FIRST AMENDMENT TO AGREEMENT

THIS FIRST AMENDMENT TO AGREEMENT (Amendment) made and entered into as of this 4th day of October, 2021, amends the Consultant Services Agreement entered into between the CITY OF FRESNO, a California municipal corporation (City), and Water Systems Consulting, Inc., a California corporation (Consultant).

RECITALS

WHEREAS, City and Consultant entered into an agreement, dated June 18, 2020 (Agreement) to provide professional engineering services for the development of the 2020 Metropolitan Water Resources Management Plan and Programmatic Environmental Impact Report, and 2020 Urban Water Management Plan; and

WHEREAS, City and Consultant desire to modify the scope of services of the Agreement, as detailed in Exhibit A, to align with the scope of services identified in Request for Proposal and Consultant's proposal; and

WHEREAS, with entry into this Amendment, Consultant agrees that Consultant has no claim, demands, or disputes against City.

AGREEMENT

NOW, THEREFORE, the City and the CONSULTANT agree that the aforesaid Agreement be amended as follows:

1. The above recitals are incorporated and made part of this Amendment.

2. **Exhibit A** of the Agreement shall be replaced in its entirety by Exhibit A, attached hereto and incorporated herein.

3. Consultant shall receive no additional compensation pursuant to this Amendment.

4. Except as otherwise provided herein, the Agreement entered into by the City and the Consultant on June 18, 2020, remains in full force and effect.

[SIGNATURES FOLLOW ON THE NEXT PAGE.]

IN WITNESS WHEREOF, the City and the Consultant have executed this Amendment at Fresno, California, the day and year first above written.

CITY OF FRESNO,
a California municipal corporation

DocuSigned by:
By: Michael Carbajal 10/1/2021
0DA914AF5B8D44B...
Michael Carbajal, Director
Department of Public Utilities

APPROVED AS TO FORM:
DOUGLAS T. SLOAN
City Attorney

DocuSigned by:
By: Jennifer Quintanilla 9/27/2021
71318AF32A24406...
Jennifer M. Quintanilla Date
Senior Deputy City Attorney

ATTEST:
BRIANA PARRA, CMC
Interim City Clerk

DocuSigned by:
By: Marco Martinez 10/4/2021
2F1BC57F778C4E1...
Marco Martinez
Deputy Date

Water System Consulting, Inc.,
a California corporation

DocuSigned by:
By: 9/16/2021
65A1900AB75A4FF...
Name: Jeffrey Szytel

Title: President
(If corporation or LLC., Board Chair, Pres. Or Vice Pres.)

DocuSigned by:
By: Jeroen Olthof 9/16/2021
A212B2ECEC29431...
Name: Jeroen Olthof

Title: Secretary
(If corporation or LLC., CFO, Treasurer, Secretary or Assistant Secretary)

Attachment: Exhibit A

EXHIBIT A

SCOPE OF SERVICES
Consultant Service Agreement between City of Fresno ("City")
and Water Systems Consulting, Inc. ("Consultant")
2020 Metropolitan Water Resources Management Plan and Programmatic Environmental Impact Report, and 2020 Urban Water Management Plan

See Attached

SCHEDULE OF FEES

[See Attached]

WSC
WATER SYSTEMS CONSULTING, INC.

5/18/2020

2020 Metro Plan & 2020 UWMP Scope of Work

The following scope of work is for the 2020 Metropolitan Water Resources Management Plan (Metro Plan) and the 2020 Urban Water Management Plan (UWMP).

Contents

TASK 0.0 PROJECT MANAGEMENT

0.1 Project Controls

- Provide oversight, manage communication, assign resources, and coordinate work efforts of the Project Team.
- Maintain and monitor the master project schedule. Produce updated schedules as required.
- Compile and monitor budget, cost and earned value information for the Project.
- Monitor scope, including tracking approved out of scope work.
- Administer subcontracts.
- Prepare progress reports to be submitted with each monthly invoice. The reports will include a summary of activities accomplished in the current month. Track individual task budgets and the overall project budget.
- Prepare quarterly status updates that summarize the plan preparation status and major accomplishments that occurred over the last quarter for distribution to City executives and legislative members. The status updates may include PowerPoint presentations when appropriate.

DELIVERABLE(S): Monthly Progress Reports. Quarterly Executive Status Updates, including presentation materials when appropriate.

0.2 City Coordination (Regular Calls)

- Plan, organize, and conduct routine meetings/conference calls with City Staff to:
  (1) Provide updates on Project progress
  (2) Present interim results
  (3) Review progress since last meeting and planned work until next call
  (4) Discuss other topics of interest as the Project progresses
- Assumptions: The budget is based on an assumed project phase duration of 30 months and City Coordination Calls will be held four times per month, on average, with a duration of up to 1 hour each. However, WSC will adapt the frequency and duration of the City Coordination Meetings to meet the specific needs of the project at the time, within the budgeted level of effort.

0.3 Internal Coordination (Regular Calls)

- Plan, organize and conduct routine meetings/conference calls with the Consultant Team to:
  (1) Coordinate project activities
  (2) Review ongoing work and upcoming deliverables
  (3) Discuss data needs
  (4) Plan upcoming client meetings

- Assumptions: The budget is based on an assumed project phase duration of 30 months and Internal Coordination Calls will be held three times per month with a duration of 1 hour each.

TASK 1.0 PHASE 1 - EXISTING WATER SUPPLY SYSTEM ASSESSMENT

This phase entails conducting the work to develop the content and prepare the Prepare Phase 1 Report. The Phase 1 Report is expected to include the following topics:

1. **Introduction**
   - 1.1. Project Purpose
   - 1.2. Study Process
   - 1.3. Previous Metro Plans
   - 1.4. Planning Horizons
   - 1.5. Study Area
2. **Urban Water Demands**
   - 2.1. Service Area
   - 2.2. Significant Water Use
   - 2.3. Water System
   - 2.4. Local Climate
   - 2.5. Historical and Projected Water Service Area Population
   - 2.6. Existing and Projected Land Use
   - 2.7. Historical Water Production and Consumption
     - 2.7.1. Historical Water Production Records
     - 2.7.2. Unaccounted-For Water
     - 2.7.3. Historical Consumption
   - 2.8. Historical Peaking Factors
     - 2.8.1. Maximum Day Peaking Factor
     - 2.8.2. Peak Hour Peaking Factor
   - 2.9. Per Capita Based Potable Demand Projections
   - 2.10. Land Use Based Potable Demand Projections
     - 2.10.1. Development of Unit Demand Factors
     - 2.10.2. Adjusted Unit Demand Factors
     - 2.10.3. Projected Potable Demands by Customer Class
     - 2.10.4. Comparison of Per Capita and Land Use Based Demand Projections
   - 2.11. Recommended Urban Water Demands
     - 2.11.1. Projected 2045 and 2070 Demand Projections
3. **Urban Water Supplies**
   - 3.1. Existing Groundwater Supply
     - 3.1.1. Basin Location
     - 3.1.2. Area Geology
     - 3.1.3. Aquifer Characteristics
     - 3.1.4. Historic and Current Water Levels
     - 3.1.5. Groundwater Quality
     - 3.1.6. Estimated Groundwater Yield
     - 3.1.7. Existing Groundwater Production Capacity
   - 3.2. Existing Surface Water Supply

4.2. Wastewater System
4.2.1. Collection System
4.2.2. Regional Wastewater Reclamation Facility
4.3. Recycled Water System
4.3.1. Tertiary Facility
4.3.2. Extraction Wells
4.3.3. Distribution System
4.4. Flood Control and Groundwater Recharge System
4.4.1. Facilities
4.4.2. Water Rights
4.4.3. Groundwater Recharge

5. Institutional Arrangements

5.1. Water Systems
5.1.1. Water Suppliers
5.1.2. Water System Interconnections
5.1.3. Surface Water Supply
5.2. Wastewater
5.2.1. Wastewater Recycling
5.3. Flood Control and Storm Drainage
5.3.1. Storm Water Basins
5.3.2. Storm Water Detention Reservoirs
5.4. Groundwater Management
5.4.1. Groundwater Management Plan
5.4.2. Integrated Regional Water Management
5.4.3. Fresno County Export ordinance
5.4.4. Groundwater Contamination
5.4.5. Sustainable Groundwater Management Act
5.5. Governor's Water Resilience Portfolio
5.6. Regional Land Use Planning

- The outline above may be modified based on findings from the analysis in this phase, and with approval from the City.

1.1 Kickoff Meeting, Meetings (2) & Workshops (4)

- Plan, organize, and conduct Meetings and Workshops to support Phase 1 Report development. Anticipated meetings for Phase 1 are:

(1) Phase 1 Kickoff Meeting

(a) Establish Roles and Responsibilities,

(b) Develop project success factors and future water supply plan objectives and goals

(c) Walk through overview of key Phase 1 components (i.e. Urban Demand Estimates, Urban Water Supplies, Existing Water Resources, and Institutional Arrangements)

(d) Review preliminary data request and data management system

(2) Phase 1 Admin Draft Review Meeting

(3) Phase 1 Draft Review Meeting

Anticipated workshops for Phase 1 are:

(4) Urban Demand Workshop

(5) Urban Water Supplies Workshop

(6) Existing Water Resources System Workshop

(7) Institutional Arrangements Workshop

- Assumptions. Workshops/Meetings will be held in-person (if possible under COVID19 response actions) and will last up to 4 hours, attended by up to 3 WSC staff.

DELIVERABLE(S): Electronic copies of agenda and meeting materials at least five (5) working days prior to the meeting. Summary of action items within five (5) working days following the meeting.

1.2 Urban Water Demands

- Review reference documents, compile relevant information, and develop description of City's existing Water Demands.
- Analyze data sources for land use based demands, which are assumed to be available from the City's planning department.
- Update City's demand peaking factors.
- Prepare per capita water demand analysis for Senate Bill x 7-7 compliance and for the purposes of comparison to land use based demand estimates.
- Develop population projections and demand projections for immediate, near-, and long-term periods
- Assumptions. The City will provide historical data and the methodology used to determine demand factors and demand projections in the previous 2015 UWMP and the North Kings GSA Groundwater Sustainability Plan. Recent historical and growth data not included in previous demand estimates will be developed from the City's General Plan and State Department of Finance projections to update previous demand factors and growth projections. Up to eight (8) hours is assumed to conform water consumption data to associate it with a land use and land use intensity unit (e.g., dwelling unit, acres, etc).
- To supplement potable water projections, prepare recycled water demand projections based on existing customers and planned customer connections. Review historical recycled water use information to document past use by customer, including monthly, daily, and hourly variability, if the information is available. If applicable, document discharge flow commitments.

1.3 Urban Water Supplies

- Review reference documents, compile relevant information, and develop description of City's existing Water Supplies. Description of water supply availability will include assessment of the following Water Supply components:

  (1) Existing Groundwater Supply

  (a) Assessment of existing groundwater supply will include developing descriptions of: Basin Location; Area Geology; Aquifer Characteristics; Historic and Current Water Levels; Groundwater Quality; and Existing Groundwater Production Capacity

  (i) Assessment of these parameters will be based on readily available reference documents and information provided by the City. This task will not include new detailed evaluation of these parameters.

  (b) Existing Groundwater Yield – Estimates of existing groundwater yield will be developed utilizing a water budget analysis for a hydrologic base period that will include the following items: groundwater inflow; seepage from canals; seepage from intermittent streams; intentional recharge; deep percolation from irrigation; groundwater pumpage; consumptive use; and sewer export.

  (i) It is anticipated that the urban areas will be divided into several quadrants to perform a more granular water budget analysis.

  (ii) An additional water budget will be prepared for the Regional Wastewater Reclamation Facility that will include the following items: groundwater outflow; effluent percolation from ponds; deep percolation from effluent irrigation; recover well pumping; canal seepage; deep percolation from agriculture irrigation; and private well pumpage.

  (2) Existing Surface Water Supply - Assessment of existing surface water supply will include developing descriptions and evaluation of the quality and reliability of the City's: USBR Friant Division Contract Supply; Fresno Irrigation District Supply; Reclaimed Wastewater Exchange Supply; and East Fresno Stream Group Supply

  (a) Assumption: Assessment of these parameters will be based on readily available reference documents and information that quantify and provide estimates for historic and future water supply availability from these sources.

  (3) Recycled Water Supply – Review available wastewater flow data and projections, including seasonal variations. Coordinate wastewater flow projections with demand projections in Task 1.2. Document quality of recycled water sources (percolation ponds and tertiary treatment systems) for constituents of concern for reuse – particularly salinity.

(4) Demand Management Measures (DMM)- Update and provide a narrative description of the DMMs implemented by the City based on any changes to DMM implementation since the 2015 UWMP and revised DWR requirements. It is assumed data will be provided to update tables and figures from the 2015 UWMP.

(5) Stormwater - Assessment of stormwater resources will include evaluation of the City's, Fresno Metropolitan Flood Control District and Fresno Irrigation District's existing and planned stormwater infrastructure and operational data.

(a) Assumption: Assessment of these parameters will be based on readily available reference documents and information that quantify and provide estimates of stormwater capture and recharge capacity.

(6) Exchanges or Transfers – Assessment of existing Exchanges or Transfers will include evaluation of existing or previously completed exchanges or transfer agreements that City has entered into.

(7) Long-Term Water Supply Yield - Develop estimates of long-term water supply yield based on analysis of the City's existing water supply portfolio. Incorporate supply reliability estimates based on historic hydrology and available estimates of anticipated future water supply reliability for the City's water sources.

(8) Climate Change – Evaluate potential impacts climate change may have on City water supplies.

(a) Assumption: Climate change impact assessments will be based on previously completed studies on impacts of climate change on City and other water supplies.

1.4 Existing Water Resources Systems

- Review reference documents, compile relevant information, and develop description of City's existing Water Resources Systems. Description of water resource systems will include developing summaries of existing and planned infrastructure the following elements:

(1) Drinking Water System

(2) Wastewater System

(3) Recycled Water System

(4) Flood Control and Groundwater Recharge System

- Assumption: Assessment of City Water Resource Systems will not include hydraulic modeling. It is understood that hydraulic modeling needed to support assessment of the existing systems will be performed under a separate contract. Additionally, assessments of deficiencies in the existing Water Resource systems will be provided from previously completed studies or assessments.

1.5 Institutional Arrangements

- Review reference documents, compile relevant information, and develop description of City's existing Institutional Arrangements. Institutional Arrangements documentation will include description of existing and planned contractual or other arrangements for the following systems:
  - (1) Water Systems
  - (2) Wastewater Systems
  - (3) Flood Control and Storm Drainage
  - (4) Groundwater Quality and Management
  - (5) Local, State and Federal Water management regulatory and guidance documents
  - (6) Regional Land Use Planning

1.6 Existing System Assessment

- Analyze City's current water supply projections versus demand projections (e.g., status quo or no project alternative). Evaluate based on performance measures such as cost, supply yield, energy intensity/GHG emissions/environmental impact, and others.
- Develop Supply/Demand Evaluation Tool that incorporates historic and future estimates of water supply availability for the City's existing water supply sources and water demand.
- Perform a gap analysis to determine any differences between the City's supply yield and projected demands. Identify any potential surpluses or shortfalls in the City's water supply portfolio.

1.7 Admin Draft Report

- Prepare Admin Draft Report that summarizes the work completed in Phase 1.
- Implement WSC Quality Assurance and Quality Control (QA/QC) practices.
- Submit Admin Draft Report for City review and comment.

DELIVERABLE(S): Seven (7) hard-copies and one electronic copy of the Admin Draft Report.

1.8 Draft Report

- Prepare Draft Report that incorporates comments from the City on the Admin Draft Report.
- Complete WSC QA/QC practices.
- Submit Draft Report for City and stakeholder review and comments.

DELIVERABLE(S): Fifteen (15) hard-copies and one electronic copy of the Draft Report.

1.9 Final Report

- Prepare Final Report that incorporates comments from the City and stakeholders on the Draft Report.

DELIVERABLE(S): Fifteen (15) hard-copies and one electronic copy of the Final Report.

TASK 2.0 PHASE 2 - WATER SUPPLY ALTERNATIVES ANALYSIS

This phase includes assembling supply and infrastructure elements into alternatives to meet near-term and long-range demands, alternatives evaluation, and identification of the preferred alternative(s). The effort will be documented in the Phase 2 Report. The Phase 2 Report is expected to include the following topics:

1. Alternatives Development
   1.1. Water Supply Elements
   1.2. Element Screening
   1.3. Alternative Formulation
2. Alternative Evaluation
   2.1. Evaluation Criteria
   2.2. Alternatives Evaluation
   2.3. Economic Analysis
   2.4. Multi-Criteria Analysis
   2.5. Sensitivity Analysis
3. Preferred Alternative Summary

The outline above may be modified based on findings from the analysis in this phase, and with approval from the City.

2.1 Kick-off Meeting, Meetings (2) & Workshops (4)

Plan, organize, and conduct Meetings and Workshops to support Phase 2 Report development. Anticipated meetings for Phase 2 are:

(1) Phase 2 Kickoff Meeting

(a) Establish element screening and alternatives evaluation criteria

(b) Review water supply elements to validate applicability

(c) Preview potential alternative themes

(2) Phase 2 Admin Draft Review Meeting

(3) Phase 2 Draft Review Meeting

- Anticipated workshops for Phase 2 are:

(1) Preliminary Element Screening and Alternative Development Workshop

(2) Alternative Review Workshop

(3) Alternative Evaluation Workshop

(4) Preferred Alternative Review Workshop

- Assumptions. It is assumed that the Workshops/Meetings will be held in-person (if possible under COVID19 response actions) and will last for a duration of 4 hours attended by up to 4 WSC staff.

DELIVERABLE(S): Electronic copies of agenda and meeting materials at least five (5) working days prior to the meeting. Summary of action items within five (5) working days following the meeting.

2.2 Water Supply Elements Development and Screening

- Establish screening criteria for water supply elements, such as maximum high-level cost, minimum yield, reliability and feasibility.
- Develop and summarize Water Supply Elements for potential incorporation into Water Supply Alternatives
    (1) Up to 20 Water Supply Elements will be identified and characterized. Based on the RFP, the following elements will comprise the initial list of elements: 1 – Wastewater Reuse; 2 – Satellite Wastewater Reuse; 3 – Scattered Wells; 4 – Focused Recharge and Well Field; 5 – Plume Management; 6 – Intentional Recharge; 7 – Regional Surface Water Treatment Facilities; 8 – Small Package Surface Water Treatment Facilities; 9 – Water Conservation; 10 – Wastewater Reuse on Agricultural Lands; 11 – Untreated Surface Water Use for Public Landscape Irrigation; 12 – Additional Storage in the Kings River System; 13 – Additional Storage in the San Joaquin System; 14 – Adapting Flood Control Storage for Storage of Surface Supplies; 15 – Large-scale Water Importation; 16 – Cloud-seeding/Weather Modification; 17 – Desalination of Brackish Agricultural Drainage; 18 – Desalination of Seawater; 19 – Graywater; 20 – Other.
    (2) Characterize high level cost, yield, and reliability
- Screen water supply elements for potential inclusion in Water Supply Alternatives

2.3 Water Supply Alternatives Development

- Establish screening criteria for water supply alternatives. Based on the RFP, the following criteria will be considered: 1: Capital Costs; 2: Approximate Rate Impacts; 3: Water Budget Impacts; 4: Drought Resiliency; 5: Groundwater Response (qualitative); 6: Response to Regulatory Changes; 7: Compatibility with Phased Construction; 8: Ease of Implementation; 9: Environmental and Socioeconomic Impacts; 10: Ability to Accommodate Changing Land-Use Plans; 11: Maximize Availability of Supplies
- Develop and summarize different Water Supply Alternatives. Develop initial alternatives based on themes, such as surface water emphasis or recycled water emphasis, using screened elements. Alternatives must meet minimum level of service goals established in Phase 1, such as minimum drought yield and maximum unit cost.
    (1) Up to 10 alternatives or sub-alternatives are assumed, including Status Quo (No Project)

- Define alternatives characteristics to support multi-criteria evaluation, such as lifecycle cost, yield, reliability, permitting, phasing, and implementation considerations. Alternative descriptions will include operational considerations and physical facilities.

2.4 Alternatives Evaluation

- Conduct multi-criteria analysis of water supply alternatives
- Review findings with the City and select up to 3 alternatives for sensitivity and resiliency analysis. The process is iterative, and alternatives will likely be refined as they are evaluated prior to selection of a preferred alternative.
- Conduct sensitivity analysis that considers different criteria weightings and resiliency analysis that considers potential future scenarios, such as climate change or natural disasters. If a portfolio scores well in a sensitivity analysis, the analysis demonstrates the strength of the portfolio independent of weighting factors or scoring.
- Identify recommended alternative

2.5 Admin Draft Report

- Prepare Admin Draft Report that summarizes the work completed in Phase 2.
- Implement WSC QA/QC practices.
- Submit Admin Draft Report for City review and comment.

DELIVERABLE(S): Seven (7) hard-copies and one electronic copy of the Admin Draft Report.

2.6 Draft Report

- Prepare Draft Report that incorporates comments from the City on the Admin Draft Report. Complete WSC QA/QC practices.
- Submit Draft Report for City and stakeholder review and comments.

DELIVERABLE(S): Fifteen (15) hard-copies and one electronic copy of the Draft Report.

2.7 Final Report

- Prepare Final Report that incorporates comments from the City and stakeholders on the Draft Report.

DELIVERABLE(S): Fifteen (15) hard-copies and one electronic copy of the Final Report.

TASK 3.0 PHASE 3 - FUTURE WATER SUPPLY PLAN

This task entails conducting the work to develop the content and prepare the Prepare Phase 3 Report. The Phase 2 Report is expected to include the following topics::

1. **Future Water Supply Plan**
   1.1. Summary of Current Supply and Demand Conditions

7.7.5. Groundwater Recharge Facilities
7.7.6. Summary of O&M Costs

8. Plan Implementation

8.1. Recommended Facility Prioritization and Operational Strategies
8.1.1. Overview of Recommended Water supply Plan
8.1.2. Recommended Implementation Priorities
8.1.2.1. Water Conservation
8.1.2.2. Surface Water Treatment Facilities
8.1.2.3. Major Transmission Mains and Transmission Grid Mains
8.1.2.4. Groundwater Production and Wellhead Treatment Facilities
8.1.2.5. Groundwater Recharge
8.1.2.6. Recycled Water Facilities
8.1.2.7. New Water Supply Facilities
8.1.3. Recommended Water System Operational Strategies
8.1.3.1. Operational Strategy for Use of Treated Surface Water in Conjunction with Groundwater
8.1.3.2. Operational Strategy for Groundwater Recharge Basins
8.2. Allocation of Future Water Supply Plan Facility Costs
8.2.1. Estimated Costs for the Future Water Supply Plan
8.2.1.1. Capital Costs
8.2.1.2. Operational and Maintenance Costs
8.2.2. Cost Allocation to Existing Rate Payers and New Growth
8.2.2.1. Allocation Methodology
8.2.2.2. Allocation to Existing Rate Payers
8.2.2.3. Allocation to New Growth
8.3. Required Cash Flow
8.4. Potential Funding Sources
8.4.1. Potential Financing Options
8.4.2. Potential Cost-Sharing Opportunities
8.4.3. Potential Grant and Loan Opportunities
8.4.3.1. Federal Funding Programs
8.4.3.2. State Funding Programs
8.4.3.3. Other Potential Funding Programs
8.4.3.4. Applicability to the City's Future Water Supply Plan Projects
8.4.4. Funding Recommendations
8.4.4.1. Future Water System Revenue Bonds
8.4.4.2. Additional Studies
8.4.4.3. Pursuit of Available Grants and Loans
8.5. Institutional Plan
8.5.1. Institutional Plan Elements
8.5.2. Lead Agency Designation
8.5.3. Owner for Key CIP/O&M Components
8.5.4. Required Agreements
8.5.5. Key Planning and Policy changes
8.5.6. New Required Staff
8.5.7. Implementation Schedule

The outline above may be modified based on findings from the analysis in this phase, and with approval from the City.

3.1 Kick-off Meeting, Meetings (2) & Workshops (3)

- Plan, organize and conduct Meetings and Workshops to support Phase 3 Report development.
- Anticipated meetings for Phase 3 are:
  (1) Phase 3 Kickoff Meeting
    (a) Review preferred alternative
    (b) Develop vision for future water supply plan
  (2) Phase 3 Admin Draft Review Meeting
  (3) Phase 3 Draft Review Meeting
- Anticipated workshops for Phase 3 are:
  (1) Future Water Supply Plan Workshop
  (2) Future Water System Workshop
  (3) Implementation Plan Workshop
- Assumptions. It is assumed that the Workshops/Meetings will be held in-person (if possible under COVID19 response actions) and will last for a duration of 4 hours, attended by up to 4 WSC staff.

DELIVERABLE(S): Electronic copies of agenda and meeting materials at least five (5) working days prior to the meeting. Summary of action items within five (5) working days following the meeting.

3.2 Future Water Supply Plan

- Develop summary of current and future water supply and demand conditions.
- Develop summary of future water supply planning objectives and goals.
- Refine Supply/Demand Analysis Tool for submittal to City and inclusion with Phase 3 report.

3.3 Future Supplies

- Develop program specific elements from the Preferred Water Supply Alternative and the Future Water Supply Plan for the following supply components:
  (1) Additional Water Conservation Measures
  (2) Groundwater
  (3) Surface Water
  (4) Recycled Water
  (5) New Water Supply Sources

(6) Others (if applicable)

3.4 Infrastructure to Support Future Water Supply Plan

- Develop summary of the required infrastructure required to support the individual components of the Preferred Water Supply Alternative and the Future Water Supply Plan.
- WSC will coordinate with the hydraulic model consultant to perform various model scenarios to validate alternative project(s). WSC will provide the model consultant data, shapefiles, and other information needed to perform the necessary modeling scenarios. The hydraulic model consultant has a fully operational model of the City's water system.
- Develop project Capital and Operations and Maintenance cost estimates for each of the required infrastructure components.
- Assumption: Any hydraulic modeling necessary to support the development of the Infrastructure to Support Future Water Supply Plan and other required tasks will be performed under a separate contract.

3.5 Plan Implementation

- Develop an implementation plan that includes:
  - (1) implementation actions, including any potential challenges
  - (2) prioritized list of projects and a detailed 5-year CIP for near-term projects
  - (3) a timeline, including any triggers that would necessitate future water supply projects
  - (4) allocation of costs between existing rate payers and new development
  - (5) identification of financing options
  - (6) institutional planning needs
  - (7) recommended policies that can be used to guide City's water program

3.6 Admin Draft Report

- Prepare Admin Draft Report that summarizes the work completed in Phase 3.
- Implement WSC QA/QC practices.
- Submit Admin Draft Report for City review and comment.

DELIVERABLE(S): Seven (7) hard-copies and one electronic copy of the Admin Draft Report.

3.7 Draft Report

- Prepare Draft Report that incorporates comments from the City on the Admin Draft Report. Complete WSC QA/QC practices.
- Submit Draft Report for City and stakeholder review and comments.

DELIVERABLE(S): Fifteen (15) hard-copies and one electronic copy of the Draft Report.

3.8 Final Report

- Prepare Final Report that incorporates comments from the City and stakeholders on the Draft Report.
- Submit GIS shapefiles used to develop the report figures and Excel-based tool sets developed during preparing of Phase 1, Phase 2, and Phase 3 works, including: Groundwater Water Balance Tool, Decision Support Tool, and Supply / Demand Analysis Tool.
- Prepare PowerPoint Presentation for City Council. Make presentations to City Council.

DELIVERABLE(S): Fifteen (15) hard-copies and one electronic copy of the Final Report. Electronic copy of PowerPoint presentation for City Council.

TASK 4.0 PHASE 4 - PROGRAMMATIC/PROJECT ENVIRONMENTAL IMPACT REPORT

4.1 Kickoff Meeting and Review of Available Studies

- This task includes the steps needed to initiate the CEQA environmental review process, including the kickoff meeting and data gathering. As part of this task, we will undertake ongoing environmental coordination with the City.
- We will prepare for and organize a kickoff meeting with City staff. This meeting will occur at the opportune time in the Plan development process to maximize its value. This meeting will serve as a forum to review and confirm study objectives and establish an operational protocol. Working schedules will be finalized and details for scheduled tasks will be discussed. We will use this opportunity to collect any relevant studies and information not already transmitted. A communication plan will be presented during the kickoff meeting.

4.2 Project Description

- Prepare a Project Description for evaluation in the PEIR.
- Textual, tabular, and graphic presentation will be used as necessary to facilitate a thorough understanding of the proposed Plan Update and the specific projects considered. Any potential state or federal permit or consultation requirements will be noted. The project description will discuss features that have been incorporated into the Plan to minimize potential environmental or land use conflicts. A brief discussion of the environmental setting will also be provided. Up to 6 figures will be provided. The project description will include the following elements:

  (1) The location and boundaries of the proposed plan

  (2) A statement of objectives sought by the proposed plan, including the underlying purpose of the plan

  (3) A comprehensive project description and scope

  (4) A discussion of the benefits of the project

(5) A statement briefly describing the intended uses of the PEIR, including a list of the agencies that are expected to use the PEIR in their decision making; a list of permits and other approvals required to implement the project; and a list of related environmental review

(6) Consultation requirements required by federal, state, or local laws, regulations, or policies

- Assumption: This scope assumes two rounds of review / comment revisions from the City to be provided in a consolidated and electronic, editable format (i.e. track changes in MS Word)

4.3 Project Scoping

- As directed by the RFP, we have included preparation of a Notice of Preparation (NOP) as part of this scope. When an EIR is determined to be necessary, the lead agency need not prepare an Initial Study (Section 15060 (d) of the State CEQA Guidelines). Given the fact that the City has already determined that an EIR is required and the expeditious schedule for the Plan and accompanying CEQA document it is recommended that an Initial Study not be prepared. The NOP will be distributed to relevant responsible and trustee agencies, all cities and counties bordering the city of Fresno, and interested organizations and individuals; the distribution list for the NOP will be determined in coordination between the CEQA team, the Plan team and the City. Publication of the NOP will initiate a 30-day public scoping period for the PEIR.
- Attend and lead a public scoping meeting for the PEIR. We will prepare a sign-in sheet, comment cards, and a PowerPoint presentation for the meeting. We will review responses to the NOP, summarize the NOP comments in the PEIR, and incorporate responses to the comments into the development of the PEIR. If desired, coordination of a scoping meeting can be provided on a time and materials basis, if authorized in advance by the City.
- Assumption: This scope assumes one round of review and consolidated comments from the City on the NOP and draft distribution list.

4.4 Plan/Project Alternatives

- We will participate with City staff during the development of project alternatives. It is assumed that the City and WSC will select a “Preferred Plan Alternative” to be analyzed in depth in the PEIR and up to five (5) specific projects. State CEQA Guidelines require that the PEIR identify and develop a range of reasonable alternatives to the proposed project that meet most of the project objectives and reduce environmental impacts. The Alternatives section of the PEIR will consider the other alternatives as well as the No Project Alternative. The alternatives will be analyzed at a sufficient level of detail so that they could be adopted as the project if needed.
- Assumption: This scope of work assumes analysis of up to two (2) Plan-level alternatives, in addition to the No Project Alternative along with two alternatives aimed at reducing impacts associated with the specific projects included in the Plan Update.

4.5 Technical Reports

- This task involves the preparation of City-compliant technical studies in support of the PEIR. Detailed technical reports may be required for specific resource areas. This scope assumes that

technical studies to be prepared will consist of a Biological Resources Evaluation and a Cultural Resources Survey Report. Preparation of the technical reports will include consultation with applicable federal and state agencies with jurisdiction over resources in the project area.

- Traffic Impact Assessment – Depending on the type and size of the individual projects, a traffic impact assessment may be needed to support the CEQA analysis. However, because water infrastructure projects typically do not generate high levels of vehicle trips during operation it is anticipated that the traffic study would not be needed. If needed, the study would focus on impacts occurring during construction activities, including: a) calculation of vehicle miles traveled from construction worker trips as well as material transport to and from the site and b) impacts to traffic flow and resulting impacts on emergency access and roadway users from lane closures, staging areas, etc. The specific details around the size, type and location of specific projects, which are not known at this time, will determine whether a traffic impact assessment is necessary as well as the associated cost. For the purposes of this proposed scope of work, we have included a cost estimate of $20,000 for a future potential traffic impact assessment if needed.
- This list of technical studies represents our best professional estimate at this time regarding the studies likely required to be completed to support the PEIR. However, this list is subject to change through the project scoping process. We will notify the City immediately if additional environmental studies are determined to be necessary. If the public review process leads to a determination that additional issues are required for examination or that particular issues require a greater depth of analysis than proposed, additional budget and a modified scope may be required.
- Biological Resources Assessment - The scope for a biological resources assessment has been developed which represents the industry's standard requirements for a typical biological resources investigation. The scope for a biological resources assessment consists of data procurement, literature and database reviews, field surveys, and report preparation that would include a summary of our findings upon completion of the survey efforts. The objectives of the resultant biological report are to support analysis of impacts and development of avoidance, minimization and mitigation measures in accordance with CEQA.

    (1) Data Procurement. Obtain and evaluate baseline data (e.g., aerial photograph, topographic quadrangle, soil survey).

(2) Literature and Database Reviews. Review and evaluate background information regarding biological resources in the 2020 Metro Plan area (e.g., previously prepared reports, primary literature, Rincon project files, resource agency guidelines and technical reports). Review the official online species list from the United States Fish and Wildlife Service identifying federally listed, proposed, or candidate species that may potentially occur, or be affected by projects, in the Plan area. Review the California Department of Fish and Wildlife Rare Find (otherwise known as the California Natural Diversity Data Base) for reported occurrences of special status species within the 2020 Metro Plan area. In addition to the aforementioned database reviews, we will review the California Native Plant Society Inventory of Rare and Endangered Plants of California for reported occurrences of special status plant species within the study area.

(3) Field Survey. For areas identified as low potential for impact to biological resources, a vegetation map and potential species occurrence assessment will be generated based on desktop analysis only. Examples of these areas include urban, residential, and industrial areas, which have a low likelihood to support special-status species. We will conduct a reconnaissance-level biological survey of areas with proposed modifications to existing facilities or new planned facilities that are in areas identified as having moderate or high potential for special status species occurrence. Habitat types present and their suitability to support special status species will be documented. The identification and mapping of potential special-status wildlife species or habitat will be based on a suitability analysis only and does not include definitive presence/absence surveys of the species potentially present. That level of analysis would be premature at this time given the programmatic nature of the analysis.

(4) Reporting. We will prepare a comprehensive report describing the methods and results of the biological resources assessment, including a figure depicting terrestrial vegetation communities, habitat types and other biological features observed during the field reconnaissance survey. The intent of this report is to assist with future project design and/or mitigation planning efforts. A draft report will be submitted to the City for review and comment.

(5) Assumptions: It is assumed the project area to be surveyed is no more than 200 acres in size (assumes five project sites up to 40 acres each or a combination of five sites of various sizes totaling 200 acres or 40 miles of unpaved pipeline corridor at less than a 30% slope) and that the survey can be completed by two biologists over a period of two days. In each of these cases it is assumed the survey area is located in areas dominated by urban or suburban development or agricultural resources. If pipelines are located within paved areas, such as along roadway rights-of-way, a greater number of miles could be covered in the same amount of time because the survey would be done via windshield. This scope assumes two rounds of review / comment revisions on the draft report from the City to be provided in a consolidated and electronic, editable format (i.e. track changes in MS Word).

- Cultural Resources Evaluation - The Cultural Resources Technical Report will include a discussion of the archaeological and historical characteristics of the 2020 Metro Plan area, based upon readily available information. We will summarize applicable federal, state and local cultural resources regulations. The analysis will assess the existing setting information, and qualitatively determine the likelihood of impacting resources within the 2020 Metro Plan area as a result of future projects. As an industry standard, cultural resources studies are considered valid for up to five years; therefore, future projects within the current study area occurring more than five years from now may require reanalysis. The programmatic analysis does not include site visits or formal pedestrian surveys of the study area.

    (1) For the five specific projects included in the 2020 Metro Plan, we will prepare a project-level assessment at a level of detail commensurate with the level of detail and information available for each project at the time.

    (2) Cultural Resources Background Search. We will conduct a California Historical Resources Information System records search of the 2020 Metro Plan area at the Southern San Joaquin Valley Information Center (SSJVIC) located at California State University, Bakersfield. The primary purpose of the records search is to identify any previously recorded cultural resources known to exist within or near the Plan area. In addition to the archaeological inventory records and reports, an examination will be made of historical maps, the National Register of Historic Places, California Register of Historical Resources, the California Historical Resources Inventory, and the listing of California Historical Landmarks. The records search will also reveal the nature and extent of any cultural resources work previously conducted within the Plan area and adjacent vicinity. A map showing the results of the literature search including areas previously inventoried and previously recorded sites will be provided.

    We assume the SSJVIC will conduct this records search within a maximum direct expense of $1500. As part of the background research, we will request a records search of the Sacred Lands File from the Native American Heritage Commission (NAHC) and will contact individuals and/or organizations who may have knowledge of, or concerns with, historic properties in the area. As many as two telephone calls will be made to each of the contacts from the NAHC and local organizations to document “good-faith” efforts to follow-up and the results will be documented in a table.

(3) Cultural Resources Technical Study. Upon completion of the records search and literature review, we will conduct a survey of the five project-level site locations. Upon completion of the survey effort, we will prepare a technical report documenting the results of the cultural resources analysis, as well as provide programmatic management recommendations for cultural resources within the 2020 Metro Plan area. The report will be prepared following the California Office of Historic Preservation's Archaeological Resource Management Reports: Recommended Contents and Format, and will include a historic context, methods and impacts considerations. The report will include figures depicting the area surveyed and studied for cultural resources. Draft copies of the report (digital pdf) will be submitted to the lead agency for review and approval. We assume two rounds of comments from the local and federal lead agencies will be necessary. Once reviewed, digital copies of the final report will be prepared and submitted.

(4) Assumptions: No cultural resources requiring recordation or updating will be identified by the records search or field survey at any of the project-specific locations. Up to 50% of the specific project area will be in undeveloped or rural areas and will be surveyed on foot; the remainder of the specific project area will be in urban or built up areas and will be surveyed via windshield survey only. The cultural resources survey can be conducted by one cultural resources specialist over a period of five days and the survey will not identify any archaeological resources that require recordation or updating. A maximum of three built environment resources will be recorded and evaluated from the field survey. Included in this assumption is that up to 50% of the specific project area will be in undeveloped or rural areas and will be surveyed on foot; the remainder of the specific project area will be in urban or built up areas and will be surveyed via windshield survey only. The cultural resources survey can be conducted by one cultural resources specialist over a period of five days and the survey will not identify any archaeological resources that require recordation or updating. This equates to either 200 acres or approximately 40 miles of pipeline route. This estimate assumes the pipeline route is unpaved and is in terrain in less than 30 degrees slope. For pipeline located within paved areas, such as along roadway right-of-way, a greater number of miles could be covered in the same amount of time because the survey would be done via windshield. Should any additional cultural resources be identified during the survey, the budget would need to be augmented to record or update the resources. No subsurface testing will be conducted, nor will any artifacts, samples, or specimens be collected.

4.6 Admin Draft PEIR

- The PEIR will be prepared in accordance with the State CEQA Guidelines, which set the standards for adequacy of an EIR. Specifically, the State CEQA Guidelines declare that:

- An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible.
- The analysis will rely on available technical reports to streamline the analytical effort, including the previous certified EIR for the Metro Plan. The overall approach to the analysis will be to verify and utilize existing data, supplemented where necessary with new information or modeling, to create a PEIR that maximizes the use of performance standards and/or policies to ensure that implementation of future projects under the 2020 Metro Plan requires minimal or no subsequent environmental review as the design progresses.
- Prepare an Admin Draft PEIR for review by the City. This shall include completion of a table of contents, preparers and reference chapters. This scope assumes two rounds of review by the City, with all comments in each round being provided in a compiled and editable format (i.e. track changes).
- Meet with the City to discuss any concerns, modifications, and input to the analysis and proposed mitigation measures. We assume all comments will clearly indicate the requested changes. It will be the responsibility of City staff to resolve internal inconsistencies among the various commenters.
- Executive Summary - We will prepare a summary of the proposed project and associated environmental consequences. This information will be presented in tabular format to simplify review by decision-makers and the general public. This section will summarize project impacts and proposed mitigation measures. The summary will also note areas of known controversy and will summarize the alternatives reviewed and their associated impacts. The summary will also identify the environmentally superior alternative and rationale for its selection as such.
- Introduction and Environmental Setting - We will prepare an Introduction and Environmental Setting for inclusion in the PEIR. This section will introduce the proposed project and summarize the PEIR process and purpose/use of the PEIR. This section will also explain how the PEIR will be used for subsequent environmental reviews of projects under the 2020 Metro Plan. In addition, the Introduction will provide relevant background information discussion, including but not limited to the organization of the PEIR and previous planning efforts.

  The environmental setting will provide narrative and map descriptions of the existing environment. The 2020 Metro Plan area and facilities will be illustrated on mapping. In addition, the geographic character of the area will be described and illustrated here, including land use/zoning, vegetation, wetlands, floodplains and wildland fire hazard zones.

- Environmental Impact Analysis - Each environmental issue addressed in the PEIR will have four main subsections:

  (a) Setting

(b) Impact analysis

(c) Mitigation measures

(d) Level of significance after mitigation

The prelude to the topic-specific environmental analysis will include an explanation of how the impact analysis will proceed. It is important to set forth the general analytical framework for addressing the potential impacts and mitigation of future projects under the 2020 Metro Plan. The PEIR will evaluate impacts of the overall program, and detailed impacts of up to five specific projects for a hybrid analysis approach. Where possible, impacts will be quantified. If existing data does not allow definitive quantification, reasonable assumptions will be used to qualitatively forecast potential impacts. Mitigation will take the form of a mitigation framework for future projects in conjunction with the subsequent environmental review process, as needed, and will be based upon mitigation measures identified in the 2014 PEIR for the 2014 Metro Plan, where practicable.

All environmental topics identified in the 2020 CEQA Guidelines will be addressed in the PEIR for the 2020 Metro Plan. The discussion below provides an overview of the approach and anticipated impact types for each environmental topic. As each impact analysis section is prepared, we will compile source reports and other data for inclusion in the administrative record. The State CEQA Guidelines include the following topics:

(1) Aesthetics

(2) Agricultural Resources

(3) Air Quality

(4) Biological Resources

(5) Cultural Resources

(6) Energy

(7) Geology and Soils

(8) Greenhouse Gas Emissions

(9) Hazards and Hazardous Materials

(10) Hydrology and Water Quality

(11) Land Use/Policy Consistency

(12) Mineral Resources

(13) Noise

(14) Population/Housing

(15) Public Services

(16) Recreation

(17) Transportation

(18) Tribal Cultural Resources

(19) Utilities and Service Systems

(20) Wildfire

The technical approach to analyzing each potential environmental issue is described below. Based on our understanding of the project, the following environmental issues will be addressed in detail in the EIR: Aesthetics, Agricultural Resources, Air Quality, Biological Resources, Cultural Resources, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use, Noise, Public Services and Utilities and Service Systems. The remaining issue areas will be address in a section termed Effects Found Not to be Significant.

- Aesthetics, Light and Glare - Construction of the projects considered in the 2020 Metro Plan may cause impacts to the visual environment due to the presence of construction vehicles and equipment. In general, project components are anticipated to be visually compatible with existing and surrounding land uses once constructed. Aesthetic impacts will be evaluated from public viewpoints. The analysis will include review of the visual resource sensitivity of the Plan area, including any scenic resources identified in local planning documents (such as scenic vistas, and scenic highway designation). Photos showing views of the five project sites will be provided to help depict the visual character of the specific sites and the immediate project areas. If necessary, mitigation measures may include screening to buffer views of the project sites from nearby sensitive resources.

  (1) Assumptions: This scope does not include preparation of visual simulations for any of specific projects included in the Plan.

- Agriculture and Forestry Resources - The majority of the service area is designated as “Urban-Built Up Land.” The PEIR will confirm whether there will be an effect on farmland or forestland and whether the 2020 Metro Plan would convert such lands to another use. The analysis will be based on a desktop review only and no field work is anticipated to be required.

- Air Quality - The air quality section will be prepared in accordance with the methodologies outlined in the San Joaquin Valley Air Pollution Control District (SJVAPCD) guidelines. The PEIR will include a detailed discussion of the current air quality setting within the local airshed along with local climatic and air pollution data from local air monitoring stations. Emission factor data, when not identified in the SJVAPCD guidelines, will be obtained from EPA AP-42, Compilation of Air Pollutant Emissions Factors, Third Edition, and any updates published by the U.S. EPA. The motor vehicle constituents of concern include reactive organic gases, nitrogen oxide, carbon monoxide, and particulate matter. Significance criteria will be based on SJVAPCD thresholds.

  Construction emissions will be estimated for the Preferred Alternative using estimates of the types of equipment needed for individual construction projects for the worst-case day during construction using the California Emissions Estimator Model (CalEEMod) software. It is

anticipated that the worst-case day analysis at the Plan level will provide a reasonably conservative estimate of the emissions also associated with the five specific projects and a separate air quality model run for each project will not be required.

The section will include a qualitative discussion and analysis of odor or improvements to control due to types of facilities expected to be proposed.

Where necessary, the PEIR will identify programmatic measures required to mitigate air quality impacts identified, such as:

(1) Dust control measures during construction

(2) Measures to minimize or avoid stationary source emission impacts

(3) Proposed measures to minimize odor impacts

(4) Community Plan design guidelines or standards to promote alternative trip modes

(5) Measures to minimize engine idling

(6) Development of an air impact fee program

- Biological Resources - The impact analysis will be based on the Biological Resources Assessment and will evaluate the Plan's impacts relative to both state and federal requirements as well as locally recognized thresholds of significance. It will include analysis of both direct and indirect impacts as well as temporary impacts that may occur during construction of projects envisioned by the Plan. The Biological Resources Assessment prepared under Task 5.1 will inform the analysis in this section of the PEIR.

  Avoidance, minimization, and mitigation measures will be developed for all impacts identified. Mitigation measures will focus on measures that will be required to ensure the proposed project adequately avoids, minimizes, and mitigates potential impacts to regulated biological resources.

- Cultural Resources - The PEIR section will be based on the Cultural Resources Study described previously and will include a discussion of the archaeological and historical setting of the Plan area along with the sites of the five projects identified in the Plan, a description of impacts based on the cultural resources technical report and any additional information, and identification of mitigation measures for identified impacts. The section will summarize applicable federal, state and local cultural resources regulations. The analysis will assess the existing setting information and qualitatively determine the likelihood of impacting resources resulting from Plan implementation. Mitigation measures will be proposed, as appropriate, to reduce potential impacts to cultural resources, where practicable.

- Energy - As of January 3, 2019, Appendix G of the State CEQA Guidelines now requires a discussion of the energy impacts of proposed projects, with an emphasis on avoiding or reducing wasteful consumption of energy and supporting applicable renewable energy plans. The analysis will consider at a programmatic level the Plan's energy requirements and quantify, as feasible, the energy use efficiencies by amount and fuel type at a programmatic level, including construction and operation of the individual projects, and the degree to which the Plan complies with existing energy standards and local plans for energy efficiency. This analysis will describe program commitments, design features, and mitigation measures, if necessary, to minimize and reduce the Plan's consumption of fuel and energy.
- Geology and Soils - The 2020 Metro Plan area is largely previously disturbed and developed. The analysis in the PEIR will summarize the results of existing geotechnical investigations prepared for previous projects, if available, and identify existing regional and site-specific geology and soils constraints (such as liquefaction, compressible soils, and subsidence).

  Under the 2020 CEQA Guidelines, Paleontological Resources will also be addressed under Geology and Soils. We will conduct a paleontological resources assessment to identify the geologic units within the 2020 Metro Plan area, determine the paleontological sensitivity of geologic units, assess potential for impacts to paleontological resources, and recommend mitigation measures to avoid, minimize or mitigate impacts to scientifically significant paleontological resources. We will conduct a formal paleontological locality search to provide documentation of any previously recorded paleontological resources from within the Plan area or within outcrops of the same geologic units that occur in the vicinity. Published and unpublished literature and geologic maps will be reviewed in order to assess the paleontological resource potential of the study area. The analysis of paleontological resources will discuss the regulatory setting for paleontological resources, the geology of the project area in terms of paleontological sensitivity, present the results of the paleontological sensitivity analysis, summarize and discuss previously recorded fossil localities within the project areas (if any), provide an assessment of potential impacts to paleontological resources from project development, and present paleontological resource mitigation recommendations.

  (1) Assumption: Direct cost of the formal locality search will not exceed $500 and no paleontological field survey will be required.
- Greenhouse Gas Emissions - The PEIR will evaluate impacts related to greenhouse gases (GHGs) and climate change. We will analyze impacts associated with construction and operational GHG from the project, as well as project consistency with available local plans. The analysis will quantitatively assess project-related GHG emissions using CalEEMod. We will briefly describe the status of applicable regulations such as Assembly Bill 32 (Global Warming Solutions Act), Senate Bill 97, and Senate Bill 32, taking into account the Senate Bill 32 GHG reduction target of 40 percent below 1990 levels by 2030. If significant GHG emissions impacts are identified, mitigation measures will be developed to avoid, minimize or mitigate such impacts to less than significant levels, if feasible.

The scientific knowledge, governmental regulations, and case law surrounding the analysis of GHG emissions under CEQA is constantly evolving and is currently being litigated in a variety of court cases across California. Additionally, lead agencies have discretion to develop their preferred approach to performing climate change analysis for projects and may adjust their views on acceptable methodologies on pace with changes in scientific knowledge and regulatory schemes. As such, the appropriate methodologies to evaluate the significance of project-level GHG emissions are subject to change at any time. This scope represents our best understanding of currently accepted methodologies.

We will work closely with the City to coordinate information regarding sustainability features that may be included in the projects considered under the Plan. If the projects will include features to reduce energy use at the site, GHG emissions reductions from project sustainability features will be calculated using CalEEMod, and the net decrease in total Plan GHG emissions will be identified.

- Hazards and Hazardous Materials - Hazard conditions associated with the proposed project will be examined in the PEIR, based upon publicly available data from agency databases, field observations, and technical studies provided by the City, if any. This scope does not include site-specific soil contamination studies due to the programmatic nature of the PEIR. Should analysis of the existing environment for hazards indicate that study of site-specific soil contamination conditions is warranted for future work on a given project site, we will recommend that analysis be conducted at a project level, rather than programmatic. We will provide program-level mitigation, if needed, establishing performance standards to address hazardous materials concerns if site-specific analysis is to be conducted at a later date.

    (1) Assumption: No site-specific soil contamination studies will be prepared.

- Hydrology and Water Quality - We will summarize existing water quality conditions in the Plan area. The characteristics of the local watershed will be characterized, impaired streams within the watershed will be identified, and flood hazard zones will be described using FEMA and other publicly available mapping. We will assess existing runoff conditions and character of surface water features and will programmatically evaluate the impacts of the Plan on surface runoff and changes in drainage patterns. Changes to the groundwater table as a result of Plan implementation will be based on the results of the water budget analysis. We will summarize the hydrologic and water quality setting, relevant regulatory framework, potential impacts, level of significance, and mitigation measures necessary to reduce impacts.

- Land Use/Policy Consistency - This section will discuss general land use compatibility, as necessary, but will focus on the consistency of the 2020 Metro Plan with the applicable local and regional planning documents, such as the City of Fresno General Plan. The 2020 Metro Plan projects are expected to be consistent with existing policies and ordinances, and this will be confirmed in the analysis.

- Mineral Resources - According to the City of Fresno General Plan EIR, the San Joaquin River resource area, which contains a high concentration of aggregate materials, is located in the City's sphere of influence. This section will discuss impacts to mineral resources and will determine whether any project elements of the 2020 Metro Plan overlap with the San Joaquin River resource area. Impacts to mineral resources are not anticipated based on information from applicable plans and regulations.
- Noise - No long-term increase in peak hour trip generation is anticipated from the 2020 Metro Plan; therefore, the analysis will focus on long-term changes to equipment noise throughout the Plan area. The analysis will review applicable City noise and land use compatibility criteria for the Plan area. For each of the five specific projects, up to three short-term noise level measurements will be conducted on and around the sites (up to 15 total measurements).

  Construction noise will be estimated at nearby sensitive receptors and evaluated in terms of maximum levels (Lmax) and hourly equivalent continuous noise levels (Leq). Impacts associated with construction vehicular traffic will be assessed using the U.S. Federal Highway Traffic Noise Model (TNM) based on information to be provided by the City. In some cases, the individual components of the proposed projects may contribute to an overall reduction in noise generated by on-site equipment, given ongoing improvements in technology. Mitigation measures will be provided as necessary that establish noise performance standards to reduce impacts to less than significant levels.

  (1) Assumption: Up to 15 short-term noise measurements will be conducted; 24-hour noise measurements are not anticipated to be required and are not included in this scope.
- Population/Housing - Implementation of the 2020 Metro Plan would occur in line with the current City of Fresno General Plan, including with respect to growth projections for population and housing. The PEIR will provide information and analysis to demonstrate that the 2020 Metro Plan would not result in growth inducement or residential displacement.
- Public Services - This analysis will evaluate the 2020 Metro Plan's effects related to the provision of services, including fire, law enforcement, educational, and recreational services. Data sources will include readily available documents, including contact with local service providers. The 2020 Metro Plan is not anticipated to impede or require expanded or revised public services.
- Recreation - The PEIR will assess potential impacts of the 2020 Metro Plan to nearby recreational resources and opportunities. The 2020 Metro Plan is not anticipated to affect recreational facilities, resources, or opportunities.

- Transportation - The PEIR will qualitatively describe traffic and transportation conditions in the 2020 Metro Plan service area. This section will qualitatively analyze anticipated operational and construction-related impacts resulting from implementation of the 2020 Metro Plan. Operation of projects considered by the Plan are anticipated to result in trip generating uses similar to current conditions. However, construction of the project could have the potential to create temporary increases in trips, and temporary impacts to transportation facilities (e.g. lane closures associated with installation of in-road facilities). Mitigation is likely to focus on control measures, such as coordination with agencies and effective development and implementation of traffic control plans during construction. Also, given the timing of the EIR a vehicle-miles traveled (VMT) analysis will be required per the updated State CEQA Guidelines. While VMT increases are anticipated to short-term and temporary and related primarily to construction activities, the analysis will make an estimate of construction-related VMT and characterize this construction phase impact; anticipated to be less than significant.

    (1) Assumption: Based on information available at this time it is assumed a qualitative analysis will be sufficient to inform the analysis of the project and a quantitative traffic impact analysis prepared by a traffic engineering firm will not be required. However, if based on discussions with the City and/or the scoping process it is determined a full traffic impact analysis is needed, we have established relationships with a number of local traffic firms who we would bring on in a subconsultant role to assist with this effort.

- Tribal Cultural Resources - Tribal cultural resources were not addressed in the 2014 PEIR and will be addressed in accordance with the 2020 CEQA Guidelines. Under Assembly Bill 52, the CEQA lead agency is required to begin consultation with California Native American tribes traditionally and culturally affiliated with the project area prior to the release of the CEQA document. We will assist the City with undertaking a good faith effort at consultation for Assembly Bill 52 as described below.

    (1) Preparation of the Tribal Cultural Resources section of the PEIR will analyze the 2020 Metro Plan's potential impacts on tribal cultural resources. To prepare this analysis, we will review the draft plan and proposed future projects as well as information obtained during Assembly Bill 52 consultation between the City and interested tribes. We will assist the City with government-to-government Native American consultation as follows:

        (a) Prepare the Assembly Bill 52 consultation letters to be placed on City letterhead

        (b) Prepare and submit a Native American Heritage Commission (NAHC) Sacred Lands File request

        (c) Prepare a tracking sheet and instructions to be provided to the City; instructions will include details regarding schedule and timelines associated with Assembly Bill 52 to ensure timely consultation

(d) If meetings with Native Americans are necessary, we will be available to provide additional assistance on a time-and-materials basis, if requested.

We will collect regional background information on tribal cultural resources that could be affected by the 2020 Metro Plan. The collected information will include the NAHC Sacred Lands File Search, reviews of regional ethnographic information, information from relevant past projects, and information provided through government-to-government tribal consultation in accordance with Assembly Bill 52. We are acutely sensitive to tribal concerns in the area and will provide the support necessary to facilitate a communicative and streamlined consultation process.

- Utilities and Service Systems - The PEIR will evaluate the 2020 Metro Plan's potential impacts to existing infrastructure, including with respect to water, wastewater, and solid waste facilities. Construction activities would temporarily generate solid waste such as soil, concrete, and other removed materials; the PEIR will describe that solid waste generated by construction of individual projects would be disposed of in accordance with all applicable statutes and regulations and will evaluate whether nearby landfills have the capacity to accept solid waste generated by project construction activities. This section will further discuss how the project relates to conformance with applicable Regional Water Quality Control Board wastewater treatment requirements, the impacts on-or of- any related utility improvements (e.g. stormwater improvements), required water supply entitlements, or wastewater expansion.
- Wildfire - This section will include a discussion of the Plan area along with mapping of very high fire hazard severity zones with respect to facilities included in the Plan. This section will address the potential for implementation of the Plan to impair an emergency response plan or emergency evacuation plan; exacerbate wildfire risks due to slope, prevailing winds or other factors; require installation or maintenance of infrastructure which may exacerbate fire risk; expose people or structures to downstream flooding or landslides from postfire slope instability or drainage changes.
- Alternatives - The alternatives developed as described above will be evaluated at a level of detail that will provide decision-makers and the public adequate information to decide among alternatives. For each of the selected alternatives, each environmental issue area will be briefly evaluated in a qualitative manner to determine whether the alternative would have the potential to result in greater, similar, or reduced environmental impacts when compared to the impacts of the preferred alternative. Where appropriate and feasible, quantitative comparisons will be provided. The results of the alternatives analysis will be summarized graphically in a comparison matrix. This section will also identify the "environmentally superior alternative." If the No Project Alternative is determined to be environmentally superior, the PEIR will identify the environmentally superior alternative among the remaining scenarios.
- Other CEQA-Required Sections - The PEIR will include all other sections required by the State CEQA Guidelines, including growth inducing impacts and irreversible significant effects.

The growth-inducing impacts section of the PEIR will focus on the extent to which implementation on the 2020 Metro Plan will serve as the removal of a barrier to growth. This evaluation will be based on project growth trends relative to infrastructure capacity, as coordinated in local and regional planning documents, such as the General Plan and its PEIR.

DELIVERABLE(S): Seven (7) hard-copies and one electronic copy of the Admin Draft PEIR.

4.7 Public Draft PEIR

- After receiving comments regarding the Administrative Draft PEIR, we will revise the PEIR to address comments, and produce the public Draft PEIR with Technical Appendices. Upon receiving clearance, we will print and deliver 15 printed copies, one electronic PDF file and one electronic MS Word document. We will be responsible for posting of all notices, including posting the Notice of Availability with the County Clerk and State Clearinghouse. We will coordinate with the City to prepare a list of recipients of the Notice of Availability and prepare the Notice of Availability, which can also function as the newspaper notice.
- The consultant team shall prepare for and attend two public hearings or meeting in support of the project. The public hearings/meetings will include a presentation of environmental components of the PEIR and a response to technical questions that arise during the public hearing. Following the public hearings/meetings, meeting notes will be prepared, and written and oral comments will be collected and summarized for submittal to the City for review.
- Assumption: This scope includes up to two rounds of consolidated comments from the City on the Administrative Draft PEIR prior to preparation of the Public Review Draft PEIR. We assume the City will be responsible for publication of the Notice of Availability in a newspaper of general circulation and payment of any publication and filing fees. We can coordinate these efforts, if desired, for an additional cost.
- Complete WSC QA/QC practices.

DELIVERABLE(S): Fifteen (15) hard-copies and one electronic copy of the Public Review Draft PEIR.

4.8 Final PEIR and MMRP

The final formal stages of the PEIR process involve responding to comments, public hearings, and final publication tasks.

- Response to Comments/Administrative Final PEIR - Following the close of the public review period, we will review the comments and schedule a meeting with the City to discuss key comments and approaches for response. Comment letters will be annotated to relate comments with responses. Responses will focus on comments raising an environmental concern and generally rely on substantial evidence already in the Draft PEIR, as well as supplemental clarification or explanation. We will prepare draft Response to Comments for City review. Revisions to the Draft PEIR will be in an Errata format/section indicating what section is being modified, with content changes identified in a strikeout (for deletions) and underline format (for additions).

(1) Assumption: No more than 20 comment letters will be received, and no more than 60 hours of professional time will be required to respond to public comments on the Draft PEIR. This scope assumes two rounds of review/comment revisions from the City, with comments provided in a consolidated and editable format (i.e. track changes).

- Publication of the Final PEIR - We will revise the Final PEIR based on City comments. We will distribute the responses to comment to agencies which commented on the Draft PEIR, via certified mail or other trackable delivery means. In accordance with CEQA requirements, distribution will take place at least 10-days prior to certification of the PEIR by the City. We will provide 15 printed copies, one electronic PDF file and one electronic MS Word document.

(1) Assumption: The consultant team shall prepare for and attend one public hearing on the Final PEIR.

- Findings of Fact - We will prepare the CEQA findings for the project. CEQA Guidelines §15091 requires that no public agency approve or carry out a project, for which an EIR has been completed and identifies one or more significant effects, unless the public agency prepares findings for each significant effect. The findings will include information related to whether those significant impacts identified in the PEIR will be reduced to below a level of significance by mitigation measures identified in the PEIR. CEQA Guidelines §15093 requires when an agency approves a project which will have a significant adverse environmental effect that is unavoidable, the agency must make a Statement of Overriding Considerations. If a significant and unavoidable impact is identified in the PEIR, we will prepare the Statement of Overriding Considerations. We will provide an administrative draft of the CEQA findings to the City for review and comment, and then incorporate one round of consolidated City comments into a final document.
- Notice of Determination - We will prepare and file the Notice of Determination with the County Clerk and the State Clearinghouse in conjunction with the City. We assume the City will provide the required administrative and California Department of Fish and Wildlife filing fees prior to filing.
- Mitigation Monitoring and Reporting Program - A Mitigation Monitoring and Reporting Program (MMRP) will be prepared in accordance with CEQA. The MMRP will be provided as a separately bound document from the Final PEIR. The MMRP will be prepared with the Final PEIR, to capture potential revisions associated with reviews of the Draft PEIR. The MMRP will include implementation measures appropriate for future projects under the 2020 Metro Plan, and will identify the appropriate party responsible for implementation, monitoring, capital costs, and confirmation of implementation. The MMRP will be designed to facilitate accomplishment of the 2020 Metro Plan goals.

(2) Assumption: This scope assumes two rounds of review / comment revisions from the City to be provided in a consolidated and electronic, editable format (i.e. track changes in MS Word).

DELIVERABLE(S): Fifteen (15) hard-copies and one electronic copy of the Draft Report.

TASK 5.0 2020 UWMP

Develop a 2020 UWMP according to the 2020 DWR UWMPs Guidebook for Urban Water Suppliers and meet all requirements of California Water Code, §10610-10656 and §10608. The guidebook has not been released. Therefore, the scope and level of effort are based on our understanding of potential requirements. This may need to be revisited once the guidebook is released.

- Assumption: It is assumed that the City's existing Water Shortage Contingency Plan (WSCP) and related information will be used to update the WSCP. WSC will provide suggestions for modifying the WSCP to the City on how the existing plan might be modified to be consistent with guidelines established by DWR. It is assumed that WSC will adapt existing information to DWR's new requirements to the extent possible with information provided by the City. Any additional analysis or information needed to meet DWR's requirements is not included within the Cost Proposal for this task.

5.1 Kickoff Meeting & Workshops (3)

- By January 2021, plan, organize, and conduct Kickoff Meeting
  (1) Discuss and agree on assumptions for use in the UWMP knowing that the Phase 2 Metro Plan work will not be complete in time for full incorporation into the UWMP. Key assumptions include: supply projections and priorities; conservation measures
- Attend and conduct up to three (3) workshops with City staff to develop chapters, concepts, goals.

5.2 Preliminary UWMP Sections

- Prepare UWMP sections as the content is developed during Phase 1 Metro Plan activities.

5.3 Admin Draft UWMP

- Compile full UWMP report consistent with legislative and DWR guideline requirements.
- Implement WSC Quality Assurance and Quality Control (QA/QC) practices.
- Submit to the City for review and comment.

DELIVERABLE(S): Seven (7) hard-copies and one electronic copy of the Admin Draft UWMP.

5.4 Public Draft UWMP

- Prepare Public Draft UWMP that incorporates comments from the City on the Admin Draft Report. Complete WSC QA/QC practices.
- Submit Public Draft UWMP to City for distribution.
- Prepare PowerPoint Presentation for Public Outreach Events.

DELIVERABLE(S): Twenty (20) hard-copies and one electronic copy of the Public Draft UWMP

WSC
WATER SYSTEMS CONSULTING, INC.

2020 Classifications and Rates

Labor Classification	Hourly Rate
Engineers / Project Managers / Planners / Hydrogeologists	
Engineering Intern	$115
Assistant	$135
Staff I	$145
Staff II	$155
Staff III	$165
Associate I	$180
Associate II	$190
Associate III	$200
Senior I	$220
Senior II	$230
Senior III	$240
Principal I	$250
Principal II	$280
Principal III	$305
Outreach and Communications	
Communications Support I	$120
Communications Support II	$140
Communications Support III	$160
Outreach Specialist/Facilitator I	$175
Outreach Specialist/Facilitator II	$220
Outreach Specialist/Facilitator III	$265
CAD Design Services	
Technician/Designer I	$120
Technician/Designer II	$135
Technician/Designer III	$155
Inspection Services	
Inspector I	$125
Inspector II	$140
Inspector III	$165
Inspector (Prevailing Wage)	$170
Administrative Services	
Administration/Clerical I	$120
Administration/Clerical II	$130
Administration/Clerical III	$145

10% mark-up on direct expenses; 10% mark-up for sub-contracted services

Standard mileage rate $0.57 per mile (or current Federal Mileage Reimbursement Rate)

Airplane mileage rate $1.27 per mile (or current Federal Airplane Mileage Reimbursement Rate)

Rates are subject to revision as of January 1 each year.