after meeting demands in normal years; the City's surface water supplies are reduced in a single dry year, but all potable demands are met and groundwater recharge of raw surface water is reduced; and the City is projected to meet all demands during a five-year drought with its existing supplies with reduced groundwater recharge in years three and four of a five-year drought to accommodate low surface water allocations.

Managed recharge of surface water is an essential component of the City's groundwater supply and the City must average 60,000 AFY to 70,000 AFY of recharge with surface water to meet the projections. This highlights the City's priority of recharging available surface water in the coming years.

Figure ES-3. Normal Year Supply vs. Demand

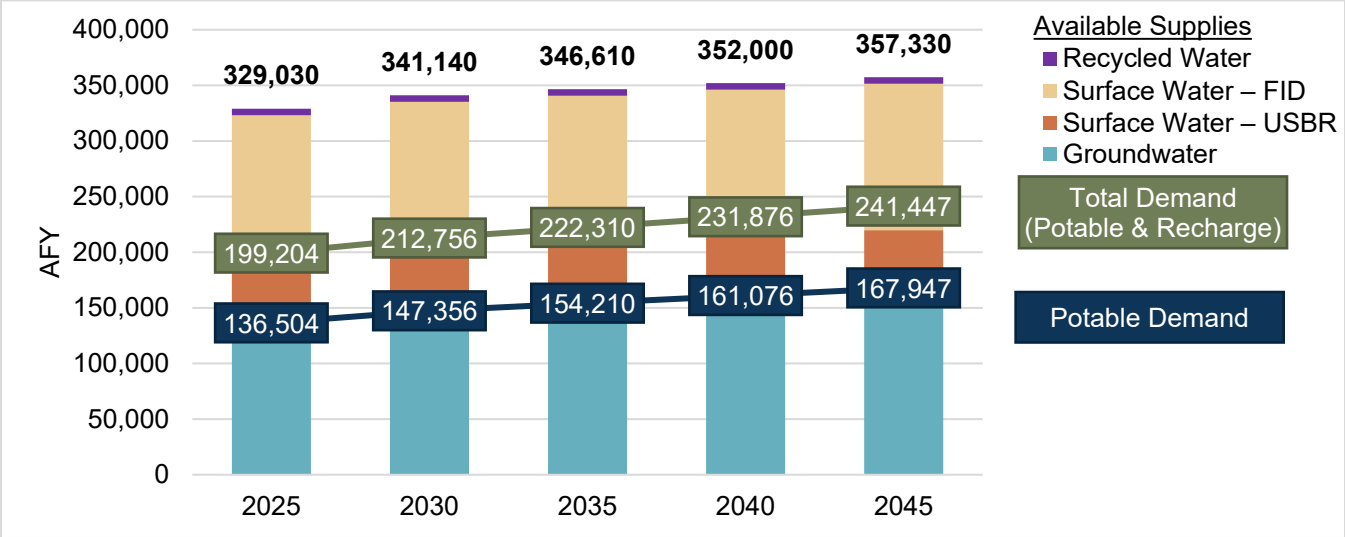


Figure ES-4. Single Dry Year Supply vs. Demand

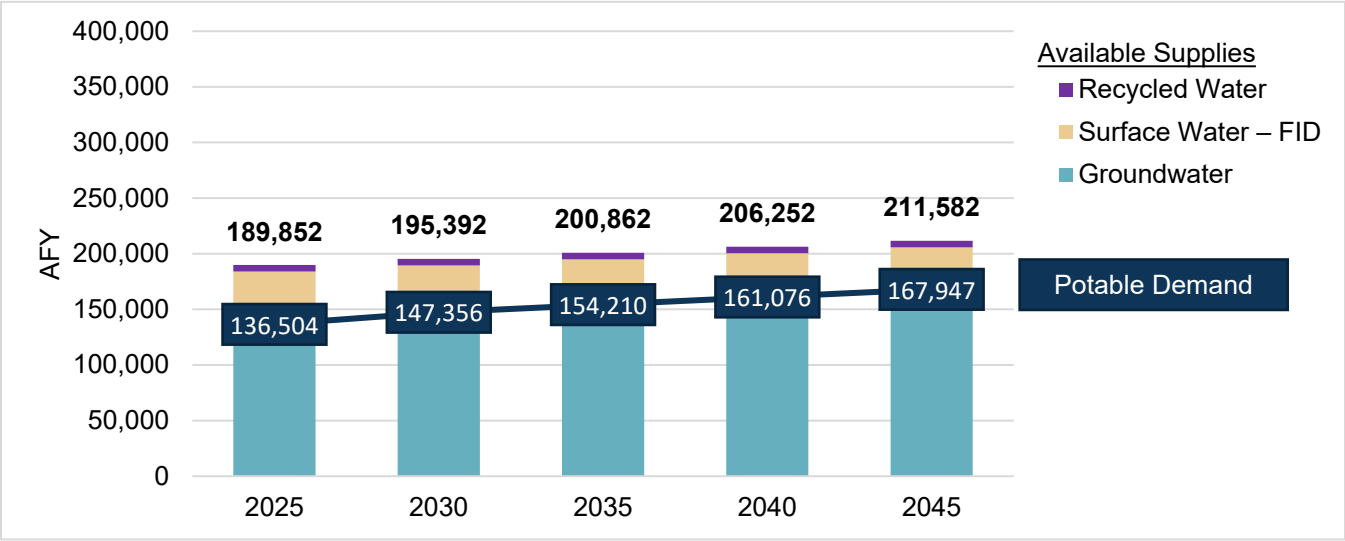
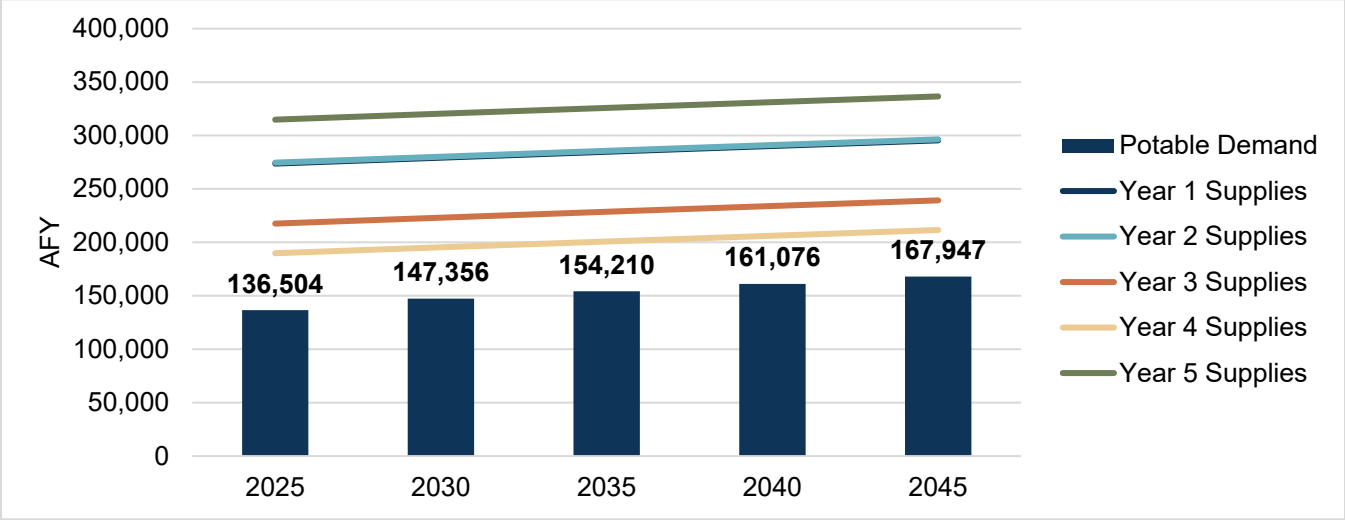


Figure ES-5. Multiple Dry Years Supply vs. Demand



2021-2025 Drought Risk Assessment

A new provision of the Water Code directs Suppliers to prepare a Drought Risk Assessment (DRA), assuming a drought period lasting five consecutive years, starting from the year following the year when the assessment is conducted. The DRA analysis allows the City to examine the management of its supplies during stressed hydrologic conditions and an opportunity to evaluate whether the City may need to enact its Water Shortage Contingency Plan (WSCP) during the next actual drought period lasting at least five years. The projected gross water use for the five-year DRA is based on unrestricted potable demand, a reduction in raw-water demand for intentional recharge in years three and four of the five-year drought, and unrestricted recycled water demand. Surface water supply availability is based on actual allocations during the previous drought – from 2012 to 2016.

Table ES-2 compares the total projected supply and demand for the five-year DRA for 2021 through 2025. As shown, the City does not expect to enact its WSCP for a five-consecutive-year drought based on the unrestricted potable demand projections and the reliability of the current supply portfolio. Available surface water supplies during this period would be utilized for groundwater recharge to sustain the groundwater basin.

Table ES-2. Five-Year Drought Risk Assessment

WATER USE TYPE	2021	2022	2023	2024	2025
Groundwater	133,602	134,724	135,846	136,968	138,090
Surface Water – USBR	30,000	37,200	0	0	45,000
Surface Water – FID	93,354	83,085	65,425	40,776	111,911
Recycled Water	1,912	2,911	3,911	4,910	5,910
TOTAL SUPPLY	**258,868**	**257,920**	**205,181**	**182,655**	**300,911**
Potable Demand	124,910	127,827	130,745	133,662	136,504
Non-Potable Demand	60,000	60,000	48,287	22,260	60,000
TOTAL DEMAND	**184,910**	**187,827**	**179,032**	**155,922**	**196,504**
AVAILABLE SUPPLIES	**73,958**	**70,093**	**26,149**	**26,732**	**104,407**

Water Shortage Contingency Plan

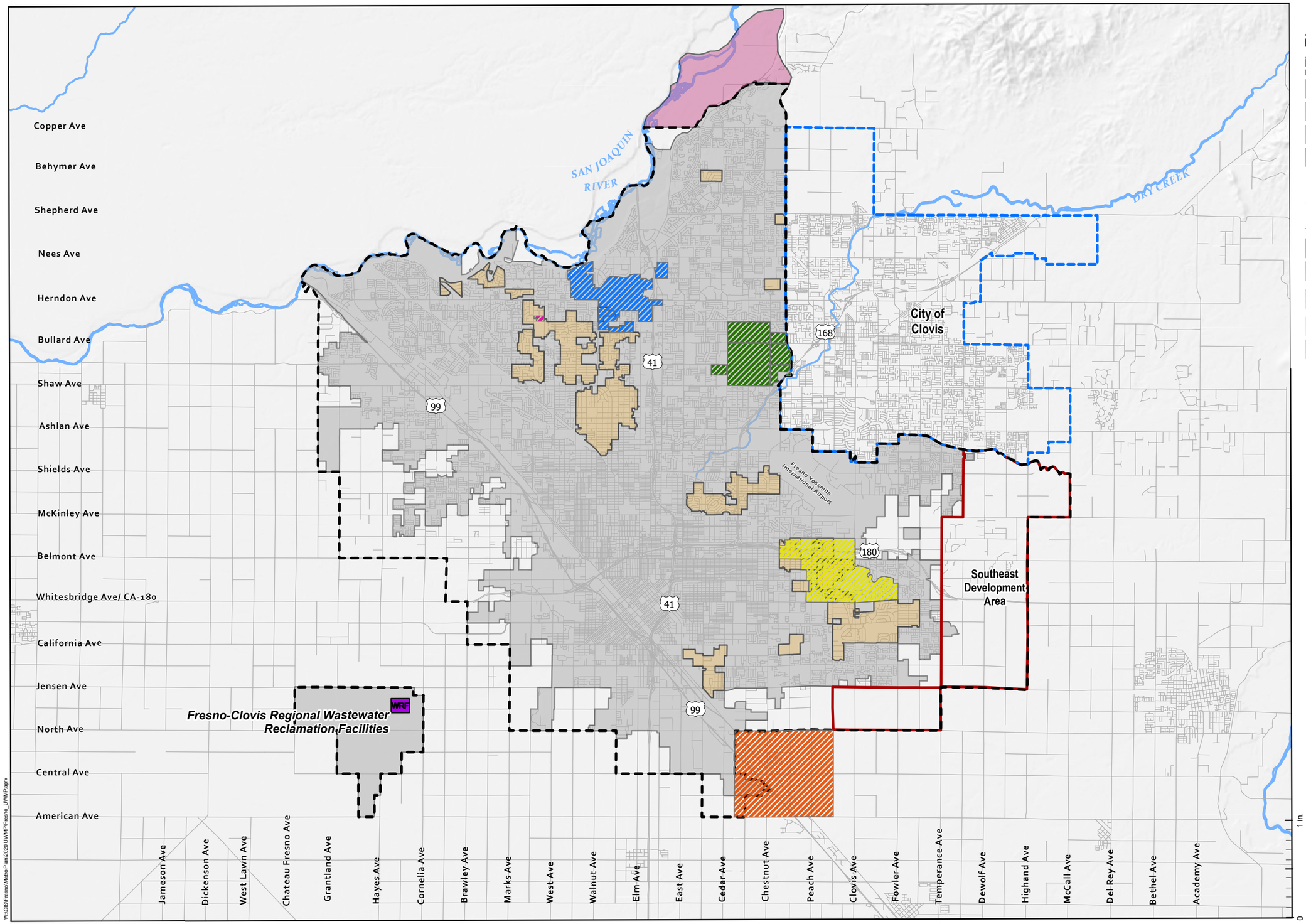
This WSCP is a detailed plan for how the City intends to respond to foreseeable and unforeseeable water shortages. A water shortage occurs when the water supply is reduced to a level that cannot support typical demand at any given time.

The WSCP is used to provide guidance to the City's governing body, staff, and the public by identifying response actions to allow for efficient management of any water shortage with predictability and accountability. Preparation provides the tools to maintain reliable supplies and reduce the impacts of supply interruptions due to extended drought and catastrophic supply interruptions.

The WSCP describes the following:

- Water Supply Reliability Analysis
- Annual Water Supply and Demand Assessment Procedures
- Six Standard Shortage Stages
- Shortage Response Actions
- Communication Protocols
- Compliance and Enforcement
- Legal Authority
- Financial Consequences of WSCP Implementation
- Monitoring and Reporting
- WSCP Refinement Procedures
- Special Water Features Distinctions
- Plan Adoption, Submittal, and Availability

The 2020 WSCP is a standalone document that can be modified as needed and is included as **Appendix J** in the 2020 UWMP.



Legend

- Fresno Sphere of Influence
- Clovis Sphere of Influence
- Fresno City Limits
- County Islands
- North Area
- Southeast Development Area
- WRF Wastewater Reclamation Facility
- Streets

Areas Served Water by Others

- Bakman Water District
- Malaga Water District
- Park Van Ness Mutual Water District
- Pinedale County Water District
- CA State University, Fresno

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Prepared by: WSC

N

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0 0.75 1.5 3 Mi

0 3,750 7,500 15,000 US Feet

References:

1. Coordinate System: NAD 1983 StatePlane California IV FIPS 0404 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

Notes:

Prepared for: City of Fresno Department of Public Utilities

City of Fresno
2020 Urban Water Management Plan

Figure ES-6. City Service Area

1 CITY OF FRESNO Introduction

This plan comprises the 2020 Urban Water Management Plan (UWMP) for the City of Fresno (City), as required by the California Urban Water Management Planning Act (UWMP Act).

The UWMP Act requires all urban water suppliers with more than 3,000 connections or distributing more than 3,000 acre-feet per year (AFY) to complete an UWMP every five years.

As of the close of the 2020 calendar year, the City has over 139,500 residential, commercial, industrial, and institutional water service connections and produced nearly 122,000 AF of water. As a result, the City is required to prepare and adopt an UWMP and submit it to DWR by the July 1, 2021, due date.

IN THIS SECTION

- California Water Code
- UWMP Organization

The UWMP is a valuable planning document used for multiple purposes:

- Serves as a valuable resource to the community and other interested parties regarding water supply and demand, conservation, and water related information
- Meets a statutory requirement of the California Water Code (CWC)
- Provides a key source of information for water supply assessments and written verifications of water supply
- Supports regional long-range planning documents, including City and County General Plans
- Provides a standardized methodology for water utilities to assess their water resource needs and availability
- Provides a resource for regional involvement in the California Water Plan
- Provides for a plan during water drought situations

1.1 The California Water Code

The UWMP Act is administered by the California Department of Water Resources (DWR), which is responsible for compiling data for statewide and regional analysis and publishing the adopted documents online for public access. This report was prepared according to the requirements of the CWC, UWMP Act, and the 2020 UWMP Guidebook.

CWC Section 10620 (a) of the UWMP Act states, "Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640)." These plans are to be updated every five years and submitted to DWR.

Requirements for the UWMP include:

- Assessment of current and projected water supplies
- Evaluation of demand and customer types
- Evaluation of the reliability of water supplies
- Description of conservation measures implemented by the urban water supplier
- Response plan, in the event of a water shortage
- Comparison of demand and supply projections

In November 2009, the State legislation passed Senate Bill (SB) x 7-7, referred to as SBx7-7 or the Water Conservation Act of 2009. SBx7-7 set the goal of achieving a 20% reduction in urban per capita water use statewide by 2020. Retail water agencies were required to set targets and track progress toward decreasing daily per capita urban water use in their service areas, which would assist the State in meeting its 20% reduction goal by 2020.

This law requires that every UWMP include:

- Baseline per capita water use
- Urban water use target for 2020
- Compliance daily per capita water use

This 2020 UWMP has been prepared to comply with the UWMP Act and SBx7-7. In addition to meeting the requirements of the Act, this report will be used to support water supply assessments and written verifications of water supply required by SB 610 and SB 221 of 2001. These bills require that water supply information be provided to counties and cities for projects of a certain size, prior to discretionary project approval. Both bills allow an UWMP to be used as a source document to fulfill these legislative requirements. The UWMP Act has undergone significant expansion since it was originally passed, particularly since the City's previous UWMP was prepared in 2015. Prolonged droughts, groundwater overdraft, regulatory revisions, and changing climatic conditions affect the reliability of each water supplier as well as the statewide water reliability overseen by DWR, the State Water Resources Control Board, and the Legislature. Accordingly, the UWMP Act has grown to address changing conditions, and the current requirements are found in Sections 10610–10656 and 10608 of the CWC.

Since 2015, several amendments have been added to the UWMP Act. These require urban water suppliers to prepare a five-year consecutive drought supply and demand assessment and a five-year drought risk assessment to evaluate the functionality of the Water Shortage Contingency Plan (WSCP) in the event of a continuous five-year drought beginning next year.

There are also new requirements for the WSCP, and it is now required to be adopted as a separate plan from the UWMP. This 2020 UWMP was developed to incorporate these new requirements, under the guidance of DWR's 2020 UWMPs Guidebook for Urban Water Suppliers. A checklist to document compliance of this 2020 UWMP with the Act and the CWC is provided in **Appendix A**.

This 2020 UWMP includes all required DWR standardized tables for **Chapters 1 to 10** compiled in **Appendix B** and all required SBx7-7 tables in **Appendix C**. A selection of these tables is also provided in the body of this Plan, as necessary to present supporting data.

1.2 UWMP Organization

This 2020 UWMP is organized into the following chapters.

- **Chapter 1 - Introduction and Overview:** This chapter provides a discussion of the purpose and content of the 2020 UWMP and the extent of the City's water management planning efforts.
- **Chapter 2 - Plan Preparation:** This chapter provides information on the City's development of the 2020 UWMP, including the basis for plan preparation, planning type, data format, and coordination and outreach to nearby agencies.
- **Chapter 3 - System Description:** This chapter provides a description of the City's water system, including service area maps, climate information, service population and demographic information, and an overview of the City's organizational structure and history.
- **Chapter 4 - Customer Water Use:** This chapter describes the City's historic, current, and projected water uses, system losses, water savings, and water use by lower income households.
- **Chapter 5 - Conservation Target Compliance:** This chapter includes a description of the City's chosen method for calculating baseline per capita water use, the City's calculated baseline, 2015 interim and 2020 per capita demand targets, and compliance with the 2020 target.
- **Chapter 6 - System Supplies:** This chapter includes a discussion of the City's water system supplies, including groundwater, surface water, wastewater, and recycled water, the City's future water projects, and a summary of existing and future water sources.
- **Chapter 7 - Water Supply Reliability Assessment:** This chapter describes the reliability of the City's water supply through a 20-year planning horizon, including a supply and demand assessment and regional reliability evaluation. Supply reliability is presented for a normal, single dry year and five consecutive dry years.
- **Chapter 8 - Water Shortage Contingency Planning:** This chapter provides a description of the City's WSCP, including stages of action, prohibitions, penalties, reduction methods, and catastrophic supply interruption.
- **Chapter 9 - Demand Management Measures:** This chapter explains the City's existing and historic efforts to promote water conservation and the City's plans to use Demand Management Measures to achieve its 2025 water use targets.
- **Chapter 10 - Plan Adoption, Submittal, and Implementation:** This chapter details the steps taken by the City to adopt the 2020 UWMP in accordance with the CWC, make it available to the public, and implement it.

- **Appendices:** These include any additional information to support and clarify any information presented within the 2020 UWMP content.

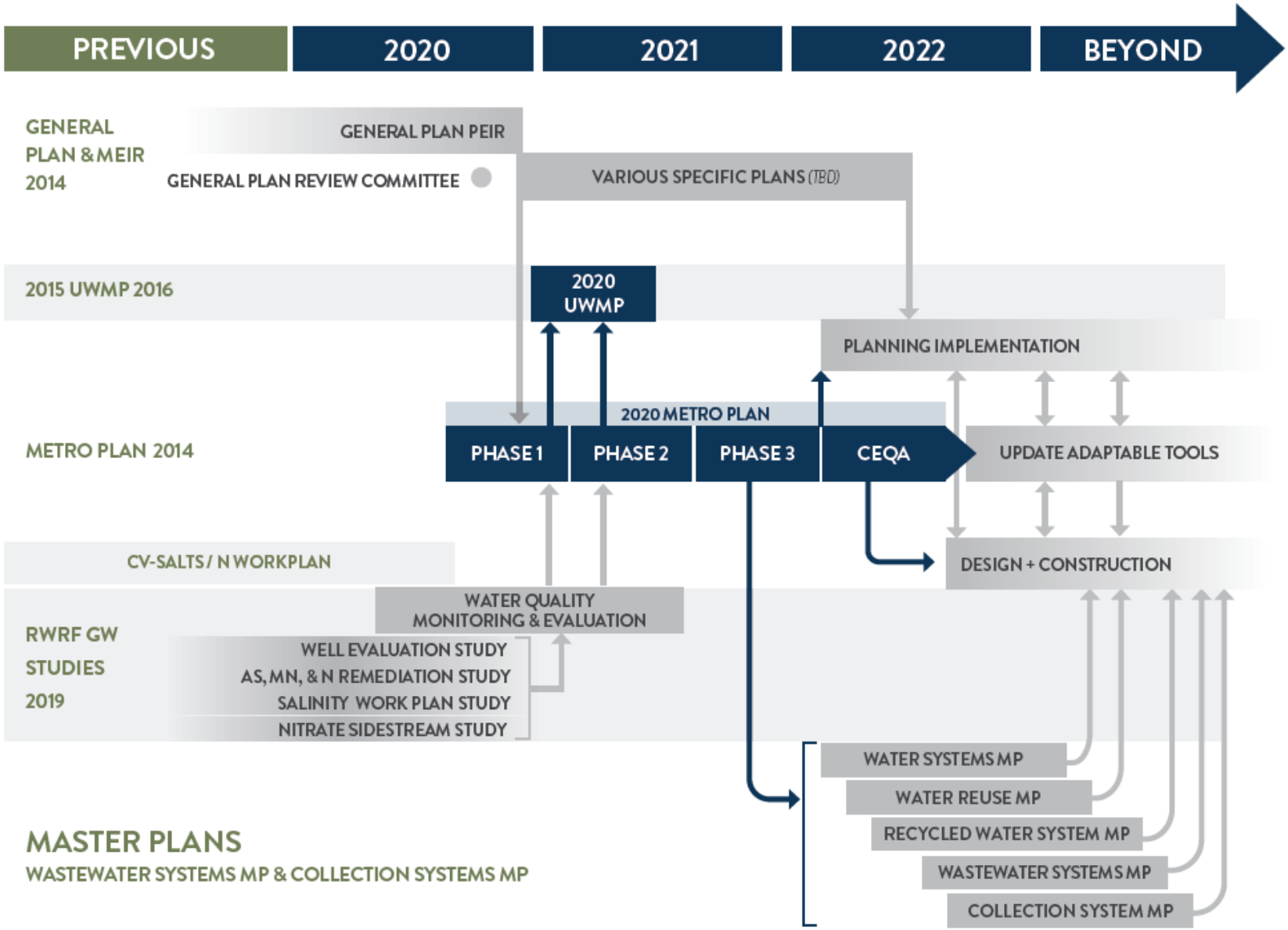
1.3 UWMPs in Relation to Other Efforts

The City previously prepared a 2005 UWMP, 2010 UWMP, and 2015 UWMP. This 2020 UWMP serves as an update to the 2015 UWMP and complies with new requirements and regulations. In addition to completing the 2020 UWMP, the City is presently updating its Fresno Metropolitan Water Resource Management Plan (Metro Plan). The last Metro Plan was completed in 2014, and the current Metro Plan update will prepare a fresh look at the City's water resources and consider new conditions and strategies for planning through 2070. **Figure 1-1** shows the City's ongoing and additional future water resources planning efforts.

1.4 Demonstration of Consistency with the Delta Plan

A new requirement for the 2020 UWMP is that agencies that anticipate participating in, or receiving water from, a proposed project utilizing Sacramento-San Joaquin Delta (Delta) Water or within the Jurisdiction of the Delta Stewardship Council (covered action) should demonstrate consistency with the Delta Plan's policy to reduce reliance on the Delta. Covered actions include, but are not limited to, projects such as multiyear water transfers, conveyance facilities, or new diversions that involve transferring water through, exporting water from, or using water in the Delta, per California Code of Regulations, Title 23, Section 5003. The City of Fresno contracts with the United States Bureau of Reclamation (USBR) Central Valley Project (CVP) Friant Division for an annual supply of 60,000 AF of Class 1 water. Although the Friant Division of the CVP does not directly divert or convey water from the Delta, the project was developed through an exchange with the Delta-Mendota supply. As restrictions on Delta exports have hindered USBR from making deliveries to the Delta-Mendota Canal, the Friant Division Class 1 allocations are reduced, and the water is transferred back to the users that would typically receive water from the Delta-Mendota Canal. As such, the City is required to demonstrate consistency with the Delta Plan's policy to reduce reliance on the Delta. **Appendix D** includes the reporting and calculations that demonstrate Fresno's reduced reliance on supply from their USBR CVP water supply.

Figure 1-1. Previous and Ongoing Water Resources Planning Efforts



2 CITY OF FRESNO
Plan Preparation

The City has coordinated the preparation of its 2020 UWMP with its water suppliers, the County, the City of Clovis, nearby water agencies, and community members to develop a UWMP that adheres to the requirements of the CWC and plans for a resilient water future.

IN THIS SECTION

- Coordination and Outreach

The City of Fresno provides water service to a variety of customer sector types within the City limits, inclusive of several historic County Waterworks Districts (county islands) which have been incorporated into the City's water system.

The City has approximately 139,500 service connections and produced just under 122,000 AF of potable water in 2020. The City meets the threshold identified in the CWC to be classified as an urban water supplier and in the California Health and Safety Code as a public water system. The City provides water directly to its customers and does not wholesale water to any other agencies for potable uses (defined as sales greater than 3,000 acre-feet per year). Therefore, the City is required to prepare and update a Retail UWMP every five years. This report was prepared on a calendar year basis.

2.1 Coordination and Outreach

The City has water supply contracts with USBR and Fresno Irrigation District (FID). Each of these water suppliers has been notified of the plan update and provided water supply projections for the time period covered by this plan. Additionally, the preparation of this 2020 UWMP was coordinated with other appropriate agencies to ensure regional stakeholders had the opportunity to provide input to this plan. The City has coordinated preparation of the 2020 UWMP and solicited participation and comments with the agencies indicated in **Table 2-1**. The City has also published notices in local newspaper and encouraged the active involvement of the population within the water service area to provide feedback on the UWMP and the WSCP during the public review period, as discussed in **Section 10.1**.

Table 2-1. Agency Coordination and Outreach

AGENCY	NOTIFIED 60 DAYS PRIOR TO PUBLIC HEARING	NOTIFIED OF PUBLIC DRAFT 14 DAYS PRIOR TO PUBLIC HEARING
Bakman Water Company	✓	✓
City of Clovis	✓	✓
County of Fresno	✓	✓
Fresno Irrigation District	✓	✓
Fresno Metropolitan Flood Control District	✓	✓
Friant Water Authority	✓	✓
Garfield Water District	✓	✓
Malaga County Water District	✓	✓
Pinedale County Water District	✓	✓
North Kings Groundwater Sustainability Agency	✓	✓
US Bureau of Reclamation	✓	✓

3 CITY OF FRESNO System Description

This chapter describes the history of the City's water system, its current service area, climate, population, and demographics.

IN THIS SECTION

- Service Area
- Land Uses
- Water System
- Population and Demographics

The original Fresno water system began operations in 1876 as a non-profit organization inaugurated by a group of public-minded citizens. Initially, the water system consisted of one pumping station composed of small pumps and two storage tanks located above the second floor of one of the early store buildings. This building was located on Fresno Street between "J" and "K" Streets, presently known as Broadway and Fulton.

By 1888, the town had grown to a small city, which demanded an improved water distribution system. This was necessary because of several large fires, including the destruction of the first permanent courthouse. In 1888, the first pumping station and water tower were constructed at Fresno and "O" Street. These facilities were designed to be an integral part of a larger and continually expanding water system. This No. 1 station was in continuous use until 1959, when it was retired having served its useful purpose. Today, this building is known as the "Water Tower" and has been declared a historic structure.

Between the years of 1887 and 1890, 4-inch and 2½-inch cast iron pipe, as well as 4-inch wrought iron water mains were laid out. Most of these original “permanent pipes” have since been replaced in the present water supply system. The owner and operator of the system in 1888 was the Fresno Water Company. In 1904, the Fresno Water Company was purchased by Balch, Kerckhoff & Wishon, and was reorganized as the Fresno City Water Company. In 1926, the facilities were purchased by the California Water Service Company. This company then sold the water system to the City of Fresno in 1931, which operated as a municipal utility. It was first managed under an appointed water board, but currently is a division of the Department of Public Utilities.

Historically, the City’s supply of water consisted of direct pumping from wells drilled into the underground aquifer. Today, groundwater remains one of the City’s primary water supply sources, including 202 active and 56 inactive groundwater wells. The production capacity from the active wells is approximately 403 million gallons per day (mgd) and the total production capacity is 487 mgd, including inactive wells. The wells are located around the City to provide equitable distribution throughout the City’s water system, as described below. Most wells are connected directly into the transmission grid main system (14- to 20-inch diameter pipelines) to convey water throughout the system.

In the 1960s, the City secured a surface water contract made available from the United States Bureau of Reclamation (USBR). The City contracted with USBR for 60,000 acre-feet of water per year from the Friant Division (Millerton Lake) and developed a system to recharge the groundwater basin by “intentional recharge,” percolating the imported surface water supplies in constructed recharge basins. The City’s USBR supplies are conveyed to the City via FID canals. In 1976, the City signed a contract with FID for delivery of surface water supplies from the Kings River based on the City’s pro rata share of FID’s water entitlements. The Kings River water is used for groundwater recharge and treated for potable use.

In 2004, the City also began treating surface water supplies for direct potable use at its first surface water treatment facility located in northeast Fresno (NESWTF). For the period of 2005–2014, this 30 mgd-rated facility provided 10–15% of the City’s potable water supplies. From 2016–2020, this facility produced 15% of the City’s potable water supply, an increase largely attributed to transmission system improvements, which permitted conveying water further into the City’s distribution system, and the City’s lower overall system demands. Also, in 2015, the City commenced operations of its new T-3 Water Storage and modular Surface Water Treatment Facility (T-3 SWTF) in southeast Fresno. In January 2013, the City completed the installation of meters on all single-family residences.

In 2018, the City completed construction of its new 54 mgd surface water treatment facility in southeast Fresno (SESWTF) and large diameter water mains that serve nearly one-half of the City. Production from this facility may ultimately be 80 mgd with the City demonstrating to the Division of Drinking Water (DDW) that the facility is capable of safely running at higher filter loading rates. With the SESWTF operational, along with the NESWTF and T-3 SWTF, the City provided greater than 50% of its potable supply through using surface water for the first time in 2019 and 2020. The City expects to provide half or more of its potable demand using its surface water supply sources going forward.

3.1 Service Area

The City of Fresno presently covers approximately 115 square miles (sq mi) (73,500 acres) consisting largely of single-family residential, commercial, public, and industrial development. It also includes several areas not within the City limits (e.g., County islands), as shown in **Figure 3-1**. With the exception of the Bakman Water Company (Bakman), Pinedale County Water District (Pinedale), Park Van Ness Mutual Water Company (Park Van Ness), California State University Fresno (CSUF), and private groundwater users located within County islands, the City currently serves water to the entire area encompassed by its City limits and will eventually serve out to the Sphere of Influence (SOI) boundary. The SOI is coincident with the City of Fresno General Plan Land Use and Circulation Map, which was adopted in the 2014 General Plan and therefore, includes all lands planned to be annexed by the City at the projected 2056 buildout of the General Plan (City of Fresno Development and Resource Management Department, 2014).

3.1.1 Land Uses within Service Area

According to the General Plan and the City's Planning and Development Department, the City's planning area covers approximately 106,000 acres (165.6 sq mi) comprised of approximately 73,500 acres (115 sq mi) of incorporated land and 32,500 acres (50.8 sq mi) of unincorporated land based on the City's current shapefiles. The total 106,000-acre planning area includes approximately 84,300 acres of developed or planned to be developed land, approximately 18,500 acres of roads, highways, and railroads with no corresponding water demand, and about 2,500 acres outside of the SOI north of the City's most northwesterly portion referred to as the North Area and shown on **Figure 3-1**.

Of the 106,000 acres within the City's planning area, the City's water service area covers 70,400 acres (110 sq mi) of land within the SOI, which includes most of the 73,500 acres of incorporated area and the unincorporated County Islands not within the City limits. As shown in **Table 3-1**, approximately 59,100 acres of the 70,400 acres within the water service area are developed and served water by the City. The remainder consists of vacant land that will be served by the City when it is developed. Residential units make up the largest portion of water demand served by the City, consisting of over 40% of the total served area and almost 90% of the total service connections.

The remaining areas within the City's SOI are served by other systems or are unserved by a water system, consisting of open space and agricultural land, land used by roads, highways, and railroads, as well as the North Area.

Table 3-1. Current Service Area Characteristics

LAND USE TYPE	AREA (ACRES)	% OF TOTAL AREA	SERVICE CONNECTIONS	% OF TOTAL CONNECTIONS
Single-Family Residential	27,700	39.3%	118,775	85.1%
Multifamily Residential	3,700	5.3%	6,087	4.4%
Commercial	4,500	6.4%	11,982	8.6%
Public	5,600	8.0%	2,504	1.8%
Industrial	4,500	6.4%	175	0.1%
Open Space/ Landscape Irrigation	13,100	18.6%	Note 1	
Total	**59,100**		**139,523[2]**	**100%**
Vacant / Partially Vacant[3]	11,300	15.9%	N/A	
Total	**70,400**	**100%**		

Source: Acreage from City of Fresno Geographic Information System Shapefile of Land Uses provided 8/12/20. Number of connections provided by the City for 2020.

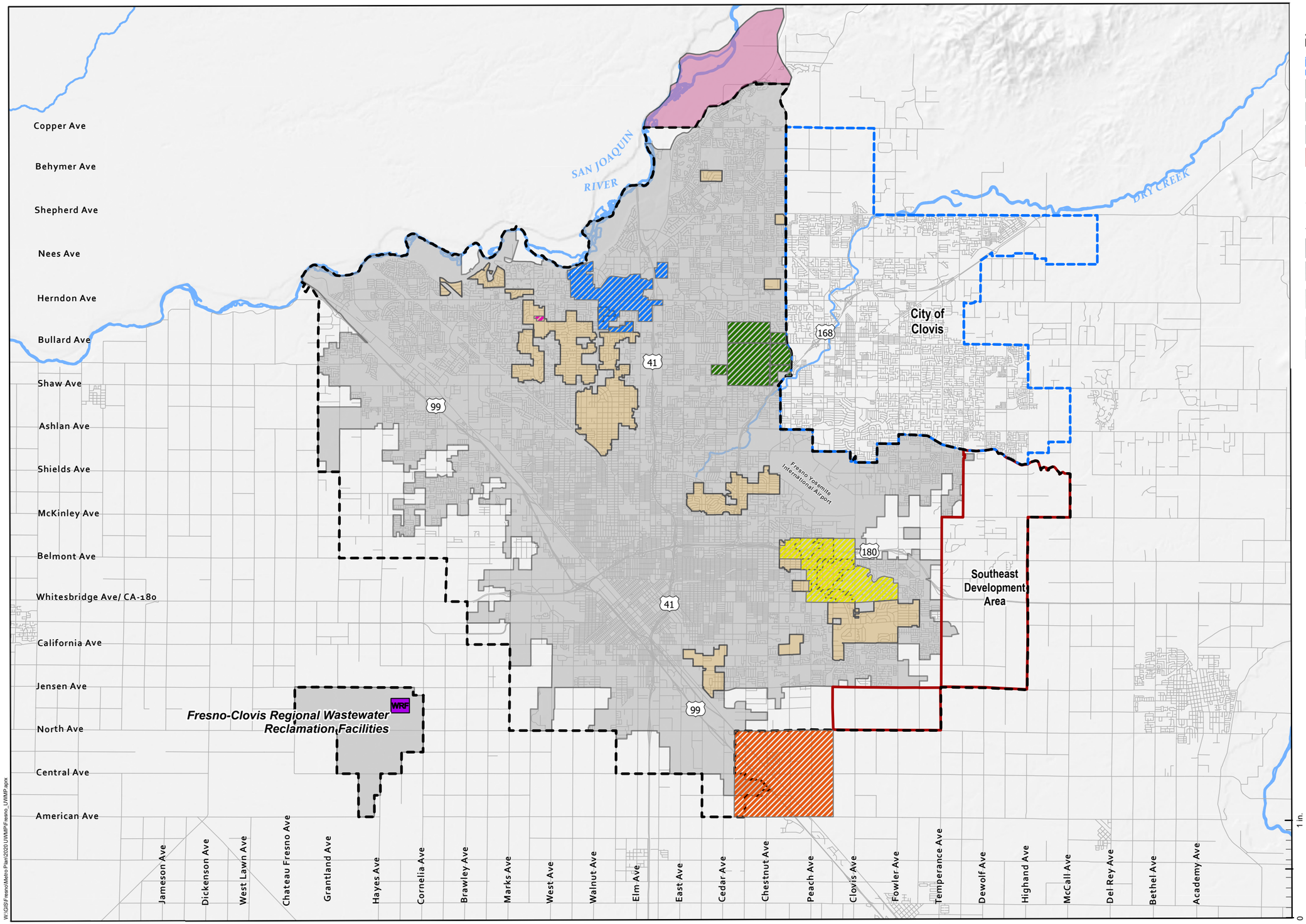
Notes:

1. Dedicated irrigation meters are included in commercial and public meter total.
2. Approximately 3,633 dedicated fire service connections are included in the total services connections, most of which are included in the commercial and public meter total.
3. For partially vacant land, half of the area is included in the zoned land use type and the other half is assumed vacant.

3.1.2 Water System

The City's water system consists of about 1,860 miles of distribution and transmission mains, 202 active municipal groundwater wells, three surface water treatment facilities (SWTFs) with current rated capacities ranging from 4 to 54 mgd, five water storage facilities with pump stations, including one at each of the SWTFs plus two in the distribution system, and three booster pump facilities.

The City's service area spans an approximate 120 feet of elevation difference, declining from northeast to southwest. To help regulate pressure throughout the water distribution system, the City utilizes five pressure zones, as shown on **Figure 3-2**: Highway 41, Shepherd, Sierra, Southwest, and Booster Pump 4 (BP04). The pressure zones are separated by a series of closed or partially closed valves between each zone to prevent or impede flow from one zone to the next, referred to as gate systems. There are four gate systems — Shepherd, Sierra, Southwest, and BP04 — separating the five pressures zones. The Highway 41 Pressure Zone was previously split into two pressure zones divided by a series of 26 gate valves closely following the alignment along Highway 41. However, these zones were combined into a single zone in 2015 by fully opening the Highway 41 gate valves, and as a result are not shown on **Figure 3-2**.



Legend

- Fresno Sphere of Influence
- Clovis Sphere of Influence
- Fresno City Limits
- County Islands
- North Area
- Southeast Development Area
- WRF Wastewater Reclamation Facility
- Streets

Areas Served Water by Others

- Bakman Water District
- Malaga Water District
- Park Van Ness Mutual Water District
- Pinedale County Water District
- CA State University, Fresno

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Prepared by: WSC

N

1:140,000

0 0.75 1.5 3 Mi

0 3,750 7,500 15,000 US Feet

References:

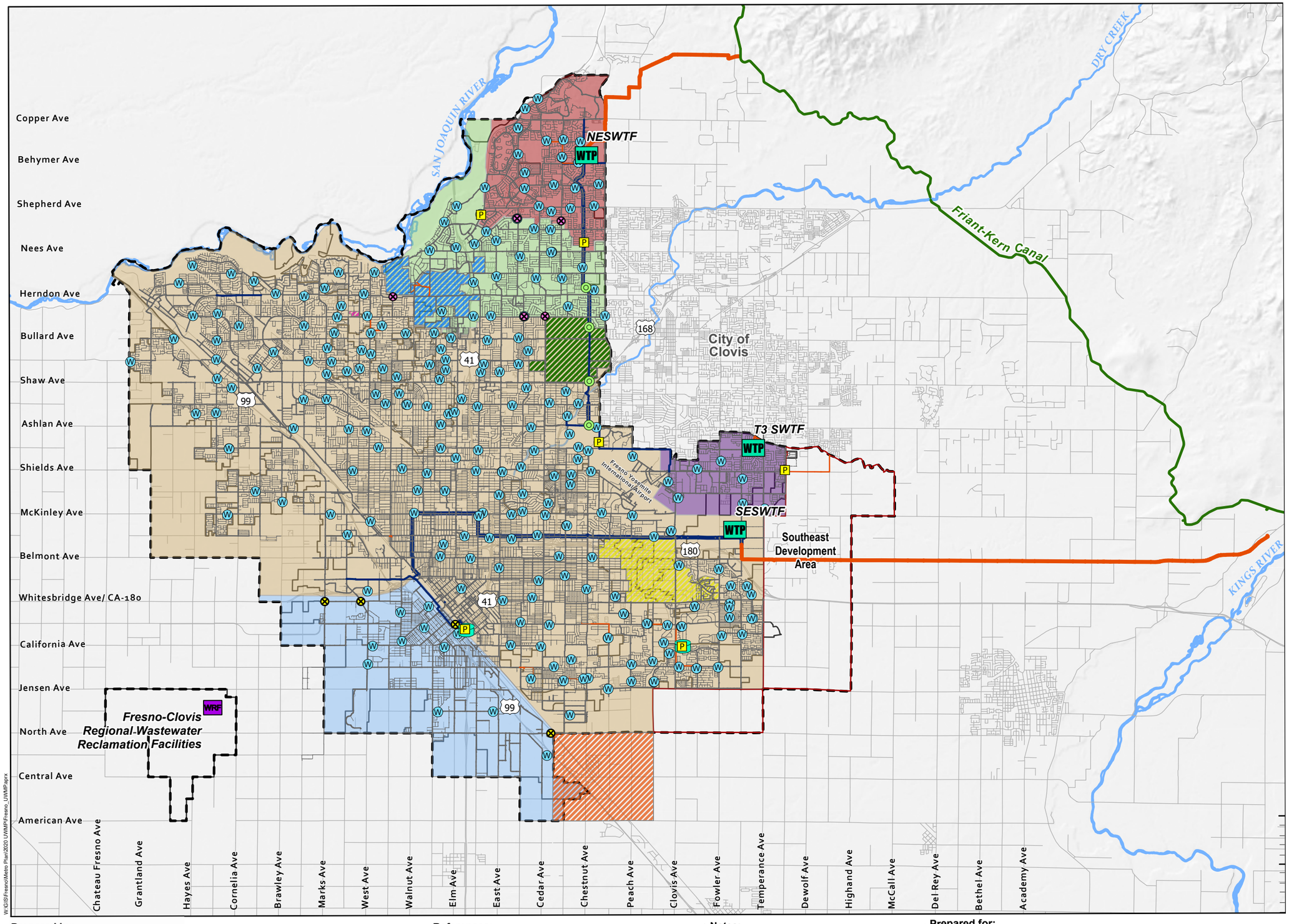
1. Coordinate System: NAD 1983 StatePlane California IV FIPS 0404 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

Notes:

Prepared for: City of Fresno Department of Public Utilities

City of Fresno
2020 Urban Water Management Plan

Figure 3-1. City Service Area



Legend

City Facilities

- Water Treatment Plant
- Booster Pump Station
- Storage Facility
- Active Well
- Existing Turnout
- Wastewater Reclamation Facility

Gate System Valves

- Pressure Relief Valve
- Pressure Sustaining Valve

Water Mains by Diameter (inch)

- <10
- 10 - 16
- 16 - 30
- 30 - 72

Raw Water Mains by Diameter (inch)

- <10
- 10 - 16
- 16 - 30
- 30 - 72
- Friant-Kern Canal

Areas Served Water by Others

- Bakman Water District
- Malaga Water District
- Park Van Ness Mutual Water District
- Pinedale County Water District
- CA State University, Fresno

Pressure Zones

- Highway 41
- Booster Station 4
- Shepherd
- Sierra
- Southwest

City Features

- Southeast Development Area
- Fresno Sphere of Influence
- Fresno City Limits
- Streets

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Prepared by: WSC

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0 3,500 7,000 14,000 US Feet

References:

1. Coordinate System: NAD 1983 StatePlane California IV FIPS 0404 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

Notes:

Prepared for: City of Fresno Department of Public Utilities

City of Fresno
2020 Urban Water Management Plan

Figure 3-2. Water System

3.2 Service Area Climate

The City's service area is in California's San Joaquin Valley in Fresno County along Highway 99. The climate of the area is best described as Mediterranean, characterized by hot dry summers and cool winters. Precipitation in the area averages around 11 inches per year, as shown in **Table 3-2**. However, rainfall can significantly vary year to year, with over 18 inches received in 2011 and less than 4 inches received in 2014. The recent drought was marked by four consecutive years (2012 to 2015) of less than 10 inches of rainfall. As shown by the average evapotranspiration (ET_o) and temperature values in **Table 3-2**, the City's water use in the summer months is significantly higher than in the winter, reflecting increased water use for irrigation purposes during the hot, dry summers.

Table 3-2. Average Climate Characteristics

MONTH	ET_o (INCHES)	RAINFALL (INCHES)	TEMP-HIGH (°F)	TEMP-LOW (°F)
Jan	1.17	2.33	56.9	37.4
Feb	1.98	1.8	62.6	39.8
Mar	3.73	1.99	68.4	43.6
Apr	5.43	0.99	73.7	46.9
May	7.33	0.54	81.3	53.2
Jun	8.41	0.19	89.6	59.1
Jul	8.8	0.02	95.7	63.8
Aug	7.82	0.01	94.6	62.5
Sep	5.69	0.07	89.6	57.9
Oct	3.68	0.59	79.3	49.3
Nov	1.85	0.98	66.2	40.6
Dec	1.10	1.83	56.5	36.1
Total/ Average	**56.99**	**11.34**	**76.2**	**49.2**

Source: CIMIS Website: http://www.cimis.water.ca.gov, Station 80 Fresno State (1988 to 2020) Monthly Average Report, October 2020 (downloaded November 30, 2020)

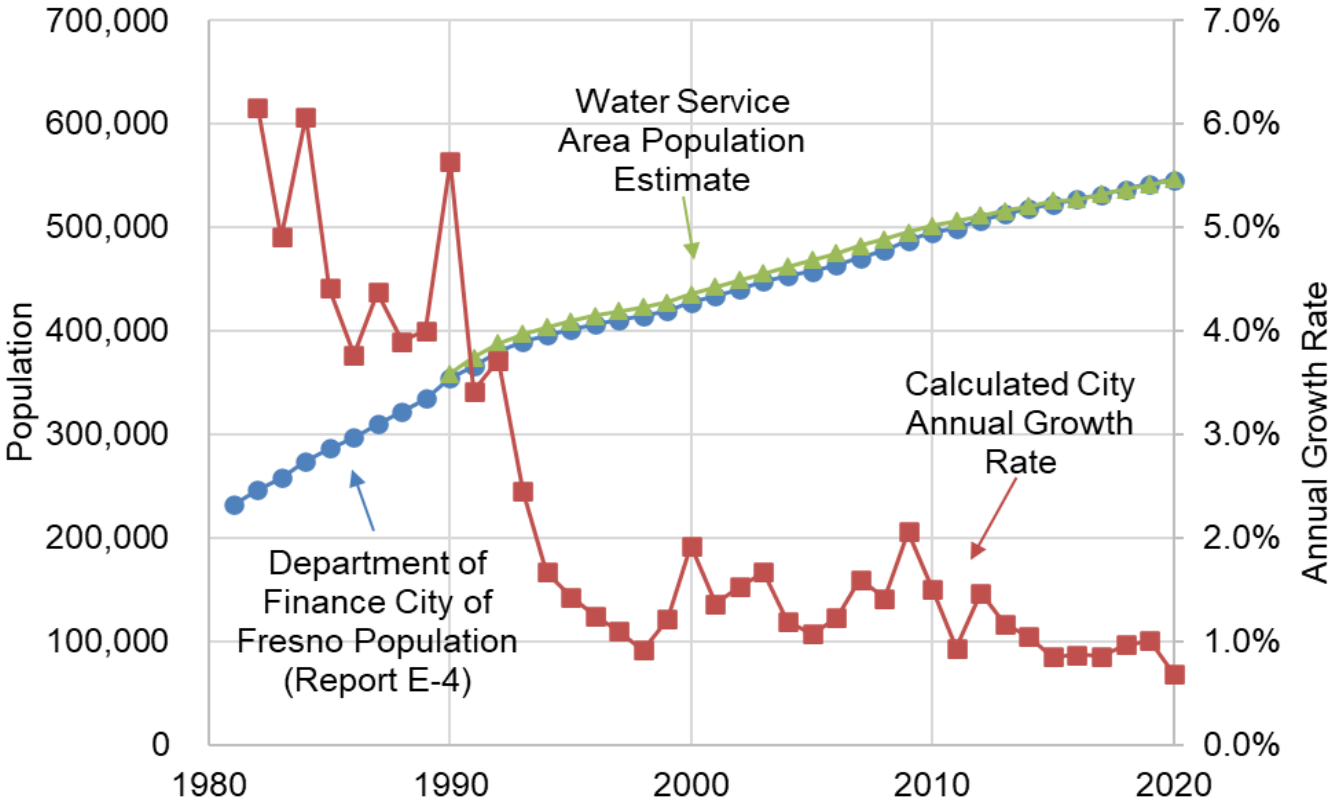
3.3 Service Area Population and Demographics

The City experienced rapid growth since it was founded by the Central Pacific Railroad in 1872 up through the mid-1990s, when the City's annual growth rate was typically greater than 2%. From 1995 to 2015, the annual growth rate has decreased to an average of 1.3%, and since 2015, the rate has not surpassed 1.0%.

The population served by the City Water Division is slightly higher than the City's population after adding unincorporated areas served by the City and removing areas within the City limits served by private water companies, special districts, or private wells. The City acquired County service areas and facilities in 1989, which increased the service area population to slightly greater than the City population since 1990.

Figure 3-3 compares the historic City population to the water service area population since 1990. Water service area population estimates prior to 1990 were unavailable for comparison to the City's population. The City Water Division's methodology for calculating the population of the City's water service area involves summing all the Census tract data for the City's overall service area and subtracting out tracts not served by the City. These tracts included areas served by Pinedale, Bakman, and CSUF, as well as areas outside the City service area, unserved areas within County areas, unserved areas within City areas, and areas with only partial service (i.e., straddling City service areas). Based on the City's methodology, the water service area population was estimated to be 546,502 in 2020, compared to 545,769 for the total City population in January 2020 (California Department of Finance, 2020). For comparison, in the 2015 UWMP, the City Water Division population served was 525,575 compared to the total City population of 522,369 (California Department of Finance, 2020). The City's water service area population in 2020 using the DWR Population Tool is 550,217 and is similar to the population estimate using the City's methodology.

Figure 3-3. City of Fresno and Water Service Area Historic Population



The City's General Plan is the City's primary growth planning document from which the baseline water service area population projection for this UWMP was developed. The General Plan includes population estimates for the City planning area, which includes all areas within City limits and unincorporated areas outside of City limits within the City's SOI, based on projections developed by the Fresno Council of Governments and estimates a buildout population of 921,057 in 2056. In 2017 the Fresno Council of Governments developed population projections in 5-year increments through 2050 for all cities within Fresno County (Applied Development Economics, Inc. and Mintier Harnish Associates, 2017). The Fresno Council of Governments' 2017 report projects the City's population will grow at an annual growth rate ranging from 0.92–1.44%, with an average annual growth rate between 2020 and 2056 (buildout) of 1.03% per year. These population projections and growth rate have been incorporated in the City's General Plan population projections.

According to the City's Planning and Development Department, the City's water service area population is anticipated to continue to grow along with the City, with some slightly higher growth years anticipated within the next 10 years due to multiple large developments planned for completion in the near term. For planning purposes, this UWMP assumes the City will slowly incorporate areas served by others within the City's SOI by buildout in year 2056. As such, the long-term water service area population annual growth rate is expected to be 1.44% between 2020 and 2056 to account for absorbing these areas into the City's water system.

The baseline population projection starts with the 2020 water service area population determined using the DWR Population Tool and grows based on areas expected to be developed by 2030,

as provided by the City's Planning Department, and then linearly beyond 2030 to meet the buildout population in 2056. The City's 2020 population estimate includes the entire City planning area, including areas not served water by the City and areas currently outside the City limits but within the SOI, and is higher than the current water service area population. The water service area population projection assumes the City will incorporate all areas currently served by others and grow to provide water service to all areas within the SOI by buildout. Because the water service area has more growth potential than the City planning area, the annual average growth rate as calculated ranges from 1.1–2.1% between 2020 and 2056, with an average annual growth rate of approximately 1.56% between 2020 and 2045 that continues to slow through the buildout. **Table 3-3** shows the water service area population projections through 2045 in five-year increments.

Table 3-3. Current and Projected Population (DWR 3-1R)

POPULATION SERVED	2020	2025	2030	2035	2040	2045
TOTAL	**550,217**	**609,433**	**674,677**	**719,327**	**765,278**	**812,529**

3.3.1 Other Social, Economic, and Demographic Factors

Most recently, the City is experiencing significant impacts due to the global pandemic caused by COVID-19 (SARS-CoV-2) virus. In March 2020, the State issued a stay-at-home order that forced many businesses to close and other businesses to require residents to continue work only from their home to slow the spread of the virus. Additionally, the forced closure of several businesses caused a historic increase in unemployment across the US and a resulting economic recession. While all the impacts of COVID-19 are not entirely known at this time, it has caused a shift in water use by customer class. In 2020, residential demands increased by over 8% from 2019 demand, while commercial and industrial water use decreased by over 5%. This shift is expected to be temporary with an anticipated return to previous levels once all stay at home orders are lifted and businesses can reopen. However, the economic recession could have longer term impacts to the region.

CITY OF FRESNO

4 Water Use Characterization

This chapter describes and quantifies 2020 water use and projected water use through 2045 within the City's service area.

Water consumption in the City is characterized by the typical demand sectors of residential, commercial, institutional, industrial, and irrigational. The difference between production and consumption is losses, which may be attributed to system leaks, meter inaccuracies, fire flows, theft, unmetered use, or other factors.

IN THIS SECTION

- Distribution System Water Losses
- Past and Current Water Use
- Projected Water Use

4.1 Non-Potable Versus Potable Water Use

The City serves its customers potable water for residential, commercial, institutional, industrial, and landscape irrigational demands through its potable water distribution system.

The City also diverts raw surface water obtained from the United States Bureau of Reclamation (USBR) and Fresno Irrigation District (FID) to recharge basins throughout the service area. The City coordinates with FID for the delivery of the recharge water, utilizing FID's existing system of channels and pipelines to convey the raw water, and with Fresno Metropolitan Flood Control District (FMFCD) to deliver water to FMFCD's stormwater retention and recharge basins or its own recharge basins. The raw surface water recharges the groundwater basin to sustain the groundwater supply for the City. The groundwater recharge volume can vary based on surface water supply availability and is represented as an addition to annual groundwater supplies as discussed in **Chapter 6**. In addition, the City serves a limited number of customers secondary treated or tertiary treated and disinfected recycled water for agricultural irrigation or landscape irrigation, respectively. The recycled water demands are discussed in **Section 6.4**.

4.2 Past, Current, and Projected Water Use by Sector

The following sections document the past and current water use for each sector, and the projected water use through 2045.

4.2.1 Water Use Sectors

Records of historical water consumption serve as the basis for developing water demands by water use sector. Water consumption is the volume of water measured at each metered service.

The City tracks water consumption across different water use sectors listed in the California Water Code (CWC), including:

- Single-Family Residential
- Multifamily Residential
- Commercial and Institutional / Governmental
- Industrial
- Landscape
- Distribution System Losses

In addition to the water uses listed in the CWC, the City participates in exchanges and transfers, provides temporary travel meters for temporary water use, and diverts non-potable surface supplies for groundwater recharge, described below. The City does not provide water for sales to other agencies, saline water intrusion barriers, or agricultural use.

4.2.1.1 Exchanges

Since 1976, the City has had a water exchange agreement with FID for delivery of the City's percolated wastewater effluent — considered equivalent to tertiary treatment — to FID canals. This is not counted as a water use in this chapter and is discussed as a water supply in **Section 6.6.1.2**.

4.2.1.2 Other

A small, quantified water demand has been classified as “other” to account for temporary travel or construction meters for water used for dust control. This use type typically accounts for less than one percent of total water use.

4.2.2 Distribution System Water Losses

Real losses, as defined in the American Water Works Association (AWWA) Water Audit tool are:

“Physical water losses from the pressurized system (water mains and customer service connections) and the utility’s storage tanks, up to the point of customer consumption. In metered systems, this is the customer meter; in unmetered situations, this is the first point of consumption (stop tap/tap) within the property. The annual volume lost through all types of leaks, breaks, and overflows depends on frequencies, flow rates, and average duration of individual leaks, breaks, and overflows.”

The past five years of distribution system losses are listed in **Table 4-1**, and the results of the 2016-2019 AWWA Water Audit Tool are provided in **Appendix E**. The AWWA Audit Worksheet was not completed for 2020 prior to the submittal of this plan, and the volume of water loss is estimated as the difference between water produced and metered water consumed for each calendar year period.

The overall consumption of water in the system is placed into four different categories:

- Billed Metered Usage
- Billed Unmetered Usage
- Unbilled Metered Usage
- Unbilled Unmetered Usage

The water losses for the system were found by determining the difference between the overall amount of water supplied to the community and the apparent system losses. The City’s system losses have many different possible causes such as hydrant flushing/testing, construction, firefighting, system leaks, water main breaks, and meter error. The estimated loss in 2020 is 9,568 acre-feet (AF), which is the difference between metered production and metered consumption and is approximately 8% of the overall system production. Based on the previous four years of audits, the City has not had to apply meter adjustments in the AWWA Water Audit Tool, and the water losses report is the difference between water produced and metered water consumed each year. It is anticipated that the estimated 2020 water loss volume in **Table 4-1** will be the water losses reported on the 2020 AWWA Audit when it is certified.

Currently, the City does not have a water loss standard but intends to evaluate programs to reduce water losses in their Metro Plan that is currently being updated. The City is also tracking forthcoming water use standards, which will include a water loss standard that is planned to be adopted by the Water Board within the next few years.

Table 4-1. DWR 4-4R 12 Month Water Loss Audit Reporting

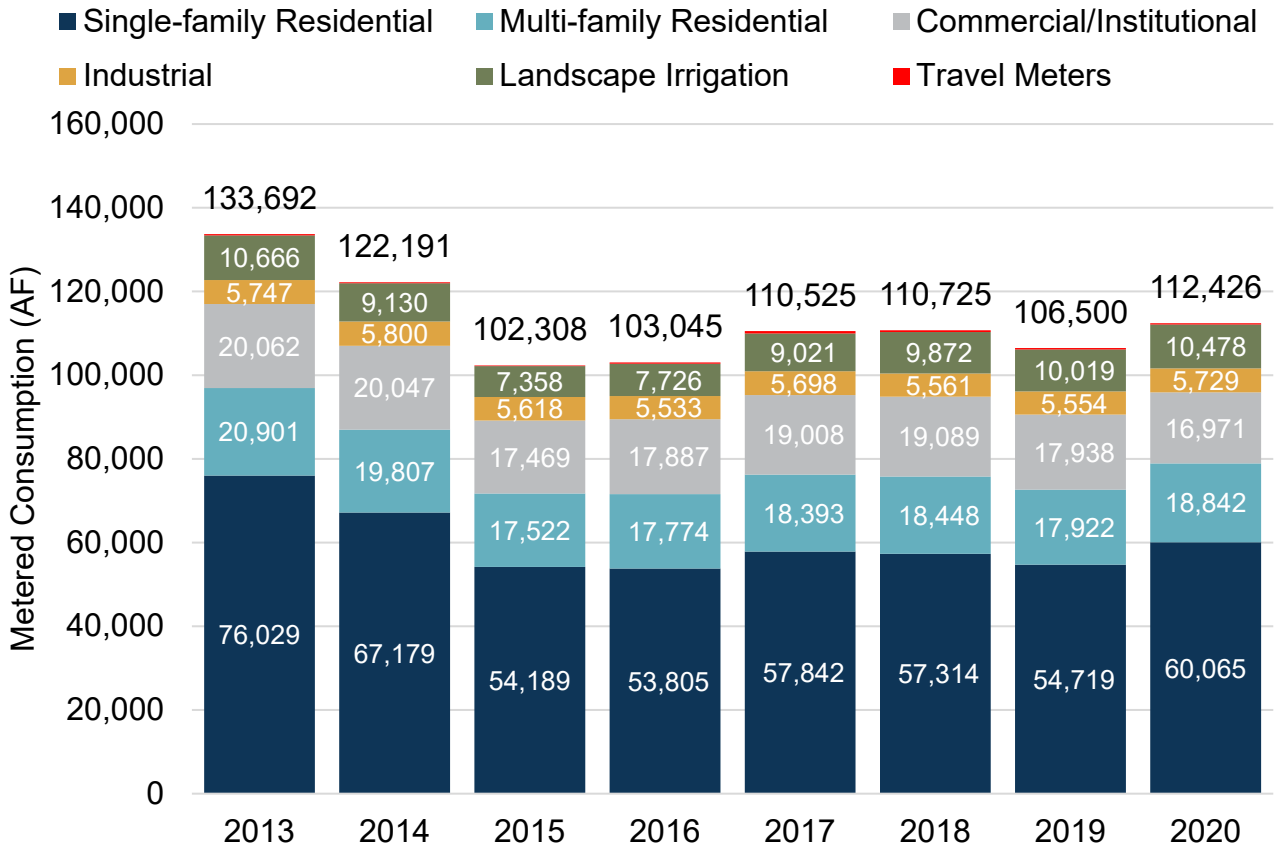
REPORT PERIOD START DATE		VOLUME OF WATER LOSS, AFY	PERCENT LOSS OF PRODUCTION
MM	YYYY		
1	2016	9,036	8.0%
1	2017	10,235	8.5%
1	2018	9,028	7.5%
1	2019	9,059	7.8%
1	2020	9,568	7.8%

For 2016 through 2019, volume of water loss is taken from the AWWA Water Audit Tool. For 2020, the volume of water loss is the difference in metered production and metered consumption.

4.2.3 Past and Current Water Use

Since 2013, all water services in the City's water service area have been metered. Prior to 2013, the City estimated single-family residential water use, since these services were not equipped with meters, by subtracting all other metered uses (commercial, institutional, industrial, and irrigational), plus 10% assumed losses, from production data. Water consumption for the City's water service area by customer type for 2013–2020 is shown on **Figure 4-1**.

Figure 4-1. Historical Consumption by Customer Type (2013–2020)



As shown in the figure, single-family residential water use has decreased more than 20,000 AFY since the Single-Family Metering Program was completed in 2013. Multifamily residential, commercial, and institutional services have historically been metered, and consumption has also decreased since 2013, with industrial users and landscape irrigation consumption at similar levels to 2013 consumption, even as new customers are connected to the City's water system. Landscape irrigation demands did decrease in 2015 and 2016, likely due to the drought restrictions, and continue to recover after the drought ended in 2017.

Table 4-2 provides the breakdown of actual water use by sector type in calendar year 2020. As shown in **Table 4-2**, single-family residential water use is the largest use type in the City and accounted for almost 50% of potable water use in 2020. Multifamily residential use was the second largest, accounting for approximately 15% of water sales in 2020. Together, residential water use accounts for about 65% of all potable water uses in the City's service area. The remaining potable water uses consist of mainly commercial and institutional water use, which are tracked together and included only on the commercial use row on **Table 4-2**, followed by landscape irrigation and industrial usage. Distribution losses accounted for approximately 8% of potable water used in 2020 (per **Section 4.2.2**).

Table 4-2. Actual Demands for Water: Potable (DWR 4-1R)

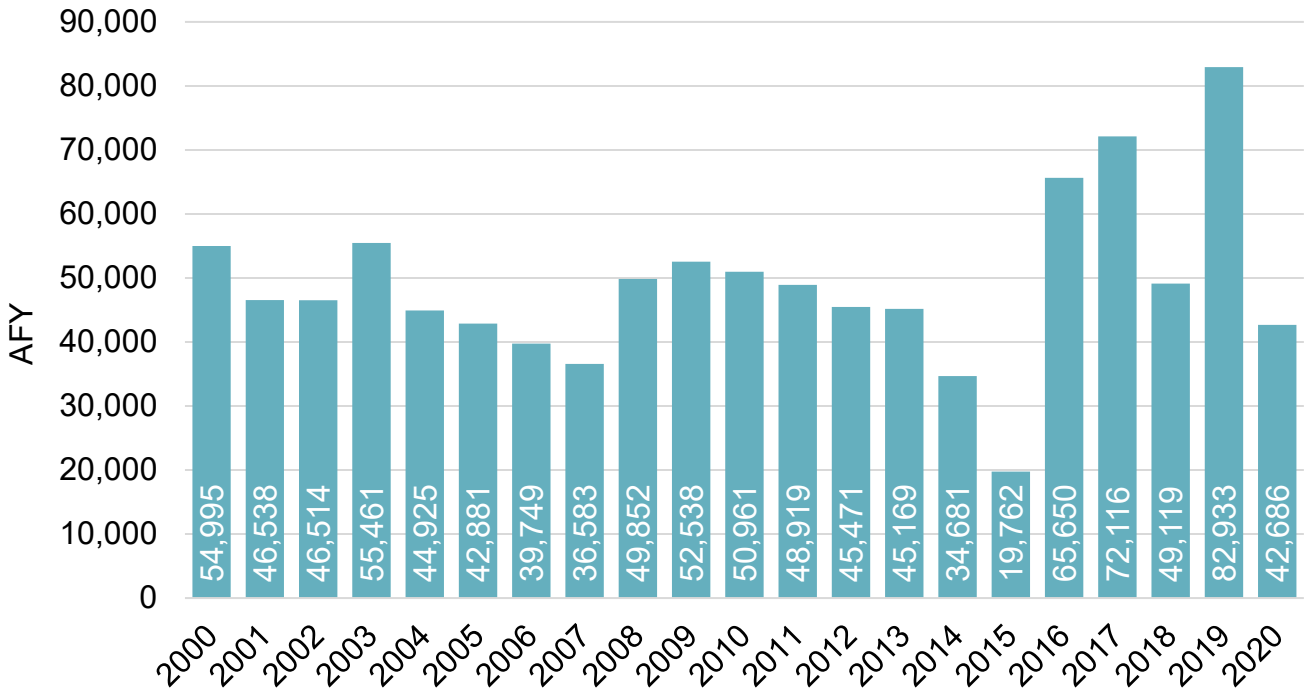
USE TYPE	ADDITIONAL DESCRIPTION	LEVEL OF TREATMENT WHEN DELIVERED	2020 VOLUME	PERCENT OF TOTAL
Single Family		Drinking Water	60,065	49.2%
Multi-Family		Drinking Water	18,842	15.4%
Commercial		Drinking Water	16,971	13.9%
Industrial		Drinking Water	5,729	4.7%
Institutional/ Governmental	See Note 1	Drinking Water	---	---
Landscape		Drinking Water	10,478	8.6%
Other	Travel Meters	Drinking Water	340	0.3%
Losses		Drinking Water	9,568	7.8%
Total:			**121,993**	**100%**

Note:

1. Institutional and Governmental water usage is included in the Commercial use type.

Figure 4-2 shows the historic volume of the City's raw surface water used for groundwater recharge since 2000. Over the last 20 years (2000–2020), the average annual intentional recharge of surface water was 49,240 AFY. Total recharge has ranged from a high of 82,900 AF in 2019 and a low of 19,700 AF in 2015. Also, total recharge volumes in 2016, 2017, and 2019 were three of the highest volumes in the last 20 years. The increases were due to over 30% increase in recharge at City basins from the addition of several basins (Nielsen, Fancher) and proactive maintenance of basins to maximize percolation capacity. The annual variability between years is caused by several factors, including basin availability, water delivery season, pond maintenance, or length of wet seasons.

Figure 4-2. Historic Recharge of City Surface Water



4.2.4 Projected Water Use

4.2.4.1 Land Use Projections

The potable demand projections through 2045 for normal water use follow the methodology for land use-based projections described in Appendix K of the 2020 Urban Water Management Plan (UWMP) Guidebook. Under this methodology, existing land use and demand is accounted separately from future land use and demand. This allows different demand factors to be applied to current land use areas and future land use areas. Future land use areas represent future customers and developments that are expected to be more water efficient than existing land uses and buildings due to the California Plumbing Code (CPC) and use of higher efficiency appliances and landscapes.

The existing and future land use acreage was sourced from the City's Geographic Information System (GIS) database and the City's General Plan. The existing land use shapefile and associated acreage for each land use classification were used to represent 2020 land use data. Areas not served by the City were excluded from the existing land use shapefile. The future land use shapefile corresponds with the planned land use at buildout as described in the City's General Plan representing the year 2056. Although the City does not have any plans to serve areas currently served by others within the City limits, all areas within the City Sphere of Influence (SOI) were assumed to be served by the City by buildout for conservative planning purposes. **Table 4-3** lists the land use acreage by land use category for the 2020 and buildout 2056 water service areas.

The land use acreage between 2020 and 2056 was estimated in 5-year increments based on areas planned to be developed by 2030 from the City's Planning Department, and by linearly interpolating the remainder of the change in acreage for each land use category between 2030 and 2056. **Figure 4-3** shows the existing and projected land use by customer class used to develop the projections.

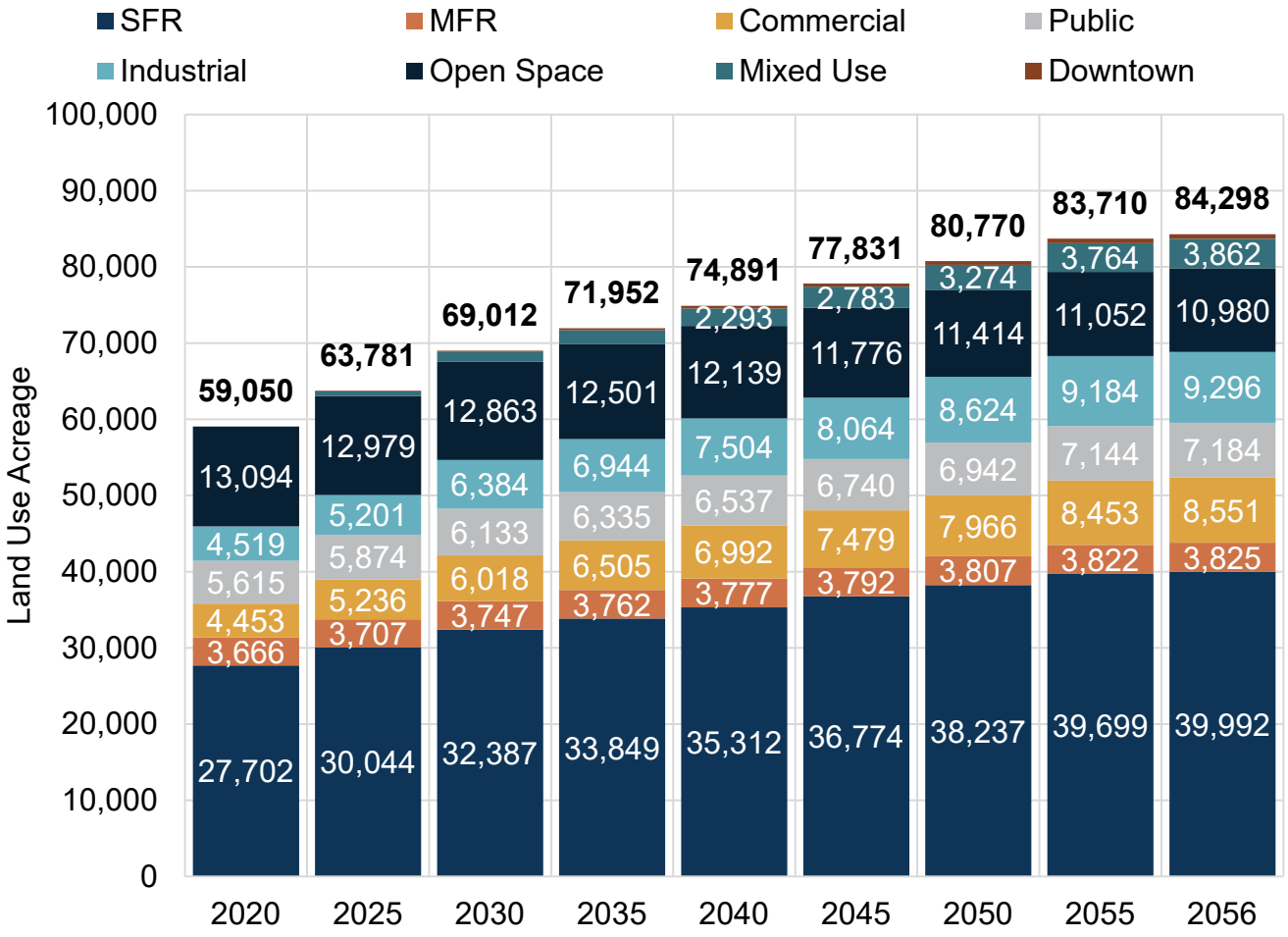
Table 4-3. Existing and Future Water Service Area Acreage

LAND USE CATEGORY	2020 WATER SERVICE AREA[1, 3, 4]		2056 WATER SERVICE AREA[2]	
	ACRES	PERCENT	ACRES	PERCENT
Single-Family Residential	27,700	47%	40,000	47%
Multifamily Residential	3,700	6%	3,800	5%
Commercial	4,500	8%	8,600	10%
Public Facility	5,600	9%	7,200	9%
Industrial	4,500	8%	9,300	11%
Open Space/ Landscape Irrigation	13,100	22%	11,000	13%
Mixed Use[3]	0	0%	3,900	5%
Downtown[3]	0	0%	600	1%
TOTAL	**59,100**	**100%**	**84,300**	**100%**

Notes:

1. Acreage from City of Fresno GIS Shapefile of Land Uses provided 8/12/20 and reduced to the City's water service area (excludes Pinedale, Bakman, and California State University Fresno and unserved areas outside the City limit and SOI).
2. Future Land Use Shapefile provided by the City on 8/12/20 and aligns with the General Plan for buildout in year 2056. The buildout service area acreage listed excludes the Fresno-Clovis Regional Wastewater Reclamation Facility, land used for road, highways, and railroads, and the north area outside of the SOI.
3. Mixed use and downtown land use categories are not in the existing land use shapefile. They are described in the General Plan as new designations for redevelopment of existing areas that contain a mix of land uses.
4. Approximately 11,300 acres of non-water demanding vacant/partially vacant land is excluded from the 2020 water service area acreage.

Figure 4-3. Existing and Projected Land Use



Note: Acreage for Mixed-use and Downtown land use types are not shown every year for clarity, but are included in the total acreage value.

4.2.4.2 Demand Factors and Future Savings

Land use-based water demand factors were developed using 2018 metered consumption data matched to 72 categories of land use data. These demand factors were applied to the 2020 land use acreage by category to develop the demand projection beginning in 2020. Demand factors for land uses that grow over time and represent new developments were assigned a lower demand factor than the demand factors for existing development. Additionally, demand factors were assumed to slowly reduce over time due to passive conservation, which includes the replacement of older water fixtures and appliances with more efficient types now required as part of the CPC. The passive conservation savings are projected to be greater for existing customers than future customers because future customers are already assumed to have a lower water demand factor and meet the plumbing code.

Future savings due to passive conservation were developed using the Alliance for Water Efficiency (AWE) Water Conservation Tracking Tool. The Tracking Tool is an Excel tool that can

incorporate water service area-specific data to estimate natural replacement rates of fixtures and future savings based on the CPC.

Table 4-4 lists the passive conservation savings assumption incorporated in the potable demand projections. Existing unit demand factors are reduced by the percentages listed to develop the future development unit demand factors. As shown in the table, this assumes future residential and non-residential dwelling units are 10% and 5% more water efficient, respectively, than existing dwelling units due to changes in the plumbing code and ever-increasing new water efficient technology. **Table 4-5** compares the total potable demand projections without the estimated savings due to passive conservation from 2025–2045.

Table 4-4. Passive Conservation Savings Assumptions

LAND USE TYPE	FUTURE DEVELOPMENT UNIT DEMAND FACTOR REDUCTION[1]	EXISTING DEVELOPMENT ANNUAL PASSIVE CONSERVATION SAVINGS[2]	FUTURE DEVELOPMENT ANNUAL PASSIVE CONSERVATION SAVINGS[3]
Residential/Mixed Use	10%	0.20% per year	0.04% per year
Commercial/Downtown	5%	0.05% per year	0.01% per year
Public	5%	0.05% per year	0.01% per year
Industrial	5%	0.05% per year	0.01% per year
Open Space/ Landscape Irrigation	0%	0% per year	0% per year

Notes:

1. Existing (2020) unit demand factors are reduced by the percentages listed to develop the future development unit demand factors.
2. Existing development annual passive conservation savings were developed using the AWE Water Conservation Tracking Tool.
3. Future development passive conservation savings are assumed to be one-fifth the rate of existing development passive conservation savings.

Table 4-5. Projected Future Savings for Potable Demands, AF

	2025	2030	2035	2040	2045
Total Potable Demand with no conservation	137,521	149,361	157,204	165,047	173,160
Estimated Passive Conservation	1,017	2,005	2,994	3,973	5,213
TOTAL POTABLE DEMAND WITH PASSIVE CONSERVATION	**136,504**	**147,356**	**154,210**	**161,074**	**167,947**

4.2.4.3 Demand Projections

Table 4-6 provides the projected demands by use type based on the methodology described above. **Table 4-7** includes the projected raw surface water used for groundwater recharge through the planning period for normal years. The City intends to recharge an average of 60,000 AFY beyond 2020, corresponding with the average recharge volume from 2016 through 2020, and gradually increase recharge by about 540 AFY each year. In 2025, the normal year groundwater recharge is projected to be 62,700 AFY and will continue to increase to 73,500 AFY by 2045. The actual volume recharged is based on the available surface water supplies each year, as well as available basin capacity and other factors, and may be lower in dry years or higher in wet years.

Table 4-6. Projected Demands for Water: Potable (DWR 4-2R)

USE TYPE	ADDITIONAL DESCRIPTION	PROJECTED WATER USE				
		2025	2030	2035	2040	2045
Single Family		76,255	80,429	82,934	85,437	87,936
Multi-Family		19,000	20,654	21,737	22,831	23,935
Commercial		19,052	21,135	22,587	24,041	25,496
Industrial		7,410	9,003	9,922	10,841	11,758
Institutional/ Governmental	See Note 1					
Landscape		4,490	5,035	5,422	5,809	6,196
Other	Travel Meters	200	200	200	200	200
Losses		10,097	10,900	11,408	11,917	12,426
TOTAL:		**136,504**	**147,356**	**154,210**	**161,076**	**167,947**

Note 1: Institutional and Governmental water usage is included in the Commercial use type.

Table 4-7. Projected Demands for Water: Non-Potable (DWR 4-2R)

USE TYPE	ADDITIONAL DESCRIPTION	PROJECTED WATER USE				
		2025	2030	2035	2040	2045
Groundwater Recharge	Raw-Water	62,700	65,400	68,100	70,800	73,500
TOTAL:		**62,700**	**65,400**	**68,100**	**70,800**	**73,500**

4.2.4.4 Future Conservation

In 2018, following the unprecedented drought, California Legislature established a framework centered on "Making Water Conservation a California Way of Life." The goal was to help the State better prepare for droughts and climate change by establishing statewide water efficiency standards and incentivizing recycled water (California Department of Water Resources, State Water Resources Control Board, November 2018). The resulting legislation of Senate Bill 606 and Assembly Bill 1668, along with future regulations, will have impacts on water providers over the coming years, requiring indoor, outdoor, and commercial, industrial, and institutional water use goals, water loss standards, annual water budgets, and documented preparation for long-term water shortages. All the water use goals together will form a total urban water use objective specific for each water agency. The Department of Water Resources (DWR) has provided recommended standards for indoor residential water use, and other urban water use goals are currently being developed and are expected to be released in late 2021. The State Water Resources Control Board is anticipated to adopt the element that includes the total water use objective in 2022, and agencies will begin reporting their water use in accordance with their urban water use objective beginning in 2024, with compliance anticipated by 2027. Because most of the water use goals are unknown, and none has been adopted by the State, the City's total urban water use objective is unknown and was not incorporated into the demand projections herein. However, the City is tracking the water use efficiency standards and goals and is aware it may need to implement additional conservation above what is presented in these projections to meet its total urban water use objective as mandated by the State in the future. The City is considering these higher conservation demand projections within a demand envelope in the current Metro Plan update.

4.2.5 Characteristic Five-Year Water Use

A new component of the UWMP is to prepare a five-year drought risk assessment (DRA) to evaluate water service reliability for a drought lasting five years from 2021–2025. The five-year DRA assumes potable water demand is unconstrained, and the City will continue to meet all projected potable demands. The raw water demand varies based on the availability of surface water supplies for groundwater recharge. The recycled water supply is not impacted by the drought, and recycled water demands are at normal year projections for the five-year drought. Projected water demands for years 2021–2025 for the DRA are included in **Section 7.2**.

4.3 Water Use for Lower Income Households

The Fresno Council of Governments (COG) prepared an update to the Regional Housing Needs Allocation (RHNA) to cover the period of January 1, 2015–December 31, 2023. The City subsequently developed its own Housing Element based on the COG RHNA for the planning period of December 31, 2015–December 31, 2023. The City's current Housing Element was adopted on April 13, 2017.

The City's Housing Element specifies the City will develop 8,955 new housing units through 2023 for extremely low, very low, and low income levels (City of Fresno Development and Resource Management Department, 2017). The City's Planning and Development Department prepares Housing Element Annual Progress Reports to report the progress of the RHNA and housing goals. The City of Fresno 2019 Housing Element Annual Progress Report details that 909 lower income units are approved or permitted (City of Fresno Planning and Development Department,

2020). The remaining number of lower income units needed over the RHNA 2013–2023 period, when subtracting the approved and permitted units, is 8,046.

Table 4-8 includes the Housing Element identified available single-family and multifamily acres to be developed and dwelling units for Extremely Low, Very Low, Low, Moderate, and Above Moderate income levels (City of Fresno Development and Resource Management Department, 2017). This data was used to determine the number of acres of both single-family and multifamily land use that needs to be developed by 2023 to meet the remaining 8,046 lower income units target for RHNA. The identified acres needed for low-income development by 2023 was applied to the average water demand factor for single-family and multifamily land uses to project the lower income water demands through 2023 to meet RHNA, shown in **Table 4-8**.

Table 4-8. Lower Income Dwelling Units and Acres to be Developed through 2023 and Estimated Water Demand

FRESNO HOUSING ELEMENT	SINGLE-FAMILY RESIDENTIAL	MULTIFAMILY RESIDENTIAL	TOTAL
Acres Available for Low-Income Development	3,163.6	1,310.9	4,474.5
Total Dwelling Units	13,457	21,526	34,983
Dwelling Unit per Acre	4.25	16.42	
Dwelling Unit Needed to Meet RHNA	3,095	4,951	8,046
Acres to be developed to Meet RHNA	727.6	301.5	1,029.1
Average Water Demand Factor (AF/ Acre)	2.54	5.13	
Low-Income Demand to meet RHNA from years 2020 – 2023 (AF)	1,847	1,545	3,392
Annual Low-Income Demand to meet RHNA (AFY)	**462**	**386**	**848**

Based on the estimated low-income water demand to meet the RHNA requirements by 2023, the annual projected low-income households demand is 462 AFY for single-family residential and 386 AFY for multifamily residential. For the purposes of this plan, the current RHNA projected low-income growth and water demands was applied through the UWMP planning period of 2045 and is presented in **Table 4-9**. However, lower income demands beyond 2023 will be based on the next Housing Element and RHNA Update expected in 2023 and may change in the future. All housing units and associated population are included in the adopted General Plan, and the demands for these units that occur within the water service area boundaries are included in the future water demands presented in this plan.

Table 4-9. Lower Income Household Projected Water Demands

LOW INCOME DEMAND	2025	2030	2035	2040	2045
Single-Family Residential Demand	2,308	2,308	2,308	2,308	2,308
Multifamily Residential Demand	1,932	1,932	1,932	1,932	1,932
TOTAL (AF)	**4,240**	**4,240**	**4,240**	**4,240**	**4,240**

4.4 Climate Change Considerations

Climate change impacts were considered in the North Kings Groundwater Sustainability Plan (NKGSP) based on DWR's Guidance for Climate Change Data Use during Groundwater Sustainability Plan (Department of Water Resources, 2018) and the related Sustainable Groundwater Management Act climate change website.[1] As documented in the NKGSP, the DWR climate change datasets were developed for the California Water Commission's Water Storage Investment Program (WSIP), are consistent with other DWR programs, are based on the best available science, build on previous efforts, incorporate the latest advances in projections, and follow the Climate Change Technical Advisory Group guidance (Provost & Pritchard, November 2019).

Changing precipitation and evapotranspiration (ETo) rates are expected to have the greatest impact on future demands, especially for outdoor water use. The WSIP climate change data sets estimate minimal changes to precipitation due to climate change from the historic period. The same datasets predict the ETo rate estimates with climate change will increase 3% by 2030 and up to 8% by 2070. More specifically, the ETo rate is predicted to increase the most in typically low ETo months (winter) and when irrigation is limited. The ETo rate is also predicted to be only slightly higher than historic in warmer months during the irrigation season. While higher ETo rates would increase irrigation demands, they are not anticipated to substantially impact the City's urban water use. The climate change impacts to supply sources are discussed in the supply chapter of **Section 6.8.2.1**.

[1] https://data.cnra.ca.gov/dataset/sgma-climate-change-resources

CITY OF FRESNO

5 SBX7-7 Baseline, Targets and 2020 Compliance

Senate Bill x 7-7 (SBx7-7) was signed into law in 2009 and requires the State to achieve a 20% reduction in per capita water use by December 31, 2020, with an interim target of 10% reduction by December 31, 2015.

IN THIS SECTION

- Baselines & Targets
- 2020 Compliance

The legislation requires each urban water supplier to develop and include in its Urban Water Management Plans (UWMPs) estimates of: 1) *baseline* daily per capita water use; 2) daily per capita water use *target*; 3) daily per capita water use *interim target*; and 4) *compliance* daily per capita water use. The UWMP must also include the basis for determining the estimates, with references to supporting data.

The Department of Water Resources (DWR) developed the Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use Guidebook (GPCD Methodologies Guidebook) to provide appropriate methodologies and criteria guidance (California Department of Water Resources, Feb 2016).

The baseline and 2020 per capita water use targets were calculated in the 2015 UWMP and are provided in **Appendix C**. There have not been significant changes in the City's service area since 2015, thus the calculations included in the 2015 Plan are still valid for compliance in this 2020 UWMP.

5.1 General Requirements for Baseline and Target

Methodologies consistent with those described in the GPCD Methodologies Guidebook were used to develop baselines and targets. The selected procedure used to develop the required SBx7-7 estimates includes the following basic steps:

1. Calculate baseline water use, which is the average gross daily water use per capita, reported in gallons per capita per day (GPCD), based on gross water use and service area population for a continuous 10-year period ending no earlier than December 31, 2004.
2. Calculate urban water use target using one of the four methods described below.
3. Check and confirm the urban water use target using the five-year running average.
4. Calculate the interim urban water use target (equal to the average of the baseline and confirmed urban water use target).
5. Calculate the compliance daily per capita water use (equal to the gross daily water use per capita during the final year of the reporting period).

DWR allows the urban water supplier to choose one of four different methods to calculate the urban water use target in Step 2 above.

- **Method 1** involves calculating the target based on 80% of baseline daily per capita water use and the interim target based on 90% of the baseline daily per capita water use.
- **Method 2** involves calculating the per capita daily water use by using the sum of performance standards applied to indoor residential use, landscaped area water use, and commercial, industrial, and institutional uses.
- **Method 3** calculates the water use target as 95% of the applicable state hydrologic region target as stated in the draft 20x2020 Water Conservation Plan.
- **Method 4** is an approach developed by DWR that uses a spreadsheet to calculate estimated water savings factors to estimate targets.

The City selected Method 1 for determining its 2015 Interim and 2020 Final urban water use targets during the preparation of its 2010 UWMP. This selection was made after reviewing the four alternative methods available. Rather than duplicating the evaluation for this plan update, the reader is directed to Appendix I of the City's 2010 UWMP for details, as the previous City adopted evaluation is still applicable and results in the same target method selection.

5.2 Service Area Population

The City's 2020 service area population was estimated using the DWR Population Tool consistent with DWR Methodology 3 (Service Area Population) and the 2015 UWMP. Shapefiles of the City's water service area were loaded into the DWR Population Tool along with available residential service connection numbers to develop service area populations for the corresponding census years. The DWR Population Tool, provided in **Appendix F**, estimated the City's water service area population is 550,217. The DWR Population Tool provides a population based on the 2000 and 2010 census data and, published effective as of April 1 of the census year, the water service area during each census year and the number of water service connections. For the 2020 population, the number of services from December 31, 2020, was used, and the 550,217 population is estimated as of the end of 2020.

5.3 Gross Water Use

The City's gross water use is comprised of surface water contracted for delivery of allocated supplies from USBR and FID and groundwater produced by its municipal wells. The basis of gross water use are the meters installed at the City's North Fresno Wastewater Reclamation Facility, Southeast Surface Water Treatment Facility, and T-3 Water Storage and modular Surface Water Treatment Facility, and each of its municipal groundwater wells, which are equipped with flow meters. DWR Methodology 1 (gross water use) provides the opportunity to make adjustments and deductions in the reported gross water use for factors such as: meter errors, changes in distribution storage, indirect recycled water use, agricultural water use, and process water use. The City's gross water use has not been adjusted for any of these factors. Therefore, the total water use shown in **Table 4-2** is the City's gross water use.

5.4 Baselines and Target Summary

The City's 2015 UWMP reviewed and updated the 10-year and five-year Baseline Daily Per Capita Water Use and 2020 Target, included in **Table 5-1**. The continuous time period used in the 2015 UWMP for the 10-year baseline period is 1999–2008 and has an associated average daily per capita water use of 309 GPCD. The continuous time period that was used in the 2015 UWMP for the five-year target confirmation baseline period was 2003–2007, which has an associated average daily per capita water use of 304 GPCD. The confirmed 2020 target was established as a 20% reduction from the 10-year baseline per capita use and is 247 GPCD. Refer to **Chapter 5** of the City's 2015 UWMP for more information on how the baselines and targets were developed.

Table 5-1. Per Capita Water Use Baseline and 2020 Target

BASELINE PERIOD	TIME PERIOD	AVERAGE BASELINE GPCD (GPCD)	CONFIRMED 2020 TARGET (GPCD)
10 Year	1999 – 2008	309	247
5 Year	2003 – 2007	304	

5.5 2020 Compliance Daily Per-Capita Water Use (GPCD)

This section presents the procedure used to meet the requirements of SBx7-7 as defined in the Water Conservation Act of 2009 as incorporated into Division 6 of the California Water Code, commencing with Section 10608 of Part 2.55.

5.5.1 Meeting the 2020 Target

The determination of 2020 target compliance is based on gross water use for the 2020 calendar year, which was 121,993 acre-feet (see **Table 4-2**), and a service area population of 550,217 as of December 31, 2020 (see **Table 3-1**). The resultant actual per capita water use for the City in 2020 was 198 GPCD. As such, the City has met and exceeded the 2020 target of 247 GPCD.

The overall water usage patterns of the City have been greatly reduced due to its conservation measures and metering of all services. Prior to January 2013, nearly all of the City's single-family residential water customers had been billed on a monthly flat rate structure; they were unaware of the water they actually used and had no real incentive to conserve water. As of January 2013, the City has completed its residential water meter program, which installed approximately

113,000 water meters for single-family homes. With the completion of this program, all the City's water service connections are now metered, and the City and its customers can work more closely together to optimize water use. Since completion of the project, residential water demands have dramatically decreased. Attainment of the 2020 target has been influenced by the City's investments in metering and the proactive conservation education and outreach to customers. These factors have played a significant role in the City's ability to meet and surpass the 2020 target. In the future, the City will need to remain diligent in monitoring water use and continuing incentive programs to further reduce water consumption. These efforts are necessary so when the current strict reduction requirements are lifted, all water users remain diligent in avoiding unnecessary use of water and upgrade fixtures to eliminate water wasting.

5.5.2 2020 Adjustments to 2020 Gross Water Use

No extraordinary events or economic adjustments have taken place that would cause any adverse effects with regards to overall water usage. As was previously mentioned, the City did not make any adjustments to the 2020 gross water use as is permissible with Water Code 10608.24 cited above.

CITY OF FRESNO

6 Water Supply Characterization

This chapter identifies and quantifies, to the extent practicable, the existing and planned sources of water supplies for the City through 2045.

The City relies on groundwater from the North Kings Subbasin; surface water from Central Valley Project (CVP), through a contract with the United States Bureau of Reclamation (USBR); Kings River water, through a contract with Fresno Irrigation District (FID); and recycled water. This chapter also provides a discussion of supply availability and reliability under normal supply conditions (normal water year), during a single dry year, and for a drought lasting five years.

IN THIS SECTION

- Groundwater
- Surface Water
- Recycled Water
- Projected Water Supply

Water production in the City has consisted of 100% groundwater prior to the commissioning of the City's first surface water treatment facility (SWTF) in 2004. Since 2004, the City has invested in expanding its surface water treatment capabilities and now has three SWTFs that provide approximately half of all potable water demands in the service area.

6.1 Groundwater

The City overlies the Kings Subbasin, which is part of the greater San Joaquin Valley Groundwater Basin. The City is one of many water purveyors that use groundwater from the Kings Subbasin. The City has a network of over 270 municipal wells and currently operates approximately 202 municipal supply wells within the Kings Subbasin. Until late 2004, the City relied solely on groundwater to meet the water demands. The City's desire is to continue to use groundwater within a larger conjunctive use program that maximizes its existing water rights and surface water supply sources.

6.1.1 Basin Description

The Department of Water Resources (DWR) has partitioned the State into 10 major hydrologic regions (also referred to as "basins") and then further divided each basin into subbasins. The City is located in the Kings Subbasin (DWR Groundwater Subbasin Number 5-22.08) and lies within the larger San Joaquin Valley Groundwater Basin in the Central Valley of California. The Kings Subbasin covers approximately 1,530 square miles (sq mi).

6.1.1.1 Basin Location

The San Joaquin Valley Groundwater Basin is bounded to the north by the Sacramento-San Joaquin Delta and Sacramento Valley, to the east by the Sierra Nevada Mountains, to the south by the San Emigdio and Tehachapi Mountains, and to the west by the Coast Ranges. The Kings Subbasin, located within the southern half of the San Joaquin Valley Groundwater Basin, is bounded to the north by the San Joaquin River, to the east by the alluvium-granite rock interface of the Sierra Nevada foothills, to the south by the southern fork of the Kings River, and to the west by the Delta-Mendota and Westside Subbasins (California Department of Water Resources, January 2006). The Kings Subbasin is split into seven Groundwater Sustainability Agency (GSA) management areas, with Fresno located in the North Kings GSA. **Figure 6-1** illustrates the location of the City within the Kings Subbasin.

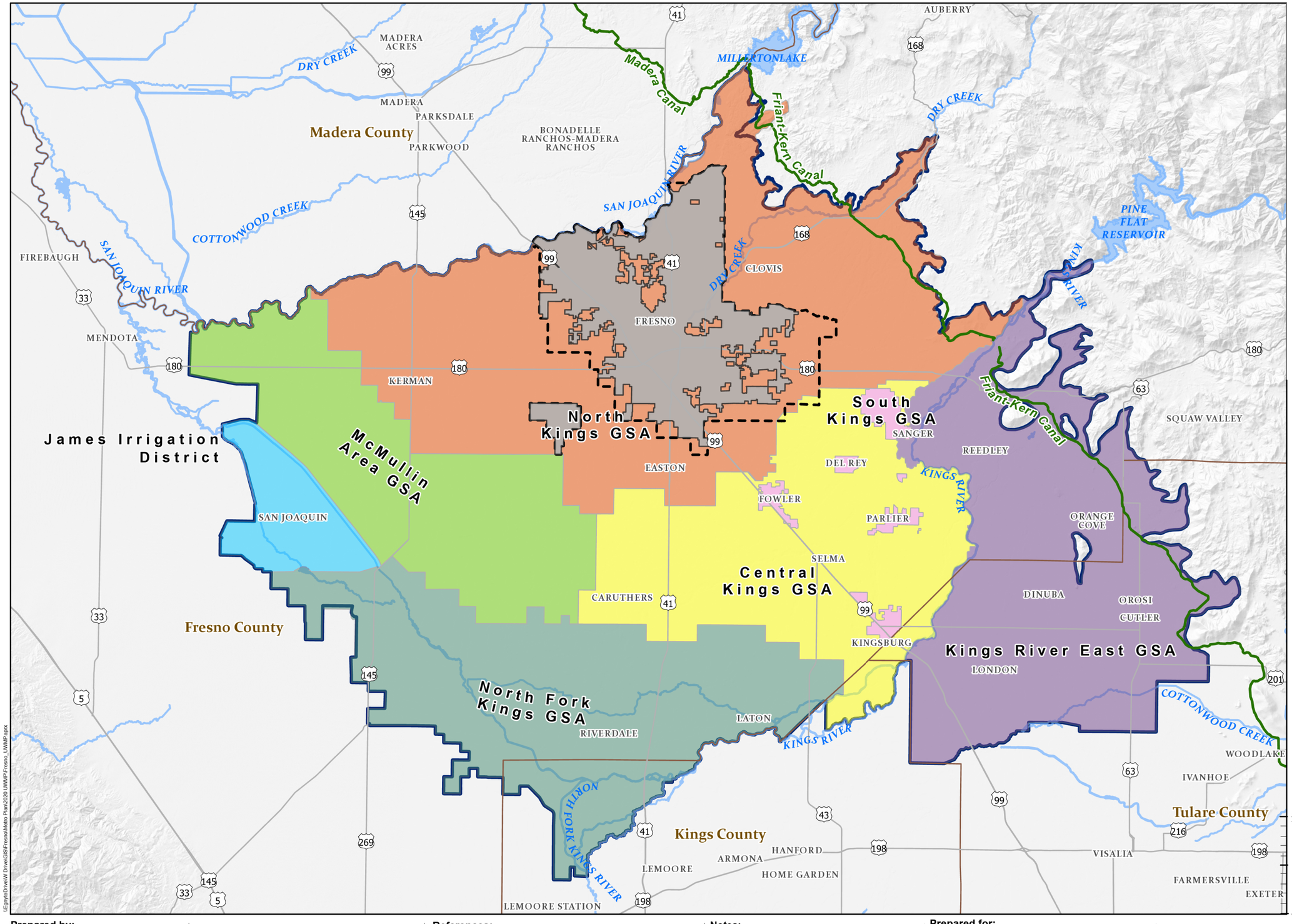
6.1.1.2 Area Geology

The upper several hundred feet of geology within the Kings Subbasin generally consists of highly permeable, coarse-grained deposits, which are termed older alluvium. **Figure 6-2** presents an idealized hydrogeologic cross-section that illustrates the general depth of various lithologic features within the Kings Subbasin, near the City.

Coarse-grained stream channel deposits, associated with deposits by the ancestral San Joaquin and Kings Rivers, underlie much of northwest Fresno (Layer 3 and 4 in **Figure 6-2**). There is a laterally extensive clay layer, at an average depth of approximately 250 feet below the ground surface, beneath most of the south and southeastern portions of the City.

Below the older alluvium, to depths ranging about 600–1,200 feet below ground surface, the finer-grained sediments of the tertiary-quaternary continental deposits are typically encountered (Layer 5 in **Figure 6-2**). Substantial groundwater has been produced and utilized from these depths by the City. However, deeper deposits located in the southeastern and northern portions of the City have produced less groundwater.

There are also reduced deposits in the northern and eastern portions of the City, at depths generally below 700 or 800 feet, which are associated with high concentrations of iron, manganese, arsenic, hydrogen sulfide, and methane gas. Groundwater at these depths does not generally provide a significant source for municipal supply wells.

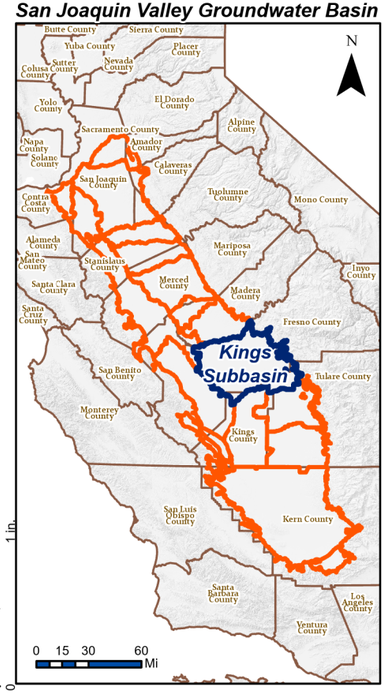


Legend

Groundwater Sustainability Agency

- Central Kings GSA
- James Irrigation District
- Kings River East GSA
- McMullin Area GSA
- North Fork Kings GSA
- North Kings GSA
- South Kings GSA
- Fresno City Limits
- Fresno Sphere of Influence
- Kings Groundwater Subbasin
- Major Watercourses
- Lakes and Reservoirs
- County Boundary
- Canal

San Joaquin Valley Groundwater Basin



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Prepared by: WSC

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References:

1. Coordinate System: NAD 1983 StatePlane California IV FIPS 0404 Feet
Projection: Lambert Conformal Conic
Datum North American 1983

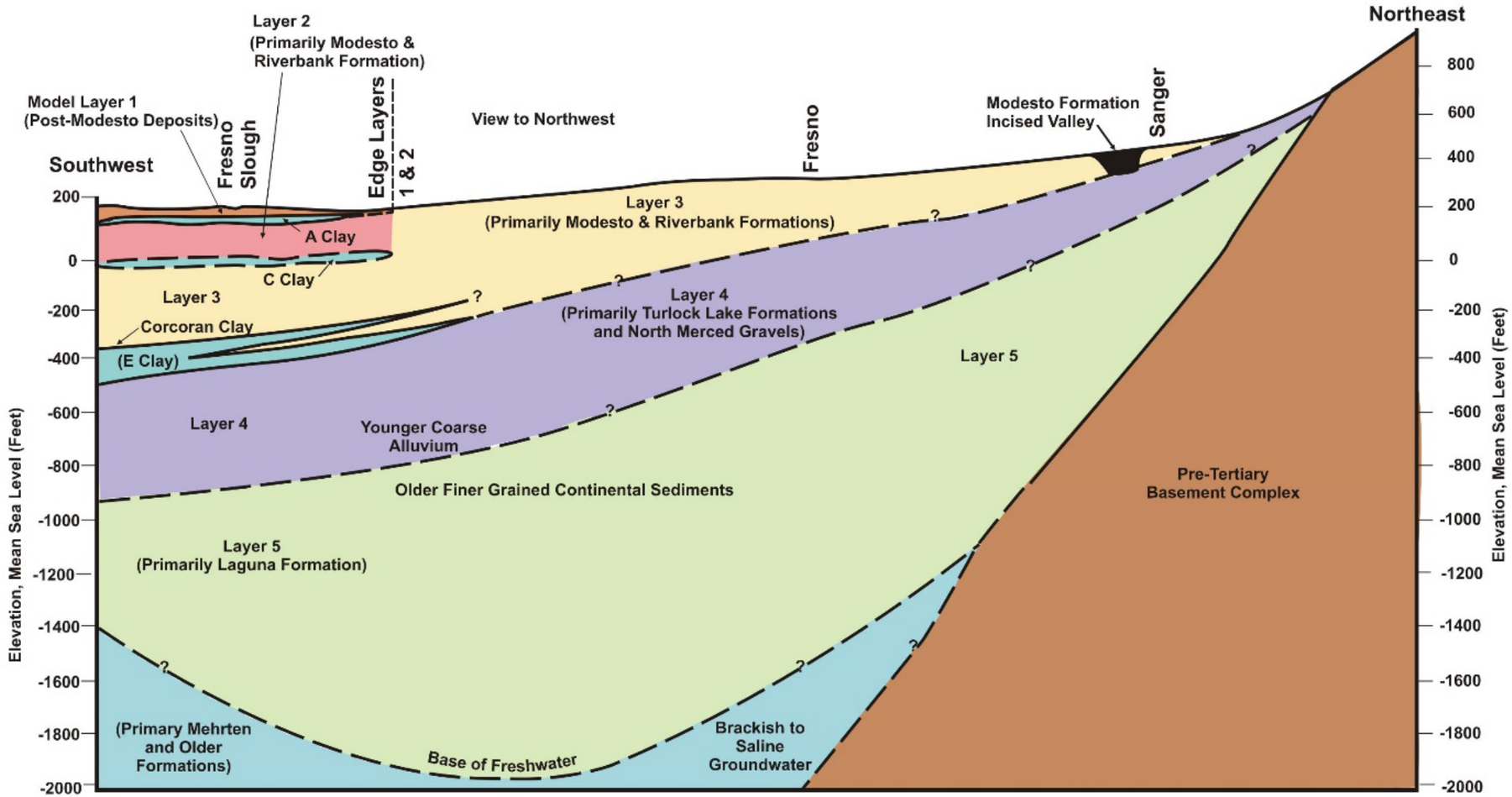
Notes:

Prepared for: City of Fresno Department of Public Utilities

City of Fresno
2020 Urban Water Management Plan

Figure 6-1. Kings Subbasin

Figure 6-2. Kings Groundwater Subbasin Conceptual Hydrogeologic Cross-Section, Southwest-Northeast



Primary Sources

Croft, 1969
Muir, 1977
Lettis, 1982
Page and LeBlanc, 1969
Cehrs, et. al. 1980
Wiseman, et. al: 2002b

Figure from *Kings Basin Integrated Hydrologic Modeling Hydrogeologic Investigation Technical Memorandum*, dated February 2006, prepared by Brown & Caldwell and Wrime.

6.1.1.3 Aquifer Characteristics

The aquifer beneath the City was characterized using data compiled during aquifer tests performed at the City's production wells. As part of updating the detailed hydrogeologic evaluation, aquifer test data (pump tests) were reviewed to update the hydrogeologic analysis and evaluate the specific capacity data. The specific capacity indicates the ability of a particular well to produce water. **Figure 6-3** presents the estimated specific capacity of each active well from early 2020 pump test data. As shown in the figure, the northwestern and southwestern portions of the City have wells with higher specific capacities.

6.1.2 Groundwater Management

In 2014, a three-bill legislative package was signed into law, composed of Assembly Bill 1739, Senate Bill (SB) 1168, and SB 1319, collectively known as the Sustainable Groundwater Management Act (SGMA) of 2014, which is codified in Section 10720 et seq. of the California Water Code. This legislation created a statutory framework for groundwater management in California that can be sustained during the planning and implementation horizon without causing undesirable results. SGMA requires governments and water agencies of "critically overdrafted" basins to reach sustainability by 2040. The Kings Subbasin was designated a critically overdrafted basin in the DWR's Bulletin 118. The North Kings GSA is working within the SGMA framework to reach groundwater sustainability.

The City was a founding member of the North Kings GSA, which consists of the following public agencies and participating agencies:

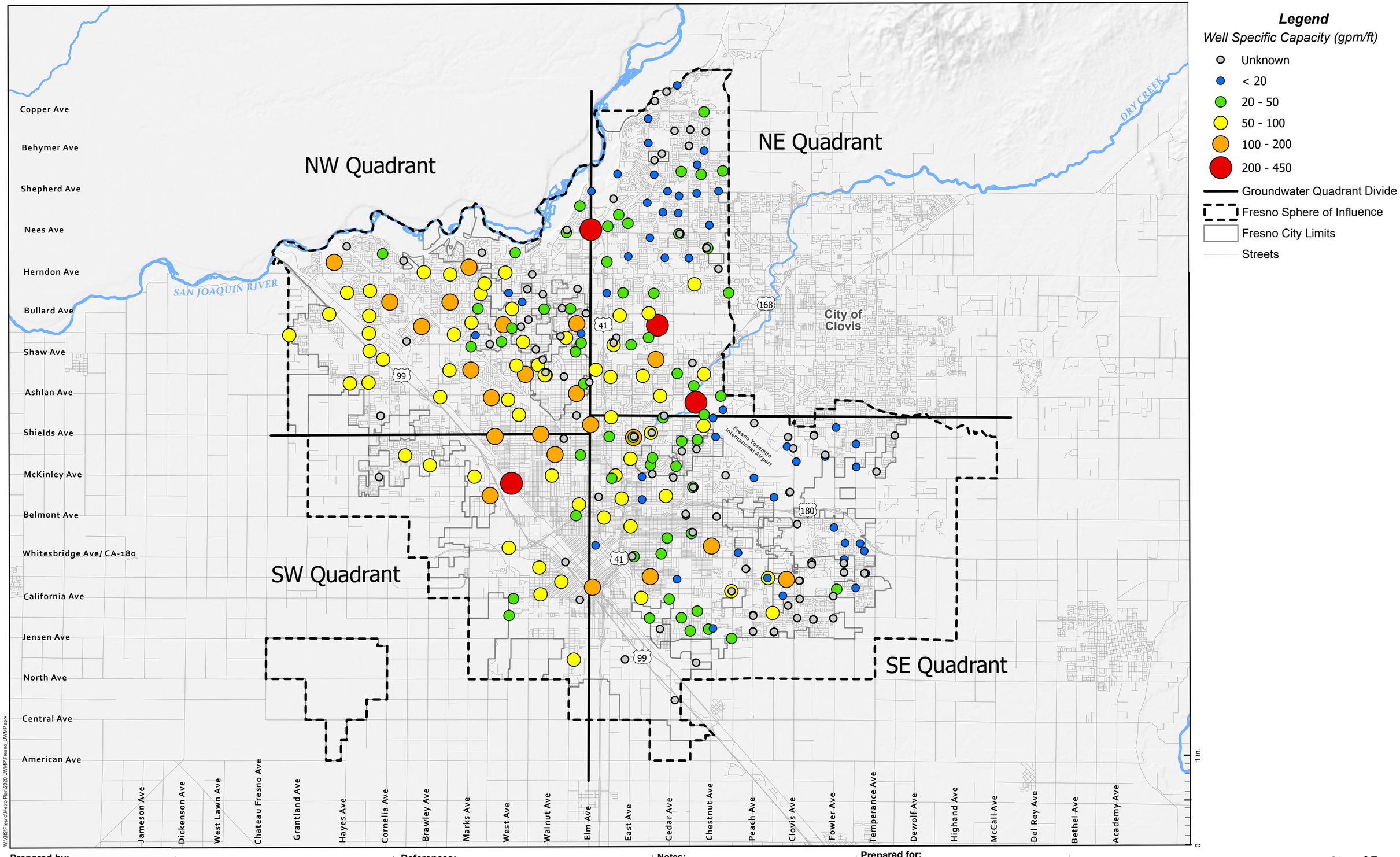
- Fresno Irrigation District (member)
- City of Fresno (member)
- City of Clovis (member)
- City of Kerman (member)
- County of Fresno (member)
- Bakman Water Company (participating agency)
- Biola Community Services District (member)
- Garfield Water District (member)
- International Water District (member)
- Fresno Metropolitan Flood Control District (participating agency)

The Kings Subbasin contains seven GSAs, including the North Kings GSA, as listed below and shown in Figure 6-1:

- Central Kings GSA
- James Irrigation District GSA
- Kings River East GSA
- McMullin Area GSA
- North Kings GSA
- North Fork Kings GSA
- South Kings GSA

The seven GSAs operate cooperatively across the basin via a coordination agreement that ensures common approaches to sustainability items such as similarity of data usage and methodologies, consistent interpretations of the basin setting, and common assumptions and development of water budgets, monitoring networks, sustainable management criteria and data management systems.

The North Kings GSA prepared and submitted its GSP in January 2020 (Provost & Pritchard, November 2019) and is awaiting DWR review by January 2022.



Legend

Well Specific Capacity (gpm/ft)

- Unknown
- < 20
- 20 - 50
- 50 - 100
- 100 - 200
- 200 - 450
- Groundwater Quadrant Divide
- Fresno Sphere of Influence
- Fresno City Limits
- Streets

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Prepared by:

WSC

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References:

1. Coordinate System: NAD 1983 StatePlane California IV FIPS 0404 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

Notes:

1. Well specific capacity was provided by the City and calculated using 2020 data.

Prepared for:

City of FRESNO Department of Public Utilities

City of Fresno
2020 Urban Water Management Plan

Figure 6-3. City Wells Specific Capacity

As required by SGMA, the North Kings considers six sustainability indicators:

- Chronic lowering of groundwater levels indicating significant and unreasonable depletion of supply
- Significant and unreasonable reduction of groundwater storage
- Significant and unreasonable seawater intrusion
- Significant and unreasonable degraded water quality
- Significant and unreasonable land subsidence
- Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water

Each indicator has an identified undesirable result, measurable objective, and minimum threshold. The measurable objective and minimum threshold allow the North Kings GSA to evaluate their progress for the subject indicator and determine if conditions are improving, remaining stable or degrading. The sustainability indicators of primary concern within the City are groundwater levels, groundwater storage, and groundwater quality. The methodology for the water quality indicators has been developed and the methodology is still being developed for the groundwater levels and groundwater storage indicators. A copy of the GSP is provided in **Appendix G** of this UWMP[1].

6.1.3 Overdraft Conditions

SGMA directs DWR to identify groundwater basins and subbasins in conditions of critical overdraft. As defined by SGMA, "A basin is subject to critical overdraft when continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts." As mentioned, DWR classifies the Kings Basin as being in a state of critical overdraft in its Bulletin 118, and the future of the groundwater basin has been projected to see continued overdraft conditions.

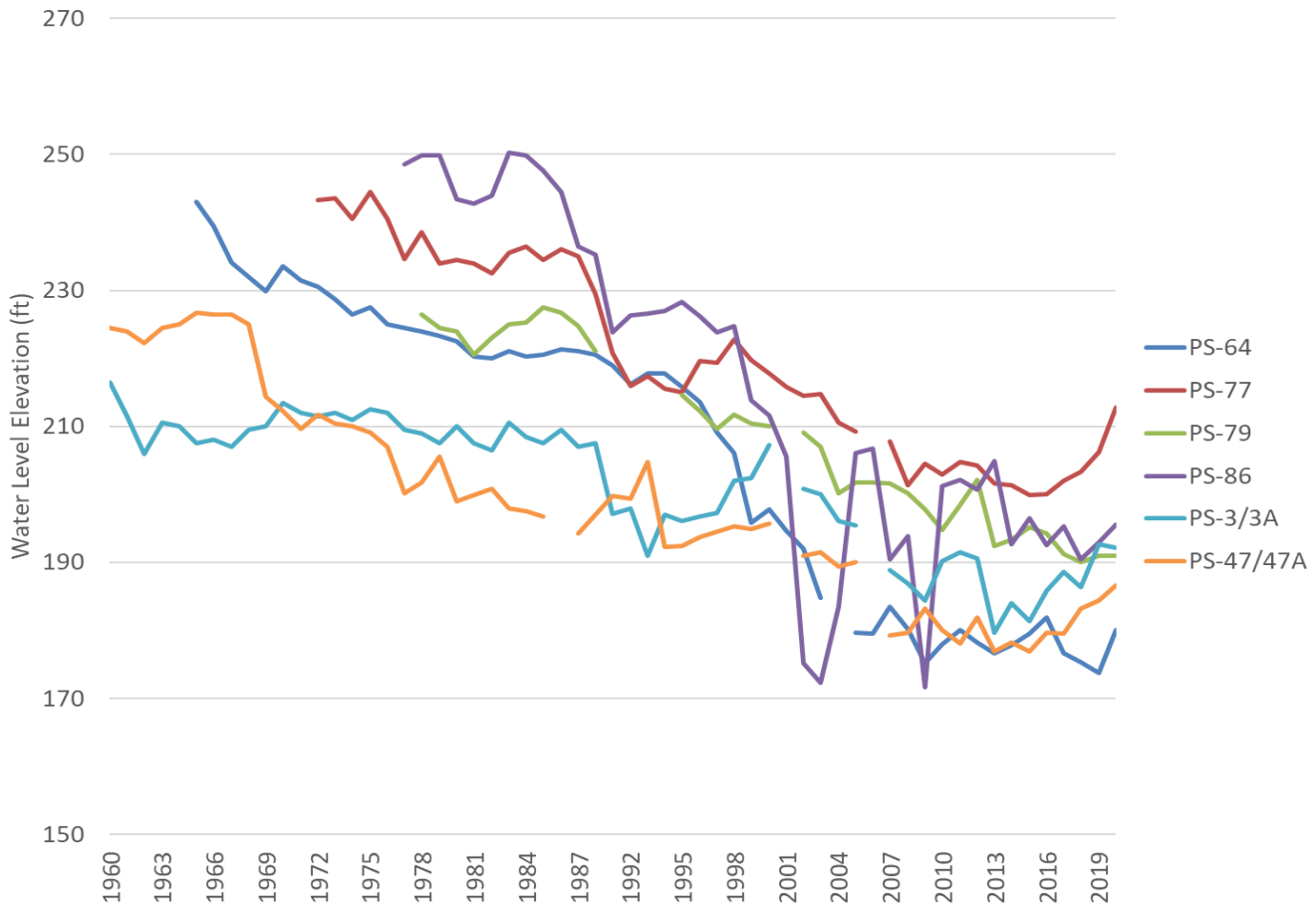
The Kings Subbasin groundwater aquifer supplies the City, other municipalities, agriculture, and rural residential areas with a consistent source of water. Like much of the Kings Subbasin, groundwater levels beneath the City were relatively shallow at 25 feet below ground surface in 1940, prior to the start of World War II (Fresno City Water, Engineering Department, 1940). After the war, the State, including the City, began growing at a rapid rate. For the period from 1959 to 1968 it was reported groundwater levels declined at a rate of 2.8 feet per year (John Carollo Engineers, 1969). The City continued to rely on the groundwater aquifer for decades, monitoring groundwater levels continuously. Groundwater levels since 1990 have declined at a lower rate than previously. Rates of decline slowed further starting in 2004 when the Northeast Surface Water Treatment Facility (NESWTF) started operations and the City renewed focus on increasing groundwater recharge. In 2019 and 2020, surface water accounted for more than half of the total water supply in the City. With the reduced pumping due to higher reliance of surface water, the groundwater levels have begun to increase in certain areas of the City in the last few years. **Figure 6-4** provides a depiction of the City's depth to groundwater for six representative wells across the Sphere of Influence (SOI) since 1960.

The City expects to continue to operate its three SWTFs and pump groundwater at a lower rate than historically so that the groundwater basin can recover. One of the primary objectives for the City as described in its current Metro Plan is to maximize the use of available surface water

[1] Available at https://www.northkingsgsa.org/groundwater-sustainability-plan/

treatment supplies to reduce overall reliance on groundwater. Additionally, as described in **Chapter 4**, the City plans to continue their groundwater recharge program to protect the groundwater basin. **Figure 6-5** shows the active and proposed recharge basins and FID Canals the City utilizes as part of groundwater recharge program.

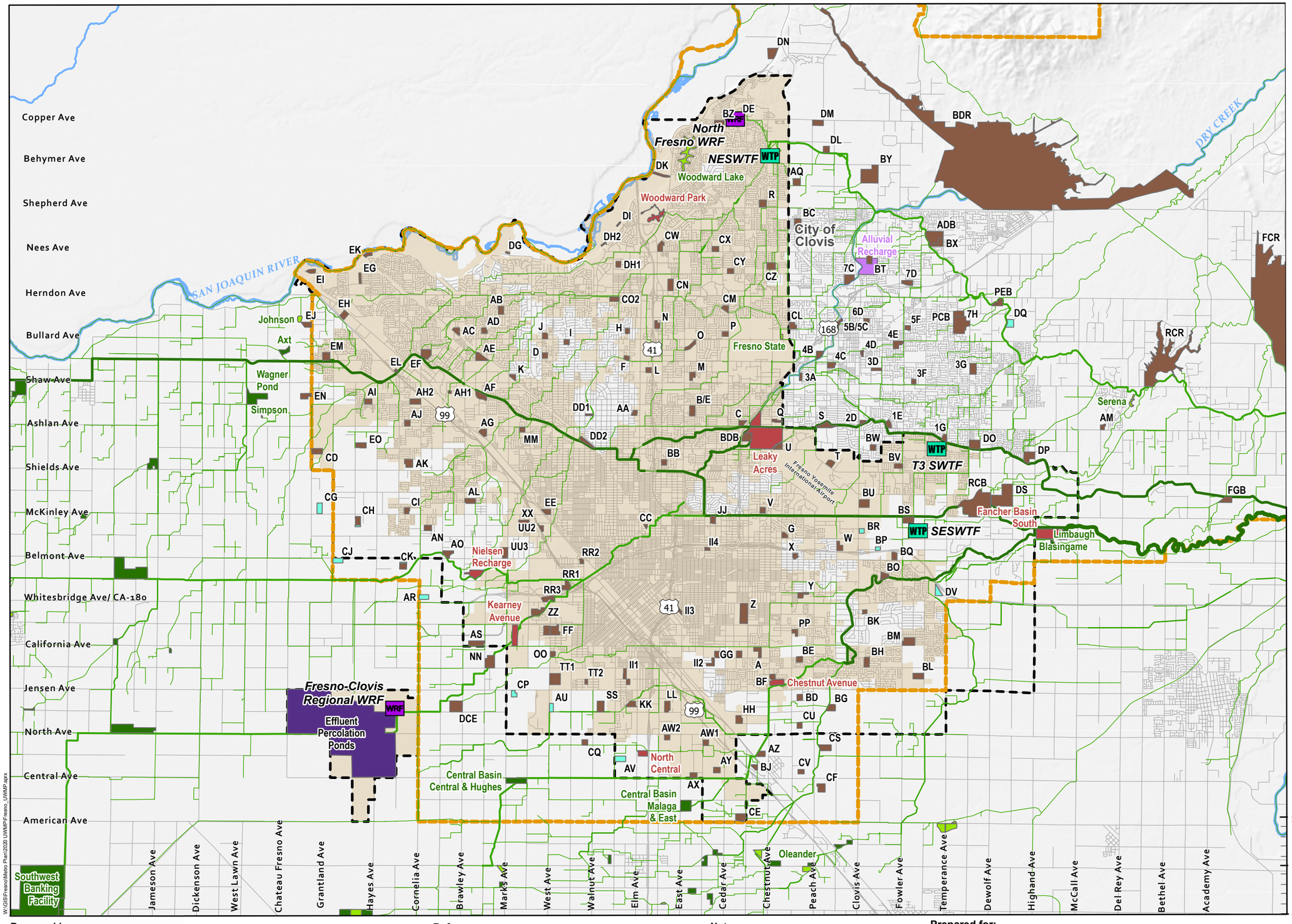
Figure 6-4. Time Series of Groundwater Levels at Representative Wells



6.1.4 Groundwater Quality

Groundwater within the North Kings Subbasin generally meets primary and secondary drinking water standards for municipal water use and is described as being bicarbonate type water, including calcium, magnesium, and sodium as the dominant ions (California Department of Water Resources, January 2006). Total dissolved solids (TDS) concentrations rarely exceed 600 mg/L and range from 200 to 700 mg/L (California Department of Water Resources, January 2006). However, the groundwater basin has been impacted by multiple chemical contaminants that affect the City's ability to fully utilize the groundwater basin resources without some type of wellhead treatment in certain areas.

Figure 6-6 presents the general location of regional plumes and major point sources within the City. The primary contaminants are nitrate, 1,2-dibromo-3-chloropropane (DBCP), 1,2,3-trichloropropane (1,2,3-TCP), and other volatile organic compounds like trichloroethylene (TCE) and and perchloroethylene (PCE). The City has received settlements in a number of lawsuits related to these contaminants and has constructed wellhead treatment systems and implemented blending plans for a number of wells.



Legend

Groundwater Recharge Basins

- FID Basin
- Privately Owned Basin
- City of Clovis Basin
- City of Fresno Basin
- RWRF Effluent Percolation Area
- FMFCD Basin
- FMFCD Proposed Basin
- FMFCD Boundary
- WRF Wastewater Reclamation Facility
- WTP Water Treatment Plant

FID Facilities by Capacity

- Less than 35 cfs
- 35 - 150 cfs
- 150 - 350 cfs
- 350 - 900 cfs
- 900 - 1500 cfs

- Fresno Sphere of Influence
- Fresno City Limits
- Streets

Recharge Basin Summary

Owner/ Operator	No. of Basins	Total Area (acres)
FID	25	2,900
Private Owner	8	300
City of Clovis	1	90
City of Fresno	11	450
City of Fresno RWRF	---	2,000
FMFCD (Existing)	166	8,500
FMFCD (Proposed)	12	140

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Prepared by: WSC

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0 0.75 1.5 3 Mi

0 3,500 7,000 14,000 US Feet

References:

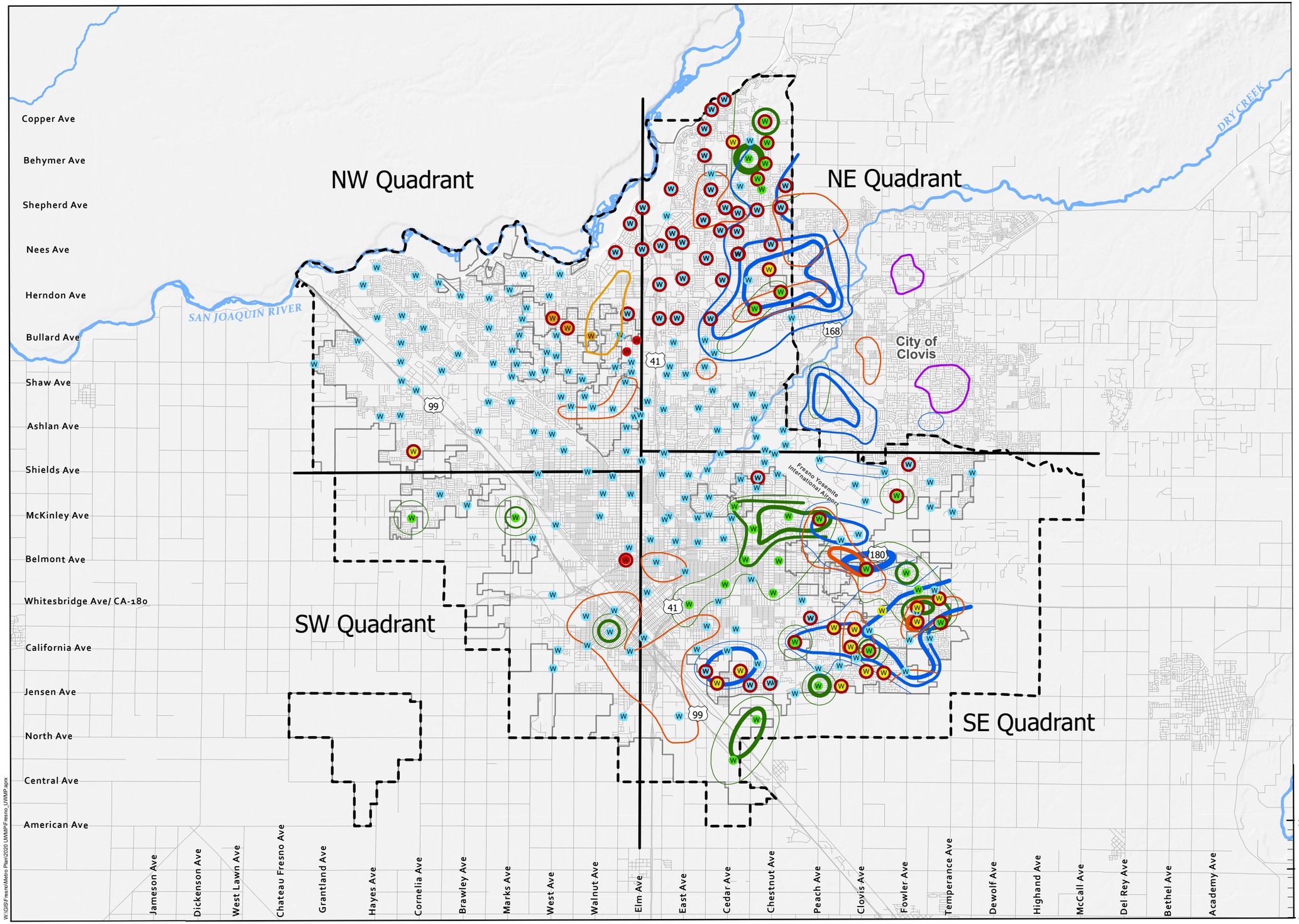
1. Coordinate System: NAD 1983 StatePlane California IV FIPS 0404 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

Notes:

Prepared for: City of Fresno Department of Public Utilities

City of Fresno
2020 Urban Water Management Plan

Figure 6-5. Groundwater Recharge System



Legend

Nitrate-Nitrogen Contamination and Concentration

- 5 mg/L
- 10 mg/L

DBCP Contamination and Concentration

- 0.01 ppb
- 0.02 ppb
- 0.05 ppb
- 0.1 ppb
- 0.2 ppb

1,2,3-TCP Contamination and Concentration

- 5 ppt
- 10 ppt
- 20 ppt
- 50 ppt
- 100 ppt

Other Plumes

- TCE Plume
- EDB Plume (old)

Well Pumped to Control Contaminant Plumes

- DBCP
- PCE
- TCE
- TCP
- No Minimum Pumping
- Well Head Treatment
- Groundwater Quadrant Divide
- Fresno Sphere of Influence
- Fresno City Limits
- Streets

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Prepared by:

WSC

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0 3,500 7,000 14,000 US Feet

References:

1. Coordinate System: NAD 1983 StatePlane California IV FIPS 0404 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

Notes:

1.A list of wells with treatment was provided by the City as of September 2020. Some wells share treatment and convey water via a raw water pipeline to another well's treatment site. Wellhead treatment types includes activated carbon for VOC/SOCs, air stripping for VOCs, blending, degassing tank, corrosion control treatment, H2S odor control, and manganese treatment, or a combination of such.

Prepared for:

City of FRESNO Department of Public Utilities

City of Fresno
2020 Urban Water Management Plan

Figure 6-6. Regional Groundwater Contamination

Approximately 40 City wells are being treated for contaminants such as PCE, DBCP, TCE, 1,2,3-TCP, perfluorooctanoic acid, perfluorooctanesulfonic acid, ethylene dibromide, and nitrate, and an additional 20 wells include treatment for iron, manganese, and hydrogen sulfide removal or corrosion control.

As shown in the figure, extensive groundwater contamination nearly covers the City's entire water service area; only areas located in the northwest appear to be relatively unaffected by regional groundwater contamination. Also, many of the City's wells are impacted by one or more of the contaminant plumes (indicated by the presence of overlapping plumes on the figure). The figure also shows the approximately 93 existing active wells that are impacted by at least one contaminant plume and the 60 existing wells with wellhead treatment. The City is also managing contamination from spreading by pumping specific wells to control the plumes.

6.1.5 Estimated Groundwater Yield

As part of the ongoing Metro Plan update, the City is developing a storage accounting framework to estimate groundwater yield. The storage framework will track the City's groundwater recharge, pumping, and flows into and out of the City's SOI and incorporate bi-annual monitoring well water level readings on a grid basis. This work is ongoing, and the City reserves the right to update this analysis with more recent data when available.

Currently, the best available information on the City's groundwater yield is from a hydrologic groundwater and surface water model that was prepared for the Upper Kings Basin Integrated Regional Water Management Authority. The City contributed additional funding to the effort so the model would be more refined for its service area and capable of assisting in the development of the City's previous Metro Plan. The Kings Basin Integrated Groundwater and Surface Water Model (IGSM) was completed in 2007 and provided outputs specific to the City SOI (WRIME, 2007). The IGSM was developed and calibrated utilizing data for the period of 1964–2004. Building off the calibrated IGSM, additional modeling was conducted in 2008 to evaluate the City's proposed water supply plan and its ability to attain the balanced use of groundwater by the buildout year of 2025. The estimated groundwater yield within the City's SOI presented in this section is based on the modeling efforts to establish the various natural elements of the underlying aquifer.

6.1.5.1 Natural Recharge

As a result of the IGSM effort, the long-term average deep percolation from rainfall and irrigation-applied water for the period of 1964–2004 was found to be 42,700 acre-feet per year (AFY) for the entire SOI (West Yost Associates, January 2014). However, as urbanization continues within the SOI, the amount of deep percolation will decline because of increased runoff and less open land for natural recharge. For 2005, it was estimated deep percolation would be about 37,000 AFY and would reduce annually, ultimately declining to and remaining at 27,000 AFY by buildout in 2025. The new General Plan now anticipates SOI buildout will occur in 2056. Holding the 2005 value of 37,000 AFY and extending the 27,000 AFY to 2056, intermediate values were straight-line interpolated. Additionally, the City currently covers 73,500 acres of the 100,277 acres within its SOI, representing 73% urbanization, which would approximate the City's water system service area. **Table 6-1** shows estimated natural recharge through 2045.

6.1.5.2 Net Subsurface Inflow

Again, utilizing information developed from the IGSM, average net subsurface inflow into the SOI was characterized as being 64,800 AF annually for the period of 1964–2004. Applying the

previously described 73% proportioning factor of the developed SOI area to overall SOI area, approximately 47,510 AFY would be attributed to the City's water service area in 2020. This value will increase in future years as the City annexes more land until the SOI is built out. **Table 6-1** shows the estimated subsurface inflows for future years based on the land use growth presented in **Figure 4-3**. The City has historically benefitted from the net subsurface inflows and requires these flows for replenishment necessary to maintain the sustainable yield of the groundwater aquifer system.

6.1.5.3 Intentional Groundwater Recharge

The City has long made efforts toward offsetting the decline of groundwater levels and minimizing overdraft conditions through an active intentional recharge program that started in 1971 (CH2MHill, 1992). Through cooperative agreements with Fresno Metropolitan Flood Control District (FMFCD) and FID, the City has access to not only City-owned basins, but also those of these two agencies. Utilizing available surface water supplies, the City recharged on average approximately 60,000 AFY from 2000–2019; however, with the reduction in available surface water supplies, intentional recharge declined to 34,700 AF in 2014 and 19,800 AF in 2015, followed by an increase in recharge in years 2016, 2017, and 2019 to help replenish the aquifer. In 2019, City recharge of 82,993 AF was the maximum annual recharge attained during this period. The City has averaged over 60,000 AFY the previous five years and plans to gradually increase recharge by about 540 AFY each year. However, during wet years the City will recharge more water when it is available to allow to the City to draw on additional groundwater during dry years when surface water is not available. Intentional recharge is included in the non-potable demand projections as well as contributing to the estimated groundwater yield presented in **Table 6-1**.

Table 6-1. Components to Groundwater Yield for Normal Years

	QUANTITY (AFY)					
GROUNDWATER COMPONENT	**2020**	**2025**	**2030**	**2035**	**2040**	**2045**
Natural Recharge[1]	24,970	25,480	25,910	26,280	26,570	26,790
Net Subsurface Inflow[1]	47,510	49,910	52,320	54,720	57,120	59,530
SUSTAINABLE YIELD	**72,480**	**75,390**	**78,230**	**81,000**	**83,690**	**86,320**
Intentional Recharge[2]	60,000	62,700	65,400	68,100	70,800	73,500
TOTAL ESTIMATED GROUNDWATER YIELD	**132,480**	**138,090**	**143,630**	**149,100**	**154,490**	**159,820**

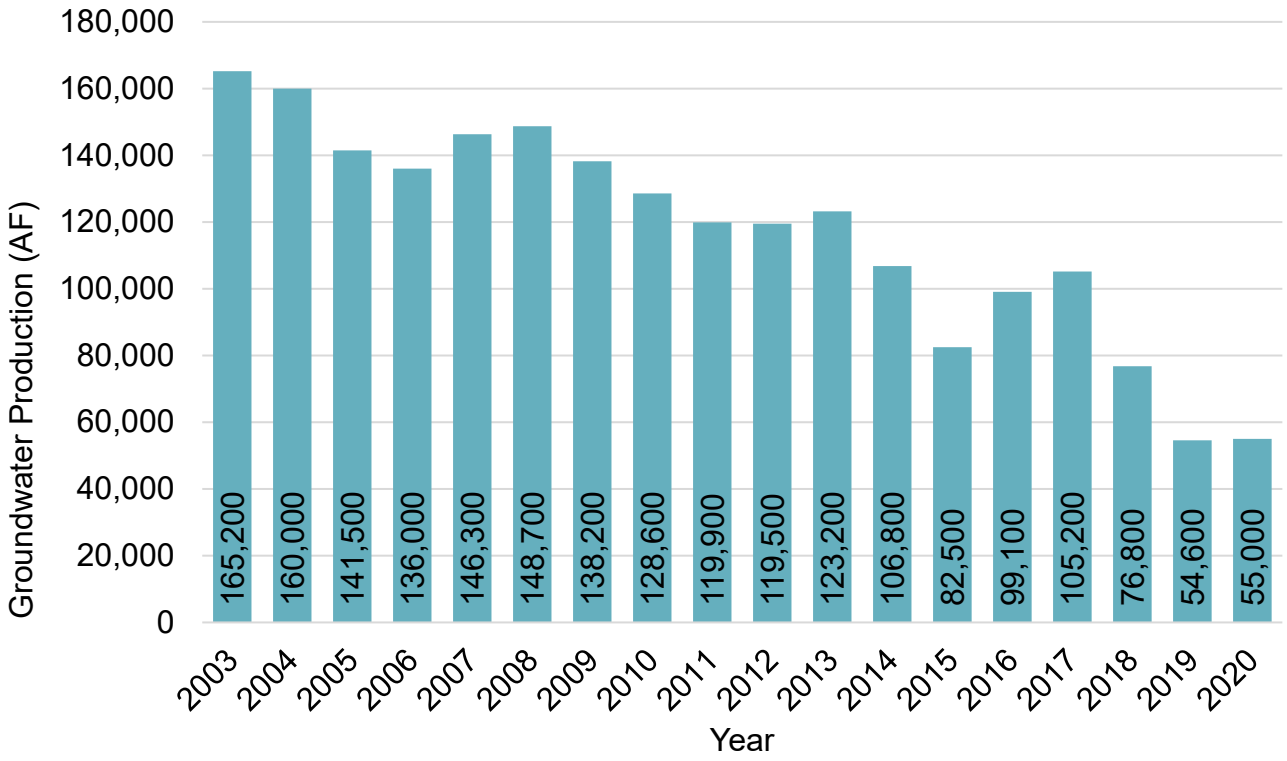
Notes:

1. Based on the Kings Basin IGSM and projected City land growth from **Figure 4-3** as discussed in **Section 3.1.1.**
2. Projected normal year intentional recharge from **Table 4-7**.

6.1.6 Historic Groundwater Pumping

The City has historically relied on groundwater as its main supply source prior to the construction of its SWTFs. With the recent investments in surface water infrastructure, the City has been able to drastically reduce its groundwater pumping. **Figure 6-7** shows the historic groundwater pumping since 2003. As shown, pumping has dropped significantly since 2003, the City's peak year for groundwater production.

Figure 6-7. Historic Groundwater Production



6.2 Surface Water

With the completion and operation of the Southeast Surface Water Treatment Facility (SESWTF), surface water is now a primary water supply used to meet potable demands within the City. The City contracts with FID for Kings River water and with the USBR for CVP water from the Friant-Kern Canal. The surface water supply is used either for potable uses through treatment and distribution or delivery to recharge basins for groundwater recharge.

The Kings River water year (WY) is October through September while USBR uses a WY of March through February. The City has historically used a calendar year (CY) for its analysis, so monthly water supply information was compiled in CY format for this report.

6.2.1 USBR Friant Division Contract Supply

The City, through an agreement originally executed in January 1961, secured a surface water supply from USBR CVP Friant Division. This agreement, for an annual water supply of 60,000 AF of Class 1 water, was last renewed in 2010 as a Section 9(d) contract that provides water from the San Joaquin River in perpetuity. A copy of the renewed contract is provided in

Appendix H of this UWMP. The USBR CVP Friant Division facilities generally include: Friant Dam (Millerton Reservoir), the Friant-Kern Canal, and the Madera Canal. The Friant-Kern Canal is maintained and operated by the Friant Water Authority. The USBR water supply is a wholesale supply.

Construction of Friant Dam was completed in 1947 and began making diversions to the Friant-Kern Canal in 1949. Full operations of the CVP Friant Division did not commence until the Madera Canal was completed in 1951. Class 1 water was intended to be a supply that would be dependable in practically every year, regardless of the type of hydrologic WY. Class 2 water is essentially excess water available as determined by USBR and less reliable than Class 1 water.

Class 1 water has historically been very reliable until the 2006 San Joaquin River Restoration Settlement Agreement between the Department of the Interior and Commerce, the Natural Resources Defense Council, and the Friant Water Users Authority (which is now the Friant Water Authority). The City is a member of the Friant Water Authority. The Settlement ended an 18-year legal dispute over the operation of Friant Dam brought by a coalition of conservation and fishing groups. The agreement characterized Class 1 deliveries by six hydrologic year types based on a recurrence over an 82-year simulation (1922–2003): wet, normal-wet, normal-dry, dry, critical-high, critical-low. The projected surface water available for the City from USBR during each hydrologic year defined by the 2006 Settlement Agreement is summarized in **Table 6-2**. As shown in the table, the average simulated delivery is 53,680 AFY and the median simulated delivery, which is similar to normal year delivery, is 60,000 AFY. The median value is higher than the average value because 100% allocation of 60,000 AF is simulated in 50 of 82 years but the dry and critical years result in substantial reductions, which bring down the average allocation.

The Settlement Agreement estimates the reduced supply available to the City compared to historic supplies, most evident in dry years. Restrictions on exports from the Delta have hindered the USBR from making deliveries to the Exchange Contractors via the Delta-Mendota Canal. The Exchange Contractors allowed the formation of the CVP Friant Division by agreeing to not exercise their historic pre-1914 water rights to the San Joaquin and Kings Rivers if guaranteed water deliveries continued through the Delta-Mendota Canal or other facilities. If USBR is unable to deliver water to the Exchange Contractors, they have the right to receive their water from the San Joaquin River, which reduces the Class 1 water availability (History of SJRECWA Exchange Contractors, n.d.).

Reduced deliveries from the Delta to the Exchange Contractors resulted in the CVP Friant Division contractors with zero allocations of Class 1 water in USBR WY 2014 and 2015, though the City received USBR deliveries in CY 2014 (prior to the USBR WY starting in March). Annual USBR deliveries since 2007 are shown in **Figure 6-8** for CY. The availability and reliability of the City's surface water supplies through its USBR contract are discussed further in **Chapter 7**.

Table 6-2. Available USBR Simulated Allocation (1922–2003)

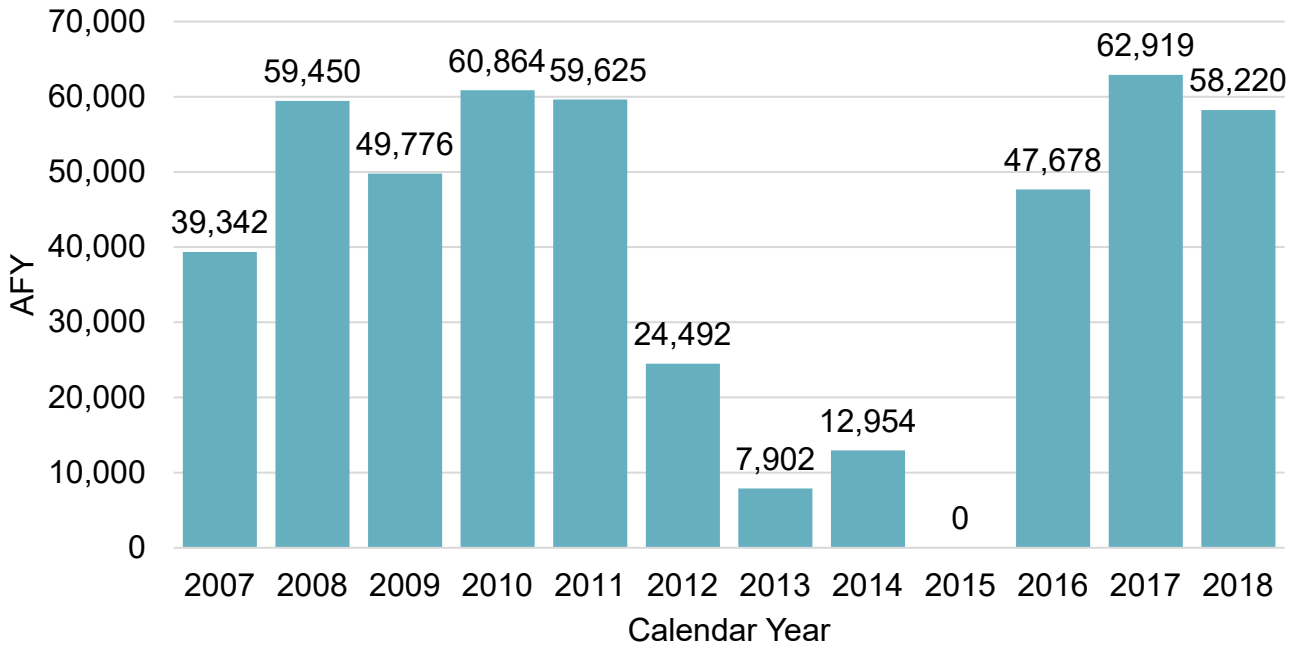
WATER YEAR TYPE	% OF YEARS OVER SIMULATION PERIOD OF DELIVERIES [1]	NUMBER OF YEARS IN THAT YEAR TYPE	RANGE OF ALLOCATION TO CITY (AF)	AVERAGE ALLOCATION TO CITY (AF)
Wet	Highest 20%	16	60,000	60,000
Normal-Wet	50% to 80%	25	60,000	60,000
Normal-Dry	20% to 50%	25	47,500 to 60,000	57,060
Dry	5% to 20%	12	28,100 to 46,800	36,575
Critical[2]	Lowest 5%	4	13,900 to 24,700	19,025
	TOTAL	**82**	**AVERAGE**	**53,680**
			MEDIAN	**60,000**

Source: 2006 Settlement Agreement

Notes:

1. As defined in 2006 Settlement Agreement
2. Includes both critical-high and critical-low, which are differentiated by the amount of unimpaired runoff. The simulation uses deliveries through 2006 and does not include the zero allocation years in 2014 and 2015.

Figure 6-8. USBR Deliveries to City Since 2007



In addition to the Class 1 water available to the City, the USBR contract also makes available water classified as: recovered water account water; Section 215 water; and unreleased restoration flows, unreleased recirculation flows, and uncontrolled season flows. The complexities of each water type are beyond the scope of this report but are mentioned here to reflect the other water acquisition opportunities afforded to the City through this contract.

The San Joaquin River water supply has excellent water quality as it originates from snowmelt from the high Sierras and has not been detrimentally impacted.

6.2.2 Fresno Irrigation District Supply

FID is one of 28 agencies that receives an entitlement of water from the Kings River through the Kings River Water Association. Water entitlements for Kings River Water Association contract members is determined based on a methodology that was initially developed in 1917–1919 to established entitlements for early claimed rights holders. The methodology was based on historic mean daily natural flow conditions at Piedra, which is approximately three miles downstream from the then yet to be built Pine Flat Dam and "at the heart of Kings River uses, regulation, and stream control and storage." (Kings River Water Association and Kings River Conservation District, June 2003)

On December 20, 2016, the Revised, Amended, and Restated Cooperative Agreement was executed between FID and the City for Water Utilization and Conveyance (2016 FID Agreement) (**Appendix I**). The 2016 FID Agreement replaces the 1976 Cooperative Agreement and ends in 2035. The Agreement identifies the City's contracted percentage of FID's Kings River water based on the City's water service area located within FID service area as a percentage of the FID land area. FID land area varies slightly every year because it is dependent on the acreage receiving water deliveries for that year rather than the total acreage within FID (roughly 200,000 acres). As the City incorporates new land area into its service area, the percentage of FID supply increases. However, the 2016 FID Agreement sets the maximum percentage as 29.0%, although the City's service area is anticipated to expand and encompass more than 29.0% of FID's service area between 2025 and 2030. In 2020, the City's percentage of overall FID Kings deliveries was 25.79%. The FID Agreement identifies that the 29.0% maximum was based on moderate growth in Growth Area 1 of the City's SOI (shown in Exhibit C in the 2016 Agreement). As such, the supply projections in this plan limit the City's FID supply with the 29.0% cap, but if the agreement were revised in the future the City's FID allocation percentage could grow beyond 29.0% as the water service area expands.

The City has historically not used all of its available allocation in any given year, although it pays a flat rate for its total allocation regardless of use. Water unused by the City is reallocated by FID to its other customers.

The City's potential supply from FID was summarized using actual Kings River deliveries for CYs 1964–2019, then categorized by the same WY types used for the USBR Friant supply. The range and average FID deliveries by WY type is shown in **Table 6-3**. The average of all 56 CY delivery totals of FID Kings River deliveries is 452,541 AF, which equates to an average potential City supply of 131,237 AF, assuming the maximum 29.0% City supply percentage. **Table 6-4** lists the historic and projected allocation of FID's Kings River water for the City in normal (average) CYs. The City percentage of FID supplies was estimated assuming the City's water service area will grow from 59,100 acres to 84,300 acres by buildout at the rate shown in **Figure 4-3**.

Table 6-3. FID Diversions by Water Year Type (1964 to 2019)

WATER YEAR TYPE	% OF YEARS[1]	NUMBER OF YEARS BETWEEN 1964 AND 2019	TOTAL FID DELIVERIES (AF)[2]		EXAMPLE AVERAGE AVAILABLE TO CITY[3]
			RANGE	AVERAGE	
Wet	Highest 20%	11	563,500 to 644,600	590,700	171,300
Normal-Wet	50% to 80%	17	452,800 to 563,300	513,700	149,000
Normal-Dry	20% to 50%	17	362,600 to 448,000	415,000	120,400
Dry	5% to 20%	8	253,700 to 362,000	315,700	91,600
Critical	Lowest 5%	3	158,100 to 253,300	210,200	61,000
		56	**AVERAGE**	**453,800**	**131,600**

Notes:

1. As defined in 2006 Settlement Agreement
2. Assigns water year type defined in defined in 2006 Settlement Agreement to FID deliveries from 1964 to 2019
3. Based on maximum 29.0% City supply percentage to provide an example City supply amount

Table 6-4. Projected FID Kings River Allocation for City, Normal Years

YEAR	PROJECTED TOTAL FID ALLOCATION, AFY	PROJECTED ALLOCATION TO CITY, AFY[1]
2025	27.55%	125,030
2030	29.00%	131,600
2035	29.00%	131,600
2040	29.00%	131,600
2045	29.00%	131,600

[1]Projected City Allocation (%) x 453,800 AFY (estimated normal year diversion by FID, per **Table 6-3**)

6.3 Stormwater

The Fresno-Clovis Metropolitan Area and surrounding rural vicinities are within the service area boundaries of the FMFCD, which has primary responsibility for managing the local stormwater flows. Most stormwater in the City drains to urban stormwater basins, where the water is retained to attenuate peak flow runoff and recharge stormwater, or is pumped to local irrigation canals for conveyance away from the municipal areas. FMFCD's operation of stormwater basins is predicated on maintaining storage capacity for rain events, which limits accessibility for recharge activities during the rainy season. FMFCD estimates the amount of stormwater that is recharged each wet season. However, recharge attained with the FMFCD basins largely occurs in May

through October when limited storage capacity is required. Dry-season recharge is accomplished by diverting surface waters, from the Kings River and Millerton Reservoir, using City-allocated surface water. It is difficult to estimate stormwater recharge volumes as there is no physical measurement of stormwater flows into the basins, and infiltration rates can vary with water elevation and degree of siltation in the basin. However, FMFCD estimates that stormwater recharge in urban basins during the winter months may range from 7,000 AF/yr to 22,200 AF/yr. Stormwater capture and infiltration are considered an integral component of natural groundwater recharge discussed in **Section 6.1.5.1**.

6.4 Wastewater and Recycled Water

6.4.1 Recycled Water Coordination

The City is currently expanding its recycled water supplies to increase offset use of potable water for landscape irrigation. In 2010, the City completed a Recycled Water Master Plan (adopted by the City Council in 2013) to evaluate and plan for increased recycled water use in the City. The City's last Metro Plan, adopted in 2014, also outlined projects to increase the use of recycled water to offset potable demands (Carollo, 2010). The City is currently updating the Metro Plan and will reevaluate recommendations and projects to increase recycled water use.

The City owns and operates two water reclamation facilities: 1) the Fresno-Clovis Regional Wastewater Reclamation Facility (RWRF) and 2) the North Fresno Wastewater Reclamation Facility (NFWRF), both of which can produce Title 22 recycled water for use within the City's service area. They are described further in **Section 6.4.3**.

Coordination with other water agencies and potential consumers within the planning area is inherently within the purview of the City's Department of Public Utilities (DPU) as this department provides both water and wastewater services. DPU has been on the forefront of numerous water supply preservation, enhancement, and development projects and programs for decades. The concept of multiagency coordination is fully embraced by the department as is evident with the previously discussed joint agency agreements and the commitment to construct new infrastructure to further develop new resources. The endeavor to develop recycled water as a resource was a requirement of a development in north Fresno, where the developer was conditioned to have a net zero impact on water resources. The fundamental component of this development was the construction and dedication of the NFWRF to the City.

There are only a few agencies, besides the City, that have wastewater collection and treatment facilities within and immediately adjacent to the plan area. These agencies include:

	Collection	Treatment
City of Clovis	X	X
Malaga County Water District	X	X
Pinedale County Water District	X	-
Pinedale Public Utility District	X	-

As the City is the primary responsible agency for wastewater collection and treatment for its annexed areas and certain County islands, it has taken the lead role of developing and implementing recycled water facilities to serve the same area.

6.4.1.1 City of Clovis

The RWRF was developed under a Joint Powers Authority agreement executed in 1977 among the City of Fresno, the City of Clovis, and the County of Fresno. Both of the cities contribute to the cost of operations and maintenances and capital expenditures for the RWRF based on formulas in the agreement. This facility provides service for most of Clovis' sewer flows.

The City of Clovis recently constructed its own wastewater treatment facility that produces tertiary level effluent and is distributed in a dedicated purple pipe system within portions of its service area.

6.4.1.2 County of Fresno

The County of Fresno, like the City of Clovis, is a party to the RWRF Joint Powers Authority for treatment of flows from unincorporated areas encompassed by the City's service area.

6.4.1.3 Malaga County Water District

Malaga County Water District provides water and sewer service to an unincorporated county area of about 2.25 sq mi, which covers a small portion of the City's SOI. The district provides wastewater collection and treatment for residential and non-residential customers.

6.4.1.4 Pinedale County Water District

Pinedale County Water District provides water, sewer, and solid waste service to an area of about 2 sq mi, which service area covers an unincorporated County island and a portion of the City. The district provides wastewater collection to an area of 699 acres and diverts the flow to the City's collection system for treatment at the RWRF.

6.4.1.5 Pinedale Public Utility District

Pinedale Public Utility District provides wastewater, street lighting, street sweeping, and landscape maintenance. The district services an area of 362 acres in the northern portion of the City, serving both an unincorporated County island and portions of the City. The collected wastewater is diverted to the City's collection system for treatment at the RWRF.

6.4.2 Wastewater Collection, Treatment, and Disposal

The City's wastewater collection system was originally developed in 1891 with the installation of a 24-inch outfall sewer that discharged to a 40-acre sewer farm located southwest of town. The amount of land and facilities at this location continued to be expanded as the City grew over the years. Today, the City's wastewater collection system consists of about 1,630 miles of pipes ranging in size from 4 inches in diameter to 84 inches in diameter. This collection system also utilizes 15 lift stations throughout the City, ranging in pumping capacity from 0.25 mgd to 2.2 mgd.

6.4.2.1 Wastewater Treatment and Discharge Within Service Area

The City is served by two wastewater treatment plants, briefly described below.

Fresno-Clovis Regional Wastewater Reclamation Facility

The RWRF has developed from what was once a sewer farm to what is now a state-of-the-art wastewater treatment facility. In 1966, the City of Fresno was appointed the sewering agency

for the local metropolitan region and shortly after began long-range planning and construction of new facilities to handle increasing flows and regulatory requirements. The RWRF treats flows from not only the City, but also sewered County areas (some county areas remain unsewered), the City of Clovis, Pinedale County Water District, and Pinedale Public Utility District.

Flows received at this facility peaked at 81,100 AF in 2006 and have been steadily decreasing since, with the average influent flow about 63,000 AF over the last five years. The RWRF includes preliminary, primary, secondary, and tertiary treatment units with disinfection. Secondary treatment consists of three treatment trains with an annual average capacity of 87 mgd, consisting of 30 mgd for Train A and 57 mgd for Trains B and C combined. In 2017, a 5-mgd tertiary treatment system — the Tertiary Treatment and Disinfection Facility (TTDF) — was completed. The system can be expanded to 15 mgd and ultimately to 30 mgd.

The City has three primary means of effluent disposal:

1. Undisinfected secondary effluent to on-site and off-site farmland for restricted irrigation
2. Undisinfected secondary effluent to percolation ponds
3. Disinfected tertiary effluent to the recycled water distribution system

The percolated effluent has been deemed equivalent to Title 22 tertiary treated water by the State Water Resources Control Board Department of Drinking Water (DDW). The City has been extracting this water for reuse in areas within and surrounding the RWRF, as well as to FID's canals, through an exchange agreement for delivery to FID agricultural customers.

The discharged effluent is within the City boundaries and located just southwest of the metropolitan area. The treated effluent percolation ponds are within the City's SOI and hydrologic sphere that benefit the City's overall regional water budget. See **Figure 3-1** for a depiction of the facility's location relative to the metropolitan area.

North Fresno Wastewater Reclamation Facility

The NFWRF was constructed as part of a residential, commercial, and golf course master planned development located in the northern portion of the City. As a condition of the planned community, the developer was required to construct a wastewater treatment facility that would produce tertiary level effluent for use within the development to ensure the overall project had a net zero impact on water resources. This facility is presently rated at 0.71 mgd (average monthly flow) and 1.07 mgd (maximum daily flow). However, the ultraviolet (UV) light disinfection system was only validated for 300 gpm (0.43 mgd), which is the current flow limit until the DDW approves a higher flow. This facility is expandable to 1.25 mgd (average monthly flow). The disinfected tertiary effluent from the plant is largely used to irrigate the Copper River Ranch Golf Course. Of the 325 AF of wastewater treated in 2020, 54 AF was used for irrigation of turf. Treated but unused effluent is diverted to the City's collection system to the RWRF.

6.4.3 Recycled Water System Description

The 2014 Metro Plan recommended expanding reuse by: 1) using the NFWRF effluent to irrigate Copper River Ranch Golf Course; and 2) up to 25,000 AFY of recycled water for landscape irrigation or other non-potable uses from the RWRF or new satellite WRFs. Since then, the City has irrigated the Copper River Ranch Golf Course with recycled water and has constructed much of the southwest recycled water distribution system. However, the City is currently updating the Metro Plan and reevaluating the target volume of reuse in the City beyond the southwest system

considering new conditions and regulations, including the potential for potable reuse in the future.

6.4.3.1 Fresno-Clovis Regional Wastewater Reclamation Facility

As mentioned above, the RWRF produces undisinfected secondary effluent for restricted irrigation to on-site and off-site farmlands and disinfected tertiary treated effluent for the recycled water distribution system.

The City's RWRF diverts a portion of the undisinfected secondary effluent to irrigate non-food crops grown adjacent to this facility. The practice of using the secondary effluent to irrigate non-food crops has been carried-out for decades and is expected to continue for the foreseeable future. The City owns nearly 3,300 acres of land for and around the RWRF, consisting of percolation ponds (1,750 acres) and other land available to farm non-food crops. **Table 6-5** provides the annual quantities of recycled water applied to these crops for the period from 2015–2019.

Additionally, the RWRF produces Title 22 disinfected tertiary treated effluent through the TTDF completed in 2017 and through tertiary equivalent soil aquifer treated recycled water recovered from the percolated secondary effluent. A series of 15 groundwater wells located at the RWRF are used to extract previously percolated effluent groundwater from beneath the facility. The extracted groundwater has the potential to be used for higher beneficial use if it can be demonstrated this water has attained a level of treatment satisfactory to meet disinfected tertiary levels. The City embarked on a joint project with the WateReuse Research Foundation to demonstrate to State regulatory agencies the soil aquifer treated recycled water met Title 22 levels. The culmination of this study is presented in a final report entitled "Demonstration of Filtration and Disinfection Compliance Through Soil-Aquifer Treatment," which was completed in 2013 (WateReuse Research Foundation, 2013). This study concluded that, based on the documented sampled water quality data, the extracted groundwater met requirements for classification as disinfected tertiary level recycled water. The SWRCB DDW stated that the percolated effluent water meets the tertiary treatment classification, and the City is making plans for its use as part of its recycled water production and distribution system (California Regional Water Qulaity Control Board, 2018). The combined rated production yield of the 15 wells, if run year-round, would be approximately 32,000 AFY. The City plans to blend the recycled extraction well water with the disinfected tertiary level recycled water produced from the 5 mgd TTDF to feed the southwest recycled water distribution system. As new sales grow for the recycled water, additional recycled extraction well water will be utilized to feed the City's southwest recycled water system.

The tertiary equivalent soil aquifer treated recycled water (recovered groundwater) is also used for on-site irrigation and transport to FID canals for delivery to customers during the irrigation season, as facilitated through an exchange agreement with FID. More information on the City's FID RWRF Exchange Agreement is discussed in **Section 6.6**.

Since the completion of the 2010 Recycled Water Master Plan (RWMP), the City has constructed most of the southwest recycled water system, shown in **Figure 6-9.** The southwest recycled water system consists of a 3.2 MG recycled water reservoir located at the RWRF, a 6,000 gpm (8.64 mgd) recycled water pump station located at the RWRF, a 640-gpm booster pump station (Roeding Park Booster), and 15.7 miles of 10-inch to 54-inch recycled water pipeline. Roughly 7.5 miles of pipeline remain to be constructed. The City also updated the demand and distribution system from the 2010 RWMP with the 2019 Citywide Recycled Water Demand and Southwest

Recycled Water System Analysis (Carollo, 2019) to identify potential recycled water customers. This recent analysis will be incorporated into the latest Metro Plan update.

6.4.3.2 North Fresno Water Reclamation Facility

As described earlier, the City has an existing recycled water plant in the northern portion of the City that receives and treats sewage from the residential, commercial, and golf course master planned community. The NFWRF was constructed in 2008 but was not fully operational until 2009 due to the inability to properly run at extremely low flow conditions. Subsequent modifications at the plant allowed it to run on a regular basis in 2010 and again in 2014 for UV approval. The amount of reuse has varied substantially since 2016 because the delivery system was offline in 2017 and 2018 for treated water basin slope repairs. City staff indicated that 2016 is representative of operations going forward. The disinfected tertiary effluent is conveyed in a dedicated pipeline to an adjacent golf course for irrigation purposes. The quantities used for irrigation purposes are shown in **Table 6-5** for the period of 2015–2019.

Table 6-5. Historic Recycled Water Used Within Service Area

	QUANTITY (AFY)					
RECYCLE WATER FACILITY	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
RWRF, Secondary Effluent (Non-Food Crop Irrigation)	8,688	7,329	4,540	7,031	3,652	3,845
RWRF, Tertiary Effluent	531	485	423	867	912	858
NFWRF	62	110	0	0	19	54
TOTAL	**9,281**	**7,924**	**4,963**	**7,898**	**4,583**	**4,757**

Note: Reuse at the NFWRF was zero in 2017 and 2018 because the recycled water delivery system was offline for system repairs.

6.4.4 Potential, Current, and Projected Recycled Water Uses

The 2020 actual recycled water use, and projected recycled water use in the City's service area is included in **Table 6-6**. Secondary undisinfected reuse is projected to continue to be used to irrigate non-food crops adjacent to the RWRF in the future. The projected secondary undisinfected use going forward is based on the average use from 2015 to 2020. Additionally, the amount of tertiary recycled water from the RWRF is projected to increase to provide 6,210 AF for landscape and agricultural irrigation as the southwest recycled water system is built out. Projected tertiary recycled water from the NFWRF for golf course irrigation is projected to be 110 AF annually through 2045.

The 2015 UWMP anticipated that 21,200 AFY of recycled water would be produced and utilized in 2020. The previous projected increases in recycled water were based on recommendations from the 2010 RWMP, which included projects to increase recycled water use for landscape irrigation, agricultural irrigation, industrial use, and blending with raw surface water for groundwater recharge. Since the 2010 RWMP, the City has focused on constructing the southwest recycled water system to increase landscape and agricultural irrigation in the southwest portion of the City. The City is also currently updating the Metro Plan that is evaluating recycled water alternatives in the City and is expected to update its RWMP following the Metro Plan update to serve as a new guiding planning document for recycled water use by the City.

Customer ID	Customer Name	MDD (gpm)	PHD (gpm)	Hours of Irrigation
1	Quist Farms	1,300.0	1,300.0	24
2	Fresno Memorial Gardens	131.0	450.0	7
3	Roeding Park	267.0	640.0	10
4	Peelman Farms	650.0	650.0	24
5	Peelman Farms	650.0	650.0	24
6	St Peters Cemetery	152.7	458.2	8
7	Westside Auto	8.0	30.0	6
8-10	Multiple Cemeteries	225.8	677.2	8
11-12	Caltrans-99	100.0	300.0	8
13-16	Multiple Cemeteries	225.8	677.2	8
17	Masis Ararat Cemetery	80.0	240.0	8
18	Belmont Memorial Park	172.3	517.0	8
19	Caltrans 180/ Hughs	33.3	100.0	8
20	Caltrans 180/ Fruit	16.7	50.0	8
21	Fink-White Park	61.0	183.0	8
22	Caltrans 99/ Amador	16.7	50.0	8
23	Columbia Elem	44.3	133.0	8
24	Frank Ball Park	19.3	58.0	8
25	Kearney Triangle	18.3	55.0	8
26	Eaton Plaza	21.0	63.0	8

Customer ID	Customer Name	MDD (gpm)	PHD (gpm)	Hours of Irrigation
27	Veteran's Memorial	27.7	83.0	8
28	City Hall	27.7	83.0	8
29	AmeriPride	67.3	202.0	8
30	Courthouse Park	116.7	350.0	8
31	Community Regional	173.0	519.0	8
32	Chukchansi Park	59.3	178.0	8
33	Caltrans 41/H	16.7	50.0	8
34	McKinley Elem	66.7	200.0	8
35	El Capitan Middle	83.3	250.0	8
36	Polk Elem	74.7	224.0	8
37	Madison Elem	56.1	168.3	8
38	King Elem	44.3	101.6	8
39	Gaston Middle	87.5	350.0	8
40	Computech Middle	63.0	245.5	8
41	Edison High	43.7	166.0	8
42	Fresno City College	639.4	871.9	24
43	Hinton Park	19.3	58.0	8
44	Oasis Residential Development	210.5	631.5	8
	Total	**6,070.0**	**12,013.4**	**---**

Legend

Existing Facilities

- Wastewater Reclamation Facility
- Existing Recycled Water Pipeline
- Recycled Water Reservoir

Recycled Water Pump Station

- Existing
- Future

Future/ Proposed Recycled Water Pipelines

- Oasis Development
- SW1D
- South Pipeline

Recycled Water Customer

- Existing Recycled Water Customer
- Agriculture
- Cemetery
- Central Unified School District
- College
- Fresno Unified School District
- Park
- Private/Commercial
- Residential
- Freeway

City Features

- Fresno Sphere of Influence
- Fresno City Limits
- Streets

Shields Ave
McKinley Ave
Belmont Ave
Whitesbridge Ave/ CA-180
California Ave
Jensen Ave
Brawley Ave
Marks Ave
West Ave
Walnut Ave
Elm Ave
SWPS1
Roeding Park PS
RWRF PS
Fresno-Clovis Regional WRF
3.2 MG Recycled Water Reservoir

Prepared by: WSC

N
1:44,248
0 0.28 0.55 1.1 Mi
0 1,000 2,000 4,000 US Feet

References:

1. Coordinate System: NAD 1983 StatePlane California IV FIPS 0404 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
2. Figure recreated from Figure 7 Potential Southwest Recycled Water Users from the 2019 City Wide Recycled Water Demand and Southwest Recycled Water System Analysis prepared by Carollo Engineers, Inc.

Notes:

Prepared for: City of Fresno Department of Public Utilities

City of Fresno
2020 Urban Water Management Plan

Figure 6-9. Southwest Recycled Water System

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Table 6-6. Recycled Water within Service Area in 2020 (DWR 6-4R)

The supplier will complete the table.

Name of Supplier Producing (Treating) the Recycled Water:	City of Fresno
Name of Supplier Operating the Recycled Water Distribution System:	City of Fresno
Supplemental Volume of Water Added in 2020:	0%
Source of 2020 Supplemental Water:	N/A

BENEFICIAL USE TYPE	POTENTIAL BENEFICIAL USES OF RECYCLED WATER	AMOUNT OF POTENTIAL USES OF RECYCLED WATER	GENERAL DESCRIPTION OF 2020 USES	LEVEL OF TREATMENT	2020	2025	2030	2035	2040	2045
Agricultural Irrigation[1]	Non-foodcrop irrigation	7,900	Irrigate non-food crops	Secondary, Undisinfected	3,845	7,900	7,900	7,900	7,900	7,900
Landscape Irrigation (excludes golf courses)	Landscape Irrigation	5,800	Landscape irrigation, distributed through the southwest recycled water distribution system	Tertiary	858	5,800	5,800	5,800	5,800	5,800
Agricultural Irrigation[1]	Food crop irrigation	410	Irrigate limited food crops, distributed through the southwest recycled water distribution system	Tertiary	-	410	410	410	410	410
Golf Course Irrigation	Landscape Irrigation	110	Copper River Golf Course	Tertiary	54	110	110	110	110	110
-				Total:	4,757	14,220	14,220	14,220	14,220	14,220

Note:

1. Recycled water for agricultural irrigation does not offset the City's potable water demands, and as such, is excluded from projected recycled water in subsequent tables.

6.4.5 Actions to Encourage and Optimize Future Recycled Water Use

The 2010 RWMP identified the need for the City to adopt an ordinance to establish a recycled water policy and criteria for its use within the City's SOI. On July 14, 2014, the Recycled Water Ordinance was adopted by the City Council, laying the foundation for the expanded use of recycled water within the City.

The focus of the ordinance includes the following:

- Establish an Administrative Authority.
- Establish approved uses of recycled water.
- Define areas of potential eligibility for recycled water service.
- Specify voluntary uses of recycled water, depending on user classifications.
- Require installation of a transmission and distribution infrastructure.
- Encourage the use of voluntary retrofits for existing users that may not be addressed in the ordinance.
- Require the City of Fresno to prepare Rules and Regulations.
- Provide enforcement and severability clauses.
- Establishing a means for the City to provide recycled water at a negotiated price.

Efforts to further the use of recycled water include the requirement that new developments within planned major recycled water distribution mains must install purple pipe. Then, as the City's capital projects construct a distribution infrastructure, these segments will be in place to facilitate connections to new customers, reduce program costs by avoiding digging up new street improvements and reduce disruption to vehicular traffic.

Most of the southwest recycled water distribution system from the RWRF is completed or planned for construction in 2021. The City has identified potential customers to connect to the recycled water system once it is completed to offset potable demand and increase recycled water use in the City.

6.5 Desalinated Water Opportunities

The City is located in the central San Joaquin Valley; therefore, seawater desalination is not applicable to the City. Additionally, the groundwater that exists within the immediate area of the City is not brackish in nature and does not require desalination treatment.

6.6 Water Exchanges and Transfers

6.6.1 Exchanges and Transfer Opportunities

6.6.1.1 USBR Supply

The Central Valley Project Improvement Act (CVPIA) of 1992 authorized the transfer of all or a portion of a CVP contractor's water supply to any other California water users or water agencies. The CVPIA allows water transfers as long as they are consistent with federal and state water laws. The primary component of the CVPIA that specifies water transfer provisions for federal

water supplies is Section 3405(a), which includes provisions regarding maximum annual water transfer, beneficial use, and approvals.

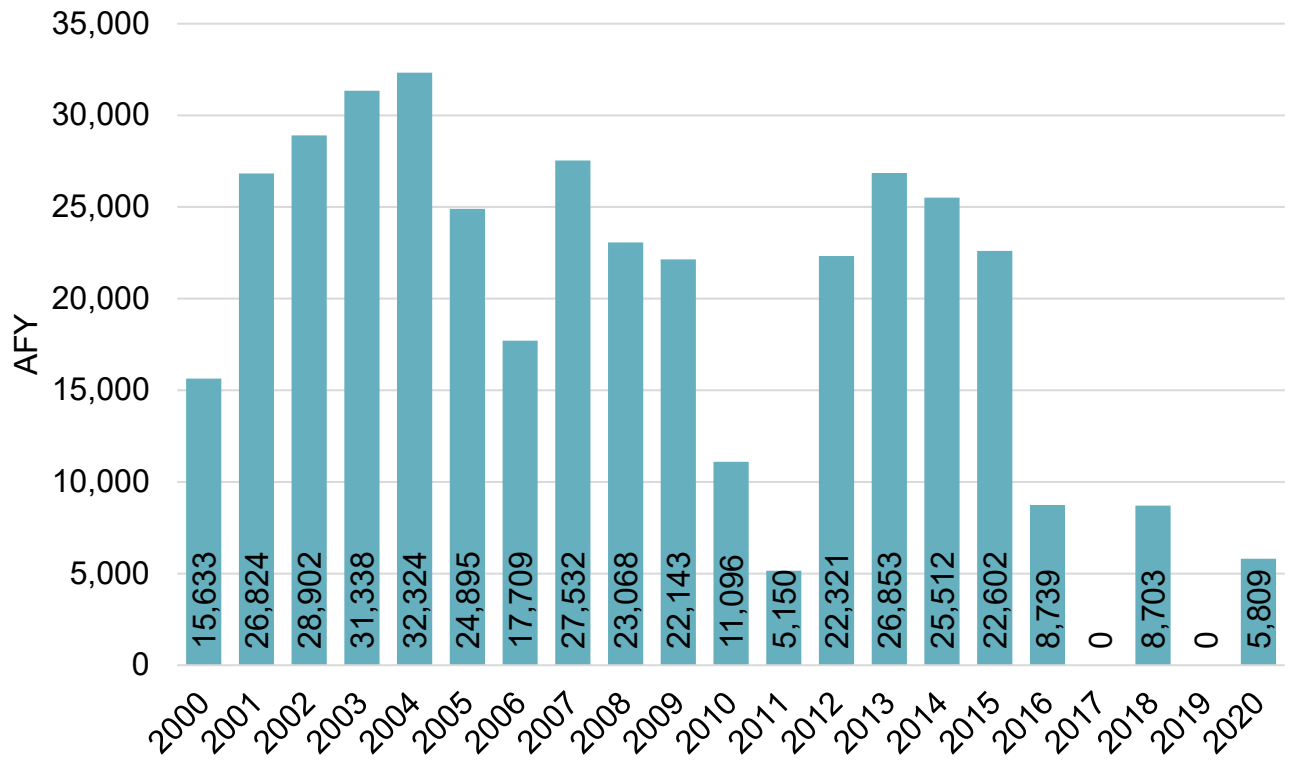
As part of the City's current Metro Plan update, the City is evaluating potential future water transfers and exchanges of its periodically available USBR water. Currently, the City does not have any plans to transfer its USBR water to other California water users.

6.6.1.2 FID / RWRF Groundwater Exchange Supply

Since 1974, the City has had an agreement with FID to exchange recycled water for the delivery of surface water east of the City (**Appendix I**). The Agreement between FID and the City for Exchange of Recycled Water allows for water pumped from beneath the RWRF to be conveyed to FID's Dry Creek and Houghton Canals for delivery to growers west of the City. In exchange for the water delivered to FID by the City, FID agreed to deliver 46% of the total from either its Kings River entitlement or USBR Class II supply to growers or basins in the eastern portion of FID "insofar as is feasible and practical." The water is to be considered additional to the water that would have been delivered to the eastern portion of FID, such that the additional delivered water used by growers is assumed to offset groundwater pumping in the area and, therefore, provide a groundwater basin benefit. This is an indirect benefit to the City.

The agreement includes a minimum of 100,000 AF delivered over a 10-year period and no more than 30,000 AF in any given year. As shown in **Figure 6-10**, the City exceeded the maximum yearly delivery in 2003 and 2004 and has maintained more than 100,000 AF of deliveries over a 10-year period. However, since 2016, the City has reduced RWRF groundwater exchange deliveries. The City is currently discussing an update to the agreement with FID, while the 2020 Metro Plan will identify and recommend other beneficial uses for the City's percolated effluent.

Figure 6-10. Historical RWRF Groundwater Exchange Deliveries



6.6.2 Emergency Interties

In 2007, the Cities of Fresno and Clovis executed an agreement for interconnection of their potable water systems to provide service during emergencies and other times of hardship in either community. The agreement covers interconnections, including apportionment of capital costs, at two locations: Leonard Avenue at the Gould Canal alignment and Behymer Avenue at Willow Avenue.

The agreement provided for temporary deliveries from Clovis to southeast Fresno through the Leonard connection through 2013. The Leonard interconnection was constructed and remains in place for emergency uses through manual operation.

The agreement also provided for temporary deliveries from Fresno to northern Clovis through the Behymer connection through 2015. However, the Behymer interconnection has yet to be constructed and, if constructed in the future, would serve only for emergency use.

6.7 Future Water Projects

The City is currently updating its Metro Plan, which will recommend programs and projects to improve the City's water supply portfolio and continue providing a safe, reliable, and sustainable water supply. While the outcomes of the Metro Plan update are currently being developed, the City's ongoing and future projects to improve its supply portfolio include:

- Expansion of recycled water distribution system
- Expansion of groundwater recharge program
- Expansion of surface water treatment capacity
- Beneficial transfers and exchanges

6.7.1 Expand Recycled Water Distribution System

As mentioned in **Section 6.4.5**, the City has made significant improvements to their recycled water system over the last five years and is currently expanding their recycled water distribution system. The City expects to implement construction on the final portion of the Southwest recycled water distribution system this year. The completed distribution system will allow an additional 5,000 AF of recycled water use in the City to offset potable demands that can be used in all hydrological year types. The expansion is projected to be completed by 2025.

6.7.2 Expand Groundwater Recharge Capacity

With the acknowledgement that the groundwater aquifer is and will remain an integral resource, the City is currently evaluating an expanded recharge program as part of the Metro Plan update. Expanding intentional recharge may include the development of new dedicated intentional recharge facilities and/or joint projects for basins with FMFCD and potentially FID. The target for recharge expansion is to maximize storage within the groundwater basin and optimize use of available surface water supplies in normal years. The stored water will be used more in the single-dry year and consecutive dry years when surface water supplies are less available.

The timing for groundwater recharge capacity expansion will be examined as part of the Metro Plan update and, for the UWMP, is assumed to increase to allow for an additional 540 AFY of recharge to occur on average each year.

6.7.3 Expand Surface Water Treatment Capacity

A key component to the success of the City's ability to reverse the long-time overreliance on groundwater is the construction of its surface water treatment facilities. These have allowed the City to optimize the use of available surface water supplies. The City's NESWTF currently has a 30 mgd capacity and the capability to expand up to 60 mgd. The SESWTF is currently permitted to produce up to 54 mgd but, with the subsequent rerating of the media filters, will be capable of operating at a rated capacity of 80 mgd.

The timing for the SWTF expansion will be examined as part of the Metro Plan update and determined based on need as the City grows and demands increase.

6.7.4 Beneficial Transfers and Exchanges

As mentioned in **Section 6.6.1**, the City is evaluating future beneficial transfers and exchanges of the City's USBR water in normal water years when available water supplies exceeds demands.

6.8 Summary of Existing and Planned Sources of Water

Summaries of the above discussed existing and planned sources of water are provided in **Table 6-7** and **Table 6-8** below.

6.8.1 Supply Management

The City currently balances its surface water supplies and groundwater based on minimum production for operation of the SWTFs and minimum groundwater pumping to manage and control contamination plumes and prevent their spread. The minimum operation conditions typically occur in the low-demand winter months, and the City can increase surface water production during peak demand months when surface water is available. In normal and wet years, the City intends to rely on more surface water supply and recharge raw surface water to replenish the groundwater basin and build storage for dry years. In dry years, when surface water is less available, the City will ramp up well production to meet demands. The City is expected to continue this supply management strategy in the future.

Table 6-7. Actual Water Supplies (DWR 6-8R)

	2020	
WATER SUPPLY	**ACTUAL VOLUME**	**WATER QUALITY**
Groundwater	55,028	Drinking Water
USBR CVP	37,447	Drinking Water
FID Kings River	71,292	Drinking Water
Recycled Water, RWRF	858	Recycled Water
Recycled Water, NFWRF	54	Recycled Water
TOTAL:	**164,679**	

Table 6-8. Projected Water Supplies (DWR 6-9R)

	REASONABLY AVAILABLE VOLUME, AFY				
WATER SUPPLY	**2025**	**2030**	**2035**	**2040**	**2045**
Groundwater	138,090	143,630	149,100	154,490	159,820
USBR CVP	60,000	60,000	60,000	60,000	60,000
FID Kings River	125,030	131,600	131,600	131,600	131,600
Recycled Water, RWRF	5,800	5,800	5,800	5,800	5,800
Recycled Water, NFWRF	110	110	110	110	110
TOTAL:	**329,030**	**341,140**	**346,610**	**352,000**	**357,330**

6.8.2 Special Conditions

This section details climate change and future regulatory conditions that impact the City's supply sources.

6.8.2.1 Climate Change Effects

Climate models disagree on average annual precipitation projections but agree on other hydrologic metrics relevant to water resources management, including:

- Snowpack declines
- Increased fraction of precipitation on extreme rainfall days
- Shorter, sharper rainy season
- Increased evapotranspiration
- Higher frequency of extremely wet and extremely dry years
- Higher incidence of extreme dry year followed by an extreme wet year or vice versa (Persad, 2020) (Partida, 2020)

As discussed in **Section 4.4**, climate change impacts were evaluated in the North Kings GSP using DWR climate change datasets, which were developed for the California Water Commission's Water Storage Investment Program (WSIP). The North Kings GSP analyzed WSIP water supply projections and found climate change will have no significant impact on the FID Kings River diversions. The North Kings GSP estimates the timing of the inflows to water reservoir and surface water supplies is anticipated to shift significantly due to warmer temperatures causing precipitation to arrive as rainfall instead of snowmelt. The warmer temperatures are also predicted to cause the snowmelt to turn to runoff earlier each spring. These climate impacts are estimated in the North Kings GSP to slightly increase inflows to the Kings River (0.6% in 2040 and 0.3% in 2070); however, it is not expected to impact the Kings River diversions significantly and the timing will have a greater impact on water management, including a possible greater need for additional storage. The North Kings GSP also estimated climate impacts to the San Joaquin River supplies available to the CVP Friant Division Contractors, including the City's USBR Class I supplies, and found the WSIP dataset estimates a slight reduction in future water supplies (Provost & Pritchard, November 2019). This plan

considers water supply during an extreme dry year or multi-dry year scenario, which may occur more often due to climate change, further in **Chapter 7**.

6.8.2.2 Regulatory Conditions

The City has existing contracts for its surface water supplies that are not facing any reduction due to forthcoming regulation. The City's groundwater supply is from an unadjudicated basin and is also considered reliable. The GSA is currently working toward determining a safe yield for the Kings Subbasin, which is the amount of water than can be pumped from the basin over a long-term period without producing undesirable results. The City is an active member of the GSA, working collaboratively to bring the basin to balance while protecting the City's groundwater supply.

Additionally, forthcoming California regulations for per- and polyfluoroalkyl substances (PFAS) may impact certain wells within the City. The City is currently monitoring and treating some groundwater wells for PFAS. These regulations are not expected to impact the City's ability to use its full groundwater supply.

6.9 Energy Intensity

Pursuant to CWC Section 10631.2(a), readily available information regarding energy intensity shall be reported in the 2020 UWMP. For the City, this includes the total energy usage at each production facility, including each well site and the three SWTFs. The electrical usage includes the energy to produce, treat, and pump the water into the distribution system. Because the City's distribution system includes over 200 groundwater wells, **Table 6-9** presents the total energy usage, water produced, and average energy intensity for all groundwater wells and for each SWTF following the methodology presented in Appendix O of the DWR 2020 UWMP Guidebook. The energy intensity varies significantly between groundwater wells depending on the depth to the groundwater table, if the well includes treatment beyond disinfection, and other local conditions. The total energy intensity for all production and treatment in the City's distribution system in 2020 was 384 kWh/ AF.

Table 6-9. Water System Energy Intensity in 2020

	WELLS	NESWTF	SESWTF	T-3 SWTF	TOTAL
Electricity (kWh)	27,667,366	5,848,314	13,416,000	454,470	47,386,150
Treated Water Deliveries (AF)	56,445	20,724	45,367	875	123,411
Energy Intensity (kWh/AF)	490	282	296	520	384

7

CITY OF FRESNO

Water Service Reliability and Drought Risk Assessment

This Section discusses the long-term reliability of surface and groundwater supplies for the City.

A comparison is made of anticipated supplies and demands through 2045 for a normal year, single dry year, and five-year drought. Shorter-term reliability planning that may require immediate action, such as drought or catastrophic supply interruption, is addressed in **Chapter 8**.

IN THIS SECTION

- Water Service Reliability Assessment
- Drought Risk Assessment

7.1 Water Service Reliability Assessment

This section describes the existing constraints on the City's supply sources and reliability in different hydrologic year types.

7.1.1 Constraints on Water Sources

7.1.1.1 Groundwater

Groundwater has long been the primary water supply source for the City. Before the City's investments to increase its use of surface water with the construction of its NESWTF, T-3 SWTF, and SESWTF, groundwater levels were declining, and the falling levels were a potential constraint. Groundwater levels in some areas of the City have actually been increasing over the last five years as a result of the City's using less groundwater and are expected to continue to increase as the City pumps less in the future.

The North Kings GSP is setting sustainability indicators for groundwater levels and groundwater storage. The current GSP does define a measurable objective and minimum threshold for the basin to allow the North Kings GSA to evaluate its progress for the subject indicator, as defined by SGMA, and determine whether conditions are improving, remaining stable, or degrading.

Another constraint to the use of groundwater stems from the negative impacts from contamination (see **Section 6.1.4**). To ensure the continued beneficial use of the groundwater supply, the City has set minimum pumping requirements for specific wells to prevent the spread of existing groundwater plumes to other areas in the City and to protect the basin. The City will remain proactive in pursuing responsible parties so the proper remediation is conducted to preserve the groundwater system as a viable and sustainable resource in perpetuity. Largely, the City has been able to rely on the relatively good quality of this resource.

7.1.1.2 USBR

The City has a contract for 60,000 AFY of Class 1 water with the USBR. Analysis supporting the 2006 San Joaquin River Settlement is the basis for USBR supply projections. The settlement is based on ensuring flows downstream of Millerton Dam for varying hydrologic conditions, which can constrain surface water supplies available to the CVP Friant Division contractors, such as the City.

Another constraint that affects the consistency of this supply are the restrictions that have been imposed on water diversions from the Delta (see **Section 6.2.1**). The resulting impacts associated with the restrictions from the Delta has been more detrimental to water supplies for the CVP Friant Division contractors than the above-discussed settlement, as the latter has resulted in two years of zero allocations for the CVP Friant Division contractors.

The construction of a raw water pipeline in 2018 to convey USBR water from the Friant-Kern Canal to the NESWTF, referred to as the Friant-Kern Canal Pipeline, has improved the reliability and water quality of deliveries to the NESWTF. The NESWTF is now capable of year-round operation, and the original connection from FID's Enterprise Canal still exists as a backup delivery system if needed.

Every three years, the Friant-Kern Canal is taken down for maintenance, and during these shutdowns the City has the flexibility to deliver its Kings River supply to the NESWTF to allow for its continued use.

7.1.1.3 FID

The City has an agreement with FID providing the City an allocation of approximately 115,000 AFY of Kings River water in normal-year conditions. Water supplied from the FID contract is most susceptible to annual hydrologic conditions. The City's annual FID supply allocation is dependent on annual precipitation, Sierra Nevada mountain snowpack, and natural river flow conditions. The annual variability of these sources results in variable allocations to the City. Based on the foregoing data, FID receives an annually adjusted entitlement, the delivery of which will fluctuate throughout the irrigation delivery season. The City in turn receives its pro rata allocation based on the foregoing entitlement determination.

Another factor that may constrain the availability of Kings River water supply is scheduled maintenance of FID's vast canal network. FID typically terminates water deliveries to the City's water treatment facilities in the months of November and/or December so they can perform necessary infrastructure repairs and maintenance. However, the City constructed a dedicated 13-mile, 72-inch-diameter raw water pipeline to deliver Kings River water to the SESWTF to allow for year-round operations and prevent shutdowns due to FID maintenance. Deliveries to intentional recharge facilities will continue to be supplied through the FID canal system.

7.1.1.4 Recycled Water

At present, the largest constraint for recycled water use is the lack of infrastructure to distribute the water to end users. The City has recently increased recycled water production capabilities and constructed much of the southwest recycled water system, as described in **Section 6.4**. The City plans to complete construction of the southwest recycled water distribution system in the near term and expand its recycled water delivery in the City.

7.1.2 Description of Management Tools and Options

The City currently manages its surface water and groundwater supply by maximizing surface water for potable use and intentional recharge during wet and normal years, while relying on groundwater during dry years. The City is currently updating its Metro Plan, which will recommend projects and programs to optimize the use of its supply portfolio and further improve supply resilience. Supply management tools are an expected outcome of the Metro Plan update; however, the City's ongoing supply management is intended to maximize local supplies and improve the groundwater basin storage. Current actions include enhanced groundwater management and intentional recharge, increased recycled water use, and continued conservation through the implementation of demand management measures.

7.1.3 Year Type Characterization

Normal-water-year, single-dry-water-year, and five-consecutive-year-drought-period supply projections were made based on historic water allocations for surface water supplies, historic municipal water well pumping for groundwater, and projected utilization for recycled water, as described below.

Kings River water supply data was obtained from the Kings River Water Association and FID. USBR CVP Friant Division data was obtained from the USBR website, the City of Fresno, and FID. Groundwater and recycled water supply data was obtained from the City of Fresno.

7.1.3.1 Normal Year

Data for the total water supply for the normal-year condition is provided in **Table 7-1** based on:

- **Groundwater:** estimated sustainable yield from **Table 6-1**.
- **USBR:** long-term average allocation from **Table 6-2**.
- **FID:** long-term average allocation from **Table 6-3**.
- **Recycled Water:** projected supply from **Table 6-6**, excluding agricultural irrigation demand that does not offset the City's potable demand.

7.1.3.2 Single Dry Year

The single-dry-year supply availability is based on 2015, during the 2012-2017 drought, because the City had the lowest surface water supply available in 2015. Data for total water supply for the single-dry-year condition is provided in **Table 7-2** based on:

- **Groundwater:** estimated sustainable yield from **Table 6-1**. If necessary, the City would pump beyond its estimated sustainable yield during dry periods and balance out the pumping with recharge in normal or wet periods.
- **USBR:** actual allocation in 2015 (0 AF).
- **FID:** actual total FID allocation in 2015 (42,935 AF) but with the projected City percentage of FID supply for the future years considered (per **Table 6-3**).
- **Recycled Water:** projected supply from **Table 6-6**, excluding agricultural irrigation demand that does not offset the City's potable demand.

7.1.3.3 Multiple Dry Years

Data for total water supply for the five-year drought condition is provided in

Table 7-3 based on:

- **Groundwater:** estimated sustainable yield from **Table 6-1**. If necessary, the City would pump beyond its estimated sustainable yield during dry periods and balance out the pumping with recharge in normal or wet periods.
- **USBR:** actual allocations in 2012 to 2016, which ranged from 0 to 45,000 AF.
- **FID:** actual total FID allocations in 2012 to 2016, which ranged from 42,935 to 110,824 but with the projected City percentage of FID supply for the future years considered (per **Table 6-3**).
- **Recycled Water:** projected supply from **Table 6-6**, excluding agricultural irrigation demand that does not offset the City's potable demand**.**

Despite severe reductions of surface water supplies during dry years, sufficient good-quality water was available to permit the SWTFs to operate. As mentioned in the previous section, there is some seasonal vulnerability with surface water availability in dry years, which needs to be closely coordinated with surface water suppliers to minimize impacts to the City's SWTF operations. Groundwater supplies, with intentional recharge augmentation, remain reliable in all hydrologic conditions.

7.1.4 Water Service Reliability

This section compares projected supplies and demands for a normal year, single dry year, and five-year consecutive drought. As shown in **Table 7-1**, the City is projected to have greater than 100,000 AF of available supply after meeting demands in normal years. As shown in **Table 7-2**, the City's surface water supplies are reduced in a single dry year, but all potable demands are met and groundwater recharge of raw surface water is reduced. As shown in **Table 7-3**, the City is projected to meet all demands during a five-year drought with its existing supplies. Potable demands are unrestricted, and non-potable water used for groundwater recharge is reduced in years three and four of a five-year drought.

Table 7-1. Normal Year Supply and Demand Comparison (DWR 7-2R)

	2025	2030	2035	2040	2045
Groundwater	138,090	143,630	149,100	154,490	159,820
Surface Water – USBR	60,000	60,000	60,000	60,000	60,000
Surface Water – FID	125,030	131,600	131,600	131,600	131,600
Recycled Water	5,910	5,910	5,910	5,910	5,910
SUPPLY TOTALS	**329,030**	**341,140**	**346,610**	**352,000**	**357,330**
Potable Demand	136,504	147,356	154,210	161,076	167,947
Non-Potable (Groundwater Recharge) Demand	62,700	65,400	68,100	70,800	73,500
DEMAND TOTALS	**199,204**	**212,756**	**222,310**	**231,876**	**241,447**
DIFFERENCE:	**129,826**	**128,384**	**124,300**	**120,124**	**115,883**

Table 7-2. Single Dry Year Supply and Demand Comparison (DWR 7-3R)

	2025	2030	2035	2040	2045
Groundwater	138,090	143,630	149,100	154,490	159,820
Surface Water – USBR	0	0	0	0	0
Surface Water – FID	45,852	45,852	45,852	45,852	45,852
Recycled Water	5,910	5,910	5,910	5,910	5,910
SUPPLY TOTALS	**189,852**	**195,392**	**200,862**	**206,252**	**211,582**
Potable Demand	136,504	147,356	154,210	161,076	167,947
Non-Potable (Groundwater Recharge) Demand	27,588	28,776	29,964	31,152	32,340
DEMAND TOTALS	**164,092**	**176,132**	**184,174**	**192,228**	**200,287**
DIFFERENCE:	**25,760**	**19,260**	**16,688**	**14,024**	**11,295**

Table 7-3. Multiple Dry Years Supply and Demand Comparison (DWR 7-4R)

		2025	2030	2035	2040	2045
FIRST YEAR	Groundwater	138,090	143,630	149,100	154,490	159,820
	Surface Water – USBR	30,000	30,000	30,000	30,000	30,000
	Surface Water – FID	99,725	99,725	99,725	99,725	99,725
	Recycled Water	5,910	5,910	5,910	5,910	5,910
	SUPPLY TOTALS	**273,725**	**279,265**	**284,735**	**290,125**	**295,455**
	Potable Demand	136,504	147,356	154,210	161,076	167,947
	Non-Potable Demand	62,700	65,400	68,100	70,800	73,500
	DEMAND TOTALS	**199,204**	**212,756**	**222,310**	**231,876**	**241,447**
	DIFFERENCE:	**74,521**	**66,509**	**62,425**	**58,249**	**54,008**
SECOND YEAR	Groundwater	138,090	143,630	149,100	154,490	159,820
	Surface Water – USBR	37,200	37,200	37,200	37,200	37,200
	Surface Water – FID	93,426	93,426	93,426	93,426	93,426
	Recycled Water	5,910	5,910	5,910	5,910	5,910
	SUPPLY TOTALS	**274,626**	**280,166**	**285,636**	**291,026**	**296,356**
	Potable Demand	136,504	147,356	154,210	161,076	167,947
	Non-Potable Demand	62,700	65,400	68,100	70,800	73,500
	DEMAND TOTALS	**199,204**	**212,756**	**222,310**	**231,876**	**241,447**
	DIFFERENCE:	**75,422**	**67,410**	**63,326**	**59,150**	**54,909**
THIRD YEAR	Groundwater	138,090	143,630	149,100	154,490	159,820
	Surface Water – USBR	0	0	0	0	0
	Surface Water – FID	73,568	73,568	73,568	73,568	73,568
	Recycled Water	5,910	5,910	5,910	5,910	5,910
	SUPPLY TOTALS	**217,568**	**223,108**	**228,578**	**233,968**	**239,298**
	Potable Demand	136,504	147,356	154,210	161,076	167,947
	Non-Potable Demand	53,763	46,281	43,526	40,677	37,761
	DEMAND TOTALS	**190,267**	**193,637**	**197,736**	**201,753**	**205,708**
	DIFFERENCE:	**27,301**	**29,471**	**30,842**	**32,215**	**33,589**

		2025	2030	2035	2040	2045
FOURTH YEAR	Groundwater	138,090	143,630	149,100	154,490	159,820
	Surface Water – USBR	0	0	0	0	0
	Surface Water – FID	45,852	45,852	45,852	45,852	45,852
	Recycled Water	5,910	5,910	5,910	5,910	5,910
	SUPPLY TOTALS	**189,852**	**195,392**	**200,862**	**206,252**	**211,582**
	Potable Demand	136,504	147,356	154,210	161,076	167,947
	Non-Potable Demand	26,047	18,564	15,810	12,960	10,045
	DEMAND TOTALS	**162,551**	**165,920**	**170,020**	**174,036**	**177,992**
	DIFFERENCE:	**27,301**	**29,471**	**30,842**	**32,215**	**33,589**
FIFTH YEAR	Groundwater	138,090	143,630	149,100	154,490	159,820
	Surface Water – USBR	45,000	45,000	45,000	45,000	45,000
	Surface Water – FID	125,840	125,840	125,840	125,840	125,840
	Recycled Water	5,910	5,910	5,910	5,910	5,910
	SUPPLY TOTALS	**314,840**	**320,380**	**325,850**	**331,240**	**336,570**
	Potable Demand	136,504	147,356	154,210	161,076	167,947
	Non-Potable Demand	62,700	65,400	68,100	70,800	73,500
	DEMAND TOTALS	**199,204**	**212,756**	**222,310**	**231,876**	**241,447**
	DIFFERENCE:	**115,636**	**107,624**	**103,540**	**99,364**	**95,123**

7.2 Drought Risk Assessment

A new provision of the Water Code directs Suppliers to prepare a DRA. The DRA considers a drought period lasting five consecutive years, starting from the year following the year when the assessment is conducted. For this plan, the DRA considers five consecutive dry years from 2021 through 2025. The City may conduct an interim update or updates to this DRA within the five-year cycle of its UWMP update. The DRA analysis allows the City to examine the management of its supplies during stressed hydrologic conditions and an opportunity to evaluate whether the City may need to enact its Water Shortage Contingency Plan (WSCP) during the next actual drought period lasting at least five years. The projected gross water use for the five-year DRA is based on unrestricted potable demand, a reduction in raw-water demand for intentional recharge in years three and four of the five-year drought, and unrestricted recycled water demand.

The reliability of supplies over a five-consecutive-year drought is described in **Section 7.1.4** and summarized below for 2021 through 2025:

- **Groundwater:** based on interpolating between the 2020 and 2025 values in **Table 6-1**. If necessary, the City would pump beyond its estimated sustainable yield during dry periods and balance out the pumping with recharge in normal or wet periods.
- **USBR:** based on the actual supply allocations from these sources during the driest consecutive five-year drought (2012–2016).

- **FID:** based on the actual supply allocations from these sources during the driest consecutive five-year drought (2012–2016). For this DRA, the City's percentage of FID supplies are conservatively assumed to remain at the existing 25.79%.
- **Recycled Water:** based on interpolating between the 2020 and 2025 values in **Table 6-6**, excluding agricultural irrigation demand that does not offset the City's potable demand.

Table 7-4 compares the total projected supply and demand for the five-year DRA for 2021 through 2025. As shown, the City does not expect to enact its WSCP for a five-consecutive-year drought based on the unrestricted potable demand projections and the current supply portfolio and reliability.

Table 7-4. Five-Year Drought Risk Assessment

WATER USE TYPE	2021	2022	2023	2024	2025
Groundwater	133,602	134,724	135,846	136,968	138,090
Surface Water – USBR	30,000	37,200	0	0	45,000
Surface Water – FID	93,354	83,085	65,425	40,776	111,911
Recycled Water	1,912	2,911	3,911	4,910	5,910
TOTAL SUPPLY	**258,868**	**257,920**	**205,181**	**182,655**	**300,911**
Potable Demand	124,910	127,827	130,745	133,662	136,504
Non-Potable Demand	60,000	60,000	48,287	22,260	60,000
TOTAL DEMAND	**184,910**	**187,827**	**179,032**	**155,922**	**196,504**
AVAILABLE SUPPLIES	**73,958**	**70,093**	**26,149**	**26,732**	**104,407**

8

CITY OF FRESNO

Water Shortage Contingency Plan

This WSCP is a detailed plan for how the City intends to respond to foreseeable and unforeseeable water shortages. A water shortage occurs when the water supply is reduced to a level that cannot support typical demand at any given time.

The WSCP is used to provide guidance to the City's governing body and staff and the public by identifying response actions to allow for efficient management of any water shortage with predictability and accountability. Preparation provides the tools to maintain reliable supplies and reduce the impacts of supply interruptions due to extended drought and catastrophic supply interruptions.

IN THIS SECTION

- WSCP Overview

The WSCP describes the following:

1. **Water Supply Reliability Analysis:** summarizes the City's water supply analysis and reliability and identifies any key issues that may trigger a shortage condition
2. **Annual Water Supply and Demand Assessment Procedures:** describes the key data inputs, evaluation criteria, and methodology for assessing the system's reliability for the coming year and the steps to formally declare any water shortage levels and response actions
3. **Six Standard Shortage Stages:** establishes water shortage levels to clearly identify and prepare for shortages
4. **Shortage Response Actions:** describes the response actions that may be implemented or considered for each stage to reduce gaps between supply and demand as well as minimize social and economic impacts to the community
5. **Communication Protocols:** describes communication protocols under each stage to ensure customers, the public, and government agencies are informed of shortage conditions and requirements
6. **Compliance and Enforcement:** defines compliance and enforcement actions available to administer demand reductions
7. **Legal Authority:** lists the legal documents that grant the City the authority to declare a water shortage and implement and enforce response actions
8. **Financial Consequences of WSCP Implementation:** describes the anticipated financial impact of implementing water shortage stages and identifies mitigation strategies to offset financial burdens
9. **Monitoring and Reporting:** summarizes the monitoring and reporting techniques to evaluate the effectiveness of shortage response actions and overall WSCP implementation, with results used to determine if additional shortage response actions should be activated or if efforts are successful and response actions should be reduced
10. **WSCP Refinement Procedures:** describes the factors that may trigger updates to the WSCP and outlines how to complete an update
11. **Special Water Features Distinctions:** identifies exemptions for ponds, lakes, fountains, pools, and spas, etc.
12. **Plan Adoption, Submittal, and Availability:** describes the process for the WSCP adoption, submittal, and availability after each revision

The 2020 WSCP is a standalone document that can be modified as needed and is included as **Appendix J**.

9 CITY OF FRESNO
Demand Management Measures

This chapter discusses the City's demand management measures including its water waste prevention ordinances, metering program, public outreach, and water loss reduction measures.

The City employs several water conservation programs, in excess of State-mandated restrictions, to promote conservation and reduce the water supply demand. These measures help reduce overdraft of the groundwater aquifer that the City uses and have aided in the City's attainment of the urban water use reduction targets discussed in **Chapter 5**. The following sections provide a description of the Demand Management Measures (DMMs), including the nature and extent of each.

IN THIS SECTION

- Water Waste Prevention
- Metering
- Conservation Pricing
- Public Education and Outreach
- Water Loss Reduction Measures

9.1 Demand Management Measures for Retail

9.1.1 Water Waste Prevention Ordinances

The City prohibits water waste through implementation of the Urban Water Conservation and Excessive Water Use ordinance (see Section 6-520 of the Fresno Municipal Code). The ordinance includes such prohibitions as not washing hardscapes, using a nozzle-controlled hose, and using irrigation practices. The WSCP, included in **Appendix J**, Section 1.5, contains a more in-depth discussion of these prohibitions and consequences associated with them.

The City has a water waste hotline and a reporting form on the City website and keeps records of water waste violations. The City also employs fifteen staff persons year-round to manage and monitor the water conservation programs in place. Communication to the City's diverse customer base is always taken into consideration, so two of the positions require Spanish and Hmong languages. All Water Conservation Representatives use advanced metering infrastructure (AMI) to monitor and confirm excessive or negligent water waste incidents.

The Water Conservation staff can be reached at (559) 621-5300, (559) 621-5480, or (559) 621-CITY for after-hours emergencies. Online forms are also available to the public. Their office is located at 1910 E. University Avenue, Fresno, CA 93703. The Water Conservation Supervisor is Conrad Braganza.

9.1.2 Metering

In 2008, the City embarked on an aggressive project to install meters on all single-family residential service connections throughout its service area. The water meter project was completed at the end of 2012. The City already had water meters on all existing multifamily residential, commercial, industrial, landscape irrigation, and fire services.

With completion of the metering project, the City can now monitor water use more closely and provide its customers an understanding of water use (and its fiscal impacts), which has led to reducing water consumption by approximately 13% since 2013. The City will continue to monitor water use through the metering data and use the data to analyze demand trends and plan for future water shortages.

As part of the analysis of the meter data and through customer complaints or comments, the City is able to identify meters that are not working properly. Once identified, the City can have a maintenance crew visit the property and evaluate whether to repair or replace the meter.

The City also routinely tests and calibrates meters to ensure accuracy in reading and billing. Typically, meters are tested in place in the field or at a test bench in the meter shop. Field testing involves using calibrated flow meters to monitor the flow through a test port on or attached to the meter and comparing the measured flow to the meter reading. The majority of large meters, three inches and above, have a bypass valve that will be turned on during the meter test as not to disrupt water use to the property. In the case where a bypass valve is not in place, the customer is notified at least 48 hours before the test date. The City's service area has a total of approximately 135,000 meters, of which approximately 1,100 are three inches or larger. In 2018, of 157 of these large meters were tested, 10 were repaired, and 15 were replaced.

With the majority of meters being two inches or smaller, testing every single one is not logistically or economically feasible; therefore, a statistical sampling of each size is tested each year based on the following criteria:

- Meters six inches and above are tested annually.
- Meters three inches to four inches are tested at least once every two years.
- Meters three-fourths of an inch to two inches are sample tested as needed.

The City performs more frequent testing on larger meters on the basis that an error in their registration has a greater effect on customer equity and revenue issues. Meters registering larger volumes are given priority regardless of when they were last tested.

The City also shares meter data with the customers through its EyeOnWater tool available on its website or on a mobile app. This allows customers to monitor and better understand their hourly, daily, weekly, and monthly water usage, trends, and how they compare to average users.

9.1.3 Conservation Pricing

The City's customers are subject to the water rate structure adopted by the City Council through the Proposition 218 process. The approved rate structure has a base price designated by meter size and a volumetric rate for water usage. **Table 9-1** shows the rate structure.

The City will investigate the use of alternative rate structures in the future, which could have specific charges for usage to provide a fiscal incentive for customers to conserve water. This approach would permit customers to directly see the impact of water use reduction each month.

Table 9-1. Current Water Rate Structure

	BASE RATE		USAGE CHARGES	
METER SIZE	DOMESTIC	IRRIGATION	100 CUBIC FEET (HCF)	1,000 GALLONS
¾" or smaller	$13.50	$10.70	$1.74 (per each HCF)	$2.33 (per each 1,000 gallons)
1"	$17.90	$13.40		
1.5"	$20.80	$15.20		
2"	$35.30	$24.10		
3"	$52.80	$34.90		
4"	$79.00	$51.00		
6"	$152.00	$96.00		
8"	$705.00	$436.00		
10"	$1,113.00	$687.00		
12"	$1,462.00	$901.00		

9.1.4 Public Education and Outreach

The City has worked diligently to connect with and educate the community it serves. Those efforts include an emphasis on water conservation techniques and the importance of reducing overall water demand, both specifically to the resident (in terms of fiscal impacts) and to the overall water supply.

The City's varied programs to incentivize water savings are frequently discussed, including the following items:

- Water-wise landscape consultation
- EyeOnWater tool
- Irrigation efficiency audit
- Assistance with setting irrigation controllers
- Interior/exterior water leak surveys
- Water meter use information
- Water use rebates, coupons, and permits
- Lawn-to-garden rebates
- Water conservation hotlines

9.1.4.1 Education and Outreach

The City's water conservation public information program is managed in-house with the assistance of JP Marketing. The firm's services include strategic planning, creative concepts, public relations, marketing, promotion, research, advertising, media design, copywriting, event creation, and online services.

The City's public information program has many components, including multimedia campaigns (paid and public service advertising), customer billing inserts, literature, public outreach activities, a speaker's bureau, and inter-agency partnerships. Many of the City's water conservation materials are provided in three languages: English, Hmong, and Spanish.

The City is a member of the Central Valley Water Awareness Committee (CVWAC), which is composed of several cities, water utilities, irrigation districts, and other groups in the Central Valley. The CVWAC was created to increase the public's understanding of how water is treated, managed, and delivered to customers. The City participates in Water Awareness Month activities through its affiliation with the CVWAC.

The City conducted outreach to the community through approximately 50 events between 2015 and 2020, including:

- Setting up outreach booths providing water-saving info and rebate information at local festivals, parades, plant sales, home and garden shows, and fairs
- Participating in Annual Water Wise Plant Exchanges, a large community event to share water-wise plants and information and participate in hands-on activities
- Hosting Kids Water Camp, a large one-day event with hands-on activities for kids in third grade in all elementary schools in the service area
- Hosting workshops and speaker events about water-wise plants, gardening, and landscaping

A full list of specific education and outreach events over the past five years is included in **Appendix K**. The City also maintains a water conservation page on its website with links to many of the flyers and rebates mentioned above.

9.1.4.2 Water Surveys

The City conducted over 24,000 interior and exterior water leak surveys between 2015 and 2020. **Table 9-2** quantifies the number and types of surveys conducted.

Table 9-2. Interior and Exterior Surveys

DESCRIPTION/YEAR	2015	2016	2017	2018	2019	2020	TOTAL
EXTERIOR SURVEYS							
Exterior Audit	942	1,289	1,359	835	2,189	427	7,041
Landscape Consultation	605	382	193	139	149	48	1,516
Large Turf Survey	1	5	1	0	0	0	7
Timer Tutorial	1,644	1,967	1,873	2,170	1,346	518	9,518
INTERIOR SURVEYS							
Interior Audit	835	1,135	1,222	748	2,137	412	6,489
TOTALS	**4,027**	**4,778**	**4,648**	**3,892**	**5,821**	**1,405**	**24,571**

9.1.4.3 Rebate Programs

The City operates 14 rebate programs. Some of those that were active and used during the 2015–2020 reporting period are summarized in **Table 9-3**.

Table 9-3. Rebate Program Results (2015–2020)

	LAWN TO GARDEN		WASHING MACHINE		HIGH EFFIC. TOILET	
YEAR	NO.	REBATE	NO.	REBATE	NO.	REBATE
2015	122	$4,044	358	$46,144	301	$35,344
2016	160	$71,372	247	$27,600	233	$21,124
2017	103	$37,157	255	$19,682	495	$18,937
2018	43	$19,238	57	$5,502	145	$75,721
2019	42	$19,456	84	$8,000	115	$19,091
2020	25	$14,521	121	$6,950	106	$18,033
TOTALS	**495**	**$165,791**	**1,122**	**$113,880**	**1,395**	**$188,253**

9.1.5 Programs to Assess and Manage Distribution System Real Loss

As discussed in **Chapter 4**, the calculated loss was determined to be 8%, illustrating the City's conservative approach in the past. With completed system metering, the City is able to track losses more closely and understand where possible losses are occurring and correct them as necessary.

The AWWA Water Audit Tool suggested the areas the City could improve to reduce system losses, including calibration of source meters, unauthorized consumption, and data handling errors.

The following measures are in place or are being developed to improve the system losses:

- The City installed the remaining source meters on the few unmetered wells within the system in 2017, and now currently all wells and production facilities are fully metered.
- The City has a source meter calibration plan in place.
- The City has implemented meter testing frequency based on service size. This is discussed in more detail in **Section 9.1.2**.
- The City has an online tool as well as a telephone hotline available for the public to report water leaks, either on their property or within the public rights-of-way. This helps reduce detection time and limits the water loss from leaks.
- The City conducted a leak survey on 100 miles of the water system in January 2016. Eight total leaks were pinpointed, one on the main, two on hydrants, two on water service lines, and one at a water meter.
- The City uses meter data to identify any meters not functioning correctly or any leaks in the system so that they can be replaced or repaired. This helps reduce unaccounted for water consumption.

Unauthorized consumption can be determined, at times, through the meter data also. If a meter shows no usage, the City can note the address and schedule a site visit to determine any possible issues.

9.1.6 Other Demand Management Measures

In addition to the water conservation programs, the City has also enacted watering schedules for the community that specify days and times that customers are allowed to water, based on odd or even street addresses. The City has also created an automated courtesy notice program that informs customers when they exceed the excessive water use threshold during days and times when outdoor watering is not allowed.

9.2 Implementation to Achieve Water Use Targets

As discussed in **Chapter 5**, the City has met and exceeded its 2020 water use target. However, the City also realizes a portion of the observed conservation is due to the strict water use restrictions imposed during the drought. If those restrictions are lifted, the City will be diligent in continuing use of the above described DMMs.

The extensive metering program, replacement of turf, and replacement of over 10,000 high-water-use appliances (toilets and washing machines) over the last several years has helped the City maintain overall lower water consumption.

9.3 Water Use Objectives (Future Requirements)

As discussed in **Section 4.2.4.4**, the City is tracking the recommended water use efficiency standards and water use objectives developed due to Senate Bill 606 and Assembly Bill 1668. Currently no water use objectives have been adopted by the State, and are not anticipated to be adopted until 2022, but an indoor residential water use standard has been recommended by DWR, and additional standards are expected to be released in late 2021. The City is aware of the legislation and tracking the forthcoming water use objectives as they are available. The City is currently having ongoing discussions with DWR on clarifying the GIS-based approach for developing the overall water objective for residential customers. Alternatively, the City is also interested in using actual water use data (from the AMI system) to develop these objectives, following discussions and approval from DWR and SWRCB.

10 CITY OF FRESNO
Plan Adoption, Submittal, and Implementation

This section provides guidance in the adoption, submittal, and implementation of the 2020 UWMP and WSCP, as well as processes for amending the adopted plans if needed.

This UWMP update has been prepared on a calendar-year basis and includes all water use and planning data for the 2020 calendar year. Additional details are provided in the preceding chapters.

IN THIS SECTION

- Public Hearing Notices
- Plan Adoption and Submittal

10.1 Notice of Public Hearing

The City has notified the County of Fresno, the only city or county in which the City provides water, of its intent to review the UWMP and consider changes to the plan. The City also notified the City of Clovis of plan preparation. Both of these governmental entities as well as a host of local water purveyors and agencies (**Table 2-1**) were notified of the preparation of the UWMP and public hearing and were encouraged to participate in the development of this plan update. Copies of the notification letters are included in **Appendix L**.

Consistent with the legislative requirements for public noticing, the City published two notices in the Fresno Bee, at least five days apart over a two-week period, providing the date and time of the public hearing. The notices were published on July 1, 2021, and July 8, 2021.

10.2 Public Hearing and Adoption

The City held a public hearing and adopted the 2020 UWMP on July 15, 2021. A copy of the adopting resolution is included in **Appendix M**. Before the public hearing, notices were published notifying the public of the date and time of the hearing.

10.3 Plan Submittal

Once the 2020 UWMP and WSCP have been adopted, a copy of the 2020 UWMP and WSCP and any subsequent amendments will be submitted to DWR, the State Library, and the County of Fresno.

10.4 Public Availability

Once the plan has been adopted, a hard copy will be made available for public reference at the City of Fresno Department of Public Utilities office at City Hall (located at 2600 Fresno Street) and the Water Division office (located at 1910 E. University Avenue). Additionally, an electronic copy will be uploaded to the City of Fresno website and made available for public reference.

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A

2020 UWMP Checklist

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Chapter 1	10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and Overview	Chapter 1
x	x	Chapter 1	10630.5	Each plan shall include a simple description of the supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.	Summary	Executive Summary
x	x	Section 2.2	10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Chapter 2, Section 10.2
x	x	Section 2.6	10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	Section 2.1
x	x	Section 2.6.2	10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.	Plan Preparation	Section 2.1, Section 10.1
x		Section 2.6, Section 6.1	10631(h)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	System Supplies	N/A
	x	Section 2.6	10631(h)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	N/A
x	x	Section 3.1	10631(a)	Describe the water supplier service area.	System Description	Section 3.1 and 3.2
x	x	Section 3.3	10631(a)	Describe the climate of the service area of the supplier.	System Description	Table 3-2 Section 3.3
x	x	Section 3.4	10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	Table 3-3 Section 3.4.1
x	x	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	Section 3.3.1
x	x	Sections 3.4 and 5.4	10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Table 3-3 Section 3.4.1
x	x	Section 3.5	10631(a)	Describe the land uses within the service area.	System Description	Table 3-1 Section 3.1.1, Section 4.2.4.1, Table 4-3, Figure 4-3,
x	x	Section 4.2	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2
x	x	Section 4.2.4	10631(d)(3)(C)	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	Losses included Section 4.2.2, City has not adopted loss standards

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 4.2.6	10631(d)(4)(A)	In projected water use, include estimates of water savings from adopted codes, plans and other policies or laws.	System Water Use	Table 4-5 Section 4.2.4.2
x	x	Section 4.2.6	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System Water Use	Section 4.2.5.2
x	optional	Section 4.3.2.4	10631(d)(3)(A)	Report the distribution system water loss for each of the 5 years preceding the plan update.	System Water Use	Table 4-1 Section 4.2.2
x	optional	Section 4.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Table 4-9 Section 4.3
x	x	Section 4.5	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System Water Use	Section 4.4
x		Chapter 5	10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Table 5-1 Section 5.4 Appendix C
x		Chapter 5	10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	Section 5.5 Appendix C
	x	Section 5.1	10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	N/A
x		Section 5.2	10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	N/A
x		Section 5.5	10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	N/A
x		Section 5.5 and Appendix E	10608.4	Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form.	Baselines and Targets	Appendix C
x	x	Sections 6.1 and 6.2	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought.	System Supplies	Section 6.1-6.4 Section 7.1.3
x	x	Sections 6.1	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, *including changes in supply due to climate change*.	System Supplies	Section 6.8.2.1
x	x	Section 6.1	10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System Supplies	Section 6.8
x	x	Section 6.1.1	10631(b)(3)	Describe measures taken to acquire and develop planned sources of water.	System Supplies	Section 6.7
x	x	Section 6.2.8	10631(b)	Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045.	System Supplies	Table 6-7 and Table 6-8

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.2	10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.1
x	x	Section 6.2.2	10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Section 6.1 Appendix G
x	x	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	Section 6.1.1
x	x	Section 6.2.2	10631(b)(4)(B)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	N/A
x	x	Section 6.2.2.1	10631(b)(4)(B)	For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	System Supplies	Section 6.1.2
x	x	Section 6.2.2.4	10631(b)(4)(C)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	System Supplies	Section 6.1.6 Figure 6-6
x	x	Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Section 6.1.5 Table 6-1
x	x	Section 6.2.7	10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long- term basis.	System Supplies	Section 6-6
x	x	Section 6.2.5	10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	Section 6.4.2, Appendix B Table 6-3R
x	x	Section 6.2.5	10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.4.4 Table 6-5
x	x	Section 6.2.5	10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.4.4
x	x	Section 6.2.5	10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Section 6.4.4 Table 6-6
x	x	Section 6.2.5	10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	Section 6.4.5
x	x	Section 6.2.5	10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.4.5
x	x	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.5
x	x	Section 6.2.5	10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area with quantified amount of collection and treatment and the disposal methods.	System Supplies (Recycled Water)	Section 6.4.2, Appendix B Table 6-3R

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.2.8, Section 6.3.7	10631(f)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years.	System Supplies	Section 6.7
x	x	Section 6.4 and Appendix O	10631.2(a)	The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.	System Suppliers, Energy Intensity	Section 6.9
x	x	Section 7.2	10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Section 7.1.1
x	x	Section 7.2.4	10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 7.1.2
x	x	Section 7.3	10635(a)	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Section 7.1.4
x	x	Section 7.3	10635(b)	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water Supply Reliability Assessment	Section 7.2
x	x	Section 7.3	10635(b)(1)	Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts 5 consecutive years.	Water Supply Reliability Assessment	Section 7.1.3.3
x	x	Section 7.3	10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water Supply Reliability Assessment	Section 7.1.3
x	x	Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.	Water Supply Reliability Assessment	Section 7.1.4 Table 7-1, Table 7-2, and Table 7-3
x	x	Section 7.3	10635(b)(4)	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water Supply Reliability Assessment	Section 7.1.3 and 7.1.4
x	x	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	Appendix J
x	x	Chapter 8	10632(a)(1)	Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP	Water Shortage Contingency Planning	Appendix J - Section 1.2
x	x	Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water Shortage Contingency Planning	Appendix J - Section 1.10

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 8.2	10632(a)(2)(A)	Provide the written decision-making process and other methods that the supplier will use each year to determine its water reliability.	Water Shortage Contingency Planning	Appendix J - Section 1.3
x	x	Section 8.2	10632(a)(2)(B)	Provide data and methodology to evaluate the supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water Shortage Contingency Planning	Appendix J - Section 1.3
x	x	Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Water Shortage Contingency Planning	Appendix J - Section 1.4 Table 2
x	x	Section 8.3	10632(a)(3)(B)	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.	Water Shortage Contingency Planning	Appendix J - Section 1.4 Figure 2
x	x	Section 8.4	10632(a)(4)(A)	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water Shortage Contingency Planning	Appendix J - Section 1.5.3 Table 4
x	x	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	Appendix J - Section 1.5.2 Table 3
x	x	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	Appendix J - Section 1.5.4
x	x	Section 8.4	10632(a)(4)(D)	Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local conditions.	Water Shortage Contingency Planning	Appendix J - Section 1.5.1
x	x	Section 8.4	10632(a)(4)(E)	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water Shortage Contingency Planning	Appendix J - Section 1.5.2 Table 3
x	x	Section 8.4.6	10632.5	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	Appendix J - Section 1.5.6
x	x	Section 8.5	10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water Shortage Contingency Planning	Appendix J - Section 1.6
x	x	Section 8.5 and 8.6	10632(a)(5)(B) 10632(a)(5)(C)	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.	Water Shortage Contingency Planning	Appendix J - Section 1.6
x		Section 8.6	10632(a)(6)	Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water Shortage Contingency Planning	Appendix J - Section 1.7
x		Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	Appendix J - Section 1.8

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 8.7	10632(a)(7)(B)	Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.	Water Shortage Contingency Planning	Appendix J - Section 1.8
x	x	Section 8.7	10632(a)(7)(C)	Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water Shortage Contingency Planning	Appendix J - Section 1.8
x	x	Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Appendix J - Section 1.9
x	x	Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Appendix J - Section 1.9
x		Section 8.8	10632(a)(8)(C)	Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought	Water Shortage Contingency Planning	Appendix J - Section 1.9
x		Section 8.9	10632(a)(9)	Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	Appendix J - Section 1.10
x		Section 8.11	10632(b)	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.	Water Shortage Contingency Planning	Appendix J - Section 1.12
x	x	Sections 8.12 and 10.4	10635(c)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Appendix J - Section 1.13
x	x	Section 8.14	10632(c)	Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 after adopted the plan.	Water Shortage Contingency Planning	Appendix J - Section 1.13
	x	Sections 9.1 and 9.3	10631(e)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	N/A
x		Sections 9.2 and 9.3	10631(e)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Section 9.1
x		Chapter 10	10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan Adoption, Submittal, and Implementation	Section 10.2
x	x	Section 10.2.1	10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-1.	Plan Adoption, Submittal, and Implementation	Section 10.1, Table 2-1, Appendix L

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 10.4	10621(f)	Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	TBD
x	x	Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.	Plan Adoption, Submittal, and Implementation	Appendix L
x	x	Section 10.2.2	10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Appendix L
x	x	Section 10.3.2	10642	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Appendix M
x	x	Section 10.4	10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	TBD
x	x	Section 10.4	10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	TBD
x	x	Sections 10.4.1 and 10.4.2	10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	TBD
x	x	Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	TBD
x	x	Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	TBD
x	x	Section 10.6	10621(c)	If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan Adoption, Submittal, and Implementation	N/A
x	x	Section 10.7.2	10644(b)	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.	Plan Adoption, Submittal, and Implementation	TBD

B

DWR Standardized Tables

2-1R | Public Water Systems

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020
CA1010007	CITY OF FRESNO	139,523	121,994
	Total:	**139,523**	**121,994**
Note: Data provided by City of Fresno Water Division			

2-2 | Public Water Systems

Type of Plan	Member of RUWMP	Member of Regional Alliance	Name of RUWMP or Regional Alliance
Individual UWMP	No	No	N/A

2-3 | Agency Identification

Type of Supplier	Year Type	First Day of Year		Unit Type
		DD	MM	
Retailer	Calendar Years			Acre Feet (AF)

Conversion to Gallons: *325851*
Conversion to Gallons per Day: *892.7425*

2-4R | Water Supplier Information Exchange

Wholesale Water Supplier Name
United States Bureau of Reclamation
Fresno Irrigation District

3-1R | Current & Projected Population

Population Served	2020	2025	2030	2035	2040	2045
Total	550,217	609,433	674,677	719,327	765,278	812,529

4-1R | Actual Demands for Water

Use Type	Additional Description	Level of Treatment When Delivered	2020 Volume
Single Family		Drinking Water	60,065
Multi-Family		Drinking Water	18,842
Commercial		Drinking Water	16,971
Industrial		Drinking Water	5,729
Institutional/Governmental	See Note 1	Drinking Water	---
Landscape		Drinking Water	10,478
Other	Travel Meters	Drinking Water	340
Losses		Drinking Water	9,568
Groundwater Recharge		Raw Water	42,686
		Total:	**164,679**

Notes:
1. Institutional and Governmental water usage is included in the Commercial use type.

4-2R | Projected Demands for Water

Use Type	Additional Description	Projected Water Use				
		2025	2030	2035	2040	2045
Single Family		76,255	80,429	82,934	85,437	87,936
Multi-Family		19,000	20,654	21,737	22,831	23,935
Commercial		19,052	21,135	22,587	24,041	25,496
Industrial		7,410	9,003	9,922	10,841	11,758
Institutional/Governmental	See Note 1					
Landscape		4,490	5,035	5,422	5,809	6,196
Other	Travel Meters	200	200	200	200	200
Losses		10,097	10,900	11,408	11,917	12,426
Groundwater Recharge	Raw Water	62,700	65,400	68,100	70,800	73,500
Total:		**199,204**	**212,756**	**222,310**	**231,876**	**241,447**

Notes:
1. Institutional and Governmental water usage is included in the Commercial use type.

4-3R | Total Gross Water Use

	2020	2025	2030	2035	2040	2045
Potable and Raw Water From Table 4-1R and 4-2R	164,679	199,204	212,756	222,310	231,876	241,447
Recycled Water Demand From Table 6-4R	4,757					
Total Water Use:	**169,436**	**199,204**	**212,756**	**222,310**	**231,876**	**241,447**

Note: Recycled water supply is a potable water offset, thus the recycled water demand in years 2025-2045 is included in the potable and raw water demand total.

4-4R | 12 Month Water Loss Audit Reporting

Report Period Start Date		Volume of Water Loss*
MM	YYYY	
1	2016	9,036
1	2017	10,235
1	2018	9,028
1	2019	9,059
1	2020	9,568

*For years 2016, through 2019, volume of water loss is taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet. For 2020 the volume of water loss is estimates as the difference in metered water produced and entered into the distribution system and metered consumption.

4-5R | Inclusion in Water Use Projections

Are Future Water Savings Included in Projections? Refer to Appendix K of UWMP Guidebook.	Yes
Section or page number where the citations utilized in the demand projects can it be found:	Section 4.2.4.2
Are Lower Income Residential Demands Included in Projections?	Yes

5-1R | Baselines & Targets Summary

Baseline Period	Start Year	End Year	Average Baseline GPCD*	Confirmed 2020 Target *
10-15 Year	1999	2008	309	247
5 Year	2003	2007	304	N/A

*All values are in Gallons per Capita per Day (GPCD)

5-2R | 2020 Compliance

Actual 2020 GPCD*	Optional Adjustments to 2020 GPCD					2020 GPCD* (Adjusted if applicable)	Supplier Achieved Targeted Reduction in 2020
	Extraordinary Events*	Economic Adjustment*	Weather Normalization*	Total Adjustments*	Adjusted 2020 GPCD*		
198	0	0	0	0	0	0	Yes

*All values are in Gallons per Capita per Day (GPCD)

6-1R | Groundwater Volume Pumped

Groundwater Type	Location or Basin Name	2016	2017	2018	2019	2020
Alluvial Basin	San Joaquin Groundwater Basin: Kings Subbasin	99,107	105,211	76,796	54,609	55,028
	Total:	**99,107**	**105,211**	**76,796**	**54,609**	**55,028**

6-2R | Wastewater Collected within Service Area in 2020

The supplier will complete the table.						
			Percentage of 2020 service area covered by wastewater collection system (optional):			
			Percentage of 2020 service area population covered by wastewater collection system (optional):			
Wastewater Collection			**Recipient of Collected Wastewater**			
Name of Wastewater Collection Agency	**Wastewater Volume Metered or Estimated**	**Wastewater Volume Collected from UWMP Service Area in 2020**	**Name of Wastewater Agency Receiving Collected Wastewater**	**Wastewater Treatment Plant Name**	**Wastewater Treatment Plant Located within UWMP Area**	**WWTP Operation Contracted to a Third Party**
City of Fresno	Metered	63,652	**City of Fresno**	RWRF	Yes	No
City of Fresno	Metered	325	**City of Fresno**	NFWRF	Yes	No
	Total:	**63,977**				
Note: Wastewater Volume in units of AF						

6-3R | Wastewater Treatment & Discharge Within Service Area in 2020

The supplier will complete the table.											
Wastewater Treatment Plant Name	**Discharge Location Name or Identifier**	**Discharge Location Description**	**Wastewater Discharge ID Number**	**Method of Disposal**	**Plant Treats Wastewater Generated Outside the Service Area**	**Treatment Level**	**2020 Volumes**				
							Wastewater Treated	**Discharged Treated Wastewater**	**Recycled Within Service Area**	**Recycled Outside of Service Area**	**Instream Flow Permit Requirement**
RWRF	Treatment Site	Onsite Percolation Ponds	WDR Order R5-2018-0080	Percolation ponds	Yes	Secondary, Undisinfected	63,652	58,949	-	3,845	-
RWRF	Treatment Site	Onsite Percolation Ponds	WDR Order R5-2018-0080	Percolation ponds	Yes	Tertiary			858	-	-
NFWRF	Treatment Site	Onsite Pond	WDR Order R5-2014-0162	Percolation ponds	No	Tertiary	325	271	54	-	-
						Total:	**63,977**	**59,220**	**912**	**3,845**	**-**

6-4R | Recycled Water Direct Beneficial Uses Within Service Area

The supplier will complete the table.										
Name of Supplier Producing (Treating) the Recycled Water:			City of Fresno							
Name of Supplier Operating the Recycled Water Distribution System:			City of Fresno							
Supplemental Volume of Water Added in 2020:										0%
Source of 2020 Supplemental Water:			N/A							
Beneficial Use Type	**Potential Beneficial Uses of Recycled Water**	**Amount of Potential Uses of Recycled Water**	**General Description of 2020 Uses**	**Level of Treatment**	**2020**	**2025**	**2030**	**2035**	**2040**	**2045**
Agricultural Irrigation	Non-food crop irrigation	7,900	Irrigate non-food crops	Secondary, Undisinfected	3,845	7,900	7,900	7,900	7,900	7,900
Landscape Irrigation (excludes golf courses)	Landscape Irrigation	5,800	Landscape irrigation, distribtued through the southwest recycled water distribution system	Tertiary	858	5,800	5,800	5,800	5,800	5,800
Agricultural Irrigation	Food crop irrigation	410	Irrigate limited food crops, distribtued through the southwest recycled water distribution system	Tertiary	-	410	410	410	410	410
Golf Course Irrigation	Landscape Irrigation	110	Copper River Golf Course	Tertiary	54	110	110	110	110	110
				Total:	**4,757**	**14,220**	**14,220**	**14,220**	**14,220**	**14,220**
Internal Reuse (Not included in Statewide Recycled Water Volume).					11	30	30	30	30	30

6-5R | 2015 Recycled Water Use Projection Compared to 2020 Actual

The supplier will complete the table.

Use Type	2015 Projection for 2020	2020 Actual Use
Agricultural Irrigation	14,200	3,845
Landscape Irrigation (excludes golf courses)	4,300	858
Golf Course Irrigation		54
Commercial Use		
Industrial Use	1,400	
Geothermal and Other Energy Production		
Seawater Intrusion Barrier		
Recreational Impoundment		
Wetlands or Wildlife Habitat		
Groundwater Recharge (IPR)*	1,300	
Surface Water Augmentation (IPR)*		
Direct Potable Reuse		
Total:	**21,200**	**4,757**

6-6R | Methods to Expand Future Recycled Water Use

The supplier will complete the table below.			
Name of Action	**Description**	**Planned Implementation Year**	**Expected Increase of Recycled Water Use**
Build Infrastructure	Recycled Water Distribution System Expansion	2021	5,000
		Total:	**5,000**

6-7R | Expected Future Water Supply Projects or Programs

Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.						
Page Location for Narrative in UWMP:			Section 6.7			
Name of Future Projects or Programs	**Joint Project with Other Suppliers**	**Agency Name**	**Description**	**Planned Implementation Year**	**Planned for Use in Year Type**	**Expected Increase in Water Supply to Supplier**
Expansion of Tertiary Recycled Water Treatment	No		See Section 6.7		All Year Types	
Expansion of Surface Water Treatment Capacity	No		See Section 6.7		All Year Types	
Expansion of Groundwater Recharge Program	No		See Section 6.7		All Year Types	

6-8R | Actual Water Supplies

Water Supply	Additional Detail on Water Supply	2020		
		Actual Volume	Water Quality	Total Right or Safe Yield
Groundwater (not desalinated)		55,028	Drinking Water	
Surface water (not desalinated)	USBR CVP	37,447	Drinking Water	
Surface water (not desalinated)	FID Contract	71,292	Drinking Water	
Recycled Water	RWRF	858	Recycled Water	
Recycled Water	NFWRF	54	Recycled Water	
	Total:	**164,679**		**-**

6-8DS | Source Water Desalination

Neither groundwater nor surface water are reduced in salinity prior to distribution. The supplier will not complete the table.

6-9R | Projected Water Supplies

Water Supply	Additional Detail on Water Supply	Projected Water Supply									
		2025		2030		2035		2040		2045	
		Reasonably Available Volume	Total Right or Safe Yield	Reasonably Available Volume	Total Right or Safe Yield	Reasonably Available Volume	Total Right or Safe Yield	Reasonably Available Volume	Total Right or Safe Yield	Reasonably Available Volume	Total Right or Safe Yield
Groundwater (not desalinated)	Kings Subbasin	138,090		143,630		149,100		154,490		159,820	
Surface water (not desalinated)	USBR CVP	60,000		60,000		60,000		60,000		60,000	
Surface water (not desalinated)	FID Contract	125,030		131,600		131,600		131,600		131,600	
Recycled Water	NFWRF Tertiary Disinfected	5,800		5,800		5,800		5,800		5,800	
Recycled Water	RWRF Tertiary Disinfected	110		110		110		110		110	
Total:		**329,030**	**-**	**341,140**	**-**	**346,610**	**-**	**352,000**	**-**	**357,330**	**-**

7-1R | Basis of Water Year Data (Reliability Assessment)

Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP.	
Page Location for Narrative in UWMP:	See Section 7.1.3 in the UWMP

7-2R | Normal Year Supply and Demand Comparison

	2025	2030	2035	2040	2045
Supply Totals From Table 6-9R	329,030	341,140	346,610	352,000	357,330
Demand Totals From Table 4-3R	199,204	212,756	222,310	231,876	241,447
Difference:	**129,826**	**128,384**	**124,300**	**120,124**	**115,883**

7-3R | Single Dry Year Supply & Demand Comparison

	2025	2030	2035	2040	2045
Supply Totals	189,852	195,392	200,862	206,252	211,582
Demand Totals	164,092	176,132	184,174	192,228	200,287
Difference:	**25,760**	**19,260**	**16,688**	**14,024**	**11,295**

7-4R | Multiple Dry Years Supply & Demand Comparison

		2025	2030	2035	2040	2045
First Year	**Supply Totals**	273,725	279,265	284,735	290,125	295,455
	Demand Totals	199,204	212,756	222,310	231,876	241,447
	Difference:	**74,521**	**66,509**	**62,425**	**58,249**	**54,008**
Second Year	**Supply Totals**	274,626	280,166	285,636	291,026	296,356
	Demand Totals	199,204	212,756	222,310	231,876	241,447
	Difference:	**75,422**	**67,410**	**63,326**	**59,150**	**54,909**
Third Year	**Supply Totals**	217,568	223,108	228,578	233,968	239,298
	Demand Totals	190,267	193,637	197,736	201,753	205,708
	Difference:	**27,301**	**29,471**	**30,842**	**32,215**	**33,589**
Fourth Year	**Supply Totals**	189,852	195,392	200,862	206,252	211,582
	Demand Totals	162,551	165,920	170,020	174,036	177,992
	Difference:	**27,301**	**29,471**	**30,842**	**32,215**	**33,589**
Fifth Year	**Supply Totals**	314,840	320,380	325,850	331,240	336,570
	Demand Totals	199,204	212,756	222,310	231,876	241,447
	Difference:	**115,636**	**107,624**	**103,540**	**99,364**	**95,123**

7-5 | Five-Year Drought Risk Assessment Tables to Address Water Code Section 10635(b)

2021	**Gross Water Use**	184,910
	Total Supplies	240,905
	Surplus/Shortfall without WSCP Action	**55,995**
	Planned WSCP Actions (Use Reduction and Supply Augmentation)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	0
	Revised Surplus/Shortfall	**55,995**
	Resulting Percent Use Reduction from WSCP Action	**0%**
2022	**Gross Water Use**	187,827
	Total Supplies	244,448
	Surplus/Shortfall without WSCP Action	**56,621**
	Planned WSCP Actions (Use Reduction and Supply Augmentation)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	0
	Revised Surplus/Shortfall	**56,621**
	Resulting Percent Use Reduction from WSCP Action	**0%**
2023	**Gross Water Use**	170,051
	Total Supplies	196,200
	Surplus/Shortfall without WSCP Action	**26,149**
	Planned WSCP Actions (Use Reduction and Supply Augmentation)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	0
	Revised Surplus/Shortfall	**26,149**
	Resulting Percent Use Reduction from WSCP Action	**0%**
2024	**Gross Water Use**	151,432
	Total Supplies	178,164
	Surplus/Shortfall without WSCP Action	**26,732**
	Planned WSCP Actions (Use Reduction and Supply Augmentation)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	0
	Revised Surplus/Shortfall	**26,732**
	Resulting Percent Use Reduction from WSCP Action	**0%**
2025	**Gross Water Use**	196,504
	Total Supplies	300,911
	Surplus/Shortfall without WSCP Action	**104,407**
	Planned WSCP Actions (Use Reduction and Supply Augmentation)	
	WSCP (Supply Augmentation Benefit)	0
	WSCP (Use Reduction Savings Benefit)	0
	Revised Surplus/Shortfall	**104,407**
	Resulting Percent Use Reduction from WSCP Action	**0%**

8-1 | Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage[1]	Water Shortage Condition
0		No water shortage condition. Corresponds with year-round water use measures listed in Section 1.5.1 and demand reduction measures listed for "All" stages in Table 3.
1	0-10%	Stage 1 may be triggered by any of the following conditions: •The available water supplies for the next year are projected to be less than 100% of projected demand considering infrastructure constraints and an operational buffer. The available water supplies, infrastructure constraints, projected demand, and operational buffer will be estimated at least once per calendar year – and more often as appropriate - as part of the Annual Water Supply and Demand Assessment. Section 1.3 of the City's Water Shortage Contingency Plan describes the key data inputs, evaluation criteria, and procedures for the annual assessment; or •After having been in a Stage 2 classification from drought conditions, the upcoming water year USBR and FID allocations results in normal-dry water year type[2] or higher; or •After having been in a higher classification as a result of emergency, original trigger for a previous higher-stage classification has been rectified to a point that is consistent with the above conditions for this stage.
2	10-25%	Stage 2 may be triggered by any of the following conditions: •The available water supplies for the next year are projected to be less than 90% of projected demand considering infrastructure constraints and an operational buffer. The available water supplies, infrastructure constraints, projected demand, and operational buffer will be estimated at least once per calendar year – and more often as appropriate - as part of the Annual Water Supply and Demand Assessment. Section 1.3 of the City's Water Shortage Contingency Plan describes the key data inputs, evaluation criteria, and procedures for the annual assessment; or •After having been in a Stage 3 classification from drought conditions, the upcoming water year USBR and FID allocations results in normal-dry water year type[2] or higher; or •After having been in a higher classification as a result of emergency, original trigger for a previous higher-stage classification has been rectified to a point that is consistent with the above conditions for this stage.
3	25-35%	Stage 3 may be triggered by any of the following conditions: •The available water supplies for the next year are projected to be less than 75% of projected demand considering infrastructure constraints and an operational buffer. The available water supplies, infrastructure constraints, projected demand, and operational buffer will be estimated at least once per calendar year – and more often as appropriate - as part of the Annual Water Supply and Demand Assessment. Section 1.3 of the City's Water Shortage Contingency Plan describes the key data inputs, evaluation criteria, and procedures for the annual assessment; or •After having been in a Stage 4 classification from drought conditions, the upcoming water year USBR and FID allocations results in normal-dry water year type[2] or higher; or •After having been in a higher classification as a result of emergency, original trigger for a previous higher-stage classification has been rectified to a point that is consistent with the above conditions for this stage.
4	35-50%	Stage 4 may be triggered by any of the following conditions: •The available water supplies for the next year are projected to be less than 65% of projected demand considering infrastructure constraints and an operational buffer. The available water supplies, infrastructure constraints, projected demand, and operational buffer will be estimated at least once per calendar year – and more often as appropriate - as part of the Annual Water Supply and Demand Assessment. Section 1.3 of the City's Water Shortage Contingency Plan describes the key data inputs, evaluation criteria, and procedures for the annual assessment; or •After having been in a Stage 5 classification from drought conditions, the upcoming water year USBR and FID allocations results in normal-dry water year type[2] or higher; or •After having been in a higher classification as a result of emergency, original trigger for a previous higher-stage classification has been rectified to a point that is consistent with the above conditions for this stage.
5	>50%	Stage 5 may be triggered by any of the following conditions: •The available water supplies for the next year are projected to be less than 50% of projected demand considering infrastructure constraints and an operational buffer. The available water supplies, infrastructure constraints, projected demand, and operational buffer will be estimated at least once per calendar year – and more often as appropriate - as part of the Annual Water Supply and Demand Assessment. Section 1.3 of the City's Water Shortage Contingency Plan describes the key data inputs, evaluation criteria, and procedures for the annual assessment.

[1]Shortage levels indicate the gap between supply and demand compared to normal-year conditions. The Annual Assessment incorporates a 10% buffer on top of projected demands for conservative planning.
[2]Water year types were defined 2006 San Joaquin River Restoration Settlement Agreement for USBR allocations and characterized in Section 6.2 of the City's 2020 UWMP.

8-2 | Demand Reduction Actions

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?[1]	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement[2]
All	Expand Public Information Campaign	Not Applicable	Community outreach includes classroom presentations, outreach educational information, and water tours. Increase communication as drought stages increase.	Not Applicable
All	Improve Customer Billing	Not Applicable	Water bills show customer usage vs. average usage for the customer category. Increase customer notifications of high water use based on advanced metering infrastructure (AMI) data as drought stages increase.	Not Applicable
All	Offer Water Use Surveys	Not Applicable	Use water leak surveys with all community members.	Not Applicable
All	Provide Rebates for Landscape Irrigation Efficiency	Not Applicable	The City offers rebates for micro-irrigation conversions, soil moisture sensors, smart irrigation controller, and rain sensors to improve efficiencies.	Not Applicable
All	Provide Rebates for Turf Replacement	Not Applicable	The City provides rebates for community members who wish to replace their turf with a drought-resistant garden.	Not Applicable
All	Provide Rebates on Plumbing Fixtures and Devices	Not Applicable	The City offers rebates on a variety of high-efficiency plumbing fixtures, such as washers, toilets, and urinals.	Not Applicable
All	Decrease Line Flushing	Not Applicable	The City uses NO-DES for regular pipe flushing to eliminate discharging water.	Not Applicable
All	Reduce System Water Loss	Not Applicable	The City has a comprehensive system water loss reduction program in place. Increase efforts to correct water system losses as drought stages increase.	Not Applicable
1	Decrease Line Flushing	0 to 100% of shortage gap	For dead-end flushing where the NO-DES truck cannot be used, reduce normal flushing time.	Not Applicable
1	Increase Water Waste Patrols	0 to 100% of shortage gap	Increase monitoring of AMI reporting and communication with customers; Conduct patrols based on public input.	Not Applicable
1	Landscape — Limit landscape irrigation to specific times	0 to 100% of shortage gap	Voluntary limits: Summer: three days/week Winter: one day/week	No
2	Landscape — Limit landscape irrigation to specific times	0 to 100% of shortage gap	Summer: three days/week Winter: one day/week	Yes
3	Landscape — Limit landscape irrigation to specific times	0 to 100% of shortage gap	Summer: two days/week Winter: one day/week	Yes
4	Landscape — Limit landscape irrigation to specific times	0 to 100% of shortage gap	Summer: one day/week Winter: one day/week	Yes
4	Other — Prohibit use of potable water for construction and dust control	0 to 100% of shortage gap	The City provides rebates for community members who wish to replace their turf with a drought resistant garden	No
4	Other — Prohibit use of potable water for construction and dust control	0 to 100% of shortage gap	Prohibit use of potable water for construction, compaction, dust control, street or parking lot sweeping, and building washdowns where non-potable or recycled water is sufficient.	Yes
4	Other — Prohibit vehicle washing except at facilities using recycled or recirculating water	0 to 100% of shortage gap	Prohibit washing cars, boats, trailers, aircraft, or other vehicles, except at commercial or fleet vehicle-washing facilities using water recycling equipment.	Yes
4	Pools and Spas - Require covers for pools and spas	0 to 100% of shortage gap	Require covers for swimming pools when not in use.	No
4	Other	0 to 100% of shortage gap	Prohibit use of potable water for sewer system maintenance or fire protection training without prior approval by the City manager.	Not Applicable
4	Other	0 to 100% of shortage gap	Prohibit use of outdoor misters.	No
5	Landscape — Prohibit all landscape irrigation	0 to 100% of shortage gap	Prohibit outdoor irrigation year-round.	Yes
5	Moratorium or Net Zero Demand Increase on New Connections	0 to 100% of shortage gap	The City will temporarily limit or ban new water service connections within the service area.	Not Applicable

[1]Reduction in the shortage gap is estimated and can vary significantly.
[2]Refer to WSCP Section 1.7 for Penalties for Water Wastage.

8-3R | Supply Augmentation & Other Actions

Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier	How much is this going to reduce the shortage gap?	Additional Explanation or Reference
1 to 5	Transfers	As Needed	Purchase or exchange available USBR or FID surface water
1 to 5	Other Purchases	As Needed	Interconnection with City of Clovis for use in emergencies

10-1R | Notification to Cities & Counties

City	60 Day Notice	Notice of Public Hearing	Other
City of Clovis	Yes	Yes	
County	**60 Day Notice**	**Notice of Public Hearing**	**Other**
County of Fresno	Yes	Yes	
Other	**60 Day Notice**	**Notice of Public Hearing**	**Other**
Bakman Water Company	Yes	Yes	
Fresno Irrigation District	Yes	Yes	
Fresno Metropolitan Flood Control District	Yes	Yes	
Friant Water Authority	Yes	Yes	
Garfield Water District	Yes	Yes	
Malaga County Water District	Yes	Yes	
North Kings Groundwater Sustainabilty Agency	Yes	Yes	
Pinedale County Water District	Yes	Yes	
United Stated Bureau of Reclamation South-Central California Area Office	Yes	Yes	

C

SBx7-7 Tables and Verification Form

SB X7-7 Table 7-A: Target Method 1 20% Reduction	
10-15 Year Baseline GPCD	2020 Target GPCD
309	247
NOTES:	

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target			
5 Year Baseline GPCD *From SB X7-7 Table 5*	Maximum 2020 Target*	Calculated 2020 Target *Fm Appropriate Target Table*	Confirmed 2020 Target
304	288	247	247
** Maximum 2020 Target is 95% of the 5 Year Baseline GPCD*			
NOTES:			

SB X7-7 Table 9: 2015 Compliance								
Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments *(in GPCD)*					2015 GPCD *(Adjusted if applicable)*	Did Supplier Achieve Targeted Reduction for 2015?
		Extraordinary Events	Weather Normalization	Economic Adjustment	TOTAL Adjustments	Adjusted 2015 GPCD		
190	278	*From Methodology 8 (Optional)*	*From Methodology 8 (Optional)*	*From Methodology 8 (Optional)*	0	189.745674	189.745674	YES
NOTES:								

SB X7-7 Table 0: Units of Measure Used in 2020 UWMP* *(select one from the drop down list)*
Acre Feet
**The unit of measure must be consistent throughout the UWMP, as reported in Submittal Table 2-3.*
NOTES:

SB X7-7 Table 2: Method for 2020 Population Estimate	
Method Used to Determine 2020 Population (may check more than one)	
☐	**1. Department of Finance** (DOF) or **American Community Survey** (ACS)
☐	**2. Persons-per-Connection Method**
☑	**3. DWR Population Tool**
☐	**4. Other** DWR recommends pre-review
NOTES:	

SB X7-7 Table 3: 2020 Service Area Population	
2020 Compliance Year Population	
2020	550,217
NOTES:	

SB X7-7 Table 4: 2020 Gross Water Use							
Compliance Year 2020	**2020 Volume Into Distribution System** *This column will remain blank until SB X7-7 Table 4-A is completed.*	**2020 Deductions**					**2020 Gross Water Use**
		Exported Water *	**Change in Dist. System Storage*** (+/-)	**Indirect Recycled Water** *This column will remain blank until SB X7-7 Table 4-B is completed.*	**Water Delivered for Agricultural Use***	**Process Water** *This column will remain blank until SB X7-7 Table 4-D is completed.*	
	121,994	-	-	-	-	-	**121,994**
*** Units of measure (AF, MG , or CCF)** must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.							
NOTES:							

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source	Groundwater
This water source is *(check one)* **:**	
☑	The supplier's own water source
☐	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	55,028	-	55,028

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.* [2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s) Meter Error Adjustment

Complete one table for each source.

Name of Source	Surface Water- NESWTF
This water source is *(check one)* **:**	
☑	The supplier's own water source
☐	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	20,724		20,724

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.* [2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source	Surface Water- SESWTF
This water source is *(check one)* **:**	

☑	The supplier's own water source
☐	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	45,367		45,367

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.* [2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source	Surface Water- T-3 SWTF

This water source is *(check one)* **:**

☑	The supplier's own water source
☐	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	875		875

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.* [2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source	Enter Name of Source 5

This water source is *(check one)* **:**

☐	The supplier's own water source
☐	A purchased or imported source

SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD)		
2020 Gross Water *Fm SB X7-7 Table 4*	**2020 Population** *Fm SB X7-7 Table 3*	**2020 GPCD**
121,994	550,217	**198**
NOTES:		

SB X7-7 Table 9: 2020 Compliance							
Actual 2020 GPCD[1]	Optional Adjustments to 2020 GPCD Enter "0" if Adjustment Not Used Extraordinary Events[1]	Weather Normalization[1]	Economic Adjustment[1]	TOTAL Adjustments[1]	Adjusted 2020 GPCD [1] *(Adjusted if applicable)*	2020 Confirmed Target GPCD [1, 2]	**Did Supplier Achieve Targeted Reduction for 2020?**
198	-	-	-	-	198	247	**YES**

[1] *All values are reported in GPCD*

[2] ***2020 Confirmed Target GPCD*** *is taken from the Supplier's SB X7-7 Verification Form Table SB X7-7, 7-F.*

NOTES:

D

City of Fresno's Reduce Delta Reliance Reporting

Appendix D - Delta Reliance

1. Background

Under the Sacramento-San Joaquin Delta Reform Act of 2009, state and local public agencies proposing a covered action (e.g., a proposed project) in the Sacramento-San Joaquin Delta (Delta), prior to initiating the implementation of that action, must prepare a written certification of consistency with detailed findings as to whether the covered action is consistent with applicable Delta Plan policies and submit that certification to the Delta Stewardship Council.

Anyone may appeal a certification of consistency. If the Delta Stewardship Council grants the appeal, the covered action may not be implemented until the agency proposing the covered action submits a revised certification of consistency. The covered action may be implemented if either: 1) no appeal is filed; or 2) the Delta Stewardship Council denies the appeal to the revised certification of consistency.

The City of Fresno (City) contracts with the United States Bureau of Reclamation (USBR) Central Valley Project (CVP) Friant Division for an annual supply of 60,000 af of Class 1 water through an agreement originally executed in January 1961. Although the Friant Division of the CVP does not pull water from the Delta, the project was developed through an exchange agreement reached in 1939 with the Delta-Mendota supply that provides water to the Exchange Contractors[1] with historic pre-1914 San Joaquin River water rights. As restrictions on Delta exports have hindered USBR from making deliveries to the Delta-Mendota Canal, the Exchange Contractors can call on their historic rights, which reduces the Friant Division Class 1 allocations. As such, the City is required to demonstrate consistency with the Delta Plan's policy to reduce reliance on the Delta.

An urban water supplier that anticipates participating in or receiving water from a proposed covered action such as a multi-year water transfer, conveyance facility, or new diversion that involves transferring water through, exporting water from, or using water in the Delta should provide information in their 2015 and 2020 Urban Water Management Plans (UWMPs) that can then be used in the covered action process to demonstrate consistency with Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (WR P1).

WR P1 details what is needed for a covered action to demonstrate consistency with reduced reliance on the Delta and improved regional self-reliance. WR P1 subsection (a) states that:

[1] The Exchange Contractors are the benefactors of the historic pre-1914 water rights established by Miller and Lux. These contracts include: Central California Irrigation District; San Luis Canal Company; Firebaugh Canal Water District; and Columbia Canal Company, per http://www.sjrecwa.net/history.html (accessed March 10, 2021).

(a) Water shall not be exported from, transferred through, or used in the Delta if all of the following apply:

(1) One or more water suppliers that would receive water as a result of the export, transfer, or use have failed to adequately contribute to reduced reliance on the Delta and improved regional self-reliance consistent with all of the requirements listed in paragraph (1) of subsection (c);

(2) That failure has significantly caused the need for the export, transfer, or use; and

(3) The export, transfer, or use would have a significant adverse environmental impact in the Delta.

WR P1 subsection (c)(1) further defines what adequately contributing to reduced reliance on the Delta means in terms of (a)(1) above.

(c)(1) Water suppliers that have done all the following are contributing to reduced reliance on the Delta and improved regional self-reliance and are therefore consistent with this policy:

(A) Completed a current Urban or Agricultural Water Management Plan (Plan) which has been reviewed by the California Department of Water Resources for compliance with the applicable requirements of Water Code Division 6, Parts 2.55, 2.6, and 2.8;

(B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta; and

(C) Included in the Plan, commencing in 2015, the expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance. The expected outcome for measurable reduction in Delta reliance and improvement in regional self- reliance shall be reported in the Plan as the reduction in the amount of water used, or in the percentage of water used, from the Delta watershed. For the purposes of reporting, water efficiency is considered a new source of water supply, consistent with Water Code section 1011(a).

The analysis and documentation provided below include all the elements described in WR P1(c)(1) that need to be included in a water supplier's UWMP to support a certification of consistency for a future covered action.

2. Methodology

As stated in WR P1(c)(1)(C), the policy requires that, commencing in 2015, UWMPs include expected outcomes for improved regional self-reliance and measurable reduction in Delta reliance. WR P1 further states that those outcomes shall be reported in the UWMP as the reduction in the amount of water used, or in the percentage of water used, from the Delta. The expected outcomes for the City's regional self-reliance and reduced Delta reliance were developed using the approach and guidance described in Appendix C of DWR's Urban Water Management Plan Guidebook 2020 issued in March 2020 (Guidebook Appendix C), including the use of narrative justifications for the accounting of supplies and the documentation of specific data sources.

All data were obtained from planning documents adopted by the City Council, including the current and previous UWMPs and Metropolitan Water Resource Management Plan (Metro Plan) and represent average or normal water year conditions. Using normal water year demands serves as a proxy for the amount of supplies that would be used in a normal water year, which helps alleviate issues associated with how supply capability is presented to fulfill requirements of the UWMP Act versus how supplies might be accounted for to demonstrate consistency with WR P1.

To calculate the expected outcomes for improved regional self-reliance and reduced Delta reliance, a baseline is needed to compare against. This analysis uses a normal water year representation of 2010 as the baseline, which is consistent with the approach described in the Guidebook Appendix C. Data for the 2010 baseline were taken from the City's 2008 UWMP. Consistent with the 2010 baseline data approach, the expected outcomes for improved regional self-reliance and reduced Delta reliance for 2015 and 2020 were taken from the City's 2010 and 2015 UWMPs, respectively. Expected outcomes for 2025-2045 are from the current 2020 UWMP. Documentation of the specific data sources and assumptions are included in the discussions below.

3. Demonstration of Regional Self-Reliance

3.1 Service Area Demands without Water Use Efficiency

Because WR P1 considers water use efficiency savings a source of water supply, water suppliers such as the City that do not explicitly quantify water use efficiency savings in their UWMPs can calculate their embedded water use efficiency savings based on changes in forecasted per capita water use since the baseline.

Agencies that explicitly calculate and report water use efficiency savings in their UWMP will need to make an adjustment to properly reflect normal water year demands in the calculation of reduced reliance. As explained in the Guidebook Appendix C, water use efficiency savings must be added back to the normal year demands to represent demands without water use efficiency savings accounted for; otherwise the effect of water use efficiency savings on regional self-reliance would be overestimated. **Table 1** (included at the end of this appendix) shows the results of this adjustment for the City. Supporting narratives and documentation for all the data shown in Table 1 are provided below.

Service Area Demands with Water Use Efficiency

The service area demands shown in Table 1 represent the total water demands for the City's service area. The demand data shown in Table 1 were collected from the following sources:

- Baseline (2010): Fresno 2008 UWMP, Table 6-5
- 2015: Fresno 2010 UWMP, Table 7-2
- 2020: Fresno 2015 UWMP, Table 4-4
- 2025-2045: Fresno 2020 UWMP, Table 4-6

Non-Potable Water Demands

The non-potable water demands shown in Table 1 represent recycled water use that offsets potable water use in the City's service area. The demand data shown in Table 1 were collected from the following sources:

- Baseline (2010): Fresno 2008 UWMP, Table 10-7
- 2015: Fresno 2010 UWMP, Table 7-1
- 2020: Fresno 2015 UWMP, Table 6-14
- 2025-2045: Fresno 2020 UWMP, Table 4-7

Potable Service Area Demands with Water Use Efficiency

Subtract "Non-Potable Water Demands" from "Service Area Demands with Water Use Efficiency."

Service Area Population

The population data shown in Table 1 were collected from the following sources:

- Baseline (2010) and 2015: Fresno 2015 UWMP, Table 5-1
- 2020-2045: Fresno 2020 UWMP, Table 3-3

Estimated Water Use Efficiency Since Baseline

The "Per Capita Water Use" calculated using "Potable Service Area Demands with Water Use Efficiency" divided by "Service Area Population". The "Change in Per Capita Water Use from Baseline" was then calculated by comparing with 2010 Per Capita Water Use. Finally, the "Estimated Water Use Efficiency Since Baseline" was calculated by multiplying the "Change in Per Capita Water Use from Baseline" by the population for one (1) year.

Service Area Water Demands without Water Use Efficiency

Add "Service Area Demands with Water Use Efficiency" to "Estimated Water Use Efficiency Since Baseline."

3.2 Supplies Contributing to Regional Self-Reliance

For a covered action to demonstrate consistency with the Delta Plan, WR P1 subsection (c)(1)(C) states that water suppliers must report the expected outcomes for measurable improvement in regional self-reliance. Table 2 shows expected outcomes for supplies contributing to regional self-reliance both in amount and as a percentage. The numbers shown in **Table 2** (included at the end of this appendix) represent efforts to improve regional self-reliance for the City's entire service area and include the total contributions of the City and its customers. Supporting narratives and documentation for all of the data shown in Table 2 are provided below.

Estimated Water Use Efficiency Since Baseline

The water use efficiency information shown in Table 2 is taken directly from Table 1.

Water Recycling

The water recycling information shown in Table 2 is taken from the Non-Potable Water Demands row in Table 1.

Local and Regional Water Supply and Storage Programs

The values shown in Table 2 represent groundwater supplies considering both natural recharge and intentional recharge. The supply data shown in Table 2 were collected from the following sources:

- Baseline (2010): Fresno 2008 UWMP, Table 4-9
- 2015: Fresno 2010 UWMP, Table 7-1
- 2020: Fresno 2015 UWMP, Table 6-14

- 2025-2045: Fresno 2020 UWMP, Table 6-8

Other Programs and Projects the Contribute to Regional Self-Reliance

The values shown in Table 2 represent Kings River supplies considering both contracted supplies and recycled water exchange supplies. The supply data shown in Table 2 were collected from the following sources:

- Baseline (2010): Fresno 2008 UWMP, Table 4-11
- 2015: Fresno 2010 UWMP, Table 7-1
- 2020: Fresno 2015 UWMP, Table 6-5
- 2025-2045: Fresno 2020 UWMP, Table 6-8

Water Supplies Contributing to Regional Self Reliance

Sum of:

- Estimated Water Use Efficiency Since Baseline
- Water Recycling
- Local and Regional Water Supply and Storage Programs
- Other Programs and Projects the Contribute to Regional Self-Reliance

Percent of Water Supplies Contributing to Regional Self-Reliance

"Water Supplies Contributing to Regional Self Reliance" divided by "Service Area Water Demands without Water Use Efficiency" (from Section 3.1).

3.3 Conclusions

The results shown in Table 2 demonstrate that the City's service area is measurably improving its regional self-reliance. The following provides a summary of the near-term (2025) and long-term (2045) expected outcomes for the City's regional self-reliance:

- Near-term (2025): The expected outcome for normal water year regional self-reliance is expected to increase by 129,700 AFY from the 2010 baseline; this represents an increase of about 31 percent of 2025 normal water year demands (Table 2).
- Long-term (2045): The expected outcome for normal water year regional self-reliance is expected to increase by more than 191,600 AFY from the 2010 baseline, this represents an increase of about 14 percent of 2045 normal water year retail demands (Table 2).

The results show that the City is measurably improving regional self-reliance, both as an amount of water used and as a percentage of water used.

4. Demonstration of Reduced Reliance on the Delta

The City's service area reduces reliance on the Delta through investments in non-Delta water supplies, local water supplies, and regional and local demand management measures.

4.1 Calculation of Reliance on Water Supplies from the Delta Watershed

The calculation of reliance on water supplies from the Delta watershed, shown in **Table 3** (included at the end of this appendix), is based on the following assumptions.

CVP/SWP Contract Supplies

The City water supplies with a connection to the Delta watershed are CVP/SWP Contract Supplies. The supply data shown in Table 3 is for anticipated average yield from the City's USBR contract and were collected from the following sources:

- Baseline (2010): Fresno 2008 UWMP, Table 4-6
- 2015: Fresno 2010 UWMP, Table 7-1
- 2020: Fresno 2015 UWMP, Table 6-14
- 2025-2045: Fresno 2020 UWMP, Table 6-2

Water Supplies from the Delta Watershed

Equal to "CVP/SWP Contract Supplies."

Percent Change in Supplies from the Delta Watershed

Divides "Water Supplies from the Delta Watershed" by "Service Area Demands without Water Use Efficiency" (from Section 3.1) and calculates changes from the 2010 baseline.

4.2 Conclusions

The following provides a summary of the near-term (2025) and long-term (2045) expected outcomes for the City's Delta reliance on supplies from the Delta watershed:

- Near-term (2025): The expected outcome for normal water year reliance on supplies from the Delta watershed is expected to decrease by 4,520 AF from the 2010 baseline. With Delta water representing 25.5% of service area water demand without water use efficiency, this represents a decrease from the 2010 baseline of 10.1% (Table 3).
- Long-term (2045): The expected outcome for normal water year reliance on supplies from the Delta watershed is expected to decrease by 4,520 AF from the 2010 baseline. With Delta water representing 19.5% of service area water demand without water use efficiency, this represents a decrease from the 2010 baseline of 16.2% (Table 3).

The results shown in Table 3 demonstrate that City is measurably reducing reliance on the Delta, both as an amount of water used and as a percentage of water used.

5. UWMP Implementation

In addition to the analysis and documentation described above, WR P1 subsection (c)(1)(B) requires that all programs and projects included in the UWMP that are locally cost-effective and technically feasible, which reduce reliance on the Delta, are identified, evaluated, and implemented consistent with the implementation schedule. WR P1 (c)(1)(B) states that:

> *(B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta[.]*

In accordance with Water Code Section 10631(f), water suppliers must already include in their UWMP a detailed description of expected future projects and programs that they may implement to increase the amount of water supply available to them in normal and single-dry water years and for a period of drought lasting five consecutive years. The UWMP description must also identify specific projects, include a description of the increase in water supply that is expected to be available from each project, and include an estimate regarding the implementation timeline for each project or program.

Chapter 6 of the City's 2020 UWMP summarizes the implementation of future water projects and continued progress in developing a diversified water portfolio to meet the City's water needs.

6. 2015 UWMP Appendix L

The information contained in this appendix is also intended to be a new Appendix L attached to the City's 2015 UWMP consistent with WR P1 subsection (c)(1)(C) (Cal. Code Regs. tit. 23, § 5003). The City provided notice of the availability of the draft 2020 UWMP, 2020 WSCP, and a new Appendix L to the 2015 UWMP and the public hearing to consider adoption of the documents in accordance with CWC Sections 10621(b) and 10642, and Government Code Section 6066, and Chapter 17.5 (starting with Section 7290) of Division 7 of Title 1 of the Government Code. The public review drafts of the 2020 UWMP, Appendix L to the 2015 UWMP, and the 2020 WSCP were posted on the City's website, fresno.gov, on June 28, 2021, more than 14 days in advance of the public hearing on July 15, 2021. The notice of availability of the documents was sent to the City's customers, as well as cities and counties in the City's service area. Copies of the notification letter sent to the customers and cities and counties in the City's service area are included in the 2020 UWMP Appendix L. Thus, this Appendix D to the City's 2020 UWMP, which was adopted with the City's 2020 UWMP, will also be recognized and treated as Appendix L to the City's 2015 UWMP.

The City held the public hearing for the draft 2020 UWMP, draft Appendix L to the 2015 UWMP, and draft 2020 WSCP on July 15, 2021, at a regular City Council meeting, held online due to COVID-19 concerns. At the meeting, the City Council determined that the 2020 UWMP and the 2020 WSCP accurately represent the water resources plan for the City's service area. In addition, the City Council determined that Appendix L to the 2015 UWMP and Appendix D to the 2020 UWMP includes all of the elements described in Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (Cal. Code Regs. tit. 23, § 5003), which need to be included in a water supplier's UWMP to support a certification of consistency for a future covered action. As stated in Resolutions 2021-196, 2021-197, and 2021-198, the City Council adopted the 2020 UWMP, the 2020 WSCP, and Appendix L to the 2015 UWMP and authorized their submittal to the State of California. Copies of the resolutions are included in the 2020 UWMP Appendix M.

Table 1. Calculation of Service Area Water Demands without Water Use Efficiency (UWMP Table C-1 and Table C-2)

Table C-1: Optional Calculation of Water Use Efficiency -To be completed if Water Supplier does not specifically estimate Water Use Efficiency as a supply

Service Area Water Use Efficiency Demands (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands with Water Use Efficiency Accounted For	163,300	172,900	168,200	136,579	147,505	154,434	161,372	168,318
Non-Potable Water Demands	750	1,000	9,500	14,220	14,220	14,220	14,220	14,220
Potable Service Area Demands with Water Use Efficiency Accounted For	162,550	171,900	158,700	122,359	133,285	140,214	147,152	154,098

Total Service Area Population	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Population	505,315	525,575	550,217	609,433	674,677	719,327	765,278	812,529

Water Use Efficiency Since Baseline (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Per Capita Water Use (GPCD)	287	292	257	179	176	174	172	169
Change in Per Capita Water Use from Baseline (GPCD)		5	(30)	(108)	(111)	(113)	(116)	(118)
Estimated Water Use Efficiency Since Baseline		(2,833)	18,294	73,684	83,745	91,180	99,023	107,277

Table C-2: Calculation of Service Area Water Demands Without Water Use Efficiency

Total Service Area Water Demands (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands with Water Use Efficiency Accounted For	163,300	172,900	168,200	136,579	147,505	154,434	161,372	168,318
Reported Water Use Efficiency or Estimated Water Use Efficiency Since Baseline	-	(2,833)	18,294	73,684	83,745	91,180	99,023	107,277
Service Area Water Demands without Water Use Efficiency Accounted For	163,300	170,067	186,494	210,263	231,250	245,614	260,395	275,595

Table 2. Calculation of Supplies Contributing to Regional Self-Reliance (UWMP Table C-3)

Table C-3: Calculation of Supplies Contributing to Regional Self-Reliance

Water Supplies Contributing to Regional Self-Reliance (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Estimated Water Use Efficiency since Baseline	-	(2,833)	18,294	73,684	83,745	91,180	99,023	107,277
Water Recycling	750	1,000	9,500	14,220	14,220	14,220	14,220	14,220
Stormwater Capture and Use								
Advanced Water Technologies								
Conjunctive Use Projects								
Local and Regional Water Supply and Storage Projects	88,800	76,100	132,480	138,090	143,630	149,100	154,490	159,820
Other Programs and Projects the Contribute to Regional Self-Reliance	131,750	117,400	116,000	125,030	131,600	131,600	131,600	131,600
Water Supplies Contributing to Regional Self-Reliance	221,300	191,667	276,274	351,024	373,195	386,100	399,333	412,917

Service Area Water Demands without Water Use Efficiency (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands without Water Use Efficiency Accounted For	163,300	170,067	186,494	210,263	231,250	245,614	260,395	275,595

Change in Regional Self Reliance (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Water Supplies Contributing to Regional Self-Reliance	221,300	191,667	276,274	351,024	373,195	386,100	399,333	412,917
Change in Water Supplies Contributing to Regional Self-Reliance		(29,633)	54,974	129,724	151,895	164,800	178,033	191,617

Percent Change in Regional Self Reliance (As Percent of Demand w/out WUE)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Percent of Water Supplies Contributing to Regional Self-Reliance	135.5%	112.7%	148.1%	166.9%	161.4%	157.2%	153.4%	149.8%
Change in Percent of Water Supplies Contributing to Regional Self-Reliance		-22.8%	12.6%	31.4%	25.9%	21.7%	17.8%	14.3%

Table 3. Reliance on Water Supplies from the Delta Watershed (UWMP Table C-4)

Table C-4: Calculation of Reliance on Water Supplies from the Delta Watershed

Water Supplies from the Delta Watershed (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
CVP/SWP Contract Supplies	58,200	58,200	52,600	53,680	53,680	53,680	53,680	53,680
Delta/Delta Tributary Diversions								
Transfers and Exchanges of Supplies from the Delta Watershed								
Other Water Supplies from the Delta Watershed								
Total Water Supplies from the Delta Watershed	58,200	58,200	52,600	53,680	53,680	53,680	53,680	53,680

Service Area Water Demands without Water Use Efficiency (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands without Water Use Efficiency Accounted For	163,300	170,067	186,494	210,263	231,250	245,614	260,395	275,595

Change in Supplies from the Delta Watershed (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Water Supplies from the Delta Watershed	58,200	58,200	52,600	53,680	53,680	53,680	53,680	53,680
Change in Water Supplies from the Delta Watershed		-	(5,600)	(4,520)	(4,520)	(4,520)	(4,520)	(4,520)

Percent Change in Supplies from the Delta Watershed (As a Percent of Demand w/out WUE)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Percent of Water Supplies from the Delta Watershed	35.6%	34.2%	28.2%	25.5%	23.2%	21.9%	20.6%	19.5%
Change in Percent of Water Supplies from the Delta Watershed		-1.4%	-7.4%	-10.1%	-12.4%	-13.8%	-15.0%	-16.2%

E

AWWA Water Audits

AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0

American Water Works Association

? Click to access definition

+ Click to add a comment

Water Audit Report for: City of Fresno (1010007)

Reporting Year: 2016 1/2016 - 12/2016

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

WATER SUPPLIED

	Grading	Value		Master Meter and Supply Error Adjustments: Pcnt:	Value:	
Volume from own sources:	5	112,398.020	acre-ft/yr			
Water imported:	n/a	0.000	acre-ft/yr			
Water exported:	n/a	0.000	acre-ft/yr			

<---------- Enter grading in column 'E' and 'J' ---------->

Enter negative % or value for under-registration

Enter positive % or value for over-registration

WATER SUPPLIED: 112,398.020 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option

	Grading	Value		Pcnt:	Value:	
Billed metered:	9	103,038.468	acre-ft/yr			
Billed unmetered:	n/a	0.000	acre-ft/yr			
Unbilled metered:	10	42.876	acre-ft/yr			
Unbilled unmetered:	5	280.995	acre-ft/yr		280.995	acre-ft/yr

Use buttons to select percentage of water supplied OR value

AUTHORIZED CONSUMPTION: 103,362.339 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

9,035.681 acre-ft/yr

Apparent Losses

	Value		Pcnt:	Value:	
Unauthorized consumption:	280.995	acre-ft/yr	0.25%		acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

	Grading	Value		Pcnt:	Value:	
Customer metering inaccuracies:	5	1,041.226	acre-ft/yr	1.00%		acre-ft/yr
Systematic data handling errors:		257.596	acre-ft/yr	0.25%		acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 1,579.817 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 7,455.864 acre-ft/yr

WATER LOSSES: 9,035.681 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 9,359.552 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

	Grading	Value	
Length of mains:	9	1,810.39	miles
Number of active AND inactive service connections:	9	143,916	
Service connection density:		79	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 3 50.0 psi

COST DATA

	Grading	Value		
Total annual cost of operating water system:	10	$71,848,500	$/Year	
Customer retail unit cost (applied to Apparent Losses):	9	$1.86	$/1000 gallons (US)	
Variable production cost (applied to Real Losses):	5	$152.10	$/acre-ft	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 66 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources

2: Customer metering inaccuracies

3: Variable production cost (applied to Real Losses)

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

American Water Works Association.
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? Click to access definition
+ Click to add a comment

Water Audit Report for: City of Fresno
Reporting Year: 2017 (1/2017 - 12/2017)

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

					Pcnt:	Value:	
Volume from own sources:	5	121,079.641	acre-ft/yr	5			acre-ft/yr
Water imported:	n/a	0.000	acre-ft/yr				acre-ft/yr
Water exported:	n/a	0.000	acre-ft/yr				acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 121,079.641 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

			Pcnt:	Value:	
Billed metered:	9	110,520.840	acre-ft/yr			
Billed unmetered:	n/a	0.000	acre-ft/yr			
Unbilled metered:	10	48.124	acre-ft/yr			
Unbilled unmetered:	5	276.052	acre-ft/yr		276.052	acre-ft/yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 110,845.016 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

10,234.625 acre-ft/yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:		302.699	acre-ft/yr	0.25%		acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	5	1,116.858	acre-ft/yr	1.00%	acre-ft/yr
Systematic data handling errors:		276.302	acre-ft/yr	0.25%	acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 1,695.859 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 8,538.766 acre-ft/yr

WATER LOSSES: 10,234.625 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 10,558.801 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	9	1,854.4	miles
Number of active AND inactive service connections:	9	146,212	
Service connection density:		79	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 4 — 50.0 psi

COST DATA

Total annual cost of operating water system:	10	$76,015,350	$/Year	
Customer retail unit cost (applied to Apparent Losses):	9	$2.01	$/1000 gallons (US)	
Variable production cost (applied to Real Losses):	5	$175.42	$/acre-ft	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 66 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Customer metering inaccuracies
3: Variable production cost (applied to Real Losses)

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

American Water Works Association.
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? Click to access definition
+ Click to add a comment

Water Audit Report for: City of Fresno
Reporting Year: 2018 1/2018 - 12/2018

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

					Pcnt:	Value:	
Volume from own sources:	5	120,065.780	acre-ft/yr	8			acre-ft/yr
Water imported:	n/a		acre-ft/yr				acre-ft/yr
Water exported:	n/a		acre-ft/yr				acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 120,065.780 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

			Pcnt:	Value:	
Billed metered:	9	110,710.560	acre-ft/yr			
Billed unmetered:	n/a	0.000	acre-ft/yr			
Unbilled metered:	8	27.129	acre-ft/yr			
Unbilled unmetered:	5	300.164	acre-ft/yr		300.164	acre-ft/yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 111,037.853 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

9,027.927 acre-ft/yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:		300.164	acre-ft/yr	0.25%		acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	5	1,118.563	acre-ft/yr	1.00%	acre-ft/yr
Systematic data handling errors:		276.776	acre-ft/yr	0.25%	acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 1,695.503 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 7,332.423 acre-ft/yr

WATER LOSSES: 9,027.927 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 9,355.220 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	9	1,854.7	miles
Number of active AND inactive service connections:	9	146,608	
Service connection density:		79	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	10	53.3	psi

COST DATA

Total annual cost of operating water system:	10	$82,960,821	$/Year	
Customer retail unit cost (applied to Apparent Losses):	10	$2.33	$/1000 litres	
Variable production cost (applied to Real Losses):	5	$178.06	$/acre-ft	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 66 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Customer metering inaccuracies
3: Variable production cost (applied to Real Losses)

AWWA Free Water Audit Software: Worksheet

FWAS v6.0

American Water Works Association.

Water Audit Report for: City of Fresno
Audit Year: 2019 | Jan 01 2019 - Dec 31 2019 | Calendar

Click 'n' to add notes
Click 'g' to determine data validity grade

To edit water system info: go to start page

To access definitions, click the input name

All volumes to be entered as: ACRE-FEET PER YEAR

Water Supplied Error Adjustments

WATER SUPPLIED

choose entry option:

VOS	Volume from Own Sources:	n	g	115,544.090	Acre-ft/Yr	n	g	5.00%	percent	under-registration VOSEA
WI	Water Imported:	n	g	0.000	Acre-ft/Yr					WIEA
WE	Water Exported:	n	g	0.000	Acre-ft/Yr					WEEA
	WATER SUPPLIED:			121,625.358	Acre-ft/Yr					

AUTHORIZED CONSUMPTION

choose entry option:

BMAC	Billed Metered:	n	g	106,485.360	Acre-ft/Yr			
BUAC	Billed Unmetered:	n	g	0.000	Acre-ft/Yr			
UMAC	Unbilled Metered:	n	g	52.635	Acre-ft/Yr			
UUAC	Unbilled Unmetered:	n	g 3	266.213	Acre-ft/Yr	0.25%	default	

Default option selected for Unbilled Unmetered, with automatic data grading of 3

AUTHORIZED CONSUMPTION: 106,804.208 Acre-ft/Yr

WATER LOSSES

14,821.149 Acre-ft/Yr

Apparent Losses

Default option selected for Systematic Data Handling Errors, with automatic data grading of 3

choose entry option:

SDHE	Systematic Data Handling Errors:	n	g 3	266.213	Acre-ft/Yr	0.25%	default	
CMI	Customer Metering Inaccuracies:	n	g	1,076.141	Acre-ft/Yr	1.00%	percent	under-registration
UC	Unauthorized Consumption:	n	g 3	266.213	Acre-ft/Yr	0.25%	default	

Default option selected for Unauthorized Consumption, with automatic data grading of 3

Apparent Losses: 1,608.568 Acre-ft/Yr

Real Losses

Real Losses: 13,212.581 Acre-ft/Yr

WATER LOSSES: 14,821.149 Acre-ft/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 15,139.998 Acre-ft/Yr

SYSTEM DATA

Lm	Length of mains:	n	g	1,862.2	miles	(including fire hydrant lead lengths)
Nc	Number of service connections:	n	g	147,633		(active *and* inactive)
	Service connection density:			79	conn./mile main	

Are customer meters typically located at the curbstop/property line? Yes

Lp n g 10

Average length of customer service line has been set to zero and a data grading of 10 has been applied

AOP Average Operating Pressure: n g 50.0 psi

COST DATA

CRUC	Customer Retail Unit Charge:	n	g	$2.33	$/1000 gallons (US)	Total Annual Operating Cost	
VPC	Variable Production Cost:	n	g	$230.95	$/acre-ft	$106,528,917	$/yr (optional input)

WATER AUDIT DATA VALIDITY TIER:

Click 'g' for 10 parameter(s), then complete all visible data grading questions to enable the Data Validity Score to calculate

go to dashboard

PRIORITY AREAS FOR ATTENTION TO IMPROVE DATA VALIDITY:

Based on the information provided, audit reliability can be most improved by addressing the following components:

KEY PERFORMANCE INDICATOR TARGETS:

OPTIONAL: If targets exist for the operational performance indicators, they can be input below:

Unit Total Losses:		gal/conn/day
Unit Apparent Losses:		gal/conn/day
Unit Real Losses[^]:		gal/conn/day
Unit Real Losses[=]:		gal/mile/day

If entered above by user, targets will display on KPI gauges (see Dashboard)

F

DWR Population Tool Output

WUEdata - Fresno City Of

Sign Out

Please print this page to a PDF and include as part of your UWMP submittal.

Confirmation Information

Generated By	Water Supplier Name	Confirmation #	Generated On
Heather Freed	Fresno City Of	8103177726	3/17/2021 12:16:56 PM

Boundary Information

Census Year	Boundary Filename	Internal Boundary ID
1990	fresno_1990_processed.kml	517
2000	fresno_2000_processed.kml	516
2010	fresno_2010_processed.kml	515
1990	fresno_1990_processed.kml	517
2000	fresno_2000_processed.kml	516
2010	fresno_2010_processed.kml	515
1990	fresno_1990_processed.kml	517
2000	fresno_2000_processed.kml	516
2010	fresno_2010_processed.kml	515

Baseline Period Ranges

10 to 15-year baseline period

Number of years in baseline period: 10

Year beginning baseline period range: 1996

Year ending baseline period range[1]: 2005

5-year baseline period

Year beginning baseline period range: 2003

Year ending baseline period range[2]: 2007

[1] The ending year must be between December 31, 2004 and December 31, 2010.

[2] The ending year must be between December 31, 2007 and December 31, 2010.

Persons per Connection

Year	Census Block Level Total Population	Number of Connections *	Persons per Connection
1990	**364,084**		**4.23**
1991	-	-	4.23
1992	-	-	4.24
1993	-	-	4.24
1994	-	-	4.25
1995	-	-	4.26
1996	-	-	4.26
1997	-	-	4.27
1998	-	-	4.27
1999	-	-	4.28
2000	**439,062**	**102476**	**4.28**
2001	-	-	4.29
2002	-	-	4.29
2003	-	-	4.30
2004	-	-	4.30
2005	-	-	4.31
2006	-	-	4.32
2007	-	-	4.32
2008	-	-	4.33
2009	-	-	4.33
2010	**505,315**	**116373**	**4.34**
2011	-	-	4.28
2012	-	-	4.28
2013	-	-	4.28
2014	-	-	4.28
2015	-	-	4.28
2020	**-**	**-**	**4.41 ****

Population Using Persons-Per-Connection

Year		Number of Connections *	Persons per Connection	Total Population
10 to 15 Year Baseline Population Calculations				
Year 1	1996		4.26	
Year 2	1997		4.27	
Year 3	1998		4.27	
Year 4	1999		4.28	
Year 5	2000	102476	4.28	**439,062**
Year 6	2001		4.29	
Year 7	2002		4.29	
Year 8	2003		4.30	
Year 9	2004		4.30	
Year 10	2005		4.31	
5 Year Baseline Population Calculations				
Year 1	2003		4.30	
Year 2	2004		4.30	
Year 3	2005		4.31	
Year 4	2006		4.32	
Year 5	2007		4.32	
2020 Compliance Year Population Calculations				
2020		124862	4.41 **	**550,217**

Hide Print Confirmation

QUESTIONS / ISSUES? CONTACT THE WUEDATA HELP DESK
MWELO QUESTIONS / ISSUES? CONTACT THE MWELO HELP DESK

G

North Kings Subbasin Groundwater Sustainability Plan

Reference the North Kings Subbasin Groundwater Sustainability Plan online: https://www.northkingsgsa.org/groundwater-sustainability-plan/

H

City of Fresno's Central Valley Project Contract

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
Central Valley Project, California

LONG-TERM RENEWAL CONTRACT BETWEEN THE UNITED STATES
AND
CITY OF FRESNO
PROVIDING FOR PROJECT WATER SERVICE
FROM FRIANT DIVISION

THIS CONTRACT, made this 18 day of August, 2005, in pursuance generally of the Act of June 17, 1902 (32 Stat. 388), and acts amendatory or supplementary thereto, including, but not limited to, the Acts of August 26, 1937 (50 Stat. 844), as amended and supplemented, August 4, 1939 (53 Stat. 1187), as amended and supplemented, July 2, 1956 (70 Stat. 483), June 21, 1963 (77 Stat. 68), October 12, 1982 (96 Stat. 1263), October 27, 1986 (100 Stat. 3050), as amended, and Title XXXIV of the Act of October 30, 1992 (106 Stat. 4706), all collectively hereinafter referred to as Federal Reclamation law, between the UNITED STATES OF AMERICA, hereinafter referred to as the United States, and the CITY OF FRESNO, hereinafter referred to as the Contractor, a public agency of the State of California, duly organized, existing, and acting pursuant to the laws thereof;

WITNESSETH, That:

EXPLANATORY RECITALS

[1st] WHEREAS, the United States has constructed and is operating the Central Valley Project (Project), California, for diversion, storage, carriage, distribution and beneficial use, for flood control, irrigation, municipal, domestic, industrial, fish and wildlife mitigation, protection and restoration, generation and distribution of electric energy, salinity control, navigation and other beneficial uses, of waters of the Sacramento River, the American River, the Trinity River, and the San Joaquin River and their tributaries; and

[2nd] WHEREAS, the United States constructed Friant Dam (thereby creating Millerton Lake) and the Friant-Kern and Madera Canals, hereinafter collectively referred to as the Friant Division facilities, which will be used in part for the furnishing of water to the Contractor pursuant to the terms of this Contract; and

[3rd] WHEREAS, pursuant to Section 8 of the Act of June 17, 1902 (32 Stat. 388), the United States has acquired water rights and other rights to the flows of the San Joaquin River, including without limitation the permits issued as the result of Decision 935 by the California State Water Resources Control Board and the contracts described in subdivision (n) of Article 3 of this Contract, pursuant to which the Contracting Officer develops, diverts, stores and delivers Project Water stored or flowing through Millerton Lake in accordance with State and Federal law for the benefit of Project Contractors in the Friant Division; and

[3.1] WHEREAS, the water supplied to the Contractor pursuant to this Contract is Project Water developed through the exercise of the rights described in the third Explanatory Recital of this Contract; and

[4th] WHEREAS, the Contractor and the United States entered into Contract No. 14-06-200-8901, which established terms for the delivery to the Contractor of Project Water from the Friant Division from March 1, 1966, to February 28, 2006, hereinafter referred to as the Existing Contract; and

[5th] WHEREAS, the Contractor and the United States have, pursuant to Subsection 3404(c)(3) of the Central Valley Project Improvement Act (CVPIA), subsequently entered into a Binding Agreement identified as Binding Agreement No. 14-06-200-8901-BA, which sets out the terms pursuant to which the Contractor agreed to renew the Existing Contract before its expiration date after completion of the programmatic environmental impact statement and other appropriate environmental documentation and negotiation of a renewal contract, and which also sets out the consequences of a subsequent decision not to renew; and

[6th] WHEREAS, Section 3404(c) of the CVPIA provides for long-term renewal of the Existing Contract following completion of appropriate environmental documentation, including a programmatic environmental impact statement (PEIS) pursuant to the National Environmental Policy Act (NEPA) analyzing the direct and indirect impacts and benefits of implementing the CVPIA and the potential renewal of all existing contracts for Project Water; and

[7th] WHEREAS, the United States has completed the PEIS and all other appropriate environmental review necessary to provide for long-term renewal of the Existing Contract; and

[8th] WHEREAS, the Contractor has requested the long-term renewal of the Existing Contract, pursuant to the terms of the Existing Contract, Federal Reclamation law, and the laws of the State of California, for water service from the Project; and

[9th] WHEREAS, the United States has determined that the Contractor has fulfilled all of its obligations under the Existing Contract; and

[10th] WHEREAS, the Contractor has demonstrated to the satisfaction of the Contracting Officer that the Contractor has utilized the Project Water supplies available to it for reasonable and beneficial use and/or has demonstrated projected future demand for water use such that the Contractor has the capability and expects to utilize fully for reasonable and beneficial use the quantity of Project Water to be made available to it pursuant to this Contract; and

[11th] WHEREAS, water obtained from the Project has been relied upon by urban and agricultural areas within California for more than 50 years, and is considered by the Contractor as an essential portion of its water supply; and

[12th] WHEREAS, the economies of regions within the Project, including the Contractor's, depend upon the continued availability of water, including water service from the Project; and

[13th] WHEREAS, the Secretary intends through coordination, cooperation, and partnerships to pursue measures to improve water supply, water quality, and reliability of the Project for all Project purposes; and

[14th] WHEREAS, the mutual goals of the United States and the Contractor include: to provide for reliable Project Water supplies; to control costs of those supplies; to achieve repayment of the Project as required by law; to guard reasonably against Project Water shortages; to achieve a reasonable balance among competing demands for use of Project Water; and to comply with all applicable environmental statutes, all consistent with the legal obligations of the United States relative to the Project; and

[15th] WHEREAS, the parties intend by this Contract to develop a more cooperative relationship in order to achieve their mutual goals; and

[15.1] WHEREAS, during uncontrolled seasons, Friant Division Project Contractors utilize undependable Class 2 Water in their service areas to, among other things, assist in the management and alleviation of groundwater overdraft in the Friant Division service area, provide opportunities for environmental enhancement, including restoration of the San Joaquin River below Friant Dam, minimize flooding along the San Joaquin River, encourage optimal water management, and maximize the reasonable and beneficial use of the water; and

[15.2] WHEREAS, the parties desire and intend that this Contract not provide a disincentive to the Friant Division Project Contractors continuing to carry out the beneficial activities set out in the Explanatory Recital immediately above; and

[16th] WHEREAS, the United States and the Contractor are willing to enter into this Contract pursuant to Federal Reclamation law on the terms and conditions set forth below;

NOW, THEREFORE, in consideration of the mutual and dependent covenants herein contained, it is hereby mutually agreed by the parties hereto as follows:

DEFINITIONS

1. When used herein unless otherwise distinctly expressed, or manifestly incompatible with the intent of the parties as expressed in this Contract, the term:

(a) "Calendar Year" shall mean the period January 1 through December 31, both dates inclusive;

(b) "Charges" shall mean the payments required by Federal Reclamation law in addition to the Rates and Tiered Pricing Component specified in this Contract as determined annually by the Contracting Officer pursuant to this Contract;

(b2) "Class 1 Water" shall mean that supply of water stored in or flowing through Millerton Lake which, subject to the contingencies hereinafter described in Articles 3, 11, and 12 of this Contract, will be available for delivery from Millerton Lake and the Friant-Kern and Madera Canals as a dependable water supply during each Year;

(b3) "Class 2 Water" shall mean that supply of water which can be made available subject to the contingencies hereinafter described in Articles 3, 11, and 12 of this Contract for delivery from Millerton Lake and the Friant-Kern and Madera Canals in addition to the supply of Class 1 Water. Because of its uncertainty as to availability and time of occurrence, such water will be undependable in character and will be furnished only if, as, and when it can be made available as determined by the Contracting Officer;

(c) "Condition of Shortage" shall mean a condition respecting the Project during any Year such that the Contracting Officer is unable to deliver sufficient water to meet the Contract Total;

(d) "Contracting Officer" shall mean the Secretary of the Interior's duly authorized representative acting pursuant to this Contract or applicable Federal Reclamation law or regulation;

(e) "Contract Total" shall mean the maximum amount of Class 1 Water, plus the maximum amount of Class 2 Water to which the Contractor is entitled under subdivision (a) of Article 3 of this Contract;

(f) "Contractor's Service Area" shall mean the area to which the Contractor is permitted to provide Project Water under this Contract as described in Exhibit "A" attached hereto, which may be modified from time to time in accordance with Article 35 of this Contract without amendment of this Contract;

(g) "CVPIA" shall mean the Central Valley Project Improvement Act, Title XXXIV of the Act of October 30, 1992 (106 Stat. 4706);

(h-i) Omitted;

(j) "Full Cost Rate" shall mean an annual rate as determined by the Contracting Officer that shall amortize the expenditures for construction properly allocable to the Project irrigation or M&I functions, as appropriate, of facilities in service including all O&M deficits funded, less payments, over such periods as may be required under Federal Reclamation law or applicable contract provisions. Interest will accrue on both the construction expenditures and funded O&M deficits from October 12, 1982, on costs outstanding at that date, or from the date incurred in the case of costs arising subsequent to October 12, 1982, and shall be calculated in accordance with subsections 202(3)(B) and (3)(C) of the RRA. The Full Cost Rate includes actual operation, maintenance, and replacement costs consistent with Section 426.2 of the Rules and Regulations for the RRA;

(k-l) Omitted;

(m) "Irrigation Water" shall mean water made available from the Project that is used primarily in the production of agricultural crops or livestock, including domestic use incidental thereto, and watering of livestock;

(n) Omitted;

(n2) "Long Term Historic Average" shall mean the average of the final forecast of Water Made Available to the Contractor pursuant to this Contract and the contract referenced in the fourth Explanatory Recital of this Contract;

(o) "Municipal and Industrial (M&I) Water" shall mean Project Water, other than Irrigation Water, made available to the Contractor. M&I Water shall include water used for human use and purposes such as the watering of landscaping or pasture for animals (e.g., horses) which are kept for personal enjoyment or water delivered to land holdings operated in units of less than five acres unless the Contractor establishes to the satisfaction of the Contracting Officer that the use of water delivered to any such landholding is a use described in subdivision (m) of this Article;

(p) "M&I Full Cost Water Rate" shall mean the Full Cost Rate applicable to the delivery of M&I Water;

(q) "Operation and Maintenance" or "O&M" shall mean normal and reasonable care, control, operation, repair, replacement (other than capital replacement), and maintenance of Project facilities;

(r) "Operating Non-Federal Entity" shall mean the Friant Water Authority, its successors or assigns, a non-Federal entity which has the obligation to operate and maintain all or a portion of the Friant Division facilities pursuant to an agreement with the United States, and which may have funding obligations with respect thereto;

(s) "Project" shall mean the Central Valley Project owned by the United States and managed by the Department of the Interior, Bureau of Reclamation;

(t) "Project Contractors" shall mean all parties who have water service contracts for Project Water from the Project with the United States pursuant to Federal Reclamation law;

(u) "Project Water" shall mean all water that is developed, diverted, stored, or delivered by the Secretary in accordance with the statutes authorizing the Project and in accordance with the terms and conditions of water rights acquired pursuant to California law;

(v) "Rates" shall mean the payments determined annually by the Contracting Officer in accordance with the then-current applicable water ratesetting policies for the Project, as described in subdivision (a) of Article 7 of this Contract;

(w) Omitted;

(x) "Secretary" shall mean the Secretary of the Interior, a duly appointed successor, or an authorized representative acting pursuant to any authority of the Secretary and through any agency of the Department of the Interior;

(y) "Tiered Pricing Component" shall be the incremental amount to be paid for each acre-foot of Water Delivered as described in subdivision (j) of Article 7 of this Contract;

(z) "Water Delivered" or "Delivered Water" shall mean Project Water diverted for use by the Contractor at the point(s) of delivery approved by the Contracting Officer;

(aa) "Water Made Available" shall mean the estimated amount of Project Water that can be delivered to the Contractor for the upcoming Year as declared by the Contracting Officer, pursuant to subdivision (a) of Article 4 of this Contract;

(bb) "Water Scheduled" shall mean Project Water made available to the Contractor for which times and quantities for delivery have been established by the Contractor and Contracting Officer, pursuant to subdivision (b) of Article 4 of this Contract; and

(cc) "Year" shall mean the period from and including March 1 of each Calendar Year through the last day of February of the following Calendar Year.

TERM OF CONTRACT

2. (a) This Contract supersedes the Existing Contract and shall be effective on the date first hereinabove written through February 28, 2045. In the event the Contractor wishes to renew this Contract beyond February 28, 2045, the Contractor shall submit a request for renewal in writing to the Contracting Officer no later than two years prior to the date this Contract expires.

(b) Omitted.

(c) Provided the Contractor is complying with all terms and conditions of this Contract and all legal obligations of the Contractor, if any, set forth in an enforceable court order, final judgment and/or settlement relating to restoration of the San Joaquin River, this Contract shall be renewed for successive periods of up to 40 years each, which periods shall be consistent with the then-existing Reclamation-wide policy, under terms and conditions mutually agreeable to the parties and consistent with Federal and State law. The Contractor shall be afforded the opportunity to comment to the Contracting Officer on the proposed adoption and application of any revised policy applicable to the delivery of M&I Water that would limit the term of any subsequent renewal contract with the Contractor for the furnishing of M&I Water to less than 40 years.

(d) The Contracting Officer shall make a determination ten years after the date of execution of this Contract, and every five years thereafter during the term of this Contract, of whether a conversion to a contract under subsection 9(c)(1) of the Reclamation Project Act of 1939 can be accomplished. The Contracting Officer anticipates that during the term of this Contract, all authorized Project construction expected to occur will have occurred, and on that basis the Contracting Officer agrees upon such completion to allocate all costs that are properly assignable to the Contractor, and agrees further that, at any time after such allocation is made, and subject to satisfaction of the conditions set out in this subdivision, this Contract shall, at the request of the Contractor, be converted to a contract under subsection 9(c)(1) of the Reclamation Project Act of 1939, subject to applicable Federal law and under stated terms and conditions mutually agreeable to the Contractor and the Contracting Officer. A condition for such conversion to occur shall be a determination by the Contracting Officer that, account being taken of the amount credited to return by the Contractor as provided for under Federal Reclamation law, the remaining amount of construction costs assignable for ultimate return by the Contractor can probably be repaid to the United States within the term of a contract under subsection 9(c)(1). If the remaining amount of costs that are properly assignable to the Contractor cannot be determined during the term of this Contract, the Contracting Officer shall notify the Contractor, and provide the reason(s) why such a determination could not be made. Further, the Contracting Officer shall make such a determination as soon thereafter as possible so as to permit, upon request of the Contractor and satisfaction of the conditions set out above, conversion to a contract under subsection 9(c)(1). In the event such determination of costs has not been made at a time which allows conversion of this Contract during the term of this

Contract or the Contractor has not requested conversion of this Contract within such term, the parties shall incorporate in any subsequent renewal contract as described in subdivision (c) of this Article a provision that carries forth in substantially identical terms the provisions of this subdivision.

WATER TO BE MADE AVAILABLE AND DELIVERED TO THE CONTRACTOR

3. (a) During each Year, consistent with all applicable State water rights, permits, and licenses, Federal law, and subject to the provisions set forth in Articles 11 and 12 of this Contract, the Contracting Officer shall make available for delivery to the Contractor 60,000 acre-feet of Class 1 Water for M&I purposes. Water Delivered to the Contractor in accordance with this subdivision shall be scheduled and paid for pursuant to the provisions of Articles 4 and 7 of this Contract.

(b) Omitted.

(c) The Contractor shall utilize the Project Water in accordance with all applicable legal requirements.

(d) The Contractor shall make reasonable and beneficial use of all water furnished pursuant to this Contract. Groundwater recharge programs (direct, indirect, or in lieu), groundwater banking programs, surface water storage programs, and other similar programs utilizing Project Water or other water furnished pursuant to this Contract conducted within the Contractor's Service Area which are consistent with applicable State law and result in use consistent with Federal Reclamation law will be allowed: Provided, That any direct recharge program(s) is (are) described in the Contractor's water conservation plan submitted pursuant to Article 26 of this Contract: Provided further, That such water conservation plan demonstrates sufficient lawful uses exist in the

Contractor's Service Area so that using a long-term average, the quantity of Delivered Water is demonstrated to be reasonable for such uses and in compliance with Federal Reclamation law. Groundwater recharge programs, groundwater banking programs, surface water storage programs, and other similar programs utilizing Project Water or other water furnished pursuant to this Contract conducted outside the Contractor's Service Area may be permitted upon written approval of the Contracting Officer, which approval will be based upon environmental documentation, Project Water rights, and Project operational concerns. The Contracting Officer will address such concerns in regulations, policies, or guidelines.

(e) The Contractor shall comply with requirements applicable to the Contractor in biological opinion(s) prepared as a result of a consultation regarding the execution of this Contract undertaken pursuant to Section 7 of the Endangered Species Act of 1973 (ESA), as amended, that are within the Contractor's legal authority to implement. The Existing Contract, which evidences in excess of 39 years of diversions for M&I purposes of the quantities of water provided in subdivision (a) of Article 3 of this Contract, will be considered in developing an appropriate baseline for the biological assessment(s) prepared pursuant to the ESA, and any other needed environmental review. Nothing herein shall be construed to prevent the Contractor from challenging or seeking judicial relief in a court of competent jurisdiction with respect to any biological opinion or other environmental documentation referred to in this Article.

(f) Subject to subdivisions (l) and (n) of Article 3 of this Contract, following the declaration of Water Made Available under Article 4 of this Contract, the Contracting Officer will make a determination whether Project Water, or other water available to the Project, can be made

available to the Contractor in addition to the Contract Total under Article 3 of this Contract during the Year without adversely impacting other Project Contractors. At the request of the Contractor, the Contracting Officer will consult with the Contractor prior to making such a determination. Subject to subdivisions (l) and (n) of Article 3 of this Contract, if the Contracting Officer determines that Project Water, or other water available to the Project, can be made available to the Contractor, the Contracting Officer will announce the availability of such water and shall so notify the Contractor as soon as practicable. The Contracting Officer will thereafter meet with the Contractor and other Project Contractors capable of taking such water to determine the most equitable and efficient allocation of such water. If the Contractor requests the delivery of any quantity of such water, the Contracting Officer shall make such water available to the Contractor in accordance with applicable statutes, regulations, guidelines, and policies.

(g) The Contractor may request permission to reschedule for use during the subsequent Year some or all of the Water Made Available to the Contractor during the current Year referred to as "carryover." The Contractor may request permission to use during the current Year a quantity of Project Water which may be made available by the United States to the Contractor during the subsequent Year referred to as "preuse." The Contracting Officer's written approval may permit such uses in accordance with applicable statutes, regulations, guidelines, and policies.

(h) The Contractor's right pursuant to Federal Reclamation law and applicable State law to the reasonable and beneficial use of Water Delivered pursuant to this Contract during the term thereof and any subsequent renewal contracts, as described in Article 2 of this Contract, during the terms thereof shall not be disturbed so long as the Contractor shall fulfill all of its obligations

under this Contract and any renewals thereof. Nothing in the preceding sentence shall affect the Contracting Officer's ability to impose shortages under Article 11 or subdivision (b) of Article 12 of this Contract or applicable provisions of any subsequent renewal contracts.

(i) Project Water furnished to the Contractor pursuant to this Contract may be delivered for other than M&I purposes upon written approval by the Contracting Officer in accordance with the terms and conditions of such approval.

(j) The Contracting Officer shall make reasonable efforts to protect the water rights and other rights described in the third Explanatory Recital of this Contract necessary for the Project and to provide the water available under this Contract. The Contracting Officer shall not object to participation by the Contractor, in the capacity and to the extent permitted by law, in administrative proceedings related to the water rights and other rights described in the third Explanatory Recital of this Contract: Provided, That the Contracting Officer retains the right to object to the substance of the Contractor's position in such a proceeding: Provided further, That in such proceedings the Contracting Officer shall recognize the Contractor has a legal right under the terms of this Contract to use Project Water.

(k) Project Water furnished to the Contractor during any month designated in a schedule or revised schedule submitted by the Contractor and approved by the Contracting Officer shall be deemed to have been accepted by the Contractor as Class 1 Water to the extent that Class 1 Water is called for in such schedule for such month and shall be deemed to have been accepted as Class 2 Water to the extent Class 2 Water is called for in such schedule for such month. If in any month the Contractor diverts a quantity of water in addition to the total amount of Class 1 Water and

Class 2 Water set forth in the Contractor's approved schedule or revised schedule for such month, such additional diversions shall be charged first against the Contractor's remaining Class 2 Water supply available in the current Year. To the extent the Contractor's remaining Class 2 Water supply available in the current Year is not sufficient to account for such additional diversions, such additional diversions shall be charged against the Contractor's remaining Class 1 Water supply available in the current Year. To the extent the Contractor's remaining Class 1 Water and Class 2 Water supplies available in the current Year are not sufficient to account for such additional diversions, such additional diversions shall be charged first against the Contractor's available Class 2 Water supply and then against the Contractor's available Class 1 Water supply, both for the following Year. Payment for all additional diversions of water shall be made in accordance with Article 7 of this Contract.

(l) If the Contracting Officer determines there is a Project Water supply available at Friant Dam as the result of an unusually large water supply not otherwise storable for Project purposes or infrequent and otherwise unmanaged flood flows of short duration, such water will be made available to the Contractor and others under Section 215 of the RRA pursuant to the priorities specified below if the Contractor enters into a temporary contract with the United States not to exceed one year for the delivery of such water or, as otherwise provided for in Federal Reclamation law and associated regulations. Such water may be identified by the Contractor either (i) as additional water to supplement the supply of Class 1 Water and/or Class 2 Water made available to it pursuant to this Contract or, (ii) upon written notification to the Contracting Officer, as water to be credited against the Contractor's Class 2 Water supply available pursuant to this Contract. The Contracting Officer

shall make water determined to be available pursuant to this subsection according to the following priorities: first, to long-term contractors for Class 1 Water and/or Class 2 Water within the Friant Division; second, to long-term contractors in the Cross Valley Division of the Project. The Contracting Officer will consider and seek to accommodate requests from other parties for Section 215 Water for use within the area identified as the Friant Division service area in the environmental assessment developed in connection with the execution of this Contract.

(m) Nothing in this Contract, nor any action or inaction of the Contractor or Contracting Officer in connection with the implementation of this Contract, is intended to override, modify, supersede, or otherwise interfere with any term or condition of the water rights and other rights referred in the third Explanatory Recital of this Contract.

(n) The rights of the Contractor under this Contract are subject to the terms of the contract for exchange waters, dated July 27, 1939, between the United States and the San Joaquin and Kings River Canal and Irrigation Company, Incorporated, et al., (hereinafter referred to as the Exchange Contractors), Contract No. I1r-1144, as amended. The United States agrees that it will not deliver to the Exchange Contractors thereunder waters of the San Joaquin River unless and until required by the terms of said contract, and the United States further agrees that it will not voluntarily and knowingly determine itself unable to deliver to the Exchange Contractors entitled thereto from water that is available or that may become available to it from the Sacramento River and its tributaries or the Sacramento-San Joaquin Delta those quantities required to satisfy the obligations of the United States under said Exchange Contract and under Schedule 2 of the Contract for Purchase of Miller and Lux Water Rights (Contract No. I1r-1145, dated July 27, 1939).

TIME FOR DELIVERY OF WATER

4. (a) On or about February 20 of each Calendar Year, the Contracting Officer shall announce the Contracting Officer's expected declaration of the Water Made Available. Such declaration will be expressed in terms of both Water Made Available and the Long Term Historic Average and will be updated monthly, and more frequently if necessary, based on then-current operational and hydrologic conditions and a new declaration with changes, if any, to the Water Made Available will be made. The Contracting Officer shall provide forecasts of Project operations and the basis of the estimate, with relevant supporting information, upon the written request of the Contractor. Concurrently with the declaration of the Water Made Available, the Contracting Officer shall provide the Contractor with the updated Long-Term Historic Average.

(b) On or before each March 1 and at such other times as necessary, the Contractor shall submit to the Contracting Officer a written schedule, satisfactory to the Contracting Officer, showing the monthly quantities of Project Water to be delivered by the United States to the Contractor pursuant to this Contract for the Year commencing on such March 1. The Contracting Officer shall use all reasonable means to deliver Project Water according to the approved schedule for the Year commencing on such March 1.

(c) The Contractor shall not schedule Project Water in excess of the quantity of Project Water the Contractor intends to put to reasonable and beneficial use within the Contractor's Service Area or to sell, transfer, or exchange pursuant to Article 9 of this Contract during any Year.

(d) Subject to the conditions set forth in subdivision (a) of Article 3 of this Contract, the United States shall deliver Project Water to the Contractor in accordance with the initial

schedule submitted by the Contractor pursuant to subdivision (b) of this Article, or any written revision(s), satisfactory to the Contracting Officer, thereto submitted within a reasonable time prior to the date(s) on which the requested change(s) is/are to be implemented: Provided, That the total amount of water requested in that schedule or revision does not exceed the quantities announced by the Contracting Officer pursuant to the provisions of subdivision (a) of Article 3, and the Contracting Officer determines that there will be sufficient capacity available in the appropriate Friant Division facilities to deliver the water in accordance with that schedule: Provided further, That the Contractor shall not schedule the delivery of any water during any period as to which the Contractor is notified by the Contracting Officer or Operating Non-Federal Entity that Project facilities required to make deliveries to the Contractor will not be in operation because of scheduled O&M.

(e) The Contractor may, during the period from and including November 1 of each Year through and including the last day of February of that Year, request delivery of any amount of the Class 1 Water estimated by the Contracting Officer to be made available to it during the following Year. The Contractor may, during the period from and including January 1 of each Year (or such earlier date as may be determined by the Contracting Officer) through and including the last day of February of that Year, request delivery of any amount of Class 2 Water estimated by the Contracting Officer to be made available to it during the following Year. Such water shall hereinafter be referred to as preuse water. Such request must be submitted in writing by the Contractor for a specified quantity of preuse water and shall be subject to the approval of the Contracting Officer. Payment for preuse water so requested shall be at the appropriate rate(s) for the following Year in accordance with Article 7 of this Contract and shall be made in advance of delivery of any preuse water. The

Contracting Officer shall deliver such preuse water in accordance with a schedule or any revision thereof submitted by the Contractor and approved by the Contracting Officer, to the extent such water is available and to the extent such deliveries will not interfere with the delivery of Project Water entitlements to other Friant Division contractors or the physical maintenance of the Project facilities. The quantities of preuse water delivered pursuant to this subdivision shall be deducted from the quantities of water that the Contracting Officer would otherwise be obligated to make available to the Contractor during the following Year: Provided, That the quantity of preuse water to be deducted from the quantities of either Class 1 Water or Class 2 Water to be made available to the Contractor in the following Year shall be specified by the Contractor at the time the preuse water is requested or as revised in its first schedule for the following Year submitted in accordance with subdivision (b) of this Article, based on the availability of the following Year water supplies as determined by the Contracting Officer.

POINT OF DIVERSION AND RESPONSIBILITY FOR DISTRIBUTION OF WATER

5. (a) Project Water scheduled pursuant to subdivision (b) of Article 4 of this Contract shall be delivered to the Contractor at a point or points of delivery either on Project facilities or another location or locations mutually agreed to in writing by the Contracting Officer and the Contractor.

(b) The Contracting Officer, either directly or through its written agreement(s) with the Operating Non-Federal Entity, shall make all reasonable efforts to maintain sufficient flows and levels of water in the Friant-Kern Canal to deliver Project Water to the Contractor at specific turnouts established pursuant to subdivision (a) of this Article.

(c) The Contractor shall not deliver Project Water to land outside the Contractor's Service Area unless approved in advance by the Contracting Officer.

(d) All Water Delivered to the Contractor pursuant to this Contract shall be measured and recorded with equipment furnished, installed, operated, and maintained by the United States or the Operating Non-Federal Entity at the point or points of delivery established pursuant to subdivision (a) of this Article. Upon the request of either party to this Contract, the Contracting Officer shall investigate, or cause to be investigated by the appropriate Operating Non-Federal Entity, the accuracy of such measurements and shall take any necessary steps to adjust any errors appearing therein. For any period of time when accurate measurements have not been made, the Contracting Officer shall consult with the Contractor and the responsible Operating Non-Federal Entity prior to making a final determination of the quantity delivered for that period of time.

(e) Neither the Contracting Officer nor any Operating Non-Federal Entity shall be responsible for the control, carriage, handling, use, disposal, or distribution of Water Delivered to the Contractor pursuant to this Contract beyond the delivery points specified in subdivision (a) of this Article. The Contractor shall indemnify the United States, its officers, employees, agents, and assigns on account of damage or claim of damage of any nature whatsoever for which there is legal responsibility, including property damage, personal injury, or death arising out of or connected with the control, carriage, handling, use, disposal, or distribution of such Project Water Delivered beyond such delivery points, except for any damage or claim arising out of: (i) acts or omissions of the Contracting Officer or any of its officers, employees, agents, or assigns, including the Operating Non-Federal Entity, with the intent of creating the situation resulting in any damage or claim;

(ii) willful misconduct of the Contracting Officer or any of its officers, employees, agents, or assigns, including the Operating Non-Federal Entity; (iii) negligence of the Contracting Officer or any of its officers, employees, agents, or assigns including the Operating Non-Federal Entity; or (iv) damage or claims resulting from a malfunction of facilities owned and/or operated by the United States or responsible Operating Non-Federal Entity.

MEASUREMENT OF WATER WITHIN THE CONTRACTOR'S SERVICE AREA

6. (a) Within five years of the date of Contract execution, the Contractor will have an established measuring program satisfactory to the Contracting Officer. The Contractor shall ensure that all surface water delivered for M&I purposes is measured at each M&I service connection. The water measuring devices or water measuring methods of comparable effectiveness must be acceptable to the Contracting Officer. The Contractor shall be responsible for installing, operating, and maintaining and repairing all such measuring devices and implementing all such water measuring methods at no cost to the United States. The Contracting Officer acknowledges that the Contractor has a metering plan (Exhibit "C") setting forth the milestones and schedule that the Contractor will implement to comply with the requirements of this Article. Beginning January 2006, the Contractor shall provide an annual written report to the Contracting Officer describing the Contractor's metering plan implementation progress. The Contractor shall use the information obtained from such water measuring devices or water measuring methods to ensure its proper management of the water, to bill water users for water delivered by the Contractor; and, if applicable, to record water delivered for M&I purposes by customer class as defined in the Contractor's water conservation plan provided for in Article 26 of this Contract. Nothing herein contained, however, shall preclude the Contractor from

establishing and collecting any charges, assessments, or other revenues authorized by California law. The Contractor shall include a summary of all its annual surface water deliveries in the annual report described in subdivision (c) of Article 26.

(b) To the extent the information has not otherwise been provided, upon execution of this Contract, the Contractor shall provide to the Contracting Officer a written report describing the measurement devices or water measuring methods being used or to be used to implement subdivision (a) of this Article and identifying the M&I service connections or alternative measurement programs approved by the Contracting Officer, at which such measurement devices or water measuring methods are being used, and, if applicable, identifying the locations at which such devices and/or methods are not yet being used including a time schedule for implementation at such locations. The Contracting Officer shall advise the Contractor in writing within 60 days as to the adequacy, and necessary modifications, if any, of the measuring devices or water measuring methods identified in the Contractor's report and if the Contracting Officer does not respond in such time, they shall be deemed adequate. If the Contracting Officer notifies the Contractor that the measuring devices or methods are inadequate, the parties shall within 60 days following the Contracting Officer's response, negotiate in good faith the earliest practicable date by which the Contractor shall modify said measuring devices and/or measuring methods as required by the Contracting Officer to ensure compliance with subdivision (a) of this Article.

(c) All new surface water delivery systems installed within the Contractor's Service Area after the effective date of this Contract shall also comply with the measurement provisions described in subdivision (a) of this Article.

(d) The Contractor shall inform the Contracting Officer and the State of California in writing by April 30 of each Year of the monthly volume of surface water delivered within the Contractor's Service Area during the previous Year.

(e) The Contractor shall inform the Contracting Officer and the Operating Non-Federal Entity on or before the 20th calendar day of each month of the quantity of M&I Water taken during the preceding month.

(f) In the event the provisions of subdivision (a) of this Article or any portion thereof, are challenged in a judicial proceeding, the parties agree to meet and confer promptly and as often as necessary to employ their reasonable best efforts to coordinate their response to the challenge and, as appropriate, develop revisions to this Contract.

RATES AND METHOD OF PAYMENT FOR WATER

7. (a) The Contractor shall pay the United States as provided in this Article for all Delivered Water at Rates, Charges, and the Tiered Pricing Component established in accordance with (i) the Secretary's then-existing ratesetting policy for M&I Water. Such ratesetting policies shall be amended, modified, or superseded only through a public notice and comment procedure; (ii) applicable Federal Reclamation law and associated rules and regulations, or policies; and (iii) other applicable provisions of this Contract. Payments shall be made by cash transaction, electronic funds transfer, or any other mechanism as may be agreed to in writing by the Contractor and the Contracting Officer. The Rates, Charges, and Tiered Pricing Component applicable to the Contractor upon execution of this Contract are set forth in Exhibit "B", as may be revised annually.

(b) The Contracting Officer shall notify the Contractor of the Rates, Charges, and Tiered Pricing Component as follows:

(1) Prior to July 1 of each Calendar Year, the Contracting Officer shall provide the Contractor an estimate of the Charges for Project Water that will be applied to the period October 1, of the current Calendar Year, through September 30, of the following Calendar Year, and the basis for such estimate. The Contractor shall be allowed not less than two months to review and comment on such estimates. On or before September 15 of each Calendar Year, the Contracting Officer shall notify the Contractor in writing of the Charges to be in effect during the period October 1 of the current Calendar Year, through September 30, of the following Calendar Year, and such notification shall revise Exhibit "B."

(2) Prior to October 1 of each Calendar Year, the Contracting Officer shall make available to the Contractor an estimate of the Rates and Tiered Pricing Component for Project Water for the following Year and the computations and cost allocations upon which those Rates are based. The Contractor shall be allowed not less than two months to review and comment on such computations and cost allocations. By December 31 of each Calendar Year, the Contracting Officer shall provide the Contractor with the final Rates and Tiered Pricing Component to be in effect for the upcoming Year, and such notification shall revise Exhibit "B."

(c) At the time the Contractor submits the initial schedule for the delivery of Project Water for each Year pursuant to subdivision (b) of Article 4 of this Contract, the Contractor shall make an advance payment to the United States equal to the total amount payable pursuant to the applicable Rate(s) set under subdivision (a) of this Article, for the Project Water scheduled to be

delivered pursuant to this Contract during the first two calendar months of the Year. Before the end of the first month and before the end of each calendar month thereafter, the Contractor shall make an advance payment to the United States, at the Rate(s) set under subdivision (a) of this Article, for the Water Scheduled to be delivered pursuant to this Contract during the second month immediately following. Adjustments between advance payments for Water Scheduled and payments at Rates due for Water Delivered shall be made before the end of the following month: Provided, That any revised schedule submitted by the Contractor pursuant to Article 4 of this Contract which increases the amount of Water Delivered pursuant to this Contract during any month shall be accompanied with appropriate advance payment, at the Rates then in effect, to assure that Project Water is not delivered to the Contractor in advance of such payment. In any month in which the quantity of Water Delivered to the Contractor pursuant to this Contract equals the quantity of Water Scheduled and paid for by the Contractor, no additional Project Water shall be delivered to the Contractor unless and until an advance payment at the Rates then in effect for such additional Project Water is made. Final adjustment between the advance payments for the Water Scheduled and payments for the quantities of Water Delivered during each Year pursuant to this Contract shall be made as soon as practicable but no later than April 30th of the following Year, or 60 days after the delivery of Project Water carried over under subdivision (g) of Article 3 of this Contract if such water is not delivered by the last day of February.

(d) The Contractor shall also make a payment in addition to the Rate(s) in subdivision (c) of this Article to the United States for Water Delivered, at the Charges and the appropriate Tiered Pricing Component then in effect, before the end of the month following the

month of delivery. The payments shall be consistent with the quantities of M&I Water Delivered as shown in the water delivery report for the subject month prepared by the Operating Non-Federal Entity or, if there is no Operating Non-Federal Entity, by the Contracting Officer. Such water delivery report shall be the basis for payment of Charges and Tiered Pricing Component by the Contractor, and shall be provided to the Contractor by the Operating Non-Federal Entity or the Contracting Officer (as applicable) within five days after the end of the month of delivery. The water delivery report shall be deemed a bill for the payment of Charges and the applicable Tiered Pricing Component for Water Delivered. Adjustment for overpayment or underpayment of Charges shall be made through the adjustment of payments due to the United States for Charges for the next month. Any amount to be paid for past due payment of Charges and the Tiered Pricing Component shall be computed pursuant to Article 20 of this Contract.

(e) The Contractor shall pay for any Water Delivered under subdivision (a), (f), or (g) of Article 3 of this Contract as determined by the Contracting Officer pursuant to applicable statutes, associated regulations, any applicable provisions of guidelines or ratesetting policies: Provided, That the Rate for Water Delivered under subdivision (f) of Article 3 of this Contract shall be no more than the otherwise applicable Rate for M&I Water under subdivision (a) of this Article.

(f) Payments to be made by the Contractor to the United States under this Contract may be paid from any revenues available to the Contractor.

(g) All revenues received by the United States from the Contractor relating to the delivery of Project Water or the delivery of non-Project water through Project facilities shall be

allocated and applied in accordance with Federal Reclamation law and the associated rules or regulations, and the then-current Project ratesetting policies for M&I Water.

(h) The Contracting Officer shall keep its accounts pertaining to the administration of the financial terms and conditions of its long-term contracts, in accordance with applicable Federal standards, so as to reflect the application of Project costs and revenues. The Contracting Officer shall, each Year upon request of the Contractor, provide to the Contractor a detailed accounting of all Project and Contractor expense allocations, the disposition of all Project and Contractor revenues, and a summary of all water delivery information. The Contracting Officer and the Contractor shall enter into good faith negotiations to resolve any discrepancies or disputes relating to accountings, reports, or information.

(i) The parties acknowledge and agree that the efficient administration of this Contract is their mutual goal. Recognizing that experience has demonstrated that mechanisms, policies, and procedures used for establishing Rates, Charges, and Tiered Pricing Components, and/or for making and allocating payments, other than those set forth in this Article may be in the mutual best interest of the parties, it is expressly agreed that the parties may enter into agreements to modify the mechanisms, policies, and procedures for any of those purposes while this Contract is in effect without amending this Contract.

(j) (1) Beginning at such time as the total of the deliveries of Class 1 Water and Class 2 Water in a Year exceed 80 percent of the Contract Total, then before the end of the month following the month of delivery the Contractor shall make an additional payment to the United States equal to the applicable Tiered Pricing Component. The Tiered Pricing Component for the total of the

deliveries of Class 1 Water and Class 2 Water in excess of 80 percent of the Contract Total, but less than or equal to 90 percent of the Contract Total, shall equal one-half of the difference between the Rate established under subdivision (a) of this Article and the M&I Full Cost Water Rate. The Tiered Pricing Component for the total of the deliveries of Class 1 Water and Class 2 Water which exceeds 90 percent of the Contract total shall equal the difference between (i) the Rate established under subdivision (a) of this Article and (ii) the M&I Full Cost Water Rate.

(2) Omitted.

(3) For purposes of determining the applicability of the Tiered Pricing Component pursuant to this Article, Water Delivered shall include Project Water that the Contractor transfers to others but shall not include Project Water transferred and delivered to the Contractor.

(k) For the term of this Contract, Rates under the respective ratesetting policies will be established to recover only reimbursable O&M (including any deficits) and capital costs of the Project, as those terms are used in the then-current Project ratesetting policies, and interest, where appropriate, except in instances where a minimum Rate is applicable in accordance with the relevant Project ratesetting policy. Changes of significance in practices which implement the Contracting Officer's ratesetting policies will not be implemented until the Contracting Officer has provided the Contractor an opportunity to discuss the nature, need, and impact of the proposed change.

(l) Except as provided in subsections 3405(a)(1)(B) and 3405(f) of the CVPIA, the Rates for Project Water transferred by the Contractor shall be the Contractor's Rates adjusted upward or downward to reflect the changed costs, if any, incurred by the Contracting Officer in the

delivery of the transferred Project Water to the transferee's point of delivery in accordance with the then-applicable Project ratesetting policy.

(m) Omitted.

(n) Omitted.

8. Omitted.

SALES, TRANSFERS, OR EXCHANGES OF WATER

9. (a) The right to receive Project Water provided for in this Contract may be sold, transferred, or exchanged to others for reasonable and beneficial uses within the State of California if such sale, transfer, or exchange is authorized by applicable Federal and State laws, and applicable guidelines or regulations then in effect. No sale, transfer, or exchange of Project Water under this Contract may take place without the prior written approval of the Contracting Officer, except as provided for in subdivision (b) of this Article, and no such sales, transfers, or exchanges shall be approved absent all appropriate environmental documentation including, but not limited to, documents prepared pursuant to the NEPA and ESA. Such environmental documentation should include, as appropriate, an analysis of groundwater impacts and economic and social effects, including environmental justice, of the proposed water transfers on both the transferor and transferee.

(b) In order to facilitate efficient water management by means of water transfers of the type historically carried out among Project Contractors located within the same geographical area and to allow the Contractor to participate in an accelerated water transfer program during the term of this Contract, the Contracting Officer shall prepare, as appropriate, all necessary environmental

documentation including, but not limited to, documents prepared pursuant to NEPA and ESA, analyzing annual transfers within such geographical areas, and the Contracting Officer shall determine whether such transfers comply with applicable law. Following the completion of the environmental documentation, such transfers addressed in such documentation shall be conducted with advance notice to the Contracting Officer, but shall not require prior written approval by the Contracting Officer. Such environmental documentation and the Contracting Officer's compliance determination shall be reviewed every five years and updated, as necessary, prior to the expiration of the then-existing five-year period. All subsequent environmental documentation shall include an alternative to evaluate not less than the quantity of Project Water historically transferred within the same geographical area.

(c) For a water transfer to qualify under subdivision (b) of this Article, such water transfer must: (i) be for irrigation purposes for lands irrigated within the previous three years, for M&I use, groundwater recharge, water banking, or fish and wildlife resources; not lead to land conversion; and be delivered to established cropland, wildlife refuges, groundwater basins or M&I use; (ii) occur within a single Year; (iii) occur between a willing seller and a willing buyer; (iv) convey water through existing facilities with no new construction or modifications to facilities and be between existing Project Contractors and/or the Contractor and the United States, Department of the Interior; and (v) comply with all applicable Federal, State, and local or tribal laws and requirements imposed for protection of the environment and Indian Trust Assets, as defined under Federal law.

APPLICATION OF PAYMENTS AND ADJUSTMENTS

10. (a) The amount of any overpayment by the Contractor of the Contractor's O&M, capital, and deficit (if any) obligations for the Year shall be applied first to any current liabilities of the Contractor arising out of this Contract then due and payable. Overpayments of more than $1,000 shall be refunded at the Contractor's request. In lieu of a refund, any amount of such overpayment, at the option of the Contractor, may be credited against amounts to become due to the United States by the Contractor. With respect to overpayment, such refund or adjustment shall constitute the sole remedy of the Contractor or anyone having or claiming to have the right to the use of any of the Project Water supply provided for herein. All credits and refunds of overpayments shall be made within 30 days of the Contracting Officer obtaining direction as to how to credit or refund such overpayment in response to the notice to the Contractor that it has finalized the accounts for the Year in which the overpayment was made.

(b) All advances for miscellaneous costs incurred for work requested by the Contractor pursuant to Article 25 of this Contract shall be adjusted to reflect the actual costs when the work has been completed. If the advances exceed the actual costs incurred, the difference will be refunded to the Contractor. If the actual costs exceed the Contractor's advances, the Contractor will be billed for the additional costs pursuant to Article 25.

TEMPORARY REDUCTIONS--RETURN FLOWS

11. (a) Subject to: (i) the authorized purposes and priorities of the Project and the requirements of Federal law and (ii) the obligations of the United States under existing contracts, or renewals thereof, providing for water deliveries from the Project, the Contracting Officer shall make

all reasonable efforts to optimize Project Water deliveries to the Contractor as provided in this Contract.

(b) The Contracting Officer or Operating Non-Federal Entity may temporarily discontinue or reduce the quantity of Water Delivered to the Contractor as herein provided for the purposes of investigation, inspection, maintenance, repair, or replacement of any of the Project facilities or any part thereof necessary for the delivery of Project Water to the Contractor, but so far as feasible the Contracting Officer or Operating Non-Federal Entity will give the Contractor due notice in advance of such temporary discontinuance or reduction, except in case of emergency, in which case no notice need be given: Provided, That the United States shall use its best efforts to avoid any discontinuance or reduction in such service. Upon resumption of service after such reduction or discontinuance, and if requested by the Contractor, the United States will, if possible, deliver the quantity of Project Water which would have been delivered hereunder in the absence of such discontinuance or reduction.

(c) The United States reserves the right to all seepage and return flow water derived from Water Delivered to the Contractor hereunder which escapes or is discharged beyond the Contractor's Service Area: Provided, That this shall not be construed as claiming for the United States any right to seepage or return flow being put to reasonable and beneficial use pursuant to this Contract within the Contractor's Service Area by the Contractor or those claiming by, through, or under the Contractor.

CONSTRAINTS ON THE AVAILABILITY OF WATER

12. (a) In its operation of the Project, the Contracting Officer will use all reasonable means to guard against a Condition of Shortage in the quantity of water to be made available to the Contractor pursuant to this Contract. In the event the Contracting Officer determines that a Condition of Shortage appears probable, the Contracting Officer will notify the Contractor of said determination as soon as practicable.

(b) If there is a Condition of Shortage because of errors in physical operations of the Project, drought, other physical causes beyond the control of the Contracting Officer, or actions taken by the Contracting Officer to meet legal obligations then, except as provided in subdivision (a) of Article 18 of this Contract, no liability shall accrue against the United States or any of its officers, agents, or employees for any damage, direct or indirect, arising therefrom.

(c) The United States shall not execute contracts which together with this Contract, shall in the aggregate provide for furnishing during the life of this Contract or any renewals hereof Class 1 Water in excess of 800,000 acre-feet per Year or Class 2 Water in excess of 1,401,475 acre-feet per Year: Provided, That, subject to subdivision (l) of Article 3 of this Contract, the limitation placed on Class 2 Water contracts shall not prohibit the United States from entering into temporary contracts of one year or less in duration for delivery of Project Water to other entities if such water is not necessary to meet the schedules as may be submitted by all Friant Division long-term water service contractors entitled to receive Class 1 Water and/or Class 2 Water under their water service contracts. Nothing in this subdivision shall limit the Contracting Officer's ability to take actions that result in the availability of new water supplies to be used for Project purposes and

allocating such new supplies: Provided, That the Contracting Officer shall not take such actions until after consultation with the Friant Division Project Contractors.

(d) The Contracting Officer shall not deliver any Class 2 Water pursuant to this or any other contract for water service heretofore or hereafter entered into any Year unless and until the Contracting Officer determines that the cumulative total quantity of Class 1 Water specified in subdivision (c) of this Article will be available for delivery in said Year. If the Contracting Officer determines there is or will be a shortage in any Year in the quantity of Class 1 Water available for delivery, the Contracting Officer shall apportion the available Class 1 Water among all contractors entitled to receive such water that will be made available at Friant Dam in accordance with the following:

(1) A determination shall be made of the total quantity of Class 1 Water at Friant Dam which is available for meeting Class 1 Water contractual commitments, the amount so determined being herein referred to as the available supply.

(2) The total available Class 1 supply shall be divided by the Class 1 Water contractual commitments, the quotient thus obtained being herein referred to as the Class 1 apportionment coefficient.

(3) The total quantity of Class 1 Water under Article 3 of this Contract shall be multiplied by the Class 1 apportionment coefficient and the result shall be the quantity of Class 1 Water required to be delivered by the Contracting Officer to the Contractor for the respective Year, but in no event shall such amount exceed the total quantity of Class 1 Water specified in subdivision (a) of Article 3 of this Contract.

(e) If the Contracting Officer determines there is less than the quantity of Class 2 Water which the Contractor otherwise would be entitled to receive pursuant to Article 3 of this Contract, the quantity of Class 2 Water which shall be furnished to the Contractor by the Contracting Officer will be determined in the manner set forth in paragraphs (1), (2), and (3), of subdivision (d) of this Article substituting the term "Class 2" for the term "Class 1."

(f) In the event that in any Year there is made available to the Contractor, by reason of any shortage or apportionment as provided in subdivisions (a), (d), or (e) of this Article, or any discontinuance or reduction of service as set forth in subdivision (b) of Article 11 of this Contract, less than the quantity of water which the Contractor otherwise would be entitled to receive hereunder, there shall be made an adjustment on account of the amounts already paid to the Contracting Officer by the Contractor for Class 1 Water and Class 2 Water for said Year in accordance with Article 10 of this Contract.

13. Omitted.

RULES AND REGULATIONS

14. (a) The parties agree that the delivery of Project Water or use of Federal facilities pursuant to this Contract is subject to Federal Reclamation law, as amended and supplemented, and the rules and regulations promulgated by the Secretary of the Interior under Federal Reclamation law.

(b) The terms of this Contract are subject to any enforceable order, judgment, and/or settlement in NRDC v. Patterson, No. CIVS 88-1658-LKK-EM and shall be timely modified as necessary to effectuate or facilitate any final order, judgment, or settlement in said litigation.

(c) Omitted.

WATER AND AIR POLLUTION CONTROL

15. The Contractor, in carrying out this Contract, shall comply with all applicable water and air pollution laws and regulations of the United States and the State of California, and shall obtain all required permits or licenses from the appropriate Federal, State, or local authorities.

QUALITY OF WATER

16. (a) Project facilities used to deliver Project Water to the Contractor pursuant to this Contract shall be operated and maintained to enable the United States to deliver Project Water to the Contractor in accordance with the water quality standards specified in subsection 2(b) of the Act of August 26, 1937 (50 Stat. 865), as added by Section 101 of the Act of October 27, 1986 (100 Stat. 3050) or other existing Federal laws. The United States is under no obligation to construct or furnish water treatment facilities to maintain or to improve the quality of Water Delivered to the Contractor pursuant to this Contract. The United States does not warrant the quality of Water Delivered to the Contractor pursuant to this Contract.

(b) The O&M of Project facilities shall be performed in such manner as is practicable to maintain the quality of raw water made available through such facilities at the highest level reasonably attainable as determined by the Contracting Officer. The Contractor shall be responsible for compliance with all State and Federal water quality standards applicable to surface and subsurface agricultural drainage discharges generated through the use of Federal or Contractor facilities or Project Water provided by the Contractor within the Contractor's Service Area.

WATER ACQUIRED BY THE CONTRACTOR OTHER THAN FROM THE UNITED STATES

17. (a) Omitted.

(b) Water or water rights now owned or hereafter acquired by the Contractor, other than from the United States, may be stored, conveyed, and/or diverted through Project facilities, subject to the completion of appropriate environmental documentation, with the approval of the Contracting Officer and the execution of any contract determined by the Contracting Officer to be necessary, consistent with the following provisions:

(1) The Contractor may introduce non-Project water into Project facilities and deliver said water within the Contractor's Service Area subject to payment to the United States and/or to any applicable Operating Non-Federal Entity of an appropriate rate as determined by the applicable Project ratesetting policy, the RRA, and the Project use power policy, if such Project use power policy is applicable, each as amended, modified, or superseded from time to time.

(2) Delivery of such non-Project water in and through Project facilities shall only be allowed to the extent such deliveries do not: (i) interfere with other Project purposes as determined by the Contracting Officer; (ii) reduce the quantity or quality of water available to other Project Contractors; (iii) interfere with the delivery of contractual water entitlements to any other Project Contractors; or (iv) interfere with the physical maintenance of the Project facilities.

(3) Neither the United States nor the Operating Non-Federal Entity shall be responsible for control, care, or distribution of the non-Project water before it is introduced into or after it is delivered from the Project facilities. The Contractor hereby releases and agrees to defend

and indemnify the United States and the Operating Non-Federal Entity, and their respective officers, agents, and employees, from any claim for damage to persons or property, direct or indirect, resulting from the acts of the Contractor its officers', employees', agents', or assigns' act(s) in (i) extracting or diverting non-Project water from any source, or (ii) diverting such non-Project water into Project facilities.

(4) Diversion of such non-Project water into Project facilities shall be consistent with all applicable laws, and if involving groundwater, consistent with any groundwater management plan for the area from which it was extracted.

(5) After Project purposes are met, as determined by the Contracting Officer, the United States and the Contractor shall share priority to utilize the remaining capacity of the facilities declared to be available by the Contracting Officer for conveyance and transportation of non-Project water prior to any such remaining capacity being made available to non-Project contractors.

OPINIONS AND DETERMINATIONS

18. (a) Where the terms of this Contract provide for actions to be based upon the opinion or determination of either party to this Contract, said terms shall not be construed as permitting such action to be predicated upon arbitrary, capricious, or unreasonable opinions or determinations. Both parties, notwithstanding any other provisions of this Contract, expressly reserve the right to seek relief from and appropriate adjustment for any such arbitrary, capricious, or unreasonable opinion or determination. Each opinion or determination by either party shall be provided in a timely manner. Nothing in subdivision (a) of Article 18 of this Contract is intended to

or shall affect or alter the standard of judicial review applicable under Federal law to any opinion or determination implementing a specific provision of Federal law embodied in statute or regulation.

(b) The Contracting Officer shall have the right to make determinations necessary to administer this Contract that are consistent with the expressed and implied provisions of this Contract, the laws of the United States and of the State of California, and the rules and regulations promulgated by the Secretary of the Interior. Such determinations shall be made in consultation with the Contractor to the extent reasonably practicable.

COORDINATION AND COOPERATION

19. (a) In order to further their mutual goals and objectives, the Contracting Officer and the Contractor shall communicate, coordinate, and cooperate with each other, and with other affected Project Contractors, in order to improve the operation and management of the Project. The communication, coordination, and cooperation regarding operations and management shall include, but not be limited to, any action which will or may materially affect the quantity or quality of Project Water supply, the allocation of Project Water supply, and Project financial matters including, but not limited to, budget issues. The communication, coordination, and cooperation provided for hereunder shall extend to all provisions of this Contract. Each party shall retain exclusive decision making authority for all actions, opinion, and determinations to be made by the respective party.

(b) Within 120 days following the effective date of this Contract, the Contractor, other affected Project Contractors, and the Contracting Officer shall arrange to meet with interested Project Contractors to develop a mutually agreeable, written Project-wide process, which may be amended as necessary, separate and apart from this Contract. The goal of this process shall be to

provide, to the extent practicable, the means of mutual communication and interaction regarding significant decisions concerning Project operation and management on a real-time basis.

(c) It is the intent of the Secretary to improve water supply reliability. To carry out this intent:

(1) The Contracting Officer will, at the request of the Contractor, assist in the development of integrated resource management plans for the Contractor. Further, the Contracting Officer will, as appropriate, seek authorizations for implementation of partnerships to improve water supply, water quality, and reliability.

(2) The Secretary will, as appropriate, pursue program and project implementation and authorization in coordination with Project Contractors to improve the water supply, water quality, and reliability of the Project for all Project purposes.

(3) The Secretary will coordinate with Project Contractors and the State of California to seek improved water resource management.

(4) The Secretary will coordinate actions of agencies within the Department of the Interior that may impact the availability of water for Project purposes.

(5) The Contracting Officer shall periodically, but not less than annually, hold division level meetings to discuss Project operations, division level water management activities, and other issues as appropriate.

(d) Without limiting the contractual obligations of the Contracting Officer under the other Articles of this Contract, nothing in this Article shall be construed to limit or constrain the Contracting Officer's ability to communicate, coordinate, and cooperate with the Contractor or other

interested stakeholders or to make decisions in a timely fashion as needed to protect health, safety, or the physical integrity of structures or facilities.

CHARGES FOR DELINQUENT PAYMENTS

20. (a) The Contractor shall be subject to interest, administrative, and penalty charges on delinquent installments or payments. When a payment is not received by the due date, the Contractor shall pay an interest charge for each day the payment is delinquent beyond the due date. When a payment becomes sixty (60) days delinquent, the Contractor shall pay an administrative charge to cover additional costs of billing and processing the delinquent payment. When a payment is delinquent ninety (90) days or more, the Contractor shall pay an additional penalty charge of six (6%) percent per year for each day the payment is delinquent beyond the due date. Further, the Contractor shall pay any fees incurred for debt collection services associated with a delinquent payment.

(b) The interest charge rate shall be the greater of the rate prescribed quarterly in the Federal Register by the Department of the Treasury for application to overdue payments, or the interest rate of one-half of one (0.5%) percent per month prescribed by Section 6 of the Reclamation Project Act of 1939 (Public Law 76-260). The interest charge rate shall be determined as of the due date and remain fixed for the duration of the delinquent period.

(c) When a partial payment on a delinquent account is received, the amount received shall be applied, first to the penalty, second to the administrative charges, third to the accrued interest, and finally to the overdue payment.

EQUAL OPPORTUNITY

21. During the performance of this Contract, the Contractor agrees as follows:

(a) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination, rates of payment or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of this nondiscrimination clause.

(b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without discrimination because of race, color, religion, sex, or national origin.

(c) The Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the Contracting Officer, advising the said labor union or workers' representative of the Contractor's commitments under Section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(d) The Contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, as amended, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(e) The Contractor will furnish all information and reports required by said amended Executive Order and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to its books, records, and accounts by the Contracting Officer and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(f) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of the said rules, regulations, or orders, this Contract may be canceled, terminated, or suspended, in whole or in part, and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in said amended Executive Order, and such other sanctions may be imposed and remedies invoked as provided in said Executive Order, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(g) The Contractor will include the provisions of paragraphs (a) through (g) in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of said amended Executive Order, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, That in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

GENERAL OBLIGATION--BENEFITS CONDITIONED UPON PAYMENT

22. (a) The obligation of the Contractor to pay the United States as provided in this Contract is a general obligation of the Contractor notwithstanding the manner in which the obligation may be distributed among the Contractor's water users and notwithstanding the default of individual water users in their obligations to the Contractor.

(b) The payment of charges becoming due hereunder is a condition precedent to receiving benefits under this Contract. The United States shall not make water available to the Contractor through Project facilities during any period in which the Contractor may be in arrears in the advance payment of water rates due the United States. The Contractor shall not furnish water made available pursuant to this Contract for lands or parties which are in arrears in the advance payment of water rates levied or established by the Contractor.

(c) With respect to subdivision (b) of this Article, the Contractor shall have no obligation to require advance payment for water rates which it levies.

COMPLIANCE WITH CIVIL RIGHTS LAWS AND REGULATIONS

23. (a) The Contractor shall comply with Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d), Section 504 of the Rehabilitation Act of 1975 (P.L. 93-112, as amended), the Age Discrimination Act of 1975 (42 U.S.C. 6101, et seq.) and any other applicable civil rights laws, as well as with their respective implementing regulations and guidelines imposed by the U.S. Department of the Interior and/or Bureau of Reclamation.

(b) These statutes require that no person in the United States shall, on the grounds of race, color, national origin, handicap, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving financial assistance from the Bureau of Reclamation. By executing this Contract, the Contractor agrees to immediately take any measures necessary to implement this obligation, including permitting officials of the United States to inspect premises, programs, and documents.

(c) The Contractor makes this agreement in consideration of and for the purpose of obtaining any and all Federal grants, loans, contracts, property discounts, or other Federal financial assistance extended after the date hereof to the Contractor by the Bureau of Reclamation, including installment payments after such date on account of arrangements for Federal financial assistance which were approved before such date. The Contractor recognizes and agrees that such Federal assistance will be extended in reliance on the representations and agreements made in this Article, and that the United States reserves the right to seek judicial enforcement thereof.

24. Omitted.

CONTRACTOR TO PAY CERTAIN MISCELLANEOUS COSTS

25. In addition to all other payments to be made by the Contractor pursuant to this Contract, the Contractor shall pay to the United States, within 60 days after receipt of a bill and detailed statement submitted by the Contracting Officer to the Contractor for such specific items of direct cost incurred by the United States for work requested by the Contractor associated with this Contract plus indirect costs in accordance with applicable Bureau of Reclamation policies and procedures. All such amounts referred to in this Article shall not exceed the amount agreed to in writing in advance by the Contractor. This Article shall not apply to costs for routine contract administration.

WATER CONSERVATION

26. (a) Prior to the delivery of water provided from or conveyed through Federally constructed or Federally financed facilities pursuant to this Contract, the Contractor shall be implementing an effective water conservation and efficiency program based on the Contractor's water conservation plan that has been determined by the Contracting Officer to meet the conservation and efficiency criteria for evaluating water conservation plans established under Federal law. The water conservation and efficiency program shall contain definite water conservation objectives, appropriate economically feasible water conservation measures, and time schedules for meeting those objectives. Continued Project Water delivery pursuant to this Contract shall be contingent upon the Contractor's continued implementation of such water conservation program. In the event the Contractor's water conservation plan or any revised water conservation plan completed pursuant to subdivision (d) of Article 26 of this Contract have not yet been determined by the Contracting Officer to meet such

criteria, due to circumstances which the Contracting Officer determines are beyond the control of the Contractor, water deliveries shall be made under this Contract so long as the Contractor diligently works with the Contracting Officer to obtain such determination at the earliest practicable date, and thereafter the Contractor immediately begins implementing its water conservation and efficiency program in accordance with the time schedules therein.

(b) Should the amount of M&I Water delivered pursuant to subdivision (a) of Article 3 of this Contract equal or exceed 2,000 acre-feet per Year, the Contractor shall implement the Best Management Practices identified by the time frames issued by the California Urban Water Conservation Council for such M&I Water unless any such practice is determined by the Contracting Officer to be inappropriate for the Contractor.

(c) The Contractor shall submit to the Contracting Officer a report on the status of its implementation of the water conservation plan on the reporting dates specified in the then-existing conservation and efficiency criteria established under Federal law.

(d) At five-year intervals, the Contractor shall revise its water conservation plan to reflect the then-current conservation and efficiency criteria for evaluating water conservation plans established under Federal law and submit such revised water management plan to the Contracting Officer for review and evaluation. The Contracting Officer will then determine if the water conservation plan meets Reclamation's then-current conservation and efficiency criteria for evaluating water conservation plans established under Federal law.

(e) If the Contractor is engaged in direct groundwater recharge, such activity shall be described in the Contractor's water conservation plan.

EXISTING OR ACQUIRED WATER OR WATER RIGHTS

27. Except as specifically provided in Article 17 of this Contract, the provisions of this Contract shall not be applicable to or affect non-Project water or water rights now owned or hereafter acquired by the Contractor or any user of such water within the Contractor's Service Area. Any such water shall not be considered Project Water under this Contract. In addition, this Contract shall not be construed as limiting or curtailing any rights which the Contractor or any water user within the Contractor's Service Area acquires or has available under any other contract pursuant to Federal Reclamation law.

OPERATION AND MAINTENANCE BY OPERATING NON-FEDERAL ENTITY

28. (a) The O&M of a portion of the Project facilities which serve the Contractor, and responsibility for funding a portion of the costs of such O&M, have been transferred to the Operating Non-Federal Entity by separate agreement between the United States and the Operating Non-Federal Entity. That separate agreement shall not interfere with or affect the rights or obligations of the Contractor or the United States hereunder.

(b) The Contracting Officer has previously notified the Contractor in writing that the O&M of a portion of the Project facilities which serve the Contractor has been transferred to the Operating Non-Federal Entity, and therefore, the Contractor shall pay directly to the Operating Non-Federal Entity, or to any successor approved by the Contracting Officer under the terms and conditions of the separate agreement between the United States and the Operating Non-Federal Entity described in subdivision (a) of this Article, all rates, charges, or assessments of any kind, including any assessment for reserve funds, which the Operating Non-Federal Entity or such successor

1007 determines, sets, or establishes for (i) the O&M of the portion of the Project facilities operated and
1008 maintained by the Operating Non-Federal Entity or such successor, or (ii) the Friant Division's share
1009 of the operation, maintenance, and replacement costs for physical works and appurtenances
1010 associated with the Tracy Pumping Plant, the Delta-Mendota Canal, the O'Neill Pumping/Generating
1011 Plant, the Federal share of the O'Neill Forebay, the Mendota Pool, and the Federal share of San Luis
1012 Unit joint use conveyance and conveyance pumping facilities. Such direct payments to the Operating
1013 Non-Federal Entity or such successor shall not relieve the Contractor of its obligation to pay directly
1014 to the United States the Contractor's share of the Project Rates, Charges, and Tiered Pricing
1015 Component(s) except to the extent the Operating Non-Federal Entity collects payments on behalf of
1016 the United States in accordance with the separate agreement identified in subdivision (a) of this
1017 Article.

1018 (c) For so long as the O&M of any portion of the Project facilities serving the
1019 Contractor is performed by the Operating Non-Federal Entity, or any successor thereto, the
1020 Contracting Officer shall adjust those components of the Rates for Water Delivered under this
1021 Contract representing the cost associated with the activity being performed by the Operating
1022 Non-Federal Entity or its successor.

1023 (d) In the event the O&M of the Project facilities operated and maintained by the
1024 Operating Non-Federal Entity is re-assumed by the United States during the term of this Contract, the
1025 Contracting Officer shall so notify the Contractor, in writing, and present to the Contractor a revised
1026 Exhibit "B" which shall include the portion of the Rates to be paid by the Contractor for Project
1027 Water under this Contract representing the O&M costs of the portion of such Project facilities which

have been re-assumed. The Contractor shall, thereafter, in the absence of written notification from the Contracting Officer to the contrary, pay the Rates, Charges, and Tiered Pricing Component(s) specified in the revised Exhibit "B" directly to the United States in compliance with Article 7 of this Contract.

CONTINGENT UPON APPROPRIATION OR ALLOTMENT OF FUNDS

29. The expenditure or advance of any money or the performance of any obligation of the United States under this Contract shall be contingent upon appropriation or allotment of funds. Absence of appropriation or allotment of funds shall not relieve the Contractor from any obligations under this Contract. No liability shall accrue to the United States in case funds are not appropriated or allotted.

BOOKS, RECORDS, AND REPORTS

30. (a) The Contractor shall establish and maintain accounts and other books and records pertaining to administration of the terms and conditions of this Contract, including: the Contractor's financial transactions, water supply data, and Project land and right-of-way agreements; water use data; and other matters that the Contracting Officer may require. Reports thereon shall be furnished to the Contracting Officer in such form and on such date or dates as the Contracting Officer may require. Subject to applicable Federal laws and regulations, each party to this Contract shall have the right during office hours to examine and make copies of the other party's books and records relating to matters covered by this Contract.

(b) Notwithstanding the provisions of subdivision (a) of this Article, no books, records, or other information shall be requested from the Contractor by the Contracting Officer unless such books, records, or information are reasonably related to the administration or performance of this Contract. Any such request shall allow the Contractor a reasonable period of time within which to provide the requested books, records, or information.

(c) At such time as the Contractor provides information to the Contracting Officer pursuant to subdivision (a) of this Article, a copy of such information shall be provided to the Operating Non-Federal Entity.

ASSIGNMENT LIMITED--SUCCESSORS AND ASSIGNS OBLIGATED

31. (a) The provisions of this Contract shall apply to and bind the successors and assigns of the parties hereto, but no assignment or transfer of this Contract or any right or interest therein shall be valid until approved in writing by the Contracting Officer.

(b) The assignment of any right or interest in this Contract by either party shall not interfere with the rights or obligations of the other party to this Contract absent the written concurrence of said other party.

(c) The Contracting Officer shall not unreasonably condition or withhold approval of any proposed assignment.

SEVERABILITY

32. In the event that a person or entity who is neither (i) a party to a Project contract, nor (ii) a person or entity that receives Project Water from a party to a Project contract, nor (iii) an association or other form of organization whose primary function is to represent parties to Project contracts, brings an action in a court of competent jurisdiction challenging the legality or enforceability of a provision included in this Contract and said person, entity, association, or organization obtains a final court decision holding that such provision is legally invalid or unenforceable and the Contractor has not intervened in that lawsuit in support of the plaintiff(s), the parties to this Contract shall use their best efforts to (i) within 30 days of the date of such final court decision identify by mutual agreement the provisions in this Contract which must be revised and

(ii) within three months thereafter promptly agree on the appropriate revision(s). The time periods specified above may be extended by mutual agreement of the parties. Pending the completion of the actions designated above, to the extent it can do so without violating any applicable provisions of law, the United States shall continue to make the quantities of Project Water specified in this Contract available to the Contractor pursuant to the provisions of this Contract which were not found to be legally invalid or unenforceable in the final court decision.

RESOLUTION OF DISPUTES

33. Should any dispute arise concerning any provisions of this Contract, or the parties' rights and obligations thereunder, the parties shall meet and confer in an attempt to resolve the dispute. Prior to the Contractor commencing any legal action, or the Contracting Officer referring any matter to Department of Justice, the party shall provide to the other party 30 days' written notice of the intent to take such action: Provided, That such notice shall not be required where a delay in commencing an action would prejudice the interests of the party that intends to file suit. During the 30-day notice period, the Contractor and the Contracting Officer shall meet and confer in an attempt to resolve the dispute. Except as specifically provided, nothing herein is intended to waive or abridge any right or remedy that the Contractor or the United States may have.

OFFICIALS NOT TO BENEFIT

34. No Member of or Delegate to Congress, Resident Commissioner, or official of the Contractor shall benefit from this Contract other than as a water user or landowner in the same manner as other water users or landowners.

CHANGES IN CONTRACTOR'S SERVICE AREA

35. (a) While this Contract is in effect, no change may be made in the Contractor's Service Area, by inclusion or exclusion of lands, dissolution, consolidation, merger, or otherwise, except upon the Contracting Officer's written consent.

(b) Within 30 days of receipt of a request for such a change, the Contracting Officer will notify the Contractor of any additional information required by the Contracting Officer for processing said request, and both parties will meet to establish a mutually agreeable schedule for timely completion of the process. Such process will analyze whether the proposed change is likely to: (i) result in the use of Project Water contrary to the terms of this Contract; (ii) impair the ability of the Contractor to pay for Project Water furnished under this Contract or to pay for any Federally-constructed facilities for which the Contractor is responsible; and (iii) have an impact on any Project Water rights applications, permits, or licenses. In addition, the Contracting Officer shall comply with the NEPA and the ESA. The Contractor will be responsible for all costs incurred by the Contracting Officer in this process, and such costs will be paid in accordance with Article 25 of this Contract.

FEDERAL LAWS

36. By entering into this Contract, the Contractor does not waive its rights to contest the validity or application in connection with the performance of the terms and conditions of this Contract of any Federal law or regulation: Provided, That the Contractor agrees to comply with the terms and conditions of this Contract unless and until relief from application of such Federal law or regulation to the implementing provision of the Contract is granted by a court of competent jurisdiction.

NOTICES

37. Any notice, demand, or request authorized or required by this Contract shall be deemed to have been given, on behalf of the Contractor, when mailed, postage prepaid, or delivered to the Area Manager, South-Central California Area Office, 1243 "N" Street, Fresno, California 93721, and on behalf of the United States, when mailed, postage prepaid, or delivered to the City of Fresno, Public Utilities Director, 2600 Fresno Street, Room 3065, Fresno, California 93721-3624. The designation of the addressee or the address may be changed by notice given in the same manner as provided in this Article for other notices.

CONFIRMATION OF CONTRACT

38. The Contractor, after the execution of this Contract, shall furnish to the Contracting Officer evidence that pursuant to the laws of the State of California the Contractor is a legally constituted entity, and the Contract is lawful, valid, and binding on the Contractor. This Contract shall not be binding on the United States until such evidence has been provided to the Contracting Officer's satisfaction.

IN WITNESS WHEREOF, the parties hereto have executed this Contract as of the day and year first above written.

THE UNITED STATES OF AMERICA

APPROVED AS TO LEGAL FORM AND SUFFICIENCY
James E. Toochin
OFFICE OF REGIONAL SOLICITOR
DEPARTMENT OF THE INTERIOR

By: _____
Regional Director, Mid-Pacific Region
Bureau of Reclamation

(SEAL)

CITY OF FRESNO

By: _____
City Manager

Attest:

By: Rebecca E. Klisch 7-25-05
City Clerk

By: _____
Public Utilities Director

Approved as to form:

Hilda Cantu Montez
City Attorney

(I:\LTRC\Final Draft LTRC's – Fresno, Tracy\City of Fresno R. O. Final Draft Contract 05-04-2005.doc)

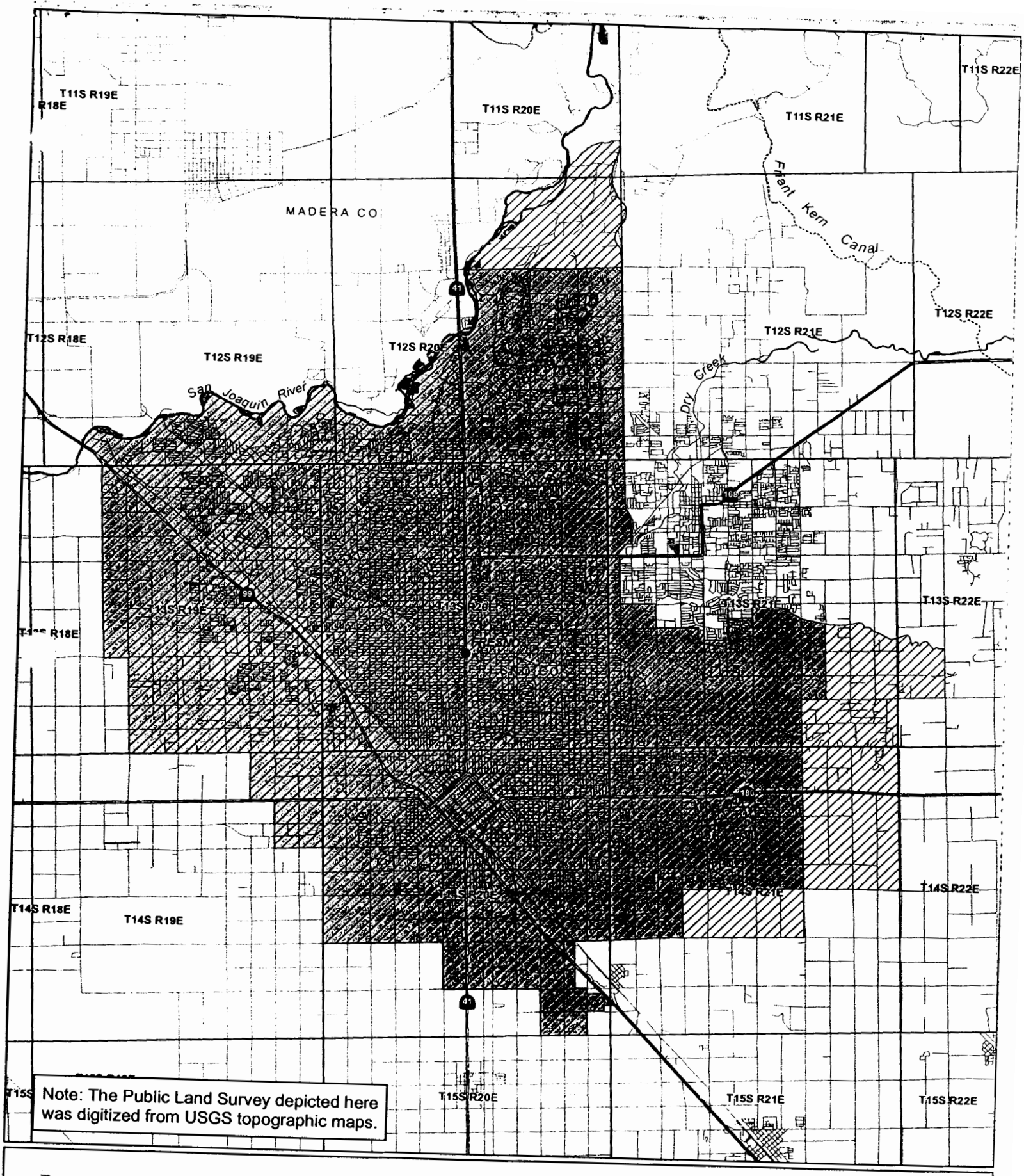

T11S R19E
R18E
T11S R20E
T11S R21E
T11S R22E
MADERA CO
Friant Kern Canal
T12S R18E
T12S R19E
T12S R20E
T12S R21E
T12S R22E
San Joaquin River
Dry Creek
T13S R18E
T13S R19E
T13S R20E
T13S R21E
T13S R22E
T14S R18E
T14S R19E
T14S R20E
T14S R21E
T14S R22E
T15S R20E
T15S R21E
T15S R22E
99
41
168
180
Note: The Public Land Survey depicted here was digitized from USGS topographic maps.
Contractor's Proposed Service Area (Sphere of Influence)
Contractor's Current Service Area
City of Fresno
Contract No. 14-06-200-8901-LTR1
EXHIBIT A
Date: October 26, 2004
File Name: N:\districts\contracts\city_of_fresno\city_of_fresno2.mxd
0 0.5 1 2 3 4 Miles
214-208-12705

EXHIBIT B
CITY OF FRESNO
WATER RATES AND CHARGES

	2005 Rates Per Acre-Foot M&I Water
O&M AND COST-OF-SERVICE RATES:	
Capital Rates:	$20.04
O&M Rates:	
Water Marketing	$ 3.89
Storage	$ 6.67
Conveyance	*
Deficit Rates:	
Non-Interest Bearing	
Interest Bearing	$53.53
CFO/PER Adj. Rate **	$ 1.70
TOTAL COST-OF-SERVICE RATES (COS):	$85.83
M&I FULL-COST RATE	$97.15
Tiered Pricing Component>80%<=90% of Contract Total [Full Cost Rate – COS Rate /2]:	$ 5.66
Tiered Pricing Component>90% of Contract Total [Full Cost Rate – COS Rate]:	$11.32
SURCHARGES UNDER PUB. L. 102-575 TO RESTORATION FUND***	
Friant Surcharge [3406(c)(1)]	$ 7.00
Restoration Payments [3407(d)(2)(A)]	$15.87

* Conveyance and Conveyance Pumping Operation and Maintenance Costs were removed for ratesetting purposes and are to be billed directly to the water authorities.

** Chief Financial Officer (CFO) Adjustment and Provision for Replacement (PFR) Credit are being distributed over a 5-year period beginning in FY2003 for the contractors that requested that the costs be deferred.

*** The surcharges are payments in addition to the water rates and were determined pursuant to Title XXXIV of Public Law 102-575. Restoration fund surcharges under P. L. 102-575 are on a fiscal year basis (10/1-9/30).

EXHIBIT C
METERING PLAN

Completion Date	Item	Comments
03/05*	Contract effective	
01/06	Implementation study	Select and obtain consultant study re implementation
01/06	Submit progress report to Bureau	
12/06	Confirmation of existing meters	Verify integrity and servicing of existing meters
01/07	Submit progress report to Bureau	
06/07	Secure installation contract	Begin implementation of consultant recommendations
12/07	Draft rate ordinance	Initial development of tiered rate structure
01/08	Submit progress report to Bureau	
01/08	Initiate retrofit	Begin installation of meters on existing dwellings
12/08	Meter installation progress	29% (30,000 of approximately 105,000 units installed)
01/09	Submit progress report to Bureau	
12/09	Meter installation progress	43% (45,000 units)
01/10	Submit progress report to Bureau	
03/10	Impose new rate ordinance (fees based on metered use)	New rate structure applicable to currently metered customers. Rates to be effective as new meter installations occur.
12/10	Meter installation progress	62% (65,000 units)
01/11	Submit progress report to Bureau	
12/11	Adopt new rate ordinance	81% (85,000 units)
01/12	Submit compliance report to Bureau	
12/12	Meter installation progress	100% (105,000 units)
01/13	Submit completion report	Retrofit complete.

Schedule subject to change due to unforeseen circumstances.

*This date will be revised at the time the contract is executed on behalf of the United States.

Amendment to Contract
No. 14-06-200-8901-LTR1

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
Central Valley Project, California

AMENDMENT TO LONG-TERM RENEWAL CONTRACT BETWEEN
THE UNITED STATES
AND
CITY OF FRESNO
PROVIDING FOR PROJECT WATER SERVICE FROM FRIANT DIVISION

THIS CONTRACT AMENDMENT, is made this 6th day of April, 2007, in pursuance generally of the Act of Congress of June 17, 1902 (32 Stat. 388), and the acts amendatory thereof or supplementary thereto, including, but not limited to, the Acts of August 26, 1937 (50 Stat. 844), as amended and supplemented, August 4, 1939 (53 Stat. 1187), as amended and supplemented, July 2, 1956 (70 Stat. 483), June 21, 1963 (77 Stat. 68), October 12, 1982 (96 Stat. 1263), October 27, 1986 (100 Stat. 3050), as amended, and Title XXXIV of the Act of October 30, 1992 (106 Stat. 4706), all collectively hereinafter referred to as Federal Reclamation law, between THE UNITED STATES OF AMERICA, hereinafter referred to as the United States, and, CITY OF FRESNO, hereinafter referred to as the Contractor, a public agency of the State of California, duly organized, existing, and acting pursuant to the laws thereof;

WITNESSETH, That:

EXPLANATORY RECITALS

[1st] WHEREAS, the United States and the Contractor entered into a contract dated August 18, 2005, designated Contract No. 14-06-200-8901-LTR1, providing for water service from the Central Valley Project, hereinafter referred to as the "Existing Contract;" and

[2nd] WHEREAS, pursuant to subdivision (b) of Article 14 of the Existing Contract, the terms of the Existing Contract are subject to any enforceable order, judgment and/or settlement in *NRDC* v. *Patterson*, No. CIVS 88-1658-LKK-EM (now styled *Natural Resources Defense Council, et al.* v. *Rodgers, et al.*, No. CIV-S-88-1658 LKK/GGH) and that the Existing Contract shall be timely modified as necessary to effectuate or facilitate any final order, judgment or settlement in said litigation; and

[3rd] WHEREAS, the parties to said litigation have reached agreement on a global resolution of all Claims for Relief in the Seventh Amended Complaint, on the terms and conditions stated in the Stipulation of Settlement dated September 13, 2006, designated Exhibit 1 in the Order Approving Stipulation dated October 23, 2006; and

[4th] WHEREAS, the parties hereto desire to amend the Existing Contract as required by said Stipulation of Settlement.

NOW, THEREFORE, in consideration of the mutual and dependent covenants herein contained, it is hereby agreed as follows:

1. Subdivision (a) of Article 3 of the Existing Contract is deleted in its entirety, and the following is substituted in lieu thereof:

"(a) During each Year, consistent with all applicable State water rights, permits, and licenses, Federal law, and the Stipulation of Settlement dated September 13, 2006, the Order Approving Stipulation of Settlement, and the Judgment and further orders issued by the Court pursuant to terms and conditions of the Settlement in *Natural Resources Defense Council, et al.* v. *Rodgers, et al.*, No. CIV-S-88-1658 LKK/GGH, and subject to the provisions set forth in Articles 11 and 12 of this Contract, the Contracting Officer shall make available for delivery to the Contractor 60,000 acre-feet of Class 1 Water for M&I purposes. The quantity of Water Delivered to the Contractor in accordance with this subdivision shall be scheduled and paid for pursuant to the provisions of Articles 4 and 7 of this Contract."

2. Subdivision (a) of Article 11 of the Existing Contract is deleted in its entirety, and the following is substituted in lieu thereof:

"(a) Subject to: (i) the authorized purposes and priorities of the Project and the requirements of Federal law, and the Stipulation of Settlement dated September 13, 2006, the Order Approving Stipulation of Settlement, the Judgment and further orders issued by the Court pursuant to terms and conditions of the Settlement in *Natural Resources Defense Council, et al.* v. *Rodgers, et al.*, No. CIV-S-88-1658 LKK/GGH and (ii) the obligations of the United States under existing contracts, or renewals thereof, providing for water deliveries from the Project, the Contracting Officer shall make all reasonable efforts to optimize Project Water deliveries to the Contractor as provided in this Contract."

3. Subdivision (b) of Article 12 of the Existing Contract is deleted in its entirety, and the following is substituted in lieu thereof:

"(b) If there is a Condition of Shortage because of errors in physical operations of the Project, drought, other physical causes beyond the control of the Contracting Officer or actions taken by the Contracting Officer to meet legal obligations, including but not limited to obligations pursuant to the Stipulation of Settlement dated September 13, 2006, the Order Approving Stipulation of Settlement, the Judgment and further orders issued by the Court pursuant to terms and conditions of the Settlement in *Natural Resources Defense Council, et al.* v. *Rodgers, et al.*, No. CIV-S-88-1658 LKK/GGH then, except as provided in subdivision (a) of Article 18 of this Contract, no liability shall accrue against the United States or any of its officers, agents, or employees for any damage, direct or indirect, arising therefrom."

4. Subdivision (b) of Article 14 of the Existing Contract is deleted in its entirety, and the following is substituted in lieu thereof:

"(b) The terms of this Contract are subject to the Stipulation of Settlement dated September 13, 2006, the Order Approving Stipulation of Settlement, the Judgment and further orders issued by the Court pursuant to terms and conditions of the Settlement in *Natural Resources Defense Council, et al.* v. *Rodgers, et al.*, No. CIV-S-88-1658 LKK/GGH. Nothing in this Contract shall be interpreted to limit or interfere with the full implementation of this Settlement, Order, the Judgment and further orders issued by the Court pursuant to terms and conditions of the Settlement."

5. Except as specifically amended herein, the Existing Contract is valid and shall continue in full force and effect as originally written and executed.

IN WITNESS WHEREOF, the parties hereto have executed this Contract Amendment as of the day and year first above written.

APPROVED AS TO LEGAL FORM AND SUFFICIENCY
James E. Turner
OFFICE OF REGIONAL SOLICITOR
DEPARTMENT OF THE INTERIOR

THE UNITED STATES OF AMERICA

By: _____
Regional Director, Mid-Pacific Region
Bureau of Reclamation

CITY OF FRESNO

(SEAL)

By: _____
City Manager

By: _____
Public Utilities Director

Attest:

By: Elvira Sommerville (3/26/07)
City Clerk

Approved as to form:

By: _____
City Attorney

City of Fresno and Fresno Irrigation District Agreements

REVISED, AMENDED AND RESTATED COOPERATIVE AGREEMENT BETWEEN FRESNO IRRIGATION DISTRICT AND CITY OF FRESNO FOR WATER UTILIZATION AND CONVEYANCE

THIS AGREEMENT is entered into as of December 20, 2016 by and between the Fresno Irrigation District, an irrigation district (herein called "District") and City of Fresno, a municipal corporation (herein called "City").

WITNESSETH:

WHEREAS, District is an irrigation district organized and existing under the laws of the State of California and is the owner of certain water supplies, water rights and a water distribution system that can convey water to lands both within and outside District boundaries; and

WHEREAS, City is a municipal corporation with boundaries largely overlapping those of District and is the owner of a water distribution system for the distribution of water to lands both in and outside the exterior boundaries of City; and

WHEREAS, District and City have heretofore entered into a cooperative program of water utilization between said parties evidenced by a written agreement for such water utilization and conveyance dated August 12, 1970, which by its terms and by the terms of amendments thereto terminated on May 30, 1976; and

WHEREAS, District and City continued with said cooperative program and entered into a replacement contract for water utilization and conveyance dated May 25, 1976 ("1976 Agreement"); and

WHEREAS, District and City wish to amend and restate the 1976 Agreement in its entirety in order to continue with and expand said cooperative program to recognize changed circumstances affecting them via this Revised, Amended and Restated Cooperative Agreement between Fresno Irrigation District and City of Fresno for Water Utilization and Conveyance ; and

WHEREAS, certain provisions of this Agreement are specifically authorized by, and entered into pursuant to, Chapter 9 (commencing with Section 26670), Part 10, Division 11 of the California Water Code; and

WHEREAS, by agreement dated December 22, 2010 between City and the United States of America identified as Contract No. 14-06-200-8901D (the "City Bureau Contract"), City is entitled to purchase certain water from the United States; and

WHEREAS, by agreement dated December 22, 2010 between District and the United States of America identified as Contract No. 14-06-200-1122D (the "District Bureau Contract"), District is entitled to purchase certain water from the United States; and

WHEREAS, District holds rights to Kings River water and storage in Pine Flat Reservoir on the Kings River, subject to various contracts with the United States of America, water supply schedules and agreements by and among members of the Kings River Water Association and others, judicial and regulatory decrees, and the water rights governing the diversion and use of Kings River water, all as they may be amended or supplemented from time to time (collectively, the "Kings River Agreements"); and

WHEREAS, it is recognized by District and City that District is primarily charged with the distribution and delivery of water within District for Agricultural Use and that its canals and distribution system must primarily be used for that purpose; and

WHEREAS, it is recognized by both District and City that many inhabitants of District also require water for domestic, industrial or fire protection purposes supplied to them by City; and

WHEREAS, under the 1976 Agreement, Kings River water was available to City once lands within District boundaries with surface water allotments were annexed into City and were covered by the 1976 Agreement's contract rate for surface water delivery to City by District for those lands; and

WHEREAS, City and District now wish to limit the amount of Kings River water available to City to provide more certainty regarding water supply availability and to address City's current and anticipated needs and circumstances; and

WHEREAS, City and District are both committed to working cooperatively under the Sustainable Groundwater Management Act ("SGMA") so that the groundwater basin shared by City and District is sustainable and so that undesirable results (as defined in SGMA) are minimized or avoided; and

WHEREAS, City and District recognize that changes to the operations of the Central Valley Project have impacted the availability of water from said project; and

WHEREAS, City has heretofore used much of the water delivered to it under the 1976 Agreement for groundwater recharge because of City's historical reliance on groundwater, and therefore did not require delivery of water year around; and

WHEREAS, City desires to use more of its surface water for direct delivery to its water users and ratepayers while limiting its reliance on groundwater; and

WHEREAS, with the development of its surface water treatment facilities ("SWTFs") City now requires a long-term, reliable and certain surface water supply, deliverable continuously year around; and

WHEREAS, conveyance of raw surface water to the SWTFs on a continuous year around basis will require, among other things, (i) new conveyance infrastructure built by City to overcome certain operational challenges and/or interruptions to District's infrastructure to accommodate normal and routine maintenance of District's canals and pipelines than have historically delivered surface water to City, (ii) District to alter its operations and incur additional

costs to make Out of Season Deliveries, and (iii) the use of new management techniques by District, with the attendant costs, including without limitation water sales, purchases, transfers and exchanges, to meet the need for a continuous supply of surface water to City's SWTFs, all while addressing SGMA and other legal and regulatory requirements that impact the groundwater basin shared by District and City; and

WHEREAS, providing Out of Season Deliveries by District to City may also require the development of new water supplies and projects to provide the water being sought by City; and

WHEREAS, City acknowledges that District has a great depth of experience, knowledge and expertise in the management of surface water supply resources (including but not limited to water supply sales, purchases, transfers and exchanges); and

WHEREAS, City recognizes that the coordinated management of both District's and City's water supplies by District is desirable to maximize the use of the current water supplies and the future development of water supplies for both parties; and

WHEREAS, City has determined that it is in City's interest, and in the interest of its water users and ratepayers, to engage District to employ District's experience, knowledge and expertise on behalf of City in the management of City's Surface Water pursuant to the terms hereof in order to achieve City's and District's goals described herein and to accommodate City's desire for a continuous year around surface water supply, and District has agreed to be so engaged; and

WHEREAS, the changing conditions and manner of management of water supplies throughout the State of California, and other factors beyond the control of City and District, will require increased vigilance on the part of water purveyors in the Fresno area to cooperate with each other on long-range implementation strategies to improve the availability, reliability, and drought resiliency of water supplies; and

WHEREAS, through this Agreement and additional cooperative efforts, City, District and other entities in the region intend to capture of flood released waters, optimize existing water supply storage assets, develop new water supply storage assets, expand groundwater recharge capacities, engage in strategic water supply sales, transfers and exchanges and enhance the utilization of recycled and/or treated waters; and

WHEREAS, in light of SGMA, environmental regulations, water supply challenges and competition with other users and regions in the State for water supplies, City and District wish to further enhance their cooperative working relationship for the benefit of the water users and ratepayers they serve by entering into this Agreement to provide for strategic, long-range and coordinated water supply planning and management that will optimize water conservation, the efficient uses of water for agricultural and municipal uses, the capture of flood released water, the use of existing water supply storage assets, the development of new water supply storage assets, the expansion of groundwater recharge capacity, the effectiveness of strategic water supply sales, transfers, exchanges and purchases, and the enhancement of recycled water utilization.

NOW, THEREFORE, adopting the foregoing recitals as being applicable to this Agreement, it is mutually agreed as follows:

1. Term. The term of this Agreement shall be for a period commencing on the date it is executed by both District and City and ending at 12:00 o'clock p.m. on the last day of June in the year 2035, and thereafter until terminated by either party as of the last day of February of any subsequent year by written notice to the other party mailed prior to September 1st of the previous year. Upon the execution of this Agreement the 1976 Agreement and all amendments thereto shall be of no further force or effect, except that City agrees to pay District any monies owing or to become owing to District under and according to the terms of the 1976 Agreement, if any.

2. Agreement Subject to Other Obligations. This Agreement shall be at all times subject to all of the terms and conditions of the City Bureau Contract, the District Bureau Contract and the Kings River Agreements, and to the extent that any agreement contained herein is contrary to or inconsistent with any term or condition of those contracts or agreements, that contrary provision of this Agreement shall be unenforceable. In the event any such agreement contained herein shall become unenforceable, the entire Agreement may be terminated by the party adversely affected as of the last day of February of the next succeeding year, by written notice served upon the other party on or before the first day of September of the year preceding such termination.

3. Definitions. For the purpose of this Agreement, the following terms shall be defined as follows:

(a) "Agricultural Use" means the use of water primarily in the production of agricultural crops or livestock including but not restricted to domestic use incidental to such agricultural purposes, the watering of livestock, and underground water replenishment conducted by District.

(b) "City's Friant Supply" means all water to which City is entitled under the City Bureau Contract or otherwise as a result of City's status as a long-term repayment contractor for water service from the Friant Division of the Central Valley Project (CVP), including without limitation Class 1 water, Section 215 water, uncontrolled season water, unreleased restoration flows and recirculated water. City's Friant Supply shall not include any water available to District under the District Bureau Contract or as a result of District's status as a long-term repayment contractor in the Friant Division of the CVP, which water is not governed by this Agreement.

(c) "City's Kings River Supply" means the percentage of District's Kings River Supply available to be delivered to City in a Water Year under this Agreement.

(d) "District's Kings River Supply" means the Kings River water District may deliver to its water users under the Kings River Agreements and applicable judicial and regulatory decrees in a Water Year as the result of the calculated natural flow of the Kings River during that Water Year.

(e) "City's Surface Water" means all water available to City in a Water Year by means other than pumping from the underground water supply, including without limitation

City's Kings River Supply and City's Friant Supply and any surface water supply acquired or developed after the date of this Agreement.

(f) "City's Water Service Area" means all lands within the exterior boundaries of City, and also all lands outside such boundaries that are within the exterior boundaries of District, to which City now delivers water or hereafter consents to deliver water by means of the City Water System and that are not hereafter designated or assessed by District as lands receiving or to receive District Water Service.

(g) "City Water System" means the conduits, pipes and other facilities (including without limitation the SWTFs) owned by City and used by City to convey water to lands whether in or outside City.

(h) "District Water Service" means the furnishing of water by District directly to lands within District by means of the District Water System other than pumping conducted by a landowner or water user directly from the underground water supply upon the lands receiving such water.

(i) "District Water System" means the conduits, pipes, canals, pumping stations and other facilities owned and/or used by District to convey water to lands or facilities whether in or outside of District.

(j) "Excluded Areas" means those acres within the City's Water Service Area that are outside of the District's boundaries.

(k) "Included Acres" means those acres within the City's Water Service Area that are within the District's boundaries.

(l) "Municipal, Industrial and Domestic Uses" means the use of water other than for Agricultural Use, and underground water replenishment conducted by City.

(m) "Out of Season Deliveries" means deliveries of City's Surface Water via the District Water System during periods when District is not otherwise delivering irrigation water to its landowners or water users via the portions of the District Water System used to convey City's Surface Water to the points on the District Water System where City will assume physical control of the delivered water.

(n) "Point of Delivery" means, for water delivered to City via the District Water System, the headworks of the Gould Canal and the Fresno Canal as specified in the applicable schedule, for water delivered to City via the Friant-Kern Canal Raw Water Pipeline, the headworks of the Friant-Kern Canal Raw Water Pipeline, for water delivered to City via the South Raw Water Pipeline, the headworks of the Fresno Canal, and such other location(s) as City and District may mutually agree.

(o) "Transfer" means a water sale, transfer or exchange involving any of City's Friant Supply.

(p) "Water Year" means March 1 of one year through the last day of the following February when used in reference to City's Friant Supply and October 1 of one year through September 30 for the following year when used in reference to City's Kings River Supply or District's Kings River Supply.

4. Management of City's Surface Water. To fulfill the purposes of this Agreement, and to facilitate the continuous and year around supply of water to City's Water System and facilities, District shall undertake, and is hereby appointed by City as City's exclusive agent for the management of City's Surface Water pursuant and subject to the terms of this Agreement, including but not limited to subsection 4(f) below. District's management authority and responsibilities shall terminate with respect to any of City's Surface Water upon delivery of that water to City.

(a) The management authority hereby granted to District shall include without limitation the exclusive right to:

i. Direct the storage and release of City's Surface Water;

ii. Schedule, order and provide for the delivery of City's Surface Water to District's points of diversion;

iii. Facilitate the reasonable and beneficial use of City's Surface Water and other water supplies available to City, while also providing for delivery of water to the applicable Point(s) of Delivery as specified in this Agreement;

iv. Pursue and implement Transfers pursuant to this Agreement; and

v. Take all other actions associated with the management and administration of City's Surface Water prior to its delivery to the applicable Point of Delivery in furtherance of the goals provided in subsection 4(f).

(b) District shall not voluntarily take any action that would:

i. Breach City's Bureau Contract or any other agreement governing any of City's Surface Water;

ii. Result in a long-term reduction in amount of City's Surface Water; or

iii. Result in management or use of City Surface Water inconsistent with the goals provided in subsection 4(f) below, unless City provides prior written authorization of such management or use.

(c) Notwithstanding District's management of City's Surface Water, City shall be solely responsible for, and shall timely pay, all charges and other amounts payable in connection with any of City's Surface Water.

(d) Subject to the express rights of City under this Agreement, City shall take no action that interferes with District's management of City's Surface Water as long as District provides the deliveries thereof in accordance with Section 5.

(e) District shall coordinate with City to define and identify uses of City's Surface Water that benefit City's water users and ratepayers. This coordination shall be performed as described in this subsection.

i. As frequently as appropriate and necessary, and at least annually, City and District shall confer to review available water supply information and data, including without limitation: precipitation, snow pack, and runoff conditions; water storage conditions; relevant environmental programs and projects; forecasted Municipal, Industrial and Domestic Uses; surface water delivery priorities for City; forecasted groundwater pumping required to meet City's forecasted Municipal, Industrial and Domestic Uses; and other pertinent information and data related to water supply availability and water demands for the relevant Water Year(s). City and District shall also confer regarding the anticipated availability of City's Friant Supply, if any, for Transfers.

ii. City will be responsible for providing periodic updates to the City Council and City administration. At least annually, City staff shall provide an informational workshop to the City Council, summarizing ongoing water supply conditions, the implementation of this Agreement and fulfillment of the water supply goals as listed in 4(f), as well as any anticipated water supply issues of concern for the relevant Water Year(s). District shall make reasonable efforts to coordinate with City staff to provide any data, information, and materials required for this annual informational workshop to the City Council.

iii. It is understood that during any given Water Year it may be necessary to adjust the water supply planning forecast established pursuant to the above described process as water supply availability and demands change, and additional information and data are obtained, reviewed, and assessed. City and District shall employ reasonable efforts to meet and confer as necessary to keep each party informed to the extent water supply conditions and plans may change through the relevant Water Year. City shall be responsible for providing informational updates to the City administration to the extent there are material changes to the water supply conditions in any given Water Year.

(f) District's management of City's Surface Water shall at all times be in furtherance of one or more of the following water supply goals:

i. Providing continuous year around water supply to City's SWTFs;

ii. Improving the water supply reliability and drought-resiliency for City;

iii. Improving the operation and utilization of City-owned recharge basins;

iv. Implementing conjunctive-use water management strategies to comply with the SGMA that directly benefit City's water users and ratepayers and indirectly benefit groundwater users in the North Kings Subbasin.

(g) Included as a part of the management of City's Surface Water as described above, District shall diligently pursue Transfers of any of City's Friant Supply that City advises District that City will not require during a particular Water Year ("Temporarily Unused Friant Water").

i. Upon identifying a potential Transfer opportunity, and prior to executing the Transfer, District shall notify City of the potential Transfer opportunity, and the water quantity, unit price, delivery dates and terms, and any other material matters associated with the Transfer. This is a notification procedure and not an approval procedure.

ii. All Transfers of Temporarily Unused Friant Water pursued by District shall be in full conformance with City's water supply goals as described in Section 4(f) or otherwise agreed by City and District, and shall be limited to supporting Agricultural Use rather than urban growth or development in other jurisdictions.

iii. City shall not be prohibited from unilaterally pursuing Transfers of Temporarily Unused Friant Water; provided, that any such Transfers shall first be discussed and coordinated with District before they are implemented and shall not be undertaken over District's reasonable objection and the benefits of any such Transfer shall be allocated in accordance with subsections (h), (i) and (j) below.

iv. For avoidance of doubt, District's obligations under this Section 4(g) are limited to making reasonable and diligent efforts to pursue Transfers of Temporarily Unused Friant Water, and City acknowledges that no assurances can be provided by District that such Transfers can be made or arranged.

(h) The benefits resulting from Transfers shall be allocated in accordance with this subsection. For purposes of this Section 4, "benefits" of a Transfer include, without limitation:

i. The difference between all costs incurred in connection with a Transfer and the amount(s) received as a result of the Transfer,

ii. Water returned as a result of a Transfer, and

iii. Water supply storage or conveyance capacities made available as a result of a Transfer.

To the extent benefits include payments, City shall be reimbursed for its actual and reasonable out of pocket expenses incurred for City's Friant Supply involved in the Transfer,

and each of the parties shall next be reimbursed for any actual and reasonable out of pocket expenses incurred in connection with the Transfer. The net revenue associated with a Transfer shall be the revenue remaining after all parties have been reimbursed their actual and reasonable expenses incurred for the Transfer.

(i) To the extent benefits of a Transfer consist of water supplies, water supply storage or conveyance capacities, the allocation of such benefits as between the parties shall be negotiated by the parties before the Transfer is implemented. In the event the parties cannot negotiate such allocation, the Transfer shall not be pursued.

(j) For each Transfer that generates net revenue, City and District agree that the net revenue shall be distributed and used as follows:

i. 25-percent of the net revenue shall be deposited with City's water enterprise fund;

ii. 25-percent of the net revenue shall be deposited with District for the inspection, operations, maintenance and repair of the District's Conveyance System, which City acknowledges provides a benefit to City ratepayers;

iii. 50-percent off the net revenue shall be deposited into a Water Supply Development Fund to be used to finance water supply development programs and projects that mutually-benefit City and District.

The Water Supply Development Fund shall be a restricted-use fund to be used exclusively for water supply programs and projects that improve water supply availability, reliability and drought resiliency for both District and City. Programs and projects that may be financed from the Water Supply Development Fund include, but are not limited to, water supply purchases, transfers, and exchanges; groundwater storage; and groundwater recharge. Expenditures for water supply purchases, transfers, and exchanges may include any carryover charges and conveyance charges that may be assessed by the State of California, the United States, or other agency, to store, transport and deliver surface water, for the mutual benefit of City and District, using state or federal storage and conveyance facilities.

The Water Supply Development Fund may receive contributions from City, District, and other public agencies approved by both City and District. The Water Supply Development Fund may not receive contributions from private persons, companies, businesses, or organizations.

Prior to encumbering funds from the Water Supply Development Fund, District and City shall mutually agree in writing on the recommended expenditure and the amount to be financed with the Water Supply Development Fund.

District shall serve as the fiscal agent for the Water Supply Development Fund and implement generally accepted public agency or governmental accounting practices in managing the fund assets. District shall subject the fund to an annual audit by independent auditors during the course of District's annual audit of its financial statements. The audit shall

be conducted in accordance with the generally accepted auditing standards by the independent certified public accountant auditing District's financial statements. Upon presentation of District's comprehensive audit report to the District Board of Directors, District shall provide City with a copy of District's audit report. At any time during the term of this Agreement, City may, at its own cost, request to review and audit the financial and accounting records associated with the Water Supply Development Fund. District shall have 30 working days to submit the requested records to City for review and audit.

In the event this Agreement terminates and uncommitted amounts remain in the Water Supply Development Fund, one half of all such amounts shall be promptly distributed free of any restrictions to each of the parties.

(k) By the 25th day of each month, District shall provide City with a written summary of District's utilization of City's Friant Supply for the previous month in substantially the form attached hereto as **Exhibit A**. The written summary will identify water volumes delivered to recharge basins, surface water treatment facilities, other Points of Delivery designated by City, and Transfers. The written summary may be delivered to City by email, facsimile or U.S. mail. For Transfers, the monthly report shall include information regarding the parties involved in the Transfer, the water quantity, unit price, delivery dates and terms, and any other material matters associated with the Transfer.

5. Water Made Available to City.

(a) Subject to all other provisions of this Agreement, District shall deliver to City during each applicable Water Year, for distribution and use by City within City's Water Service Area, each day of each year on a continuous basis in accordance with Section 8 of this Agreement, the City's Surface Water available during relevant Water Year(s) that can be diverted by District at the headworks of the Gould Canal, the Fresno Canal or the Friant-Kern Canal Raw Water Pipeline. City acknowledges that the water delivered may not be City's Surface Water, but rather other water controlled by District in the District Water System of similar quality and equal quantity, including without limitation water recovered from water banks, other water for which City's Surface Water is exchanged, and/or water purchased by District for delivery to City at District's cost, and that references in this Agreement to deliveries of City's Surface Water shall include deliveries thereof of a substitute supply by means of one or more exchanges, transfers, purchases or combinations thereof. At all times, District shall have the right to exchange and to convey for City in place thereof other water of similar quality and equal quantity (except sewer effluent or industrial wastes) available to District.

(b) City's Surface Water shall be deemed delivered to City when it reaches the Point of Delivery specified in the applicable schedule provided and approved under Section 8 of this Agreement, provided that for deliveries made via the District Water System, District shall thereafter convey such water to the points on the District Water System where City will assume physical control of the delivered water.

(c) The parties acknowledge that there may be times when the City Water System is undergoing routine or emergency repairs and maintenance, or subject to other conditions, that preclude City from accepting deliveries under this Agreement. Similarly, the parties

acknowledge that there may be times when the District Water System is undergoing routine or emergency repairs and maintenance, or subject to other conditions, that preclude District from delivering water to City under this Agreement. The parties shall cooperate with the other to minimize the impacts of such events, but neither shall be in breach of this Agreement as a result thereof.

(d) Water delivered to City under this Agreement shall be used by City within City's Water Service Area only for Municipal, Industrial and Domestic Uses, Agricultural Uses incidental thereto, and within the boundaries of District for recharge of the underground water supply by percolation.

City shall not sell, transfer, deliver or exchange any surface water or groundwater to or with any other person or entity without written consent of District first had and obtained.

However, this provision shall not prevent City from entering into separate agreements with any other entity which may have a similar agreement with District for the distribution and use of water received from District under such agreements, provided such separate agreements are entered into with the written consent of District first had and obtained and are subject to all the terms and conditions of this Agreement and District's agreements with such other entities.

(e) District has entered into this Agreement with the understanding that it is, and will continue to be, City's policy to (i) require urban growth to occur sequentially in designated growth areas around City, (ii) promote infill development with City's existing boundaries and (iii) facilitate the successful implementation of SGMA within the groundwater basin shared by City and District by conditioning land use and annexation decisions on the existence of an available water supply to support new development in annexed areas. Consistent with that understanding, for the term of this Agreement, as a condition of the provision of City water service, City shall require the proponent of any proposed development project located outside of City's Water Service Area boundary as of the date of this Agreement to:

i. Define the peak water demands, plus fire protection demands, required to meet the total water supply demands of the entire project at build-out conditions;

ii. Obtain a perpetual surface water supply allocation, right, entitlement or similar from District, or other surface water supply agency, to meet the peak water demands, plus fire protection demands, at build out conditions; and

iii. Dedicate, transfer or assign the perpetual surface water supply allocation, right, entitlement or similar to City.

Once the perpetual water supply has been dedicated, transferred, or assigned to City, the water supply shall be incorporated into City's Surface Water managed by District for City under this Agreement.

In addition, to improve, restore, and maintain the availability, reliability, and drought resiliency of the groundwater and surface water resources in the North Kings Subbasin,

City and District shall jointly advocate that all public water supply systems in the North Kings Subbasin should require the proponents of new development projects to obtain perpetual surface water supply rights, allocations, entitlements, and similar, in sufficient quantity, to meet the all demands at full build out.

(f) In furtherance of the parties' goals under this Agreement, City shall utilize City's Friant Supply to provide water to the City's SWTF served by the South Raw Water Pipeline (as defined below) for the purpose of serving the Excluded Area.

6. Raw Water Pipelines. As soon as reasonably practicable, City shall construct, at its sole cost and expense, two raw water pipelines to serve City's SWTFs (the "Raw Water Pipelines"). One Raw Water Pipeline shall be a direct connection from the Friant-Kern Canal to City's SWTF located at Mile Point 7.58 (the "Friant-Kern Canal Raw Water Pipeline"). The other Raw Water Pipeline shall be a direct connection from the Fresno Canal downstream of the headworks for such canal to City's SWTF located at Trimmer Spring Road (the "South Raw Water Pipeline"). City's T3 SWTF shall continue to be served by the Enterprise and Jefferson Canals that are a part of the District Water System. Once operational, the Raw Water Pipelines shall be used to convey portions of City's Surface Water directly to the SWTFs, and all costs of the operation, maintenance, repair and replacement of the Raw Water Pipelines shall be borne by City; provided, that District shall be entitled to utilize for its own purposes any capacity in the Raw Water Pipelines not required to deliver City's Surface Water, and District shall reimburse City upon demand for any operational costs incurred as a result of District's use of the Raw Water Pipelines. Any third-party property damages resulting from City's efforts and activities related to the operation, maintenance, repair, and replacement of the Raw Water Pipelines shall be received and processed by City in accordance with City's Risk Management policies and procedures.

7. City's Friant Supply. While this Agreement is in effect, City (i) shall not convey any interest in the City Bureau Contract to any party other than District, (ii) shall at all times maintain the City Bureau Contract in effect and (ii) shall not voluntarily decrease the quantity of City's Friant Supply to be made available to City thereunder without the written consent of District. City will use every effort to obtain its maximum entitlement to City's Friant Supply annually as it may become available, and will seek to maximize any other surface water opportunities that may be available to City via the Friant Division of the Central Valley Project. Nothing in this Agreement conveys any ownership interest in the City Bureau Contract to District, which shall at all times remain the sole property of City, nor does this Agreement convey any interest in the District Bureau Contract to City, which shall at all times remain the sole property of District.

8. Schedules of Delivery and Conveyance of Water.

(a) District shall deliver City's Surface Water to City in accordance with schedules provided from time to time by City for approval by District, which approval shall not be unreasonably withheld, delayed or conditioned. Such schedules shall set forth the amounts of water desired by City, the desired timing of deliveries, the facilities by which such water is to be delivered, and the point(s) on the District Water System where City will assume physical control of the delivered water. Deliveries of water by District will take into consideration all relevant

factors, including without limitation (i) the capacity and condition the applicable portions of the District Water System, (ii) City's Bureau Contract, (iii) the District Bureau Contract, (iv) the Kings River Agreements, (v) actual and anticipated water supply conditions, (vi) the requirements of other contracts between the District and third parties (including without limitation the City of Clovis and Fresno County Waterworks District No. 19) and (vii) all other factors pertaining to the distribution, apportionment and use of water available to District.

(b) All schedules submitted by City during each Water Year shall provide for the delivery during that Water Year of all of City's Surface Water that becomes available to City during that Water Year. Notwithstanding the foregoing, City may schedule up to 10,000 acre feet of City's Surface Water that becomes available to City during one Water Year for delivery in the succeeding Water Year ("Rescheduled Water"). City shall timely pay in full all costs imposed by third parties, including without limitation the United States Bureau of Reclamation, as the result of any Rescheduled Water requests or deliveries.

9. Conveyance Losses. City shall bear all losses incurred in the District Water System downstream of the applicable Point of Delivery; provided, that no such losses shall be assessed against City when District is delivering irrigation water to its landowners or water users via the portions of the District Water System used to convey City's Surface Water to the points on the District Water System where City will assume physical control of the delivered water. Conveyance losses chargeable to City shall be computed by multiplying the losses in that portion of any canal used for conveyance of City's Surface Water during the period such water is being so conveyed by the total amount of water being conveyed for City in that canal during such time, divided by the total amount of water flowing in that portion of that canal during the same period.

10. Use by District of Water Not Used by City.

(a) Except for Rescheduled Water, in the event City is unable to use or does not use any of City's Kings River Supply in any Water Year, City shall lose the right to receive such water, and District shall have the right to take and use such water for Agricultural Use in such manner as it may determine.

(b) Except for Rescheduled Water, in the event City is unable to use or does not use any part of City's Friant Supply and District reasonably concludes that it cannot effect a Transfer for all of such unused water as Temporarily Unused Friant Water as described in Section 4(g), City shall nevertheless take and pay for such unused water and District shall have the right to use such water for Agricultural Use, but City may require District to so use such water at such locations as City may direct; provided, however, in the event City does not direct the location at which said water shall be used in time that it may be so used or in the event the District Water System will not permit the conveyance of such water to such location when so directed, or if for any other reason the conveyance of such water to such location at that time is not feasible or practicable, District shall have the right to use such water upon the same conditions as are provided in Section 10(a). Such use of any such water by District shall not relieve City from any payments required to be made by it under the City Bureau Contract or under the terms of this Agreement and its use by District shall not require any payment from District to City.

(c) Except for Rescheduled Water, in the event City is unable to use or does not use any of City's Surface Water that is neither City's Kings River Supply or City's Friant Supply in any Water Year, City shall lose the right to receive such water, and District shall have the right to take and use such water for Agricultural Use in such manner as it may determine. In such event, insofar as the District Water System will permit, and insofar as otherwise may be practicable and equitable as to other landowners, District will use such water for irrigation or percolation in areas in City or east or northeast of City, and will discuss its use with City before it is used elsewhere. However, the ultimate decision concerning such use of such water shall be within the discretion of District.

11. Water Rights Not Transferred. As was the case under the 1976 Agreement, City acknowledges that its rights to City's Kings River Supply under this Agreement are contractual rights and not water rights. Nothing in this Agreement authorizes or shall be construed or deemed to constitute the sale or transfer of a water right from either party to the other and nothing in this Agreement shall constitute the dedication by either party of water or storage to a public use. No right in any water, storage right or water right owned by District or City shall be acquired or lost by virtue of this Agreement or the actions contemplated hereby. At no time shall City make any claim, assert any right or otherwise seek, confirm or perfect in any forum any legal or beneficial interest, right or title to any of District's water supply or storage rights except as expressly set forth herein.

12. City's Sewage Effluent. City shall retain its sewage effluent and recycled water within the boundaries of District for the term of this Agreement, except with the written consent of District first had and obtained. It is the intent of City and District to develop and execute a new agreement addressing such effluent and recycled water use, and this Agreement is to be interpreted so as to be consistent with such new agreement if and when it is executed by the parties.

13. Acreages and City's Kings River Supply.

(a) City's Water Service Area consists of Included Acres and Excluded Acres, and on an annual basis City and District shall prepare a map showing the total number of acres in each area as of the first day of March of each year. When so approved, said map shall be incorporated herein by reference as **Exhibit B** and shall become a part hereof. Said map shall be amended and reapproved by both parties as of the first day of March each year and added to this Agreement as an updated **Exhibit B**. However, City shall keep the District currently advised during the year of any new lands outside of City's Water Service Area to which it commences or consents to deliver water, and District shall keep City so advised as to any new lands designated or assessed by it as lands receiving or to receive District Water Service. When so amended and reapproved as of the first day of March of each year, said map shall conclusively establish the boundaries of and the acreage in each area for all purposes of this Agreement.

(b) City's Kings River Supply shall be the herein-contracted for percentage of District's Kings River Water Supply. Such percentage shall be based on the ratio of Included Acres within City's Water Service Area to the total acres within District's boundaries. In computing the acreage within the Included Acres, the entire acreage shall be measured including properties that may be exempt from assessment for taxation and including adjacent streets,

alleys, roads, highways and other public ways to the center lines thereof. As of the execution of Agreement, and based on the land area sizes defined above, City's Kings River Supply is 25.54 percent of the District's Kings River Supply.

(c) Notwithstanding any other provision of this Agreement, and notwithstanding increases in the Included Acres, City's Kings River Supply shall be limited to 29.00 percent of District's Kings River Supply. At such time when the ratio of Included Acres within City's Water Service Area to the total acres within District equals 29.00 percent, City's Kings River Supply shall remain fixed at 29.00 percent. City and District mutually agree that the increase percentages reflected in this Section 13 include allowances for moderate growth in Growth Area 1 of City's Sphere of Influence as shown in **Exhibit C** (as depicted as Figure IM-2 of the Fresno General Plan).

(d) To improve, restore, and maintain the availability, reliability, and drought resiliency of the groundwater and surface water resources in the North Kings Subbasin, District shall support, and to the extent it has the legal authority to do so shall require, the establishment of water supply limits on all municipal water systems in the North Kings Subbasin.

District acknowledges that it may enter into surface water utilization and conveyance agreements similar to this one with other municipalities in the Kings Subbasin that provide for the delivery of portions of District's Kings River Supply. Subject to the following paragraph of this Agreement, all such agreements entered into after the date of this Agreement shall provide that the percentage of District's Kings River Supply made available to the municipality entering into such agreement shall be determined in a manner similar and comparable to that applied to City in this Agreement.

Should the District enter into such a water utilization and conveyance agreement with another municipality in the Kings River Subbasin after the date of this Agreement that makes available a percentage of District's Kings River Supply to such municipality determined in a manner that is not similar and comparable to that applied to City in this Agreement, at City's request the parties shall negotiate in good faith an adjustment in City's Kings River Supply to apply the same methodology used, and provide the same percentage increase, as granted to the other municipality; provided, that to the extent such other municipality provides additional consideration to District for such different methodology, City shall provide comparable consideration if it requests that such different methodology be used for this Agreement. Any disputes arising as a result of such negotiation shall be resolved pursuant to Section 19.

14. Payment by City to District. In consideration of the water supplies and services provided by District to City under this Agreement, City shall pay to District each Water Year in which this Agreement is effective the following:

(a) The sum calculated by multiplying the number of Included Acres by the per acre assessment imposed as of March 1 of that Water Year on lands in District receiving District Water Service, plus the sum calculated by multiplying the number of Excluded Acres by the per acre assessment imposed as of March 1 of that Water Year on lands in District not receiving District Water Service. Amounts payable to District pursuant to this Section 14(a) shall be paid by City 60% on or before the 20th day of December preceding the Water Year for which such

amounts are due, and the remaining 40% shall be paid on or before the 20th day of June of the following Water Year. City and District acknowledge that during the term of this Agreement, District may convert its rate structure to include a volumetric charge. Concurrently with such a rate structure modification, the parties shall negotiate modifications to this Section 14 so that charges imposed on City under the revised District rate structure are equitable and comparable in proportion and magnitude to the charges imposed on other District customers receiving water for Agricultural Use. Without limiting the foregoing, any volumetric charges imposed on City shall be determined in the same manner as volumetric charges imposed on other District customers receiving water for Agricultural Use.

(b) An out of season water delivery fee determined in accordance with the procedure described in the attached **Exhibit D** for each acre foot of water delivered to City under this Agreement as an Out of Season Delivery (the "Water Delivery Fee"). The Water Delivery Fee shall be payable within 30 days after District delivers City an invoice for such fee indicating the amount of water delivered during the invoice period and the total Water Delivery Fee due. City acknowledges that such fee is in part to compensate District for additional costs and risks incurred for operating its system to make Out of Season Deliveries. No such fee shall be due for water deliveries to City under this Agreement that are not Out of Season Deliveries.

(c) A rescheduling fee for each acre foot of Rescheduled Water determined in accordance with the procedure described in the attached **Exhibit E** (the "Rescheduling Fee"). The Rescheduling Fee shall be payable annually after March 1 of each Water Year within 30 days after District delivers City an invoice for such fee indicating the amount of Rescheduled Water for the applicable Water Year and the total Rescheduling Fee due. City acknowledges that the Rescheduling Fee is necessary to compensate District for additional costs and risks incurred to reschedule water for City from one Water Year to the succeeding Water Year. The Rescheduled Water Fee shall not be applied to any of City's Friant Supply carried over in Millerton Lake, as the Bureau has established a separate fee schedule for City to reschedule City's Friant Water Supply from one Water Year to the succeeding Water Year.

(d) While this Agreement is in effect, District shall not impose District assessments or other charges on landowners within City's Water Service Area or adopt special "municipal and industrial" assessments, rates or charges that would be imposed on or as a result of water deliveries to City under this Agreement. Only the amounts described in this Agreement shall be imposed on any party as a result of deliveries of City's Surface Water by District to City.

(e) Time shall be of the essence for the making of the payments described in this Section 14. If any such payment is not made on the date provided, City shall pay to District in addition to said payment costs, penalties and interest equal to those provided by law to be paid by landowners within District for the late payment of assessments. Such costs, penalties and interest are in addition to any other remedy which District may have against City because of City's failure to pay said payment as above provided.

(f) City acknowledges and agrees that the amounts payable by City pursuant to this Section 14 will vary from year to year and may increase over time. City further acknowledges that, while some of such amounts will be determined with reference to District assessments on its landowners, no amounts payable by City under this Agreement are assessments on City's

landowners. City further agrees that, as they relate to City, such amounts will be imposed as a matter of contract and are not assessments, fees or charges to which Article XIIID of the California Constitution applies. City shall be permitted to participate in public hearings and meetings held in connection with rate-setting, but City shall not assert that Article XIIID of the California Constitution applies to payments required under this Agreement. If City makes such an assertion, this Agreement may be terminated by District in its entirety as of the last day of February of the next succeeding year by written notice served upon City. City shall be responsible to set its rates to its utility users in accordance with applicable law, and shall indemnify and defend District against any claims or legal actions commenced by City's water users or ratepayers to challenge the amounts payable by or to City.

15. Re-negotiations. City and District acknowledge that changed circumstances in the future may:

i. Result in material changes in the size of City's Water Service Area, the number of Excluded Acres and/or the number of Included Acres, and/or

ii. Render the amount of City's Kings River Supply as an increasing percentage of District's Kings River Water Supply inequitable.

Such changed circumstances could result from, among other causes:

i. Annexations or detachments from City and/or District;

ii. Updates in City's Urban Water Management Plan or the Fresno General Plan;

iii. Significant regional economic development projects that require the extension of the City Water System outside of City's Water Service Area. Significant regional economic development projects shall be those that qualify for federal, state, county, or local economic development incentives; or

iv. New legal, regulatory, or environmental requirements placed on water supply agencies by a state or federal government agency.

Should either party to this Agreement determine after January 1, 2036 that such changed circumstances have arisen, it may notify the other of such determination and request that the parties meet to discuss mutually acceptable changes in the number of Excluded Acres, the number of Included Acres and/or the percentage used to determine City's Kings River Supply. Neither party shall be required to engage in such discussions prior to January 1, 2036.

The parties shall thereupon meet in good faith in an attempt to reach agreement on such changes; provided, that if no such agreement is reached within 180 days of the initial meeting, neither party shall be obligated to continue such meetings.

The number of Excluded Acres, the number of Included Acres and City's Kings River Supply shall remain unchanged pending agreement on the changes, and therein documented by a written amendment to this Agreement and executed by both parties.

16. Protection of District Facilities. City shall not permit the development of any parcel of land or the use of any public utility or other easements affecting land within its boundaries if any of the District Water System is located on, under or adjacent to such parcel until City, the landowner and/or the developer enters into an agreement acceptable to District for the repair, rehabilitation, relocation, replacement, reconfiguration or pipelining of the facilities on the parcel, and on any adjacent parcels, all as District determines is necessary or appropriate in order to (i) avoid disruption of District operations or maintenance activities as a result of the development, (ii) make District facilities suitable for operation within a developed area, or (iii) address public safety concerns.

17. No Warranty of Quality. City recognizes that City's Surface Water will be "raw," non-potable and untreated, and that the amount of water included in City's Surface Water will vary from year to year due to a variety of factors beyond the control of District. City further recognizes that wastewater (both treated and untreated) and drainage water are sometimes discharged into the District's canals, and that such discharges from a number or sources will occur and/or continue during the term of this Agreement. Accordingly, except as expressly set forth in this Agreement, District makes no representations or warranties regarding the quality of the water or the amount of water to be delivered to City each Water Year. City recognizes that the treatment of City's Surface Water to make it potable shall be the sole responsibility of City, and City shall assume all risk and responsibility therefor. The character or quality of the water furnished or conveyed hereunder may vary from time to time for reasons including, but not restricted to, the application by District of chemicals to control aquatic and ditch bank weeds, and the open canals of District are always subject to possible pollution from outside sources. District does not guarantee in any respect or assume any responsibility for the chemical, bacterial or other quality of the water made available to City through the District Water System.

18. Indemnity. City and District each agree to indemnify the other and save the other free and harmless of and from any and all liability, damage, loss, cost or expense, incurred or suffered by the other, by reason of damage to the property of the other or injury to any other person or property arising out of its own conduct, acts, omissions or faults, in connection with any matter related to this contract.

19. Dispute Resolution.

(a) District and City staff shall exercise every effort to resolve disputes through the development of a consensus.

(b) To the extent District and City staff cannot promptly resolve an issue in dispute; the parties shall promptly convene a meeting of senior party representatives to attempt to resolve the dispute. Either party may request a dispute resolution meeting pursuant to this section by providing written notice to the other party, including a summary of the issue in dispute. District representatives shall be its Board chair or president and another Board member. City representatives shall be the Mayor and City Council President. These senior party representatives shall make reasonable efforts to meet as frequently and as promptly as possible to negotiate the terms and conditions of a resolution. If these party representatives are unable to resolve the dispute through this informal process within a reasonable period, either party may pursue any remedy it may have under law or equity.

(c) The dispute resolution process described above shall be limited to material disputes regarding matters related to Transfers, expenditures from the Water Supply Development Fund, changes in City's Kings River Supply, revisions of this Agreement pursuant to Section 13(d), City's Friant Supply, changes proposed for **Exhibits B or C**, calculation procedures for fees for Out Of Season Deliveries and Rescheduling Fees, and similar matters.

(d) In cases where a dispute arises between the parties that, if unresolved, may result in imminent danger to the public, health, safety or welfare, the parties shall not be obligated to engage in dispute resolution pursuant to this Section 19.

20. Defense of Agreement. In the event of litigation this Agreement, the parties shall cooperate to provide a joint defense of the litigation. Each party shall bear its own costs of such litigation, including attorneys' fees and expert witness fees.

21. No New Agency. This Agreement is not intended to create a new joint powers authority or other entity. Each party shall conduct itself under this Agreement in good faith, using its diligent best efforts to comply with this Agreement and to achieve the objectives of the parties set forth herein. Each party shall make its personnel and resources reasonably available as required to achieve the purposes of this Agreement.

22. Approvals. Except as expressly provided in this Agreement, compliance with all legal/regulatory requirements and governmental or other third party restrictions on the use or delivery of City's Surface Water to it City water users shall be the responsibility of City. District shall be excused from delivering any water supply under this Agreement if, by so doing, District would become subject to additional legal requirements or third party restrictions imposed on deliveries of water to City's water users.

23. Entire Agreement. This Agreement and each of the exhibits referred to herein, which are incorporated by this reference, constitute the entire agreement between the parties pertaining to the subject matter hereof and supersede all prior and contemporaneous agreements and/or obligations concerning these obligations which are merged into this Agreement. Each party has made its own independent investigation of the matters settled and is not relying upon any representation not specified herein.

24. Applicable Law. This Agreement shall be construed under and shall be governed by the laws of the State of California. Any action to interpret or enforce any aspect of this Agreement shall be brought in the California Superior Court of Fresno County, California. City and District hereby expressly waive any right to remove any action to a county other than Fresno County as permitted pursuant to California Code of Civil Procedure Section 394.

25. Construction of Agreement. This Agreement is the product of negotiation and preparation by and among each party hereto and its attorneys, and the parties agree that this Agreement shall not be deemed to have been prepared or drafted by any one party. Accordingly, the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Agreement.

26. Modification of Agreement. No supplement, modification, waiver, or amendment with respect to this Agreement shall be binding unless executed in writing by the party against whom enforcement of such supplement, modification, waiver or amendment is sought.

27. Counterparts. This Agreement may be signed in any number of counterparts by the parties, each of which shall be deemed to be an original, and all of which together shall be deemed one and the same instrument. Facsimile or other electronic signatures shall be binding.

28. Further Acts. The parties shall reasonably cooperate with each and take such further actions as may be necessary, including the execution of all necessary further documents, to carry out the purpose and intent of this Agreement. Each of the parties shall diligently and in good faith proceed to negotiate such other agreements as may be necessary to implement this Agreement.

29. Binding Effect. This Agreement shall be of binding legal effect only when it has been executed by all of the parties. No rights or duties under this Agreement may be assigned or delegated by a party without the express written consent of the other party, which may be withheld in the sole and absolute discretion of such other party. Subject to the foregoing, this Agreement shall be binding upon and inure to the benefit of the successors and assigns of the parties.

30. Notice to Parties. Any notice or other communication given under the terms of this Agreement shall be in writing and shall be given personally, by facsimile or by certified mail, postage prepaid and return receipt requested. Any notice shall be delivered or addressed to the parties at the addresses or facsimile numbers set forth below or at such other address or facsimile numbers as shall be designated by notice in writing in accordance with the terms of this Agreement. The date of receipt of the notice shall be the date of actual personal service or facsimile transmission with written confirmation of successful transmission, or three days after the postmark on certified mail. All notices required under or regarding this Agreement shall be made in writing addressed as follows:

Fresno Irrigation District 2907 S Maple Avenue Fresno, CA 93725 Attn: General Manager Facsimile No.: 559-233-8227	City of Fresno 2600 Fresno Street Fresno, CA, 93721 Attn: Director of Public Utilities Facsimile No.: 559-498-1304

31. Attorneys' Fees. In the event of any action or arbitration between the parties seeking enforcement or interpretation of any of the terms and conditions of this Agreement, the prevailing party in such action shall be awarded, in addition to damages, injunctive or other relief, its reasonable costs and expenses, including, but not limited to, taxable costs and reasonable attorneys' fees.

32. Cumulative Rights; Waiver. No failure by any party to exercise, and no delay in exercising any rights, shall be construed or deemed to be a waiver thereof, nor shall any single or partial exercise by any party preclude any other or future exercise thereof or the exercise of any other right. Any waiver of any provision or of any breach of any provision of this Agreement

must be in writing, and any waiver by a party of any breach of any provision of this Agreement shall not operate as or be construed to be a waiver of any other breach of that provision or of any breach of any other provision of this Agreement.

33. Severability. Subject to the parties' rights under Section 2 of this Agreement, if any provision of this Agreement is determined by a court of competent jurisdiction to be invalid, illegal or unenforceable, such provision shall be automatically reformed so as to be valid, legal and enforceable to the maximum extent permitted and the balance of this Agreement shall remain in full force and effect notwithstanding such invalidity, illegality or unenforceability.

34. No Third Party Beneficiaries. This Agreement does not create, and shall not be construed to create, any rights enforceable by any person, partnership, corporation, joint venture, limited liability company, district or other form of organization or association of any kind that is not a party. Without limiting the generality of the foregoing, landowners, residents, water users and ratepayers of the parties are not intended to be third party beneficiaries of this Agreement.

35. Force Majeure. Notwithstanding any other provision of this Agreement, neither party shall be liable for any failure to perform resulting from any cause outside the reasonable control of that party. For purposes of this Agreement, routine and emergency repairs and maintenance of the District Water System shall be deemed causes outside of the reasonable control of District (including without limitation the annual shut down of the Enterprise Canal for maintenance), provided that District shall use reasonable efforts to schedule routine maintenance so as to avoid interference with deliveries of City's Surface Water.

//

IN WITNESS WHEREOF, the parties have executed this Agreement to be effective as of the date first above written.

"District"

The Fresno Irrigation District, a California irrigation district

By _____
Ryan Jacobsen, President

By _____
Gary R. Serrato, General Manager

ATTEST:

_____
Secretary

"City"

The City of Fresno, a municipal corporation

By: _____
Ashley Swearengin, Mayor

By _____
Bruce Rudd, City Manager

ATTEST:
Yvonne Spence, CMC
City Clerk

By: _____ 1/11/17
Deputy

APPROVED AS TO FORM:
City Attorney, Douglas Sloan

By: _____ 12/22/16
AMANDA FREEMAN, DEPUTY

ATTACHMENTS:

EXHIBITS

Exhibit A – Monthly Water Supply Utilization Report
Exhibit B – City Water Service Area Map
Exhibit C – Fresno General Plan Map
Exhibit D – Out of Season Delivery Cost Methodology
Exhibit E – Rescheduled Water Cost Methodology

EXHIBIT A

EXHIBIT A

CITY OF FRESNO FMFCD BASINS
MONTHLY REPORT (AC.FT.)
2015-2016

FMFCD BASINS IN FRESNO	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	YEAR TO DATE
Basin A													
Basin AB													
Basin AC													
Basin AD													
Basin AE													
Basin AF													
Basin AG													
Basin AH													
Basin AJ													
Basin AL													
Basin AO													
Basin AW2													
Basin AZ													
Basin BE													
Basin BF													
Basin BH													
Basin BM													
Basin BO													
Basin BQ													
Basin BU													
Basin BV													
Basin BW													
Basin BZ													
Basin CC													
Basin CL													
Basin CM													
Basin CN													
Basin CO2													
Basin CS													
Basin CW													
Basin CX													
Basin CY													
Basin CZ													
Basin DD													
Basin DH													
Basin EE													
Basin EF													
Basin EG													

CITY OF FRESNO FMFCD BASINS
MONTHLY REPORT (AC.FT.)
2015-2016

FMFCD BASINS IN FRESNO	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	YEAR TO DATE
Basin EL													
Basin EM													
Basin FF													
Basin GG													
Basin HH													
Basin II1													
Basin II2													
Basin J													
Basin JJ													
Basin K													
Basin KK													
Basin L													
Basin LL													
Basin MM													
Basin N													
Basin O													
Basin OO													
Basin P													
Basin R													
Basin RR1													
Basin RR2													
Basin RR3													
Basin S													
Basin T													
Basin TT													
Basin U													
Basin UU2													
Basin UU3													
Basin Y													
Basin Z													
Basin ZZ													
Fresno's FMFCD Total													

CITY OF FRESNO RECHARGE
MONTHLY REPORT (AC.FT.)
2015-2016

OTHER FRESNO RECHARGE	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	YEAR TO DATE
Leaky Acres													
Woodward Park													
Copper River Country Club													
Big Dry Detention													
Fancher Basin (South)													
Chestnut Ave. Basin													
North Central Basin													
Kearney Basin													
Big Dry Creek West of Winery Ave.													
Delivery System Recharge Fresno													
Copper River Country Club total is the amount exceeding the Phillips Ditch entitlement of 77 ac ft per month (during FID's irrigation season).													
Basin BF Water comes from Chestnut Ave. Basin													
Fresno's Total Recharge													
Fresno's SWTP N/E & T-3													
Fresno's Total Usage													

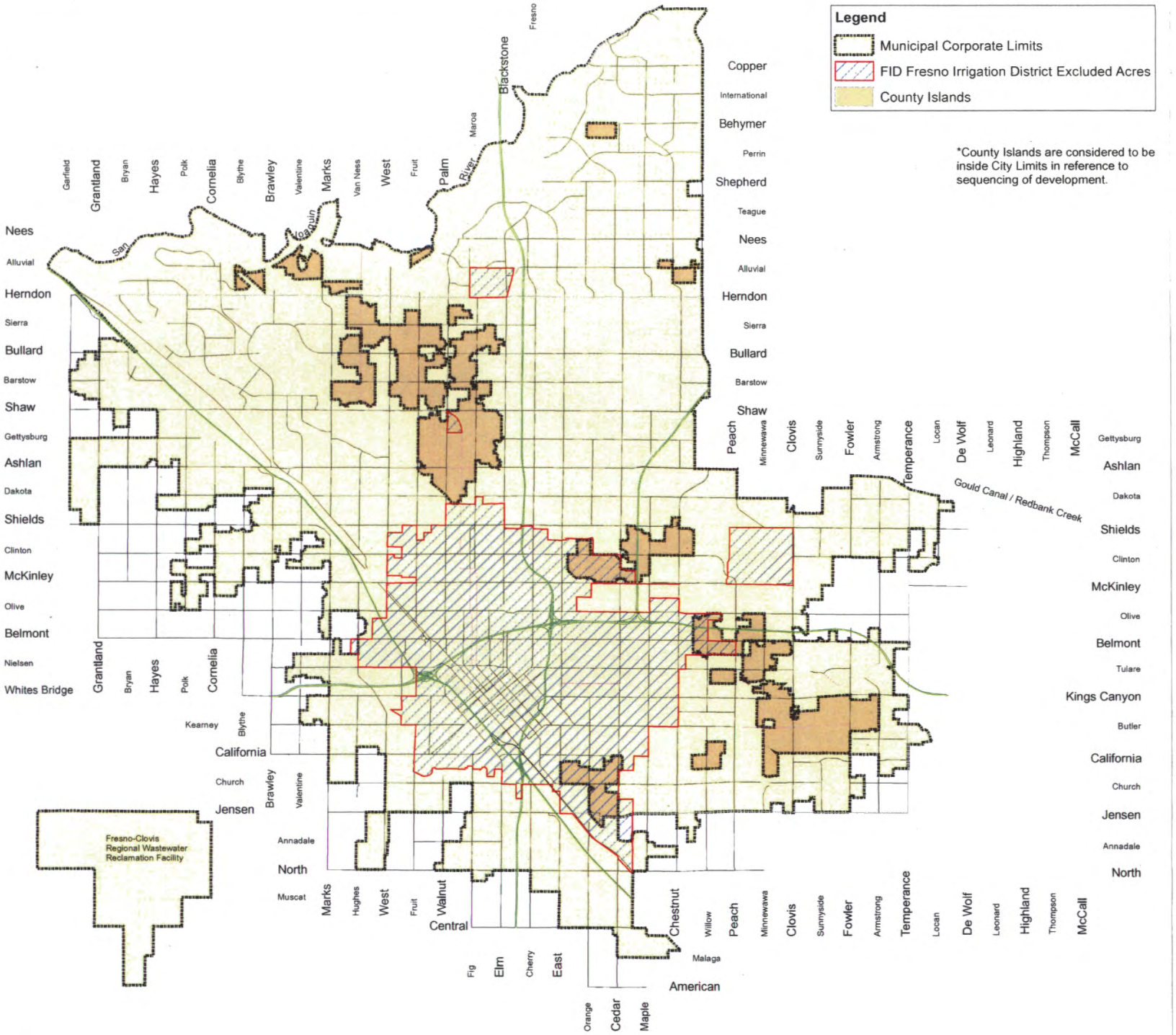
EXHIBIT B

City of Fresno
Water Service Area Boundary
Exhibit "B"
December 13, 2016

"The City's Water Service Area consists of Included Acres and Excluded Acres, and on an annual basis City and District shall revised this Exhibit B map to show the total number of acres in each area as of the first day of March of each year."



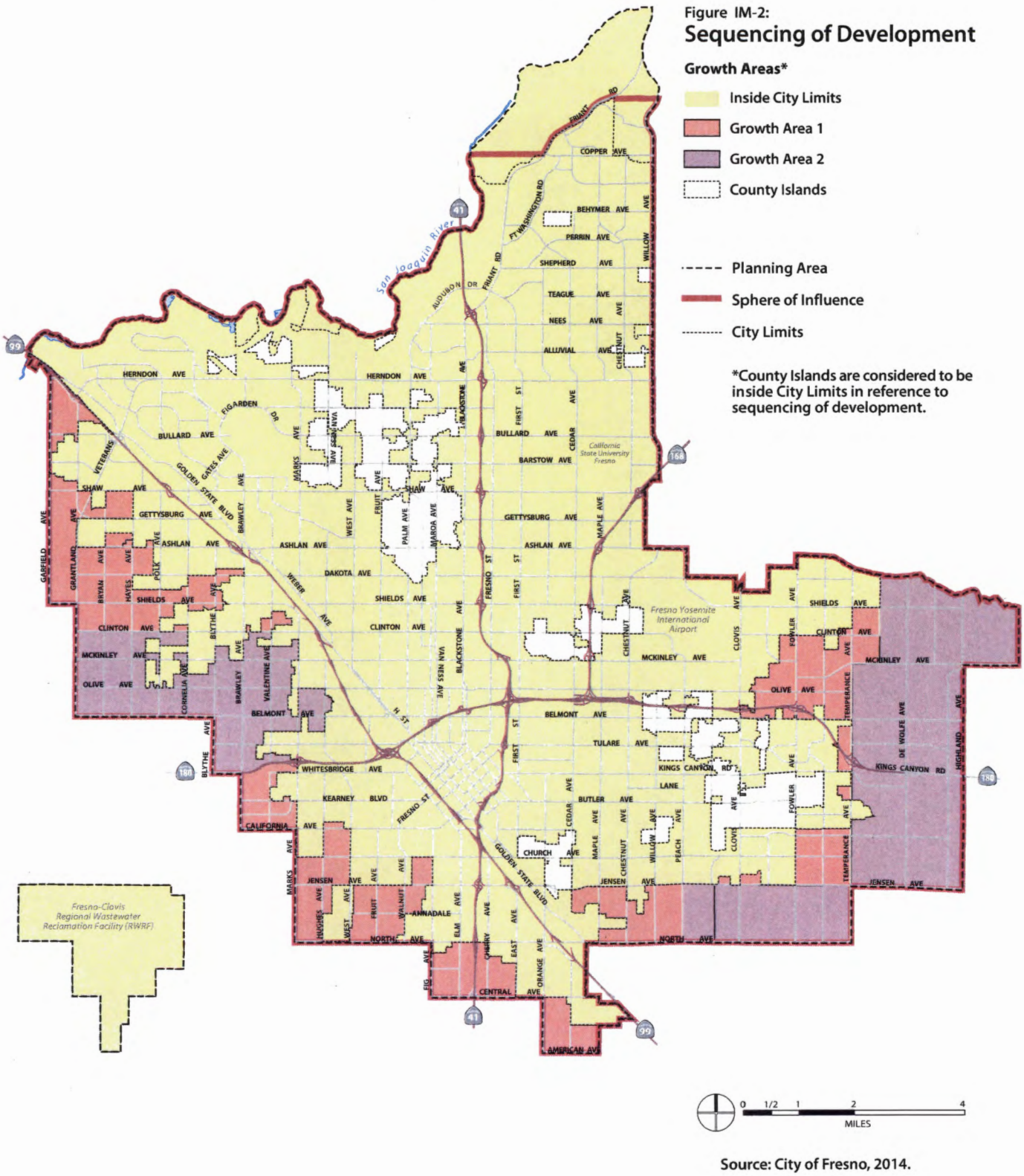
Miles
0 0.5 1 2 3



S:\USERS\PET\2016\Thomas Esqueda\Water Service Areas Map\Water Service Area Boundary Ex B Map.mxd

EXHIBIT C

EXHIBIT C



Source: City of Fresno, 2014.

EXHIBIT D

EXHIBIT D

The City will be responsible for paying the District for all costs associated with delivering water Out of Season Deliveries which will include but not limited to:

i. Staff time to deliver water (includes salary wage, labor burden and overhead.
ii. Cost to operate vehicles to operate and inspect the canal system.
iii. Power costs associated with running District's SCADA/Telemetry system, automated gate valves, flow meters, automated trash screens, etc.
iv. Repairs to the canals system which are caused by water running outside the normal irrigation season. Repairs may include but not limited to canal lining, gate replacement, structure replacement, earthwork (grading, dredging, etc.) weed treatment (aquatic or terrestrial), all-weather road maintenance, trash/debris removal, etc.

EXHIBIT E

EXHIBIT E

The Rescheduling Fee for each rescheduling request here under shall be equal to the last Friant carry over charge assessed for a water year prior to the date to the request.

47087

RECORDED IN OFFICIAL RECORDS OF FRESNO COUNTY, CALIFORNIA
AT 41 MIN. PAST 3 P.M.
JUN 24 1974
H. L. MASINI, County Recorder
FEE $

6316 PAGE 31

AGREEMENT BETWEEN FRESNO IRRIGATION DISTRICT AND CITY OF FRESNO FOR EXCHANGE OF RECYCLED WATER

This agreement entered into this 20th day of June 1974, by and between FRESNO IRRIGATION DISTRICT, a public corporation (herein called "District"), and the CITY OF FRESNO, a municipal corporation (herein called "City");

WITNESSETH:

WHEREAS, Fresno Irrigation District is the owner of water rights on the Kings River and a water distribution system for the distribution of irrigation waters for agricultural use within the District and has entered into contracts with the United States for an additional supply of water from the Friant-Kern Canal and for storage in Pine Flat Reservoir on the Kings River for the purpose of supplementing the water available for such use within the District; and

WHEREAS, the City of Fresno is located entirely within the exterior boundaries of the District and is the owner of a water distribution system used by City for delivering water to persons and lands both within and outside its City limits for municipal, industrial and domestic uses and is also the owner of a liquid waste treatment plant located within the District southwest of the city limits which is used for the treatment, percolation, purification, recycling and other disposition of liquid effluent from the City and intends to enlarge and improve said facilities and to produce by such treatment, percolation, purification and recycling, water which is of a quality suitable for agricultural use; and

WHEREAS, the entire area represented by the District and by the City is a water deficient area and the District is in need of additional waters for agricultural use and the City is in need of additional water for municipal, industrial and domestic uses; and

To be recorded without fee on behalf of Fresno Irrigation District. [illegible]

WHEREAS, the amount of water available to the District for agricultural use may be increased by the use of water recycled by the City as above described and the amount of water available to the City for use in its water distribution system for municipal, industrial and domestic uses may be increased by the exchange of such recycled water for the use by District of additional Kings River and/or Friant-Kern Canal water in that portion of the District northeast of the City; and

WHEREAS, City is desirous of maintaining a water level under its liquid waste treatment plant that will provide for maximum efficiency in the operation of its said plant; and

WHEREAS, a greater beneficial use and more economical utilization of all of the waters available to both the District and to the City can be obtained by the use of such waters as herein provided and both parties believe it is in the best interests of all the landowners and inhabitants within the District and within the City to enter into such an agreement;

NOW, THEREFORE, it is mutually agreed as follows:

1. Approval by United States and State Water Quality Board. Immediately upon the approval of this contract by the parties hereto, it shall be presented to the United States, and also to the California Regional Water Quality Control Board, or its successor agency, for their approval and shall not become effective for any purpose until such approval has been obtained.

This contract shall be at all times subject to all of the terms and conditions of the City Bureau Contract, the District Bureau Contracts and the District Kings River Intra-Association Agreements and to the extent that any agreement contained herein is contrary to or inconsistent with any term or condition of those contracts or agreements, this contract shall be unenforceable. In the event the performance of any agreement contained herein shall become unenforceable or shall be in violation of any Federal,

State or local statute or ordinance or of any decision of any court of competent jurisdiction, the entire contract may be terminated by either party upon written notice mailed to the other party.

2. Definitions. For purposes of this agreement the following words and phrases shall be defined as follows:

(a) "Agricultural use" means the use of water primarily in the production of agricultural crops, including the irrigation of lands and underground water replenishment.

(b) "Recycled water" means water which has been treated and percolated into the underground water supply under the City's liquid waste treatment plant in the southwest portion of the District which is thereafter pumped from said underground water supply.

(c) "City Bureau Contract" means that certain contract between the United States and the City of Fresno providing for water service dated January 12, 1961.

(d) "District Bureau Contracts" means those certain contracts between the United States and Fresno Irrigation District more particularly described as follows:

Contract between the United States of America and Fresno Irrigation District Providing for the Payment of the District's Share of the Cost of Pine Flat Dam and Reservoir Allocated to Irrigation, dated December 23, 1963.

Contract for Operation and Maintenance of Irrigation Storage Space of Pine Flat Reservoir dated December 23, 1963.

Kings River Allocation Contract, dated December 23, 1963.

Conveyance and Covenants in Compromise and Settlement of Fresno Slough Claims, dated April 23, 1965.

Contract between the United States and Fresno Irrigation District Providing for Water Service, dated July 20, 1964.

(e) "District Kings River Intra-Association Agreements" means those certain contracts relating to Kings River and storage in Pine Flat Reservoir more particularly described as follows:

Water Right Indenture, dated May 3, 1927.

Administrative Agreement and Monthly Diversion Schedule dated May 3, 1927.

Agreement Supplementing and Amending Water Right Indenture Dated May 3, 1927, and Supplementing and Amending Administrative Agreement Dated May 3, 1927, Relating to Kings River Water Association, and Amended Monthly Diversion Schedule, dated June 1, 1949.

Agreement Admitting Kings River Water District As a Member of Kings River Water Association and Agreement Re: Centerville Bottoms Schedule, dated September 10, 1963.

Agreement Supplementing and Amending Water Right Indenture Dated May 3, 1927, and Administrative Agreement Dated May 3, 1927, Each as Amended and Supplemented June 1, 1949, Relating to Kings River Water Association, dated September 10, 1963.

3. Agreement to Deliver and Accept Recycled Water. During the term of this agreement City agrees to deliver and District agrees to accept from City recycled water pumped by City from the area under its liquid waste treatment plant in amounts and under the terms and conditions hereinafter provided. When so delivered to District said water shall become the property of the District to be used for agricultural purposes and for underground water replenishment in the southwest portion of the District as the District shall see fit.

4. Water Quality. The City shall not deliver to District or discharge into District's canals any such recycled water which is not of a quality suitable for all agricultural use or which shall be deleterious to plant or animal life and all water so delivered shall meet all the quality standards of the California Regional Water Quality Control Board, or its successor agency, for agriculture and irrigation use and any other federal, state or local agency having jurisdiction or control over water quality standards. City agrees at its expense to make such periodical tests to determine the quality of the water discharged into District's canals at the point where said water is so discharged as may be required by any such board or agency or as may be required by the District's manager and to submit the results

of such tests in writing to the District forthwith after such tests are made. City further agrees that any complaint that said recycled water does not meet the above standards, including but not limited to complaints from any such board or agency, the County of Fresno, any mosquito abatement district or any user of such recycled water, must be corrected and resolved to the satisfaction of District before any further discharge of water into said canals shall be made without the express consent of the District.

5. Exhibit A. A map showing the exterior boundaries of the District, the District's canal system, the city limits of the City of Fresno, the location of City's liquid waste treatment plant site, the exact locations at which City may discharge water into the District's canal system, the type and capacity of the discharge facilities by which each such discharge may be made, the location of observation wells as provided in Paragraph 9, and those portions of the District designated by the parties as the "easterly" and "westerly" portions of the District for purposes of this agreement shall be prepared by the District's engineering department and approved in writing upon said map by the authorized representatives of the District and the City. When so approved said maps shall be incorporated herein by reference as Exhibit A and shall become a part hereof. One duplicate so approved shall be kept in the office of the City and one in the office of the District. Said map may be amended in writing upon said map and reapproved in writing as above set forth.

6. Place and Time of Delivery. City will deliver all such water to the District during the District's irrigation season which may at the election of the District be extended to accommodate the recycled water received under this agreement. Said water delivered by the City to the District shall be discharged by the City into the District's Dry Creek Canal No. 77 and/or Houghton-

Canal No. 78 at the locations approved by the District and shown on the map marked Exhibit A and at no other location or locations.

7. Amount to be Delivered. The City shall deliver to the District under this agreement, subject to District's acceptance as provided herein, recycled water pumped by the City, which shall be delivered at a minimum rate of delivery of 100,000 acre feet in each ten-year period of this contract, provided, however, such delivery will not exceed the amount of 30,000 acre feet in any one year except that such maximum may be increased upon agreement between the District's manager and the Director of Public Works of the City. At least 10 days prior to the first day of each calendar month during the term of this agreement City will submit to District in writing a schedule of the daily amount of such water proposed to be delivered to District at each discharge point during that month and the rate of flow indicated in cubic feet per second at which said water will be delivered. Upon receiving said schedule District's manager will approve the amount of such water the District is willing to accept at each said discharge point during each day of that month and thereafter City shall deliver to District the daily amount of such water so approved. Said daily deliveries shall be at a continuous and constant rate of flow during the entire 24 hour period of each said day. In no event shall the discharge into Dry Creek Canal No. 77 in any one month be in excess of one-half of the total amount delivered to District in that month or the discharge into the Houghton Canal No. 78 in any one month be more than two-thirds of the total amount delivered to the District in that month and in no event shall the rate of discharge of water into Dry Creek Canal No. 77 exceed 60 c.f.s. or the rate of discharge into Houghton Canal No. 78 exceed 120 c.f.s. No such discharges shall be made into District's canals until said discharges have been approved

gives immediate notice thereof to the District. In such event City shall use all reasonable effort to immediately restore the delivery of water to the level approved by District's manager as provided in paragraph 7. District's manager may refuse to agree to any such change in schedule or to accept water under such changed schedule if he reasonably determines that such change may result in damage to a District canal or to other property of the District or any other person or will interfere with the operation, alteration, repair or maintenance of the canal into which said discharge is to be made or will interfere with some other operation or function of the District.

9. Ground Water Level. City shall not pump said recycled water from the underground water reservoir in such a manner or to the extent that it will adversely affect the elevation of the water table in the area surrounding its liquid waste treatment plant as determined by the District. Such effect shall not be deemed to be adverse if the ground water level is not lowered below the gradients established by the District as existing on August 1 of the previous year. City agrees to monitor ground water levels in the area from which said recycled water is pumped on a monthly basis by means of observation wells located within an area surrounding its liquid waste treatment plant. The number and location of said wells shall be agreed upon by the City and the District, and when so agreed upon shall be shown on Exhibit A as provided in paragraph 5. Each month at the time City submits its schedule of proposed discharges, City shall supply District with the results of said observations and shall also supply District with a statement of the amounts discharged into District's canals during the previous month. Said schedule and said information shall be given to District upon a standard form approved by District's manager.

10. Construction and Maintenance of Facilities. All

discharge facilities to be used by City in discharging said water into said canals and suitable measuring devices required to measure the amount of water discharged into District's canals shall be constructed by City at its expense according to plans and specifications approved by District and shall thereafter be maintained in good operating and working condition by and at the expense of City. Said discharge facilities shall have a discharge capacity not greater than that shown on said map marked Exhibit A and shall be equipped with positive shut-off controls by which any and all discharges of water into District's canal system may be shut off immediately and at any time. City shall at all times protect said canals and their banks from any damage, injury or erosion at the locations of said facilities into said canals and any such damage or injury at such locations shall be repaired at the expense of City. If City fails to do so District shall be entitled to make said repairs and the expense thereof shall forthwith be reimbursed by City.

11. Use of Water Available to District. In consideration of the agreements of the City herein contained, District agrees that insofar as feasible and practical, it will make available from its Kings River water or from the water received by it under its Bureau Contracts an additional amount of water equivalent to 46% of the water received by it from the City under this agreement for agricultural use and for ground water replenishment in the easterly portion of the District as indicated on Exhibit A. The term "additional amount of water" as above used shall mean water in addition to the amount of water which would have been made available for use in that area if said recycled water had not been received by the District and used in the westerly portion of the District as indicated on Exhibit A. If the District shall determine that the use of said water in said area is not feasible or practicable it may, after discussion with the City, use such

water elsewhere. If in the future it is deemed desirable to do so, City, with the approval of District, may cause the dividing line between the easterly portion of the District and the westerly portion of the District to be moved to the west and the percentage of water to be made available in said easterly portion of the District to be increased in proportion to the increase in the area of land within said easterly portion.

12. District's Representative. Wherever it is provided in this agreement that District's manager shall do and act or exercise his discretion in respect to any particular matter said act and said exercise of discretion may be performed by any other representative of the District to whom such authority shall be delegated either by the District's Board of Directors or by said manager. In exercising his said discretion, the District's manager or his authorized representative shall weigh and balance the equities of the parties in respect to the interests of each and the necessities of District's operations in relation to those of the City. However, in any such case, his decision shall be final.

13. Ownership of District's Water Rights, Canals and Storage. Nothing contained in this agreement shall in any way affect District's ownership of its canal system or of its water right or its right to storage in Pine Flat Reservoir or give City any right or interest therein.

14. Expense of Performance. The performance of all terms and conditions of this agreement to be performed by City shall be at the expense of City and the performance of all terms of this agreement to be performed by District shall be at the expense of District.

15. Indemnity. City agrees to indemnify District and save District harmless of, from and against any loss, cost, expense, liability or attorney's fees incurred by District as the result of

any claim made by any third party because of the City's pumping from the underground water supply as above described or in any way arising out of the execution or performance of this agreement unless such loss, cost, expense or liability is caused by independent negligence on the part of the District in performing the terms and conditions of this agreement on its part to be performed.

16. Successors and Assigns. This agreement shall be binding upon the successors and assigns of the parties hereto provided that City's right to discharge water into District's canal system is not transferable or assignable and shall not pass to any successor in interest without the consent of District. This agreement is not made for the benefit of any person, firm, corporation or public entity not a party hereto and no person, firm, corporation or public entity except a party hereto or its successor or assign shall have any right to enforce said agreement under California Civil Code §1559 or otherwise.

17. Amendments. Except as otherwise provided herein this agreement may not be amended except by the written agreement of the parties hereto.

18. Term, Termination. The term of this contract shall be twenty years from its date, except that it may be cancelled upon mutual agreement between the parties hereto. The contract shall continue in effect after the end of said term except that it may be terminated thereafter by either party upon one year's written notice of such termination. Notwithstanding the foregoing, this contract may be terminated at any time, upon sixty days' written notice by either party, given on and because of substantial breach by the other party, which breach is not repaired or corrected before the end of said sixty-day period.

IN WITNESS WHEREOF, the parties hereto have executed this

agreement the day and year first above written.

FRESNO IRRIGATION DISTRICT

By Winston Strong
President

By Ardys T. Gorder
Secretary

ATTEST:

CITY OF FRESNO

Dahlia Douglass
City Clerk Deputy

By E. W. Hanley
Chief Administrative Officer

State of California }
County of Fresno } ss.

On this 20th day of June in the year one thousand nine hundred and seventy-four, before me, Paul H. Willison a Notary Public in and for said County and State, residing therein, duly commissioned and sworn, personally appeared Winston Strong known to me to be the President and Ardys T. Gorder known to me to be the Secretary of the Fresno Irrigation District the corporation that executed the within instrument, and known to me to be the persons who executed the within instrument on behalf of the corporation therein named, and acknowledged to me that such corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal at my office in said County, the day and year in this Certificate first above written.

Paul H. Willison
Notary Public in and for said County and State

OFFICIAL SEAL
PAUL H. WILLISON
NOTARY PUBLIC, CALIFORNIA
PRINCIPAL OFFICE IN
FRESNO COUNTY
My Commission Expires November 19, 1977

CORPORATION ACKNOWLEDGMENT
Kilner Stationery Co.
1916 Echo

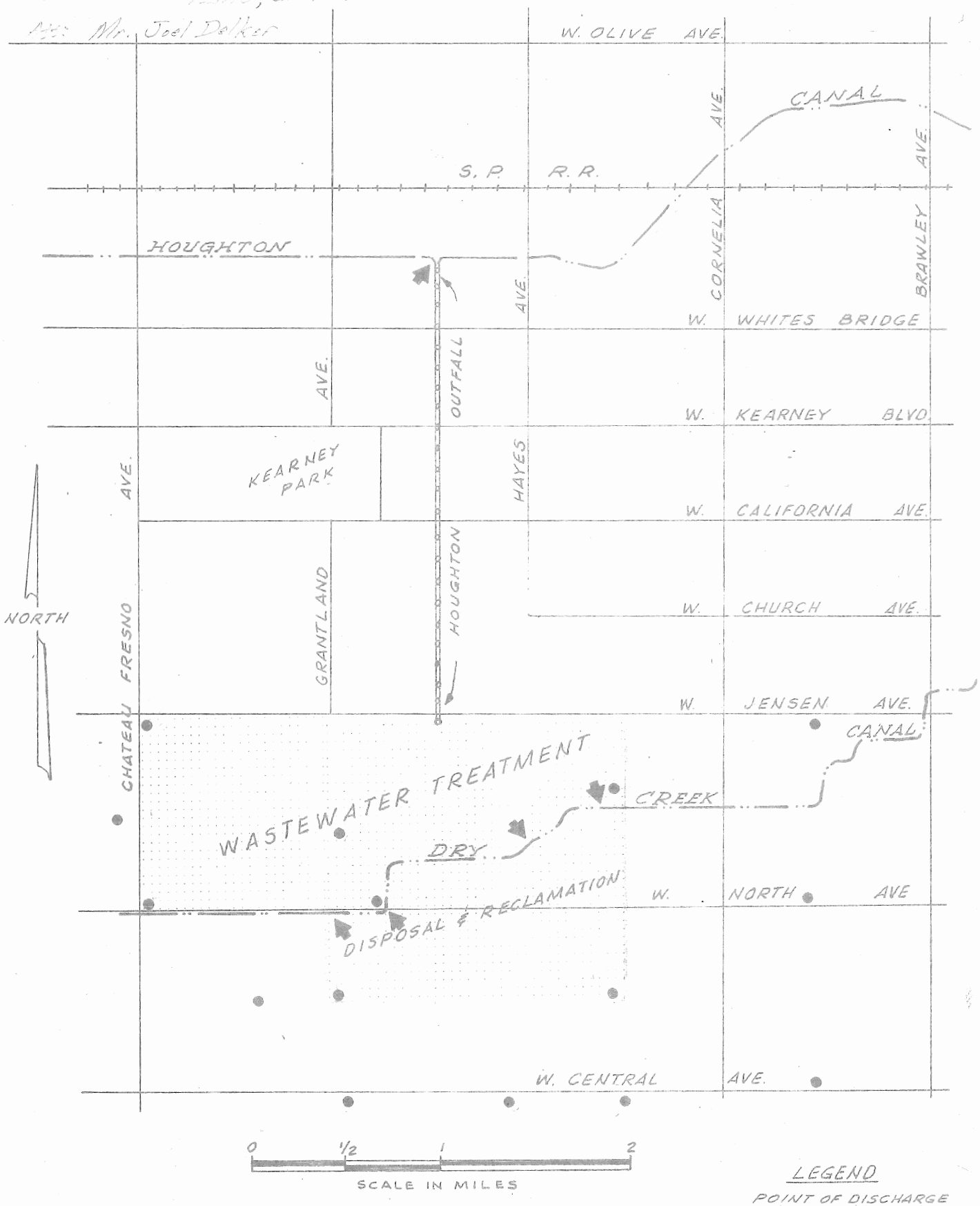
FORM K108

APPROVED AS TO FORM
SPENCER THOMAS, JR., City Attorney

By Robert Macomber
Senior Deputy

Mail to: City of F. c/o Waste Water Treatment Pl.
5607 W Jensen Avenue
Fresno, Ca. 93706

Attn: Mr. Joel Dolker



LEGEND

POINT OF DISCHARGE City's recycled water into F.I.D. Canal

● OBSERVATION WELLS

EXHIBIT A-1

J

Water Shortage Contingency Plan

City of FRESNO
Department of Public Utilities

2020 Water Shortage Contingency Plan

Final

JULY 2021 | CITY OF FRESNO



Photo Credit: Downtown Fresno Partnership

WSC

City of FRESNO
Department of Public Utilities

CITY OF FRESNO

Final
2020 Water Shortage Contingency Plan

JULY 2021



Prepared by Water Systems Consulting, Inc.

WSC

ACKNOWLEDGMENTS

The 2020 Water Shortage Contingency Plan was prepared by Water Systems Consulting, Inc. The primary authors are listed below.

Jeff Szytel, PE
Rob Morrow, PE
Lauren Cetin, EIT
Heather Freed, PE

Water Systems Consulting, Inc. would like to acknowledge the significant contributions of the City of Fresno, including the following staff.

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Utilities Planning & Engineering Division

Assistant Director Brock Buche, PE, PLS
Supervising Professional Engineer Glenn Knapp, PE
Professional Engineer Peter Maraccini, PE

Water Division

Assistant Director Bud Tickel
Water System Manager Chris Carroll
Water System Manager Russell Guilliams
Business Manager Henry McLaughlin
Water Conservation Supervisor Conrad Braganza

Wastewater Division

Wastewater Manager Rosa Staggs
Operations Supervisor Cory Asher
Reclamation Coordinator Setrag Cherchian

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ACRONYMS & ABBREVIATIONS

AMI	advanced metering infrastructure
City	City of Fresno
CWC	California Water Code
DPU	Department of Public Utilities
DRA	Drought Risk Assessment
DWR	Department of Water Resources
FID	Fresno Irrigation District
FMC	Fresno Municipal Code
SWTF	Surface Water Treatment Facility
USBR	United States Bureau of Reclamation
UWMP	Urban Water Management Plan
WSCP	Water Shortage Contingency Plan
WSIP	Water Storage Investment Program

1.1 Introduction

The Water Shortage Contingency Plan (WSCP) is a detailed plan on how the City of Fresno (City) intends to respond to foreseeable and unforeseeable water shortages. A water shortage occurs when the water supply is reduced to a level that cannot support typical demand at any given time. The WSCP is used to provide guidance to the City's governing body and staff and the public by identifying response actions to allow for responsible management of any water shortage with predictability and accountability. Preparation provides the tools to maintain reliable supplies and reduce the impacts of supply interruptions due to extended drought and catastrophic supply interruptions.

The WSCP describes the following:

1. **Water Supply Reliability Analysis:** summarizes the City's water supply analysis and reliability and identifies any key issues that may trigger a shortage condition
2. **Annual Water Supply and Demand Assessment Procedures:** describes the key data inputs, evaluation criteria, and methodology for assessing the system's reliability for the coming year and the steps to formally declare any water shortage levels and response actions
3. **Six Standard Shortage Stages:** establishes water shortage levels to clearly identify and prepare for shortages
4. **Shortage Response Actions:** describes the response actions that may be implemented or considered for each stage to reduce gaps between supply and demand as well as minimize social and economic impacts to the community
5. **Communication Protocols:** describes communication protocols under each stage to ensure customers, the public, and government agencies are informed of shortage conditions and requirements
6. **Compliance and Enforcement:** defines compliance and enforcement actions available to administer demand reductions
7. **Legal Authority:** lists the legal documents that grant the City the authority to declare a water shortage and implement and enforce response actions
8. **Financial Consequences of WSCP Implementation:** describes the anticipated financial impact of implementing water shortage stages and identifies mitigation strategies to offset financial burdens
9. **Monitoring and Reporting:** summarizes the monitoring and reporting techniques to evaluate the effectiveness of shortage response actions and overall WSCP implementation, with results used to determine if additional shortage response actions should be activated or if efforts are successful and response actions should be reduced
10. **WSCP Refinement Procedures:** describes the factors that may trigger updates to the WSCP and outlines how to complete an update
11. **Special Water Features Distinctions:** identifies exemptions for ponds, lakes, fountains, pools, and spas, etc.
12. **Plan Adoption, Submittal, and Availability:** describes the process for the WSCP adoption, submittal, and availability after each revision

This WSCP was prepared in conjunction with the City's 2020 Urban Water Management Plan (UWMP) and is a standalone document that can be modified as needed. This document is compliant with the California Water Code (CWC) Section 10632 and incorporated guidance from the State of California Department of Water Resources (DWR) UWMP Guidebook.

Water purveyor planning for possible water supply shortages has become an increasingly important subject considering the drought conditions over the last several years. The City adopted its first WSCP in 1994 in response to the 1991 Assembly Bill 11X, which mandated all water purveyors with more than 3,000 connections develop a WSCP. The WSCP was revised as part of the 2005 UWMP and adopted by the City in 2008. The WSCP was further refined in 2016 during preparation of the 2015 UWMP and is being updated in 2021 as a standalone document, developed in parallel with the 2020 UWMP. The 2020 WSCP is still based on the original 1994 plan. The revisions are intended to meet new CWC requirements and streamline the plan's usefulness and enable the City to manage the necessary conservation measures to be enacted if a water shortage condition exists. The 2020 WSCP will be reviewed and adopted in conjunction with the 2020 UWMP.

The plan is intended to provide guidance, rather than absolute direction, for City action in response to water shortages and provide the City with options to responsibly manage water shortages.

1.2 Water Supply Reliability Analysis

This section is consistent with CWC Section 10632(a)(1) and describes the key findings of the water supply reliability analysis conducted pursuant to CWC Section 10635, which is presented in **Chapter 7** of the City's 2020 UWMP. As part of the 2020 UWMP, water suppliers must perform long-term (2025-2045) water service reliability assessment to evaluate reliability under normal, single dry year, and five-year consecutive dry year periods and a short-term (2021-2025) Drought Risk Assessment (DRA) to evaluate reliability under a five-year consecutive dry year period. Water supply reliability reflects the City's ability to meet the water needs of its customers with water supplies under varying conditions. The analysis considers plausible hydrological and regulatory variability, infrastructure capacity, climate conditions, and other factors that affect the City's water supply and demand.

The City's current water supply portfolio includes groundwater from the Kings Subbasin, surface water from the Central Valley Project Friant Division through a contract with the United States Bureau of Reclamation (USBR), and surface water from the Kings River through a contract with Fresno Irrigation District (FID), as well as recycled water produced at the Fresno-Clovis Regional Water Reclamation Facility and North Fresno Water Reclamation Facility. The City manages the surface water supplies and groundwater conjunctively such that surface water supplies are used more heavily for direct use and recharge during wet periods and groundwater is used more heavily during dry periods. Over the long term, the City aims to maximize recharge to store water for future use and help groundwater levels recover. Key issues that may create a shortage conditions include reduced surface water availability due to dry hydrologic conditions, reduction in groundwater due to contamination issues, or emergency conditions that reduce the City's water supply.

The water supply reliability analysis concluded that the City's supply portfolio is highly reliable and allows the City flexibility to use a majority of surface water when available in normal years and switch to a majority of groundwater in dry years, when surface water supplies are reduced.

The City is projected to meet potable demands with its existing supplies in all year types through conjunctive use of its groundwater and the City is projected to recharge water in most years to help store water for dry years.

1.3 Annual Water Supply and Demand Assessment

As established by CWC Section 10632.1, urban water suppliers must conduct an Annual Water Supply and Demand Assessment (Annual Assessment) and submit an Annual Water Shortage Assessment Report to DWR, with the first deadline July 1, 2022[1]. The Annual Assessment is an evaluation of the short-term outlook for supplies and demands for the current year and one projected single dry year conditions to determine whether the potential for a supply shortage exists and whether there is a need to trigger a WSCP shortage stage, appropriate response actions, compliance and enforcement actions, and communication protocols.

1.3.1 Key Data Inputs

Key data inputs and their sources for the Annual Assessments are summarized in **Table 1,** and described below**.**

Table 1. Key Data Inputs for the Annual Assessment

KEY DATA INPUT	DESCRIPTION	SOURCE
Customer demands	Estimates current year unconstrained demand plus a modest growth factor	Customer billing data, 2020 UWMP projections, input from City staff
Recharge demands	Estimates current year recharge demand	Surface water allocations, historical recharge, groundwater levels
State mandates	Reflects State orders and mandatory compliance with water use efficiency standards	Executive orders from the governor, orders and policies from the State Water Resources Control Board, input from City staff, or other sources
Surface water allocation	Reflects the City's available surface water supplies for treatment, recharge, and potential exchanges and transfers	Initial allocations from USBR and FID, typically available in April
Groundwater conditions	Reflects status of groundwater conditions	Production data, static water levels, and input from City staff
Infrastructure capacity	Reflects production and distribution capacity due to a variety of factors, including human-caused or natural catastrophic events	Production data, well production capacity, wells impacted by contamination, surface water treatment facilities' capacity, distribution system constraints, input from City staff

[1] For USBR contractors, the assessment is due by July 1 or within 14 days of receiving final USBR water allocation, whichever is later.

1.3.1.1 Customer Demands

Upcoming year customer demands will be estimated based on the previous year's demand, with increases to address: (1) near-term projected growth of customers; (2) unconstrained water use if the previous year included any water use restrictions; and (3) potential water losses not accounted for in the previous year's demand.

1.3.1.2 Recharge Demands

Upcoming year recharge demands will be estimated by (1) availability of surface water not used at the surface water treatment facilities (SWTFs) and (2) projected availability of recharge basins.

1.3.1.3 State Mandates

The City has historically been required by the State to reduce demand regardless of supply reliability at the given time. As described previously, compliance with State mandates for water use efficiency can be declared during drought or in preparation for future droughts, such as in response to the governor's drought declarations in the 2012–2016 drought with subsequent Executive Order B-37-16 and related legislation for Making Conservation a California Way of Life. The City may consider State mandates and mandatory compliance with water use efficiency standards in determining water shortage levels.

1.3.1.4 Surface Water

The City has contracts for surface water with USBR and FID. The available surface water is dependent on hydrology, and in dry years less surface water is available to the City. Final allocations from both USBR and FID are known in April of each year, following the rainy season. In April, the City works with FID to develop a delivery schedule of surface water supplies and submits it USBR. The surface water allocation and delivery schedule will determine the City's operation of its SWTFs for the year, recharge operations, and if it will engage in any exchanges or transfers of supplies. In dry years, when less surface water is available, the City will also plan for increased groundwater use to meet its demands.

1.3.1.5 Groundwater Conditions

Groundwater level and production trends will be compiled and considered by the City staff, or with a hydrogeologist, based on the following actions:

- Plot static groundwater levels on hydrographs to determine trends.
- Plot historic and projected production data to determine trends.
- Compare historic and projected groundwater levels against production data for average and dry years.

1.3.1.6 Infrastructure Capacity

Infrastructure capabilities and overall production will be analyzed to determine if a possible power outage or deficiency may occur or continue in the coming year due to a variety of factors, potentially including human-caused or natural catastrophic events. This analysis may include well replacement, evaluation of wells for possible contamination, SWTFs capacities, and other considerations.

1.3.2 Evaluation Criteria

Staff will use the key data inputs to develop and compare supply and demand projections to determine if water shortage actions may be necessary. A preliminary Annual Assessment template is included in **Attachment 1**. Note that supply projections will incorporate infrastructure constraints and an operational buffer factor of 10% will be added to the demand estimate to account for supply and demand projection uncertainties. The estimated amount of supply available versus the estimated demand will be compared with the water shortage condition triggers presented in **Table 2**. Various trigger conditions, which summarize specific evaluation criteria for each shortage level and can be used to determine a water shortage level, are described in the following sections. Triggers are based on current conditions, and the City will evaluate these triggers and modify them as needed.

A shortage emergency may be declared when it is demonstrated that conditions threaten the ability to provide water for public health, safety, and welfare of the community. Furthermore, compliance with State mandates for water use efficiency can be declared during drought or in preparation for future droughts, such as in response to the governor's drought declarations in the 2012–2016 drought with subsequent Executive Order B-37-16 and related legislation for "Making Conservation a California Way of Life".

Short-term and long-term supply shortages may be caused by constrained production capacity or natural or human-caused catastrophic emergencies, such as: power outages, winter storms, wildfires, earthquakes, structural failures, contamination, and bomb threats. These types of emergencies may limit the City's immediate ability to provide adequate water service to meet the requirements for human consumption, sanitation, and fire protection. Impacts of such emergencies vary in duration. Thus, consumption reduction measures and prohibitions may differ for short-term and long-term conditions or shortages.

1.3.3 Annual Assessment Procedures

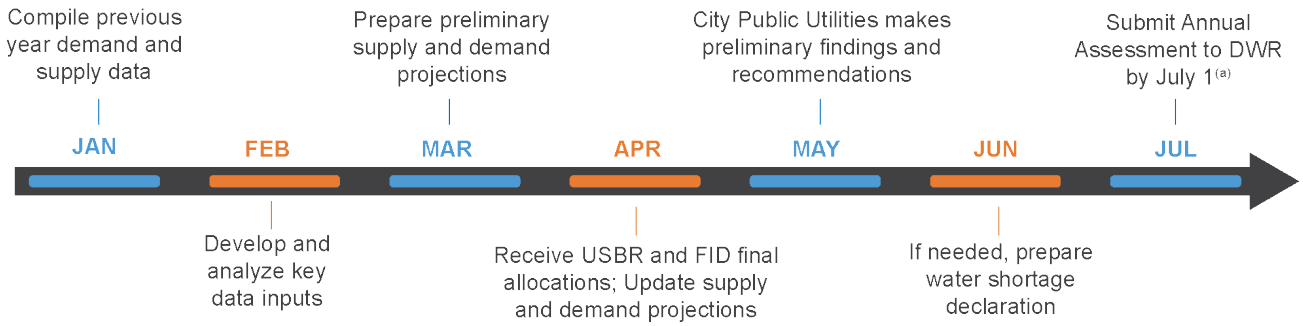
City staff will perform the Annual Assessment following initial allocations from USBR and initial projections for Kings River entitlements by FID, which is typically at the end of rainy season in April. The Annual Assessments are due to DWR by July 1 of each year[2] with the first Annual Assessment Report due to DWR by July 1, 2022. A preliminary annual assessment timeline is shown in **Figure 1.** The City may update the assessment after submission if key data inputs substantially change or other new information becomes available.

[2] For USBR contractors, the assessment is due by July 1 or within 14 days of receiving final USBR water allocation, whichever is later.

Steps to conduct the Annual Assessment are as follows:

1. Staff gathers the key inputs, compiles historical data, and analyzes potential supply and demand gaps.
2. Demand trends, water supply conditions, and production capacity are analyzed.
3. A hydrogeologist may be consulted to provide additional groundwater condition information.
4. City Public Utilities staff will review findings and, if necessary, determine a recommended level of conservation required at the implementation or termination of each stage that will then be brought to the City Manager or Mayor for approval.
5. The City Manager, or designee, will declare and implement the level of conservation required at the implementation or termination of each level, and the declaration shall remain in effect until the City Manager, or designee, so otherwise declares. If a conservation level declaration is made, the declaration shall be published at least once in a newspaper of general circulation.
6. The City will develop and/or implement appropriate communication protocols and applicable response actions.

Figure 1. Annual Assessment Approximate Timeline



[a] For USBR contractors, the assessment is due by July 1 or within 14 days of receiving final USBR water allocation, whichever is later.

1.4 Standard Water Shortage Levels

This section is consistent with CWC Section 10632(a)(2) and describes the City's water shortage levels. New to the 2020 UWMP, water suppliers must now consider six standard water shortage levels. Shortage levels indicate the gap between supply and demand compared to normal-year conditions. DWR standardized six shortage levels to provide a consistent regional and statewide approach to measure water supply shortage conditions. The six shortage levels correspond to 10%, 20%, 30%, 40%, 50%, and greater than 50% shortage in supplies compared to demands under normal conditions. However, a water supplier may use its own shortage levels if a crosswalk is included, relating its existing shortage levels to the six standard levels.

The City has elected to keep the previously established four water shortage stages from the 2016 WSCP and add a fifth stage to classify supply shortage greater than 50%. A crosswalk between the City's stages and DWR's standard levels is shown in **Figure 2**.

Figure 2. Water Shortage Stages Crosswalk

City of Fresno Shortage Stage	Percent Shortage Range	Standard WSCP Level	Percent Shortage Level
1	10%	1	10%
2	10 - 25%	2	20%
3	25 - 35%	3	30%
4	35 - 50%	4	40%
5	>50%	5	50%
		6	>50%

Although the water shortage stages are classified by the same percentages as the 2015 UWMP, the City has reevaluated the supply conditions and criteria to enter that stage to better reflect its supply portfolio in comparison to demand. **Table 2** lists the water shortage stages and the conditions that would trigger each stage. Any stage listed within the WSCP may be enacted by the City Manager, or designee, as deemed appropriate based on the water shortage condition.

Table 2. Water Shortage Contingency Plan Levels (DWR 8-1)

SHORTAGE LEVEL	PERCENT SHORTAGE[a]	WATER SHORTAGE CONDITION
0		No water shortage condition. Corresponds with year-round water use measures listed in Section 1.5.1 and demand reduction measures listed for "All" stages in Table 3.
1	0-10%	Stage 1 may be triggered by any of the following conditions: • The available water supplies for the next year are projected to be less than **100%** of projected demand considering infrastructure constraints and an operational buffer. The available water supplies, infrastructure constraints, projected demand, and operational buffer will be estimated at least once per calendar year – and more often as appropriate - as part of the Annual Water Supply and Demand Assessment. Section 1.3 of the City's Water Shortage Contingency Plan describes the key data inputs, evaluation criteria, and procedures for the annual assessment; or • After having been in a Stage 2 classification from drought conditions, the upcoming water year USBR and FID allocations results in normal-dry water year type[b] or higher; or • After having been in a higher classification as a result of emergency, original trigger for a previous higher-stage classification has been rectified to a point that is consistent with the above conditions for this stage.
2	10-25%	Stage 2 may be triggered by any of the following conditions: • The available water supplies for the next year are projected to be less than **90%** of projected demand considering infrastructure constraints and an operational buffer. The available water supplies, infrastructure constraints, projected demand, and operational buffer will be estimated at least once per calendar year – and more often as appropriate - as part of the Annual Water Supply and Demand Assessment. Section 1.3 of the City's Water Shortage Contingency Plan describes the key data inputs, evaluation criteria, and procedures for the annual assessment; or • After having been in a Stage 3 classification from drought conditions, the upcoming water year USBR and FID allocations results in normal-dry water year type[b] or higher; or • After having been in a higher classification as a result of emergency, original trigger for a previous higher-stage classification has been rectified to a point that is consistent with the above conditions for this stage.
3	25-35%	Stage 3 may be triggered by any of the following conditions: • The available water supplies for the next year are projected to be less than **75%** of projected demand considering infrastructure constraints and an operational buffer. The available water supplies, infrastructure constraints, projected demand, and operational buffer will be estimated at least once per calendar year – and more often as appropriate - as part of the Annual Water Supply and Demand Assessment. Section 1.3 of the City's Water Shortage Contingency Plan describes the key data inputs, evaluation criteria, and procedures for the annual assessment; or • After having been in a Stage 4 classification from drought conditions, the upcoming water year USBR and FID allocations results in normal-dry water year type[b] or higher; or • After having been in a higher classification as a result of emergency, original trigger for a previous higher-stage classification has been rectified to a point that is consistent with the above conditions for this stage.
4	35-50%	Stage 4 may be triggered by any of the following conditions: • The available water supplies for the next year are projected to be less than **65%** of projected demand considering infrastructure constraints and an operational buffer. The available water supplies, infrastructure constraints, projected demand, and operational buffer will be estimated at least once per calendar year – and more often as appropriate - as part of the Annual Water Supply and Demand Assessment. Section 1.3 of the City's Water Shortage Contingency Plan describes the key data inputs, evaluation criteria, and procedures for the annual assessment; or • After having been in a Stage 5 classification from drought conditions, the upcoming water year USBR and FID allocations results in normal-dry water year type[b] or higher; or • After having been in a higher classification as a result of emergency, original trigger for a previous higher-stage classification has been rectified to a point that is consistent with the above conditions for this stage.
5	>50%	Stage 5 may be triggered by any of the following conditions: • The available water supplies for the next year are projected to be less than **50%** of projected demand considering infrastructure constraints and an operational buffer. The available water supplies, infrastructure constraints, projected demand, and operational buffer will be estimated at least once per calendar year – and more often as appropriate - as part of the Annual Water Supply and Demand Assessment. Section 1.3 of the City's Water Shortage Contingency Plan describes the key data inputs, evaluation criteria, and procedures for the annual assessment.

[a] Shortage levels indicate the gap between supply and demand compared to normal-year conditions. The Annual Assessment incorporates a 10% buffer on top of projected demands for conservative planning.

[b] Water year types were defined 2006 San Joaquin River Restoration Settlement Agreement for USBR allocations and characterized in Section 6.2 of the City's 2020 UWMP.

1.5 Shortage Response Actions

The Fresno Municipal Code (FMC) contains sections on water conservation that are to take place under normal water supply conditions. Regulations in place under normal water supply conditions encourage smart water use and help the City manage its water supply. Some of those regulations include year-round outdoor water schedules; turf type restrictions; turf irrigation methods; and prohibition of willful or negligent water wasting, flood irrigating, washing hardscape with potable water, and frequent draining of pools. Additional details of these regulations can be found in FMC Section 6-520(a) (**Attachment 2**). These restrictions are mandated year-round by the City and must be observed. In addition to the normal restrictions on water usage, the City developed shortage response actions to implement during a water shortage on the City level and consumer level in order to reduce demands that are described in **Section 1.5.2** and detailed in **Table 3**.

In the event of a potential water shortage, the City will evaluate the cause of the shortage to help inform which response actions should be implemented. Depending on the nature of the water shortage, the City can elect to implement one or several response actions to mitigate the shortage and reduce gaps between supply and demand. The City has identified actions that fall within the demand reduction, supply augmentation, operational changes, and additional mandatory restrictions, as stated by DWR. It should be noted that all prohibitions listed for Stage 1 will apply to Stage 2 and, likewise, all restrictions that apply to Stage 2 will apply to Stage 3 and so on, until Stage 5 is reached. Also, due to the City's diverse supply portfolio, Stage 1 imposes only voluntary consumer reductions, while Stages 2–5 all include mandatory reduction actions. If necessary, the City may adopt additional actions not listed here in extreme circumstances.

1.5.1 Year-Round Measures

FMC Section 6-520(a) lists actions that are prohibited at all times, whether or not there is a shortage condition and include:

- Use of potable water to irrigate or water outdoor landscaping in a manner that causes runoff.
- Keep, maintain, operate, or use any water connection, hose, faucet, hydrant, pipe, outlet, or plumbing fixture which is not tight and free from leakage.
- Willfully or negligently waste water as defined in FMC Section 6-501.
- Sprinkle or irrigate any yard, ground, premise, or vegetation except as set forth in the City's Outdoor Water Use Schedule.
- Sprinkle or irrigate any yard, ground, premise, or vegetation, unless watering device used is controlled by a shutoff device or a person is in immediate attendance of the hose or watering device.
- Prohibit use of potable water to wash sidewalks, walkways, driveways, parking lots, open ground, or other hard-surfaced areas, except where necessary for public health or safety.
- Use potable water in a fountain or other decorative water feature, except where the water is part of a recirculating system.
- Irrigation of ornamental turf on public street medians with potable water, except where the turf serves a community or neighborhood function, there is incidental irrigation by an irrigation system designed to irrigate trees, or the turf is irrigated with recycled water.

- Irrigating outdoor landscapes with potable water during and within 48 hours after measurable rain.
- Serve drinking water other than upon request in eating or drinking establishments, including but not limited to, restaurants, hotels, cafes, cafeterias, bars, or other public places where food or drink are served or purchased.
- Irrigate landscapes outside of newly constructed homes and buildings in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development.
- Automatically changing towels and linens in hotels and motels daily. Operators of hotels and motels shall provide guests the option of choosing not to have towels and linens laundered daily.
- Drain swimming pools more than once every three years, except as necessary to complete structural repairs or to comply with public health standards, as determined by the County Health Officer.
- Prohibit filling new or refurbished swimming pools without obtaining a pool fill permit from the City.
- Refill (top off) established swimming pools except during times when outdoor water use is allowed at the property address pursuant to the Outdoor Water Use Schedule

The City may update these year-round restrictions in the future as needed. For the latest permanent restrictions refer to FMC Section 6-520(a) (**Attachment 2**) and the latest WSCP Resolution (**Attachment 3**).

1.5.2 Demand Reduction

The City has identified a variety of demand reduction actions to offset supply shortages. Demand reduction measures are strategies intended to decrease water demand to close the gap between supply and demand. Demand reduction actions available to the City that may be considered during water shortage conditions are summarized in **Table 3**. Although it is difficult to estimate the volume of savings for each action, the City expects to meet required reductions through a combination of response actions in conjunction with outreach and communication efforts to the extent necessary to mitigate any impacts from a water shortage.

Table 3. Demand Reduction Actions by City (DWR 8-2)

SHORTAGE LEVEL	DEMAND REDUCTION ACTIONS	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP?[a]	ADDITIONAL EXPLANATION OR REFERENCE	PENALTY, CHARGE, OR OTHER ENFORCEMENT[b]
All	Expand Public Information Campaign	Not Applicable	Community outreach includes classroom presentations, outreach educational information, and water tours. Increase communication as drought stages increase.	Not Applicable
All	Improve Customer Billing	Not Applicable	Water bills show customer usage vs. average usage for the customer category. Increase customer notifications of high water use based on advanced metering infrastructure data as drought stages increase.	Not Applicable
All	Offer Water Use Surveys	Not Applicable	Use water leak surveys with all community members.	Not Applicable
All	Provide Rebates for Landscape Irrigation Efficiency	Not Applicable	The City offers rebates for micro-irrigation conversions, soil moisture sensors, smart irrigation controller, and rain sensors to improve efficiencies.	Not Applicable
All	Provide Rebates for Turf Replacement	Not Applicable	The City provides rebates for community members who wish to replace their turf with a drought-resistant garden.	Not Applicable
All	Provide Rebates on Plumbing Fixtures and Devices	Not Applicable	The City offers rebates on a variety of high-efficiency plumbing fixtures, such as washers, toilets, and urinals.	Not Applicable
All	Decrease Line Flushing	Not Applicable	The City uses NO-DES for regular pipe flushing to eliminate discharging water.	Not Applicable
All	Reduce System Water Loss	Not Applicable	The City has a comprehensive system water loss reduction program in place. Increase efforts to correct water system losses as drought stages increase.	Not Applicable
1	Decrease Line Flushing	0 to 100% of shortage gap	For dead-end flushing where the NO-DES truck cannot be used, reduce normal flushing time.	Not Applicable
1	Increase Water Waste Patrols	0 to 100% of shortage gap	Increase monitoring of AMI reporting and communication with customers; Conduct patrols based on public input.	Not Applicable
1	Landscape — Limit landscape irrigation to specific times	0 to 100% of shortage gap	Voluntary limits: Summer: three days/week Winter: one day/week	No
2	Landscape — Limit landscape irrigation to specific times	0 to 100% of shortage gap	Summer: three days/week Winter: one day/week	Yes
3	Landscape — Limit landscape irrigation to specific times	0 to 100% of shortage gap	Summer: two days/week Winter: one day/week	Yes
4	Landscape — Limit landscape irrigation to specific times	0 to 100% of shortage gap	Summer: one day/week Winter: one day/week	Yes
4	Other — Prohibit use of potable water for construction and dust control	0 to 100% of shortage gap	Prohibit use of potable water for construction, compaction, dust control, street or parking lot sweeping, and building washdowns where non-potable or recycled water is sufficient.	Yes

SHORTAGE LEVEL	DEMAND REDUCTION ACTIONS	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP?[a]	ADDITIONAL EXPLANATION OR REFERENCE	PENALTY, CHARGE, OR OTHER ENFORCEMENT[b]
4	Other — Prohibit vehicle washing except at facilities using recycled or recirculating water	0 to 100% of shortage gap	Prohibit washing cars, boats, trailers, aircraft, or other vehicles, except at commercial or fleet vehicle-washing facilities using water recycling equipment.	Yes
4	Pools and Spas - Require covers for pools and spas	0 to 100% of shortage gap	Require covers for swimming pools when not in use.	No
4	Other	0 to 100% of shortage gap	Prohibit use of potable water for sewer system maintenance or fire protection training without prior approval by the City manager.	Not Applicable
4	Other	0 to 100% of shortage gap	Prohibit use of outdoor misters.	No
5	Landscape — Prohibit all landscape irrigation	0 to 100% of shortage gap	Prohibit outdoor irrigation year-round.	Yes
5	Moratorium or Net Zero Demand Increase on New Connections	0 to 100% of shortage gap	The City will temporarily limit or ban new water service connections within the service area.	Not Applicable

[a] Reduction in the shortage gap is estimated and can vary significantly.
[b] Refer to Section 1.7 for Penalties for Water Wastage.

1.5.3 Supply Augmentation

Given the consistent supply of groundwater through pumping, the City has no immediate plan to augment supply. However, the City could purchase additional USBR or FID surface water, if available. Also, the Cities of Fresno and Clovis have an agreement for interconnection of their potable water systems to provide service during emergencies and other times of hardship in either community. Although these options are discretionary and quantifying their ability to reduce the shortage gap can vary significantly, they are readily available if needed, as indicated in **Table 4**.

Table 4. Supply Augmentation & Other Actions (DWR 8-3R)

SHORTAGE LEVEL	SUPPLY AUGMENTATION METHODS AND OTHER ACTIONS BY WATER SUPPLIER	HOW MUCH IS THIS GOING TO REDUCE THE SHORTAGE GAP?	ADDITIONAL EXPLANATION OR REFERENCE
1 to 5	Transfers	As Needed	Purchase or exchange available USBR or FID surface water
1 to 5	Other Purchases	As Needed	Interconnection with City of Clovis for use in emergencies

1.5.4 Operational Changes

Operational changes to address a short-term water shortage may be implemented based on the severity of the reduction goal. The City can maximize its supply by implementing operational strategies and demand reduction measures. As part of the Annual Assessment process, the City will consider their operational procedures at the time of a shortage to identify changes that can be implemented to address water shortage on a short-term basis, including but not limited to:

- Utilization of a SWTF to treat pumped groundwater to offset lack of surface water supply
- Expansion of public information campaign to educate and inform customers of the water shortage emergency and required water savings
- Decrease line flushing to only on a compliant basis strictly using the currently operational NO DES truck
- Use water patrols and increase frequency of meter reading by recruiting staff from other departments if necessary
- Offer water use surveys
- Implementing or modifying drought rate structure or surcharge or water emergency tiered pricing, pursuant to the requirements of Proposition 218 and in accordance with California Law
- Prohibit any new permits for hydrant-construction or temporary construction meters.
- Monitoring construction meters and fire hydrant meters for efficient water use in the event that a meter identified wastes water.

- Moratorium on issuing any new building permit unless the: (a) Project is found by the City Manager, or designee, to be necessary for public health, safety. (b) Project will use recycled water for construction. (c) Project will not result in a net increase in non-recycled water use. (d) Project has adequate Conservation Offsets
- Suspending the consideration of annexation to its service area unless the annexation increases the water supply available more than the anticipated demands of the property to be annexed
- Reducing overhead in the short-term and mid-term by deferring non-critical Capital Improvement Plan projects and major maintenance expenditures, and in the long-term by adjusting operational and staffing levels and retail water rate structures to incorporate the reality of lower retail water sales than previously anticipated.
- Decrease in the level or, if need be, even a total interruption in the expenditures for the agency's facility replacement program. Non-critical replacement projects will have little or no impact on the agency or its customers and would only extend the master planned replacement schedule.

1.5.5 Emergency Response Plan

In addition to responding to drought conditions, the City's WSCP can be used to respond to emergency or catastrophic conditions that impact the availability of the City's water supplies, and/or the ability to deliver water within the City's service area. Potential events are listed below:

- Loss of surface water supply
- Loss of groundwater supply
- Area-wide electrical power failure
- Natural disaster — earthquake or flood

In the event of a supply interruption, there are several measures that could be taken that would mitigate the overall negative impacts of a water shortage. The following discussion indicates possible events and actions to maintain water service to the service area.

The City has an agreement with the City of Clovis that discusses an intertie system between the two cities that could provide service during emergencies and other times of hardship in either community. The agreement covers interconnections, including apportionment of capital costs, at two locations: Leonard Avenue at the Gould Canal alignment and Behymer Avenue at Willow Avenue. The Leonard interconnection was constructed and remains in place for emergency uses through manual operation. The agreement also provided for temporary deliveries from Fresno to northern Clovis through the Behymer connection through 2015. However, the Behymer interconnection has yet to be constructed.

The City also cooperates with the County of Fresno's Office of Emergency Services, and the WSCP is included in the County's Disaster Plan. The goal during any emergency scenario is to maintain water supply such that the health and safety of the community is protected.

In the event of contamination of either the surface or ground water supplies, the non-impacted water supply could be used more heavily or the intertie with the City of Clovis could be activated. Additionally, overall demand reduction and the use of other wells or treated surface water would help meet demands.

If a regional power outage were to occur, the City could use backup power generators to operate wells. This measure, in conjunction with demand reduction, could supply sufficient water for health and safety purposes. The City has more than 35 wells with backup power sources. The

City has budgeted for the installation of a backup generator for the Northeast Wastewater Reclamation Facility. The Southeast SWTF and T-3 SWTF are also equipped with backup power generators.

If a natural disaster occurs, in addition to the actions discussed above, the City will isolate any areas of the system that were compromised for emergency repairs and, potentially, use of the intertie with the City of Clovis. Implementing the WSCP could also occur to reduce demands.

For more information on actions during an emergency, refer to the City of Fresno's Risk and Resilience Assessment Report finalized in September 2020 (AARC Consultants, LLC, 2020) and the City of Fresno Emergency Response Plan finalized in March 2020 (AARC Consultants, LLC, 2020).

1.5.6 Seismic Risk Assessment and Mitigation Plan

Refer to Fresno County Multi-Jurisdictional Hazard Mitigation Plan implemented in May 2018, Annex E: City of Fresno attached in **Attachment 4**, for appropriate Seismic Risk Assessment and Mitigation Plan procedures.

1.5.7 Shortage Response Action Effectiveness

The City of Fresno has assessed its overall water reduction by evaluating the water usage trends that were discussed in SBX7-7 in conjunction with the American Water Works Association water loss calculator. See Chapters 5 and 4 of the 2020 UWMP, respectively, for additional information.

The overall decrease of water use per capita and compliance with the 2020 per capita water use target indicate that the reduction measures have been effective in the community. All of the City's customers are metered and the City will use these devices to monitor actual reductions in water use during enacted shortage levels compared to normal year conditions. This data allows the City to determine the effectiveness of the implemented shortage response actions. If reduction goals are not being met, the City Manager, or designee, can make the necessary decisions for corrective action to be taken.

1.6 Communication Protocols

The City's Department of Public Utilities (DPU) currently has a contract with JP Marketing to manage communication and outreach to the customers. The firm's services include strategic planning, creative concepts, public relations, marketing, promotion, research, advertising, media design, copywriting, event creation, and online services. The City also has a public information officer and communications team whose purpose is to communicate water shortage procedures or general utility information effectively and efficiently to the customers.

During normal supply conditions, the Water Division implements informational campaigns to customers that emphasize user-level changes in water use and overall mindfulness of water waste while promoting voluntary conservation. Over the past few years, DPU has increased use of social media to communicate with customers quickly and organically. The City uses Facebook, Twitter, and Instagram to promote water saving tips, notify of shortage conditions, and spotlight DPU employees to foster a sense of community centered around the water supply. The City strives to be proactive in communicating work strategy and conservation efforts with customers.

This WSCP includes a staged plan to communicate the declaration of a shortage stage, inform restrictions, and provide updates during a water shortage emergency. A summary of actions the City could potentially take during a specific shortage stage is outlined in **Table 5**.

Table 5. Communication Protocol During Water Shortage Conditions

SHORTAGE STAGE	ACTION
1	Information posted on the City's website
1	Social media posts (Facebook, Twitter, Instagram, and Nextdoor)
2	Information included in utility bill inserts on a regular basis
2	Promotion of rebates and water conservation services
2	Letters, postcards, and flyers mailed to customers impacted by water use regulations
2	Targeted outreach and technical assistance to highest water users in each use class
2	Engage City councilmembers with resources to share with constituents
3	Increased paid advertising — print, online, radio, TV, streaming, social media, etc.
3	Messaging printed directly on utility bills
3	Press releases to local media (online and print newspapers, TV, radio, etc.)
3	Assembly and promotion of the speaker's bureau for water shortage presentations for neighborhood groups, gardening clubs, homeowners' associations, churches, senior centers, neighborhood associations, business associations, community groups, property management companies, etc.
4	Increased coordination with the local landscaping industry, including water shortage information in their newsletters, publications, and facilities; local wholesale and retail nurseries; and irrigation supply stores
4	Signage posted at nurseries and irrigation supply stores
4	Outreach materials and drought notices mailed to the hospitality industry, including restaurants and lodging

Note: If a water shortage progresses through multiple stages all measures in the previous stage(s) are implemented in addition to current stage actions.

1.7 Compliance and Enforcement

The City has penalties for violation of the water use restrictions in **Table 3**. The City tracks customer usage through advanced metering infrastructure (AMI) in order to enforce water wastage during shortage conditions as detailed in **Section 1.10**. The fines are noted in **Table 6**. Penalties for water waste are based on FMC, Section 6-520(e).

Table 6. Penalties for Water Wastage

INCIDENT MONTH[(a)]	PENALTY AND FINE
1	$0 – Issued a Notice of Water Waste
2	$25
3	$50
4-12	$100
6	If a customer has more than six incident months of water wastage within a one-year period, the City may implement any or all of the following measures: • Require the customer to get a landscape evaluation, lawn water audit, and water budget, as appropriate, in order to learn efficient water use. This work shall be completed at the customer's expense by landscape irrigation auditors certified by the Irrigation Association. • Installation by the City of flow restrictors or termination of water service. • Require a customer to repair any defects in their watering system within 14 days of notice by the City.

Note:
[a] Number of incident months are based on a calendar year.

1.8 Legal Authorities

CWC Section 375 provides the City with the statutory authority to adopt and enforce water conservation restrictions, and CWC Sections 350 et seq. authorize the City to declare a water shortage emergency and impose water conservation measures when it is determined that the City may not be able to satisfy ordinary demands without depleting supplies to an insufficient level.

If necessary, the City will declare a water shortage emergency in accordance with CWC Chapter 3 (commencing with Section 350) of Division 1. Once having declared a water shortage, the City is provided with broad powers to implement and enforce regulations and restrictions for managing a water shortage. For example, CWC section 375(a) provides the following:

> *"Notwithstanding any other provision of the law, any public entity which supplies water at retail or wholesale for the benefit of persons within the service area or area of jurisdiction of the public entity may, by ordinance or resolution adopted by a majority of the members of the governing body after holding a public hearing upon notice and making appropriate findings of necessity for the adoption of a water conservation program, adopt and enforce a water conservation program to reduce the quantity of water used by those persons for the purpose of conserving the water supplies of the public entity."*

Water Code Section 375(a). CWC Section 375(b) grants the City with the authority to set prices to encourage water conservation.

Under California law, including CWC Chapter 3.3 and Chapter 3.5 of Division 1, Parts 2.55 and 2.6 of Division 6, Division 13, and Article X, Section 2 of the California Constitution, the City is authorized to implement the water shortage actions outlined in this WSCP. Prior to enacting a shortage level, the resolution providing the Council with authority to enact each level of the WSCP will be adopted. Resolutions to enact the WSCP can be adopted at any meeting of the City Council. The resolution providing the City Manager, or designee, with authority to enact each stage of the WSCP is included in **Attachment 6**.

The City shall also coordinate with any city or county within which it provides water supply services, as listed below, for the possible proclamation of a local emergency under California Government Code, California Emergency Services Act (Article 2, Section 8558).

1.9 Financial Consequences of WSCP

This section is in accordance with CWC Section 10632(a)(8) and describes the financial consequences of implementing the WSCP and potential mitigation strategies. The City anticipates reduced revenue while implementing the WSCP because of decreased water use by its customers and additional costs associated with implementing water use restrictions and associated reduction actions. The incurred cost may vary depending on the shortage stage and duration of the water shortage emergency. The cost of compliance may be tracked when a shortage is declared. The City may track the staff time and resources used to implement the WSCP, including reduced revenue, implementation and enforcement of shortage response actions, and communication and outreach efforts. Impacts of implementing the WSCP include:

- Impact of quantity of water sales on revenue
- Increased staff, salaries, and overtime required for implementing and enforcing restrictions
- Increased costs of new supplies, transfers, or other exchanges

In 2015, the mandatory conservation goal for the City was 28%, however the corresponding revenue reductions were less than 28% due to the City having a two-component water rate structure that includes the fixed “water meter service charge” for all service connections and a volumetric-based “water quantity charge.” Therefore, the reduction in revenues was affected by a lesser percentage than the overall total reduction in water use. In general, revenue impacts specified in the WSCP would be offset with a combination of the following:

- An increase in water commodity and service charges
- A reduction in annual operating expenses due to decreased demands
- Reserves currently earmarked for long range capital
- General tax fund revenues currently earmarked for future capital improvements

Methods to mitigate revenue/expenditure impacts are discussed in detail below.

1.9.1 Drought Rate Structures and Surcharges

At present, the City does not have in place a drought rate structure. The City plans to hire a rate consultant to review existing water rates and, if appropriate, develop new future water rates. As an additional task to this effort, the consultant will review, develop, and recommend a drought rate structure for the City’s consideration. With such a rate structure in place, should a water shortage take place, the City will be able to institute an alternate water rate structure that may

apply and change depending on the stage of drought that the community is experiencing. At this time, there are no details as to how the rate structure will be developed, but conceptually each of the five stages specified in the WSCP would have a water rate increase associated with it.

The use of this type of structure during a drought will minimize expenditure impacts that are incurred during a drought. The effects of the decrease in revenue due to the drought, with a corresponding increase in expenditure, will allow for the City to function without going into debt.

1.9.2 Use of Financial Reserves

The City of Fresno Water System maintains two reserve funding sources that can be used to meet a portion of the utility's revenue requirements during emergency or drought conditions. They are as follows:

- **Water Operating Reserves** – This is cash set aside in the Water Enterprise Fund that provides a "rainy day savings account" for unexpected cash flow shortages and large, unexpected expenses or losses. Normally, these reserves are not intended to be used to make up income shortfalls. However, in an emergency situation, they can be transferred to the Water Rate Stabilization Fund (see below) for transfer back to the Water Enterprise Fund to meet revenue requirements, including debt coverage ratios.
- **Water Rate Stabilization Fund** – Indentures from previous bond issuances required the establishment of the Water Rate Stabilization Fund. These funds can be drawn on to meet a portion of the utility's revenue requirements through unexpected low-revenue periods and may be applied to debt coverage ratio calculations to help avoid technical default of bond covenants and loan agreements.

In addition, the City maintains funding in the Emergency Reserve Fund for the purpose of meeting unforeseen emergencies (see Section 1212 of the City's Charter for more information). This funding may be used by an affirmative vote of at least five members of the City Council upon presentation of a statement declaring the reason for use of the funding. This funding would be used only if the Water System reserves were insufficient to meet revenue requirements.

1.9.3 Other Measures

If the funding mentioned above is not sufficient to compensate for loss of revenue during a water shortage, the City may temporarily suspend components of its operations and maintenance activities.

1.10 Monitoring and Reporting

As described in **Section 1.3**, the City will track its supplies and project demands annually as part of the Annual Water Supply and Demand Assessment, and, if conditions described in **Table 2** are projected, the City will enact its WSCP. Monitoring demands is essential to ensure the WSCP response actions are adequately meeting reductions and decreasing the supply/demand gap. This will help to analyze the effectiveness of the WSCP or identify the need to activate additional response actions.

The City currently has AMI technology to monitor customer water usage and uses its AMI system to automatically enforce demand reduction measures and restrictions. The AMI system is currently set up to monitor and enforce outdoor watering restrictions. The program monitors customer meter flows against an "excessive use" flowrate, which will vary based on the WSCP stage. The system flags customer meters exceeding the excessive use flowrate during a

day/time outside of permitted outdoor watering hours as excessive use and an incident of water waste. If a customer has one or more incidents of water waste during a month, the customer shall be issued a Notice of Water Waste and, if applicable, be charged fines and penalties. The City may expand this monitoring program in the future to monitor other uses beyond outdoor watering restrictions.

The City can also use the detailed water usage data to monitor customers' response and demand reduction due to restrictions for each stage in the WSCP. The many restrictions and prohibitions assigned to each stage in **Table 3** are inherently flexible so the City can implement certain the restrictions, monitor customer usage, and implement additional restrictions if the demand reductions are not sufficient to close the supply and demand gap. The City also intends to provide reporting to the State based on forthcoming regulations for monthly reporting of water production and other water uses, along with associated enforcement metrics.

1.11 WSCP Refinement Procedures

The City intends to use this WSCP as an adaptive management plan to respond to foreseeable and unforeseeable water shortages. The WSCP is used to provide guidance to the City's governing body and staff and the public by identifying response actions to allow for efficient management of any water shortage with predictability and accountability. To maintain a useful and efficient standard of practice in water shortage conditions, the requirements, criteria, and response actions need to be continually evaluated and improved on to make sure the WSCP provides the tools to maintain reliable supplies and reduce the impacts of supply shortages.

This 2020 WSCP accounts for the latest analysis of the City's robust supply portfolio in relation to demand and adjusted percentage reduction stages to reflect a more appropriate supply shortage that should trigger stages. This is a process that should be reevaluated annually and updated as necessary. Potential changes to the WSCP that would warrant an update include any changes to shortage level triggers, changes to the shortage level structure, and changes to the response actions. Any prospective changes to the WSCP would need to be presented at a public hearing; staff would obtain any comments and adopt the updated WSCP. The steps to formally amend the WSCP are discussed in **Section 1.13**.

Potential refinements will be documented and integrated into the next WSCP update. If new response actions are identified by staff or the public, these could be advertised as voluntary actions until they are formally adopted as mandatory.

1.12 Special Water Feature Distinction

CWC Section 10623 (b) requires that suppliers analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code. As listed in **Table 3 and Section 1.5.1**, there are separate requirements for decorative water features — including decorative fountains, lakes, or ponds — and for pools and spas. The City has separate response actions, enforcement actions, and monitoring programs for both decorative water features and pools and spas. Non-pool or non-spa water features may use or be able to use recycled water, whereas pools and spas must use potable water for health and safety considerations. Limitations to pools and spas may require different considerations compared to non-pool or non-spa water features.

1.13 Plan Adoption, Submittal and Availability

This WSCP update was prepared in tandem with the 2020 UWMP. The City held a public hearing and adopted the 2020 WSCP on July 15, 2021. A copy of the published Notice of Public Hearing is included in **Attachment 5** and a copy of the adopting resolution is included in **Attachment 6**. Before the public hearing, notices were published notifying the public of the date and time of the hearing.

Once the 2020 WSCP has been adopted, a copy will be submitted to DWR, the State Library, and the County of Fresno. Also, a hard copy will be made available for public reference at the City of Fresno Department of Public Utilities office at City Hall (located at 2600 Fresno Street) and the Water Division office (located at 1910 E. University Avenue). Additionally, an electronic copy will be uploaded to the City of Fresno website[1] and made available for public reference.

Based on DWR's review of the WSCP, the City will make any amendments in its adopted WSCP, as required and directed by DWR. If the City revises its WSCP after the UWMP is approved by DWR, then an electronic copy of the revised WSCP will be submitted to DWR within 30 days of its adoption.

[1] www.fresno.gov/Government/DepartmentDirectory/PublicUtilities/Watermanagement/importantdocuments.htm

References

AARC Consultants, LLC. (2020). *City of Fresno Department of Public Utilites Risk and Resilience Assessment for the America's Water Infrastructure Act 2018.* Fresno, California.

AARC Consultants, LLC. (2020). *City of Fresno Water Divsion All Hazards Emergency Response Plan.*

Attachment 1
Preliminary Annual Assessment Template

DWR ASSESSMENT TABLE TEMPLATE - EXAMPLE VALUES FOR 2021 SHOWN

City of Fresno
DWR Annual Water Supply and Demand Assessm
Supply and Demand Estimates

Current Year: <YEAR>
Updated: <DATE>

	Current Year	Following Year	
Demand Use Type	**2021**	**2022**	**Notes**
Single Family	60,666	61,272	1% annual increase from 2020
Multi-Family	19,030	19,221	1% annual increase from 2020
Commercial	17,141	17,312	1% annual increase from 2020
Industrial	5,786	5,844	1% annual increase from 2020
Landscape	9,583	8,680	1% annual increase from 2020; Reduced by increased recycled water use
Other	343	347	1% annual increase from 2020
Losses	9,664	9,760	1% annual increase from 2020
Recycled Water	1,912	2,911	Estimates per 2020 UWMP Table 7-4
M&I Demand Subtotal	**124,125**	**125,347**	
Operational Buffer (10%)	12,410	12,530	To account for supply and demand uncertainties
M&I Demand Total	**136,535**	**137,877**	
Groundwater Recharge	-	-	No recharge assumed due to low surface water supply availability
Total Demand	**136,535**	**137,877**	

Supply	**2021**	**2022**	
Groundwater, Sustainable Yield	73,062	73,644	Sustainable groundwater yield per 2020 UWMP Table 6-1
Groundwater, Allocated from Storage	-	-	Groundwater in storage built up over time from recharge and reduced pumping; Not used since supply is greater than demand
USBR Contract Allocation	17,612	19,025	Current Year: USBR Allocation = 20% plus 5,612 AF of carryover Following Year: Average of "Critical" year per 2020 UWMP Table 6-2
FID Contract Allocation	51,580	61,000	Current Year: FID Kings River Allocation = 26% Following Year: Average of "Critical" year per 2020 UWMP Table 6-3
Recycled Water, RWRF	1,802	2,801	Estimates per 2020 UWMP Table 6-6
Recycled Water, NFWRF	110	110	Estimates per 2020 UWMP Table 6-6
Total Supplies	**144,166**	**156,580**	

Supply vs. Demand	**2021**	**2022**
Supply minus Demand (AF)	**7,631**	**18,703**
Supply divided by Demand (%)	**106%**	**114%**

WATER SHORTAGE STAGE TEMPLATE - EXAMPLE VALUES FOR 2021 SHOWN

City of Fresno
DWR Annual Water Supply and Demand Assessment
Water Shortage Stage Comparison

Current Year: <YEAR>
Updated: <DATE>

2021 Water Supplies (AFY)

Supplies	Maximum Available Supplies	Projected Available Supplies
GW, Sustainable Yield	73,062	73,062
GW, from Storage	*Not Used*	
Surface Water	176,055	69,192
Recycled Water	1,912	1,912
Total	**251,029**	**144,166**

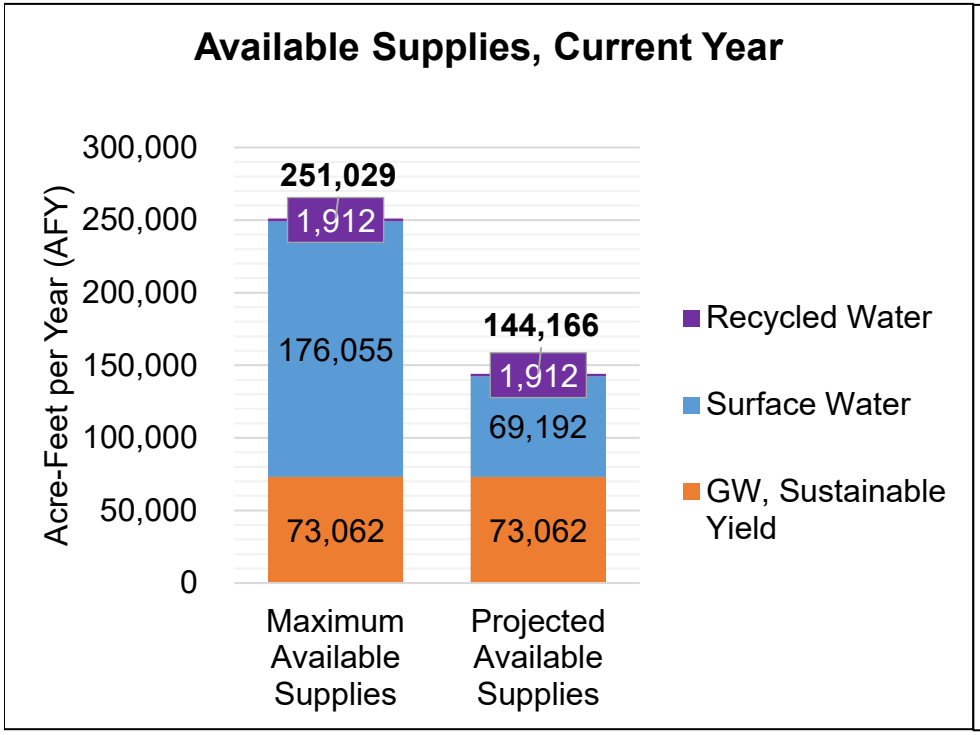
2021 Water Demands (AFY)

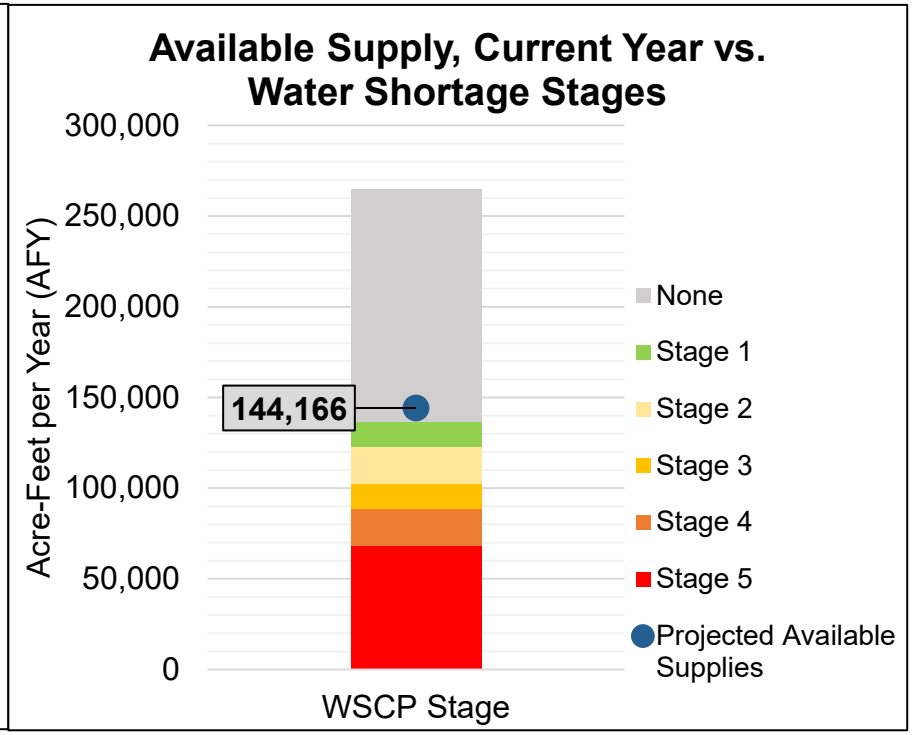
Demand Type	Estimated Demands
M&I	124,125
Buffer	12,410
Retail Subtotal	**136,535**
Recharge	0
Total	**136,535**

Note: Refer to seperate Supply and Demand projections table for assumptions.

Water Shortage Stages

WSCP Stage	Reduction Upper End	Reduction Lower End	(AFY) Upper End	(AFY) Lower End
None				136,500
Stage 1	0%	10%	136,500	122,900
Stage 2	10%	25%	122,900	102,400
Stage 3	25%	35%	102,400	88,700
Stage 4	35%	50%	88,700	68,300
Stage 5		> 50%	68,300	





Attachment 2
City of Fresno Municipal Code Chapter 6-520

SEC. 6-520. - WATER CONSERVATION.

(a) In the use of potable water supplied by the city, no customer shall do or permit any of the following:

(1) Use potable water to irrigate or water outdoor landscaping in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots or structures,

(2) Keep, maintain, operate, or use any water connection, hose, faucet, hydrant, pipe, outlet, or plumbing fixture which is not tight and free from leakage,

(3) Willfully or negligently waste water,

(4) Flood any part of the premises of another,

(5) Sprinkle the premises of another so as to prevent the normal use thereof or unreasonably wet objects thereon which should not be subjected to a spray of water except as naturally caused by the elements or by action of the owner of the object,

(6) Sprinkle or irrigate any yard, ground, premise, or vegetation except as set forth in the City's Outdoor Water Use Schedule,

(i) Annual Exemptions. The following properties may submit an application for a one-year exemption to the Outdoor Water Use Schedule in effect at the time of the application:

a. Properties with multiple addresses, and

b. Properties with turfed or landscaped areas of two acres or larger, and

c. Properties without street addresses.

The owners of such properties shall submit a proposed modified Outdoor Water Use Schedule in writing to the Director or designee for approval or modification. The Director may approve a modified Outdoor Water Use Schedule for with more frequent watering or different watering days than allowed by the Outdoor Water Use Schedule in effect at the time the application for an exemption is submitted for consideration. If the Director determines the proposed exemption will adversely impact system water pressures in the service area, the proposed exemption will be denied. All Annual Exemptions approved by the Director shall automatically expire on December 31 of each year, and the property owners must re-apply for an exemption to the Outdoor Water Use Schedule.

(ii) Short-term Exemptions. The following properties may submit an application for an exemption from the Outdoor Water Use Schedule for a specific time period not to exceed one month.

a. Properties with new lawns not yet established.

b. Properties seeking to use water for a bona fide use, such as solar panel cleaning or other use necessary for health or preservation of property.

The owners of such properties shall submit a proposed modified Outdoor Water Use Schedule in writing to the Director or designee for approval or modification no less than 48 hours before the proposed non-compliant water usage. The Director may approve a modified Outdoor Water Use Schedule that may provide for more frequent outdoor water use or different outdoor water use days than allowed by the Outdoor Water Use Schedule in effect at the time the application for an exemption is submitted for consideration. If the Director determines the proposed exemption will adversely impact system water pressures in the service area, the proposed exemption will be denied. All Short-term Exemptions approved by the Director shall automatically expire on the date set forth on the Short-Term Exemption permit.

(7) Sprinkle or irrigate any yard, ground, premise, or vegetation unless the watering device used is controlled by an shut-off device, or a person is in immediate attendance of the hose or watering device,

(8) Wash any privately owned motor vehicle, trailer, or boat except from a bucket or in a commercial car wash, provided a hose equipped with a shut-off nozzle may be used for a quick rinse without causing water to flow onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures,

(9) Wash or rinse with a hose or watering device any sidewalk, driveway, parking area, tennis court, patio, or any other exterior paved area, except for public health and safety reasons at public gathering places, or

(10) Use potable water in a fountain or other decorative water feature, except where the water is part of a recirculating system.

(11) Irrigate ornamental turf on public street medians with potable water, except where:

(i) The turf serves a community or neighborhood function, including but not limited to, recreational uses and civic or community events;

(ii) The turf is irrigated incidentally by an irrigation system primarily intended to irrigate trees;

(iii) The turf is irrigated with recycled water.

This prohibition does not include trees and shrubs on public medians, which may be irrigated.

(12) Irrigate outdoor landscapes with potable water during and within 48 hours after measurable rainfall.

(13) Serve drinking water other than upon request in eating or drinking establishments, including but not limited to, restaurants, hotels, cafes, cafeterias, bars, or other public places where food or drink are served or purchased.

(14) Irrigate landscapes outside of newly constructed homes and buildings in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development.

(15) Automatically change towels and linens in hotels and motels daily. Operators of hotels and motels shall provide guests the option of choosing not to have towels and linens laundered daily. The hotel or motel shall prominently display notice of this option in each guestroom using clear and easily understood language.

(16) Drain swimming pools more than once every three years, except as necessary to complete structural repairs or to comply with public health standards, as determined by the County Health Officer. Residents with private swimming pools shall file a written application for a permit with the City of Fresno Water Division at least 48 hours prior to draining the pool. Any customer whose swimming pool is drained by order of the Department of Health for failure to maintain it properly will also be issued a notice of violation of the City of Fresno Municipal Code. The draining of pools for reasons of health and safety hazards as determined by the City of Fresno Water Division and/or the Department of Health is permitted. The application shall include the results of a pool water test conducted by an independent testing organization which shows a cyanuric acid level above 100 parts per million, total dissolved solids over 2,500 parts per million, or calcium over 450 parts per million, or stating the nature and duration of repairs to be made and the date on which the pool will be drained.

(17) Fill newly constructed or refurbished swimming pools without a pool fill permit from the City of Fresno Water Division.

(18) Refill (top off) established swimming pools except during times when outdoor water use is allowed at the property address pursuant to the Outdoor Water Use Schedule.

(b) Notwithstanding the foregoing, drip irrigation of community and residential fruit and vegetable gardens and fruit tr permitted any day of the week; for this subsection, "drip irrigation system" means a non-spray, low-pressure, and lc volume irrigation system in good working order utilizing emission devices with a flow rate of less than four gallons p hour, designed to slowly apply small volumes of water at or near the root zone of plants, when used primarily for ir of fruit and vegetable gardens and fruit trees; should any city water customer be cited for excessive water use, the customer may contact the Water Division and request an exemption from the Outdoor Water Use Schedule for a hc community garden that is irrigated with a drip irrigation system. Upon being contacted, the Water Division will sche visit to the subject property to inspect the garden and the drip irrigation system used to irrigate the garden. The Wa Division shall grant an exemption for home or community garden with the following conditions:

(1) The property must limit water use to an amount equal to, or less than, the average monthly water use for the single-family residential customer class. The monthly average water use for the single-family residential customer class is printed on monthly utility bills issued by the City.

(2) The drip irrigation system must be in good working order with no leaks, line breaks, or other deficiencies that will contribute to water waste. Exemptions shall be withheld until corrective action is taken to address system deficiencies.

(3) The drip irrigation system must be used primarily for the home or community garden, and not for other landscape on the property- Exemptions shall be withheld until the drip irrigation system for the home or community garden can be isolated from other landscape on the property.

(4) No flood irrigation will be allowed with the drip irrigation system, and water must remain on the subject property with no runoff to sidewalks, driveways, pavements, or adjacent properties.

(5) The home and community garden exemption is provided exclusively for drip irrigation systems only, and will not be allowed for other types of irrigation systems.

(6) This exemption shall only apply to properties ¼ acre or smaller. For properties greater than ¼ acre, the property owner may apply to the Director or designee for an exemption.

(c) Lawn sprinkling systems shall be properly designed, installed, maintained, and operated to prevent waste of water.

(d) Repealed.

(e) The provisions of this section are conditions of service.

(1) Each incident of Excessive Use as defined in section 6-501, or use of water inconsistent with the provisions of this section, is an incident of water waste.

(2) If a customer has one or more incidents of water waste during a month, as observed by City staff or as recorded by the City's water meter reading system, the customer shall be issued a Notice of Water Waste and, if applicable, charged a fine as set forth in the Master Fee Schedule. Such fines shall be added to the customer's monthly utility bill and shall be due and payable with that utility bill and subject to the FMC 6-106, Late Payment of Municipal Service Bills.

(3) Incident counts for water waste shall be monitored, recorded, documented and enforced on a monthly basis during the calendar year for individual customers, and the incident counts shall be reset January 1 of each year.

(4) If a customer performs or permits incidents of water waste more than six consecutive months, the water service to the customer may be terminated unless in the opinion of the Director such termination would result in an unreasonable risk to the health and safety of persons. If water service is terminated for

successive incident of water waste, the water service may only be restored upon execution of an agreement with the customer to adhere to the conditions of service described in this section.

(5) If a customer objects to a fine imposed for an incident of water waste pursuant to this section, the following appeal process may be used.

Step 1.

(a) Within thirty days of issuance of the utility bill including the fine, the customer may contact the Water Conservation Program to appeal an incident of water waste resulting in a fine with the staff person who initiated the enforcement measure. The staff person shall gather the facts about the incident.

(b) The customer may provide staff with evidence there was no incident of water waste, or of a bona fide reason for the incident of water waste, including evidence of a water leak, or another reasonable justification for the water use, within ten business days of the customer's first communication with the Water Conservation Program regarding the alleged incident of water waste.

(c) Within ten business days of the initiation of an appeal, staff shall provide the customer with documentation demonstrating the incident of water waste, if applicable.

(d) The staff will provide the facts and evidence related to the appeal to the Water Conservation Program Supervisor, who will determine whether to rescind the enforcement measure. The Water Conservation Program Supervisor will provide a written decision to the customer within fifteen business days of the customer's appeal, or receiving any applicable evidence from the customer, whichever comes later.

Step 2. If the customer is not satisfied with the decision of the Water Conservation Program Supervisor, they may appeal to the Director or designee within ten business days of the date of the Water Conservation Program Supervisor's decision. The Director or designee shall review the appeal and any evidence the customer previously submitted, and provide a written decision within thirty days of receiving the appeal.

Step 3. If the customer is not satisfied with the decision of the Director of Public Utilities, the customer may appeal to the City's Administrative Hearing Officer in the manner provided in Chapter 1, Article 4 of this code. Such decision shall be final.

(Orig. Ord. 4481; Am. Ord. 6486, 1964; Am. Ord. 73-120, § 6, eff. 8-16-73; Am. Ord. 77-99, § 1, eff. 9-23-77; Am. Ord. 78-74, §§ 1, 2, eff. 5-26-78; Am. Ord. 80-115, § 149, eff. 8-8-80; Am. Ord. 89-48, §§ 1, 2, eff. 4-18-89; Am. Ord. 89-77, § 1, eff. 6-7-89; Am. Ord. 89-102, § 1, eff. 9-22-89; Am. Ord. 90-72, § 1, eff. 8-24-90; Am. Ord. 90-97, § 1, eff. 10-12-90; Am. Ord. 91-104, § 1, eff. 10-18-91; Am. Ord. 91-112, § 1, eff. 11-22-91; Am. Ord. 93-14, § 1, eff. 2-23-93; Am. Ord. 93-20, § 2, eff. 4-30-93; Am. Ord. 2015-13, § 1, eff. 5-21-15; Am. Ord. 2015-29, § 1, eff. 8-27-15; Am. Ord. 2017-56, § 3, eff. 11-19-17; Am. Ord. 2018-45, § 1, eff. 8-10-18; Am. Ord. 2019-011, § 3, eff. 5-31-19).

Editor's note— The provisions in subsection 6-520(e) regarding the enforcement program for incidents of water waste are effective January 1, 2018.

Attachment 3
Water Shortage Resolution

RESOLUTION NO. 2019-073

A RESOLUTION OF THE COUNCIL OF THE CITY OF FRESNO, CALIFORNIA, TO AMEND THE WATER SHORTAGE CONTINGENCY PLAN

WHEREAS, the Urban Water Management Planning Act requires the City of Fresno (City) to describe its water conservation measures within its Water Shortage Contingency Plan (WSCP);

WHEREAS, the City adopted its current WSCP on June 23, 2016, as part of the City's 2015 Urban Water Management Plan (UWMP);

WHEREAS, the City Council adopted amendments to the WSCP on October 12, 2017;

WHEREAS, in response to water conservation mandates from the State of California and to provide flexibility to its customers, the City has prepared further amendments to the WSCP to update water conservation requirements and watering restrictions in different water conservation stages in the City of Fresno.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Fresno as follows:

1. The City hereby adopts the amended Water Shortage Contingency Plan, as attached in Tables 1-3 of Exhibit A herein.

2. Resolution 2018-253 shall be repealed on the effective date of this Resolution.

* * * * * * * * * * * * * *

Date Adopted: 4/11/2019
Date Approved: 4/16/2019
Effective Date: 4/16/2019

STATE OF CALIFORNIA)
COUNTY OF FRESNO) ss.
CITY OF FRESNO)

I, YVONNE SPENCE, MMC CRM, City Clerk of the City of Fresno, certify that the foregoing resolution was adopted by the Council of the City of Fresno, at a regular meeting held on the 11th day of April, 2019.

AYES : Arias, Bredefeld, Chavez, Esparza, Soria, Caprioglio
NOES : None
ABSENT : None
ABSTAIN : None

Mayor Approval: April 16th, 2019
Mayor Approval/No Return: N/A, 2019
Mayor Veto: N/A, 2019
Council Override Vote: N/A, 2019

YVONNE SPENCE, MMC CRM
City Clerk

By: Yvonne Spence
Deputy

APPROVED AS TO FORM:
DOUGLAS T. SLOAN
City Attorney

By: Amanda B Freeman 04/18/19
Amanda B Freeman Date
Senior Deputy City Attorney

Attachment:
Exhibit A – Revised Water Shortage Contingency Plan, Tables 1-3

EXHIBIT A

Revised Water Shortage Contingency Plan

Table 1: Stages of Water Shortage Contingency Plan (WSCP)

Stage	Percent Supply Reduction	Water Supply Condition
1	10%	Stage 1 of the Water Shortage Contingency Plan may be triggered by any of the following conditions: • In the second of two consecutive years, the volume of surface water available to the City through USBR and FID is projected to be less than the long-term average and the reduction in supply, averaged over the consecutive years, is equal to 10% or greater, or • Groundwater contamination conditions exists (DDW required the City to shut down wells) or a large-scale infrastructure failure occurs that results in a 10% loss in water production capacity, or • Localized groundwater cones of depression develop exceeding historic low water levels and, to avoid possible litigation with responsible parties of point source contaminant plumes, the City must shut down existing wells that result in a 10% loss in groundwater production capacity, or • A combination of the above mentioned circumstances or a disaster reduced the City's overall water supply or production capabilities by 10% or more. • After having been in a Stage 2 classification, the following water year results in a declaration by the jurisdictional authority in determining entitlements for the respective surface water supply of normal or above normal water deliveries; or the original trigger for a previous higher stage classification has been rectified to a point that is consistent with the above conditions for this stage.
2	10 - 25%	Stage 2 of the Water Shortage Contingency Plan may be triggered by any of the following conditions: • In the third of three consecutive years, the projected volume of surface water available to the City through USBR or FID is less than the long term average and the reduction in supply, averaged over the three consecutive years equals 10% or greater, or • The volume of surface water available to the City through FID is reduced by 25% of the long-term average, or • The volume of surface water available to the City through USBR is reduced by 25% of the long-term average, or • One-year change in average groundwater level in 30 key City wells exceeds 3 feet or two-year change in average groundwater level in 30 key City wells exceeds 6 feet and exceeds historic low groundwater levels, or • Groundwater contamination condition exists (DDW requires the City to shut down wells) or a large-scale infrastructure failure occurs that results in a 25% loss in water production capacity, or • A combination of the above mentioned circumstances or disaster reduces the City's overall water supply or production capabilities

Stage	Percent Supply Reduction	Water Supply Condition
		by 25% or more. • After having been in a Stage 3 classification, the following water year results in a declaration by the jurisdictional authority in determining entitlements for the respective surface water supply of normal or above normal water deliveries on the Friant-Kern system; or the original trigger for a previous higher stage classification has been rectified to a point consistent with the above conditions for this stage.
3	25 to 35%	Stage 3 of the Water Shortage Contingency Plan may be triggered by any of the following conditions: • In the fourth of four consecutive years, the projected volume of surface water available to the City through USBR or FID is less than the long term average and the reduction in supply, averaged over the four consecutive years equals 10% or greater, or • The volume of surface water available to the City through FID is reduced by 35% of the long-term average, or • The volume of surface water available to the City through USBR is reduced by 35% of the long-term average, or • One-year change in average groundwater level in 30 key City wells exceeds 5 feet or two-year change in average groundwater level in 30 key City wells exceeds 10 feet and exceeds historic low groundwater levels, or • Groundwater contamination condition exists (DDW requires the City to shut down wells) or a large-scale infrastructure failure occurs that results in a 35% loss in water production capacity, or • A combination of the above mentioned circumstances or disaster reduces the City's overall water supply or production capabilities by 35% or more. • After having been in a Stage 4 classification, the following water year results in a declaration by the jurisdictional authority in determining entitlements for the respective surface water supply of normal or above normal water deliveries on the Friant-Kern system; or the original trigger for a previous higher stage classification has been rectified to a point that is consistent with the above conditions for this stage.

Stage	Percent Supply Reduction	Water Supply Condition
4	35 - 50%	Stage 4 of the Water Shortage Contingency Plan may be triggered by any of the following conditions: • In the fifth of five consecutive years, the projected volume of surface water available to the City through USBR or FID is less than the long term average and the reduction in supply, averaged over the five consecutive years equals 10% or greater, or • The volume of surface water available to the City through FID is reduced by 50% of the long-term average, or • The volume of surface water available to the City through USBR is reduced by 50% of the long-term average, or • One-year change in average groundwater level in 30 key wells exceeds 7.5 feet or two-year change in average groundwater level in 30 key City wells exceeds 12 feet and exceeds historic low groundwater levels, or • Groundwater contamination condition exists (DDW requires the City to shut down wells) or a large-scale infrastructure failure occurs that results in a 50% loss in water production capacity, or • A combination of the above mentioned circumstances or disaster reduces the City's overall water supply or production capabilities by 50% or more.

Table 2: Restrictions and Prohibitions on End Uses

(#)	Stage	Restrictions and Prohibitions	Additional Explanation or Reference	Penalty, Charge or Other Enforcement
a	1-4	Landscape – Limit landscape irrigation to specific times (Outdoor Water Use Schedule)	See Outdoor Water Use Schedule, Table 2a.	Yes See Table 3
b	1-3	Other	Prohibit car washing except with a bucket only (a hose equipped with a shut off nozzle may be used for a quick rinse)	Yes See Table 3
c	1-4	Other – Prohibit use of potable water for washing hard surfaces	Prohibit use of potable water to wash sidewalks, walkways, driveways, parking lots, open ground or other hard surfaced areas except where necessary for public health or safety	Yes See Table 3
d	1-4	Landscape – Prohibit certain types of landscape irrigation	Prohibit irrigating outdoor landscapes with potable water during and within 48 hours after measurable rainfall	Yes See Table 3
e	1-4	Landscape – Prohibit certain types of landscape irrigation	Sprinkle or irrigate any yard, ground, premise, or vegetation unless the watering device used is controlled by an automatic shut-off device, or a person is in immediate attendance of the hose or watering device	Yes See Table 3
f	1-4	Landscape – Prohibit certain types of landscape irrigation	Prohibit using potable water to irrigate or water outdoor landscaping in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots or structures	Yes See Table 3
g	1-4	Landscape – Prohibit certain types of landscape irrigation	Prohibit irrigation of ornamental turf on public street medians with potable water, except where the turf serves a community or neighborhood function, it's irrigated incidentally by an irrigation systems designed to irrigate trees, or the turf is irrigated with recycled water	Yes See Table 3

h	4	Other	Prohibit car washing	Yes See Table 3
i	1-4	Other – Restaurants may only serve water upon request	No restaurant, hotel, café, cafeteria, or other public place where food is sold is served or offered for sale, shall serve drinking water to any customer unless expressly requested	Yes See Table 3
j	1-4	Landscape – Prohibit certain types of landscape irrigation	Irrigate landscapes outside of newly constructed homes and buildings in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development	Yes See Table 3
k	1-4	Water Features – Restrict water use for decorative water features, such as fountains	Prohibit use of potable water to clean, fill or maintain decorative fountains, lakes, or ponds unless such water is reclaimed	Yes See Table 3
l	4	Other – Prohibit use of potable water for construction and dust control	Prohibit use of potable water for construction, compaction, dust control, street or parking lot sweeping, building wash down where non-potable or recycled water is sufficient	Yes See Table 3
m	1-4	Other – Prohibit automatic linen service in hotels and motels	Prohibit automatically changing towels and linens in hotels and motels daily. Operators of hotels and motels shall provide guests the option of choosing not to have towels and linens laundered daily	Yes See Table 3
n	4	Other	Prohibit use of potable water for sewer system maintenance or fire protection training without prior approval by the City Manager	No
o	4	Other – Customers must repair leaks, breaks, and malfunctions in a timely manner	Prohibit allowing potable water to escape from breaks within the customer's plumbing system for more than twenty-four (24) hours after the customer is notified or discovers the break	Yes See Table 3

p	4	Other – Prohibit vehicle washing except at facilities using recycled or recirculating water	Prohibit washings cars, boats, trailers, aircraft, or other vehicles except to wash such vehicles at commercial or fleet vehicle washing facilities using water recycling equipment	Yes See Table 3
q	1-4	Swimming Pools – Prohibit draining swimming pools more than once every three years	Prohibit draining swimming pools more than once every three years, except as necessary to complete structural repairs or to comply with public health standards, as determined by the County Health Officer	Yes See Table 3
r	1-4	Swimming Pools – Limit filling new or refurbished pools by requiring a pool fill permit	Prohibit filling new or refurbished swimming pools without obtaining a pool fill permit from the City	Yes See Table 3
s	1-4	Swimming Pools – limit filling (topping off) established pools to times and days permitted by the Outdoor Water Use Schedule	Prohibit filling (topping off) swimming pools during times when outdoor irrigation is allowed according to the Outdoor Water Use Schedule	Yes See Table 3
t	4	Pools and Spas – Require covers for pools and spas	Require covers for swimming pools when not in use	No
u	4	Other	Prohibit Use of Outdoor Misters	No

Table 2a: Outdoor Water Use Schedule

Stage	Summer (April 1 – October 31)	Summer Outdoor Water Use days	Winter (November 1 – March 31)	Winter Outdoor Water Use days	Outdoor Water Use Times
1	3 days/week recommended	Even addresses: Wednesday, Friday, Sunday Odd addresses: Tuesday, Thursday, Saturday	1 day/week recommended	Even addresses: Sunday Odd addresses: Saturday	Outdoor Water Use allowed 12:00 AM – 9:59 AM & 6:00 PM – 11:59 PM Outdoor Water Use is prohibited all days 10:00 AM – 6:00 PM
2	3 days/week	Even addresses: Wednesday, Friday, Sunday Odd addresses: Tuesday, Thursday, Saturday	1 day/week	Even addresses: Sunday Odd addresses: Saturday	
3	2 days/week	Even: Wednesday and Sunday Odd: Tuesday and Saturday	1 day/week	Even addresses: Sunday Odd addresses: Saturday	
4	1 day/week	Even addresses: Sunday Odd addresses: Saturday	No outdoor water use		

Table 3: Penalties for Incidents of Water Waste

Incident Month	Incident Fine	Enforcement Schedule
1	$0	The first month an incident of water waste is recorded during the calendar year, the City shall issue a Notice of Water Waste to the customer for the incident observed by City staff or as recorded directly by the City's water meter reading system.
2	$25	The second month an incident of water waste is recorded is recorded for a customer during the calendar year, the City shall assess a fine of $25 to the customer, and the fine shall be applied to the customer's monthly utility bill.
3	$50	The third month an incident of water waste is recorded for a customer during the calendar year, the City shall assess a fine of $50 to the customer, and the fine shall be applied to the customer's monthly utility bill.
4	$100	The fourth month an incident of water waste is recorded for a customer during the calendar year, the City shall assess a fine of $100 to the customer, and the fine shall be applied to the customer's monthly utility bill.
5 -12	$100	For the fifth month an incident of water waste is recorded during the calendar year, and every month thereafter for the remainder of the calendar year during which an incident of water waste is recorded, the City shall assess a fine of $100 to the customer, and the fine shall be applied to the customer's monthly utility bill.
After 6	N/A	If a customer has more than six consecutive months of documented water waste incidents, the water service to the customer may be restricted or terminated unless in the opinion of the Director such restriction or termination would result in an unreasonable risk to the health and safety of persons. If water service is terminated for excessive violations of the water waste provisions as defined herein, the water service may only be restored upon execution of an agreement with the customer to adhere to the conditions of service described in this section.

April 12, 2019

Council Adoption: 4/11/19
Mayor Approval:
Mayor Veto:
Override Request:

TO: MAYOR LEE BRAND

FROM: YVONNE SPENCE, MMC
City Clerk

SUBJECT: TRANSMITTAL OF COUNCIL ACTION FOR APPROVAL OR VETO

At the City Council meeting of 4/11/19, Council adopted the attached Resolution No. 2019-073, entitled **Amending the City of Fresno Water Shortage Contingency Plan.** Item No. 3-B (3), File ID19-1472, by the following vote:

Ayes	:	Arias, Bredefeld, Caprioglio, Chavez, Esparza, Soria
Noes	:	None
Absent	:	None
Abstain	:	None

Please indicate either your formal approval or veto by completing the following sections and executing and dating your action. Please file the completed memo with the Clerk's office on or before April 22, 2019. In computing the ten day period required by Charter, the first day has been excluded and the tenth day has been included unless the 10th day is a Saturday, Sunday, or holiday, in which case it has also been excluded. Failure to file this memo with the Clerk's office within the required time limit shall constitute approval of the ordinance, resolution or action, and it shall take effect without the Mayor's signed approval

****

Thank you.

APPROVED/NO RETURN: _____

VETOED for the following reasons: (Written objections are required by Charter; attach additional sheets if necessary.)

_____

_____

_____
Lee Brand, Mayor

Date: 4-16-19

COUNCIL OVERRIDE ACTION:

Date: _____

Ayes :
Noes :
Absent :
Abstain :

CITY OF FRESNO
CITY CLERK'S OFFICE
2019 APR 17 P 1:57

RECEIVED

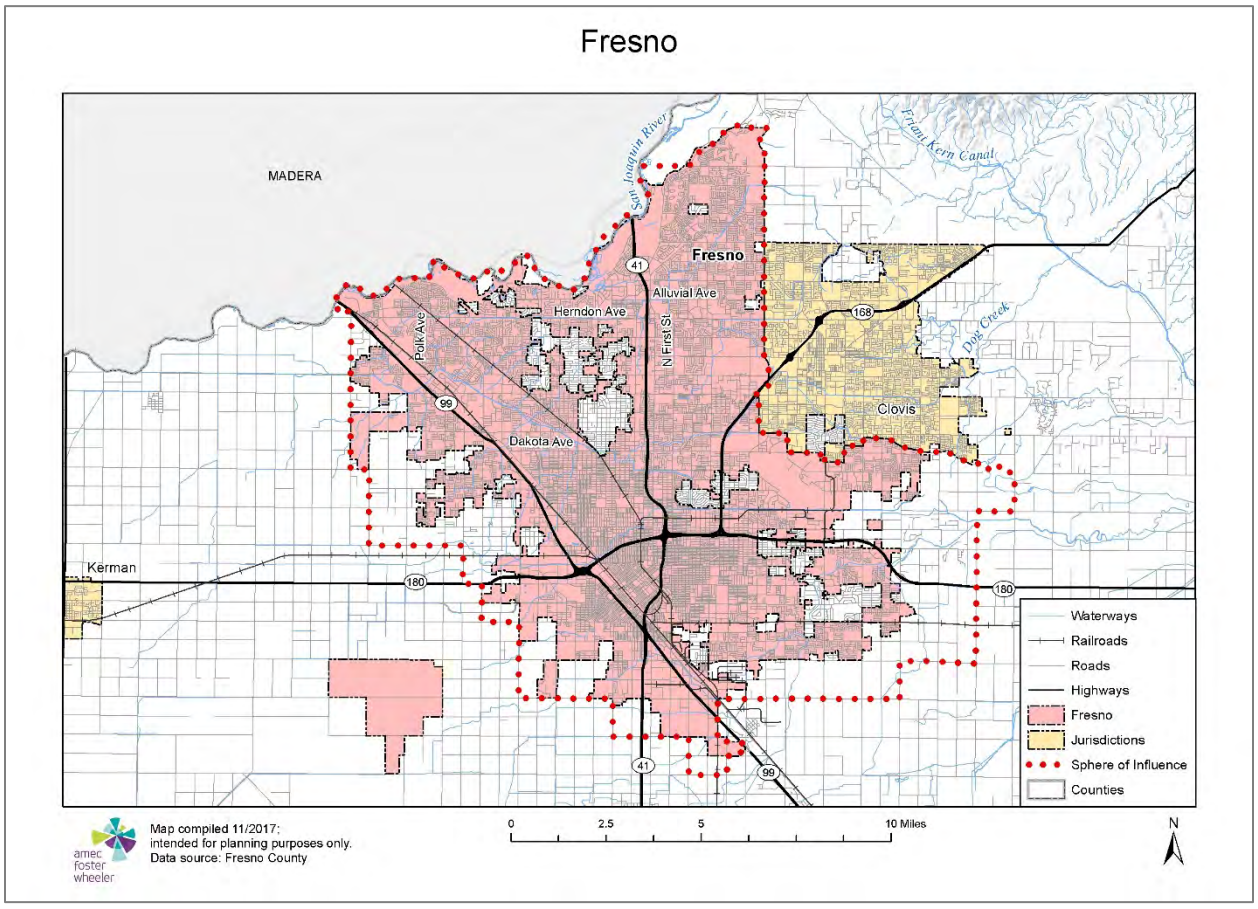
Attachment 4
Fresno County Multi-Jurisdictional Hazard Mitigation Plan, Annex E: City of Fresno

Reference the complete Fresno County Multi-Jurisdictional Hazard Mitigation Plan online:
https://www.fresno.gov/darm/wp-content/uploads/sites/10/2020/12/FresnoCountyHMPFinal.pdf

E.1 Community Profile

Figure E.1 displays a map and the location within Fresno County of the City of Fresno and its Sphere of Influence.

Figure E.1: The City of Fresno



E.1.1 Geography and Climate

The City of Fresno and its Sphere of Influence encompass a 100,400-acre area in central Fresno County. Over the past decade, the City has expanded into the northern, northwestern, and eastern reaches of its Sphere of Influence. Except for the deep channel of the San Joaquin River at the northern boundary of the City, Fresno's topography is generally level and slopes gently to the southwest. The upper San Joaquin River lies at the City's northerly boundary and has carved a deep channel, confining the river between steep bluffs that range from 20 to approximately 100 feet in height.

Fresno has a Mediterranean climate, averaging over 262 sunny days per year and little or no measurable precipitation from June through September. Annual rainfall typically totals 12-14 inches in episodic events lasting up to a few days at most. Fresno's prevailing winds are typically light and from the northwest.

Storms with strong weather disturbances (lightning and very agitated winds) may occur from autumn months through the spring, with the strength of the storm dependent upon temperature gradients between moving weather fronts.

Winter mornings in December and January approach freezing but only rarely reach as low as, or below, 32ºF; winter daytime high temperatures almost always approach or exceed 40ºF. Snowfall is an extremely rare and transient phenomenon; the last recorded snowfall in Fresno was ½ inch on December 20, 1998. The Tule fog, a thick ground fog that settles in the San Joaquin Valley from late fall through early spring, is the leading cause of weather-related accidents in California. In addition to causing visibility issues, "black ice" from precipitated fog may temporarily affect some roadways and bridges during the winter.

Summer daytime peak temperatures are high in Fresno. Some heat waves last over a week with daytime highs well over 100ºF and issuance of health advisories. Summer evenings provide for some cooling of 10-15ºF with the early morning daybreak hours cooling by 20-30ºF, depending on humidity (low humidity allows for more radiant cooling).

Geography and climate combine to create a general accumulation of air pollutants in the San Joaquin Valley (and in the City of Fresno) that occasionally result in unhealthy air quality conditions. Air quality problems are exacerbated by dust storms, human activities (e.g., vehicle emissions and fireplace and wood stove use), atmospheric photochemical processes, and forest fires from local and regional fires. The City has chronically failed to attain some of the national and state ambient air quality standards, but due to the efforts of the California Air Resources Board and the regional San Joaquin Valley Unified Air Pollution Control District, progress toward attainment of ozone (oxidant) and particulate matter standards is being made. Carbon monoxide standards were deemed to have been attained in the 1990s.

E.1.2 History

Development of what today is the City of Fresno began in 1871, when the Central Pacific Railroad chose the Fresno Station for its San Joaquin Valley rail line. The City soon became the County seat and the shipping and distribution hub for the region's agricultural industry. An economic boom across California in the 1880s helped transform Fresno from a village to a city, and helped drive its incorporation in 1885. Today, the City of Fresno is the center of trade, commerce, finance, and transportation for the San Joaquin Valley.

E.1.3 Economy

The most comprehensive economic data available for the City of Fresno comes from the U.S. Census Bureau by way of the American Community Survey (ACS). Select estimates of economic characteristics for the City of Fresno are shown in Table E.1.

Table E.1: City of Fresno's Economic Characteristics, 2015

Characteristic	City of Fresno
Families below Poverty Level	24.4%
All People below Poverty Level	29.8%
Median Family Income	$45,806
Median Household Income	$41,531
Per Capita Income	$19,465
Population in Labor Force	231,332
Population Employed*	198,113
Unemployment	14.3%

Source: U.S. Census Bureau American Community Survey 2011-2015 5-Year Estimates, www.census.gov/
*Excludes armed forces

Tables E.2 and E.3 show how the City of Fresno's labor force breaks down by occupation and industry based on 5-year estimates from the 2015 American Community Survey.

Table E.2: City of Fresno's Employment by Occupation, 2015

Occupation	# Employed	% Employed
Management, Business, Science and Arts Occupations	57,374	29.0
Management, Business, and Financial Occupations	*(20,767)*	*(10.5)*
Computer, Engineering, and Science Occupations	*(6,018)*	*(3.0)*
Education, Legal, Community Service, Arts, and Media Occupations	*(20,262)*	*(10.2)*
Healthcare Practitioner and Technical Occupations	*(10,327)*	*(5.2)*
Sales and Office Occupations	49,752	25.1
Service Occupations	41,528	21.0
Production, Transportation, and Material Moving Occupations	26,738	13.5
Natural Resources, Construction, and Maintenance Occupations	22,721	11.5
Total	**198,113**	**100.00**

Source: U.S. Census Bureau American Community Survey 2011-2015 5-Year Estimates, www.census.gov/

Table E.3: City of Fresno's Employment by Industry, 2015

Industry	# Employed	% Employed
Educational Services, and Health Care, and Social Assistance	48,557	24.5
Retail Trade	23,337	11.8
Arts, Entertainment, and Recreation, and Accommodation, and Food Services	20,643	10.4
Professional, Scientific, and Management, and Administrative and Waste Management Services	16,742	8.5
Manufacturing	14,869	7.5

Industry	# Employed	% Employed
Public Administration	12,030	6.1
Finance and Insurance, and Real Estate and Rental and Leasing	10,875	5.5
Other Services, Except Public Administration	10,710	5.4
Construction	10,586	5.3
Agriculture, Forestry, Fishing and Hunting, and Mining	10,446	5.3
Transportation and Warehousing, and Utilities	9,476	4.8
Wholesale Trade	7,158	3.6
Information	2,684	1.4
Total	**198,113**	**100.00**

Source: U.S. Census Bureau American Community Survey 2011-2015 5-Year Estimates, www.census.gov/

With the depressed real estate and construction market and economic recession toward the end of the 2000-2010 decade, unemployment rates increased to a peak of 18.0 percent in 2010. Since then, the unemployment rate has steadily decreased. The most recent annual data from the State of California Employment Development Department indicates that in 2016 there were 238,400 people in the City of Fresno labor force. Of these, 214,000 were employed; 24,400 were not. The unemployment rate was 10.2 percent.

E.1.4 Population

According to the California Department of Finance, Fresno's population was estimated to be 520,778 in 2016. Select demographic and social characteristics for the City from the U.S. Census Bureau's 2015 American Community Survey 5-year estimates are shown in Table E.4.

Table E.4: City of Fresno's Demographic and Social Characteristics, 2015*

Characteristic	City of Fresno
Gender/Age	
Male	49.2%
Female	50.8%
Median age	30.0
Under 5 years	8.9%
Under 18 years	29.5%
65 years and over	9.9%
Race/Ethnicity**	
White	52.2%
Asian	13.0%
Black or African American	7.9%
American Indian/Alaska Native	1.1%
Hispanic or Latino (of any race)	48.5%
Education	
High school graduate or higher	75.2%
Disability Status	
Population 5 years and over	11.75%

Source: U.S. Census Bureau American Community Survey 2011-2015 5-Year Estimates, www.census.gov/
*Based on a 2015 estimated population of 510,451
**Of the 95.4% reporting one race

For information about how some of these demographics affect social vulnerability and how they compare to other Fresno County jurisdictions, California, and the United States, see "Social Vulnerability" in Section 4.3.1 Fresno County Vulnerability and Assets at Risk of the main plan. A more in-depth look at the population of the City of Fresno, including the City's special needs populations, is available in the City of Fresno General Plan 2015-2023 Housing Element commissioned by the City of Fresno Development and Resource Management Department and prepared by MIG, Inc (available at www.fresno.gov/housingelement).

E.2 Hazard Identification and Summary

The City of Fresno's planning team identified the hazards that affect the City and summarized their frequency of occurrence, spatial extent, potential magnitude, and significance specific to Fresno (see Table E.5). In the context of the plan's planning area, there are no hazards unique to Fresno.

Table E.5: City of Fresno—Hazard Summaries

Hazard	Geographic Extent	Probability of Future Occurrences	Magnitude/ Severity	Significance
Agricultural Hazards	Limited	Highly Likely	Critical	Low
Avalanche	N/A	N/A	N/A	N/A
Dam Failure	Significant	Unlikely	Limited	Medium
Drought	Significant	Likely	Critical	High
Earthquake	Extensive	Occasional	Critical	Medium
Flood/Levee Failure	Significant	Occasional	Critical	High
Hazardous Materials Incident	Significant	Likely	Critical	High
Human Health Hazards:				
Epidemic/Pandemic	Extensive	Occasional	Critical	Medium
West Nile Virus	Limited	Highly Likely	Negligible	Low
Landslide	Limited	Unlikely	Negligible	Low
Severe Weather				
Extreme Cold/Freeze	Significant	Occasional	Negligible	Low
Extreme Heat	Extensive	Highly Likely	Limited	Medium
Fog	Extensive	Likely	Limited	Medium
Heavy Rain/Thunderstorm/ Hail/Lightning	Extensive	Highly Likely	Limited	Low
Tornado	Extensive	Occasional	Negligible	Low
Windstorm	Extensive	Likely	Limited	Medium
Winter Storm	Extensive	Highly Likely	Negligible	Low
Soil Hazards:				
Erosion	No Data	Likely	No Data	Low
Expansive Soils	No Data	Occasional	No Data	Low
Land Subsidence	Limited	Occasional	No Data	Low
Volcano	Extensive	Unlikely	Negligible	Low
Wildfire	Extensive	Highly Likely	Critical	Medium

Geographic Extent
Limited: Less than 10% of planning area
Significant: 10-50% of planning area
Extensive: 50-100% of planning area

Magnitude/Severity
Catastrophic—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths

Probability of Future Occurrences Highly Likely: Near 100% chance of occurrence in next year, or happens every year. Likely: Between 10 and 100% chance of occurrence in next year, or has a recurrence interval of 10 years or less. Occasional: Between 1 and 10% chance of occurrence in the next year, or has a recurrence interval of 11 to 100 years. Unlikely: Less than 1% chance of occurrence in next 100 years, or has a recurrence interval of greater than every 100 years.	Critical—25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability Negligible—Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid **Significance** Low: minimal potential impact Medium: moderate potential impact High: widespread potential impact

E.3 Vulnerability Assessment

The intent of this section is to assess the City of Fresno's vulnerability separate from that of the planning area as a whole, which has already been assessed in Section 4.3 Vulnerability Assessment in the main plan. This vulnerability assessment analyzes the population, property, and other assets at risk to hazards ranked of medium or high significance that may vary from other parts of the planning area.

The information to support the hazard identification and risk assessment for this Annex was collected through a Data Collection Guide, which was distributed to each participating municipality or special district to complete during the original outreach process in 2009. Information collected was analyzed and summarized in order to identify and rank all the hazards that could impact anywhere within the County, as well as to rank the hazards and identify related vulnerabilities unique to each jurisdiction. In addition, the City of Fresno's HMPC team members were asked to validate the matrix that was originally scored in 2009 based on the experience and perspective of each planning team member relative to the City of Fresno.

Each participating jurisdiction was in support of the main hazard summary identified in the base plan (See Table 4.1). However, the hazard summary rankings for each jurisdictional annex may vary slightly due to specific hazard risk and vulnerabilities unique to that jurisdiction (See Table E.5). Identifying these differences helps the reader to differentiate the jurisdiction's risk and vulnerabilities from that of the overall County.

Note: The hazard "Significance" reflects overall ranking for each hazard, and is based on the City of Fresno's HMPC member input from the Data Collection Guide and the risk assessment developed during the planning process (see Chapter 4 of the base plan), which included a more detailed qualitative analysis with best available data.

The hazard summaries in Table E.5 reflect the hazards that could potentially affect the City. Those of Medium or High significance for the City of Fresno are identified below. The discussion of vulnerability for each of the following hazards is located in Section E.3.2 Estimating Potential

Losses. Based on this analysis, the priority hazards (High Significance) for mitigation include drought, flood/levee failure, and hazardous materials incidents.

- dam failure
- drought
- earthquake
- epidemic/pandemic
- extreme heat
- flood/levee failure
- fog
- hazardous materials incidents
- wildfire
- windstorm

Other Hazards

Hazards assigned a Significance rating of Low and which do not differ significantly from the County ranking (e.g., Low vs. High) are not addressed further in this plan, and are not assessed individually for specific vulnerabilities in this section. In the City of Fresno, those hazards ranked Low are as follows:

- agricultural hazards*
- human health hazards: West Nile Virus
- landslide
- severe weather: heavy rain/thunderstorm/hail/lightning, tornado
- soil hazards
- volcano
- extreme cold
- winter storm

Note on Agricultural Hazards*: Agricultural hazards are ranked Low in the City of Fresno than for the County overall (ranked High) because very little land in the City is used for agricultural purposes.

Additionally, the City's Committee members decided to rate several hazards as Not Applicable (N/A) to the planning area due to a lack of exposure, vulnerability, and no probability of occurrence. **Avalanche** is considered Not Applicable (N/A) to the City of Fresno.

E.3.1 Assets at Risk

This section considers Fresno's assets at risk, including values at risk; critical facilities and infrastructure; historic, cultural, and natural resources; economic assets; and growth and development trends.

Values at Risk

The following data on property exposure is derived from the Fresno County 2017 Parcel and Assessor data. This data should only be used as a guideline to overall values in the City as the

information has some limitations. The most significant limitation is created by Proposition 13. Instead of adjusting property values annually, the values are not adjusted or assessed at fair market value until a property transfer occurs. As a result, overall value information is likely low and does not reflect current market value of properties. It is also important to note that in the event of a disaster it is generally the value of the infrastructure or improvements to the land that is of concern or at risk. Generally, the land itself is not a loss. Table E.6 shows the 2017 values at risk broken down by property type for the City of Fresno.

Table E.6: 2017 Property Exposure for the City of Fresno by Property Type

Property Type	Parcel Count	Building Count	Improved Value	Content Value	Total Value
Agricultural	76	53	$2,887,304	$2,887,304	$5,774,608
Commercial	6,110	24,004	$5,471,778,084	$5,471,778,084	$10,943,556,168
Exempt	1,012	3,881	$0	$0	$0
Industrial	2,575	5,630	$1,420,216,900	$2,130,325,350	$3,550,542,250
Multi-Residential	5,793	52,504	$2,416,885,833	$1,208,442,917	$3,625,328,750
Open Space	1	1	$150,882	$150,882	$301,764
Residential	113,468	117,771	$15,122,142,902	$7,561,071,451	$22,683,214,353
Unknown	2	2	$530,082	$530,082	$1,060,164
Total	**129,037**	**203,846**	**$24,434,591,987**	**$16,375,186,070**	**$40,809,778,057**

Source: Fresno County 2017 Parcel and Assessor data

Since the 2009 Plan, the City of Fresno has experienced notable increases in agricultural, commercial, and residential properties and property values at risk. Compared to improved values from the Fresno County Assessor's Office's 2007 Certified Roll Values, agricultural improved value has increased by 254.2 percent, commercial improved value has increased by 299.8 percent and total residential improved value has increased by 265.8 percent. Part of this dramatic increase in exposure of commercial and residential properties can be attributed to annexations of previously unincorporated County land that have occurred within the last decade.

Critical Facilities and Infrastructure

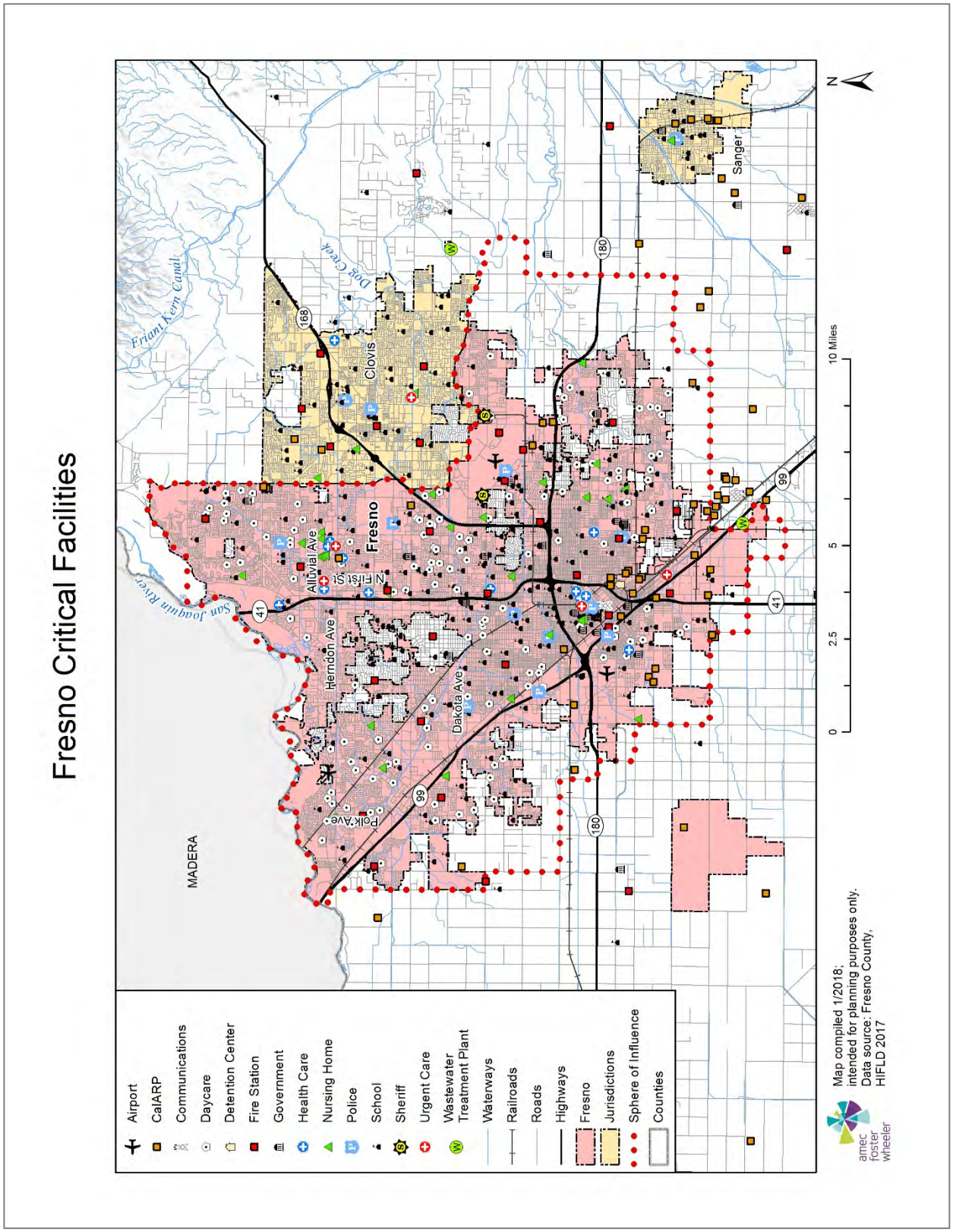
A critical facility may be defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. An inventory of critical facilities in the City of Fresno from Fresno County GIS is provided in Table E.7 and mapped in Figure E.2.

Table E.7: City of Fresno's Critical Facilities

Critical Facility Type	Number
Airport	3
Behavioral Health	4
CalARP	28
Colleges & Universities	14
Communications	1
County Government	4
Courthouse	1
Daycare	155
Department of Agriculture	2
Department of Public Health	4
Department of Public Works	1
Department of Social Services	9
Detention Center	4
District Attorney	2
Fire Station	21
General Services	3
Health Care	12
Nursing Home	27
Police	10
School	183
Sheriff	3
Supplemental College	4
Urgent Care	4
Total	**499**

Source: Fresno County, HIFLD 2017

Figure E.2: City of Fresno's Critical Facilities



The list of specific critical facilities and community assets is maintained by the City of Fresno Police Department. The Fresno Urban Area Critical Infrastructure List is considered confidential and may be accessed through the Fresno Police Department Homeland Security Division.

Historic, Cultural, and Natural Resources

Historic and Cultural Sites

The Cultural Resource Facility located on the California State University, Bakersfield campus maintains a database, maps, and descriptive surveys of prehistoric sites in the Fresno area. Details of the locations are kept confidential due to the risk of theft or vandalism of artifacts. The general location of these sites is along the San Joaquin River and its bluffs, where permanent Native American settlements were established near a permanent water supply and seasonal salmon fishery.

The City of Fresno maintains a local official register of historic resources (available from the historic preservation officer in the City's Planning and Development Department). There are approximately 284 properties on the register. Twenty-one of the properties were demolished or destroyed by fire after being placed on the list, and three other properties have been relocated to sites outside the City of Fresno. The local register includes 31 properties that are on the National Register of Historic Places (see Table E.8).

Table E.8: City of Fresno's Properties on the National Register of Historic Places

Property Name	Address	Date Listed
Azteca Theater	836-840 F Street	4/21/2017
Bank of Italy	1015 Fulton Mall	10/29/1982
Brix, H. H., Mansion	2844 Fresno Street	9/15/1983
Einstein House	1600 M Street	1/31/1978
Forestiere Underground Gardens	5021 W. Shaw Avenue	10/28/1977
Fresno Bee Building	1555 Van Ness Avenue	11/1/1982
Fresno Brewing Company Office and Warehouse	100 M Street	1/5/1984
Fresno County Hall of Records	2281 Tulare Street	12/22/2011
Fresno Memorial Auditorium	2425 Fresno Street	5/10/1994
Fresno Republican Printery Building	2130 Kern Street	1/2/1979
Fresno Sanitary Landfill	West and Jensen Avenues	8/7/2001
Holy Trinity Armenian Apostolic Church	2226 Ventura Street	7/31/1986
Hotel Californian	851 Van Ness Avenue	4/21/2004
Kearney, M. Theo, Park and Mansion	7160 Kearney Boulevard	3/13/1975
Kindler, Paul, House	1520 E. Olive Avenue	10/29/1982
Maulbridge Apartments	2344 Tulare Street	5/6/1982
Meux House	1007 R Street	1/13/1975
Old Administration Building, Fresno City College	1101 University Avenue	5/1/1974
Old Fresno Water Tower	2444 Fresno Street	10/14/1971
Pantages, Alexander, Theater	1400 Fulton Street	2/23/1978
Physicians Building	2607 Fresno Street	11/20/1978

Property Name	Address	Date Listed
Rehorn House	1050 S Street	1/8/1982
Romain, Frank, House	2055 San Joaquin Street	1/11/1982
San Joaquin Light & Power Corporation Building	1401 Fulton Street	1/3/2006
Santa Fe Hotel	935 Santa Fe Avenue	3/14/1991
Santa Fe Passenger Depot	2650 Tulare Street	11/7/1976
Southern Pacific Passenger Depot	1033 H Street	3/21/1978
Tower Theatre	1201 N. Wishon Avenue	9/24/1992
Twining Laboratories	2527 Fresno Street	3/26/1991
Warehouse Row	722, 744, and 764 P Street	3/24/1978
YWCA Building	1660 M Street	9/21/1978

Source: National Register of Historic Places, www.nps.gov/nr/

Other historic resources in the City of Fresno include the following historic districts:

- The Porter Tract Historic District (45 homes)
- The Chandler Field/Fresno Municipal Airport Historic District (four historic structures)
- The Wilson Island Historic District (78 homes)
- The Huntington Boulevard Historic Districts (81 homes)

As comprehensive as the City's register may be, it does not include all properties in the City with potential historic or cultural significance. The list is continually being expanded as sites are discovered through routine analysis of proposed development areas and through proposed new listings of historic districts. The pool of potentially historic properties also changes through time, since federal law provides for a 50-year retrospective review, which now encompasses the post-World War II building boom era. Ten properties that were recommended for the City's register but were denied inclusion by the Fresno City Council are still recognized for their historic/cultural significance (heritage properties), which is taken into account when any actions are undertaken on them pursuant to provisions of the California Environmental Quality Act. (Three of these properties have been since been demolished.)

While a detailed assessment of seismic and flood risks for the listed properties in Fresno is currently beyond the available staff resources of the City's Historic Preservation Office, it can be generally assumed that most of the structures have not been seismically reinforced and that their masonry is vulnerable to strong ground shaking.

While many of the structures are in Fresno's old downtown and were built when this area was largely within the 100-year floodplain of the Fresno Stream Group, efforts by the Fresno Metropolitan Flood Control District in conjunction with the U.S. Army Corps of Engineers and the City of Fresno have provided for flood detention structures and ponding basins that have greatly reduced the size and extent of the floodplain in the downtown, helping to preserve these historic resources.

Natural Resource Areas

San Joaquin River Corridor

While the City maintains many community and neighborhood parks, its natural resources are primarily along the San Joaquin River. Owing to the year-round presence of water, the river bottom and bluffs host the richest aquatic and riparian forest biota in the City. It is in this area where migratory waterfowl and federally and state-listed endangered wildlife are most likely be encountered. These species include the valley elderberry longhorn beetle, the giant garter snake, and the American bald eagle (recently recommended for delisting from the National Endangered Species list).

Over past decades, land in the river corridor has been purchased and aggregated by state agencies (Department of Fish and Game, San Joaquin River Conservancy), by nonprofit groups (San Joaquin River Parkway Trust, Fresno Sportsmen's Club), and by the City and County (the City's Woodward Park and Milburn Unit, the County's Lost Lake Park). The ultimate goal of the San Joaquin River Conservancy Plan is to fashion a regional parkway with continuity of wildlife corridors and to manage it for joint recreational, habitat conservation, and floodplain protection uses.

Due to its location, this natural resource area is flood-prone. In some areas, this risk has been increased due to removal of massive amounts of sand and gravel (from mining), which lowered the ground surface over past decades. While the native riparian plants and animals have largely evolved with coping mechanisms for periodic severe flooding, any developed recreation facilities would be at risk. The face of the bluff is also very vulnerable to wildfire because of its vegetative overgrowth and nearly vertical slopes. Fire prevention efforts are difficult here because the soils are too unstable for vegetative removal projects or for irrigation that would keep the plants well-watered.

Vernal Pool Areas

In the northerly parts of the City, outside the river corridor, certain clay soils have the capacity to form impermeable hardpans and layers that do not allow rapid percolation of rainwater. During the rainy season, shallow vernal pools form that are populated by a host of specialized plants and animals. Many species associated with vernal pools are federally and state-listed species (e.g., the California tiger salamander, various types of fairy shrimp crustaceans, orcutt grass, button celery species, meadowfoam, and owl clover). Vernal pools are also heavily utilized by nonlisted species, such as migratory waterfowl, rodents, furbearing predators, and raptors that prey on other animals.

Wildfire is not considered a major risk to these natural communities, because they evolved with dry season fires as a common occurrence (the plants have very resistant seeds and the crustaceans and amphibians go into protected parts of their life cycles such as deep dormancy). Human encroachment through agriculture and land development is the greatest risk to vernal pool areas. If the clay layers are disrupted by "deep ripping" plowing, water cannot accumulate on the surface and the pools will not form. If the land is subjected to year-round irrigation, specially adapted

vernal pool species will be out-competed by other species. Conversion of land to urban development with structures, paving, lawns, pets, and people will destroy vernal pool natural communities.

Economic Assets

The City of Fresno's economic sector includes both private and public entities that have been compiled into clusters in order to identify key economic assets. These ten clusters, known as the Regional Job Initiative (RJI) clusters, are Advanced Manufacturing, Clean Energy, Construction, Food Processing, Healthcare, Info Processing (Call Centers, Logistics, and Distribution), Software Development, Tourism, and Water Technology. Among these clusters are major employers like Saint Agnes, Pelco, Gottschalks, and Ruiz Foods that both boost Fresno's economic growth and provide employment opportunities.

If a disaster struck the City, it could have a severe impact on Fresno's economic assets. Sectors of greatest concern include all the RJI clusters, but in particular Food Processing, which includes the agricultural industry, and Healthcare.

Growth and Development Trends

The City of Fresno is growing at a rapid pace. Its expansion from incorporation in 1885 to the present day (August 2017) is illustrated in Figure E.3. Even more growth is anticipated in the years to come, based on current trends.

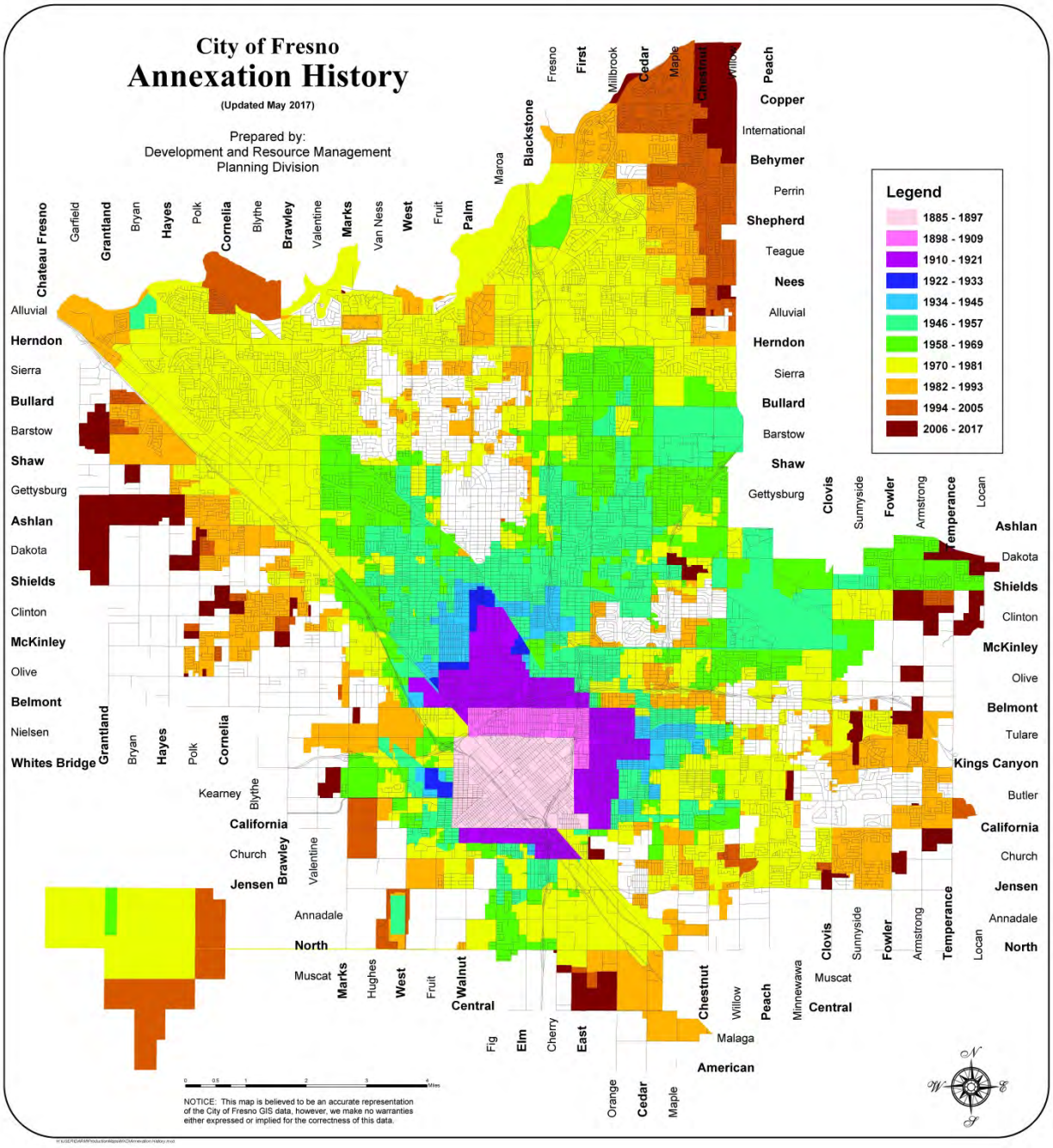
Table E.9 illustrates how the City has grown in terms of population and number of housing units between 2011 and 2017 alone.

Table E.9: City of Fresno's Change in Population and Housing Units, 2011-2017

2011 Population	2017 Population Estimate	Estimated Percent Change 2011-2017	2011 # of Housing Units	2017 Estimated # of Housing Units	Estimated Percent Change 2011-2017
498,664	525,832	+5,49	172,171	178,819	+3.86

Source: California Department of Finance, www.dof.ca.gov/Forecasting

Figure E.3: City of Fresno's Annexation History



Source: City of Fresno Development Department. This map is believed to be an accurate representation of the City of Fresno GIS data, however, we make no warranties either expressed or implied for the correctness of this data.

By December 31, 2035 (the "Horizon" year of the most recent Fresno General Plan), it is estimated that 771,000 people will reside in the Fresno Metropolitan Area (which would include County islands and areas inside the City's Sphere of Influence but not yet annexed). This figure of 771,000 would be 64 percent of the projected 2035 Fresno County population of 1,201,416 (State of California Department of Finance population projections).

As of August of 2017, the City of Fresno comprised 115.3 square miles of annexed (incorporated) land within its 161.8-square mile Sphere of Influence. Development had reached the natural and political northerly boundary of the City, the San Joaquin River, and began expanding to the west and southeast through conversion of rural residential and agricultural land. Within the Sphere of Influence, there continued to be "County islands" and partially urbanized fringe areas. An urban unification annexation program may reduce the numbers and sizes of these enclaves in the coming decade.

The Fresno General Plan made a concerted effort to revitalize the City's downtown by balancing new growth areas to geographically recenter the downtown. With construction of a major sewer trunk along the Grantland Avenue alignment and proposed construction of new wastewater and water treatment plants in the southeastern area, the City's future growth is expected to concentrate primarily to the west and southeast.

The Fresno Metropolitan Flood Control District (FMFCD) has commenced major flood control facility construction on Fancher Creek in the eastern portion of the City's Sphere of Influence. Since the Fresno General Plan was completed in December 2014, the FMFCD will compile technical studies and update its master service plan in conjunction with the City's land use plan for this new growth area.

The Fresno General Plan also directed that new development be more compact and that single-family residential densities be higher than the City's traditional 4± dwelling units/acre pattern for subdivisions. The recently adopted Fulton Corridor Specific Plan and Downtown Neighborhoods Community Plan and other plan amendments and projects in process (and proposed in the future) feature smaller lots, multi-story housing, multi-family units, and reduced setbacks.

Unless the cost of manufactured housing units would provide a substantial savings over site-built homes, it is not expected that the proportion of manufactured housing in the City of Fresno will greatly increase. It is possible that there will be some increase as producers of these units create models with appropriate roof pitches and other features to meet the City's design review standards.

More information about the City of Fresno's growth and current housing stock is available in the City of Fresno General Plan 2015-2023 Housing Element commissioned by the City of Fresno Development and Resource Management Department and prepared by MIG, Inc (available at www.fresno.gov/housingelement). More general information on growth and development in Fresno County as a whole can be found in "Growth and Development Trends" in Section 4.3.1 Fresno County Vulnerability and Assets at Risk of the main plan.

E.3.2 Estimating Potential Losses

Note: This section details vulnerability to specific hazards, where quantifiable, and/or where (through HMPC member input) it differs from that of the overall County.

Table E.6 above shows Fresno's exposure to hazards in terms of number and value of structures. Fresno County's parcel and assessor data was used to calculate the improved value of parcels. The most vulnerable structures are those in the floodplain (especially those that have been flooded in the past), unreinforced masonry buildings, and buildings built prior to the introduction of modern day building codes. No further information on vulnerable structures is available. Impacts of past events and vulnerability to specific hazards are further discussed below (see Section 4.1 Hazard Identification for more detailed information about these hazards and their impacts on Fresno County).

Agricultural Hazards

Agricultural hazards are ranked with a Low significance in the City of Fresno; lower than for the County overall (ranked High) because very little land in the City is used for agricultural purposes. Agricultural losses due to hazard events have greater economic impact on the small communities and rural areas of the County than on the City of Fresno. However, ornamental and garden plants in the City, and pets and incidental livestock kept within City limits, may become involved in any countywide responses to crop pests or infectious agents, because these urban plants and animals provide reservoirs for the diseases and crop pests that threaten the County's agriculture.

Dam Failure

The National Inventory of Dams lists five dams located in the City of Fresno, including the Redbank Creek Detention basin, Fancher Creek Detention, Friant Millerton Road Embankment A, Redbank, and Friant Dike 3.

Drought

Annual rainfall in the City of Fresno is typically 12-14 inches. This makes the region vulnerable to episodic drought and to chronic drawdown of aquifer levels (the U.S. Environmental Protection Agency has designated the groundwater below Fresno as a sole source aquifer). Water in this aquifer has historically flowed through permeable strata from north and northeast toward the south and west, but the aquifer has been so affected by drawdown that a "cone of depression" has been created, reversing the historic flow directions (the "groundwater gradient") in portions of west and south Fresno.

In the last 10 years the City of Fresno has made strides to reduce dependence on groundwater by setting a course to implement water plans, which include the Urban Water Management Plan, Recycled Water Waster Plan, and the recently adopted Water Capital Program. A surface water treatment plant is currently under construction in Southeast Fresno and should be completed by 2018. When operational, the plant will maximize use of Fresno's surface water allocations during

normal years and allow the City to reduce overuse of groundwater. Recycled water use will also grow in Fresno with the new recycled water mains now being constructed. The City has plans to use 25,000 acre-feet per year of recycled water for irrigating open spaces, parks, street medians and golf courses.

Earthquake

The seismic hazard in the City of Fresno is low relative to California coastal and mountain communities and is lower than in the Sierra and western areas of Fresno County. There are no known earthquake faults underlying Fresno, and the City has never been the epicenter of a known seismic event. However, Fresno is considered to have a moderate risk of earthquake damage due to the presence of major fault systems to the west, south, and east and due to Fresno's large population and number of buildings, critical facilities, and infrastructure and other development that could be vulnerable to more severe ground shaking.

Historically, Fresno has sustained very little damage from major earthquakes occurring on California's major faults: the Owens Valley earthquake of 1872 toppled an unreinforced masonry (brick) church steeple. More recent major earthquakes in the past four decades (with epicenters near Coalinga and the Bay Area) have resulted in perceptible tall building swaying in Fresno, minor injuries (attributable to shelved items falling), and slight damage (e.g., minor cracked plaster, etc.). To date, no soil liquefaction has been observed in Fresno from any seismic event.

The most serious impacts of an earthquake in Fresno would probably arise from damage to large dams in the Sierra Nevada on the upper reaches of the San Joaquin River very close to active Long Valley Caldera-related faults. Should either of the two most easterly (and largest) dams in this area be severely damaged or breached, the resulting sequential dam failures could cause floodwaters to overtop Friant Dam northeast of the City. While the dam failure inundation map for Friant shows that most of the flooded area would be expected in the northwest part of town (where the confining river bluffs are not as high), there are some residences and important infrastructure in the river channel itself that would be inundated and gravely damaged (or destroyed), including highway bridges and the inlet of the Friant-Kern Canal, which supplies Bureau of Reclamation surface water to the Fresno area and to other communities in the southern San Joaquin Valley.

Epidemic/Pandemic

Fresno's population includes many residents who have limited access to health care, with causes related to low household income levels, lack of insurance coverage, a limited number of primary health care facilities and acute care beds, a low ratio of public health and medical professionals to population, and language barriers. Highly communicable diseases tend to affect a large percentage of the City, perhaps due to large household size and the mobility of the population. If a highly communicable disease outbreak occurred that caused serious or life-threatening illness for most infected persons, health care and other public service systems would experience disruption or breakdown and would require outside intervention with resources from other communities, the state, or the federal government.

Extreme Cold/Freeze

Freeze events occur occasionally in Fresno, but impacts are greater to the agriculture industry in the County than to the City. In January 2007, overnight minimum temperatures fell below freezing between January 6 and 10. The event led to a presidential disaster declaration due to the estimated $710 million in agricultural damage in the Central and South Valley. The 2007 event occurred in another eight-year interval after the devastating citrus freezes of 1998 and 1990. The event caused frozen pipes in Fresno but little other property damage. The City also has a plan for freezing temperature events and opens warming centers. These centers are primarily geared toward the homeless population.

Extreme Heat

Fresno uses a local version of the California State Plan for Extreme Heat. This plan was used during the extreme heat event during the summer of 2006 and worked well. The City operates cooling centers, which are primarily geared toward the homeless. Public notification for extreme heat events is conducted through the Public Affairs office in coordination with Fresno County.

Expansive Soils

These types of soils occur in northern Fresno in the far northeastern portions of its Sphere of Influence (in the "Copper River" area). Expansive clay soils can cause cavitation over time and require special construction standards for foundations.

Flood

As noted in the preceding section, there is some flood risk to the City from San Joaquin River major dam failure inundation, but the more common flood risk, repetitively experienced in Fresno, is that of shallow "sheet" flooding from major precipitation events. Except for the San Joaquin River, streams in the Fresno-Clovis Metropolitan Area originate in the Sierra foothills to the east and extend into the valley floor west of State Route 99 by way of dual-use irrigation and storm runoff channels and disperse into numerous smaller irrigation canals. Overflow from these canals and urban stormwater from intense precipitation events is sent back to the San Joaquin River or to farmland southwest of Fresno via spillway channels.

In the City of Fresno, these canals and channels are under control of the Fresno Irrigation District, an independent public agency, but their use during storm events is shared by another independent district, the Fresno Metropolitan Flood Control District (FMFCD). The FMFCD was created to develop flood control facilities to prevent further repetitive losses created by the Fresno Stream Group and to provide an urban drainage network. This District is responsible for administering a Storm Drainage and Flood Control Master Plan. The City's municipal code supports these efforts by including a Drainage Fee Ordinance to ensure that grading and development comply with the FMFCD's Master Plan and standards and provide proportionate shares of storm drain and ponding basin infrastructure.

The City of Fresno's Floodplain Ordinance further coordinates and supports FMFCD efforts. This ordinance and the Fresno General Plan Safety Element policies require conformance to FEMA floodplain management policies and to those of California's Central Valley Flood Prevention Board (which regulates the designated floodway along the San Joaquin River channel). Still, in areas not completely developed to urban standards, areas where the urban drainage network is not yet completed, and in some County "island" areas (land within the City that the County has authority over), stormwater drainage facilities may not prevent localized shallow flooding during intense runoff events.

According to FEMA's 2016 Flood Insurance Study (FIS), the following major canals and ditches run through the City:

- **Central Canal** flows southwest through the southeastern part of the City of Fresno.
- **Dry Creek Canal** begins at the confluence of Mill Ditch and Herndon Canal, just downstream of North Millbrook Avenue, and flows southwest through the southwestern portion of the City.
- **Fancher Creek Canal** flows southwest along the eastern corporate limits of the City of Fresno and joins Central Canal at the southeast corner of the City.
- **Herndon Canal** begins at the confluence of Mill Ditch and Dry Creek Canal. It flows west through the center of the City of Fresno, then flows northwest through the northwestern part of the City.
- **Mill Ditch** flows west along East McKinley Avenue to its confluence with Herndon and Dry Creek Canals.

The FIS details the City of Fresno's flood history as follows:

In February 1884, flood flows from streams of the Fresno-Clovis group inundated the business section of the City of Fresno. Frequent flooding was a problem in the City throughout the 1880. Suburban areas of the City were flooded in spring 1920; the downtown area was inundated in 1923; flooding occurred in the Fig Garden area in 1936; and parts of the City, especially in the northeast section, were flooded in March 1938. Since the 1938 flood, which had an estimated discharge of 2,700 cubic feet per second (cfs) on Dry Creek at the Big Dry Creek Dam site, high flows occurred on that stream in December 1955 (3,800 cfs), January 1969 (5,700 cfs), and February 1969 (4,500 cfs). During December 1955, approximately 500 acres of agricultural and suburban land were flooded by overflow from irrigation canals, and damage, mostly to public facilities, totaled approximately $50,000. The largest and most damaging flood period was January and February 1969, when the combined discharges of Dry, Dog, Redbank, Fancher, and Mud Creeks flooded an estimated 14,500 acres and caused almost $4.7 million in damage. Most of the flooding was in the eastern and northeastern parts of the City. It occurred because many of the streams in the Fresno-Clovis group discharged floodwater into various irrigation canals, causing them to overflow.

Values at Risk

Following the methodology described in Section 4.3.2 Vulnerability of Fresno County to Specific Hazards, a flood map for the City of Fresno was created (see Figure E.4). Tables E.10 and E.11 summarize the values at risk in the City's 100-year and 500-year floodplain, respectively. These tables also detail loss estimates for each flood.

Figure E.4: City of Fresno's 100- and 500-Year Floodplains

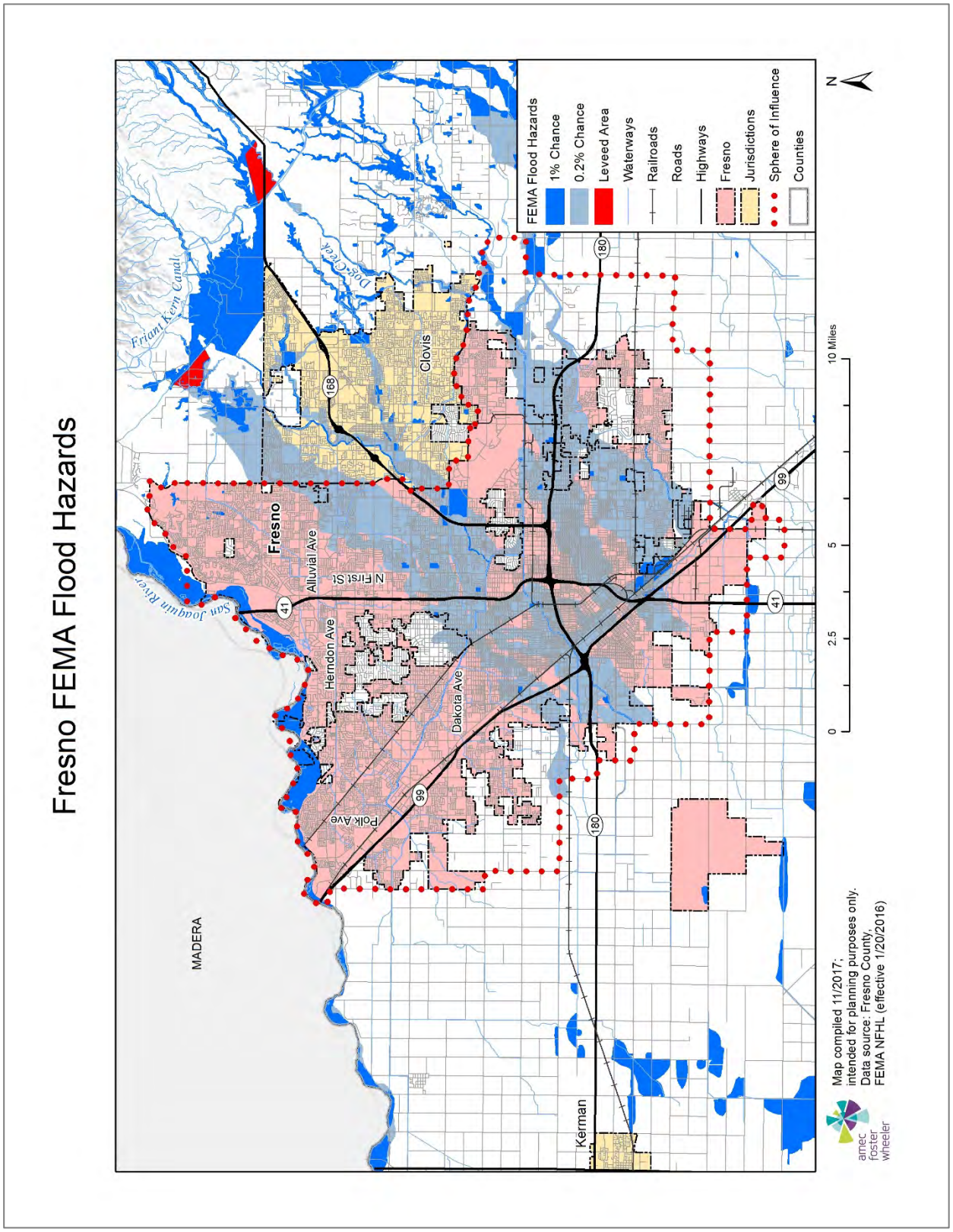


Table E.10: City of Fresno's FEMA 1% Annual Chance Flood Hazard by Property Type

Property Type	Parcel Count	Building Count	Improved Value	Content Value	Total Value	Loss Estimate
Agricultural	1	0	$60,933	$60,933	$121,866	$30,467
Commercial	23	210	$6,222,246	$6,222,246	$12,444,492	$3,111,123
Exempt	29	35	$0	$0	$0	$0
Industrial	70	107	$30,681,072	$46,021,608	$76,702,680	$19,175,670
Multi-Residential	11	84	$2,529,983	$1,264,992	$3,794,975	$948,744
Residential	97	120	$23,269,875	$11,634,938	$34,904,813	$8,726,203
Total	**231**	**556**	**$62,764,109**	**$65,204,716**	**$127,968,825**	**$31,992,206**

Sources: Fresno County 2017 Parcel and Assessor data; FEMA 2009 FIRM

Table E.11: City of Fresno's FEMA 0.2% Annual Chance Flood Hazard by Property Type

Property Type	Parcel Count	Building Count	Improved Value	Content Value	Total Value	Loss Estimate
Agricultural	29	29	$746,974	$746,974	$1,493,948	$373,487
Commercial	2,814	9,030	$1,574,492,657	$1,574,492,657	$3,148,985,314	$787,246,329
Exempt	381	1,404	$0	$0	$0	$0
Industrial	745	1,435	$309,126,790	$463,690,185	$772,816,975	$193,204,244
Multi-Residential	2,299	20,013	$797,001,401	$398,500,701	$1,195,502,102	$298,875,525
Residential	31,581	32,817	$2,677,387,750	$2,677,387,750	$5,354,775,500	$1,338,693,875
Total	**37,849**	**64,728**	**$5,358,755,572**	**$5,114,818,267**	**$10,473,573,839**	**$2,618,393,460**

Sources: Fresno County 2017 Parcel and Assessor data; FEMA 2009 FIRM

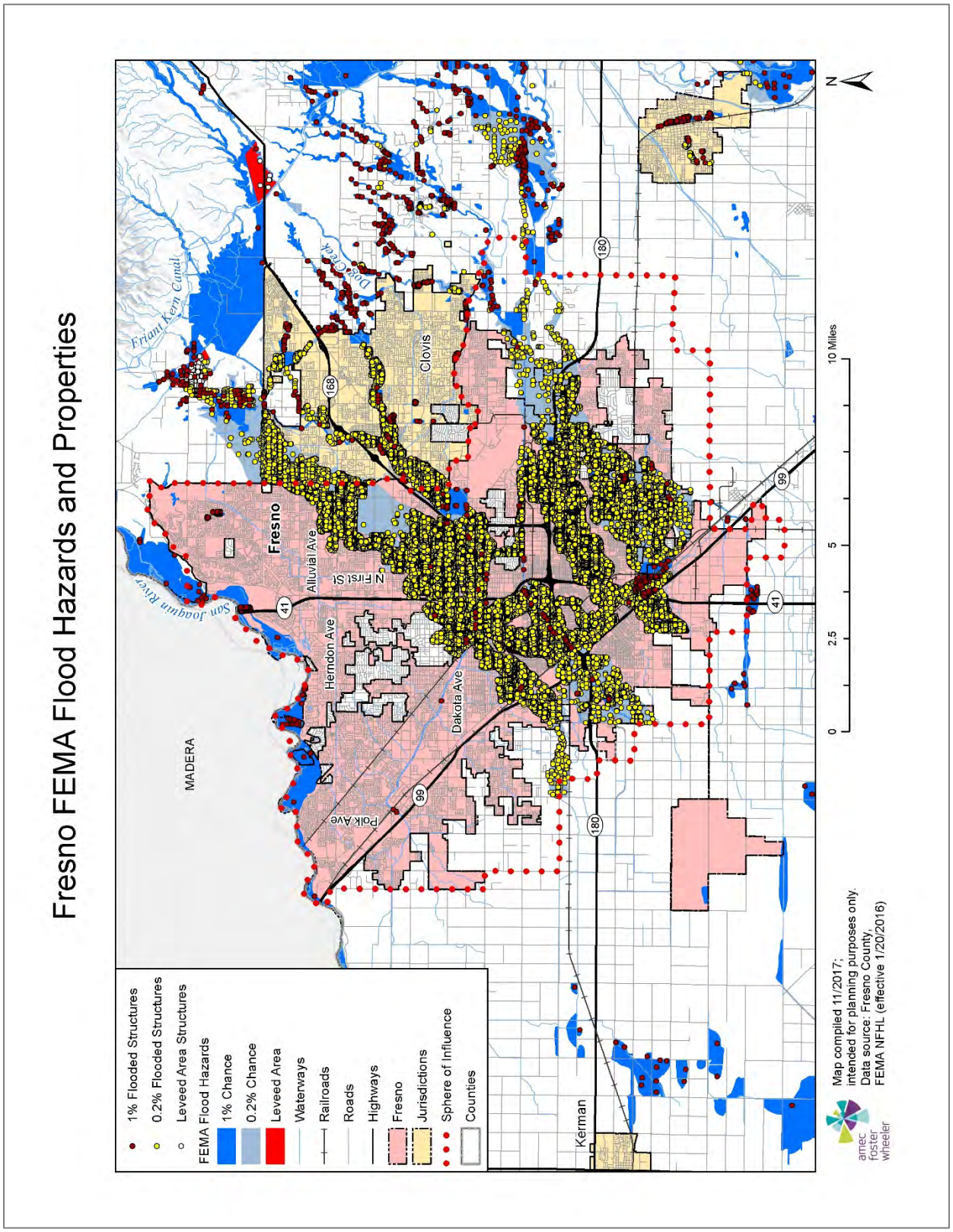
Based on this analysis, the City of Fresno has significant assets at risk to the 100-year and greater floods. There are 231 improved parcels within the 100-year floodplain for a total value of roughly $128 million, including building and content value. An additional 37,849 improved parcels valued at roughly $10.5 billion fall within the 500-year floodplain.

Applying the 25 percent damage factor as described in Section 4.3.2, there is a 1 percent chance in any given year of a 100-year flood causing roughly $32.0 million in damage in the City of Fresno and a 0.2 percent chance in any given year of a 500-year flood causing roughly $2.65 billion in damage (combined damage from both floods).

Properties at risk to flooding are shown in relation to the mapped floodplains in Figure E.5.

Limitations: This model may include structures in the floodplains that are elevated at or above the level of the base-flood elevation, which will likely mitigate flood damage. Also, the assessed values are well below the actual market values. Thus, the actual value of assets at risk may be significantly higher than those included herein.

Figure E.5: City of Fresno's Properties at Risk in the 100- and 500-Year Floodplains



In addition to the 100-year and 500-year floodplains mapped by FEMA, the California Department of Water Resources maintains Best Available Maps (BAM) which include the floodplains in the Sacramento and San Joaquin River Basins, based on a study performed in 2002 by the U.S. Army Corps of Engineers (USACE). Though limited to the San Joaquin River as a flood source and thus not as comprehensive as the FEMA FIRM, the USACE study shows additional differentiation in flood risk by modeling the 200-year floodplain (the flood with a 0.5 percent annual chance of occurring). Table E.12 summarizes the values at risk by property type within the 200-year floodplain and loss estimates to the 200-year storm using the same methodology described above.

Table E.12: City of Fresno's FEMA 0.5% Annual Chance Flood Hazard by Property Type

Property Type	Parcel Count	Building Count	Improved Value	Content Value	Total Value	Loss Estimate
Agricultural	1	0	$60,933	$60,933	$121,866	$30,467
Commercial	3	139	$4,322,495	$4,322,495	$8,644,990	$2,161,248
Exempt	5	5	$0	$0	$0	$0
Residential	18	19	$12,103,507	$6,051,754	$18,155,261	$4,538,815
Total	**27**	**163**	**$16,486,935**	**$10,435,182**	**$26,922,117**	**$6,730,529**

Sources: Fresno County 2017 Parcel and Assessor data; CA DWR BAM; USACE

Based on this analysis, there are 27 parcels within the 200-year floodplain valued at nearly $10.5 million. Applying the 25 percent damage factor, there is a 0.5 percent annual chance of a 200-year flood causing $6.73 million in damage in the City of Fresno.

Insurance Coverage, Claims Paid, and Repetitive Losses

The City of Fresno joined the National Flood Insurance Program (NFIP) on December 1, 1982. In addition to providing insurance for properties at risk of flooding, the program collects and publishes statistics on flood-related losses in participating jurisdictions.

NFIP insurance data for the City of Fresno indicates that as of March 30, 2017, there were 323 flood insurance policies in force in the City with $99,316,700 in coverage. This coverage represents a decline of nearly 200 policies over the last decade. Of the 323 policies, 277 were residential (267 for single-family homes) and 46 were nonresidential. 56 of the policies were in A zones (including A01-30, AE, AO, and AH), and the remaining 267 policies were in B, C, and X zones. Policies in B, C, and X zones have increased slightly over the past decade, while policies in the 100-year floodplain have dramatically declined.

There have been 81 historical claims for flood losses totaling $765,183; 73 were for residential properties; 37 were in A zones and 36 were in B, C, or X zones; and 54 were pre-FIRM structures (17 of the 19 post-FIRM structures with reported losses were in a B, C, or X zone). According to the FEMA Community Information System accessed 9/17/2018 there was one Repetitive Loss and no Severe Repetitive Loss properties located in the jurisdiction.

Population at Risk

Using parcel data from the County, the digital flood insurance rate map, population at risk was calculated for the 100-year and 500-year floods based on the number of residential properties at risk and the U.S. Census Bureau 2016 estimate for the average number of persons per household (3.17). The following are at risk to flooding in the City of Fresno:

- 100-year flood—342 people
- 500-year flood—107,400 people
- **Total flood**—107,742 people

Critical Facilities at Risk

Critical facilities are those community components that are most needed to withstand the impacts of disaster as previously described. Table E.13 lists the critical facilities in the City's 100- and 500-year floodplains.

Table E.13: Critical Facilities in the 100- and 500-Year Floodplains: City of Fresno

Critical Facility Type	100-Year Floodplain	500-Year Floodplain
Airport	-	1
Behavioral Health	-	1
CalARP	1	12
Colleges & Universities	-	5
Communications	-	1
County Government	-	2
Daycare	-	52
Department of Agriculture	-	2
Department of Public Health	-	2
Department of Social Services	-	6
District Attorney	-	1
Fire Station	-	7
General Services	-	3
Health Care	-	1
Nursing Home	-	12
Police	-	5
School	-	68
Urgent Care	-	2
Total	**1**	**183**

Source: Fresno County, HIFLD 2017

Hazardous Materials Incident

The following are the primary concerns for the City of Fresno related to hazardous materials release:

- Train derailments

- Kinder-Morgan pipeline
- Chevron petroleum pipelines
- Storage facilities

There are 28 CalARP hazardous materials facilities located in the City of Fresno. As detailed in Table E.14, there are 62 critical facilities located within a half mile of a CalARP facility.

Table E.14: Critical Facilities within ½ mile of CalARP Facility: City of Fresno

Critical Facility Type	Count
Colleges & Universities	1
Communications	1
County Government	4
Courthouse	1
Daycare	11
Department of Public Health	2
Department of Social Services	4
Detention Center	4
District Attorney	2
Fire Station	4
Health Care	3
Nursing Home	4
Police	1
School	17
Sheriff	1
Supplemental College	1
Urgent Care	1
Total	**62**

Source: Fresno County, HIFLD 2017

For more information on this hazard please refer to the main plan, Section 4.

Severe Weather: Fog

The risk and vulnerability factors for fog in the City is not unique from the County at large. Please refer to the main plan's discussion of the fog hazard in section 4.

Severe Weather: Windstorm

Fresno's prevailing winds are typically light and from the northwest. High wind conditions are occasionally created by strong weather fronts. Occasionally, there are funnel clouds of low intensity. Past structural damage has been light, infrequent, and very limited in geographic extent. Injuries have been extremely rare. Most of this damage has occurred secondary to large trees being blown over. The City's design wind load, the level of wind force that new structures are required to be engineered to withstand, is 70 mph.

Soil Hazards: Land Subsidence

Despite long-term over-drafting of groundwater that has lowered the static water table under Fresno by as much as 100 feet over the past century, ground level subsidence has not been noted in the vicinity of the City (this is probably due to the geologic strata underlying the City, which features layers of clay and hardpan interleaved with sand and gravel layers).

Wildfire

Similar to many areas of the County, Fresno has high temperatures in the summer with low rainfall creating fire hazard conditions. There is some wildfire risk in the San Joaquin River Bluff area in northern Fresno due to vegetation and steep slopes.

Following the methodology described in Section 4.3.2 Vulnerability of Fresno County to Specific Hazards, a wildfire map for the City of Fresno was created (see Figure E.6). An analysis was performed using GIS software to determine where populations, values at risk, and critical facilities are located within wildfire threat zones. Table E.15 shows the values at risk in the moderate wildfire threat zone (there are no values at risk in the high or very high threat zones). There are not any critical facilities in wildfire threat zones in the City of Fresno.

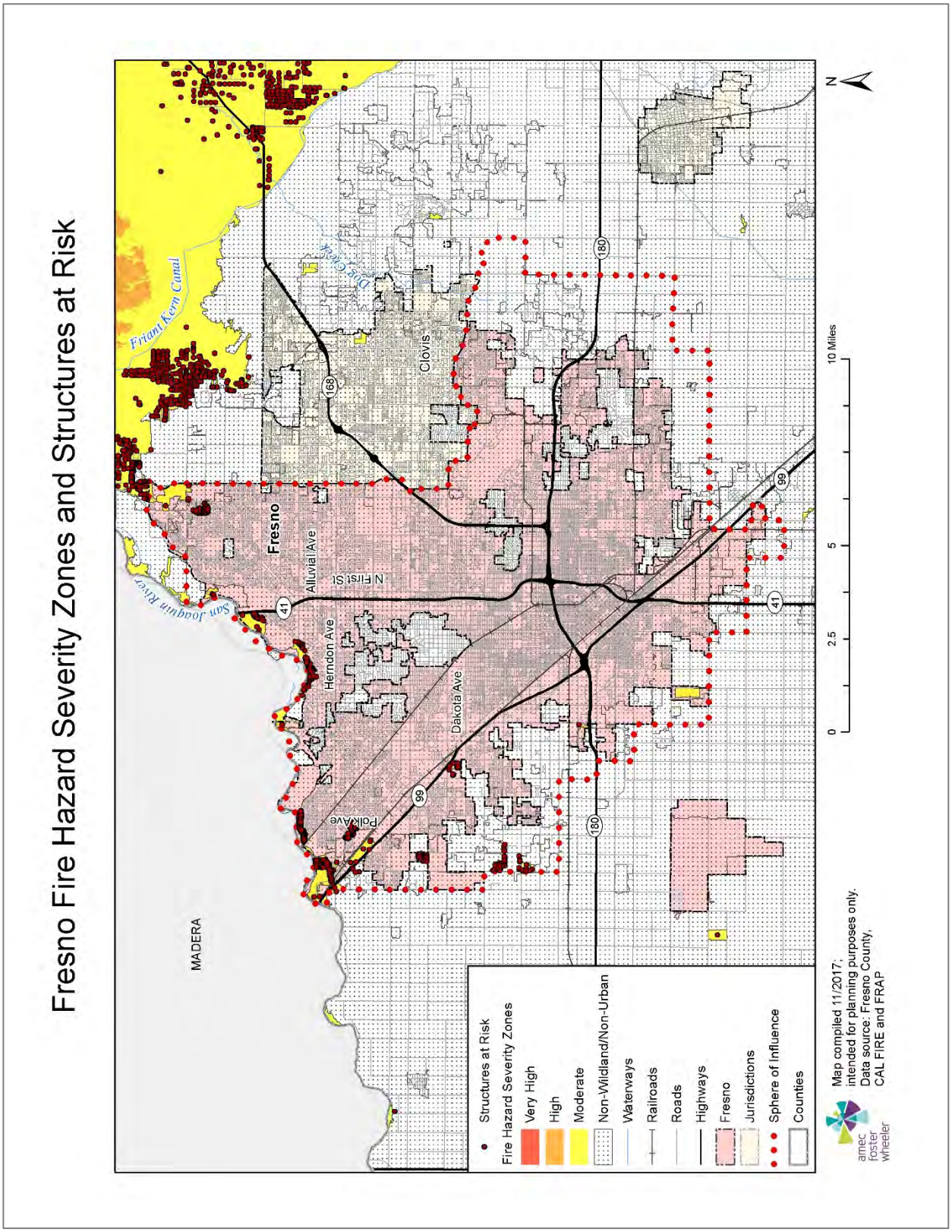
Table E.15: Values at Risk to Wildfire (Moderate Threat) in the City of Fresno

Property Type	Parcel Count	Building Count	Improved Value	Content Value	Total Value
Agricultural	1	0	$60,933	$60,933	$121,866
Commercial	13	36	$24,379,836	$24,379,836	$48,759,672
Exempt	12	13	$0	$0	$0
Industrial	4	4	$2,105,480	$3,158,220	$5,263,700
Multi-Residential	1	16	$255,200	$127,600	$382,800
Residential	772	779	$180,172,709	$90,086,355	$270,259,064
Total	**803**	**848**	**$206,974,158**	**$117,812,944**	**$324,787,102**

Sources: Fresno County 2017 Parcel and Assessor data

Based on this analysis, the City of Fresno's moderate wildfire threat affects 2,450 people and 803 improved parcels valued at roughly $324,787,102. Almost all of the parcels at risk are in the San Joaquin River corridor, where development is very restricted due to flood risk and bluff instability. Other parcels are in industrial areas along the western edge of the City, where the City's weed abatement ordinances (requiring vegetation control by April) would reduce the wildfire risk.

Figure E.6: City of Fresno's Wildfire Threat



E.4 Capability Assessment

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. This capabilities assessment is divided into five sections: regulatory mitigation capabilities, administrative and technical mitigation capabilities, fiscal mitigation capabilities, mitigation outreach and partnerships, and other mitigation efforts.

To develop this capability assessment, the jurisdictional planning representatives used a matrix of common mitigation activities to inventory which of these policies or programs were in place. The team then supplemented this inventory by reviewing additional existing policies, regulations, plans, and programs to determine if they contributed to reducing hazard-related losses.

During the plan update process, this inventory was reviewed by the jurisdictional planning representatives and Amec Foster Wheeler consultant team staff to update information where applicable and note ways in which these capabilities have improved or expanded. Additionally, in summarizing current capabilities and identifying gaps, the jurisdictional planning representatives also considered their ability to expand or improve upon existing policies and programs as potential new mitigation strategies. The City of Fresno's updated capabilities are summarized below.

E.4.1 Regulatory Mitigation Capabilities

Table E.16 lists regulatory mitigation capabilities, including planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are in place in Fresno.

Table E.16: City of Fresno's Regulatory Mitigation Capabilities

Regulatory Tool	Yes/No	Comments
General Plan	Yes	The Fresno General Plan has a Noise and Safety Element with policies for wildland fire hazards, seismic/geologic hazards, storm drainage and flood control, hazardous materials, airport safety, and emergency response
Zoning Ordinance	Yes	Fresno Municipal Code Chapter 15; Zoning Ordinance has requirements related to health and safety (e.g., dwelling unit density controls, building setbacks for fire protection, masonry walls along major streets)
Subdivision Ordinance	Yes	Fresno Municipal Code Chapter 15 requires multiple points of access for ingress/egress, fire protection provisions, etc.
Development Permit (formerly Site Plan Review) requirements	Yes	Required for all nonresidential development projects and multi-family projects over two units; required for duplexes in some zone districts; plot plan review required for even single-family residential construction
Growth Management Ordinance	Yes	Fresno Municipal Code Chapter 12 provides for extension of urban infrastructure and services including sewer treatment, water supply, and fire protection
Floodplain Ordinance	Yes	Fresno Municipal Code Chapter 13 (local building codes) includes the Flood Damage Prevention Ordinance
Other special purpose ordinance (stormwater, water conservation, wildfire)	Yes	- Within the Zoning Ordinance, there is a Bluff Preservation Overlay district with requirements for soil stability analysis and setbacks from the San Joaquin bluff edge

Regulatory Tool	Yes/No	Comments
		- Pretreatment Ordinance and environmental control program for wastewater system to prevent and abate any hazardous material releases
Building Code	Yes	Version: 2016 California Building Code with a few City modifications: fire sprinkler ordinance, swimming pool ordinance, and security ordinance
Fire Department ISO Rating	Yes	Rating: 3
Erosion or Sediment Control Program	Yes	The Bluff Preservation Ordinance, as well as grading plan review and stormwater pollution prevention plans, which are required for all development projects through project conditions and CEQA review
Stormwater Management Program	Yes	In conjunction with Cal-EPA, Regional Water Quality Control Board, and Fresno Metropolitan Flood Control District
Capital Improvements Plan	Yes	Public Works Department and Department of Public Utilities formulate and administer these plans
Economic Development Plan	Yes	Fresno Redevelopment Agency and Economic Development Division of the Planning and Development Department
Local Emergency Operations Plan	Yes	Ratified by City Council in 2005 and last updated in 2015
Flood Insurance Study or other engineering study for streams	Yes	FEMA Flood Insurance Study, 2005

Fresno General Plan (Adopted December 18, 2014)

The Fresno General Plan is a blueprint of how the City anticipates directing and managing growth while minimizing potential impacts for existing and future generations. It provides long-range planning strategies for the continued development, enhancement, and revitalization of the Fresno Metropolitan Area. The plan goals are the guiding principles and provide the framework for the objectives and policies that can be found in the plan elements. The following general plan goals directly or indirectly mitigate hazards identified in this plan:

- **Goal 9**—Promote a city of healthy communities and improve quality of life in established neighborhoods.
  - *Emphasize supporting established neighborhoods in Fresno with safe, well maintained, and accessible streets, public utilities, education and job training, proximity to jobs, retail services, health care, affordable housing, youth development opportunities, open space and parks, transportation options, and opportunities for home grown businesses.*
- **Goal 12**— Resolve existing public infrastructure and service deficiencies, make full use of existing infrastructure, and invest in improvements to increase competitiveness and promote economic growth.
  - *Emphasize the fair and necessary costs of maintaining sustainable water, sewer, streets, and other public infrastructure and service systems in rates, fees, financing and public investments to implement the General Plan. Adequately address accumulated deferred maintenance, aging infrastructure, risks to service continuity, desired standards of service to meet quality-of-life goals, and required infrastructure to support growth, economic competitiveness and business development.*
- **Goal 16**— Protect and improve public health and safety.

Some of the elements of the General Plan also contain objectives and policies relevant to protecting human health and safety (e.g., supporting objectives and policies in the Public Utilities and Services Element direct that amendments to construction and fire codes to reduce the level of risk to life and property from fire commensurate with the City's fire suppression capabilities and that fire and police services be provided). Because the Noise and Safety Element is the portion of the General Plan most relevant to hazard mitigation, select objectives and policies are extracted and included below.

The Noise and Safety Element

The Noise and Safety Element seeks to reduce deaths, injuries, illnesses, damage to property, and economic and social dislocation that could result from hazards. Of specific relevance to this plan, it addresses seismic and geologic conditions, flooding, hazardous materials, and emergency response.

Seismic and Geologic Hazards

NS-2. Objective: Minimize risks of property damage and personal injury posed by geologic and seismic risks.
NS-2-a. Policy: Seismic Protection. Ensure seismic protection is incorporated into new and existing construction, consistent with the Fresno Municipal Code.
NS-2-b. Policy: Soil Analysis Requirement. Identify areas with potential geologic and/or soils hazards, and require development in these areas to conduct a soil analysis and mitigation plan by a registered civil engineer (or engineering geologist specializing in soil geology) prior to allowing on-site drainage or disposal for wastewater, stormwater runoff, or swimming pool/spa water.
NS-2-c. Policy: Landfill Areas. Require proposed land uses on or near landfill areas to be designed and maintained to comply with California Code of Regulations, Title 27, Section 21190, Post Closure Land Use.
NS-2-d. Policy: Bluff Preservation Overlay Zone. Per the requirements of the Bluff Preservation Overlay Zone District and Policy POSS-7-f (Chapter 5, Parks and Open Space), the following standards shall be applicable for property located within the Bluff Preservation zone: • Require proposed development within 300 feet of the toe of the San Joaquin River bluffs to undertake an engineering soils investigation and evaluation report that demonstrates that the site is sufficiently stable to support the proposed development, or provide mitigations to provide sufficient stability; and • Establish a minimum setback of 30 feet from the San Joaquin River bluff edge for all buildings, structures, decks, pools and spas (which may be above or below grade), fencing, lighting, steps, etc. o An applicant may request to reduce the minimum setback to 20 feet from the bluff edge if it can be demonstrated, to the satisfaction of the City's Building Official and the Planning Director, that the proposed building, structure, deck, pool and/or spas (which may be above or below grade), fencing, steps, etc., will meet the objectives of the Bluff Preservation Overlay Ordinance. In no case shall the setback be reduced to less than 20 feet.

Flooding Hazards

NS-3. Objective: Minimize the risks to property, life, and the environment due to flooding and stormwater runoff hazards.
NS-3-a. Policy: Stormwater Drainage and Flood Control Master Plan. Support the full implementation of the FMFCD Storm Drainage and Flood Control Master Plan, the completion of planned flood control and drainage system facilities, and the continued maintenance of stormwater and flood water retention and conveyance facilities and capacities. Work with the FMFCD to make sure that its Storm Drainage and Flood Control Master Plan is consistent with the General Plan.

NS-3-b. Policy: Curb and Gutter Installation. Coordinate with Fresno Metropolitan Flood Control District (FMFCD) to install curbing, gutters, and other drainage facilities with priority to existing neighborhoods with the greatest deficiencies and consistent with the Storm Drainage and Flood Control Master Plan.
NS-3-c. Policy: Dual Use Facilities. Support multiple uses of flood control and drainage facilities as follows: • Use, wherever practical, FMFCD facilities for groundwater management and recharge; and • Promote recreational development of ponding basin facilities located within or near residential areas, compatible with the stormwater and groundwater recharge functions.
NS-3-d. Policy: Landscaped Buffer. City will support the development of FMFCD ponding basins including the landscaping and irrigation for the top one third of the side sloped areas consistent with the FMFCD Basin Design Criteria.
NS-3-e. Policy: Pollutants. Work with FMFCD to prevent and reduce the existence of urban stormwater pollutants pursuant to the requirements of the National Pollution Discharge Elimination Systems Act.
NS-3-f. Policy: Flooding Emergency Response Plans. Work with responsible agencies to update emergency dam failure inundation plans, evacuation plans and other emergency response plans for designated flood-prone areas, including the San Joaquin river bottom.
NS-3-g. Policy: Essential Facilities Siting Outside of Floodplains. Avoid siting emergency response and essential public facilities, such as fire and police stations, within a 100-year floodplain, unless it can be demonstrated that the facility can be safely operated and accessed during flood events.
NS-3-h. Policy: Runoff Controls. Implement grading regulations and related development policies that protect area residents from flooding caused by urban runoff produced from events that exceed the capacity of the Storm Drainage and Flood Control Master Plan system of facilities. Place all structures and/or flood-proofing in a manner that does not cause floodwaters to be diverted onto adjacent property, increase flood hazards to other property, or otherwise adversely affect other property.
NS-3-i. Policy: New Development Must Mitigate Impact. Require new development to not significantly impact the existing storm drainage and flood control system by imposing conditions of approval as project mitigation, as authorized by law. As part of this process, closely coordinate and consult with the FMFCD to identify appropriate conditions that will result in mitigation acceptable and preferred by FMFCD for each project. *Commentary: The City recognizes the expertise and significant role of the FMFCD, and will give the highest deference to its recommendations for mitigation measures, consistent with applicable law.*
NS-3-j. Policy: National Flood Insurance Program. Continue to participate in the National Flood Insurance Program (NFIP) by ensuring compliance with applicable requirements. Review NFIP maps periodically to determine if areas subject to flooding have been added or removed and make adjustments to the Land Use Diagram Figure LU-1.
NS-3-k. Policy: 100-Year Floodplain Policy. Require developers of residential subdivisions to preserve those portions of development sites as open space that may be subject to 100-year flood events, unless the flood hazard can be substantially mitigated by development project design.
NS-3-l. Policy: 200-Year Floodplain Protection. Promote flood control measures that maintain natural conditions within the 200-year floodplain of rivers and streams and, to the extent possible, combine flood control, recreation, water quality, and open space functions. Discourage construction of permanent improvements that would be adversely affected by periodic floods within the 200-year floodplain, particularly in the San Joaquin river bottom.
NS-3-m. Policy: Flood Risk Public Awareness. Continue public awareness programs to inform the general public and potentially affected property owners of flood hazards and potential dam failure inundation. Remind households and businesses located in flood-prone areas of opportunities to purchase flood insurance.
NS-3-n. Policy: Precipitation Changes. Work with FMFCD to evaluate the planned and existing stormwater conveyance system in light of possible changes to precipitation patterns in the future.

Hazardous Materials

NS-4. Objective: Minimize the risk of loss of life, injury, serious illness, and damage to property resulting from the use, transport, treatment, and disposal of hazardous materials and hazardous wastes.
NS-4-a. Policy: Processing and Storage. Require safe processing and storage of hazardous materials, consistent with the California Building Code and the Uniform Fire Code, as adopted by the City.
NS-4-b. Policy: Coordination. Maintain a close liaison with the Fresno County Environmental Health Department, Cal-EPA Division of Toxics, and the State Office of Emergency Services to assist in developing and maintaining

hazardous material business plans, inventory statements, risk management prevention plans, and contingency/emergency response action plans.
NS-4-c. Policy: Soil and Groundwater Contamination Reports. Require an investigation of potential soil or groundwater contamination whenever justified by past site uses. Require appropriate mitigation as a condition of project approval in the event soil or groundwater contamination is identified or could be encountered during site development.
NS-4-d. Policy: Site Identification. Continue to aid federal, State, and County agencies in the identification and mapping of waste disposal sites (including abandoned waste sites), and to assist in the survey of the kinds, amounts, and locations of hazardous wastes.
NS-4-e. Policy: Compliance with County Program. Require that the production, use, storage, disposal, and transport of hazardous materials conform to the standards and procedures established by the County Division of Environmental Health. Require compliance with the County's Hazardous Waste Generator Program, including the submittal and implementation of a Hazardous Materials Business Plan, when applicable.
NS-4-f. Policy: Hazardous Materials Facilities. Require facilities that handle hazardous materials or hazardous wastes to be designed, constructed, and operated in accordance with applicable hazardous materials and waste management laws and regulations.
NS-4-g. Policy: Hazmat Response. Include policies and procedures appropriate to hazardous materials in the City's disaster and emergency response preparedness and planning, coordinating with implementation of Fresno County's Hazardous Materials Incident Response Plan.
NS-4-h. Policy: Household Collection. Continue to support and assist with Fresno County's special household hazardous waste collection activities, to reduce the amount of this material being improperly discarded.
NS-4-i. Policy: Public Information. Continue to assist in providing information to the public on hazardous materials.

Emergency Response

NS-6. Objective: Foster an efficient and coordinated response to emergencies and natural disasters.
NS-6-a. Policy: County Multi-Jurisdiction Hazard Mitigation Plan. Adopt and implement the Fresno County Multi-Jurisdiction Hazard Mitigation Plan and City of Fresno Local Hazard Mitigation Plan Annex. *Commentary: The federal Disaster Mitigation Act of 2000 requires that cities, counties, and special districts have a Local Hazard Mitigation Plan to be eligible to receive FEMA hazard mitigation funds. Cities and counties can adopt and use all or part of a regional multi-jurisdictional plan, such as the one prepared by Fresno County, in lieu of preparing all or part of a Local Hazard Mitigation Plan.*
NS-6-b. Policy: Disaster Response Coordination. Maintain coordination with other local, State, and Federal agencies to provide coordinated disaster response.
NS-6-c. Policy: Emergency Operations Plan. Update the City's Emergency Operations Plan periodically, using a whole community approach which integrates considerations for People with access and functional needs in all aspects of planning.
NS-6-d. Policy: Evacuation Planning. Maintain an emergency evacuation plan in consultation with the Police and Fire Departments and other emergency service providers, which shows potential evacuation routes and a list of emergency shelters to be used in case of catastrophic emergencies. Commentary: The evacuation plan will be flexible in order to consider many scenarios and multiple modes of transportation beyond private automobiles. It will provide special provisions for disadvantaged populations, such as those with physical disabilities or those with low or very low incomes, and for areas with fewer resources through neighborhood emergency preparedness programs.
NS-6-e. Policy: Critical Use Facilities. Ensure critical use facilities (e.g. City Hall, police and fire stations, schools, hospitals, public assembly facilities, transportation services) and other structures that are important to protecting health and safety in the community remain operational during an emergency. • Site and design these facilities to minimize their exposure and susceptibility to flooding, seismic and geological effects, fire, and explosions. • Work with the owners and operators of critical use facilities to ensure they can provide alternate sources of electricity, water, and sewerage in the event that regular utilities are interrupted in a disaster.
NS-6-f. Policy: Emergency Vehicle Access. Require adequate access for emergency vehicles in all new development, including adequate widths, turning radii, hard standing areas, and vertical clearance.

NS-6-g. Policy: Emergency Preparedness Public Awareness Programs. Continue to conduct programs to inform the general public, including people with access and functional needs, of the City's emergency preparedness and disaster response procedures.

Fresno Flood Plain Ordinance

The City of Fresno's Flood Plain Ordinance was revised in the late 1990s and formally adopted by the Fresno City Council on September 20, 2005. (In late 2007, the Fresno Municipal Code was republished with its chapters somewhat reorganized. There was no change in the text of the Flood Plain Ordinance at that time, but due to the reorganization of its content, its most recent adoption effective date is January 17, 2008.) The Fresno Flood Plain Ordinance is Article 6 of Chapter 11 of the Fresno Municipal Code.

The purpose of this ordinance is to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- Protect human life and health;
- Minimize expenditure of public money for costly flood control projects;
- Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- Minimize prolonged business interruptions;
- Minimize damage to public facilities and utilities such as water and gas mains; electric, telephone, and sewer lines; and streets and bridges located in areas of special flood hazard;
- Help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future blighted areas caused by flood damage;
- Ensure that potential buyers are notified that property is in an area of flood hazard; and
- Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

In order to accomplish its purposes, the ordinance includes the following methods and provisions:

- Restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities
- Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction
- Control filling, grading, dredging, and other development which may increase flood damage
- Prevent or regulate the construction of flood barriers which will unnaturally divert flood water or which may increase flood hazards in other areas
- Control the alteration of natural flood plains, stream channels, and natural protective barriers, which help accommodate or channel floodwaters

This ordinance applies to all areas of special flood hazards within the jurisdiction of the City as identified by FEMA's Flood Insurance Study for Fresno County, California and incorporated areas dated September 30, 2005, with accompanying Flood Insurance Rate Maps, and all subsequent amendments and/or revisions. It appoints the building official to administer, implement, and enforce the ordinance by granting or denying development permits in accord with its provisions.

This ordinance includes the following standards of construction related to special flood hazard areas:

- Anchoring
- Construction materials and methods
- Elevation and floodproofing
- Residential construction
- Nonresidential construction
- Flood venting
- Standards for utilities
- Standards for subdivisions
- Standards for manufactured homes
- Standards for recreational vehicles
- Floodways
- Standards for storage of materials and equipment

In conjunction with Fresno's Drainage Fee Ordinance (Fresno Municipal Code Chapter 12, Article 19), which requires local grading and development to conform to the Fresno Metropolitan Flood Control District Master Drainage Plan and to provide proportionate shares of drainage infrastructure, the Fresno Flood Plain Ordinance and its preceding Flood Damage Prevention Ordinance have reduced flood damage losses in the City.

National Flood Insurance Program/Community Rating System

The City of Fresno joined the National Flood Insurance Program (NFIP) on December 1, 1982. It has been a member of the Community Rating System (CRS) since October 1, 1992. The City's Floodplain Administrator duties are assigned to the building official. The Building and Safety Division of the Planning and Development Department works to improve the City's CRS rating, which determines the price paid for flood insurance policies issued in the jurisdiction. The rating is based on detailed biannual audits conducted by FEMA and/or a designee agency (currently, the California Department of Water Resources). The primary means of improving and maintaining a good CRS rating is through administration of the Fresno Flood Plain Ordinance. As part of its efforts to improve its community rating, the City of Fresno has hosted periodic FEMA Region IX NFIP/CRS training.

The City's current CRS rating from October 2016 is Class 8, which reflects the loss of two class levels in the most recent audit.

San Joaquin River Bluff Preservation Ordinance, 1980

After an interagency San Joaquin River Reconnaissance Plan was completed in the late 1970s, the City of Fresno adopted the San Joaquin River Bluff Specific Plan to preserve this important open space and habitat feature and to safeguard the bluff face, which is the most unstable geologic feature in the City. The San Joaquin River Bluff Specific Plan was later subsumed by the 1988 Bullard Community Plan, which carried forward protective policies for this area of Fresno.

The regulation of land use, development, and grading in this portion of Fresno is ongoing pursuant to the Bluff Preservation Ordinance. This ordinance, part of the City's zoning regulations, delineates an overlay zone district along the river bluff (the Bluff Preservation Overlay District), established allowable and prohibited land uses, and set forth conditions and requirements for using or modifying property in the district. The regulations of the district are deemed to be necessary for the preservation of the special qualities of the bluffs and for the protection of the health, safety, and general welfare of owners and users of property in the area.

The Bluff Preservation Ordinance is administered by the Fresno Development and Resource Management Department through its special permit process and grading plan checks. Anyone applying for a building permit is required to submit a site plan review with accompanying soil investigation and evaluation report (prepared by an appropriately licensed professional engineer or registered geologist). The Department's Code Enforcement Division also conducts periodic surveillance of bluff properties for grading and construction done without permits and institutes abatement actions when these conditions are discovered.

Hazardous Material Incident Safeguards

The Fresno Fire Department works with Fresno County Environmental Health to review hazardous material business plans that detail flammable, explosive, toxic, and otherwise hazardous materials used by businesses in the City. The Fire Department has its own permitting requirement for liquid and gaseous fuel tanks to ensure that they are installed and maintained safely. The City's Hazardous Materials Response Unit (housed in a City fire station) maintains the capability to quickly characterize material releases and spills, to evaluate risks to life and property, and to implement appropriate controls and evacuation measures.

Fire Prevention Policy

The City of Fresno has some of the most progressive and effective fire prevention policies and regulations in the nation relating to water supply (fire flow) required for development, ingress and egress from developed buildings and subdivisions, on-site automatic fire suppression systems (sprinkler and on-site private hydrants), building addressing to facilitate rapid emergency response, marking of unsafe buildings (those older structures with hazardous conditions or a lack of water supply), and instant aid/mutual aid with adjacent fire departments belonging to Fresno County special districts and the City of Clovis.

In addition to its extensive network of well-trained and well-equipped firefighting stations, the Fresno Fire Department has a Fire Prevention Bureau, under supervision of the City's fire marshal, to administer regulations adopted and referenced by the Fresno Municipal Code Chapter 6, Article 5 relating to fire prevention. The Fire Prevention Bureau carries out these responsibilities by conducting routine inspections of all public and commercial buildings, performing detailed development permit and construction plan checks, and investigating arson.

Another component of the City's overall fire protection program is the administration of its public nuisance ordinances to require properties to be kept clean and free of flammable debris and to annually abate weeds and overgrown vegetation before these materials can dry out in the spring to pose a wildfire hazard (Fresno Municipal Code Chapter 10, Article 6 relating to public nuisance abatement). The Planning and Development Department Code Enforcement Division and Department of Public Utilities Community Sanitation Division coordinate their efforts to enforce the nuisance abatement regulations and provide cleanup services when property owners do not take care of matters themselves.

City of Fresno Emergency Operations Plan, 2015, Updated 2015

The City of Fresno Emergency Operations Plan (EOP) addresses the planned response to extraordinary emergency situations associated with natural disasters, technological incidents, excessive heat/cold, power outages, and national security emergencies in or affecting the City of Fresno. The Plan, which was updated in 2015, does the following:

- Establishes the emergency management organization required to mitigate any significant emergency or disaster affecting the City of Fresno.
- Identifies the policies, responsibilities, and procedures required to protect the health and safety of City communities, public and private property, and the environment from natural or technological disasters.
- Establishes the operational concepts and procedures associated with initial response operations to emergencies, the extended response operations, and the recovery process.

The EOP is designed to establish the framework for implementation of the California Standardized Emergency Management System/National Incident Management System for the City of Fresno, which is located within the California Governor's Office of Emergency Services' Mutual Aid Region V. It is intended to facilitate multi-agency and multi-jurisdictional coordination, particularly between the City of Fresno and the Fresno County Operational Area, including special districts and state agencies, in emergency operations. This plan will be used in conjunction with the Fresno County EOP and the State of California Emergency Plan. The plan is designed to guide the reader or user through each phase of an emergency: preparedness, response, recovery, and mitigation.

Other Plans and Policies

Other hazard mitigation-related policies and plans in place in and observed by the City of Fresno include the following:

- California Code of Regulations Title 23 administrative law for development and use of land in designated floodway areas along the San Joaquin River administered by the Central Valley Flood Protection Board, staffed by the California Department of Water Resources.
- Standards for constructing and maintaining drainage basins and ponds to prevent mosquito breeding and to provide for mosquito control district access for inspection and abatement activities (jointly promulgated by the Planning and Development Department and Public Works Department in fall of 2005).
- Dam failure inundation plans prepared and administered by the U.S. Bureau of Reclamation, the U.S. Army Corps of Engineers, Fresno Metropolitan Flood Control District, Southern California Edison, and Pacific Gas and Electric Company.
- The California Environmental Quality Act, overseen by the Fresno City Attorney's Office and administered by several City departments, requires consideration of health and safety impacts as they may relate to projects, which are defined as any action that may result in a change in the physical environment and that would include public facilities, and private development, and even adoption/amendment of land use plans and ordinances. An analysis of every project is conducted by the appropriate City department (the Development and Resource Management Department does the bulk of these analyses). Inquiries regarding project sites and features are distributed to departments and outside agencies that may have knowledge of, or which may regulate, aspects of the proposed project. The information obtained from these requests for comment and from other staff research is compiled into an informational document for decision-makers and the public. The information is also used to develop a list of mitigation actions to reduce or abate potential adverse impacts of the project. For those projects which may involve federal funds or require federal approvals, a parallel National Environmental Policy Act assessment is also prepared by the City.
- The Development and Resource Management Department administers regulations in the California Building Code and in Uniform Electrical, Plumbing, and Mechanical Codes as those codes are modified through adoption by the state and City. Plan check and inspection activities of the Department ensure structural soundness and compliance with seismic and other regulations.

E.4.2 Administrative/Technical Mitigation Capabilities

Table E.17 identifies the personnel responsible for activities related to mitigation and loss prevention in Fresno.

Table E.17: City of Fresno's Administrative and Technical Mitigation Capabilities

Personnel Resources	Yes/No	Department/Position
Planner/engineer with knowledge of land development/land management practices	Yes	Planning and Development Department (planners), Department of Public Utilities (engineers), Public Works Department (engineers), Fresno Metropolitan Flood Control District (engineers)
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	Planning and Development Department (engineers), Department of Public Utilities (engineers), Public Works Department (engineers), Fresno Metropolitan Flood Control District (engineers)
Planner/engineer/scientist with an understanding of natural hazards	Yes	Planning and Development Department (planners and engineers), Department of Public Utilities (engineers), Public Works Department (engineers), Fresno Metropolitan Flood Control District (engineers)
Personnel skilled in GIS	Yes	Planning and Development Department, Department of Public Utilities, Public Works Department, Information Services Department
Full time building official	Yes	Planning and Development Department
Floodplain administrator	Yes	Planning and Development Department
Emergency manager	Yes	Fresno Fire Department
Grant writer	Yes	Planning and Development Department, Police Department, Public Works Department, Fire Department
Other personnel	Yes	California registered geologist (Department of Public Utilities), California registered environmental health specialist (Planning and Development Department), licensed water and wastewater treatment operators
Warning systems/services (Reverse 9-11, outdoor warning signals)	Yes	State Emergency Alert System is coordinated by emergency management team through the National Weather Service
Other	Yes	Emergency notification of San Joaquin River bottom residents in conjunction with the U.S. Bureau of Reclamation and Fresno County

E.4.3 Fiscal Mitigation Capabilities

Table E.18 identifies financial tools or resources that the City could potentially use to help fund mitigation activities.

Table E.18: City of Fresno's Fiscal Mitigation Capabilities

Financial Resources	Accessible/Eligible to Use (Yes/No)	Comments
Community Development Block Grants	Yes	Geographically restricted to designated portions of Fresno based on area income
Capital improvements project funding	Yes	Budgeted out of utility fees and often related to issuance of bonds; City also obtains grants, shares of state gas tax and sales taxes, ballot measure tax revenue, etc.
Authority to levy taxes for specific purposes	Yes	Subject to California Proposition 218 restrictions on new and increased assessments
Authority to levy fees and fines, and to recover costs through lien processes, for nuisance abatement	Yes	Subject to an appeal process that involves administrative law judges retained by the City
Fees for water, sewer, gas, or electric services	Yes	Water, sewer, solid waste, code enforcement (cleanup)

Financial Resources	Accessible/Eligible to Use (Yes/No)	Comments
Impact fees for new development	Yes	Master Fee Schedule as originally chartered under the City's Urban Growth Management Ordinance
Incur debt through general obligation bonds	Yes	Would need vote of the taxpayers to enact.
Incur debt through special tax bonds	Yes	Special Assessment Districts that issue debt and incur the debt but the City only administers
Incur debt through private activities	Yes	The City has the capability of doing them and have in the past
Withhold spending or public infrastructure investment in hazard prone areas	Yes	The Department of Public Utilities retains jurisdiction over water and sewer services and determines its appropriate service areas with risk to facilities being one of the factors leading to a decision not to extend services to River bottom properties

E.4.4 Mitigation Outreach and Partnerships

The Fresno Department of Public Utilities, in conjunction with other agencies, provides water conservation and stormwater quality protection public information programs. The Fire Department provides personal preparedness outreach for heat and freeze emergencies and shelter-in-place information for hazardous materials emergencies. Additionally, the City has developed public service announcements for smoke detector battery life, canal safety, and fireworks safety.

The City's Joint Information System disseminates information in Spanish, and the City can obtain translation services for other languages when necessary. A Joint Information Center plan is an annex to the City of Fresno Emergency Operations Plan and provides comprehensive guidance for early warning notification in all languages and specifically the Americans with Disabilities Act (ADA) community.

Preparedness Exercises afford the opportunity to include the City of Fresno ADA Committee. Members of the committee and volunteers from the ADA community role play for realistic first responder training.

E.4.5 Other Mitigation Efforts

- The City is a certified StormReady community through the National Weather Service.
- The Fire Department, Police Department, and Solid Waste Division are nationally accredited.
- The City has installed security systems for the wastewater treatment facility and for its surface water treatment plant. Generators are installed in critical groundwater pumping stations and these facilities are secured.

E.4.6 Opportunities for Enhancement

Based on the capabilities assessment, the City of Fresno has several existing mechanisms in place that already help to mitigate hazards. In addition to these existing capabilities, there are also opportunities for the City to expand or improve on these policies and programs to further protect

the community. Future improvements may include providing training for staff members related to hazards or hazard mitigation grant funding in partnership with the County and Cal OES. Additional training opportunities will help to inform City staff members on how best to integrate hazard information and mitigation projects into their departments. Continuing to train City staff on mitigation and the hazards that pose a risk to the City of Fresno will lead to more informed staff members who can better communicate this information to the public. In addition, the City could work to improve the CRS rating through additional floodplain management program enhancements. This could further lower the cost of flood insurance for residents.

E.5 Mitigation Strategy

E.5.1 Mitigation Goals and Objectives

The City of Fresno adopts the hazard mitigation goals and objectives developed by the HMPC and described in Chapter 5 Mitigation Strategy.

Incorporation into Existing Planning Mechanisms

The information contained within this plan, including results from the Vulnerability Assessment, and the Mitigation Strategy will be used by the City to help inform updates and the development of local plans, programs and policies. The Public Works Department may utilize the hazard information when implementing Capital Improvement projects and the Planning and Development Department may utilize the hazard information when reviewing a site plan or other type of development applications. The City will also incorporate this LHMP into the Safety Element of their General Plan, as recommended by Assembly Bill (AB) 2140.

As noted in Chapter 7 Plan Implementation, the HMPC representatives from Fresno will report on efforts to integrate the hazard mitigation plan into local plans, programs and policies and will report on these efforts at the annual HMPC plan review meeting.

Continued Compliance with the National Flood Insurance Program

In addition to the mitigation actions identified herein the City will continue to comply with the National Flood Insurance Program as specified in General Plan Policy NS-3-j: *"National Flood Insurance Program. Continue to participate in the National Flood Insurance Program (NFIP) by ensuring compliance with applicable requirements."*

E.5.2 Completed 2009 Mitigation Actions

The City of Fresno did not complete any of the mitigation actions identified in the 2009 plan. However, implementation is in progress for several of these actions and will be continued as part of the mitigation strategy for this plan update.

E.5.3 Mitigation Actions

The planning team for the City of Fresno identified and prioritized the following mitigation actions based on the risk assessment. Background information as well as information on how each action will be implemented and administered, such as ideas for implementation, responsible office, partners, potential funding, estimated cost, and schedule are also included.

In addition to implementing the mitigation actions below the City of Fresno will be participating in the county-wide, multi-jurisdictional action of developing and conducting a multi-hazard seasonal public awareness program. The county-wide project will be led by the County in

partnership with all municipalities and special districts. The City agrees to help disseminate information on hazards provided by the County. More information on the action can be found in the base plan Chapter 5 Mitigation Strategy (see Section 5.3.3 Multi-Jurisdictional Mitigation Actions, Action #1. Develop and Conduct a Multi-Hazard Seasonal Public Awareness Program).

1. Establish Post-Disaster Action Plan for City Continuity of Operations Plan

Hazard(s) Addressed: Multi-Hazard: dam failure, earthquake, flood, severe weather, wildfire, hazardous materials

Issue/Background: Establish a post-disaster action plan to be part of the City of Fresno Continuity of Operations Plan (COOP) that will include the following elements:

- Procedures for public information
- Post-disaster damage assessment
- Grant writing
- Code enforcement
- Redundant operations

The plan will also include annexes from local businesses and large employers to improve economic and employment recovery. The plan will also identify a mechanism for the City to help businesses without COOPs develop a COOP to be incorporated, as an annex, into the City's Emergency Operations Plan.

Other Alternatives: No action

Responsible Office: City of Fresno Emergency Preparedness Officer

Priority (High, Medium, Low): High

Cost Estimate: $150,000

Potential Funding: Local funds, grants

Benefits (Avoided Losses): This will improve response/recovery during an event through pre-planning. A City COOP and local business COOPs will reduce the impact of a disaster to the local economy and employment.

Schedule: Long term

Status: 2009 project, implementation in progress

2. Improve the City's Capabilities for Sheltering Animals in a Disaster

Hazard(s) Addressed: Multi-Hazard: dam failure, earthquake, flood, severe weather, wildfire, hazardous materials

Issue/Background: During a disaster, not only do people need to be rescued, but their pets do also. Hurricane Katrina showed the nation that shelters do not typically allow pets, so pets may be left behind when their owners evacuate. The care of the animals left behind falls to local animal shelters. Currently, the SPCA Animal Shelter does not have the supplies to handle a large scale animal emergency. The City has approximately 18,000 licensed dogs. If a disaster occurred, they would only be able to house a small percentage of them. Overcrowding of animals usually causes diseases and loss of animal life. Purchasing new cages would alleviate some of the overcrowding created by a disaster.

Other Alternatives: Ask other agencies for supplies, if they have them available.

Responsible Office: City of Fresno Emergency Preparedness Officer

Priority (High, Medium, Low): High

Cost Estimate: $50,000

Potential Funding: General fund

Benefits (Avoided Losses): This will cut down on the spread of disease and animal loss during an emergency or disaster.

Schedule: Short term

Status: 2009 project, implementation in progress

3. Train and Certify City Inspectors to Conduct Post-Disaster Damage Assessment

Hazard(s) Addressed: Multi-Hazard: dam failure, earthquake, flood, severe weather, wildfire, hazardous materials

Issue/Background: City inspectors play a vital role in post-disaster building assessment and damage assessment. Pre-training and certification is vital in response and recovery to reduce loss of life, relocate populations, and ensure the rebuilding of local economies.

Other Alternatives: No action

Responsible Office: City of Fresno Emergency Preparedness Officer and Planning and Development Department

Priority (High, Medium, Low): High

Cost Estimate: $250,000

Potential Funding: Grants

Benefits (Avoided Losses): This will improve response/recovery during an event through pre-training and certification of individuals responsible for performing assessment of structures and facilities impacted by disasters. Certification will also allow qualified staff to mobilize with the State of California Office of Emergency Services (Region 5) Urban Search and Rescue Task Force.

Schedule: Long term

Status: 2009 project, implementation not yet started

4. Implement a Flood Awareness Program for the Public

Hazard(s) Addressed: Flood

Issue/Background: The City needs a program to educate flood-prone property owners along the San Joaquin River and in frequent annual flooding areas about the flood threat and how best to prepare, mitigate, and insure their properties.

Other Alternatives: No action

Responsible Office: City of Fresno Emergency Preparedness Officer and Planning and Development Department

Priority (High, Medium, Low): Medium

Cost Estimate: $15,000/year

Potential Funding: General fund, grants

Benefits (Avoided Losses): This will prevent the loss of human life and economic and property losses.

Schedule: Long term

Status: 2009 project, implementation not yet started

5. Southwest Fresno – Recycled Water Distribution System Construction

Hazard(s) Addressed: Drought

Issue/Background: In 2009, the State of California adopted a recycled water policy establishing a mandate to increase the use of recycled water in California by 200,000 acre-feet per year by 2020 and an additional 300,000 acre-feet per year by 2030. The Recycled Water Master Plan prepared by the City of Fresno, Department of Public Utilities (DPU), identifies opportunities to assist with compliance of this law by reducing groundwater pumping and replacing groundwater with recycled water for non-potable purposes (i.e. outdoor irrigation, dust control, fountains, etc.). On April 11, 2013, the Council adopted the Recycled Water Master Plan and associated environmental documents.

In 2017, the DPU commissioned a 5 MGD Tertiary Treatment Facility at the Fresno-Clovis Regional Wastewater Treatment Facility. DPU is currently constructing a Recycled Water Distribution System in Southwest Fresno to deliver recycled water to parks, cemeteries, schools, agricultural uses, etc., to offset potable water irrigation demands. This will help mitigate drought by enabling the use of recycled water for certain uses instead of tapping potable water supplies.

Other Alternatives: DPU has a Water Shortage Contingency Plan (WSCP) which was updated in the City of Fresno's 2015 Urban Water Management Plan to manage water shortages including drought conditions. The WSCP consists of four stages allowing the City to ultimately reduce its water demand to a level commensurate with the water supplies available to a maximum reduction of 50 percent.

Responsible Office: City of Fresno Department of Public Utilities

Priority (High, Medium, Low): High

Cost Estimate: $75,000,000

Potential Funding: California State Water Resources Control Board – Clean Water State Revolving Fund

Benefits (Avoided Losses): Reduced ground water pumping by using recycled water for non-potable purposes.

Schedule: Ongoing with completion in 2019

Status: New project

6. Sustainable Groundwater Management Act Compliance including Groundwater Sustainability Planning and Implementation

Hazard(s) Addressed: Drought

Issue/Background: The Kings subbasin underlays the City of Fresno and like many groundwater basins throughout the State, this subbasin is in overdraft condition with underground aquifers adversely impacted by overuse. Such impacts include significant decline in water storage and water levels, degradation of water quality, and land subsidence resulting in the permanent loss of storage capacity. The Sustainable Groundwater Management Act (SGMA) provides for the establishment of local Groundwater Sustainability Agencies (GSAs) to manage groundwater sustainability within groundwater subbasins defined by the California Department of Water Resources (DWR). The City of Fresno has become a joint power authority of the North Kings Groundwater Sustainability Agency, other members of the Agency include the County of Fresno, City of Kerman, City of Clovis, Biola Community Services District, Garfield Water District and International Water District. As a member of the North Kings GSA, the City of Fresno is required to participate in the development and implementation, no later than January 31, 2020, of a

Groundwater Sustainability Plan (GSP) to ensure a sustainable yield of groundwater, without causing undesirable results. Failure to comply with that requirement could result in the State asserting its power to manage local groundwater resources. Participation in the North Kings GSA and the implementation of a GSP will allow the City to maintain sustainable groundwater supplies while providing insurance against periods of long-term drought, a high significance hazard for the City of Fresno.

Other Alternatives: None, compliance required by law, failure to meet requirements will result in State intervention and oversight.

Responsible Office: City Engineer and North Kings GSA

Priority (High, Medium, Low): High

Cost Estimate: Varies by GSA for preparation of the required GSP. Further expenses are anticipated to be accrued for the planning and construction of groundwater recharge projects.

Potential Funding: Property owner assessments along with grant funding opportunities from the State.

Benefits (Avoided Losses): Preparation and implementation of the GSP by the respective GSAs will result in the management of groundwater in a manner that is sustainable and avoids undesirable results as defined by the California State Department of Water Resources.

Schedule: GSAs must complete and submit the required GSP to DWR by January 31, 2020, which is to be fully implemented and result in sustainability of the groundwater basin, with no undesirable effects, by the year 2040.

Status: New project in 2018

Attachment 5
Notice of Public Hearing

Notice of Public Hearing

City of Fresno

Draft 2020 Urban Water Management Plan,

Draft 2020 Water Shortage Contingency Plan, &

Draft Appendix L – Addendum to the City of Fresno's 2015 Urban Water Management Plan, "Quantifying Regional Self Reliance and Reduced Reliance on Water Supplies from the Delta Watershed"

The City of Fresno (City) will hold a public hearing at 10:05 A.M. on Thursday, July 15, 2021, at the City Council Chambers at the City Hall located at 2600 Fresno Street to receive public comments on the City's Draft 2020 Urban Water Management Plan (2020 UWMP), the City's Draft 2020 Water Shortage Contingency Plan (2020 WSCP), and a Draft Appendix L – Addendum to the City of Fresno's 2015 Urban Water Management Plan, "Quantifying Regional Self Reliance and Reduced Reliance on Water Supplies from the Delta Watershed" (Addendum). The Draft 2020 UWMP addresses current and projected water supply availability and reliability and provides a comparison with current and projected water demands through the year 2045. The Draft 2020 WSCP details the City's potential actions in response to a severe water shortage or water supply emergency. Sections 1.3, 1.4, 1.5, and 1.8 of the Draft 2020 WSCP were revised from a version of the document that was previously released on Monday, July 28, 2021. The Draft Addendum discusses the City's reduced reliance on the Sacramento-San Joaquin River Delta surface water.

Interested citizens are invited to make public comments on the three documents at the public hearing. Services of an interpreter and additional accommodations such as assistive listening devices can be made available. Requests for accommodations should be made more than five working days but no later than 48 hours prior to the scheduled hearing. Please contact Mr. Peter Maraccini at 559-621-1603 or Peter.Maraccini@Fresno.gov.

The three documents will be made available for public review starting July 1, 2021. Physical copies of the three documents can be found at the following Fresno County Libraries: Central Library (2420 Mariposa St.), Woodward Park Regional Library (944 E Perrin Ave.), Betty Rodriguez Regional Library (3040 N Cedar Ave.), and Sunnyside Regional Library (5566 E Kings Canyon Rd.). Electronic copies of the three documents are available online at https://www.fresno.gov/publicutilities/about-dpu/plans-reports-resources/. Documents can be provided in alternate formats upon request.

Comments may be submitted by calling Utilities Planning & Engineering at 559-621-1603, by writing to Mr. Peter Maraccini, Utilities Planning & Engineering Division, 2101 G Street

Bldg. A, Fresno, CA 93706, or by emailing at Peter.Maraccini@Fresno.gov. All written comments must be received no later than July 14, 2021, at 11:59 P.M.

Attachment 6
Resolution Approving the WSCP

RESOLUTION NO. 2021-197

A RESOLUTION OF THE COUNCIL OF THE CITY OF FRESNO, CALIFORNIA, TO ADOPT THE 2020 WATER SHORTAGE CONTINGENCY PLAN AND AUTHORIZE THE CITY MANAGER TO DECLARE THE APPROPRIATE WATER CONSERVATION STAGES AND IMPLEMENT THE ASSOCIATED SHORTAGE RESPONSE ACTIONS

WHEREAS, the Urban Water Management Planning Act, codified at California Water Code Sections 10610, et seq., requires every urban water supplier to prepare and adopt an Urban Water Management Plan (UWMP) and update said plan at least once every five years; and

WHEREAS, Water Code Section 10632 requires every urban water supplier to prepare and adopt a Water Shortage Contingency Plan (WSCP) as part of its UWMP; and

WHEREAS, the WSCP details intended City actions to respond to water shortages; and

WHEREAS, as an urban water supplier, the City of Fresno has prepared a WSCP that complies with the requirements of the Urban Water Management Planning Act; and

WHEREAS, the City consulted with, and requested comments from, regional water related agencies such as the County of Fresno, Fresno Irrigation District, the City of Clovis, etc., as required by Water Code Section 10641; and

WHEREAS, prior to the public hearing on July 15, 2021, the City made the draft 2020 WSCP available for public inspection and placed copies for public review at the following Fresno County Libraries: Central Library, Woodward Park Regional Library,

Date Adopted: 07/15/2021
Date Approved: 07/19/2021
Effective Date: 07/19/2021

Betty Rodriguez Regional Library, and Sunnyside Regional Library, as well as making electronic copies available to agencies and the public, as required by Water Code Section 10642; and

WHEREAS, on July 1, 2021, and July 8, 2021, respectively, the City published notices on the City Clerk's website and in the Fresno Bee that on July 15, 2021 at 10:05 a.m. a public hearing regarding the draft 2020 WSCP would be held in Council Chambers at which time public comment on the plan would be received, as required by Water Code Section 10642; and

WHEREAS, on July 15, 2021, at 10:05 a.m. the public hearing was conducted in Council Chambers at which the public was provided the opportunity to comment on the 2020 WSCP.

NOW, THEREFORE, BE IT RESOLVED BY THE Council of the City of Fresno as follows:

1. The City hereby adopts the 2020 Water Shortage Contingency Plan.

2. The City Manager, or designee, is hereby authorized and directed to file the City of Fresno 2020 Water Shortage Contingency Plan with the California Department of Water Resources, the California State Library, and the County of Fresno within 30 days after adoption.

3. The City Manager, or designee, is hereby authorized to declare the appropriate Water Conservation Stages outlined in the 2020 Water Shortage Contingency Plan and implement the associated shortage response actions specified for the appropriate Water Conservation Stage in the Water Shortage Contingency Plan.

* * * * * * * * * * * * * * *

STATE OF CALIFORNIA)
COUNTY OF FRESNO) ss.
CITY OF FRESNO)

I, BRIANA PARRA, Interim City Clerk of the City of Fresno, certify that the foregoing resolution was adopted by the Council of the City of Fresno, at a regular meeting held on the 15th day of July, 2021.

AYES :Arias, Esparza, Karbassi, Maxwell, Chavez
NOES :None
ABSENT :Bredefeld, Soria
ABSTAIN :None

Mayor Approval: July 19th, 2021
Mayor Approval/No Return: N/A, 2021
Mayor Veto: N/A, 2021
Council Override Veto: N/A, 2021

BRIANA PARRA, CMC
Interim City Clerk

BY: Briana Parra 7/20/2021
Deputy Date

APPROVED AS TO FORM:
DOUGLAS T. SLOAN
City Attorney

BY: 7/20/21
Jennifer M. Quintanilla Date
Senior Deputy

July 19, 2021

Council Adoption: 07/15/2021
Mayor Approval:
Mayor Veto:
Override Request:

TO: MAYOR JERRY DYER

FROM BRIANA PARRA, CMC
Interim City Clerk

SUBJECT: TRANSMITTAL OF COUNCIL ACTION FOR APPROVAL OR VETO

At the City Council meeting of July 15, 2021, Council adopted the attached Resolution No. 2021-197, entitled ***RESOLUTION – **Adopting 2020 Water Shortage Contingency Plan and authorizing the City Manager to declare the appropriate water conservation stages and implement the associated shortage response actions (Subject to Mayor's veto).** Item 10:05 A.M. (4), File ID21-22925, by the following vote:

Ayes	:	Arias, Esparza, Karbassi, Maxwell, Chavez
Noes	:	None
Absent	:	Bredefeld, Soria
Abstain	:	None

Please indicate either your formal approval or veto by completing the following sections and executing and dating your action. Please file the completed memo with the Clerk's office on or before July 29, 2021. In computing the ten day period required by Charter, the first day has been excluded and the tenth day has been included unless the 10th day is a Saturday, Sunday, or holiday, in which case it has also been excluded. Failure to file this memo with the Clerk's office within the required time limit shall constitute approval of the ordinance, resolution or action, and it shall take effect without the Mayor's signed approval.

APPROVED / **NO RETURN:** _____

VETOED for the following reasons: (Written objections are required by Charter; attach additional sheets if necessary.)

_____

_____

_____ Date: 7/19/2021

Jerry Dyer, Mayor

COUNCIL OVERRIDE ACTION: Date: _____

Ayes	:
Noes	:
Absent	:
Abstain	:

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CITY OF FRESNO
CITY CLERK'S OFFICE

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Outreach Events

2015 Outreach Events		
Date	Name of Event	Description
Jan	"Creating a Water-wise Landscape: Seven Steps to Follow our Climate"	Landscape Workshop by Susan Stiltz as SPEAKER for City employees at City Hall 2600 Fresno St 93721.Distribute literature E. Social media: sent email with flier to City employees. Contact: Melany Felton. LITERATURE
Jan	Fresno Chinese New Year Parade	Outreach booth providing water saving info & rebate information
March	Spring Festival - Clovis Botanical Garden	Outreach booth providing water saving info & rebate information
April	Home Depot - Riverpark Kid's Day Spring Event	Hands on activity for kids, drought tolerant plants planting, literature for adults
April	America's Party for the Planet	Outreach booth providing water saving info & rebate information
April	Sequoia Middle School Outdoor Club	Outreach booth providing water saving info & rebate information
May	Spring Fling - Master Gardener	Provided literature for event held at Garden of the Sun
May	Madden Library Water-wise Plant Exchange event	Water wise garden speaker, materials handed out
May	Water-Wise Plant Exchange	Large community event collaborating with several agencies to share water-wise plants & information, hands on activities
June	Kids Water Camp	Large one day event, hands on activites, educational for kids 3rd grade (all elementary schools invited to participate)
July	Fresno Home Remodeling & Decorating Show	Fresno Fairgrounds 3 day event. Outreach booth with visual displays & information
Sept	Carnaval Children's Festival	Mosqueda Center Outreach booth, providing water saving information & rebates
Sept	Fresno State partnership	Susan Hawksworth extended education. Began planning for Feb classes with landscape specialists
Oct	Clovis Botanical Plant Sale & Fair	Outreach booth providing water saving info & rebate information
Nov	Fresno Fall Improvement Show	Inspiration Park Grand opening
Nov	Inspiration Park Grand opening	Outreach booth providing water saving info & rebate information

2016 Outreach Events		
March	Fresno Home & Garden Show	Outreach booth providing water saving info & rebate information. Visual displays. 3 days

March	Spring Into Your Garden	Outreach booth providing water saving info & rebate information. Visual displays
April	Water Planet Day	Outreach booth providing water saving info & rebate information. Visual displays
April	8th Annual Water-Wise Plant Exchange	Large community event collaborating with several agencies to share water-wise plants & information, hands on activities
May	Senior Spring Fling @ Mosqueda Community Center	Outreach booth providing water saving info & rebate information. Visual displays
July	Fresno Remodeling & Decorating Show	Outreach booth providing water saving info & rebate information. Visual displays. 3 days
Sept	Carnaval @ Mosqueda Community Center	Outreach booth providing water saving info & rebate information. Visual displays
Oct	Clovis Botanical Plant Sale & Fair	Outreach booth providing water saving info & rebate information. Visual displays
Nov	Fresno Fall Home Improvement Show	Outreach booth providing water saving info & rebate information. Visual displays. 3 days
Dec	Fresno Neighborhood Revitalization	Work with FNR team to reach customers in lower income areas about City services. Orchard St. & Grant Ave

2017 Outreach Events		
Jan	Hmong New Year	Outreach booth providing water saving info & rebate information. Hmong translator & printed materials in Hmong
Feb	Fresno Neighborhood Revitalization	Work with FNR team to reach customers in lower income areas about City services. Hildago Elementary 3550 E Thomas 93702
March	Fresno Home & Garden Show	Outreach booth providing water saving info & rebate information. Visual displays. 3 days
March	Fresno Neighborhood Revitalization	Work with FNR team to reach customers in lower income areas about City services. Leavenworth Elementary School, 4420 E Thomas

April	Fresno Neighborhood Revitalization	Work with FNR team to reach customers in lower income areas about City services. Webster Elementary School, 2600 E Tyler 93701
April	9th Annual Water-Wise Plant Exchange	Large community event collaborating with several agencies to share water-wise plants & information, hands on activities
April	Senior Spring Fling @ Mosqueda Community Center	Outreach booth providing water saving info & rebate information
May	Fresno Neighborhood Revitalization	Work with FNR team to reach customers in lower income areas about City services. Slater Elementary school 4472 N Emerson 93705
July	Fresno Remodeling & Decorating Show	Outreach booth providing water saving info & rebate information. Visual displays. 3 days
Sept	Carnaval @ Mosqueda Community Center	Outreach booth providing water saving info & rebate information
Oct	Clovis Botanical Plant Sale & Fair	Outreach booth providing water saving info & rebate information. Visual displays
Oct	Make A Difference Day @ Chukchansi Park	Outreach booth providing water saving info & rebate information. Visual displays
Nov	Fresno Fall Home Improvement Show	Outreach booth providing water saving info & rebate information. Visual displays. 3 day event

2018 Outreach Events		
March	Fresno Home & Garden Show	Outreach booth providing water saving info & rebate information. Visual displays. 3 day event
March	Spring Into Your Garden Festival	Outreach booth providing water saving info & rebate information. Visual displays
April	10th Annual Water Wise Plant Exchange	Large community event collaborating with several agencies to share water-wise plants & information, hands on activities
May	Senior Spring Fling @ Mosqueda Community Center	Outreach booth providing water saving info & rebate information
July	Fresno Remodeling & Decorating Show	Outreach booth providing water saving info & rebate information. Visual displays. 3 days

Sept	Carnaval @ Mosqueda Community Center	Outreach booth providing water saving info & rebate information. Visual Display
Sept	Central California Women's Conference	Outreach booth providing water saving info & rebate information. Visual Display
Oct	Clovis Botanical Plant Sale & Fair	Outreach booth providing water saving info & rebate information. Visual Display
Nov	Fresno Fall Home Improvement Show	Outreach booth providing water saving info & rebate information. Visual displays. 3 day event

2019 Outreach Events		
March	Fresno Home & Garden Show	Outreach booth providing water saving info & rebate information. Visual displays. 3 day event
March	Spring Into Your Garden Festival	Outreach booth providing water saving info & rebate information. Visual displays
April	Outreach booth @ Manchester Mall	Outreach booth providing water saving info & rebate information. Visual displays
April	Party for the Planet @ Chaffee Zoo	Outreach booth providing water saving info & rebate information. Visual displays
May	Senior Spring Fling @ Mosqueda Community Center	Outreach booth providing water saving info & rebate information. Visual displays
May	11th Annual Water Wise Plant Exchange	Large community event collaborating with several agencies to share water-wise plants & information, hands on activities
July	Fresno Remodeling & Decorating Show	Outreach booth providing water saving info & rebate information. Visual displays. 3 days
Sept	Carnaval @ Mosqueda Community Center	Outreach booth providing water saving info & rebate information. Visual displays
Oct	Clovis Botanical Plant Sale & Fair	Outreach booth providing water saving info & rebate information. Visual displays
Nov	Fresno Fall Home Improvement Show	Outreach booth providing water saving info & rebate information. Visual displays. 3 day event

2020 Outreach Events
All Outreach Suspended

L

Notification Letters

City of
FRESNO

Department of Public Utilities

Utilities Planning & Engineering
2101 G Street, Bldg. A
Fresno, California 93706
559-621-8600 – FAX 559-498-4126
www.fresno.gov

March 16, 2021

ELECTRONIC MAIL and sent USPS

Shay Bakman
Bakman Water Company
PO Box 7965
Fresno, CA 93747

SUBJECT: NOTICE OF PREPARATION FOR CITY OF FRESNO 2020 URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN

Dear Mr. Bakman:

In accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 to 10656), the City of Fresno (City) is required to update its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) to meet the California Department of Water Resources (DWR) requirements for a 2020 UWMP and WSCP.

We invite your agency's participation in the City's preparation of the 2020 UWMP and WSCP. A draft of the updated 2020 UWMP will be made available for public review and a public hearing will be scheduled for mid-June 2021 to hear public comments, discuss and consider adoption of the 2020 UWMP and WSCP. The City will notify you when the draft documents are released and of the date, time, and location of the subsequent public hearing.

Until that time, if you would like more information regarding the City's 2020 UWMP and WSCP, please contact Mr. Peter Maraccini by telephone at 559-621-1603 or by email at Peter.Maraccini@Fresno.gov.

Sincerely,

Brock D. Buche, PE, PLS
Assistant Director

City of
FRESNO
Department of Public Utilities

Utilities Planning & Engineering
2101 G Street, Bldg. A
Fresno, California 93706
559-621-8600 – FAX 559-498-4126
www.fresno.gov

March 16, 2021

ELECTRONIC MAIL and sent USPS

Scott Redelfs
City of Clovis Public Utilities
155 N. Sunnyside Ave
Clovis, CA 93611

SUBJECT: NOTICE OF PREPARATION FOR CITY OF FRESNO 2020 URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN

Dear Mr. Redelfs:

In accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 to 10656), the City of Fresno (City) is required to update its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) to meet the California Department of Water Resources (DWR) requirements for a 2020 UWMP and WSCP.

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Sincerely,

Brock D. Buche, PE, PLS
Assistant Director

City of
FRESNO
Department of Public Utilities

Utilities Planning & Engineering
2101 G Street, Bldg. A
Fresno, California 93706
559-621-8600 – FAX 559-498-4126
www.fresno.gov

March 16, 2021

ELECTRONIC MAIL and sent USPS

Bill Stretch
Fresno Irrigation District
2907 South Maple Ave
Fresno, CA 93725

SUBJECT: NOTICE OF PREPARATION FOR CITY OF FRESNO 2020 URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN

Dear Mr. Stretch:

In accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 to 10656), the City of Fresno (City) is required to update its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) to meet the California Department of Water Resources (DWR) requirements for a 2020 UWMP and WSCP.

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Sincerely,

Brock D. Buche, PE, PLS
Assistant Director

City of
FRESNO
Department of Public Utilities

Utilities Planning & Engineering
2101 G Street, Bldg. A
Fresno, California 93706
559-621-8600 – FAX 559-498-4126
www.fresno.gov

March 16, 2021

ELECTRONIC MAIL and sent USPS

Peter Sanchez
Fresno Metropolitan Flood Control District
5469 East Olive Ave
Fresno, CA 93727

SUBJECT: NOTICE OF PREPARATION FOR CITY OF FRESNO 2020 URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN

Dear Mr. Sanchez:

In accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 to 10656), the City of Fresno (City) is required to update its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) to meet the California Department of Water Resources (DWR) requirements for a 2020 UWMP and WSCP.

We invite your agency's participation in the City's preparation of the 2020 UWMP and WSCP. A draft of the updated 2020 UWMP will be made available for public review and a public hearing will be scheduled for mid-June 2021 to hear public comments, discuss and consider adoption of the 2020 UWMP and WSCP. The City will notify you when the draft documents are released and of the date, time, and location of the subsequent public hearing.

Until that time, if you would like more information regarding the City's 2020 UWMP and WSCP, please contact Mr. Peter Maraccini by telephone at 559-621-1603 or by email at Peter.Maraccini@Fresno.gov.

Sincerely,

Brock D. Buche, PE, PLS
Assistant Director

City of
FRESNO
Department of Public Utilities

Utilities Planning & Engineering
2101 G Street, Bldg. A
Fresno, California 93706
559-621-8600 – FAX 559-498-4126
www.fresno.gov

March 16, 2021

ELECTRONIC MAIL and sent USPS

Steven White
Fresno County Public Works
2220 Tulare St, 6th Floor
Fresno, CA 93721

SUBJECT: NOTICE OF PREPARATION FOR CITY OF FRESNO 2020 URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN

Dear Mr. White:

In accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 to 10656), the City of Fresno (City) is required to update its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) to meet the California Department of Water Resources (DWR) requirements for a 2020 UWMP and WSCP.

We invite your agency's participation in the City's preparation of the 2020 UWMP and WSCP. A draft of the updated 2020 UWMP will be made available for public review and a public hearing will be scheduled for mid-June 2021 to hear public comments, discuss and consider adoption of the 2020 UWMP and WSCP. The City will notify you when the draft documents are released and of the date, time, and location of the subsequent public hearing.

Until that time, if you would like more information regarding the City's 2020 UWMP and WSCP, please contact Mr. Peter Maraccini by telephone at 559-621-1603 or by email at Peter.Maraccini@Fresno.gov.

Sincerely,

Brock D. Buche, PE, PLS
Assistant Director

City of
FRESNO
Department of Public Utilities

Utilities Planning & Engineering
2101 G Street, Bldg. A
Fresno, California 93706
559-621-8600 – FAX 559-498-4126
www.fresno.gov

March 16, 2021

ELECTRONIC MAIL and sent USPS

Jason Phillips
Friant Water Authority
4969 E. McKinley Ave, Suite 201
Fresno, CA 93727

SUBJECT: NOTICE OF PREPARATION FOR CITY OF FRESNO 2020 URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN

Dear Mr. Phillips:

In accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 to 10656), the City of Fresno (City) is required to update its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) to meet the California Department of Water Resources (DWR) requirements for a 2020 UWMP and WSCP.

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Until that time, if you would like more information regarding the City's 2020 UWMP and WSCP, please contact Mr. Peter Maraccini by telephone at 559-621-1603 or by email at Peter.Maraccini@Fresno.gov.

Sincerely,

Brock D. Buche, PE, PLS
Assistant Director

City of
FRESNO
Department of Public Utilities

Utilities Planning & Engineering
2101 G Street, Bldg. A
Fresno, California 93706
559-621-8600 – FAX 559-498-4126
www.fresno.gov

March 16, 2021

ELECTRONIC MAIL and sent USPS

Nick Keller
Garfield Water District
PO Box 337
Clovis, CA 93613

SUBJECT: NOTICE OF PREPARATION FOR CITY OF FRESNO 2020 URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN

Dear Mr. Keller:

In accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 to 10656), the City of Fresno (City) is required to update its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) to meet the California Department of Water Resources (DWR) requirements for a 2020 UWMP and WSCP.

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Until that time, if you would like more information regarding the City's 2020 UWMP and WSCP, please contact Mr. Peter Maraccini by telephone at 559-621-1603 or by email at Peter.Maraccini@Fresno.gov.

Sincerely,

Brock D. Buche, PE, PLS
Assistant Director

City of
FRESNO
Department of Public Utilities

Utilities Planning & Engineering
2101 G Street, Bldg. A
Fresno, California 93706
559-621-8600 – FAX 559-498-4126
www.fresno.gov

March 16, 2021

ELECTRONIC MAIL and sent USPS

Moises Ortiz
Malaga County Water District
3580 South Frank Street
Fresno, CA 93725-2511

SUBJECT: NOTICE OF PREPARATION FOR CITY OF FRESNO 2020 URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN

Dear Mr. Ortiz:

In accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 to 10656), the City of Fresno (City) is required to update its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) to meet the California Department of Water Resources (DWR) requirements for a 2020 UWMP and WSCP.

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Until that time, if you would like more information regarding the City's 2020 UWMP and WSCP, please contact Mr. Peter Maraccini by telephone at 559-621-1603 or by email at Peter.Maraccini@Fresno.gov.

Sincerely,

Brock D. Buche, PE, PLS
Assistant Director

City of FRESNO

Department of Public Utilities

Utilities Planning & Engineering
2101 G Street, Bldg. A
Fresno, California 93706
559-621-8600 – FAX 559-498-4126
www.fresno.gov

March 16, 2021

ELECTRONIC MAIL and sent USPS

Kassy D. Chauhan, PE
North Kings Groundwater Sustainability Agency
2907 S. Maple Avenue
Fresno, CA 93725

SUBJECT: NOTICE OF PREPARATION FOR CITY OF FRESNO 2020 URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN

Dear Mrs. Chauhan:

In accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 to 10656), the City of Fresno (City) is required to update its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) to meet the California Department of Water Resources (DWR) requirements for a 2020 UWMP and WSCP.

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Until that time, if you would like more information regarding the City's 2020 UWMP and WSCP, please contact Mr. Peter Maraccini by telephone at 559-621-1603 or by email at Peter.Maraccini@Fresno.gov.

Sincerely,

Brock D. Buche, PE, PLS
Assistant Director

City of
FRESNO
Department of Public Utilities

Utilities Planning & Engineering
2101 G Street, Bldg. A
Fresno, California 93706
559-621-8600 – FAX 559-498-4126
www.fresno.gov

March 16, 2021

ELECTRONIC MAIL and sent USPS

Jason Franklin
Pinedale County Water District
480 West Birch Ave
Pinedale, CA 93650

SUBJECT: NOTICE OF PREPARATION FOR CITY OF FRESNO 2020 URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN

Dear Mr. Franklin:

In accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 to 10656), the City of Fresno (City) is required to update its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) to meet the California Department of Water Resources (DWR) requirements for a 2020 UWMP and WSCP.

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Until that time, if you would like more information regarding the City's 2020 UWMP and WSCP, please contact Mr. Peter Maraccini by telephone at 559-621-1603 or by email at Peter.Maraccini@Fresno.gov.

Sincerely,

Brock D. Buche, PE, PLS
Assistant Director

City of
FRESNO
Department of Public Utilities

Utilities Planning & Engineering
2101 G Street, Bldg. A
Fresno, California 93706
559-621-8600 – FAX 559-498-4126
www.fresno.gov

March 16, 2021

ELECTRONIC MAIL and sent USPS

Michael P. Jackson, PE
United States Bureau of Reclamation South-Central California Area Office
1243 N Street
Fresno, CA 93721-1813

SUBJECT: NOTICE OF PREPARATION FOR CITY OF FRESNO 2020 URBAN WATER MANAGEMENT PLAN AND WATER SHORTAGE CONTINGENCY PLAN

Dear Mr. Jackson:

In accordance with the Urban Water Management Planning Act (California Water Code Sections 10610 to 10656), the City of Fresno (City) is required to update its Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP) to meet the California Department of Water Resources (DWR) requirements for a 2020 UWMP and WSCP.

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Until that time, if you would like more information regarding the City's 2020 UWMP and WSCP, please contact Mr. Peter Maraccini by telephone at 559-621-1603 or by email at Peter.Maraccini@Fresno.gov.

Sincerely,

Brock D. Buche, PE, PLS
Assistant Director

Notice of Public Hearing

City of Fresno

Draft 2020 Urban Water Management Plan,

Draft 2020 Water Shortage Contingency Plan, &

Draft Appendix L – Addendum to the City of Fresno's 2015 Urban Water Management Plan, "Quantifying Regional Self Reliance and Reduced Reliance on Water Supplies from the Delta Watershed"

The City of Fresno (City) will hold a public hearing at 10:05 A.M. on Thursday, July 15, 2021, at the City Council Chambers at the City Hall located at 2600 Fresno Street to receive public comments on the City's Draft 2020 Urban Water Management Plan (2020 UWMP), the City's Draft 2020 Water Shortage Contingency Plan (2020 WSCP), and a Draft Appendix L – Addendum to the City of Fresno's 2015 Urban Water Management Plan, "Quantifying Regional Self Reliance and Reduced Reliance on Water Supplies from the Delta Watershed" (Addendum). The Draft 2020 UWMP addresses current and projected water supply availability and reliability and provides a comparison with current and projected water demands through the year 2045. The Draft 2020 WSCP details the City's potential actions in response to a severe water shortage or water supply emergency. Sections 1.3, 1.4, 1.5, and 1.8 of the Draft 2020 WSCP were revised from a version of the document that was previously released on Monday, July 28, 2021. The Draft Addendum discusses the City's reduced reliance on the Sacramento-San Joaquin River Delta surface water.

Interested citizens are invited to make public comments on the three documents at the public hearing. Services of an interpreter and additional accommodations such as assistive listening devices can be made available. Requests for accommodations should be made more than five working days but no later than 48 hours prior to the scheduled hearing. Please contact Mr. Peter Maraccini at 559-621-1603 or Peter.Maraccini@Fresno.gov.

The three documents will be made available for public review starting July 1, 2021. Physical copies of the three documents can be found at the following Fresno County Libraries: Central Library (2420 Mariposa St.), Woodward Park Regional Library (944 E Perrin Ave.), Betty Rodriguez Regional Library (3040 N Cedar Ave.), and Sunnyside Regional Library (5566 E Kings Canyon Rd.). Electronic copies of the three documents are available online at https://www.fresno.gov/publicutilities/about-dpu/plans-reports-resources/. Documents can be provided in alternate formats upon request.

Comments may be submitted by calling Utilities Planning & Engineering at 559-621-1603, by writing to Mr. Peter Maraccini, Utilities Planning & Engineering Division, 2101 G Street Bldg. A, Fresno, CA 93706, or by emailing at Peter.Maraccini@Fresno.gov. All written comments must be received no later than July 14, 2021, at 11:59 P.M.

McClatchy

Beaufort Gazette
Belleville News-Democrat
Bellingham Herald
Bradenton Herald
Centre Daily Times
Charlotte Observer
Columbus Ledger-Enquirer
Fresno Bee
The Herald - Rock Hill
Herald Sun - Durham
Idaho Statesman
Island Packet
Kansas City Star
Lexington Herald-Leader
Merced Sun-Star
Miami Herald
el Nuevo Herald - Miami
Modesto Bee
Raleigh News & Observer
The Olympian
Sacramento Bee
Fort Worth Star-Telegram
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AFFIDAVIT OF PUBLICATION

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59161	92995	Print Legal Ad - IPL0030763		$861.84	2	5.31

Attention: City of

City of Fresno Dept. Public Utilities
2101 G Street Bldg A
Fresno, CA 93706

PUBLIC NOTICE

Notice of Public Hearing

City of Fresno
Draft 2020 Urban Water Management Plan,

Draft 2020 Water Shortage Contingency Plan, &

Draft Appendix L – Addendum to the City of Fresno's 2015 Urban Water Management Plan, "Quantifying Regional Self Reliance and Reduced Reliance on Water Supplies from the Delta Watershed"

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IPL0030763
Jul 1 2021

COUNTY OF DALLAS
STATE OF TEXAS

The undersigned states:

McClatchy Newspapers in and on all dates herein stated was a corporation, and the owner and publisher of The Fresno Bee.
The Fresno Bee is a daily newspaper of general circulation now published, and on all-the-dates herein stated was published in the City of Fresno, County of Fresno, and has been adjudged a newspaper of general circulation by the Superior Court of the County of Fresno, State of California, under the date of November 28, 1994, Action No. 520058-9.
The undersigned is and on all dates herein mentioned was a citizen of the United States, over the age of twenty-one years, and is the principal clerk of the printer and publisher of said newspaper; and that the notice, a copy of which is hereto annexed, marked Exhibit A, hereby made a part hereof, was published in The Fresno Bee in each issue thereof (in type not smaller than nonpareil), on the following dates.

No. of Insertions: 1

Beginning Issue of: 07/01/2021

Ending Issue of: 07/01/2021

Isabel Capps

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated: 07/01/2021

Amanda Grisham

Notary Public in and for the state of Texas, residing in Dallas County

AMANDA DAWN GRISHAM
My Notary ID # 132031326
Expires May 30, 2023

Extra charge for lost or duplicate affidavits.
Legal document please do not destroy!

McClatchy

Beaufort Gazette
Belleville News-Democrat
Bellingham Herald
Bradenton Herald
Centre Daily Times
Charlotte Observer
Columbus Ledger-Enquirer
Fresno Bee
The Herald - Rock Hill
Herald Sun - Durham
Idaho Statesman
Island Packet
Kansas City Star
Lexington Herald-Leader
Merced Sun-Star
Miami Herald
el Nuevo Herald - Miami
Modesto Bee
Raleigh News & Observer
The Olympian
Sacramento Bee
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AFFIDAVIT OF PUBLICATION

Account #	Order Number	Identification	Order PO	Amount	Cols	Depth
59161	95606	Print Legal Ad - IPL0031437		$861.84	2	53 L

Attention: City of

City of Fresno Dept. Public Utilities
2101 G Street Bldg A
Fresno, CA 93706

PUBLIC NOTICE

Notice of Public Hearing

City of Fresno
Draft 2020 Urban Water Management Plan,

Draft 2020 Water Shortage Contingency Plan, &

Draft Appendix L – Addendum to the City of Fresno's 2015 Urban Water Management Plan, "Quantifying Regional Self Reliance and Reduced Reliance on Water Supplies from the Delta Watershed"

The City of Fresno (City) will hold a public hearing at 10:05 A.M. on Thursday, July 15, 2021, at the City Council Chambers at the City Hall located at 2600 Fresno Street to receive public comments on the City's Draft 2020 Urban Water Management Plan (2020 UWMP), the City's Draft 2020 Water Shortage Contingency Plan (2020 WSCP), and a Draft Appendix L – Addendum to the City of Fresno's 2015 Urban Water Management Plan, "Quantifying Regional Self Reliance and Reduced Reliance on Water Supplies from the Delta Watershed" (Addendum). The Draft 2020 UWMP addresses current and projected water supply availability and reliability and provides a comparison with current and projected water demands through the year 2045. The Draft 2020 WSCP details the City's potential actions in response to a severe water shortage or water supply emergency. Sections 1.3, 1.4, 1.5, and 1.8 of the Draft 2020 WSCP were revised from a version of the document that was previously released on Monday, July 28, 2021. The Draft Addendum discusses the City's reduced reliance on the Sacramento-San Joaquin River Delta surface water.

Interested citizens are invited to make public comments on the three documents at the public hearing. Services of an interpreter and additional accommodations such as assistive listening devices can be made available. Requests for accommodations should be made more than five working days but no later than 48 hours prior to the scheduled hearing. Please contact Mr. Peter Maraccini at 559-621-1603 or **Peter.Maraccini@Fresno.gov**.

The three documents will be made available for public review starting July 1, 2021. Physical copies of the three documents can be found at the following Fresno County Libraries: Central Library (2420 Mariposa St.), Woodward Park Regional Library (944 E Perrin Ave.), Betty Rodriguez Regional Library (3040 N Cedar Ave.), and Sunnyside Regional Library (5566 E Kings Canyon Rd.). Electronic copies of the three documents are available online at **https://www.fresno.gov/publicutilities/about-dpu/plans-reports-resources/**. Documents can be provided in alternate formats upon request.

Comments may be submitted by calling Utilities Planning & Engineering at 559-621-1603, by writing to Mr. Peter Maraccini, Utilities Planning & Engineering Division, 2101 G Street Bldg. A, Fresno, CA 93706, or by emailing at **Peter.Maraccini@Fresno.gov**. All written comments must be received no later than July 14, 2021, at 11:59 P.M.
IPL0031437
Jul 8 2021

COUNTY OF DALLAS
STATE OF TEXAS

The undersigned states:

McClatchy Newspapers in and on all dates herein stated was a corporation, and the owner and publisher of The Fresno Bee.
The Fresno Bee is a daily newspaper of general circulation now published, and on all-the-dates herein stated was published in the City of Fresno, County of Fresno, and has been adjudged a newspaper of general circulation by the Superior Court of the County of Fresno, State of California, under the date of November 28, 1994, Action No. 520058-9.
The undersigned is and on all dates herein mentioned was a citizen of the United States, over the age of twenty-one years, and is the principal clerk of the printer and publisher of said newspaper; and that the notice, a copy of which is hereto annexed, marked Exhibit A, hereby made a part hereof, was published in The Fresno Bee in each issue thereof (in type not smaller than nonpareil), on the following dates.

No. of Insertions: 1

Beginning Issue of: 07/08/2021

Ending Issue of: 07/08/2021

Isabel Capps

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated: 07/08/2021

Amanda Grisham

Notary Public in and for the state of Texas, residing in Dallas County

AMANDA DAWN GRISHAM
My Notary ID # 132031326
Expires May 30, 2023

Extra charge for lost or duplicate affidavits.
Legal document please do not destroy!

M

Adopting Resolutions

RESOLUTION NO. 2021-196

A RESOLUTION OF THE COUNCIL OF THE CITY OF FRESNO, CALIFORNIA, TO ADOPT THE 2020 URBAN WATER MANAGEMENT PLAN

WHEREAS, the Urban Water Management Planning Act, codified at California Water Code Sections 10610, et seq., requires every urban water supplier to prepare and adopt an Urban Water Management Plan (UWMP) and update said plan at least once every five years; and

WHEREAS, the City adopted its current UWMP on June 23, 2016; and

WHEREAS, the requirements of an UWMP are to generally: (1) assess current and projected water supplies, (2) evaluate water demand and customer types, (3) evaluate reliability of water supplies, (4) compare demand and supply projections for a 20-year period, and (5) detail response actions in the event of a water shortage; and

WHEREAS, as an urban water supplier, the City of Fresno has prepared the UWMP to comply with the requirements of the Urban Water Management Planning Act; and

WHEREAS, the City consulted with, and requested comments from, regional water related agencies such as the County of Fresno, Fresno Irrigation District, the City of Clovis, etc., as required by Water Code Section 10641; and

WHEREAS, prior to the public hearing on July 15, 2021, the City made the draft 2020 UWMP available for public inspection and placed copies for public review at the following Fresno County Libraries: Central Library, Woodward Park Regional Library, Betty Rodriguez Regional Library, and Sunnyside Regional Library, as well as making

Date Adopted: 07/15/2021
Date Approved: 07/19/2021
Effective Date: 07/19/2021

electronic copies available to agencies and the public, as required by Water Code Section 10642; and

WHEREAS, on July 1, 2021, and July 8, 2021, respectively, the City published notices on the City Clerk's website and in the Fresno Bee that on July 15, 2021 at 10:05 a.m. a public hearing regarding the draft 2020 UWMP would be held in Council Chambers at which public comment on the plan would be received, as required by Water Code Section 10642; and

WHEREAS, on July 15, 2021, at 10:05 a.m. the public hearing was conducted in Council Chambers at which the public was provided the opportunity to comment on the 2020 UWMP.

NOW, THEREFORE, BE IT RESOLVED BY THE Council of the City of Fresno as follows:

1. The City hereby adopts the 2020 Urban Water Management Plan.

2. The City Manager, or designee, is hereby authorized and directed to file the City of Fresno 2020 Urban Water Management Plan with the California Department of Water Resources, the California State Library, and the County of Fresno within 30 days after adoption.

* * * * * * * * * * * * * * *

STATE OF CALIFORNIA)
COUNTY OF FRESNO) ss.
CITY OF FRESNO)

I, BRIANA PARRA, Interim City Clerk of the City of Fresno, certify that the foregoing resolution was adopted by the Council of the City of Fresno, at a regular meeting held on the 15th day of July, 2021.

AYES :Arias, Esparza, Karbassi, Maxwell, Chavez
NOES :None
ABSENT :Bredefeld, Soria
ABSTAIN :None

Mayor Approval: July 19th, 2021
Mayor Approval/No Return: N/A, 2021
Mayor Veto: N/A, 2021
Council Override Veto: N/A, 2021

BRIANA PARRA, CMC
Interim City Clerk

BY: Briana Parra 7/20/2021
Deputy Date

APPROVED AS TO FORM:
DOUGLAS T. SLOAN
City Attorney

BY: 7/20/21
Jennifer M. Quintanilla Date
Senior Deputy

July 19, 2021

Council Adoption: 07/15/2021
Mayor Approval:
Mayor Veto:
Override Request:

TO: MAYOR JERRY DYER

FROM BRIANA PARRA, CMC
Interim City Clerk

SUBJECT: TRANSMITTAL OF COUNCIL ACTION FOR APPROVAL OR VETO

At the City Council meeting of July 15, 2021, Council adopted the attached Resolution No. 2021-196, entitled ***RESOLUTION – Adopting 2020 Urban Water Management Plan (Subject to Mayor's veto).** Item 10:05 A.M. (3), File ID21-22925, by the following vote:

Ayes	:	Arias, Esparza, Karbassi, Maxwell, Chavez
Noes	:	None
Absent	:	Bredefeld, Soria
Abstain	:	None

Please indicate either your formal approval or veto by completing the following sections and executing and dating your action. Please file the completed memo with the Clerk's office on or before July 29, 2021. In computing the ten day period required by Charter, the first day has been excluded and the tenth day has been included unless the 10th day is a Saturday, Sunday, or holiday, in which case it has also been excluded. Failure to file this memo with the Clerk's office within the required time limit shall constitute approval of the ordinance, resolution or action, and it shall take effect without the Mayor's signed approval.

APPROVED / **NO RETURN:** _____

VETOED for the following reasons: (Written objections are required by Charter; attach additional sheets if necessary.)

_____

_____

_____ Date: 7/19/2021

Jerry Dyer, Mayor

COUNCIL OVERRIDE ACTION: Date: _____

Ayes	:	
Noes	:	
Absent	:	
Abstain	:	

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2021 JUL 19 P 4:52
CITY OF FRESNO
CITY CLERK'S OFFICE

RESOLUTION NO. 2021-197

A RESOLUTION OF THE COUNCIL OF THE CITY OF FRESNO, CALIFORNIA, TO ADOPT THE 2020 WATER SHORTAGE CONTINGENCY PLAN AND AUTHORIZE THE CITY MANAGER TO DECLARE THE APPROPRIATE WATER CONSERVATION STAGES AND IMPLEMENT THE ASSOCIATED SHORTAGE RESPONSE ACTIONS

WHEREAS, the Urban Water Management Planning Act, codified at California Water Code Sections 10610, et seq., requires every urban water supplier to prepare and adopt an Urban Water Management Plan (UWMP) and update said plan at least once every five years; and

WHEREAS, Water Code Section 10632 requires every urban water supplier to prepare and adopt a Water Shortage Contingency Plan (WSCP) as part of its UWMP; and

WHEREAS, the WSCP details intended City actions to respond to water shortages; and

WHEREAS, as an urban water supplier, the City of Fresno has prepared a WSCP that complies with the requirements of the Urban Water Management Planning Act; and

WHEREAS, the City consulted with, and requested comments from, regional water related agencies such as the County of Fresno, Fresno Irrigation District, the City of Clovis, etc., as required by Water Code Section 10641; and

WHEREAS, prior to the public hearing on July 15, 2021, the City made the draft 2020 WSCP available for public inspection and placed copies for public review at the following Fresno County Libraries: Central Library, Woodward Park Regional Library,

Date Adopted: 07/15/2021
Date Approved: 07/19/2021
Effective Date: 07/19/2021

Betty Rodriguez Regional Library, and Sunnyside Regional Library, as well as making electronic copies available to agencies and the public, as required by Water Code Section 10642; and

WHEREAS, on July 1, 2021, and July 8, 2021, respectively, the City published notices on the City Clerk's website and in the Fresno Bee that on July 15, 2021 at 10:05 a.m. a public hearing regarding the draft 2020 WSCP would be held in Council Chambers at which time public comment on the plan would be received, as required by Water Code Section 10642; and

WHEREAS, on July 15, 2021, at 10:05 a.m. the public hearing was conducted in Council Chambers at which the public was provided the opportunity to comment on the 2020 WSCP.

NOW, THEREFORE, BE IT RESOLVED BY THE Council of the City of Fresno as follows:

1. The City hereby adopts the 2020 Water Shortage Contingency Plan.

2. The City Manager, or designee, is hereby authorized and directed to file the City of Fresno 2020 Water Shortage Contingency Plan with the California Department of Water Resources, the California State Library, and the County of Fresno within 30 days after adoption.

3. The City Manager, or designee, is hereby authorized to declare the appropriate Water Conservation Stages outlined in the 2020 Water Shortage Contingency Plan and implement the associated shortage response actions specified for the appropriate Water Conservation Stage in the Water Shortage Contingency Plan.

* * * * * * * * * * * * * * *

STATE OF CALIFORNIA)
COUNTY OF FRESNO) ss.
CITY OF FRESNO)

I, BRIANA PARRA, Interim City Clerk of the City of Fresno, certify that the foregoing resolution was adopted by the Council of the City of Fresno, at a regular meeting held on the 15th day of July, 2021.

AYES :Arias, Esparza, Karbassi, Maxwell, Chavez
NOES :None
ABSENT :Bredefeld, Soria
ABSTAIN :None

Mayor Approval: July 19th, 2021
Mayor Approval/No Return: N/A, 2021
Mayor Veto: N/A, 2021
Council Override Veto: N/A, 2021

BRIANA PARRA, CMC
Interim City Clerk

BY: Briana Parra 7/20/2021
Deputy Date

APPROVED AS TO FORM:
DOUGLAS T. SLOAN
City Attorney

BY: 7/20/21
Jennifer M. Quintanilla Date
Senior Deputy

July 19, 2021

Council Adoption: 07/15/2021
Mayor Approval:
Mayor Veto:
Override Request:

TO: MAYOR JERRY DYER

FROM BRIANA PARRA, CMC
Interim City Clerk

SUBJECT: TRANSMITTAL OF COUNCIL ACTION FOR APPROVAL OR VETO

At the City Council meeting of July 15, 2021, Council adopted the attached Resolution No. 2021-197, entitled ***RESOLUTION – **Adopting 2020 Water Shortage Contingency Plan and authorizing the City Manager to declare the appropriate water conservation stages and implement the associated shortage response actions (Subject to Mayor's veto).** Item 10:05 A.M. (4), File ID21-22925, by the following vote:

Ayes	:	Arias, Esparza, Karbassi, Maxwell, Chavez
Noes	:	None
Absent	:	Bredefeld, Soria
Abstain	:	None

Please indicate either your formal approval or veto by completing the following sections and executing and dating your action. Please file the completed memo with the Clerk's office on or before July 29, 2021. In computing the ten day period required by Charter, the first day has been excluded and the tenth day has been included unless the 10th day is a Saturday, Sunday, or holiday, in which case it has also been excluded. Failure to file this memo with the Clerk's office within the required time limit shall constitute approval of the ordinance, resolution or action, and it shall take effect without the Mayor's signed approval.

APPROVED / **NO RETURN:** _____

VETOED for the following reasons: (Written objections are required by Charter; attach additional sheets if necessary.)

_____

_____

_____ Date: 7/19/2021

Jerry Dyer, Mayor

COUNCIL OVERRIDE ACTION: Date: _____

Ayes	:
Noes	:
Absent	:
Abstain	:

RECEIVED
2021 JUL 19 P 4:52
CITY OF FRESNO
CITY CLERK'S OFFICE

RESOLUTION NO. 2021-198

A RESOLUTION OF THE COUNCIL OF THE CITY OF FRESNO, CALIFORNIA, TO ADOPT APPENDIX L - ADDENDUM TO THE CITY OF FRESNO'S 2015 URBAN WATER MANAGEMENT PLAN

WHEREAS, the City of Fresno (City) contracts with the United States Bureau of Reclamation (USBR) Central Valley Project (CVP) Friant Division for an annual supply of 60,000 acre-feet of Class 1 surface water; and,

WHEREAS, the CVP was developed through an agreement with the Exchange Contractors that have historic pre-1914 San Joaquin River water rights; and,

WHEREAS, the Exchange Contractors receive water from the Sacramento-San Joaquin River Delta (Delta) in exchange for the CVP Friant Division water; and,

WHEREAS, during times of severe drought when the Exchange Contractors don't receive their full allocations from the Delta, the Exchange Contractors can call on their historic pre-1914 San Joaquin River water rights to fulfill their allocations, which reduces CVP Friant Division allocations to the City; and,

WHEREAS, due to the indirect connection of the City's Class 1 surface water allocation from the CVP Friant Division to the Exchange Contractors allocation from the Delta, the City is required to demonstrate consistency with the Delta Plan established via the Sacramento-San Joaquin Delta Reform Act of 2009; and,

WHEREAS, Delta Plan Policy WR P1 requires urban water suppliers to demonstrate reduced Delta reliance in the 2015 and 2020 Urban Water Management Plans (UWMPs); and,

WHEREAS, the City's 2015 UWMP did not include information regarding Delta

Date Adopted: 07/15/2021
Date Approved: 07/19/2021
Effective Date: 07/19/2021

Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self -Reliance; and

WHEREAS, the City prepared the 2015 UWMP following the Department of Water Resources (DWR) UWMP Guidebook 2015, which made such reporting optional; and,

WHEREAS, the DWR UWMP Guidebook 2020 instructs urban water suppliers to amend 2015 UWMP with reporting on reduced Delta reliance if not already included; and,

WHEREAS, the City has prepared Appendix L – Addendum to the City of Fresno's 2015 Urban Water Management Plan, "Quantifying Regional Self Reliance and Reduced Reliance on Water Supplies from the Delta Watershed" that follows the instructions of the DWR UWMP Guidebook 2020, fulfills the requirements of the Delta Plan Policy WR P1, and complies with the requirements of the Urban Water Management Planning Act; and,

WHEREAS, the City desires to amend its 2015 UWMP to incorporate Appendix L – Addendum to the City of Fresno's 2015 Urban Water Management Plan, "Quantifying Regional Self Reliance and Reduced Reliance on Water Supplies from the Delta Watershed;" and

WHEREAS, prior to the public hearing on July 15, 2021, the City made the draft Appendix L – Addendum to the 2015 UWMP available for public inspection and placed copies for public review at the following Fresno County Libraries: Central Library, Woodward Park Regional Library, Betty Rodriguez Regional Library, and Sunnyside Regional Library, as well as making electronic copies available to agencies and the public, as required by Water Code Section 10642; and

WHEREAS, on July 1, 2021 and July 8, 2021, respectively, the City published notices on the City Clerk's website and in the Fresno Bee that on July 15, 2021 at 10:05 a.m. a public hearing regarding the draft Appendix L – Addendum to the 2015 UWMP would be held in Council Chambers at which time public comment on the draft Addendum would be received, as required by Water Code Section 10642; and,

WHEREAS, on July 15, 2021, at 10:05 a.m. the public hearing was conducted in Council Chambers at which the public was provided the opportunity to comment on the draft Appendix L Addendum to the 2015 UWMP.

NOW, THEREFORE, BE IT RESOLVED BY THE Council of the City of Fresno as follows:

1. The City hereby adopts Appendix L – Addendum to the City of Fresno's 2015 Urban Water Management Plan, "Quantifying Regional Self Reliance and Reduced Reliance on Water Supplies from the Delta Watershed."

2. The City Manager, or designee, is hereby authorized and directed to file Appendix L – Addendum to the City of Fresno's 2015 Urban Water Management Plan, "Quantifying Regional Self Reliance and Reduced Reliance on Water Supplies from the Delta Watershed" with the California Department of Water Resources, the California State Library, and the County of Fresno within 30 days after adoption.

* * * * * * * * * * * * * * *

STATE OF CALIFORNIA)
COUNTY OF FRESNO) ss.
CITY OF FRESNO)

I, BRIANA PARRA, Interim City Clerk of the City of Fresno, certify that the foregoing resolution was adopted by the Council of the City of Fresno, at a regular meeting held on the 15th day of July, 2021.

AYES :Arias, Esparza, Karbassi, Maxwell, Chavez
NOES :None
ABSENT :Bredefeld, Soria
ABSTAIN :None

Mayor Approval: July 19th, 2021
Mayor Approval/No Return: N/A, 2021
Mayor Veto: N/A, 2021
Council Override Veto: N/A, 2021

BRIANA PARRA, CMC
Interim City Clerk

BY: Briana Parra 7/20/2021
Deputy Date

APPROVED AS TO FORM:
DOUGLAS T. SLOAN
City Attorney

BY: 7/20/21
Jennifer M. Quintanilla Date
Senior Deputy

July 19, 2021

Council Adoption: 07/15/2021
Mayor Approval:
Mayor Veto:
Override Request:

TO: MAYOR JERRY DYER

FROM BRIANA PARRA, CMC
Interim City Clerk

SUBJECT: TRANSMITTAL OF COUNCIL ACTION FOR APPROVAL OR VETO

At the City Council meeting of July 15, 2021, Council adopted the attached Resolution No. 2021-198, entitled ***RESOLUTION – Adopting Appendix L – Addendum to the City of Fresno's 2015 Urban Water Management Plan (Subject to Mayor's veto). Item 10:05 A.M. (5), File ID21-22925, by the following vote:

Ayes	:	Arias, Esparza, Karbassi, Maxwell, Chavez
Noes	:	None
Absent	:	Bredefeld, Soria
Abstain	:	None

Please indicate either your formal approval or veto by completing the following sections and executing and dating your action. Please file the completed memo with the Clerk's office on or before July 29, 2021. In computing the ten day period required by Charter, the first day has been excluded and the tenth day has been included unless the 10th day is a Saturday, Sunday, or holiday, in which case it has also been excluded. Failure to file this memo with the Clerk's office within the required time limit shall constitute approval of the ordinance, resolution or action, and it shall take effect without the Mayor's signed approval.

APPROVED / **NO RETURN:** _____

VETOED for the following reasons: (Written objections are required by Charter; attach additional sheets if necessary.)

_____

_____

_____ Date: 7/19/2021

Jerry Dyer, Mayor

COUNCIL OVERRIDE ACTION: Date: _____

Ayes	:	
Noes	:	
Absent	:	
Abstain	:	

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CITY CLERK'S OFFICE
2021 JUL 19 P 4:52

APPENDIX C

TTM 6475 PROPERTY WSA – CONSISTENCY WITH DWR GUIDELINES

TTM 6475 Property WSA – Consistency with DWR Guidelines

Guidelines Section Number and Title (DWR, 2003)	Guidelines Direction	Relevant WSA Section and Response
Section 1 (page 2). Does SB 610 or SB221 apply to the proposed project?	Is the project subject to SB 610? Is the project subject to CEQA (Water Code §10910(a)? If yes, continue.	WSA Section 1.1. Yes, the project is subject to SB610 and CEQA.
	Is it a "Project" as defined by Water Code §10912(a) or (b)? If yes, to comply with SB 610 go to Section 2.0, page 4.	WSA Section 1.1. Yes, the Project is considered to meet the definition of "project" per Water Code §10912(a) or (b).
	Is the project subject to SB 221? Does the tentative map include a "subdivision" as defined by Government Code §66473.7(a)(1)? If no, stop.	No
Section 2.0 (page 4). Who will prepare the SB 610 analysis?	Is there a public water system ("water supplier") for the project (Water Code §10910(b)? If no, go to Section 3.0, page 6.	WSA Section 2.1. Yes, the project site will connect to a public water system.
Section 3.0 (page 6). Has an assessment already been prepared that includes this project?	Has this project already been the subject of an assessment (Water Code §10910(h)? If no, go to Section 4.0, page 8.	No, the Project has not been the subject of an assessment.
Section 4.0 (page 8). Is there a current Urban Water Management Plan?	Is there an adopted urban water management Plan (Water Code §10910(c)? If yes, continue. If yes, the information from the UWMP related to the proposed water demand for the project may also be used for carrying out Section 5.0, Steps 1 and 2, Section 7; proceed to Section 5, page 10 of the Guidelines.	Yes, there is an Urban Water Management Plan (UWMP) for the proposed project location described in WSA Section 3.2.
	Is the project water demand for the project accounted for in the most recent UWMP (Water Code §10910(c)(2)? If no, go to Section 5.0, page 10.	Yes
Section 5.0 (page 10). What information should be included in an assessment?	Step One (page 13). Documenting wholesale water supplies.	The Project is not a retail water supplier and would not include the use of wholesale water supplies.
	Step Two (page 17). Documenting Supply if Groundwater is a Source.	The proposed water supply wells are located within the City of Fresno. WSA Sections 1.3, 2.3 and 3.2.

Guidelines Section Number and Title (DWR, 2003)	Guidelines Direction	Relevant WSA Section and Response
	Specify if a groundwater management plan or any other specific authorization for groundwater management for the basin has been adopted and how it affects the water supplier's use of the basin.	WSA Section 3.2 The water supply wells are located within the North Kings Groundwater Sustainability Agencies which includes the City of Fresno.
	Description and analysis of the amount and location of groundwater pumped by the water supplier for the past five years. Include information on proposed pumping locations and quantities. The description and analysis is to be based on information that is reasonably available, including, but not limited to, historic use records from DWR.	City of Fresno historic records are included in WSA Section 3.0. WSA Section 1.3 provides a description of the Project's water requirements.
	Analysis of the location, amount, and sufficiency of groundwater that is projected to be pumped by the water supplier.	WSA Section 3.2. The quantity of water available in the City of Fresno is sufficient for the Project.
	Step 3 (page 21). Documenting project demand (Project Demand Analysis).	WSA Section 1.3. Addresses the Project water demands
	Step 4 (page 26). Documenting dry year(s) supply.	WSA Section 3.2. Addresses water supply availability including during dry years.
	Step 5 (page 31). Documenting dry year(s) demand.	WSA Section 3.2 addresses annual demands, including dry year scenarios.
Section 6.0 (page 33). Is the projected water supply sufficient or insufficient for the proposed project		WSA Section 4.0 summarizes how the identified water supply/supplies are considered sufficient for the Project.
Section 7.0 (page 35). If the projected supply is determined to be insufficient. Section 8.0 (page 38). Final SB 610 assessment actions by lead agencies.	Does the assessment conclude that supply is "sufficient"? If no, continue. The lead agency shall review the WSA and must decide whether additional water supply information is needed for its consideration of the proposed project. The lead agency "shall determine, based on the entire record, whether projected water supplies will be	WSA Section 4.0 concludes that sufficient water supplies are available for the Project. The WSA for the Project must be approved prior to or in concurrence with the EIR.

Guidelines Section Number and Title (DWR, 2003)	Guidelines Direction	Relevant WSA Section and Response
	sufficient to satisfy the demands of the project, in addition to existing and planned future uses."	
	The description of the groundwater basin may be excerpted from the groundwater management plan, from DWR Bulleting 118, California's Ground Water, or from some other document that has been published and that discusses the basin boundaries, type of rock that constitutes the aquifer, variability of the aquifer material, and total groundwater in storage (average specific yield times the volume of the aquifer).	WSA Section 2.2 provides a description of the groundwater basin characteristics using all available resources, including DWR Bulletin 118.
	In an adjudicated basin the amount of water the urban supplier has the legal right to pump should be enumerated in the court decision.	Basin is not adjudicated.
	The Department of Water Resources has projected estimates of overdraft, or "water shortage", based on projected amounts of water supply and demand (basin management) are projected by the Watermaster agency (AVEK) in WSA Section 3.2, the hydrologic region level in	Basin groundwater resources are discussed in WSA Section 2.3.
	Bulletin 160, California Water Plan Update. Estimates at the basin or subbasin level will be projected for some basins in Bulletin 118. If the basin has not been evaluated by DWR, data that indicate groundwater level trends over a period of time should be collected and evaluated.	
	If the evaluation indicates an overdraft due to existing groundwater extraction, or	WSA Section 3.2. The referenced and Appendicized City of Fresno 2020 Urban

Guidelines Section Number and Title (DWR, 2003)	Guidelines Direction	Relevant WSA Section and Response
	projected increases in groundwater extraction, describe actions and/or program designed to eliminate the long term overdraft condition.	Water Master Plan describes in detail the subject actions and programs.

Appendix H

ACOUSTICAL ANALYSIS

TRACT 6475
FRESNO, CALIFORNIA

WJVA Project No. 24-13

PREPARED FOR

LENNAR HOMES OF CALIFORNIA, INC.
8080 NORTH PALM AVENUE, SUITE 110
FRESNO, CALIFORNIA 93711

PREPARED BY

WJV ACOUSTICS, INC.
VISALIA, CALIFORNIA

wjv acoustics

MARCH 6, 2024

INTRODUCTION

The project, Tract 6475, is a proposed 56-lot single-family residential development to be located in Fresno, California. The project site is located north of (and adjacent to) Mill Ditch and the future alignment of E. McKinley Avenue, west of N. Fowler Avenue. The applicant, Lennar Homes, has requested an acoustical analysis to quantify project site noise exposure and determine noise mitigation requirements. This analysis, prepared by WJV Acoustics, Inc. (WJVA), is based upon a project site lot layout plan provided by the project applicant, traffic data provided by the Fresno Council of Governments (Fresno COG) and the findings of on-site noise level measurements. Revisions to the site plan may affect the findings and recommendations of this report. The site plan is provided as Figure 1.

Appendix A provides a description of the acoustical terminology used in this report. Unless otherwise stated, all sound levels reported are in A-weighted decibels (dB). A-weighting de-emphasizes the very low and very high frequencies of sound in a manner similar to the human ear. Most community noise standards utilize A-weighting, as it provides a high degree of correlation with human annoyance and health effects. Appendix B provides typical A-weighted sound levels for common noise sources.

NOISE EXPOSURE CRITERIA

General Plan

The City of Fresno General Plan Noise Element provides noise level criteria for land use compatibility for both transportation and non-transportation noise sources. The General Plan sets noise compatibility standards for transportation noise sources in terms of the Day-Night Average Level (L_{dn}). The L_{dn} represents the time-weighted energy average noise level for a 24-hour day, with a 10 dB penalty added to noise levels occurring during the nighttime hours (10:00 p.m.-7:00 a.m.). The L_{dn} represents cumulative exposure to noise over an extended period of time and are therefore calculated based upon *annual average* conditions. Table I provides the General Plan noise level standards for transportation noise sources.

TABLE I

CITY OF FRESNO GENERAL PLAN NOISE LEVEL STANDARDS TRANSPORTATION (NON-AIRCRAFT) NOISE SOURCES

Noise-Sensitive Land Use	Outdoor Activity Areas[1]	Interior Spaces	
	L_{dn}/CNEL, dB	L_{dn}/CNEL, dB	L_{eq} dB[2]
Residential	65	45	---
Transient Lodging	65	45	---
Hospitals, Nursing Homes	65	45	---
Theaters, Auditoriums, Music Halls	---	---	35
Minnewawaes, Meeting Halls	65	---	45
Office Buildings	---	---	45
Schools, Libraries, Museums	---	---	45

1 Where the location of the outdoor activity areas is unknown or is not applicable, the exterior noise level standard shall be applied to the property line of the receiving land use.

2 As determined for a typical worst-case hour during periods of use.

Source: City of Fresno General Plan

Implementation Policy NS-1-a of the General Plan provides guidance in regards to the development of new noise sensitive land uses (including residential developments).

> ***Desirable and Generally Acceptable Exterior Noise Environment.*** *Establish 65 dBA L_{dn} or CNEL as the standard for the desirable maximum average exterior noise levels for defined usable exterior areas of residential and noise-sensitive uses for noise, but designate 60 dBA L_{dn} or CNEL (measured at the property line) for noise generated by stationary sources impinging upon residential and noise- sensitive uses. Maintain 65 dBA L_{dn} or CNEL as the maximum average exterior noise levels for non-sensitive commercial land uses, and maintain 70 dBA L_{dn} or CNEL as maximum average exterior noise level for industrial land uses, both to be measured at the property line of parcels where noise is generated which may impinge on neighboring properties.*

The General Plan also provides noise level standards for non-transportation (stationary) noise sources. The General Plan noise level standards for non-transportation noise sources are identical to those provided in the City's Municipal code, provided below in Table II.

Implementation Policy NS-1-i of the General Plan Noise Element provides guidance in regards to mitigation for new developments and projects that have potential to result in a noise-related impact at existing noise-sensitive land uses.

> ***Mitigation by New Development.*** *Require an acoustical analysis where new development of industrial, commercial or other noise generating land uses (including transportation facilities such as roadways, railroads, and airports) may result in noise levels that exceed the noise level exposure criteria established by [Table I] and [Table II] to determine impacts, and require developers to mitigate these impacts in conformance with Tables 9-2 and 9-3 as a condition of permit approval through appropriate means.*
>
> *Noise mitigation measures may include:*
>
> - *The screening of noise sources such as parking and loading facilities, outdoor activities, and mechanical equipment;*
> - *Providing increased setbacks for noise sources from adjacent dwellings;*
> - *Installation of walls and landscaping that serve as noise buffers;*
> - *Installation of soundproofing materials and double-glazed windows; and*
> - *Regulating operations, such as hours of operation, including deliveries and trash pickup.*
>
> *Alternative acoustical designs that achieve the prescribed noise level reduction may be approved by the City, provided a qualified Acoustical Consultant submits information demonstrating that the alternative designs will achieve and maintain the specific targets for outdoor activity areas and interior spaces. As a last resort, developers may propose to construct noise walls along roadways when compatible with aesthetic concerns and neighborhood character. This would be a developer responsibility, with no City funding.*

Implementation Policy NS-1-j of the General Plan Noise Element provides guidance in regards to the establishment of a significance threshold when determining an increase in noise levels over existing ambient noise levels.

> ***Significance Threshold.*** *Establish, as a threshold of significance for the City's environmental review process, that a significant increase in ambient noise levels is*

assumed if the project would increase noise levels in the immediate vicinity by 3 dB L_{dn} or CNEL or more above the ambient noise limits established in this General Plan Update.

Commentary: When an increase in noise would result in a "significant" impact (increase of three dBA or more) to residents or businesses, then noise mitigation would be required to reduce noise exposure. If the increase in noise is less than three dBA, then the noise impact is considered insignificant and no noise mitigation is needed. By setting a specific threshold of significance in the General Plan, this policy facilitates making a determination of environmental impact, as required by the California Environmental Quality Act. It helps the City determine whether (1) the potential impact of a development project on the noise environment warrants mitigation, or (2) a statement of overriding considerations will be required.

Municipal Code

Section 15-2506 of the City of Fresno Municipal code establishes hourly acoustical performance standards for non-transportation noise sources. The standards, provided in Table II, are made more restrictive during the nighttime hours of 10:00 p.m. to 7:00 a.m. Additionally, the municipal code states that when ambient noise levels exceed or equal the levels described in Table II, mitigation shall only be required to limit noise to the existing ambient noise levels, plus five (5) dB. Section 15-2506 of the Municipal Code is consistent with Implementing Policy NS-1-I of the Noise Element of the City of Fresno General Plan (adopted 12/18/14).

TABLE II

NON-TRANSPORTATION NOISE LEVEL STANDARDS, dBA
CITY OF FRESNO MUNICIPAL CODE, SECTION 15-2506

Daytime (7 a.m.-10 p.m.)		Nighttime (10 p.m.-7 a.m.)	
L_{eq}	L_{max}	L_{eq}	L_{max}
50	70	45	60

Source: City of Fresno Municipal Code

Additional guidance is provided in Section 10-102(b) of the City's Municipal Code. Section 10 provides existing ambient noise levels to be applied to various districts, further divided into various hours of the day. Table III describes the assumed minimum ambient noise levels by district and time. Section 10-102(b) states *"For the purpose of this ordinance, ambient noise level is the level obtained when the noise level is averaged over a period of fifteen minutes, without inclusion of the offending noise, at the location and time of day at which a comparison with the offending noise is to be made. Where the ambient noise level is less than that designated in this section, however, the noise level specified herein shall be deemed to be the ambient noise level for that location".*

TABLE III

ASSUMED MINIMUM AMBIENT NOISE LEVEL, dBA
CITY OF FRESNO MUNICIPAL CODE, SECTION 10-102(B)

DISTRICT	TIME	SOUND LEVEL, dB L_{eq}
RESIDENTIAL	10 PM TO 7 AM	50
RESIDENTIAL	7 PM TO 10 PM	55
RESIDENTIAL	7 AM TO 7 PM	60
COMMERCIAL	10 PM TO 7 AM	60
COMMERCIAL	7 AM TO 10 PM	65
INDUSTRIAL	ANYTIME	70

Source: City of Fresno Municipal Code

Section 10-106 (Prima Facie Violation) States *"Any noise or sound exceeding the ambient noise level at the properly line of any person offended thereby, or, if a condominium or apartment house, within any adjoining living unit, by more than five decibels shall be deemed to prima facie evidence of a violation of Section 8-305."*

For noise sources that are not transportation related, which usually includes commercial or industrial activities and other stationary noise sources (such as amplified music), it is common to assume that a 3-5 dB increase in noise levels represents a substantial increase in ambient noise levels. This is based on laboratory tests that indicate that a 3 dB increase is the minimum change perceptible to most people, and a 5 dB increase is perceived as a "definitely noticeable change."

Appendix A provides definitions of the acoustical terminology used in this report. Unless otherwise stated, all sound levels reported in this analysis are A-weighted sound pressure levels in decibels (dB). A-weighting de-emphasizes the very low and very high frequencies of sound in a manner similar to the human ear. Most community noise standards utilize A-weighted sound levels, as they correlate well with public reaction to noise. Appendix B provides typical A-weighted sound levels for common noise sources.

PROJECT SITE NOISE EXPOSURE

The project site is located north of (and adjacent to) the future alignment of E. McKinley Avenue, west of N. Fowler Avenue. The project site is currently exposed traffic noise associated with vehicles on N. Fowler Avenue and will be additionally exposed to traffic noise associated with vehicles on E. McKinley Avenue at a future date. The distance from center of the backyards of the closest proposed lots to the centerline of the future alignment of E. McKinely Avenue is approximately 60 feet. The distance from center of the backyards of the closest proposed lots to the centerline of N. Fowler Avenue is approximately 230 feet.

Traffic Noise Exposure

Noise exposure from traffic on adjacent roadways was calculated for existing and future (2046) conditions (E. McKinley for future conditions only) using the FHWA Traffic Noise Model and traffic data obtained from Fresno COG. A description of the noise model, applied data, methodology and findings is provided below.

WJVA utilized the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108). The FHWA Model is a standard analytical method used for roadway traffic noise calculations. The model is based upon reference energy emission levels for automobiles, medium trucks (2 axles) and heavy trucks (3 or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly L_{eq} values for free-flowing traffic conditions, and is generally considered to be accurate within ±1.5 dB. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Noise level measurements and concurrent traffic counts were conducted by WJVA staff within the project site on February 29, 2024. The purpose of the measurement was to evaluate the accuracy of the FHWA Model in describing traffic noise exposure within the project site. The traffic noise measurement site was located at a setback distance of approximately 40 feet from the centerline of N. Fowler Avenue. The posted speed limit was 45 mph (miles per hour). The project vicinity and noise monitoring site location are provided as Figure 2. A photograph showing the N. Fowler Avenue noise measurement site is provided as Figure 3. A traffic noise calibration was not conducted along E. McKinley Avenue as the roadway has yet to be constructed in the project vicinity.

Noise monitoring equipment consisted of Larson-Davis Laboratories Model LDL-820 sound level analyzer equipped with a B&K Type 4176 1/2” microphone. The equipment complies with the specifications of the American National Standards Institute (ANSI) for Type I (Precision) sound level meters. The meter was calibrated in the field prior to use with a B&K Type 4230 acoustic calibrator to ensure the accuracy of the measurements. The microphone was located on a tripod at 5 feet above the ground. The project site presently consists of undeveloped land and a portion is currently used for industrial purposes.

Noise measurements were conducted in terms of the equivalent energy sound level (L_{eq}). Measured L_{eq} values were compared to L_{eq} values calculated (predicted) by the FHWA Model using as inputs the traffic volumes, truck mix and vehicle speed observed during the noise measurements. The results of the comparison are shown in Table IV.

From Table IV it may be determined that the traffic noise levels predicted by the FHWA Model were 1.0 dB lower than those measured for the conditions observed at the time of the noise measurements for N. Fowler Avenue. This is considered to be reasonable agreement with the model and therefore no adjustments to the model are necessary.

TABLE IV

COMPARISON OF MEASURED AND PREDICTED (FHWA MODEL) NOISE LEVELS TRACT 6475, FRESNO

	N. Fowler Ave.
Measurement Start Time	4:00 p.m.
Observed # Autos/Hr.	1,176
Observed # Medium Trucks/Hr.	36
Observed # Heavy Trucks/Hr.	24
Observed Speed (MPH)	45
Distance, ft. (from center of roadway)	40
L_{eq}, dBA (Measured)	71.4
L_{eq}, dBA (Predicted)	70.4
Difference between Predicted and Measured L_{eq}, dBA	**1.0**

Note: FHWA "soft" site assumed for calculations.
Source: WJV Acoustics, Inc.

Annual Average Daily Traffic (AADT) data for N. Fowler Avenue E. McKinely in the project vicinity was obtained from Fresno COG. Truck percentages and the day/night distribution of traffic were estimated by WJVA, based upon previous studies conducted in the project vicinity since project-specific data were not available from government sources. A speed limit of 45 mph was assumed for both roadways. Table V summarizes annual average traffic data used to model noise exposure within the project site.

TABLE V

TRAFFIC NOISE MODELING ASSUMPTIONS
TRACT 6475, FRESNO

	E. McKinley Ave	N. Fowler Ave	
	2046	Existing	2046
Annual Avenue Daily Traffic (AADT)	4,048	3,838	4,587
Day/Night Split (%)	90/10		
Assumed Vehicle Speed (mph)	40		
% Medium Trucks (% AADT)	2		
% Heavy Trucks (% AADT)	1		

Sources: Fresno COG
WJV Acoustics, Inc.

Using data from Table V, the FHWA Model, annual average traffic noise exposure was calculated for the closest proposed backyards from E. McKinley Avenue and N. Fowler Avenue. Table VI provides the noise exposure levels for E. McKinley Avenue and N. Fowler Avenue, at the closest proposed residential lots to the roadways.

TABLE VI

MODELED TRAFFIC NOISE LEVELS, W. MINNEWAWA AVENUE, dB, L_{dn}
TRACT 6375, FRESNO

Roadway	Existing Conditions	2046 Conditions
E. McKinley Avenue (west of N. Fowler Avenue)	--	61
N. Fowler Avenue (north of E. McKinley Avenue)	52	53

Source: WJV Acoustics
Fresno COG

Reference to Table VI indicates that the traffic noise exposure at the closest proposed lots to E. McKinley Avenue would be approximately 61 dB L_{dn} for future (2046) traffic conditions on E. McKinley Avenue, and that traffic noise exposure for the closest proposed lots to N. Fowler Avenue would be approximately 52 dB L_{dn} and 53 dB L_{dn} for existing and future (2046) traffic conditions, respectively. The noise exposure levels do not exceed the City's 65 dB L_{dn} exterior noise level standard, and mitigation measures are therefore not required for compliance with the City's exterior noise level standard.

Interior Noise Exposure:

The City of Fresno interior noise level standard is 45 dB L_{dn}. The worst-case noise exposure within the proposed residential development would be approximately 61 dB L_{dn} (2046 conditions). This means that the proposed residential construction must be capable of providing a minimum outdoor-to-indoor noise level reduction (NLR) of approximately 16 dB (61-45=16).

A specific analysis of interior noise levels was not performed. However, it may be assumed that residential construction methods complying with current building code requirements will reduce exterior noise levels by approximately 25 dB if windows and doors are closed. This will be sufficient for compliance with the City's 45 dB L_{dn} interior standard at all proposed lots. Requiring that it be possible for windows and doors to remain closed for sound insulation means that air conditioning or mechanical ventilation will be required.

CONCLUSIONS AND RECOMMENDATIONS

The proposed 56-lot single-family residential development will comply with all City of Fresno exterior and interior noise level standards, provided the following mitigation measures are incorporated into final project design.

- Mechanical ventilation or air conditioning must be provided for all homes so that windows and doors can remain closed for sound insulation purposes.

The conclusions and recommendations of this acoustical analysis are based upon the best information known to WJV Acoustics Inc. (WJVA) at the time the analysis was prepared concerning the proposed lot layout plan, project site elevation, traffic volumes and roadway configurations. Any significant changes in these factors will require a reevaluation of the findings of this report. Additionally, any significant future changes in motor vehicle technology, noise regulations or other factors beyond WJVA's control may result in long-term noise results different from those described by this analysis.

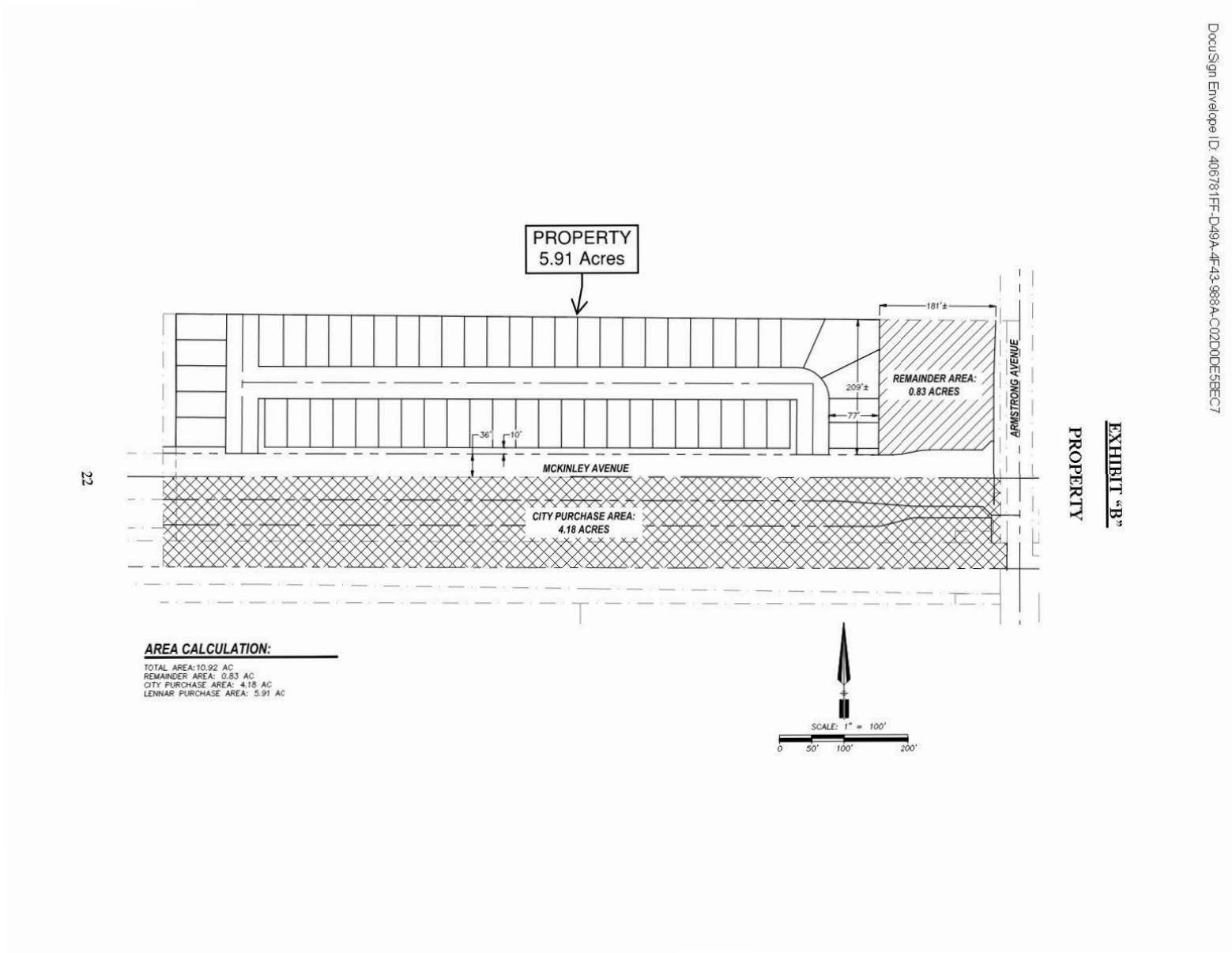
Respectfully submitted,



Walter J. Van Groningen
President

WJV:wjv

FIGURE 1: SITE PLAN



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FIGURE 2: PROJECT SITE VICINITY AND NOISE MEASUREMENT LOCATION



FIGURE 3: N. FOWLER AVENUE NOISE MEASUREMENT SITE



APPENDIX A

ACOUSTICAL TERMINOLOGY

AMBIENT NOISE LEVEL: The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

CNEL: Community Noise Equivalent Level. The average equivalent sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and ten decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m.

DECIBEL, dB: A unit for describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).

DNL/L_{dn}: Day/Night Average Sound Level. The average equivalent sound level during a 24-hour day, obtained after addition of ten decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m.

L_{eq}: Equivalent Sound Level. The sound level containing the same total energy as a time varying signal over a given sample period. L_{eq} is typically computed over 1, 8 and 24-hour sample periods.

NOTE: The CNEL and DNL represent daily levels of noise exposure averaged on an annual basis, while L_{eq} represents the average noise exposure for a shorter time period, typically one hour.

L_{max}: The maximum noise level recorded during a noise event.

L_n: The sound level exceeded "n" percent of the time during a sample interval (L_{90}, L_{50}, L_{10}, etc.). For example, L_{10} equals the level exceeded 10 percent of the time.

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ACOUSTICAL TERMINOLOGY

NOISE EXPOSURE CONTOURS: Lines drawn about a noise source indicating constant levels of noise exposure. CNEL and DNL contours are frequently utilized to describe community exposure to noise.

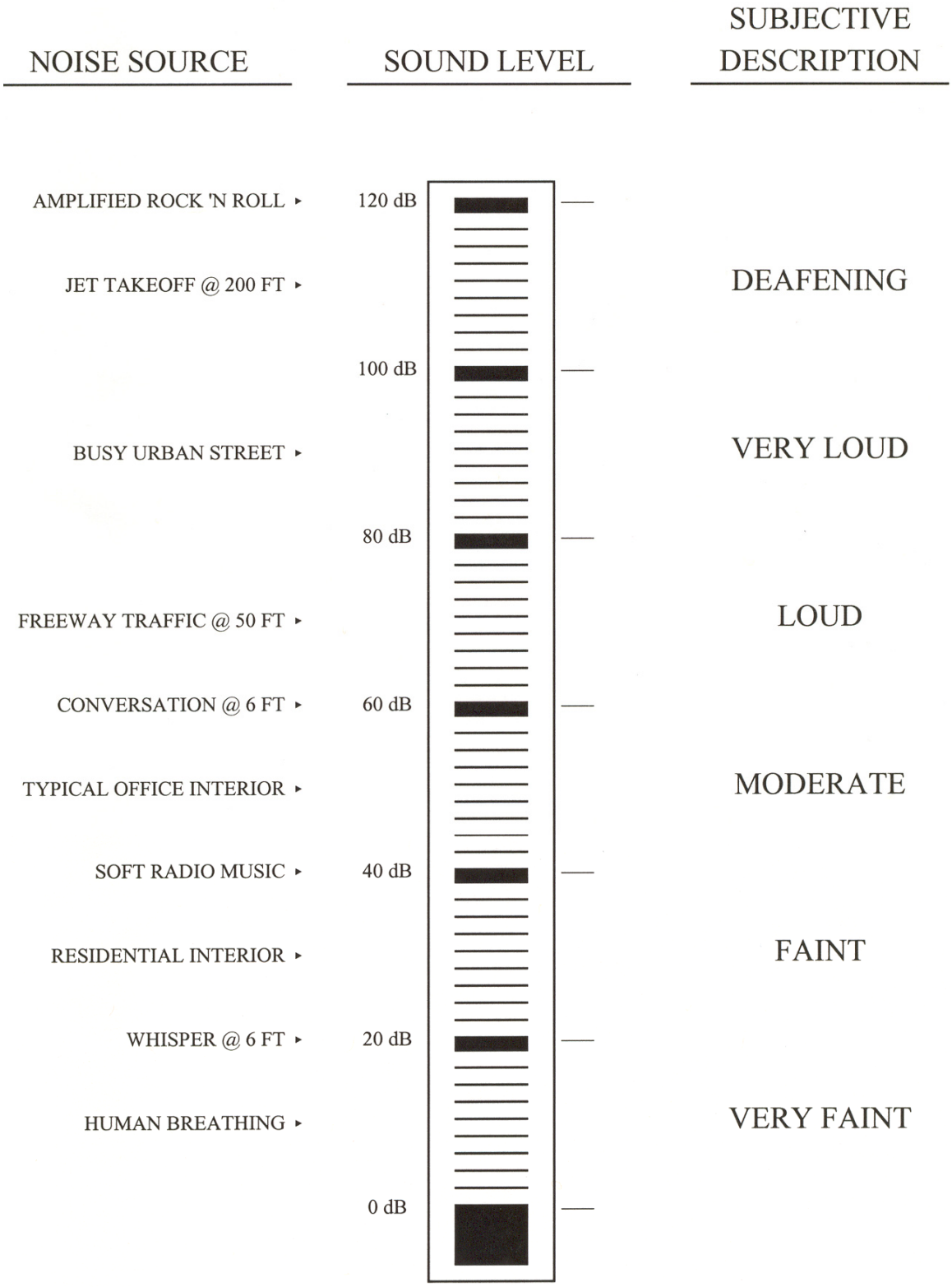
NOISE LEVEL REDUCTION (NLR): The noise reduction between indoor and outdoor environments or between two rooms that is the numerical difference, in decibels, of the average sound pressure levels in those areas or rooms. A measurement of "noise level reduction" combines the effect of the transmission loss performance of the structure plus the effect of acoustic absorption present in the receiving room.

SEL or SENEL: Sound Exposure Level or Single Event Noise Exposure Level. The level of noise accumulated during a single noise event, such as an aircraft overflight, with reference to a duration of one second. More specifically, it is the time-integrated A-weighted squared sound pressure for a stated time interval or event, based on a reference pressure of 20 micropascals and a reference duration of one second.

SOUND LEVEL: The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.

SOUND TRANSMISSION CLASS (STC): The single-number rating of sound transmission loss for a construction element (window, door, etc.) over a frequency range where speech intelligibility largely occurs.

APPENDIX B
EXAMPLES OF SOUND LEVELS



Appendix I

PETERS ENGINEERING GROUP
A CALIFORNIA CORPORATION

Mr. Harmanjit Dhaliwal, PE
City of Fresno
2600 Fresno Street, 4th Floor
Fresno, California 93721-3623

May 17, 2024

Subject: Scope of Traffic Study
Proposed Tract 6475
Northwest of the Intersection of Armstrong Avenue and the McKinley Avenue Alignment
Fresno, California

Dear Mr. Dhaliwal:

Peters Engineering Group has been retained to perform a traffic study for the subject project. The purpose of this letter is to provide the City of Fresno and other affected agencies with an opportunity to comment on the scope of the traffic study. The traffic study will be prepared in conformance with the *City of Fresno Traffic Impact Study Report Guidelines* updated February 2, 2009 and the *City of Fresno CEQA Guidelines for Vehicle Miles Traveled Thresholds* dated June 25, 2020. The traffic study report will be submitted with a completed version of the City of Fresno Public Works Department Traffic Study Checklist.

We are requesting that the City provide comments related to the scope of the study to Peters Engineering Group, including approval of the trip generation calculations and determination of the intersections to be studied.

Project Description

The proposed Project site is on APN 574-130-05, the developable portion of which covers approximately 5.91 acres located northwest of the intersection of Armstrong Avenue and the McKinley Avenue Alignment in Fresno, California. The Project proposes 56 single-family dwelling units and would likely be required to construct McKinley Avenue from Armstrong Avenue to the western end of the site. It is our understanding that the Project does not require an amendment to the Fresno General Plan.

Site access is proposed via two local streets connecting to McKinley Avenue. A local street will be stubbed to the north near the western end of the Project site to serve future residences. An existing single-family residence immediately east of the Project site will remain.

A vicinity map is presented in the attached Figure 1, Site Vicinity Map, and a site plan is presented in Figure 2, Site Plan.

Trip Generation

Data provided in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*, are typically used to estimate the number of trips anticipated to be generated by proposed projects. Table 1 presents the vehicle trip generation estimates for the Project based on ITE Land Use 210, Single-Family Detached Housing.

Table 1
Project Trip Generation Estimate

Land Use	Units	Daily		A.M. Peak Hour					P.M. Peak Hour				
		Rate	Total	Rate	In:Out	In	Out	Total	Rate	In:Out	In	Out	Total
Single-Family Detached Housing-210	56	9.43	528	0.70	26:74	11	29	40	0.94	63:37	33	20	53

Reference: *Trip Generation Manual, 11th Edition*, Institute of Transportation Engineers 2021
Rates are reported in trips per dwelling unit.

Vehicle Miles Traveled (VMT)

Senate Bill (SB) 743 requires that relevant CEQA analysis of transportation impacts be conducted using a metric known as vehicle miles traveled (VMT) instead of Level of Service (LOS). VMT measures how much actual auto travel (additional miles driven) a proposed project would create on California roads. If the project adds excessive car travel onto roads, the project may cause a significant transportation impact.

The State CEQA Guidelines were amended to implement SB 743 by adding Section 15064.3. Among its provisions, Section 15064.3 confirms that, except with respect to transportation projects, a project's effect on automobile delay shall not constitute a significant environmental impact. Therefore, LOS as a measure of impacts on traffic facilities is no longer a relevant CEQA criteria for transportation impacts.

CEQA Guidelines Section 15064.3(b)(4) states that "[a] lead agency has discretion to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revision to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section."

On June 25, 2020, the City of Fresno adopted *CEQA Guidelines for Vehicle Miles Traveled Thresholds*, dated June 25, 2020 (hereinafter referred to as the City VMT Guidelines), pursuant to SB 743 to be effective as of July 1, 2020. The City VMT Guidelines document was prepared and adopted consistent with the requirements of CEQA Guidelines Sections 15064.3 and 15064.7. The December 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory) published by the Governor's Office of Planning and Research (OPR) was utilized as a reference and guidance document in the preparation of the City VMT Guidelines.

The City VMT Guidelines include a screening standard and criteria that can be used to screen out qualified projects that meet the adopted criteria from a requirement to prepare a detailed VMT analysis.

Section 3.0 of the City VMT Guidelines regarding Project Screening discusses a variety of projects that may be screened out of a VMT analysis, including specific development and transportation projects. For development projects, conditions may exist that would allow the presumption that a development project will have a less-than-significant impact. These conditions may be size, location, proximity to transit, or trip-making potential. Specifically, the City VMT Guidelines states that the City will allow screening out of projects that generate fewer than 500 trips per day and projects that are located in low VMT zones as indicated on the screening maps provided in the City VMT Guidelines.

The Project is expected to generate more than 500 trips per day and is not located in a green area on Figure 6, City of Fresno - Existing VMT per Capita, of the City VMT Guidelines. Furthermore, the Project is not located near a high-quality transit area as indicated on Figure 4, City of Fresno - High-Quality Transit Area Within Fresno County, of the City VMT Guidelines and does not include a high level of "affordable housing" units. Finally, the Fresno COG VMT Screening Tool was utilized and indicated the Project is likely to generate VMT in excess of the regional threshold. Therefore, a Project-specific VMT analysis will be performed.

Project-Specific Traffic Modeling

Project-specific traffic modeling will be performed utilizing the Fresno County travel model maintained by the Fresno Council of Governments (COG). The modeling will be performed by a COG-approved traffic modeling consultant and will include adding a traffic analysis zone (TAZ) to the model to represent the Project. The modeling output will include a select zone analysis and an estimate of the Project VMT per capita.

Project Trip Distribution and Assignment

The regional distribution of Project trips will be estimated based on the results of the select zone analysis described above. On a preliminary basis, the distribution of Project trips has been estimated using engineering judgment based on our knowledge of the area, available traffic counts, previous studies, the location and configuration of site access points, and available travel routes. The estimated percentage distribution of Project trips is presented in Figure 3, Project Traffic Distribution Percentages. The total peak-hour Project trips obtained from Table 1 are presented in Figure 4, Peak-Hour Project Traffic Volumes.

Traffic Study Requirements

The Project site is located within TIZ-III as indicated in Figure MT-4 of the City of Fresno General Plan. Implementing Policy MT-2-i of the General Plan states: "*TIZ-III generally represents areas near or outside the City Limits but within the SOI as of December 31, 2012. Maintain a peak hour LOS standard of D or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 100 or more peak hour new vehicle trips.*" Table 1 indicates that the Project is expected to generate fewer than 100 trips during the peak hour. Therefore, it is anticipated that no further traffic counts and operational analyses should be required.

Study Area

If the City determines that further traffic counts and operational analyses are required, it is anticipated that the traffic study would include analysis of the following intersections:

1. Clinton Avenue / Armstrong Avenue
2. Olive Avenue / Armstrong Avenue

Peters Engineering Group is requesting that the City of Fresno and other affected agencies identify any other intersections that are to be included in the study.

Since intersection operations typically govern with respect to the required number of through lanes on roadway, road segment analyses are not proposed.

Study Scenarios

If the City determines that further traffic counts and operational analyses are required, the following time periods will be studied:

- Weekday a.m. peak hour between 7:00 and 9:00 a.m.;
- Weekday p.m. peak hour between 4:00 and 6:00 p.m.

The peak hours will be analyzed for the following conditions:

- Existing Conditions;
- Existing-Plus-Project Conditions;
- Near-Term With Project Conditions; and
- Cumulative (Year 2046) Conditions With Project.

Collision analyses and complete traffic signal warrants analyses are not proposed for this study and would be performed only if required by the City of Fresno.

Pending Projects

The analyses for the near-term and long-term conditions consider the effects of traffic expected to be generated by pending and approved projects in the study area. Peters Engineering Group is requesting that the City of Fresno provide information related to pending and approved projects in the vicinity of the study intersections to be included in the traffic analysis.

Criteria for Identifying Traffic Issues

The Transportation Research Board *Highway Capacity Manual*, 7^{th} *Edition*, (HCM) defines level of service (LOS) as, "A quantitative stratification of a performance measure or measures that represent quality of service, measured on an A-F scale, with LOS A representing the best operating conditions from the traveler's perspective and LOS F the worst." Automobile mode LOS characteristics for both unsignalized and signalized intersections are presented in Tables 2 and 3.

Table 2
Level of Service Characteristics for Unsignalized Intersections

Level of Service	Average Vehicle Delay (seconds)
A	0-10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	>50

Table 3
Level of Service Characteristics for Signalized Intersections

Level of Service	Description	Average Vehicle Delay (seconds)
A	Volume-to-capacity ratio is no greater than 1.0. Progression is exceptionally favorable or the cycle length is very short.	<10
B	Volume-to-capacity ratio is no greater than 1.0. Progression is highly favorable or the cycle length is very short.	>10-20
C	Volume-to-capacity ratio is no greater than 1.0. Progression is favorable or cycle length is moderate.	>20-35
D	Volume-to-capacity ratio is high but no greater than 1.0. Progression is ineffective or cycle length is long. Many vehicles stop and individual cycle failures are noticeable.	>35-55
E	Volume-to-capacity ratio is high but no greater than 1.0. Progression is unfavorable and cycle length is long. Individual cycle failures are frequent.	>55-80
F	Volume-to-capacity ratio is greater than 1.0. Progression is very poor and cycle length is long. Most cycles fail to clear the queue.	>80

Reference for Tables 2 and 3: *Highway Capacity Manual, 7th Edition*, Transportation Research Board, 2022

The State of California does not recognize traffic congestion and delay as an environmental impact per the California Environmental Quality Act (CEQA). However, the City of Fresno General Plan requires a minimum LOS depending upon Traffic Impact Zones (TIZ). The proposed Project site is located in TIZ-III. In TIZ-III, a traffic issue will typically be identified if:

- the proposed Project will decrease the LOS below D at an intersection; or
- the proposed Project will exacerbate an existing deficiency at an intersection already operating at LOS E or F by increasing the average delay per vehicle at the intersection by 5.0 seconds or more.

In addition to LOS criteria, a queuing issue may be determined if the calculated 95th-percentile queue exceeds the available storage capacity.

Traffic Counts

If traffic counts are required, traffic counts will be performed at each of the study intersections during the weekday a.m. and p.m. peak hours between 7:00 and 9:00 a.m. and between 4:00

and 6:00 p.m. Twenty-four-hour (24-hour) counts will be performed only if required by the City for traffic signal warrants analyses.

Deviations from Traffic Study Checklist

We are requesting that collision analyses and traffic signal warrants analyses (24-hour counts) be excluded from the required scope of work.

Closing

Peters Engineering Group is requesting written comments and/or confirmation of the content of this letter. The Project is expected to generate fewer than 100 peak hour trips; in accordance with City General Plan requirements for TIZ-III a traffic study would not typically be required. However, if operational analyses are required, we are requesting discussion and confirmation of the following items from all affected agencies before continuing with the analyses:

- Trip generation assumptions and calculations
- Study area intersections to be counted and analyzed
- The time periods requiring intersection turning movement counts
- The study scenarios
- Criteria for identifying traffic issues
- Pending and approved projects
- 24-hour counts for traffic signal warrants not proposed
- Collision analyses not proposed.

Thank you for the opportunity to work with you on this project. Please feel free to contact our office or email me at jrowland@peters-engineering.com if you have any questions.

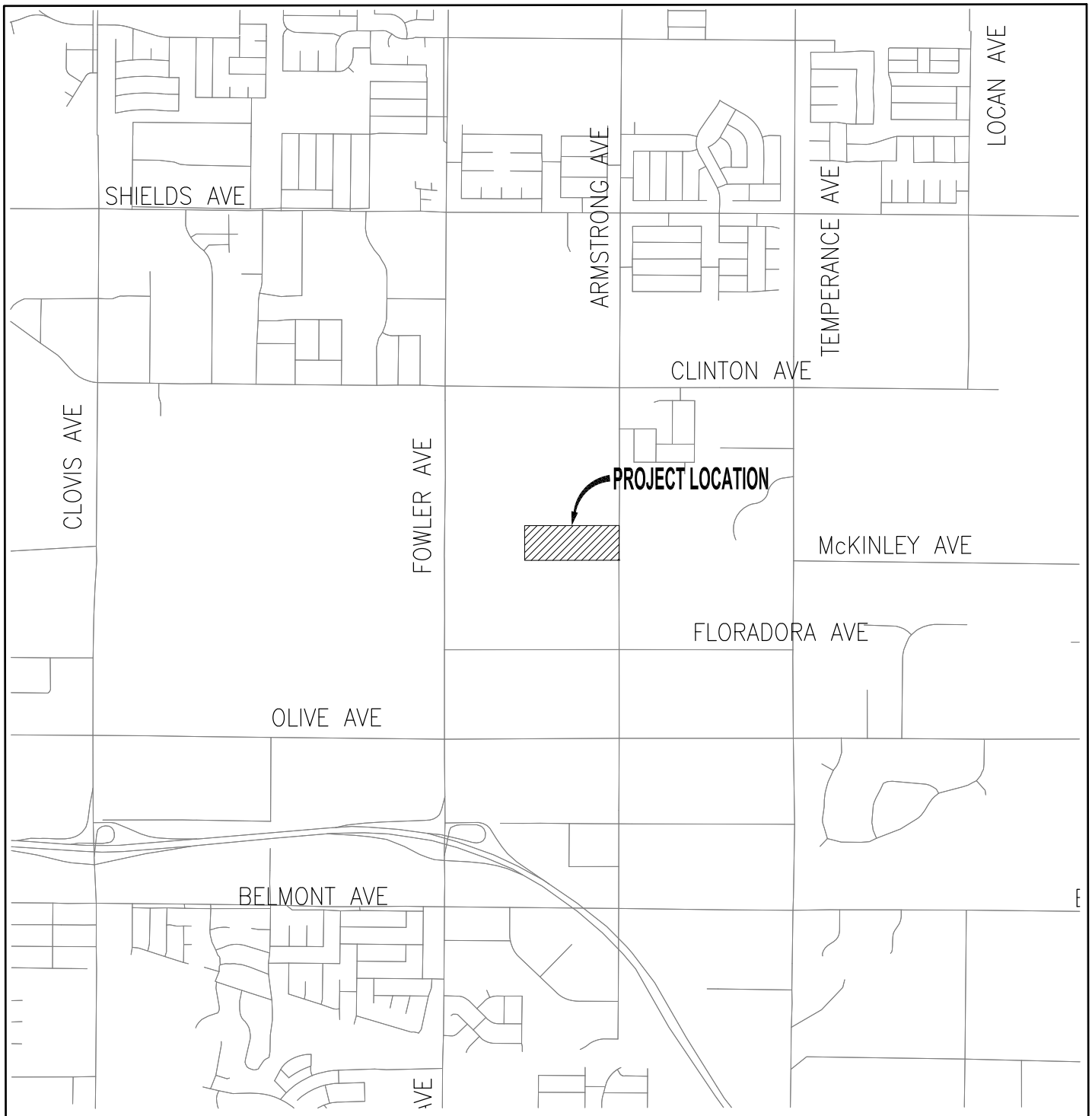
PETERS ENGINEERING GROUP

John Rowland, PE, TE



Attachments: Figures 1 through 4
Fresno COG VMT Screening Tool

cc: Mr. Scott Tyler, City of Fresno
Mr. Jesus Garcia, City of Fresno
Mr. Walter Diamond, Lennar Homes of California, LLC
Mr. Connor Callaway, Lennar Homes of California, LLC



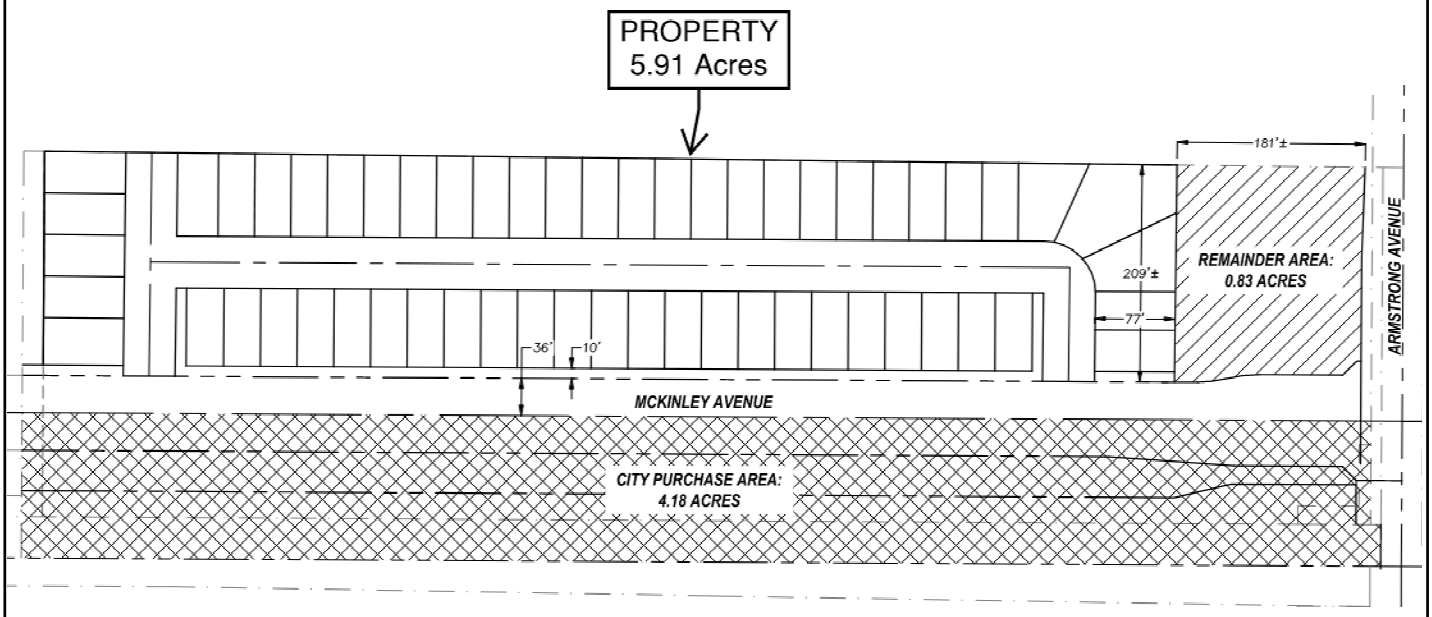
LEGEND

PROJECT AREA

Proposed Tract 6475
Fresno, California

SITE VICINITY MAP

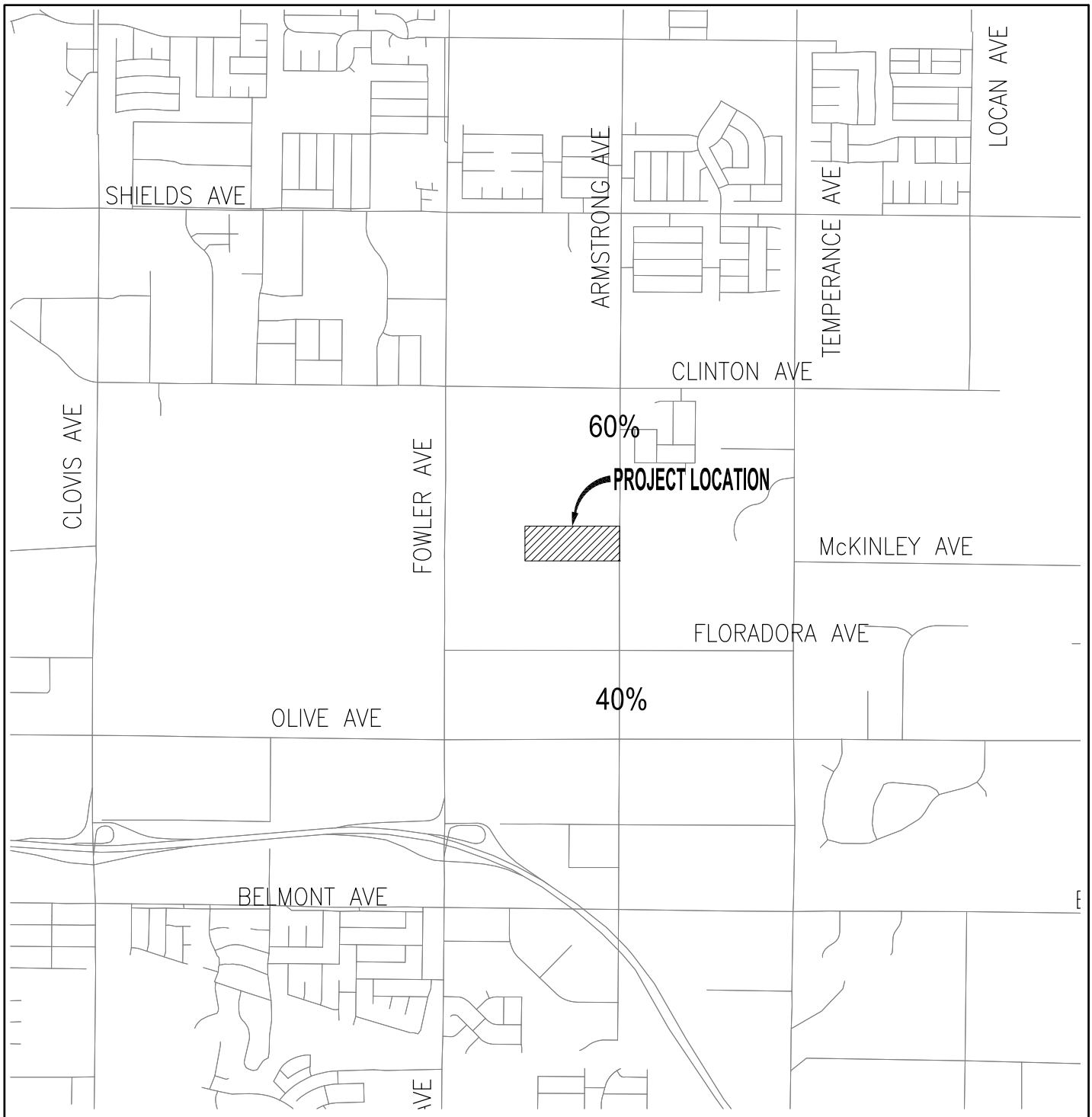
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Proposed Tract 6475
Fresno, California

SITE PLAN

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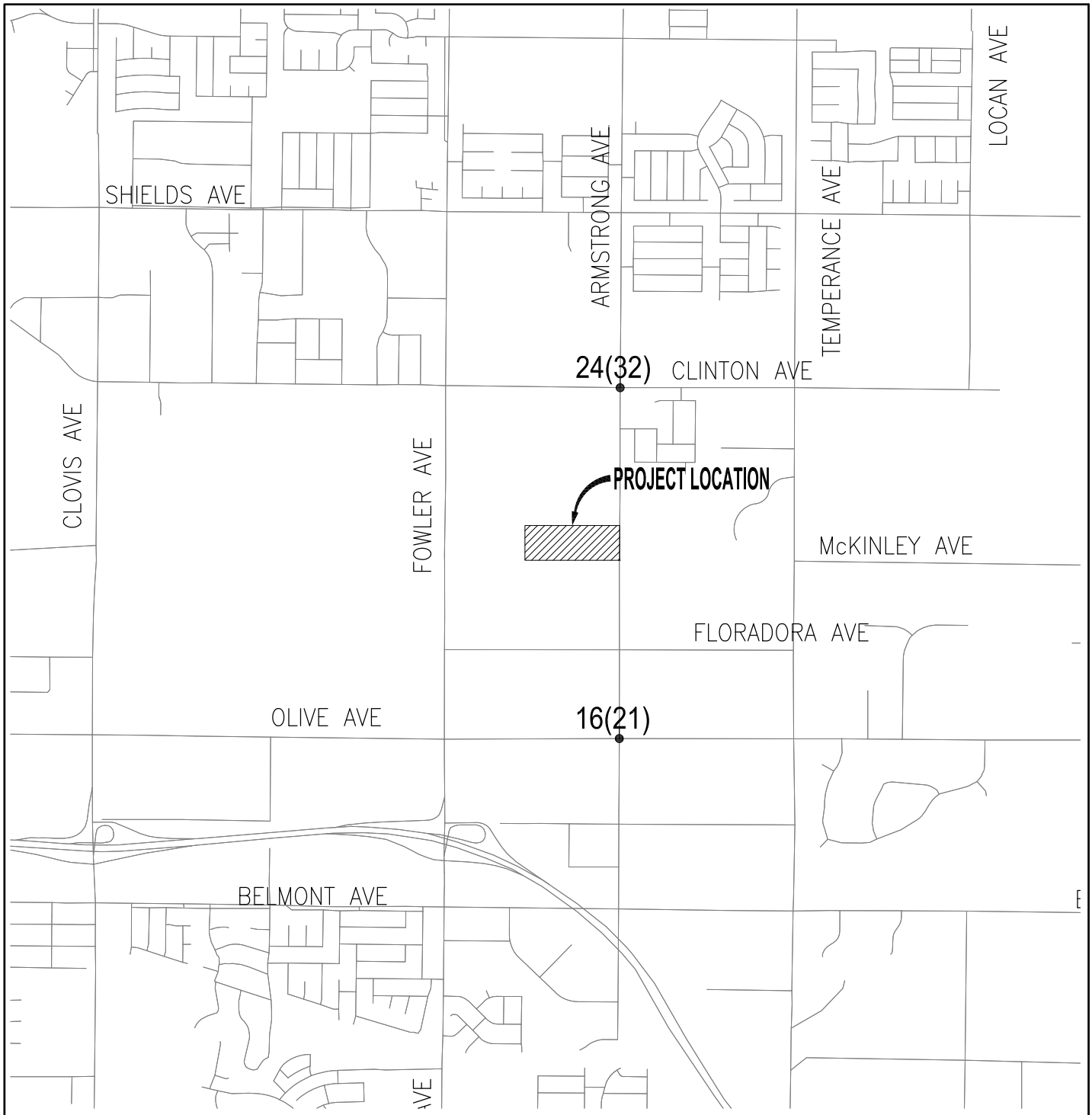
LEGEND

PROJECT AREA

Proposed Tract 6475
Fresno, California

PROJECT TRAFFIC DISTRIBUTION PERCENTAGES

Not to Scale



LEGEND

▨	PROJECT AREA
XX (YY)	AM (PM) VOLUMES

Proposed Tract 6475
Fresno, California

PEAK-HOUR PROJECT TRAFFIC VOLUMES

Not to Scale