

# PROJECT 2030

## WATER MAIN REPLACEMENT



**PROJECT 2030**  
WATER MAIN REPLACEMENT



# Customer Advisory Committee Meeting 1

May 29, 2018

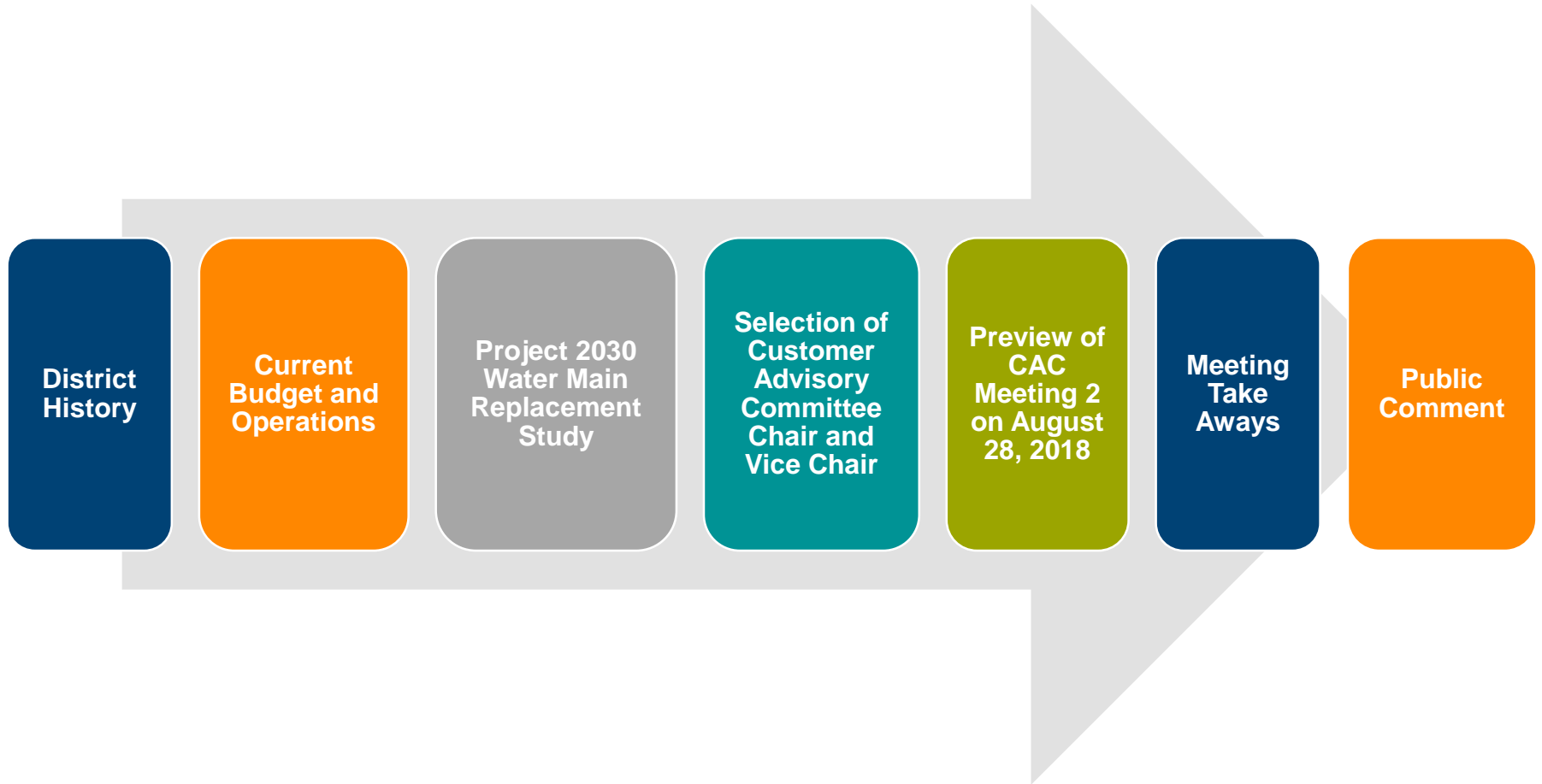


# Pledge of Allegiance



# Agenda Review

# Meeting Agenda



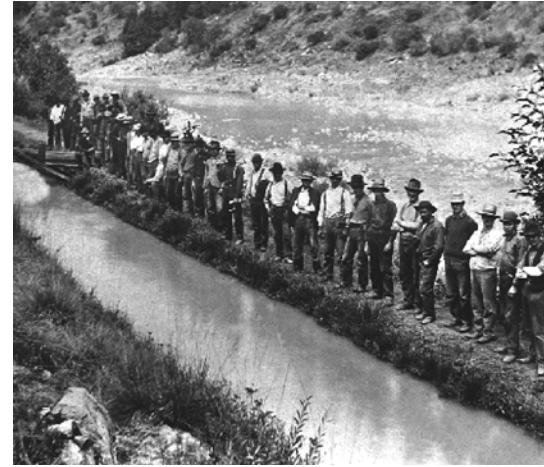
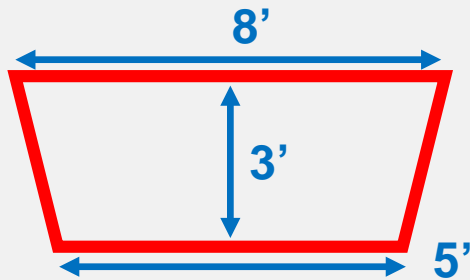


# Background and History



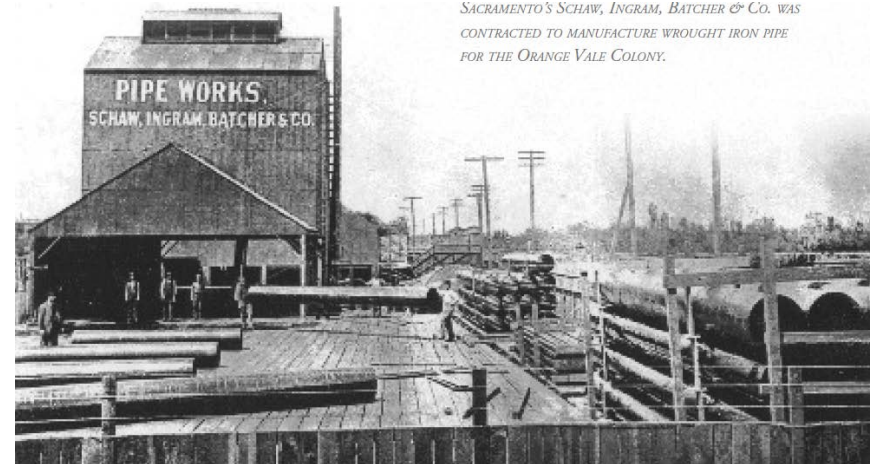
# North Fork Ditch

- 1856
- The canal was 33 miles long
- 3 feet deep
- 8 feet wide at the top
- 5 feet wide at the bottom
- Size of Canal = 3,000 miner's inches



# 1880s to 1920

- Development Progressing
- Wright Act of 1887
- North Fork Ditch Company - Ownership change in 1909
  - Status as a Wholesale Supplier confirmed
- Orange Vale Water Company, 1896
  - Mutual
- Carmichael Irrigation District, 1916
- Fair Oaks Irrigation District, 1917
- Citrus Heights Irrigation District, 1920



SACRAMENTO'S SCHAW, INGRAM, BATCHER & CO. WAS CONTRACTED TO MANUFACTURE WROUGHT IRON PIPE FOR THE ORANGE VALE COLONY.



# 1920 – Pipe Types

**December 1920 – Board approved \$240,000 to install piped water to every 10 acre tract in the District:**

Bids for the project included pipe types of:

1. Soil-Proofed Steel Pipe
2. Redwood Main-Steel Distribution
3. Redwood System
4. Double Dipped, Double Riveted Steel
5. Fir Main – Redwood Distribution
6. Fir Wood, Stave

# District Formation

1920 – The CHID service area included

- 225 farms
- 4.7 square miles (3,028 acres)

## Water Supply Availability

- North Fork Ditch Company promoted Conservation
- Sirens were used to notify water was off
  - Sylvan Cemetery
  - Corner of Greenback and Mariposa

### CITRUS HEIGHTS IRRIGATION DISTRICT SIREN CODE April 1, 1945

The following whistle signals will be used for the convenience of the water users of the District:

- 1 Blast will indicate that water is ON again for irrigation use after a preceding signal has ordered water shut off.
- 2 Blasts—Water off in entire District.
- 3 Blasts—Water off North of Auburn Boulevard.
- 4 Blasts—Water off in entire District South of Auburn Boulevard.
- 5 Blasts—Water off South of Greenback Lane.

In no case is water to be used for irrigation after a water-off signal until one blast is sounded indicating water on.

One blast will consist of once raising the blast of the siren to its highest pitch and letting it die down again and will be about 15 seconds in length. At least one blast has completely died down the next blast will follow immediately.

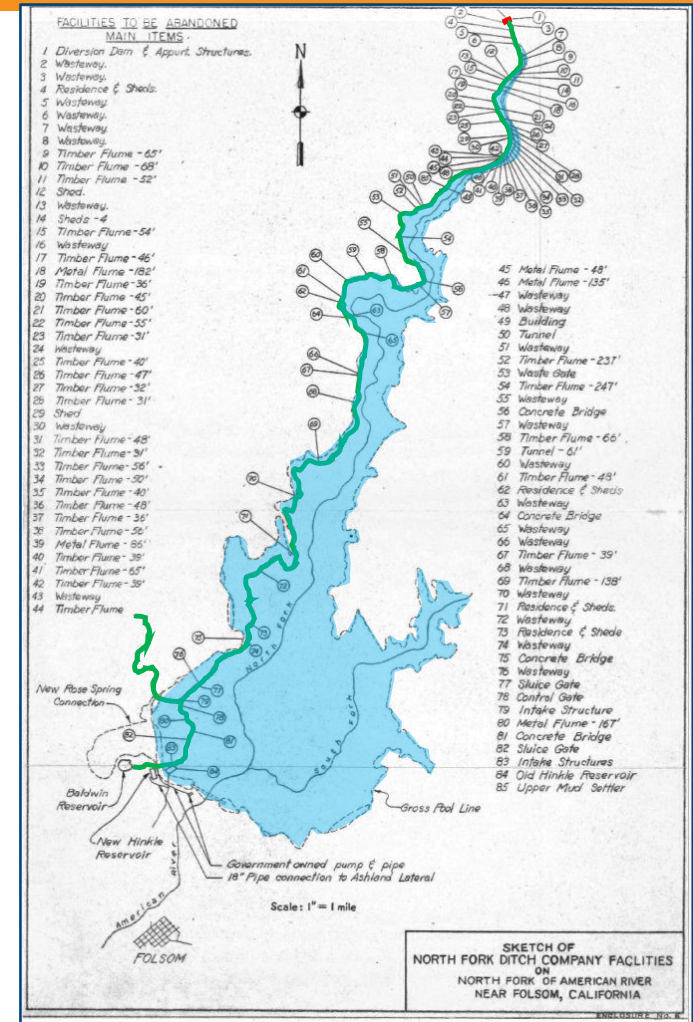
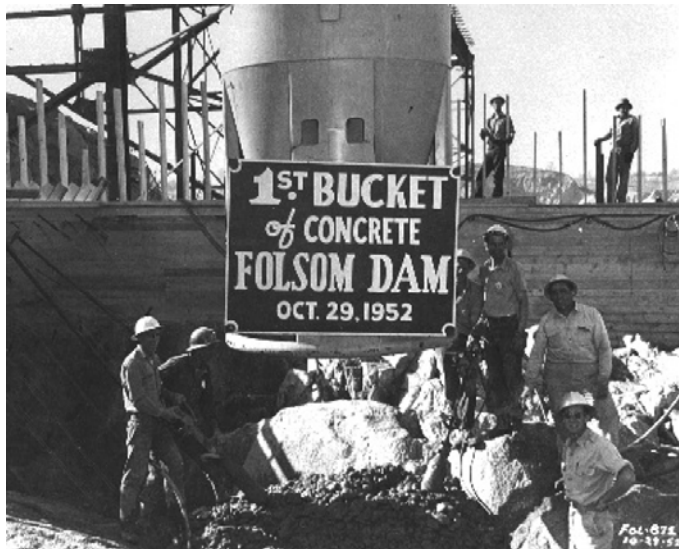
A continuous wailing up and down, without the siren being shut off for a period of one minute will be used for fire in the District.

This card cancels all previous signal codes and should be tacked up in a convenient place for future reference.



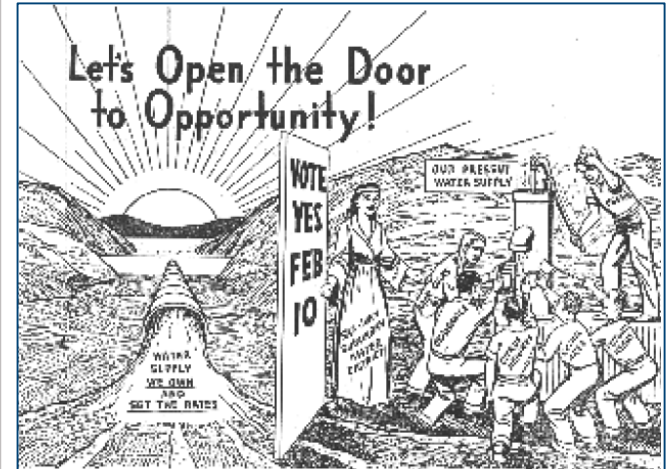
# Folsom Dam & North Fork Ditch Co.

- Pres. Harry S. Truman signed the Engle Act commissioning the 1 Million AF Folsom Dam, **1949**



# Formation of San Juan Suburban Water District (SJSWD)

- **February 10, 1954** - voters approve the formation of the San Juan Suburban Water District as a community services district to ensure the water supply was publicly owned, among other reasons
- **April 17, 1955** – Reclamation made the first water delivery from Folsom Reservoir to SJSWD



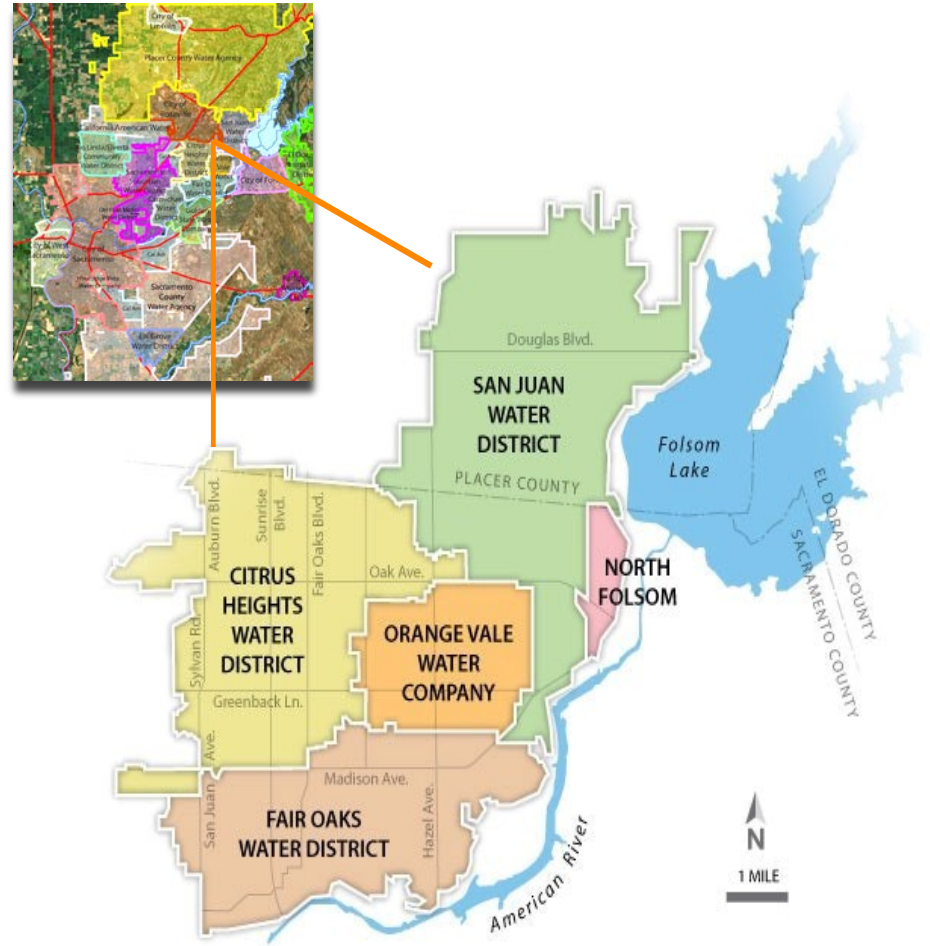
Protect Our Water Resources....  
No Change in Local Districts....

**VOTE 'YES'**  
**FEBRUARY 10**



# San Juan Water District

- San Juan as Wholesaler to Five Water Retailers
  - Citrus Heights Water District
  - San Juan Water District – Retail
  - Orange Vale Water Company
  - Fair Oaks Water District
  - City of Folsom (West of American River)

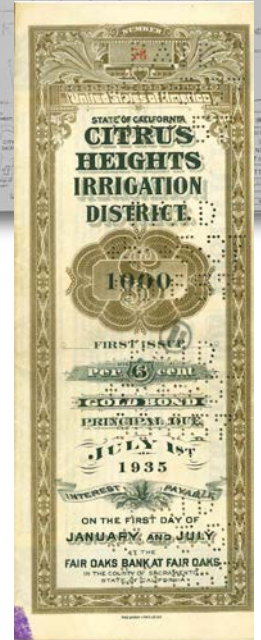


- 1979, Peterson Treatment Plant completed
  - 120 Million Gallons per Day (Originally)
  - 150 Million Gallons per Day (Today)
- 1980, Current covered Hinkle Reservoir completed
- High quality surface water



# Project 1956

- 1940's and 1950's – Region began to urbanize
- Transmission Main Installation Project
- Authorized issuance of \$750,000 in Bonds
- 1960 to 1985 – Big Development

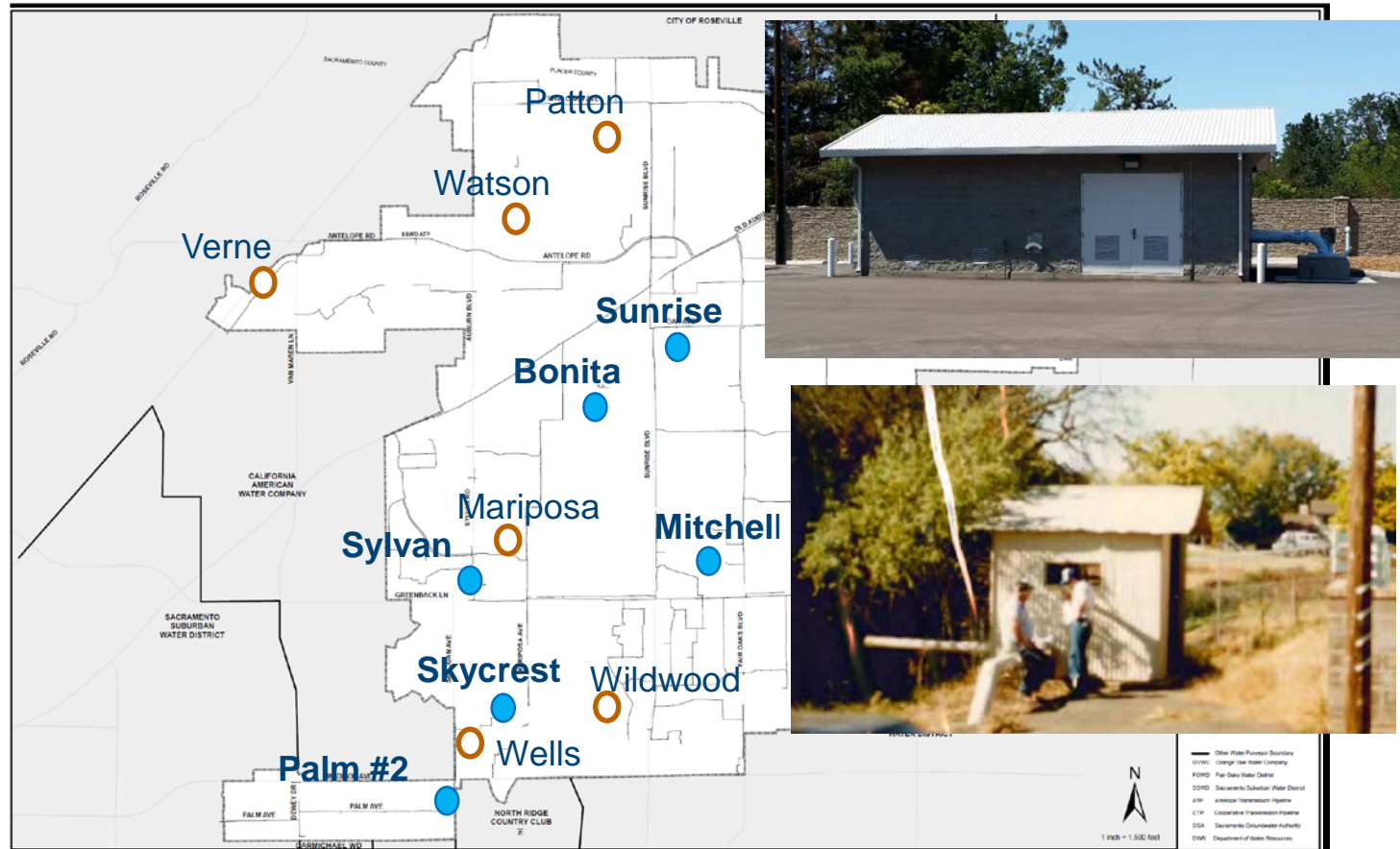


# Well Development

- Palm Well #2 – 1991
- Sylvan Well– 1991
- Sunrise Well– 1992
- Mitchell Well – 2008
- Bonita Well – 2010
- Skycrest Well – 2016

**Current** ●

**Decommissioned** ○



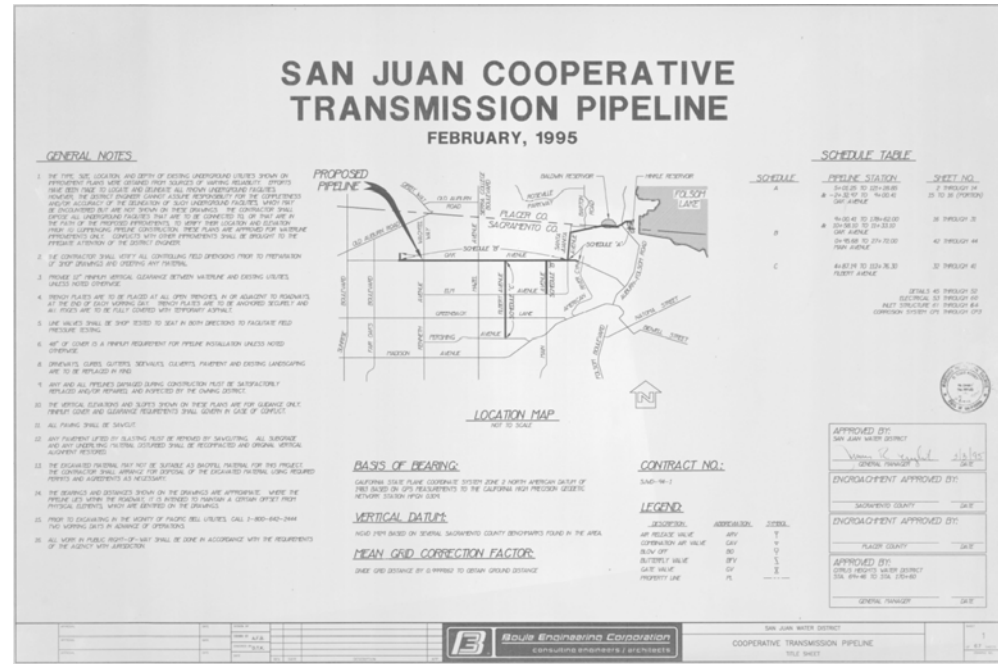




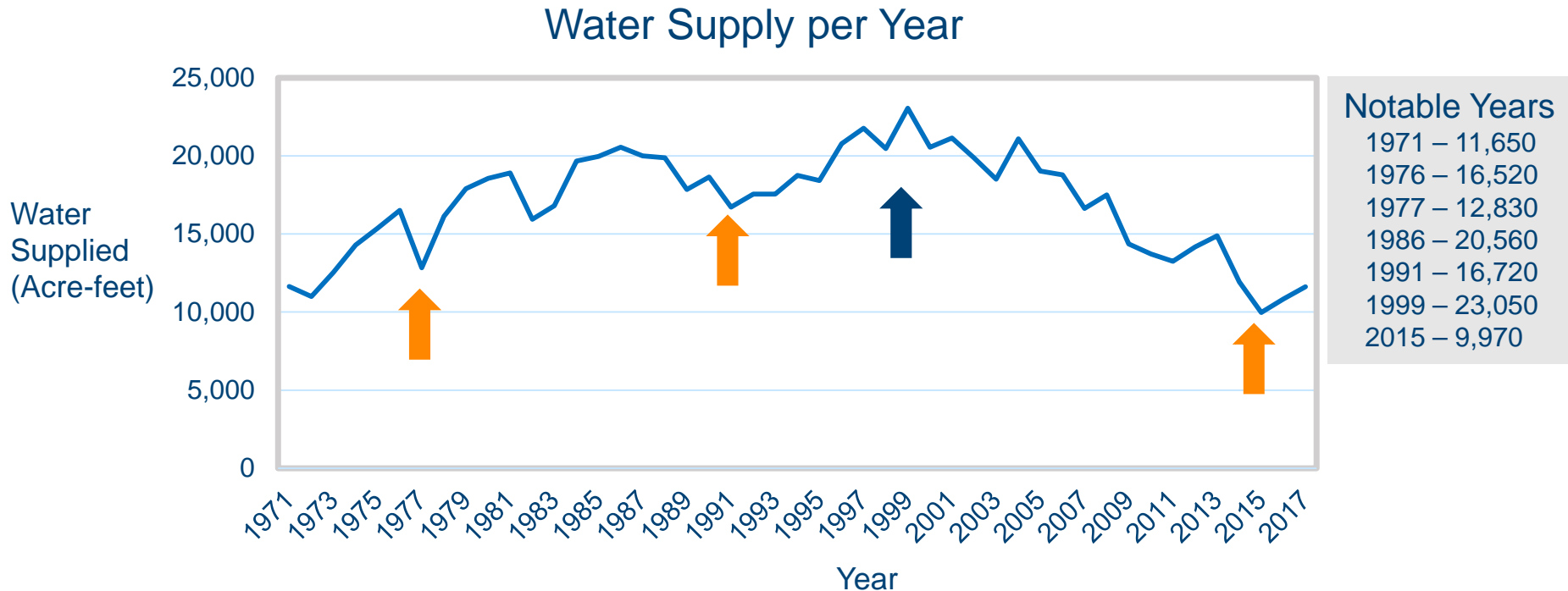
# Recent History

## 1998 - Cooperative Transmission Pipeline Project

- Provided redundancy from SJWD – Wholesaler
- Provide surface water to Region using groundwater only
- Largest pipeline serving CHWD
- Multi-Agency Project



# CHWD Historic Water Consumption





# History Activity

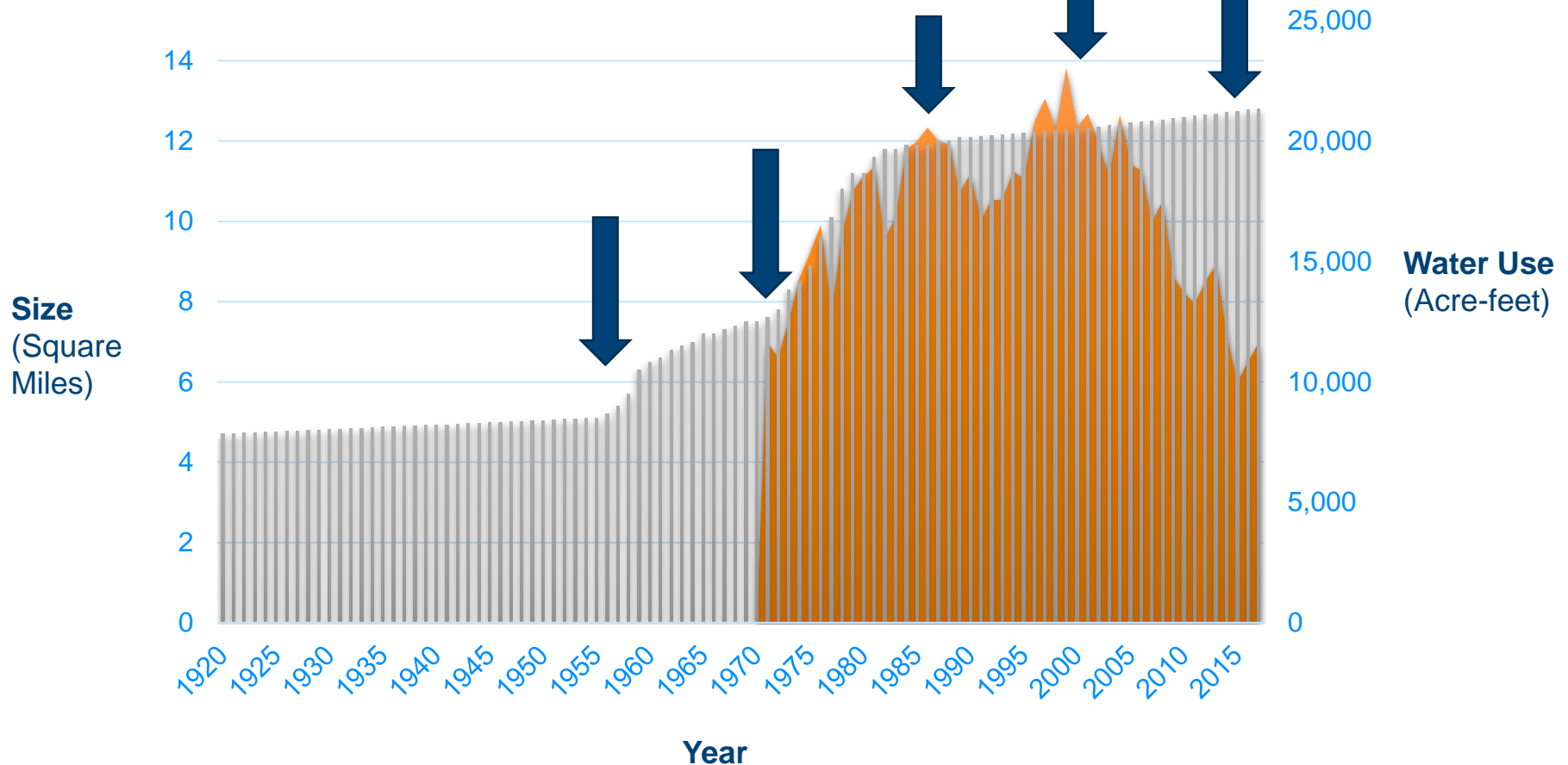
# Timeline Activity

1. Stand and line up next to the time period that represents when you moved into CHWD's service area.
  - 1955
  - 1970
  - 1985
  - 2000
  - 2015
2. Introduce yourself to the person next to you and share when you moved into the area.



# CHWD Growth Chart

## Size of District

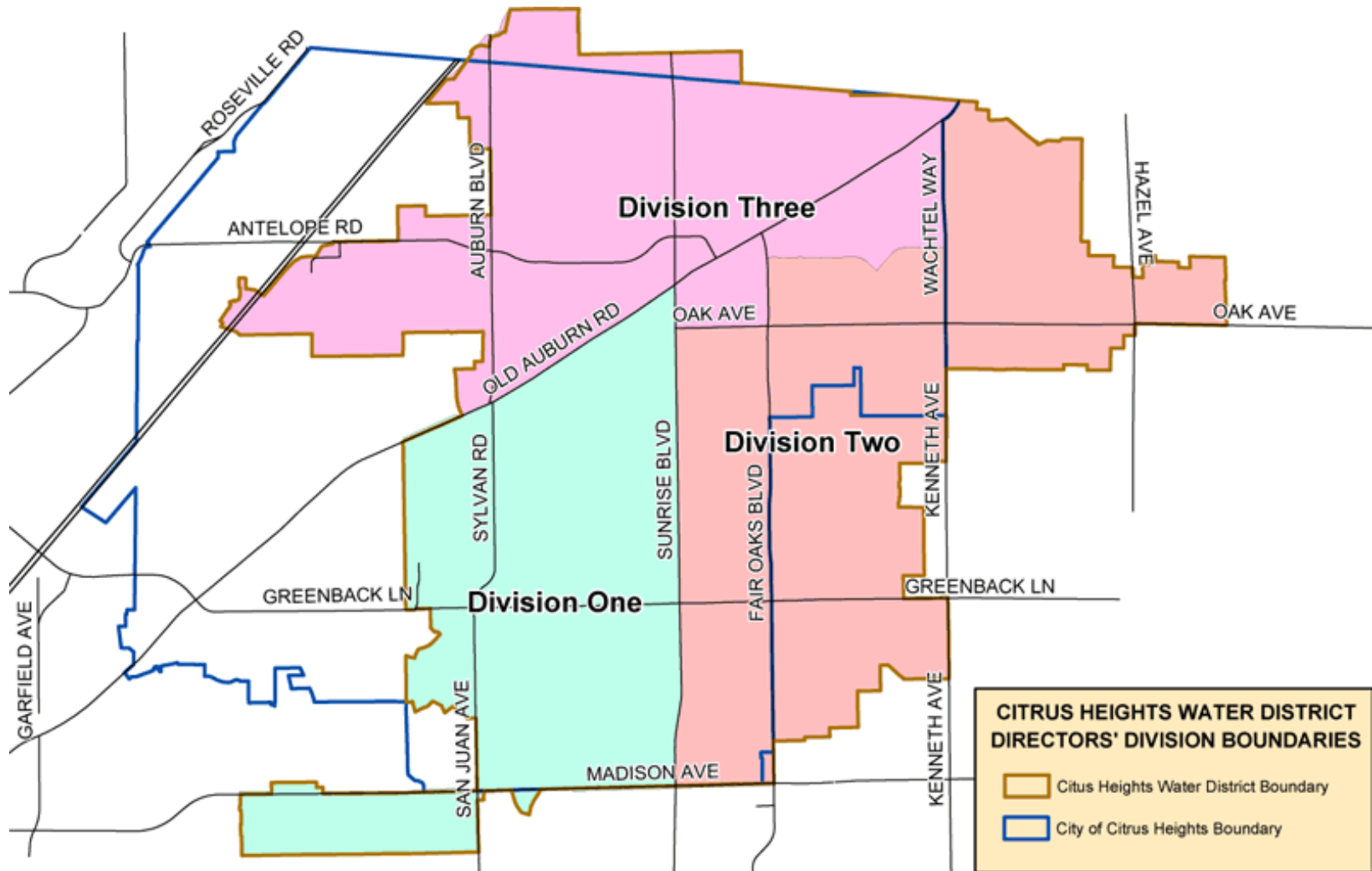




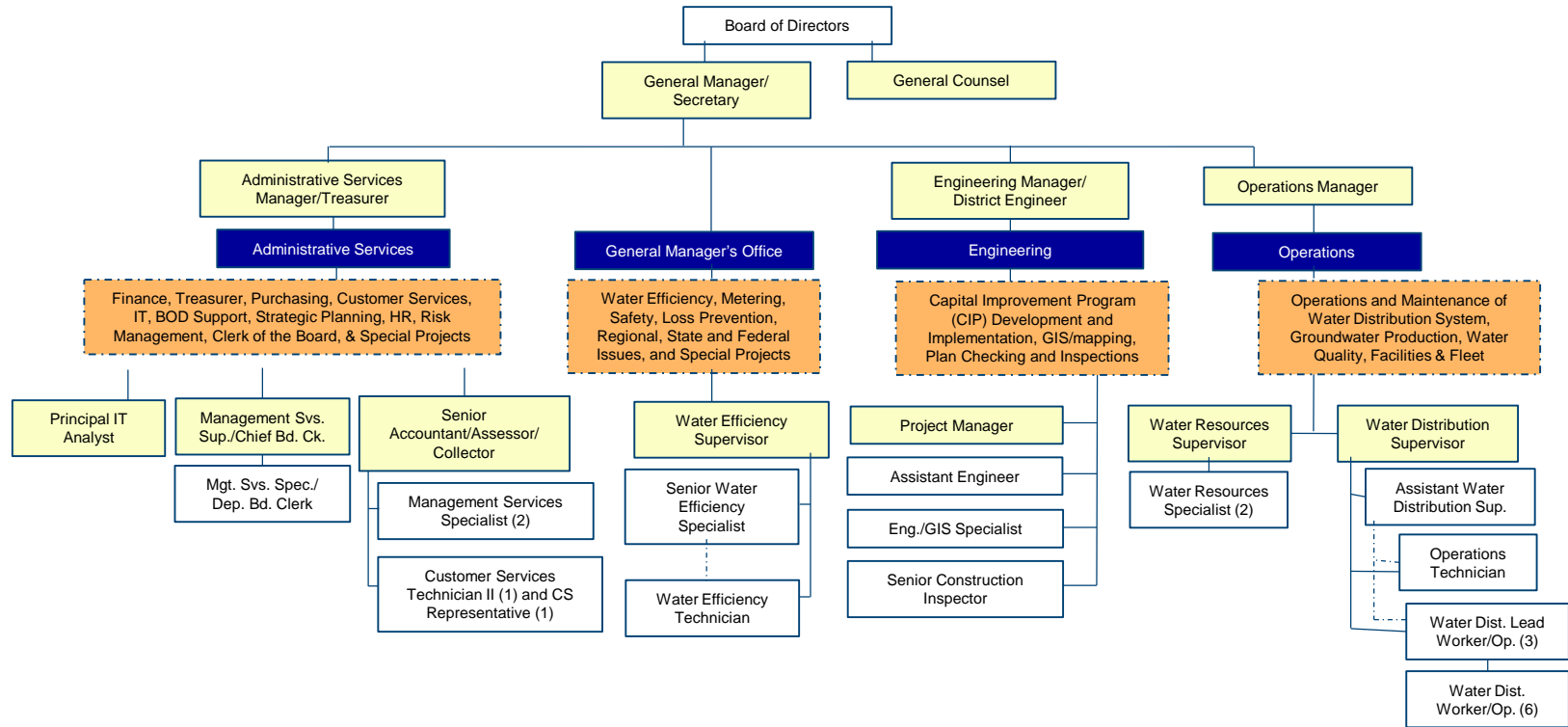
# The Organization and Budget



# CHWD Boundaries



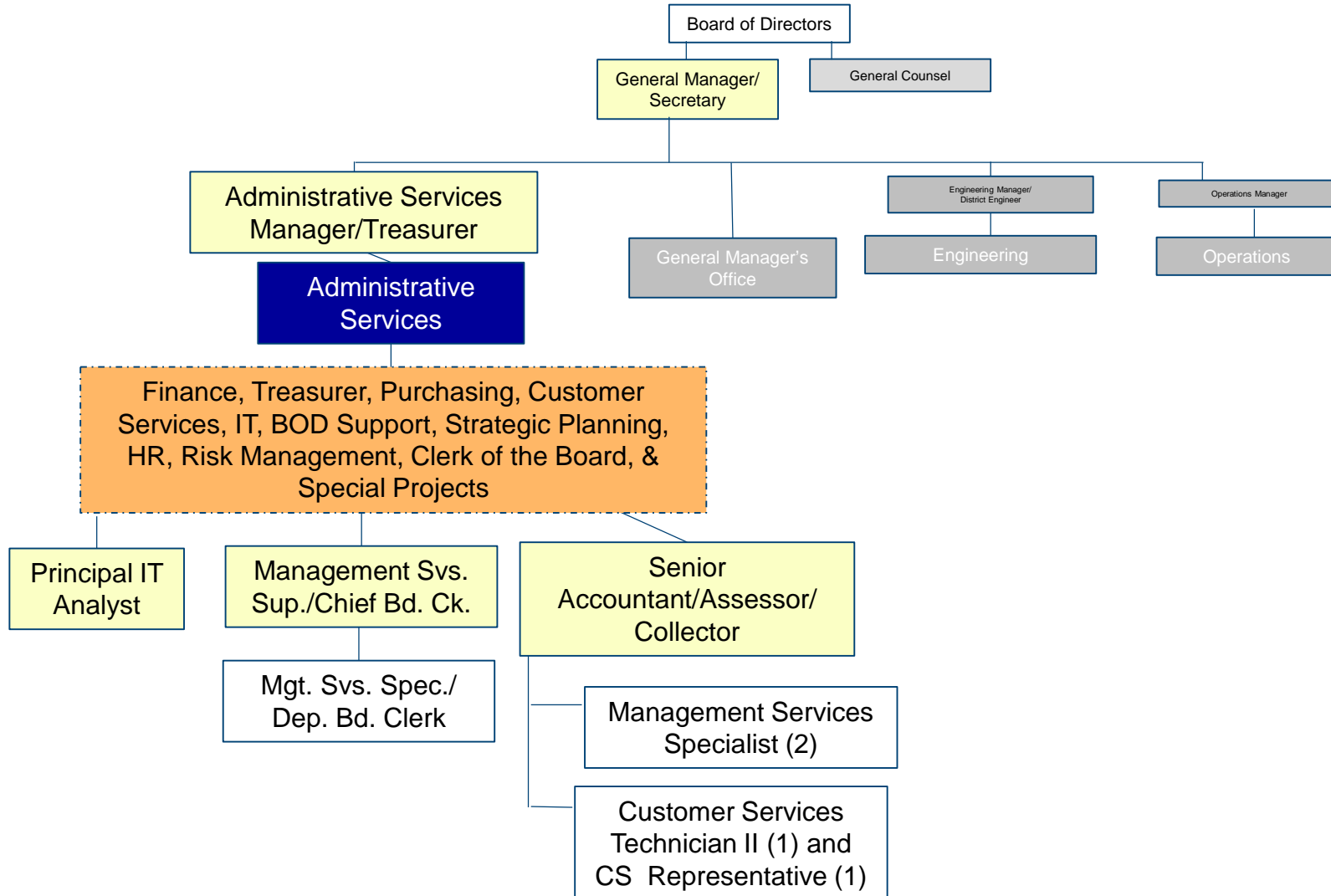
# The Organization



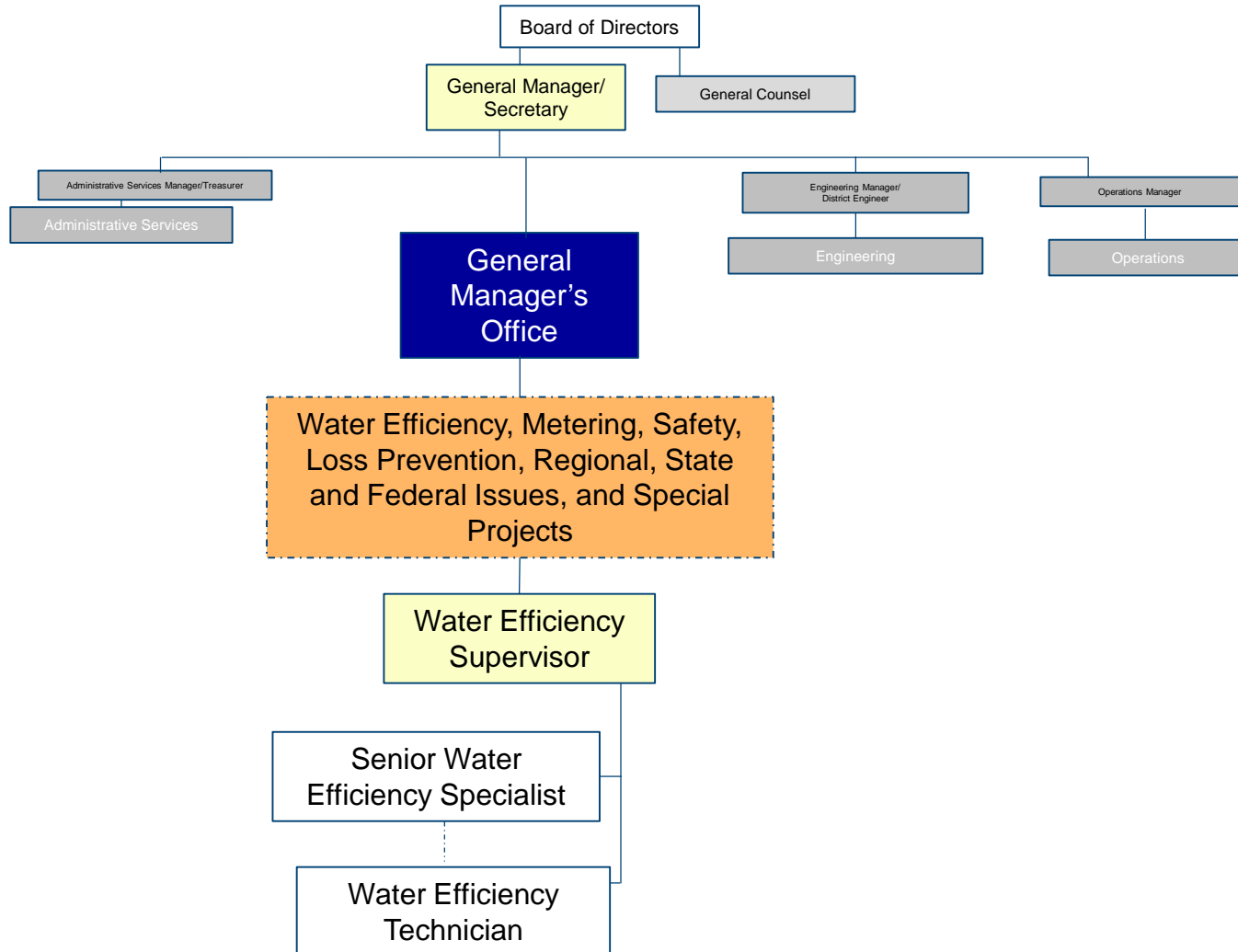
Total Positions: 34



# Administrative Services

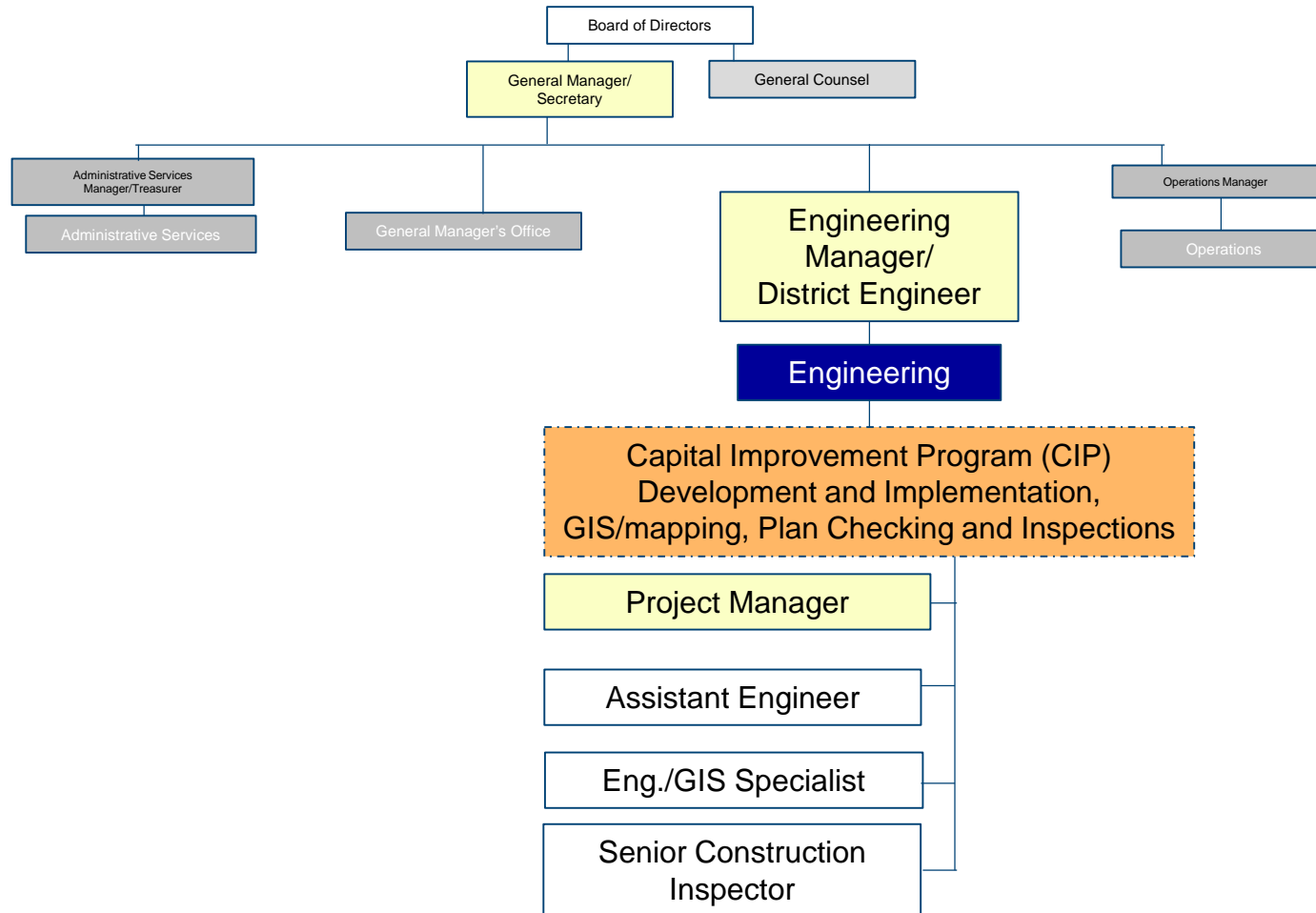


# General Manager's Office

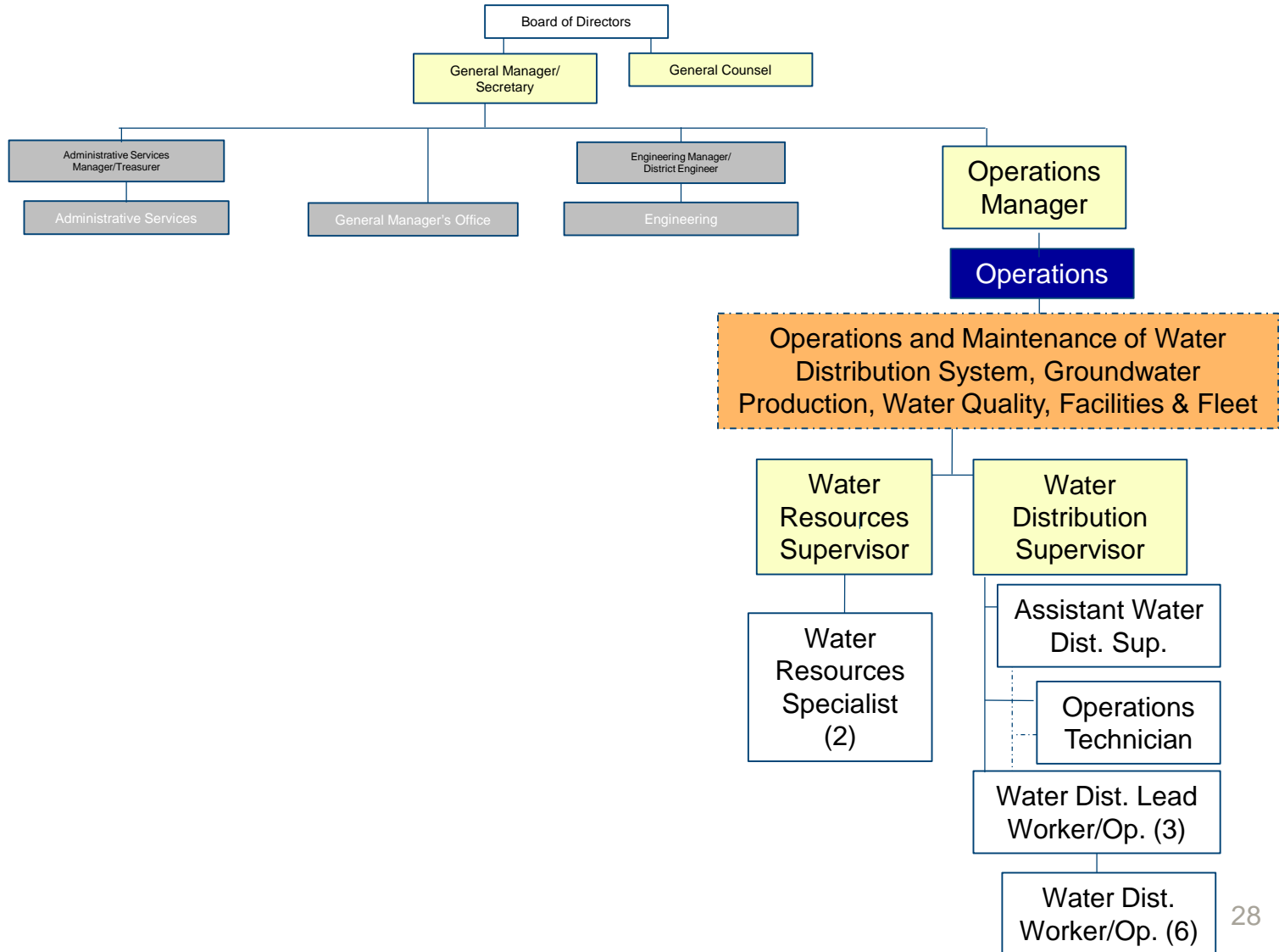




# Engineering



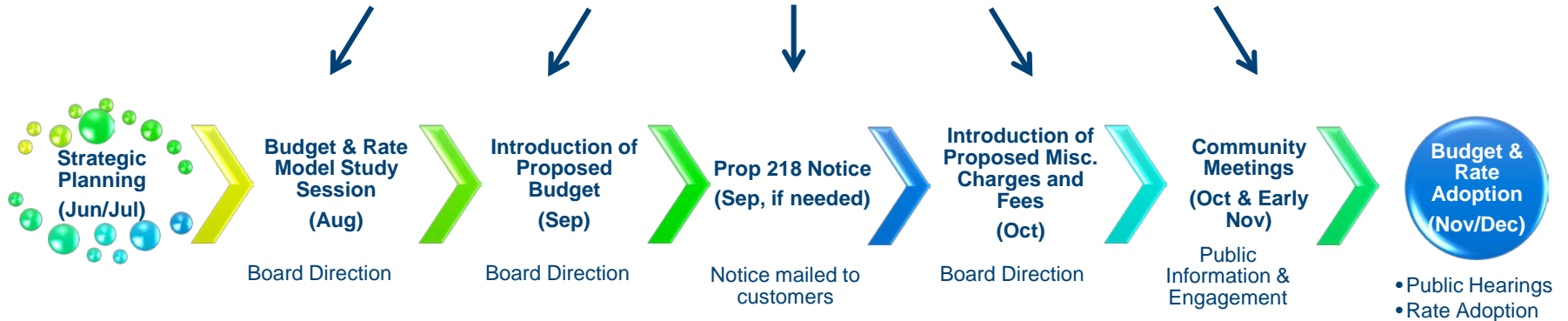
# Operations



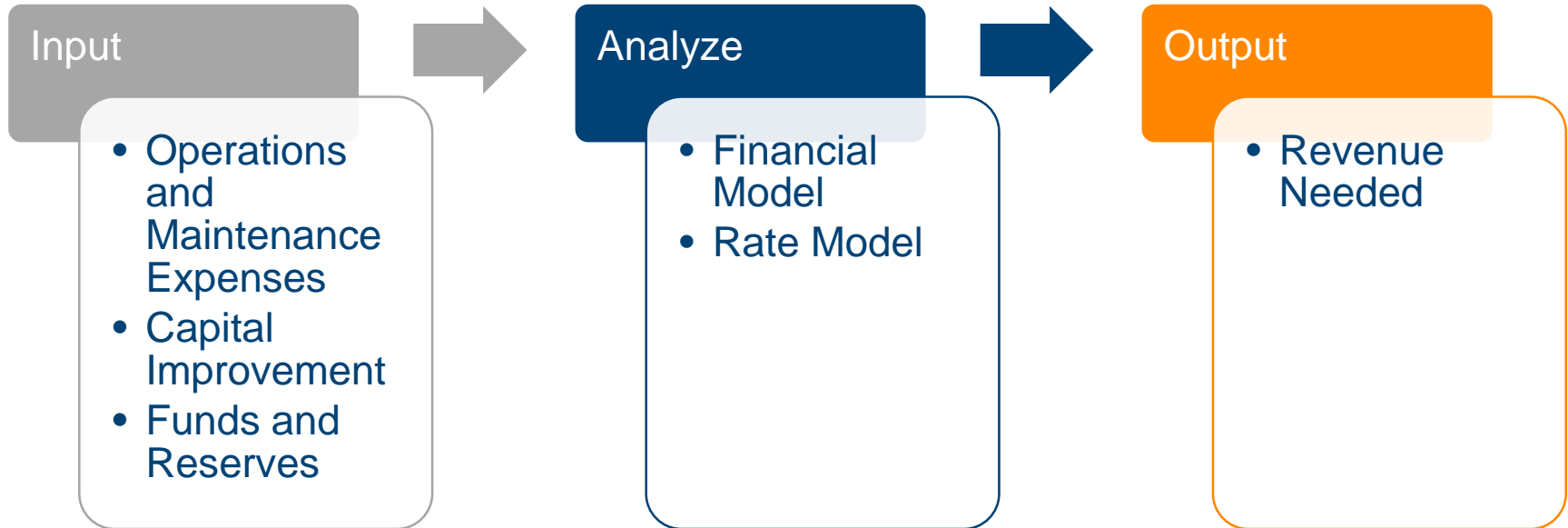


# About the Budget

# Budget Process



# Long-term Financial Model



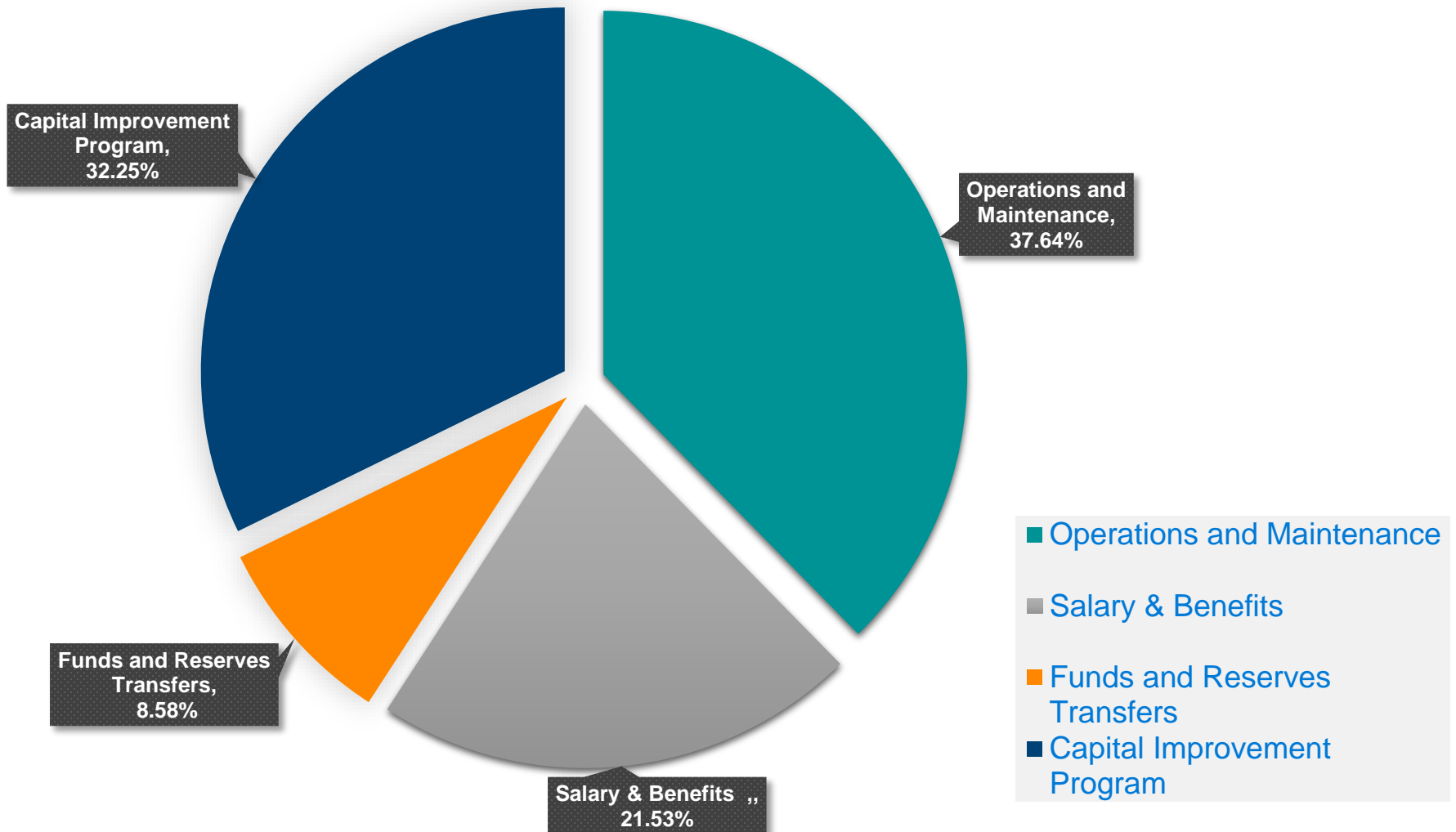
# 2018 Strategic Plan

- Capital Improvement Program
- Project 2030—Water Main Replacements
- Water Efficiency Program
- Water Supply
- Organization Wide Objectives

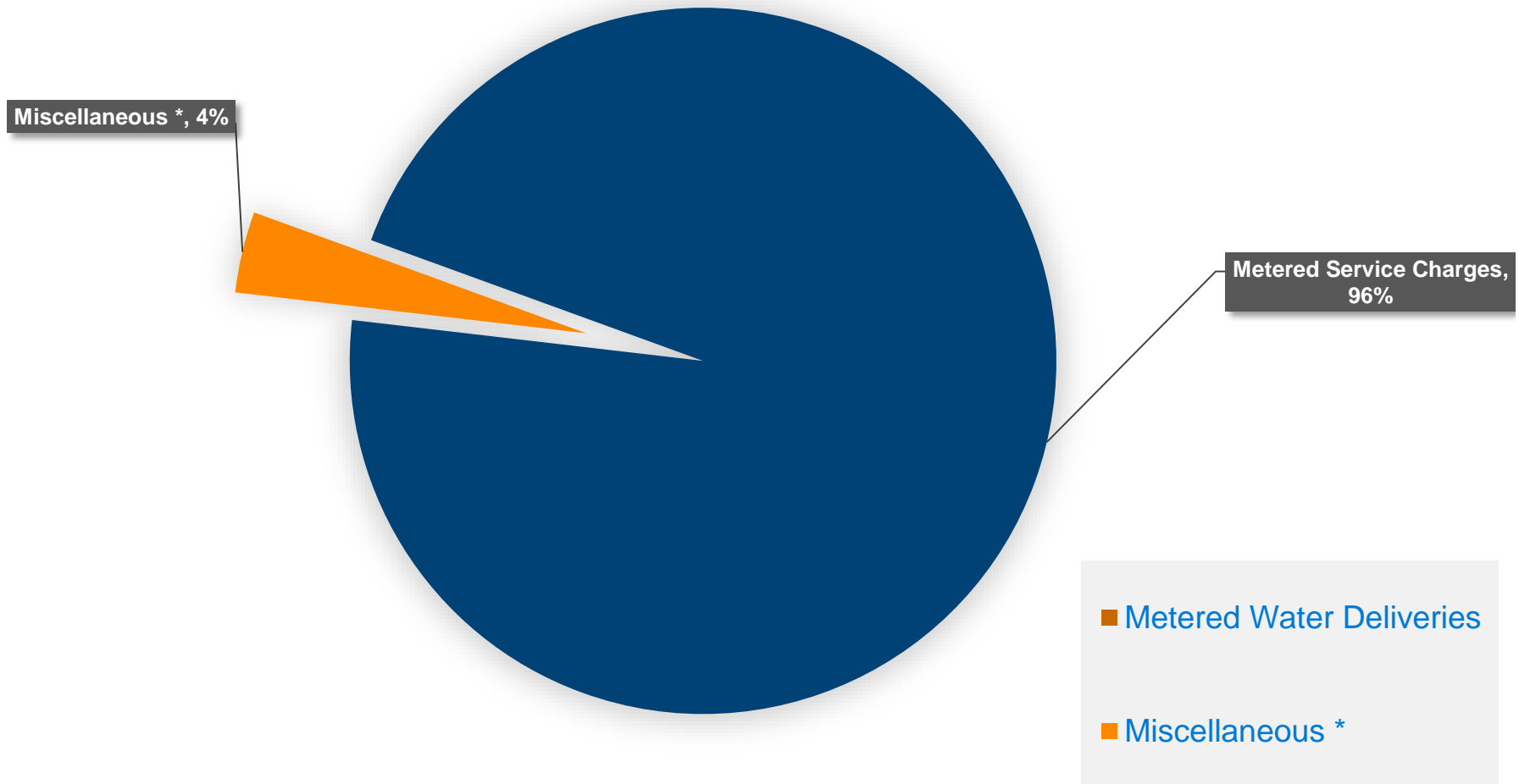




# 2018 Adopted Expense Budget



# 2018 Projected Revenue

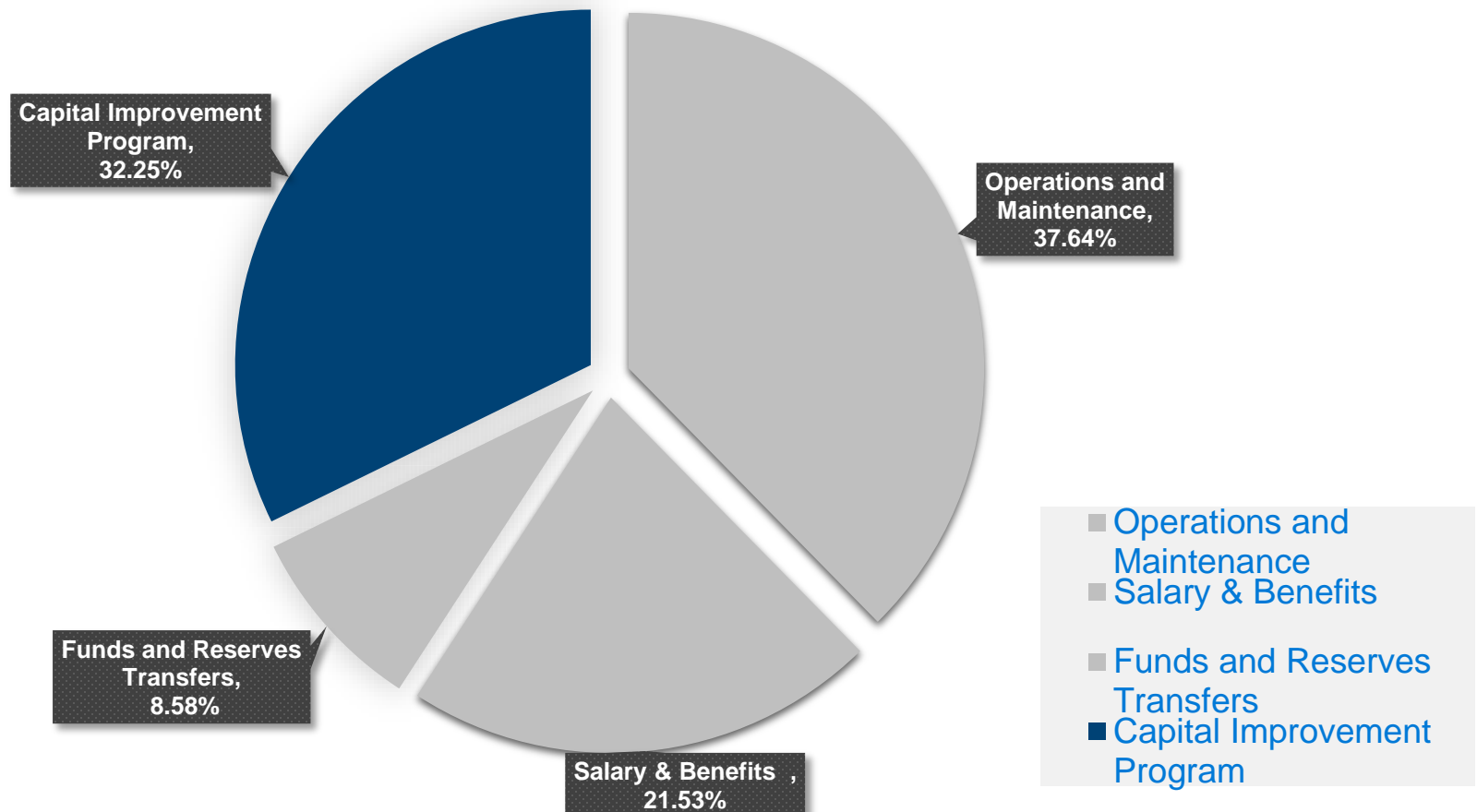




# Current Operations



# Focus on Capital Improvement Program



# Capital Improvement Plan

- Current Capital Improvement Plan (1999-2029)
  - Well development
  - Water meter replacements
  - Transmission, distribution mains & appurtenances replacements (e.g.: water services, valves, fire hydrants)
- List of projects developed for next 30 years

# Well Development

- Water Surface Supply – Folsom Lake
- CHWD current operations
  - ~90% Surface Water
  - ~10% Groundwater
- Currently have 6 Wells
- Goal to develop 10 Wells for water supply reliability
- 2018 Goals - Property Acquisition (Well sites 7 & 8)



# Water Meter Replacements

- State Law - All water connections to be metered
- CHWD residential water meter installation program (2000 – 2008)
- Meter Replacement Program
  - Meter life - 20 years
  - 20,000+/- meters serve CHWD
  - Advanced Planning Study
  - In Partnership with other Water Agencies
  - **Public Engagement/Information**



- Water Main Replacement Criteria
  - Pipe Type (Thin-walled steel)
  - Age
  - Water Break Data
  - Location





- **Key Issues:**

- Replace Aging Infrastructure
  - 250+ miles of pipelines
  - Many of the Water Mains Installed in the 1960s-80s
  - Majority of the District Built by Private Developers

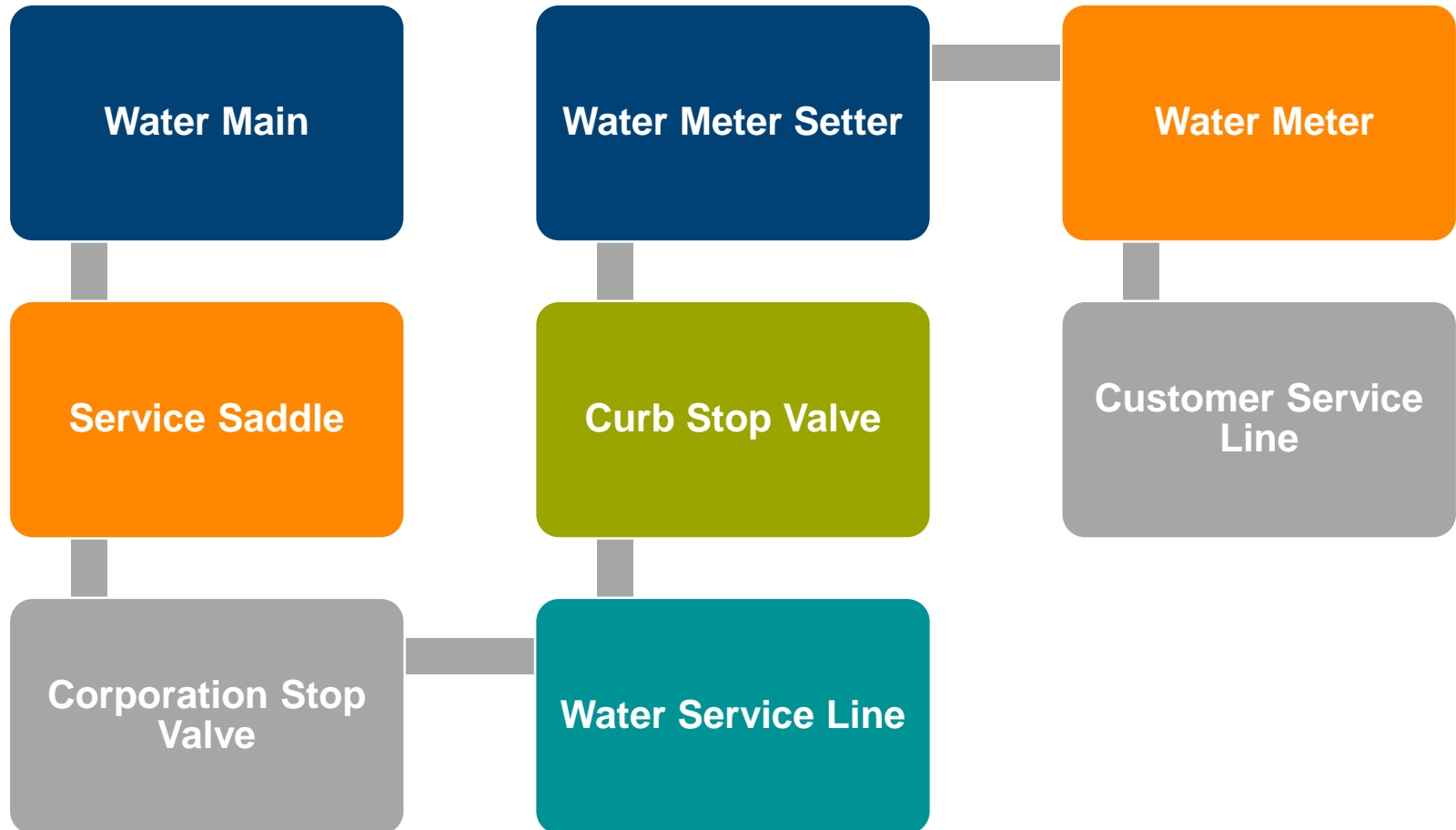
- **Key Goals:**

- Develop an Asset Inventory
- Develop a Comprehensive Water Main Replacement Program
- Develop Funding Options
- **Inform and obtain feedback from our customers**



# Displays

# Water Service Display





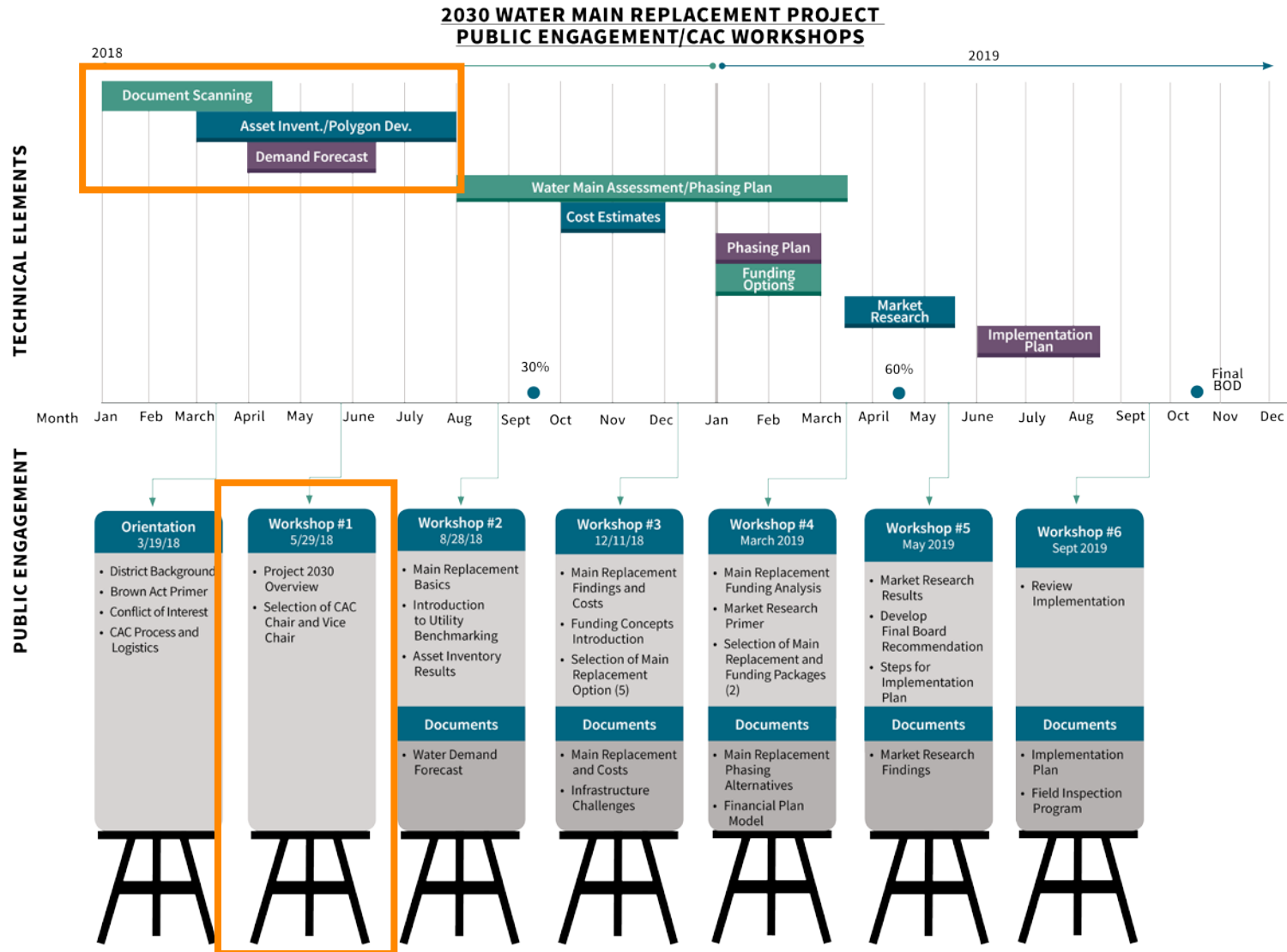
# Break



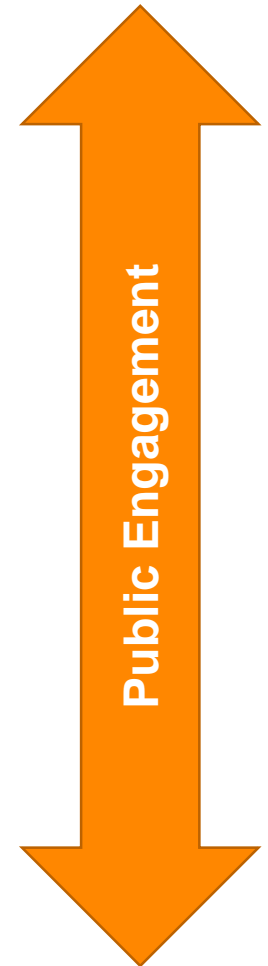
# Project 2030 Water Main Replacement Study



# Project Overview

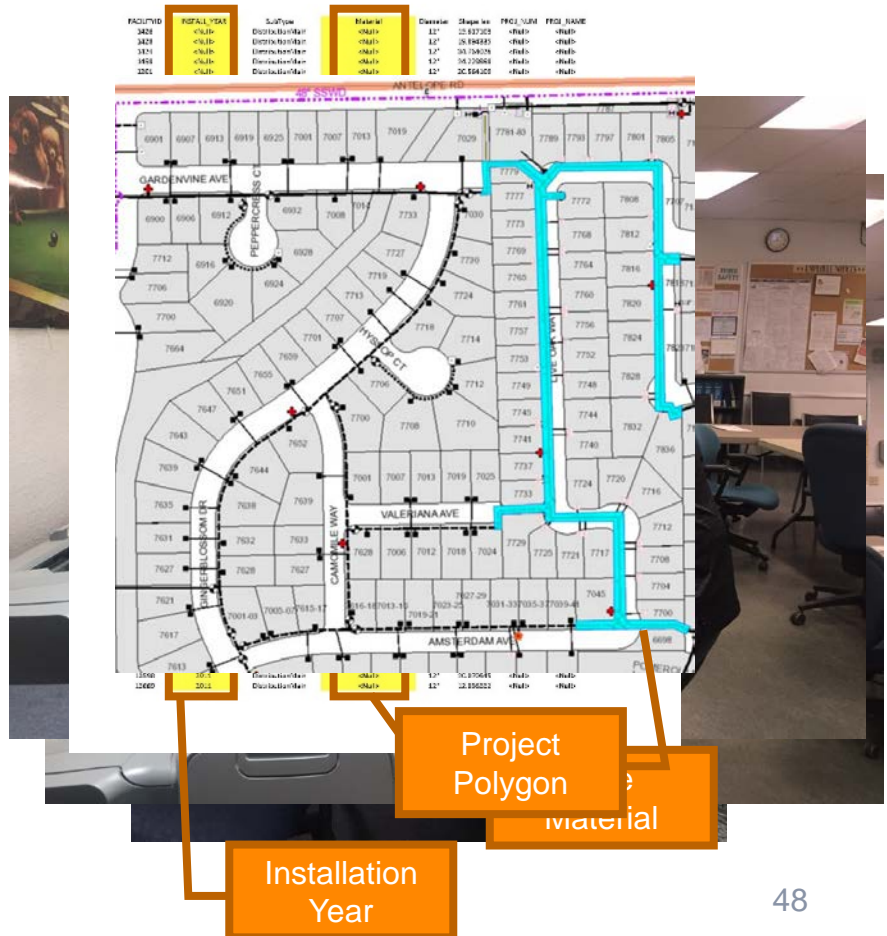


# Project 2030 Scope



# Asset Inventory

- Goal: Add key data to the District's GIS water facility map
- Tasks:
  - Go through project files
  - Scan documents
  - Data entry into map
  - QA/QC





# Future Water Demand Projections

- Determine Long Term Water Demands

- Predict Future Water Usage

- Factors to Consider:

- Conservation

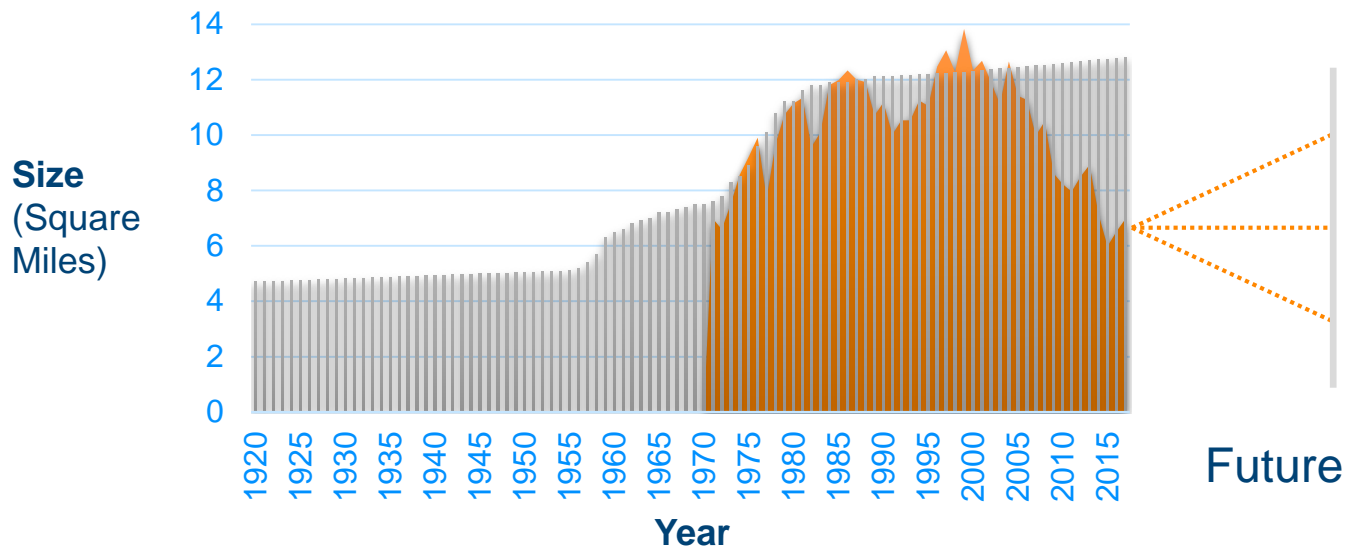
- Land Use Type

- Density

- Other Projections

- Other Studies

## Size of District



# Water Main Assessment

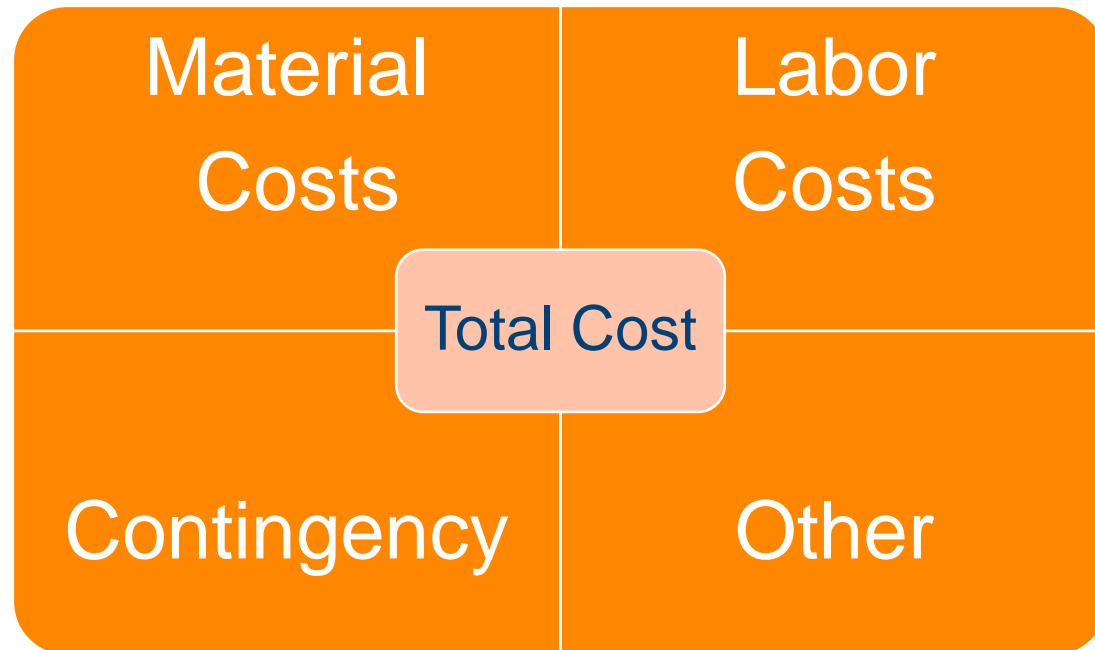
## Risk Analysis

Likelihood of Failure	3	6	9
	2	4	6
	1	2	3
	1	2	3
	Consequence of Failure		
	Low		High

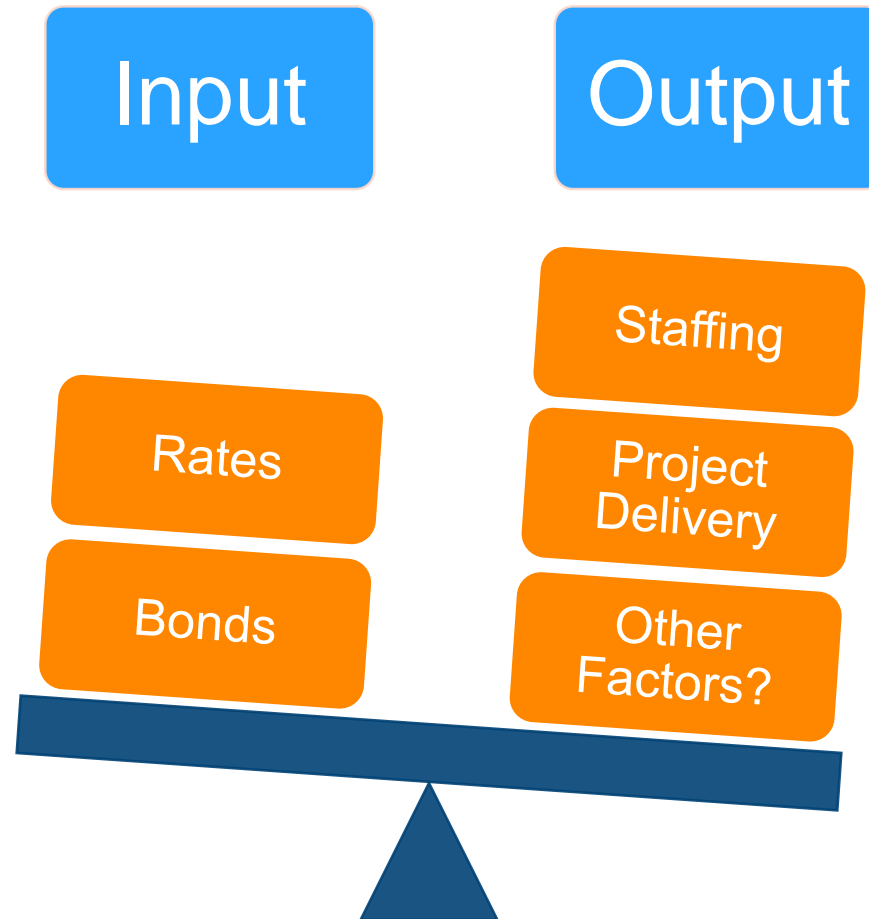
- Risk Analysis – Computer Software
  - Likelihood of Failure (LOF)
  - Consequence of Failure (COF)
  - Risk = LOF x COF
- Likelihood factors:
  - Pipe age, material
  - Service conditions
- Consequence factors:
  - Size
  - Location (Difficulty to repair)
  - Redundancy

# Cost Estimates

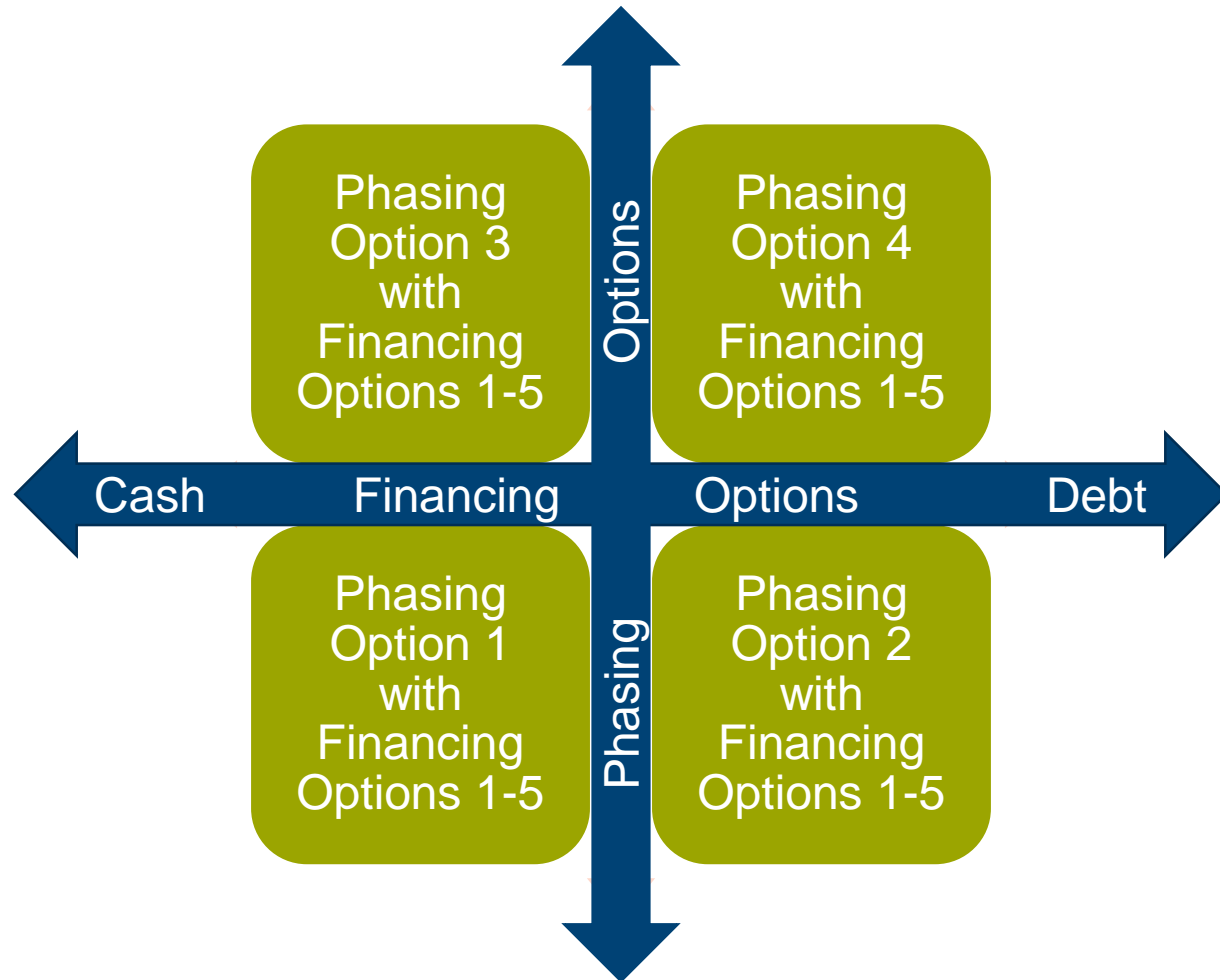
- Transmission Mains – 12” & Greater
- Distribution Mains – Less than 12”
- Creek Crossings



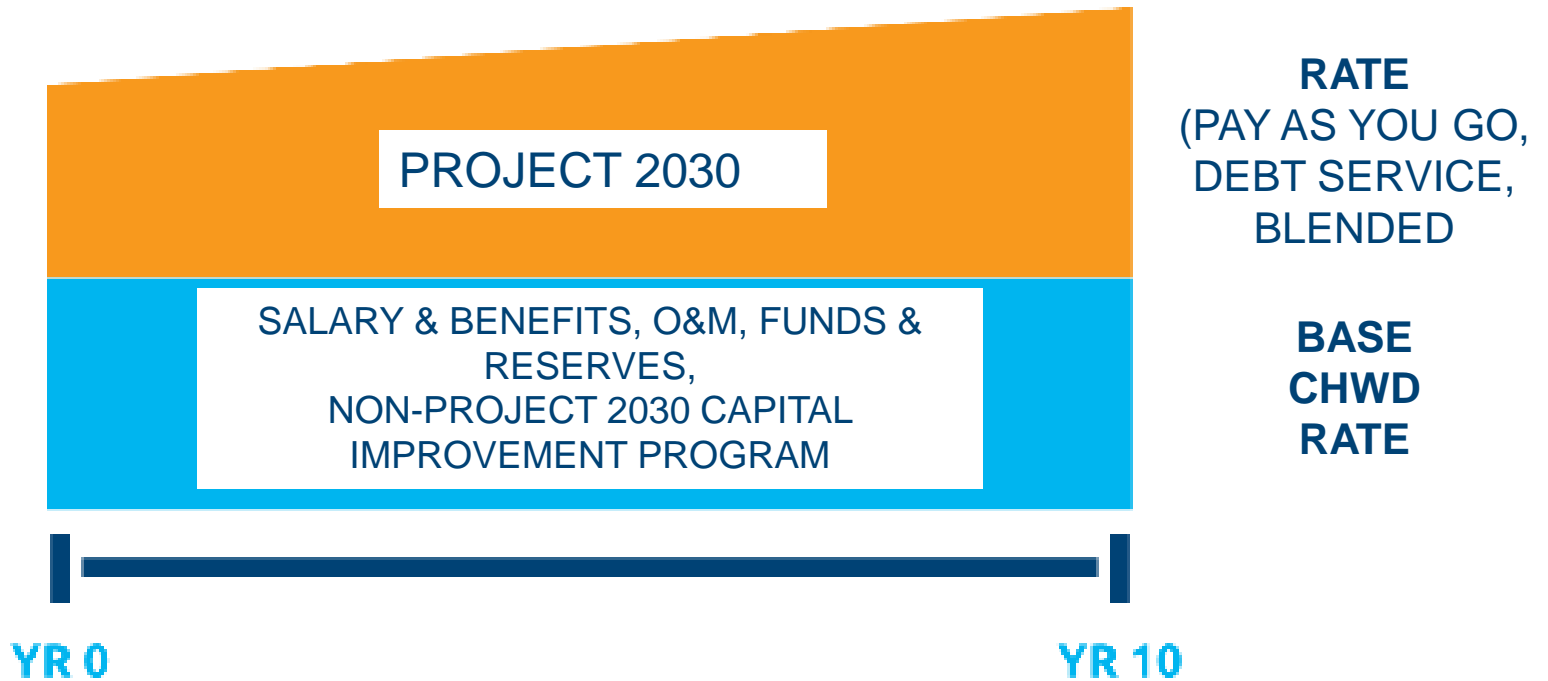
# Water Main Replacement Phasing Plan



# Funding Strategy/Rate Analysis



# Funding Strategy/Rate Analysis



## DISTRICT-WIDE RATE MODEL

# Implementation Plan

- Don't Want this Study to Just Sit on the Shelf
- Identify Tasks to be Performed Now and in the Future
- Example:

Transmission Main Evaluation

Condition Assessment

Alternative Analysis

- 
- Engagement Strategy
- SOCIAL MEDIA Digital
- Advisory Committee
- Gauge public support
- Community Meeting!
- Public Conversations



# Risk Analysis Activity

Risk = Likelihood of Failure x Consequence of Failure

- How do you analyze risk with your personal purchases and investments, such as a new car?

# Risk Assessment Activity

When making a major personal purchase such as a new car how do you decide when to make that purchase?

What factors do you take into account?

Risk = Likelihood of Failure x Consequence of Failure



# CAC Chair & Vice Chair Election

# Role of the CAC Chair

- Call the CAC meetings to order
- Lead the Pledge of Allegiance
- Turn the meetings over to the facilitator for the agenda review and meeting facilitation
- Manage any voting processes during CAC meetings, as appropriate
- Manage the public comment portion of the CAC meetings
- Close the meetings
- Act as the official spokesperson for the CAC when presenting CAC Project 2030 updates at the CHWD Board meetings (at 30% and 60% through the Project 2030 study process)
- Act as the official spokesperson for the CAC when presenting the CAC majority position on recommendations to the CHWD Board at the conclusion of the Project

# Role of the CAC Vice Chair

- Act for the CAC Chair, should that person be unable to serve



# Candidate Comments

# Ballot Voting

- Please vote for one candidate:
  - Jenna Moser
  - Richard Moses
  - Mike Nishimura
  - David Wheaton



# CAC Member Take-Aways



# Project Take-Aways

- CHWD has a long history of reliably and efficiently delivering safe water to its customers.
- CHWD follows best accounting and financial industry practices to ensure long-term fiscal health and resiliency.
- Project 2030 will chart a path to preserve integrity of the system and customer satisfaction.

# Next Steps

- **Next Meeting: Tuesday, August 28<sup>th</sup>**
  - **Time:** 6:30 pm – 9:15 pm
  - **Location:** Citrus Heights Community Center, Hall A
- **Strategic Planning Meeting: Tuesday, July 17<sup>th</sup>**
  - **Time:** 8:00 am – 12:00 pm
  - **Location:** Regional Water Authority Board Room  
5620 Birdcage Street, Citrus Heights, 95610
- **Housekeeping Items**

# Preview of CAC Meeting #2

- Main Replacement Basics
- Introduction to Utility Benchmarking
- Discuss Asset Inventory Results
- Review Water Demand Forecast Memo



# Public Comment



# Public Comment





# Closing