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Agenda Item: ID#15-306 (10:30 A.M.)

Date: 4/30/15

2015 APR 29 AM 8 11



Supplemental Information Packet

Agenda Related Item(s) – ID#15-306

Contents of Supplement: PowerPoint Slides

Item(s)

WORKSHOP: Drought Management Planning and Status Report

Supplemental Information:

Any agenda related public documents received and distributed to a majority of the City Council after the Agenda Packet is printed are included in Supplemental Packets. Supplemental Packets are produced as needed. The Supplemental Packet is available for public inspection in the City Clerk's Office, 2600 Fresno Street, during normal business hours (main location pursuant to the Brown Act, G.C. 54957.5(2)). In addition, Supplemental Packets are available for public review at the City Council meeting in the City Council Chambers, 2600 Fresno Street. Supplemental Packets are also available on-line on the City Clerk's website.

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CITY CLERK, FRESNO, CA



New Water Now

Drought Management Planning and Status Report

April 30, 2015

Workshop Agenda



- Review Requirements of Governor's Executive Order
- Review City's Compliance Plan for Critical Items in Governor's Executive Order
- Review Current Water Use Patterns
- Review Stage 3 Water Restrictions
- Review Proposed Drought Management Plan
- Questions

Governor's Executive Order

April 1, 2015



Executive Order directs the State to implement 31 measures to achieve 25% statewide water conservation. Measures best implemented by the City include:

- City shall reduce per capita water consumption by 28% as compared to 2013, beginning June 2015, through February 28, 2016.
- Prohibit the irrigation of ornamental turf on public street medians.
- Prohibit landscape irrigation for newly constructed homes and buildings unless irrigation is by drip system or micro-spray system.
- Incorporate the State's Water Efficient Landscape Ordinance into the City's new Development Code.

FINAL Emergency Drought Regulations adopted by State Water Resources Control Board on May 5th or 6th. Other agencies follow.

28-Percent Per Capita Reduction



State Water Resources /Control Board Data, April 17, 2015

2013/2014 Jun-Feb	2014/2015 Jun-Feb	Water Savings		Jul - Sep 2014 R-GPCD	Conservation Standard
		Gallons	Percent		
36,603,191,424	30,513,707,650	6,089,483,774	16.6%	150.7	28%

Drought Emergency Regulation (April 17, 2015)

(8) Each urban water supplier whose average July-September 2014 R-GPCD was **between 130 and 169.9** shall reduce its **total** water usage by 28 percent for each month as compared to the amount used in the same month in 2013.

28-Percent Per Capita Reduction



GPCD Calculation Based on Residential Water Usage Only

DATA TYPE	2013 Usage	2014 Usage
	Gallons	Gallons
Subtotal - Multi-Residential	7,036,331,961	6,659,239,003
Subtotal - Single Family Residential	24,779,796,046	21,898,710,466
Total Residential Consumption	31,816,128,007	28,557,949,469
Total Population	509,924	515,000
Gallons Per Capita Per Day	171	152

28-Percent Reduction (Jul, Aug, Sep)



Month	2013 Total Production	2014 Total Production	Water Use Reduction 2013 vs 2014		28% Reduction Goals	2015 vs 2014 Reduction Required
			Gallons	Percent		
July	5,679,261,140	5,252,463,270	426,797,870	7.52%	1,590,193,119	1,163,395,249
August	5,520,435,490	4,613,598,690	906,836,800	16.43%	1,545,721,937	638,885,137
September	4,756,169,230	4,104,822,160	651,347,070	13.69%	1,331,727,384	680,380,314

PER CAPITA REDUCTION REQUIREMENT

- July:** 72.8 gallons per day less
- August:** 40.0 gallons per day less
- September:** 44.0 gallons per day less

Proposed Drought Management Plan

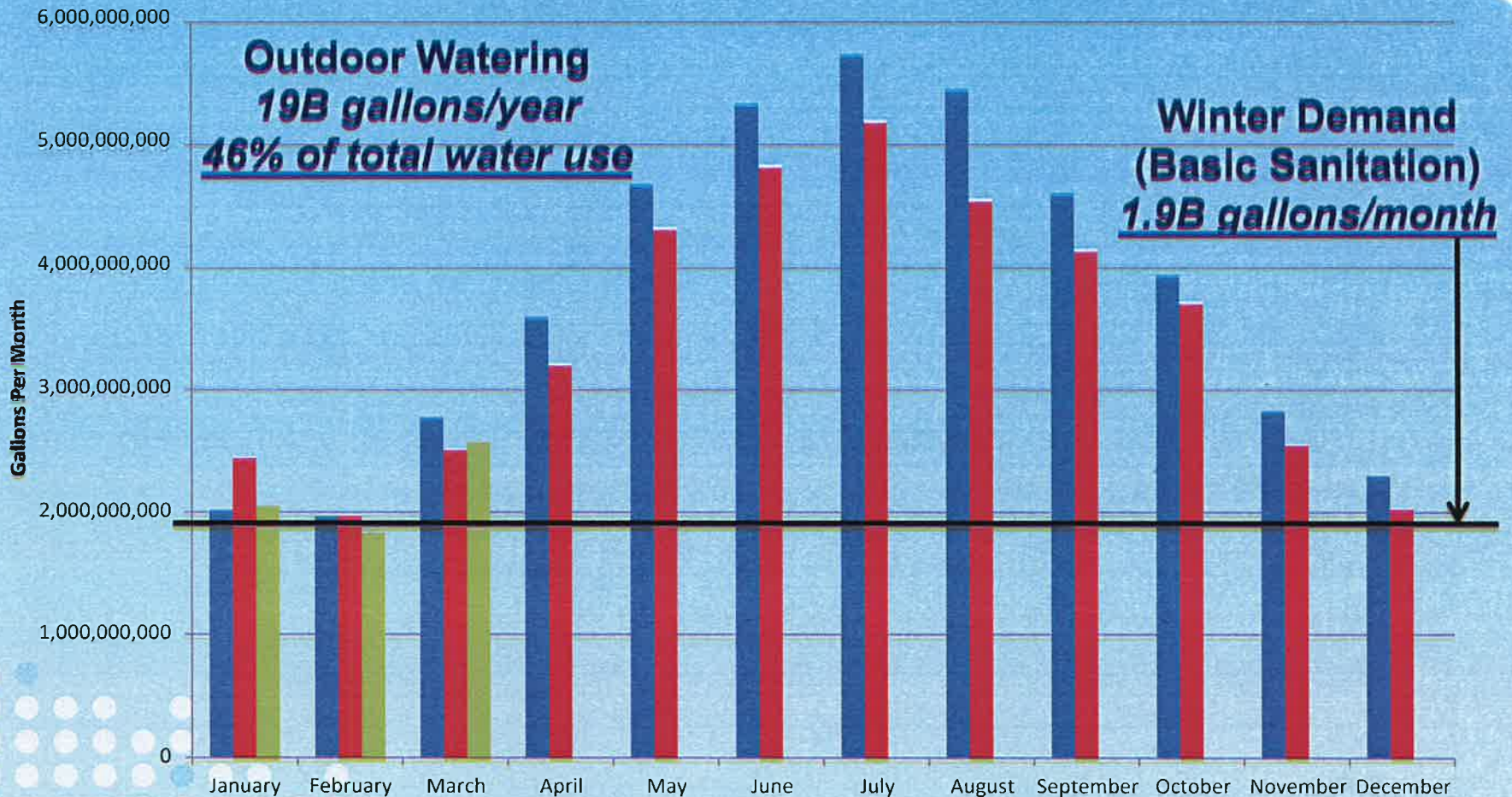


1. Enhance Education and Outreach (television, print, radio) of the City's Outdoor Watering Schedule.
2. Enhance Enforcement of Outdoor Watering Restrictions
 - a) *Use Hourly Water Meter Data to Identify Suspected Non-Compliance*
 - b) *Mail Post-Card Notifications Assessing \$45 fines to Non-Compliant Accounts*
3. Implement mandatory prohibitions on watering turf on medians and new construction irrigation systems.
4. Expand and Promote Water Conservation Rebates, including a new rebate to replace turf with drought-tolerant landscaping.
5. Consider prohibiting the Use of Hydrants for Construction Water (Dust Control required by SJVAPCD). Direct Contractors to Use Extracted Groundwater at Regional WWTP at No Charge.
6. Reduce Operating Pressure of Water System (5 psi)
7. Coordinate with Public School Systems (non-functional turfs)
8. Modify Water Bill Notification

Monthly Water Use Comparison



Total Monthly Water Usage All Customers ■ 2013 ■ 2014 ■ 2015

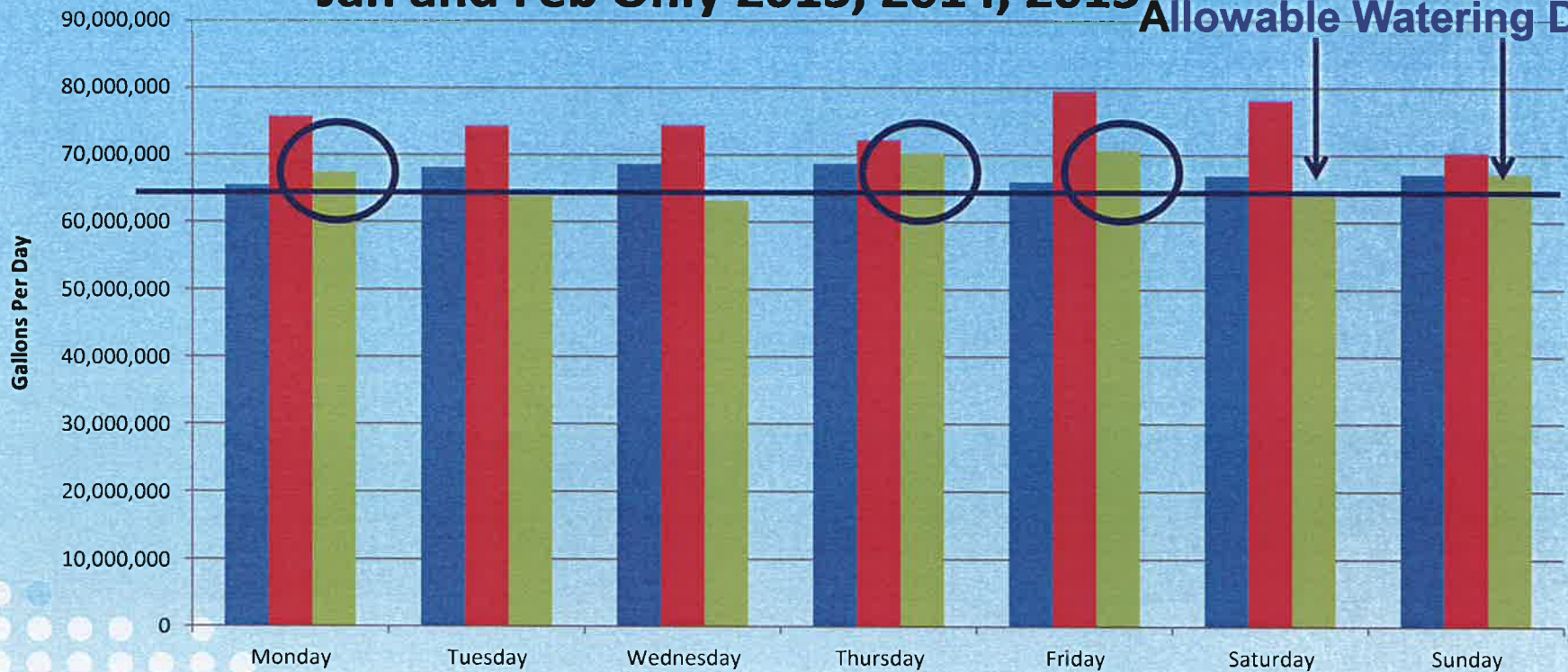


Daily Water Use Comparison

Average Daily Water Usage Jan and Feb Only 2013, 2014, 2015

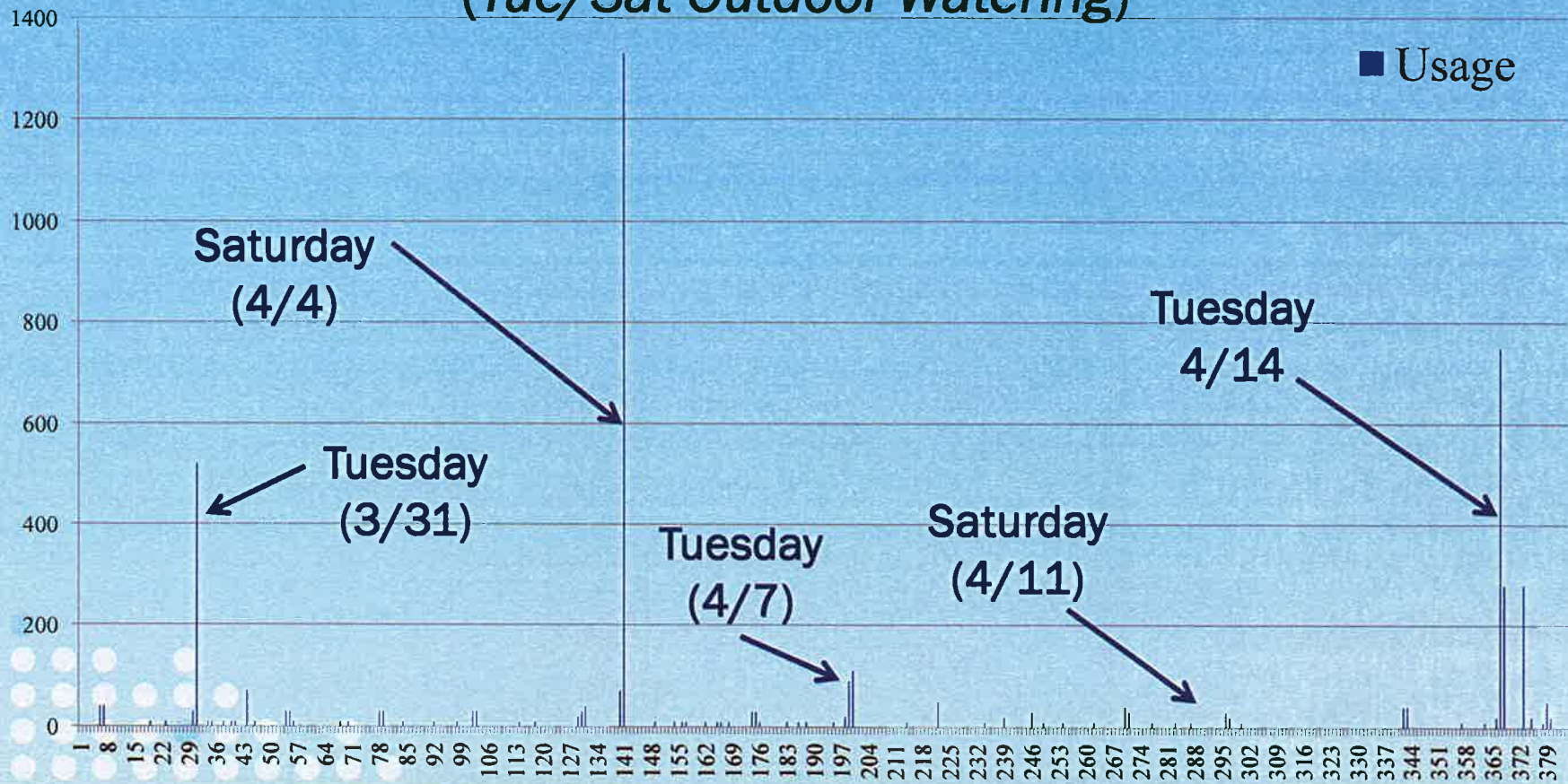
■ 2013 ■ 2014 ■ 2015

Allowable Watering Days



Irrigation Event Pattern (Signature)

Single-Family Residential Hourly Water Use Pattern
March 30 to April 14, Odd Numbered Address
(Tue/Sat Outdoor Watering)



Water Conservation Enforcement



Enforcement Action	2012	2013	2014	2015
Notices \$45 Fine	7,562	3,538	4,656	692
Notices No Fine	6,225	6,929	12,909	2,249
Total	13,787	10,467	17,565	2,941

2015 Notices \$45 Fine

Jan	224
Feb	218
Mar	250

Notices and fines are issued based on field observations by Water Conservation staff. Field observations are typically prompted by citizen emails and phones calls about water violators.

Outdoor Watering Non-Compliance



Suspected Outdoor Watering Violations (March 5, 6 and 9)

Day of Week	Irrigation Events	No. of Accounts	Water Usage, Gal
Monday Violations	31,201	16,545	17.5 million
Thursday Violations	26,438	13,920	17.9 million
Friday Violations	28,147	15,207	22.4 million

Note: 2,857 accounts have suspected outdoor watering on all three days

This analysis conducted by performing a data query of the City's hourly water meter data.

Proposed Enforcement Approach for Outdoor Irrigation



- Focus on Outdoor Watering Events Occurring on Monday, Thursday, and Friday.
- Query Hourly Meter Database for 14 Consecutive Days (336 continuous hours) Each Month.
- Search for Water Use Rates Exceeding 300 Gallons Per Hour occurring consecutive Mondays, Thursdays, or Fridays
- Excessive Water Use Rates Occurring on Consecutive Weeks, On Same Day and Time, Suggests Irrigation Timer Requires Attention by Accountholder.
- Notification to be Mailed to Accountholder Advising of Outdoor Watering Violation.

Enforcement Notification of Outdoor Watering Violation



NOTICE OF WATERING VIOLATION

Dear Customer:

During this historic drought, the City of Fresno is calling on every customer to comply with the City's outdoor watering restrictions. A recent water meter reading indicates your household watered outside the City's watering schedule. **The City's current outdoor watering schedule restricts watering for ODD numbered addresses to Tuesdays and Saturdays only and EVEN numbered addresses to Wednesday and Sundays only. No watering is permitted between 6 AM and 7 PM on the two days you are authorized to use water for outdoor irrigation each week.** The watering schedule is available online at www.fresno.gov/water.

Pursuant to Fresno Municipal Code Section 6-520, a \$45 fine shall be applied to your next utility bill as a result of this violation. Continued irrigation outside of the watering schedule will result in additional fines of \$45. If your account violates the outdoor watering restrictions during five months within a 24-month period, your water service may be disconnected. If you believe this fine was not warranted, you may request a hearing to present information for consideration and possible rescission of the fine.

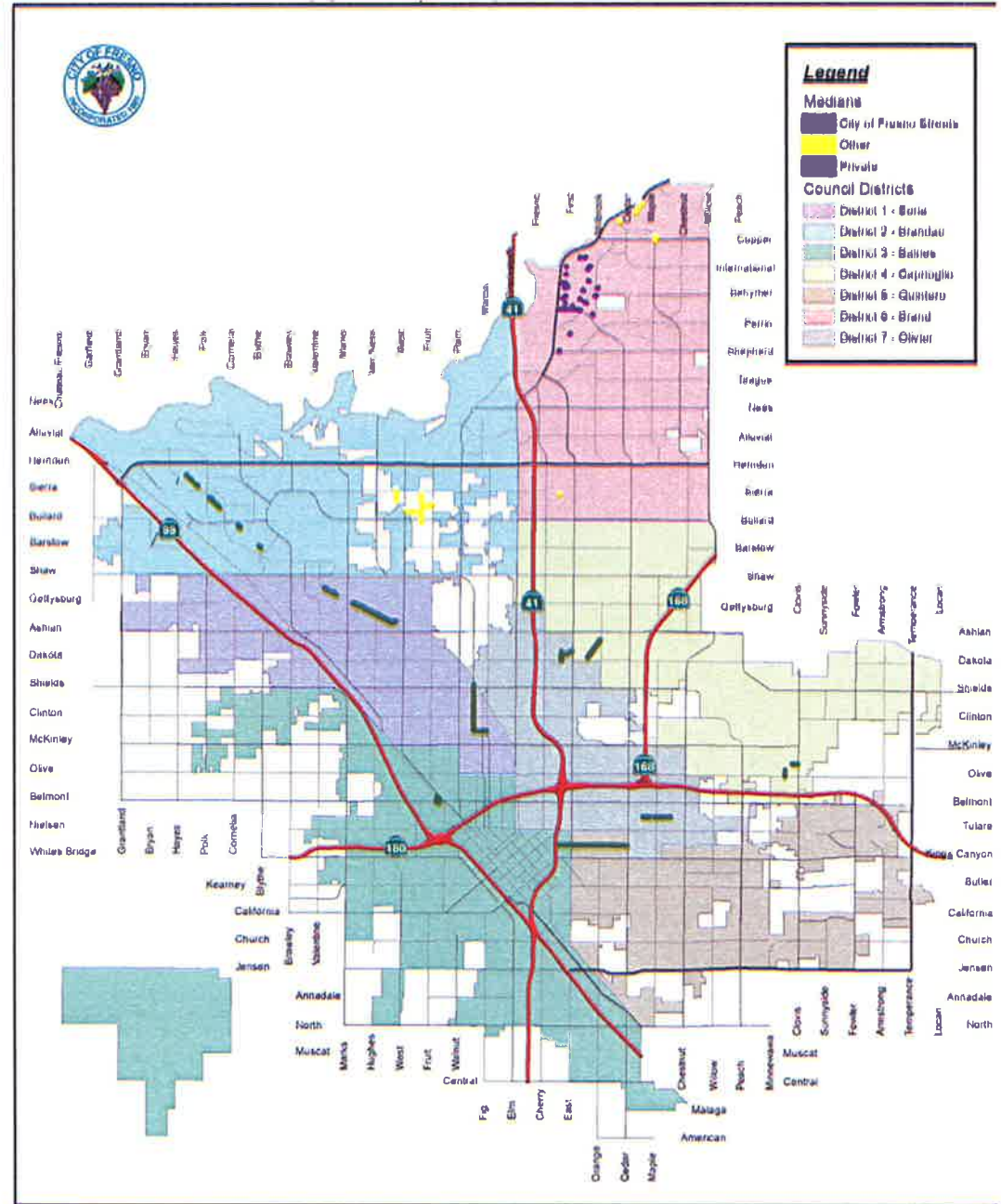
We appreciate your efforts in helping the community conserve water during this historic drought.

Irrigation Prohibition for Turf on Public Medians

Median Islands Impacted by State Water Prohibition
City of Fresno, Department of Public Works, Street Maintenance

Public Medians with Ornamental Turf

- ~69 Total Metered Accounts
 - 46 accounts for Public Works (Streets)
 - 16 accounts for Pinedale Water District
 - 7 accounts for homeowner associations
 - a) Woodward Lake Master Association
 - b) Copper River Maintenance LLC
 - c) Country Club Estates I
 - d) Dominion Home Owners Association
 - e) Park Fort Washington Association



Irrigation Prohibition for New Construction



City does not currently have an irrigation prohibition for new construction. DPU and DARM will work together to develop an implementation plan for this new requirement.

DARM to implement the following:

- Not requiring sod grass in landscaping plans.
- Informing applicants of alternative landscape options such as xeriscaping and drought tolerant species.
- Landscape requirements are being evaluated to include potential phasing and bonding of requirements.
- Deferral agreements will be considered on a case-by-case basis.
- Building and Safety to amend appropriate submittal requirements to include detailed landscape irrigation equipment.

Implement Model Water Efficient Landscape Ordinance



City is currently updating the Development Code, and the Code will be updated to reflect the State's requirements of the State Model Water Efficient Landscape Ordinance

DARM to implement the following:

- Current Planning will be thoroughly evaluating the draft Development Code regarding landscape requirements.
- Together with Advance Planning, staff will evaluate the Efficient Landscape Ordinance and make recommended changes.
- Staff will reevaluate plant, tree, and other landscape materials to be compliant with executive order.
- Parking lot shading requirements to be revised.
- Consider the use of solar carport structures in lieu of parking lot shading.
- Building and Safety to review current building code requirements for any inconsistencies and recommend appropriate action.

New Rebate: Turf Replacement Program



- Anticipated State funding from the Department of Water Resources, in compliance the Governor's Executive Order
- Will reimburse account holders \$.50/ft² for replacing turf with drought-tolerant landscaping, up to 500 ft² per household.



Water Conservation Rebate Expenses 2009 to 2015



Water Conservation Rebate	2009	2010	2011	2012	2013	2014	2015
Clothes Washing Machine Rebate	\$113,400	\$136,250	\$205,800	\$86,400	\$74,950	\$57,400	\$20,800
High Efficiency Toilets - Commercial		\$375	\$225	\$1,125	\$100	\$100	\$100
High Efficiency Toilets - Residential	\$22,622	\$54,681	\$41,800	\$47,688	\$17,075	\$12,700	\$10,900
TOTAL	\$136,022	\$191,306	\$247,825	\$135,213	\$92,125	\$70,200	\$31,800

Source of funds for water conservation rebates is non-ratepayer revenues.

Water Conservation Rebate Activity 2009 to 2015



District	Toilet Rebates		Washer Rebates	
	Count	Percent	Count	Percent
1	348	13.5%	1,268	12.2%
2	407	15.8%	2,315	22.3%
3	89	3.4%	554	5.3%
4	379	14.7%	1,043	10.0%
5	135	5.2%	900	8.7%
6	575	22.3%	2,697	26.0%
7	232	9.0%	551	5.3%
County Island	418	16.2%	1,065	10.2%
TOTAL	2,583		10,393	

Current Water Conservation Rebates & Services



Irrigation Timer Control Setting
Irrigation Audits

Residential and Commercial Water Conservation Rebates

Clothes Washer	\$50
Evaporative Cooler	\$100
Lawn to Garden Conversion	\$.50 per square foot
Micro Irrigation Conversion	\$.25 per square foot
Rain Sensor	\$50
Rainwater Harvesting	\$50
Recirculating Hot Water Pump	\$100
Smart Irrigation Controller	\$50
Soil Moisture Sensor	\$50
Sprinkler Nozzles	up to \$4 per nozzle
Swimming Pool Cover	\$50
Toilets	\$50
Commercial Only	
Toilets	\$50
Urinal	\$100

School District Coordination

- All school districts committed to assisting the community meet water reduction goals.
- Nearly all turfs are Bermuda species (*require 50-percent less water than cool-season turfs*).
- Working to identify functional turfs (*high water priority*) and non-functional turfs (*low water priority*) for watering priority.
- Staff resources dedicated specifically to identifying and correcting indoor plumbing leaks and outdoor irrigation fixture failures.
- Installing advanced technology for irrigation control and rainfall monitoring.
- Reviewing Water Consumption Closely (monthly reports)

Current Water Bill Notification



Read Date	Service	Meter #	Meter Size	Current Read	Previous Read	Reading Units	Consumption
5/26	WA	14930296	1"	20950	13500	GALS	9.96 HCF

Fresno's Monthly Average Household Use is 7,920 gallons - your use is 7,450 gallons

Modified Water Bill Notification



Read Date	Service	Meter #	Meter Size	Current Read	Previous Read	Reading Units	Consumption
5/26	WA	14930296	1"	20950	13500	GALS	9.96 HCF

Fresno's Monthly Average Household Use is 7,920 gallons - your use is 7,450 gallons

If required by drought conditions, your Stage 3 Water Allocation will be 8,000 gallons per month

For May 2015, you were 550 gallons below your Stage 3 Water Allocation

Water Allocation Rates

- Single-Family Residential and Multi-Family Residential = 110 percent of Jan/Feb average use
- Commercial/Institutional = 85 percent of Average Annual Use
- Industrial = 85 percent of Average Annual Use
- Irrigation = 50 percent of Average Annual Use

Water Conservation Stage Triggers



Stage	Shortage Condition	Demand Reduction Goal	Program Type
1	Minimal	10	Voluntary
2	Moderate	25	Mandatory
3	Severe	35	Mandatory
4	Critical	50	Mandatory

Stage 3 Water Conservation Considerations



Triggering Events

- ✓ Projected volume of surface water supply for any four consecutive years is reduced by 10 percent or more from long-term averages (174,000 AF vs 79,500 AF).
- ✓ The volume of surface water supply available from FID is reduced by 35 percent or more from long-term averages. (119,000 AF vs 24,000 AF).
- ✓ The volume of surface water supply available from USBR is reduced by 35 percent or more from long-term averages (54,900 AF vs 0 AF).
- One-year loss in groundwater levels (using 30 key wells) is more than five (5) feet, or the two-year loss is more than ten (10) feet (4 feet loss in 2014, and 2 feet loss in 2015)

Stage 3 Water Conservation Considerations



■ Potential Triggering Events

- City currently meets requirements for Stage 3 as prescribed in Water Shortage Contingency Plan (*defaulting to Governor's Executive Order*).
- City's Stage 2 measures should achieve compliance with Governor's 25-percent reduction goal (28-percent for Fresno)
- Recommended Stage 3 Trigger: complete loss of surface water for surface water treatment plants.

■ Recommended Implementation Approach

- Phase I: Restrict outdoor watering to one-day per week year around.
- Phase II: Adopt water allocations by account by customer class, and increase fines.

Questions