

# Focus Water Conservation

- Complete the development of a 5-yr strategic plan
  - 2007 Water Conservation Mater Plan
  - 2015 Water Conservation Measures Update
- Evaluate next-gen water conservation concepts
  - AMI, grey water systems, QWEL certifications, leak detection, distributed infrastructure
- Develop plan/timeline for full-scale AMI implementation
- Implement new Water Conservation legislation
  - Adhere to new Water Efficiency Legislation Senate Bill (SB) 606 and Assembly Bill (AB) 1668
- School/public agency assistance



# Increasing Water Conservation Efforts

Water Resources Plan 2040 recommendations

Conservation Program Water Savings (AFY)	2015	2020	2025	2030	2035	2040	Water Utility Benefit to Cost Ratio	Community Benefit to Cost Ratio
Program C with Plumbing Code	289	1,588	2,269	2,983	3,416	3,800	1.56	0.87

	2040 Indoor Water Savings (AFY)	2040 Outdoor Water Savings (AFY)	2040 Total Water Savings (AFY)	Present Value of Water Savings (\$)	Present Value of Utility Costs (\$)	Present Value of Community Costs (\$)	Cost of Utility Savings per Unit Volume (\$/AF)
Program C with Plumbing Code	2,149	1,651	3,800	\$43,843,251	\$28,157,875	\$59,861,791	\$668

Target investment of \$1.4M/yr over the next 20 years

# Types of Water Conservation Efforts

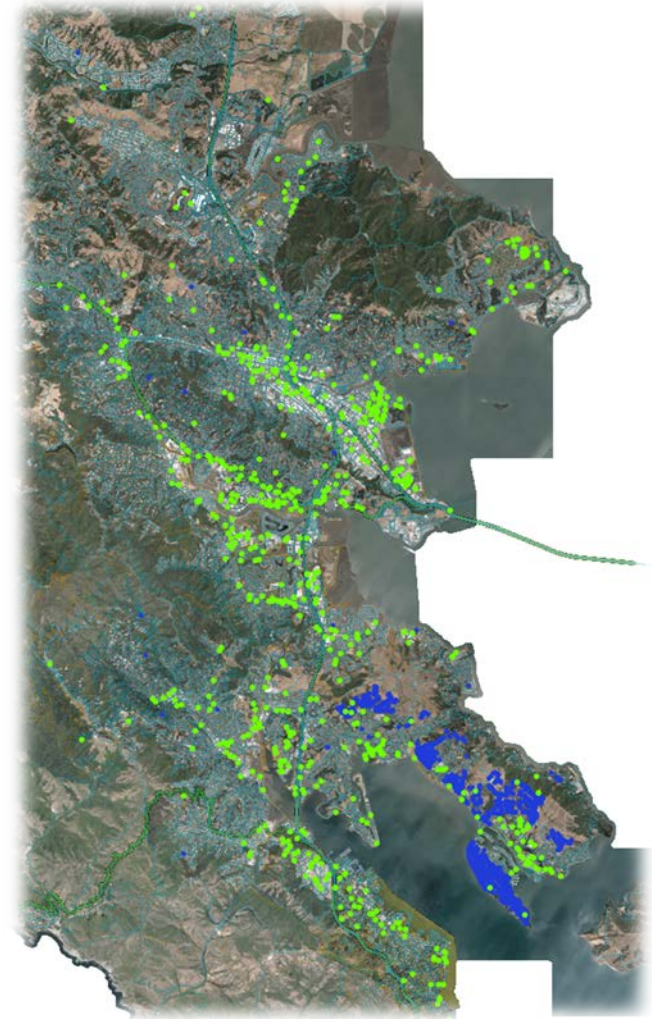
Recommended under Program C

Utility Measures	CII Measures	Landscape Measures	Residential Measures
Water Loss	Indoor and Outdoor Surveys - CII	Outdoor Large Landscape Audits & Water Budgeting/Monitoring	HE Faucet Aerator / Showerhead Giveaway - SF, MF
AMI	Replace CII Inefficient Equipment	Landscape Rebates and Incentives for Equipment Upgrade	Indoor and Outdoor Surveys - SF, MF
Pricing	Efficient Toilet Replacement Program - CII	Turf Removal - MF, CII	Efficient Toilet Replacement Program – SF
Public Info & School Education - SMSWP	Urinal Rebates – CII	Turf Removal - SF	Direct Install UHET, Showerheads, and Faucet Aerators - SF, MF
Public Info & School Education - Water Contractor	Plumber Initiated UHET & HEU Retrofit Program	Water Conserving Landscape and Irrigation Codes	HE Clothes Washer Rebate - SF, MF
Prohibit Water Waste	Require <0.25 gal/flush Urinals in New Development	Require Smart Irrigation Controllers and Rain Sensors in New Development	Submeters Incentive
	HE Faucet Aerator / Showerhead Giveaway – CII		

# Implementation Plan for AMI

## Phase I

- 1,960 AMI installs completed by February 2018
- 463 (23%) of AMI meters detected leaks
- Over 700 customer contacts
- Average residential leak = 1,208 GPD
- Average irrigation meter leak = 2,675 GPD
- Estimated annual water savings = 60 AF

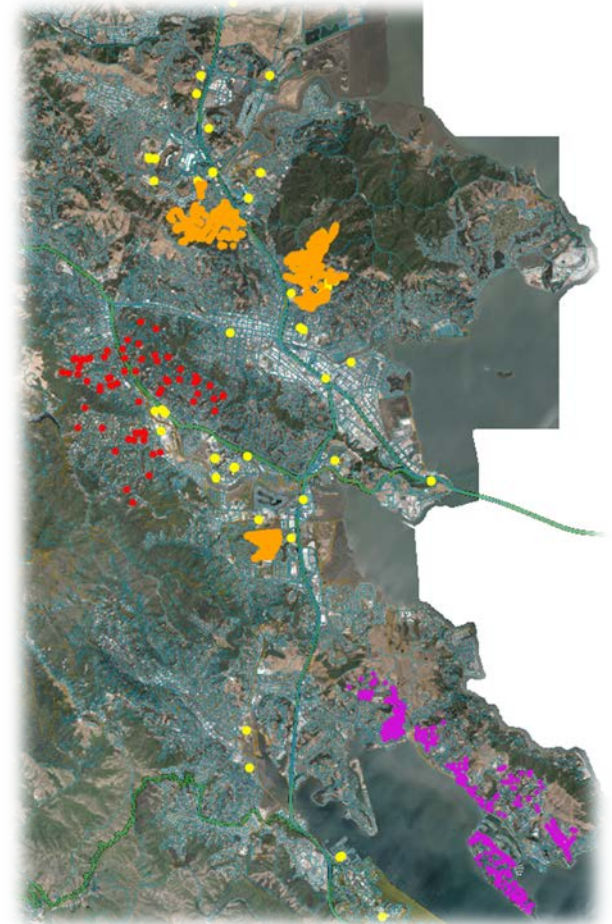


# Implementation Plan for AMI

## Phase II

Upgrade 1,522 meters to AMI

- 939 to complete 7 meter reading routes in San Rafael and 1 in Corte Madera
- 468 to complete 11 meter reading routes from Phase I
- 60 high use residential customers
- 55 on high use CII customers



# Implementation Plan for AMI

## Phase III

Additional IRWM funds - \$350,000 grant award

- 750 to complete 3 meter reading routes in San Rafael
- Estimated annual water savings = 26 AF



# New Water Use Efficiency Legislation

Senate Bill (SB) 606 and Assembly Bill (AB) 1668 - May 2018

- Creates conservation targets for water utilities for indoor, outdoor and water loss standards
- Gives the water district flexibility to determine how best to meet conservation targets within our own community
- Does *not* restrict water use by individual households or businesses

*“This drought emergency is over, but the next drought could be around the corner. Conservation must remain a way of life.”*

*-Governor Jerry Brown*

# Target Dates for Urban Water Retailers

New Water Use Efficiency Legislation - Senate Bill (SB) 606 and Assembly Bill (AB) 1668

- By December 31, 2020 → Statewide, cumulatively meet a 20% reduction from the baseline daily per capita water use
- By July 1, 2021 → Submit UWMP to DWR incorporating Water Loss Standard Implementation and Demand Management to meet 2027 Water Use Objective
- By November 1, 2023 → Submit annual report on urban water use by November 1 and every year thereafter
- By January 1, 2024 → Submit UWMP Supplement Incorporating Other Water Use Efficiency Standards Implementation



# Water Conservation Initiative for Schools



**Community Education**

Tamalpais Union High School District

- Begins with the CMF Payment Plan
- Developing a Water Conservation/Mutual Benefit Agreement pilot with Tamalpais Union High School District (Redwood, Sir Francis Drake and Tamalpais High School Campuses)
  - Qualified Water Efficient Landscaper (QWEL) to improve irrigation system with resulting meter size reduction
  - AMI and known/unknown water leaks: Redwood HS (William Ave) – 25,128 gpd leak for 90+ days (\$4,010/month), Tamalpais HS (Homestead Blvd) – 2,160 gpd leak for 11+ days (\$345/month)
  - Rain Sensors: estimated savings of \$5,000/yr
  - Bring Redwood High School into full code compliance: savings of \$20,000/yr
  - Convert non-essential grass to turf: savings of \$8,000/yr