

# Overview on Water Infrastructure, Wholesale Supply and Financial Projection

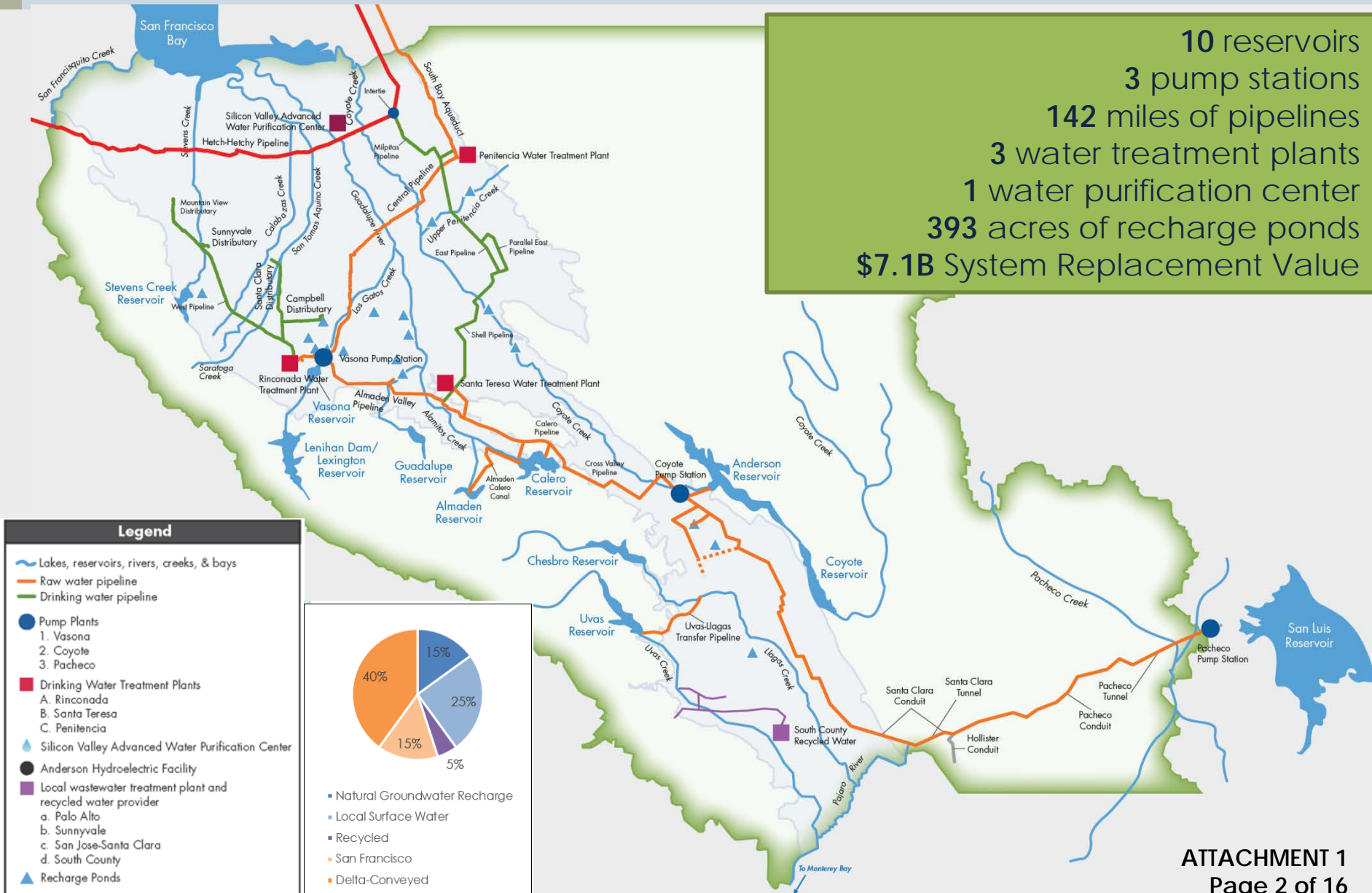
Joint Meeting with City of Milpitas - March 21, 2018

Santa Clara Valley  
Water District



# A comprehensive, flexible water system

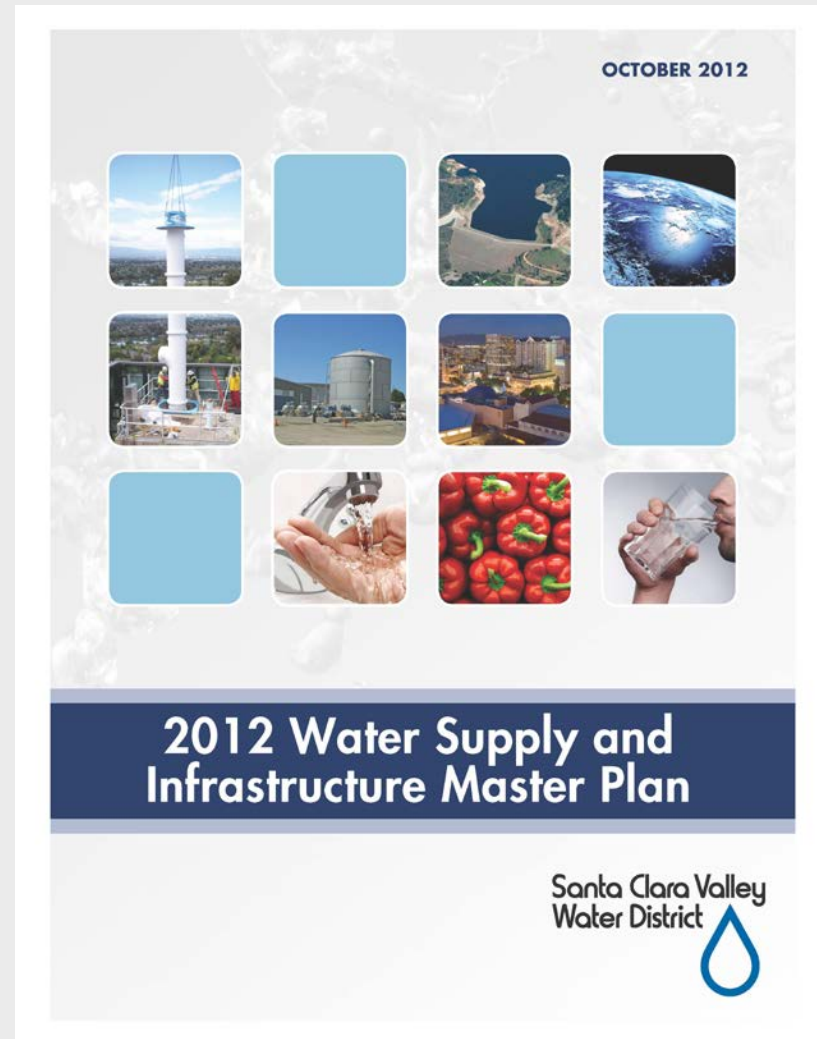
**10** reservoirs  
**3** pump stations  
**142** miles of pipelines  
**3** water treatment plants  
**1** water purification center  
**393** acres of recharge ponds  
**\$7.1B** System Replacement Value



# 2012 Master Plan “Ensure Sustainability” Strategy

Level of service goal – Meet 90% of demands in droughts

- ▶ Secure existing system
  - ▶ Dam retrofits, asset management, pipeline repair, maintain imports
- ▶ Optimize existing system
  - ▶ New recharge, new pipelines
- ▶ Expand conservation and reuse
  - ▶ Graywater, potable reuse



# Water Supply Master Plan Update

## Analysis shows declining reliability

### Average Water Supply Conditions

	2020	2040
Demands (AF)	360,000	402,000
Average Annual Supply (AF)	374,000	366,000
Shortfall (AF)	0	36,000

### Drought Water Supply Conditions

	2020	2040
Demands (AF)	360,000	402,000
Minimum Drought Supply (AF)	255,000	250,000
Maximum Shortfall (AF)	105,000 (29%)	152,000 (38%)

# Evaluated about 40 projects for filling gaps

- ▶ Conservation and demand management
- ▶ Stormwater capture and reuse
- ▶ Onsite reuse
- ▶ Potable reuse
- ▶ Recycled water
- ▶ Groundwater recharge ponds
- ▶ Raw water pipelines
- ▶ Ag land fallowing
- ▶ Storage, inside and outside county
- ▶ Desalination
- ▶ Dry year options/transfers
- ▶ Water contract purchase
- ▶ California WaterFix

# "No Regrets" package is cost-effective and broadly supported

- ▶ Advanced Metering Infrastructure
- ▶ Gray Water Program Expansion
- ▶ Leak Repair Incentive
- ▶ New Development Model Ordinance
- ▶ Stormwater Capture and Reuse
  - ▶ Ag Land Recharge
  - ▶ Rain Barrel Rebate
  - ▶ Rain Garden Rebate
  - ▶ San Jose Recharge
  - ▶ Saratoga Recharge

Total District Cost	\$100 million
Additional Water Conservation Savings	10,000 AF
Additional Water Supply Yield	1,000 AF
Unit Cost	\$400/AF

# Multiple decision points, including

- ▶ Prop 1 storage funding – Summer 2018
- ▶ California WaterFix permits – Winter 2018
- ▶ Select P3 entity for potable reuse - 2019
- ▶ Annual supply and demand review – Summer
- ▶ Annual CIP, budget, and water charge process begins – Fall
- ▶ Finalize update to Water Supply Master Plan – late 2018



# Key Water Supply Projects



**Dam Seismic Retrofits/Improvements  
(\$780 Million)**



**RWTP Reliability Improvements  
(\$290 Million)**



**Expedited Purified  
Water Program  
(\$1 Billion via P3  
Delivery Method)**



# Project Overview

## Anderson Dam Existing Configuration

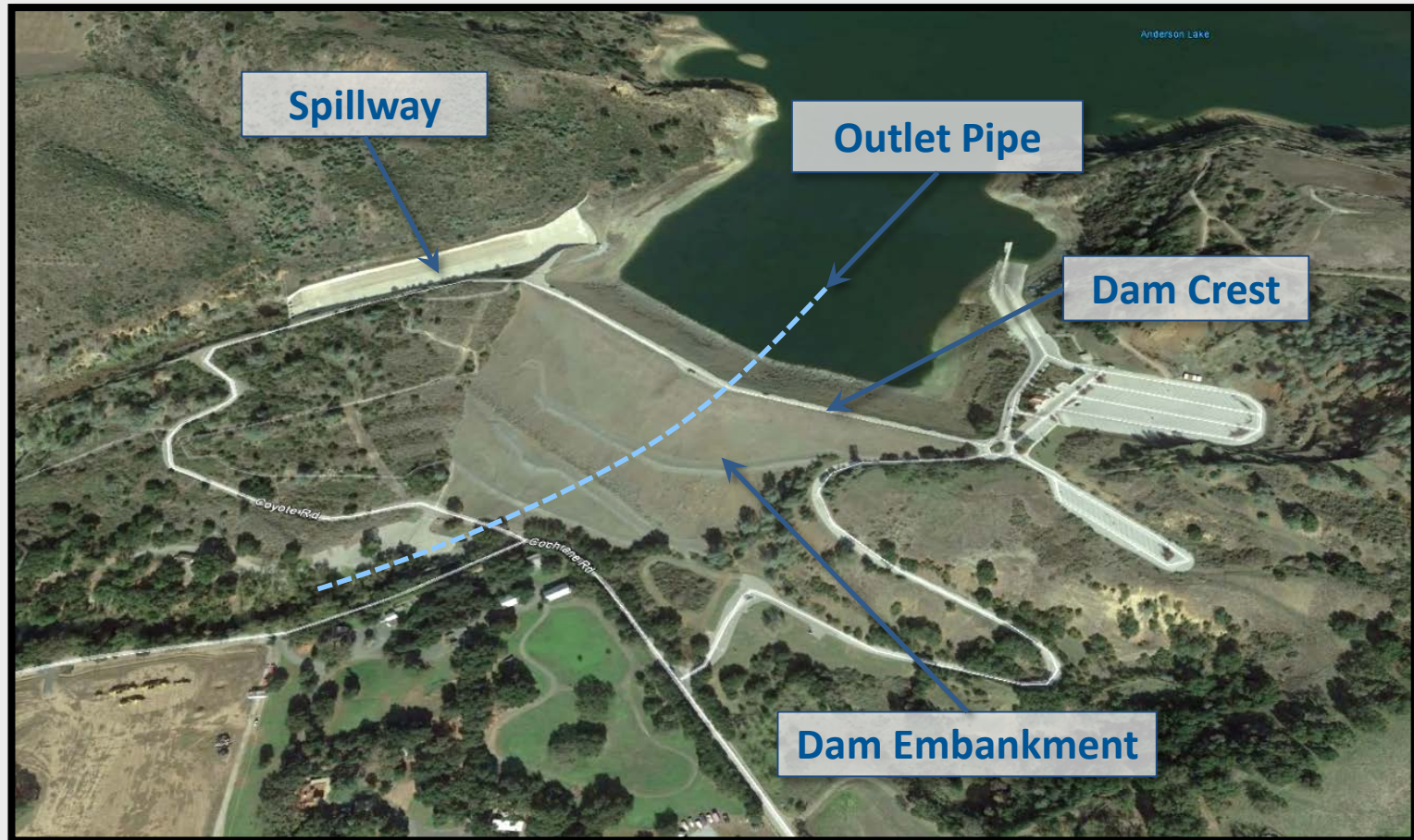
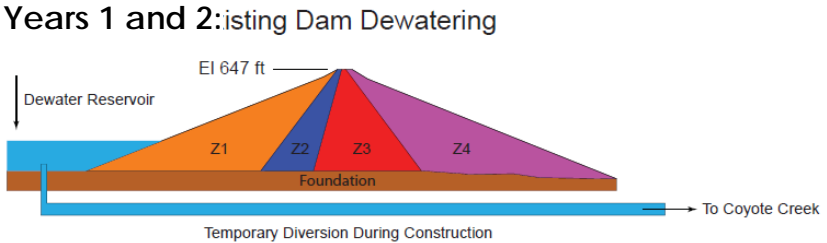
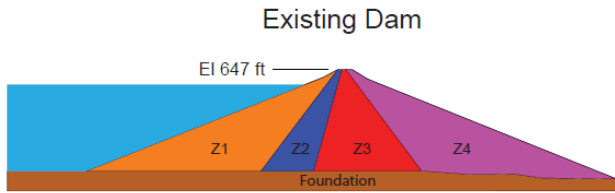
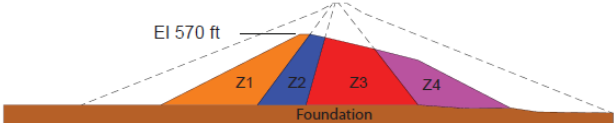


Image Source: Google Earth

# Anderson Dam Embankment Construction Sequence



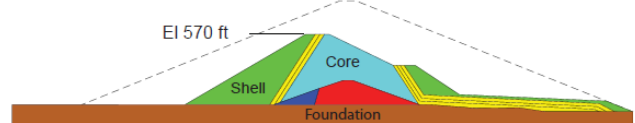
Year 3: April - October  
Stage 1 Excavation



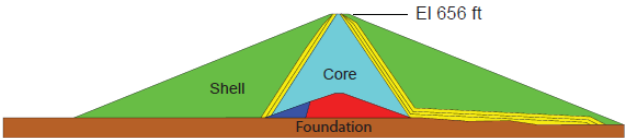
Year 4: April - June  
Stage 2 Excavation



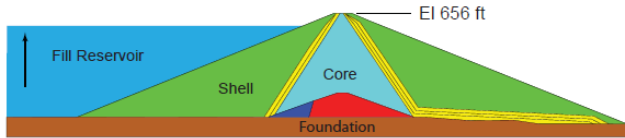
Year 4: July - October  
Stage 2 Fill



Year 5: April - October  
Stage 3 Fill



Final Configuration



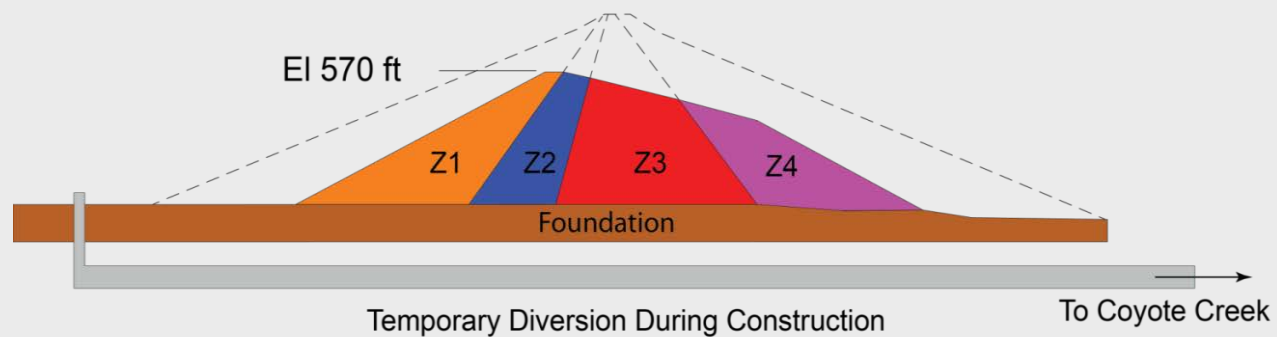
# Downstream Releases during Anderson Construction

## ▶ Key Objectives:

- ▶ Operate flow diversion pipe to minimize risk to interim dam
- ▶ Minimize downstream flood risk.

## ▶ Based on 100,000 simulations, annual risk of diversion releases greater than:

- ❖ 500 cfs = 30%
- ❖ 1,000 cfs = 2%
- ❖ 2,000 cfs = 0.4%
- ❖ 5,000 cfs = 0.03%



# Why do well owners pay SCVWD to pump water from the ground?

## CONSTRUCTION AT ANDERSON RESERVOIR, 1951



\$550M Seismic Retrofit under way at Anderson

- ▶ Local rainfall cannot sustain Santa Clara County water needs
- ▶ Planning in early 1900's called for construction of reservoirs to capture rainwater to percolate into the ground
- ▶ Groundwater Production Charge is a reimbursement mechanism
  - ▶ pays for efforts to protect and augment water supply



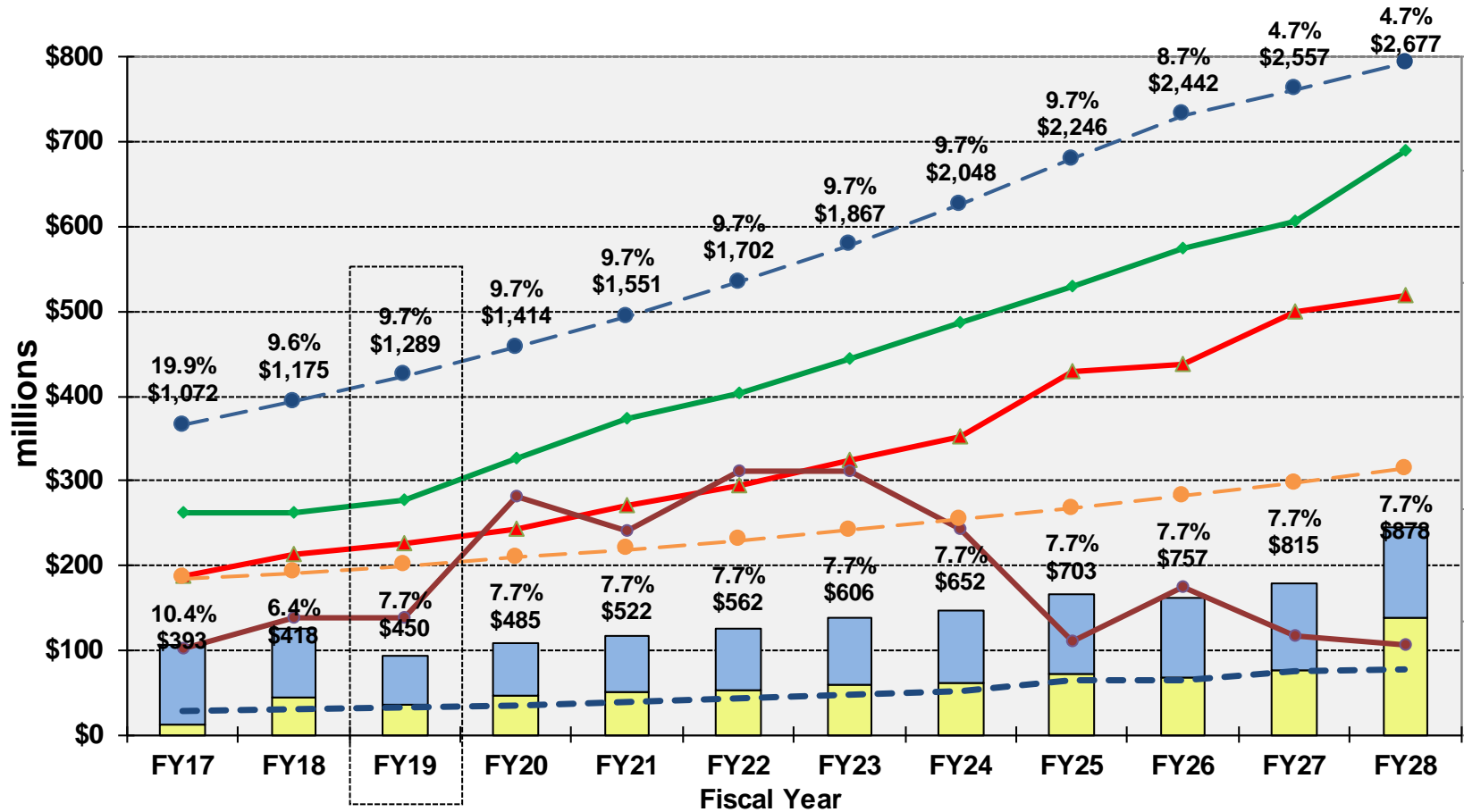
# Many activities ensure safe, reliable groundwater supplies

- ▶ Operate & maintain local reservoirs
- ▶ Purchase imported water
- ▶ Operate & maintain raw & recycled water pipelines
- ▶ Plan & construct improvements to infrastructure
- ▶ Monitor & protect groundwater from pollutants





# Financial Analysis: Proposed Groundwater Production Charge Projection



# FY 2018-2019 Schedule

- Jan 9 Board Meeting: Preliminary Groundwater Charge Analysis
- Jan 17 Water Retailers Meeting: Preliminary Groundwater Charge Analysis
- Jan 24 Water Commission Meeting: Prelim Groundwater Charge Analysis
  
- Feb 13 Board Meeting: Review draft CIP & Budget development update
- Feb 23 Mail notice of public hearing and file PAWS report
  
- Mar 21 Water Retailers Meeting: FY 19 Groundwater Charge Recommendation
  
- Apr 2 Ag Water Advisory Committee
- Apr 3 Landscape Committee Meeting
- Apr 10 Open Public Hearing
- Apr 11 Water Commission Meeting
- Apr 12 Continue Public Hearing in South County
- Apr 24 Conclude Public Hearing
- Apr 25-27 Board Meeting: Budget work study session
  
- May 8 Adopt budget & groundwater production and other water charges

# Summary

- Groundwater Production Charge projection driven by infrastructure repair & replacement, and water supply reliability investments
- Proposed FY 19 Groundwater Production Charge increase equates to an increase of \$3.92 per month in North County to average household