

# Local Conjunctive Water Management and Water Saving Opportunities

**DOMENICHELLI AND ASSOCIATES, INC.**

**Joe Domenichelli, President**

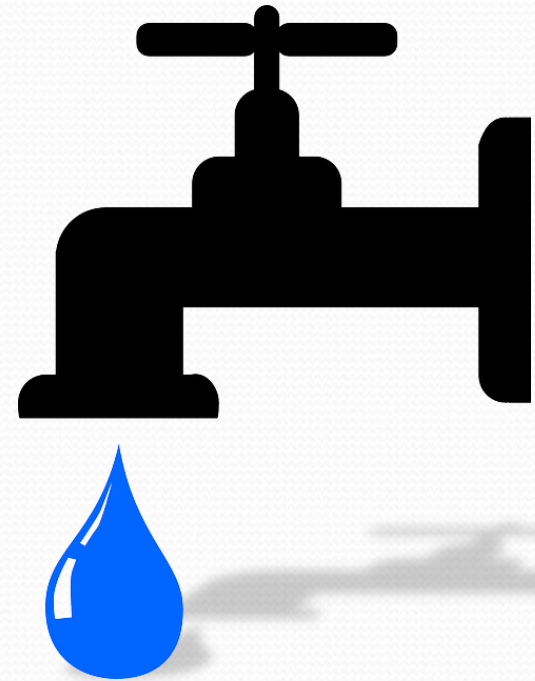
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# Presentation Overview

- **Highlight local projects**
  - Responding to current drought
  - Focused on water savings
- **Review project challenges and solutions**





# Goals of California Water Action Plan

## Improve regional self-reliance

### ➤ New water resources from a combination of:

- Improved conservation
- Conjunctive water management
- Water supply and use efficiency
- Recycled water
- Drinking water treatment
- Groundwater remediation
- Brackish and seawater desalinization

# Conjunctive Management Projects



Rancho Murieta CSD  
Ground Water Supply Improvements



Sacramento Suburban WD and San Juan WD  
Pumpback Project



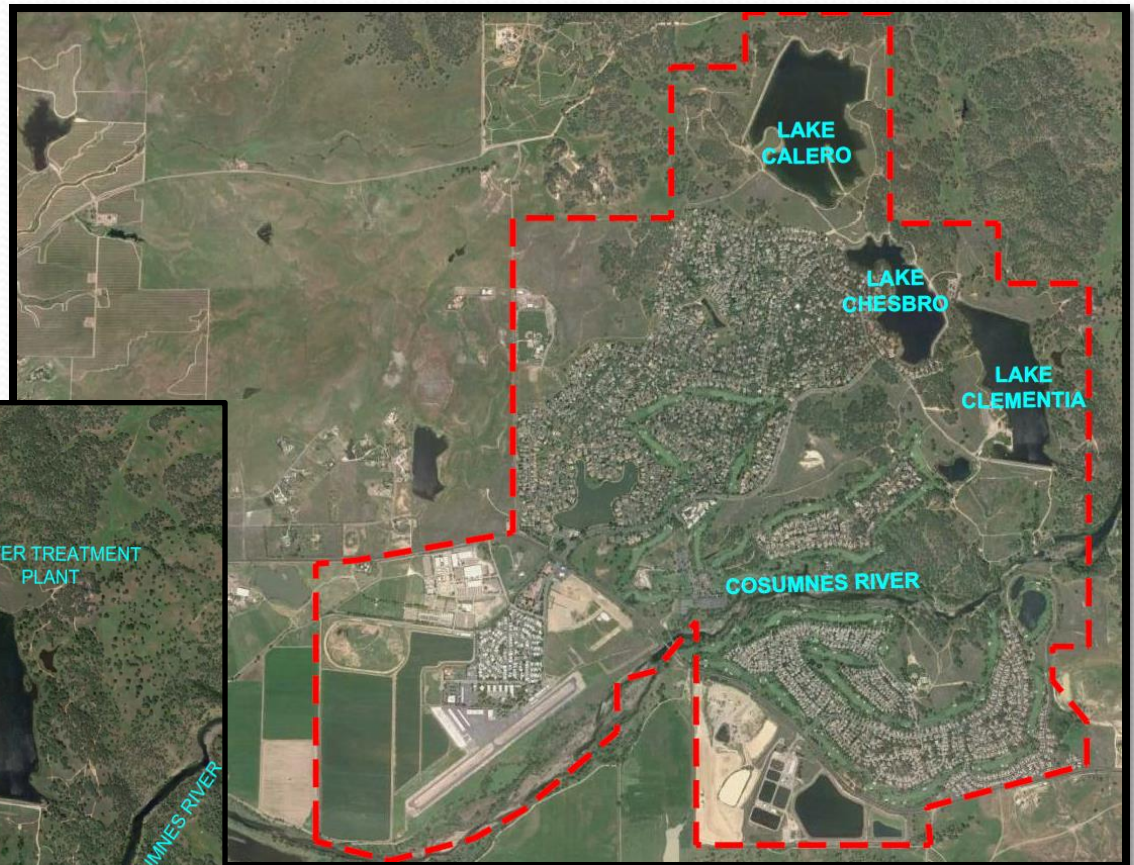
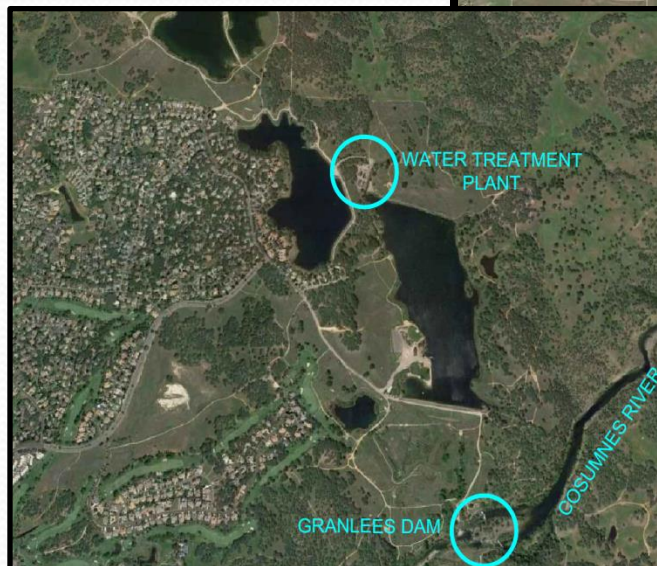
San Juan WD and Placer County WA  
Intertie Project



# Rancho Murieta Community Services District

## Ground Water Supply Improvements Project

- Currently supplied by surface water only
- Supply impacted by current drought
- Drought planning has been in place for years





# Rancho Murieta Community Services District

## Conjunctive water use within the District

- Increase water supply during drought
  - 2 new wells
  - Supply 600GPM
  - New pipelines to central treatment location
  - Floodplain component
  - Teaming with NV5 and Atkins
- Temporary (portable) treatment necessary
  - Iron, Manganese, Arsenic
  - Controls included



**PROJECT STATUS**



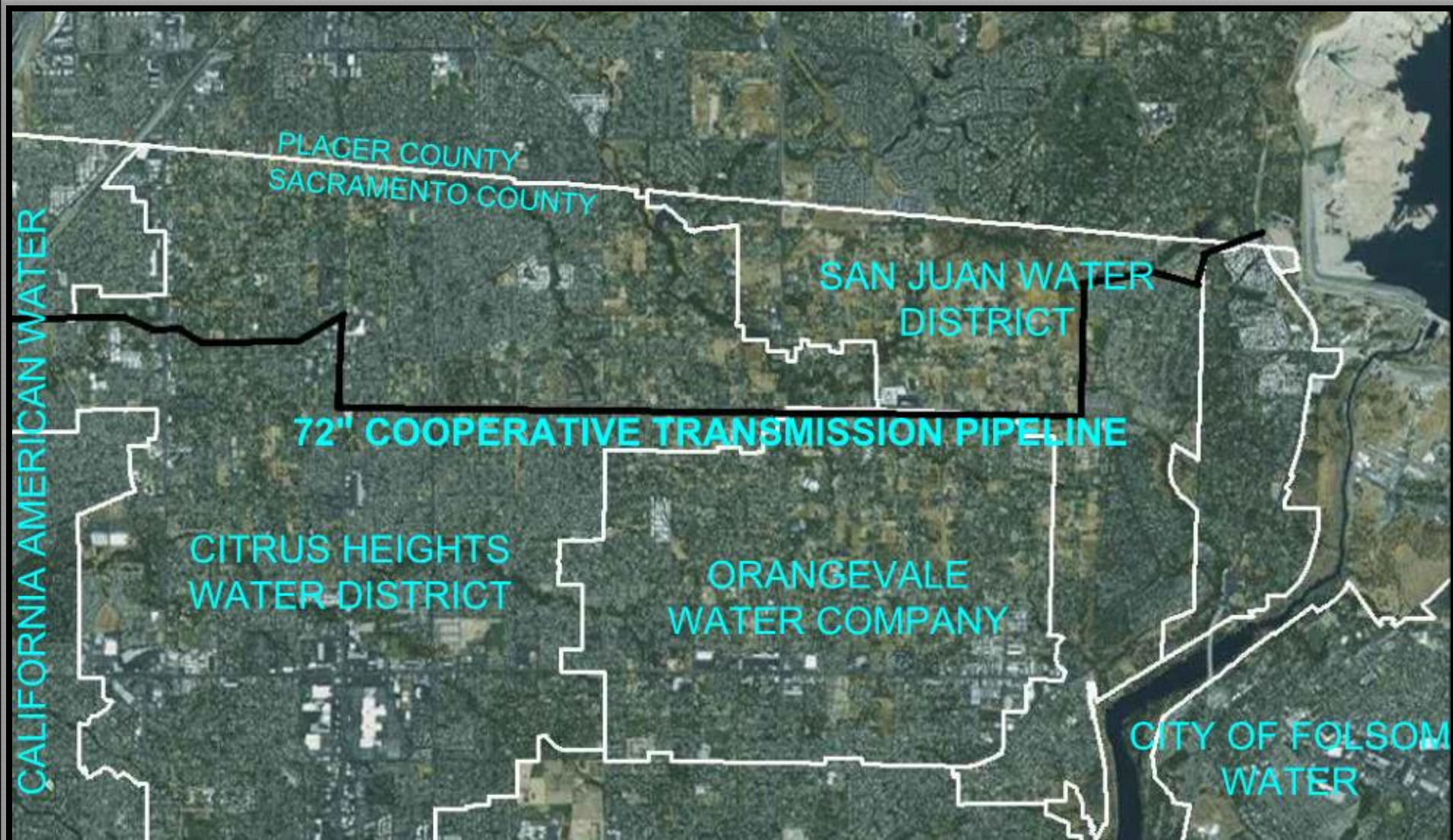
# Sacramento Suburban Water District (SSWD) and San Juan Water District (SJWD)

## Antelope Pumpback Project

- Example of conjunctive water use between agencies
  - SSWD uses surface water from SJWD when possible
  - SJWD will receive groundwater from SSWD during drought times
- Uses existing infrastructure – 72-inch cooperative transmission pipeline



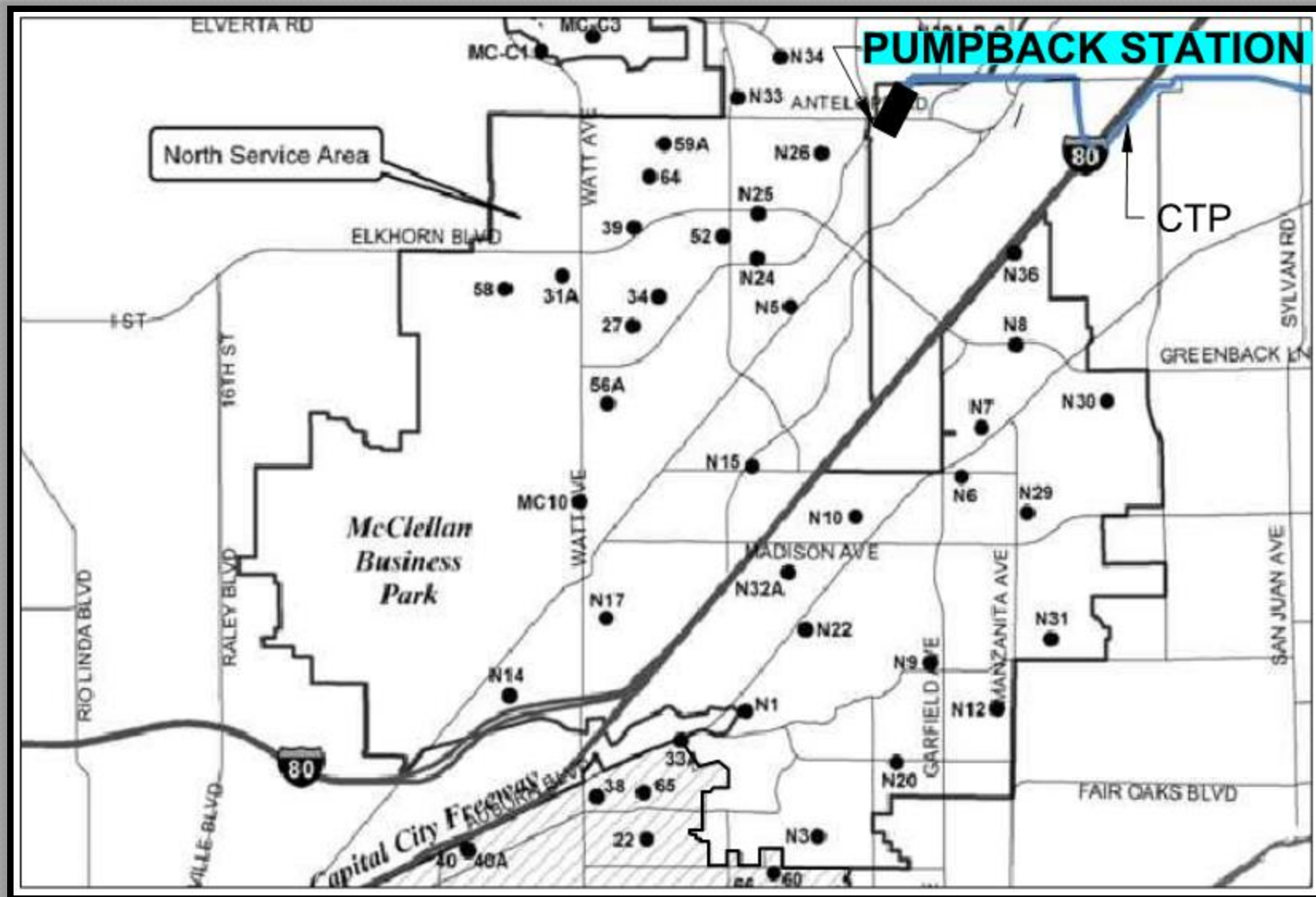




## 72" Cooperative Transmission Pipeline



# SSWD North Area Production Wells



# Project Specific Issues

## Capacity Analysis

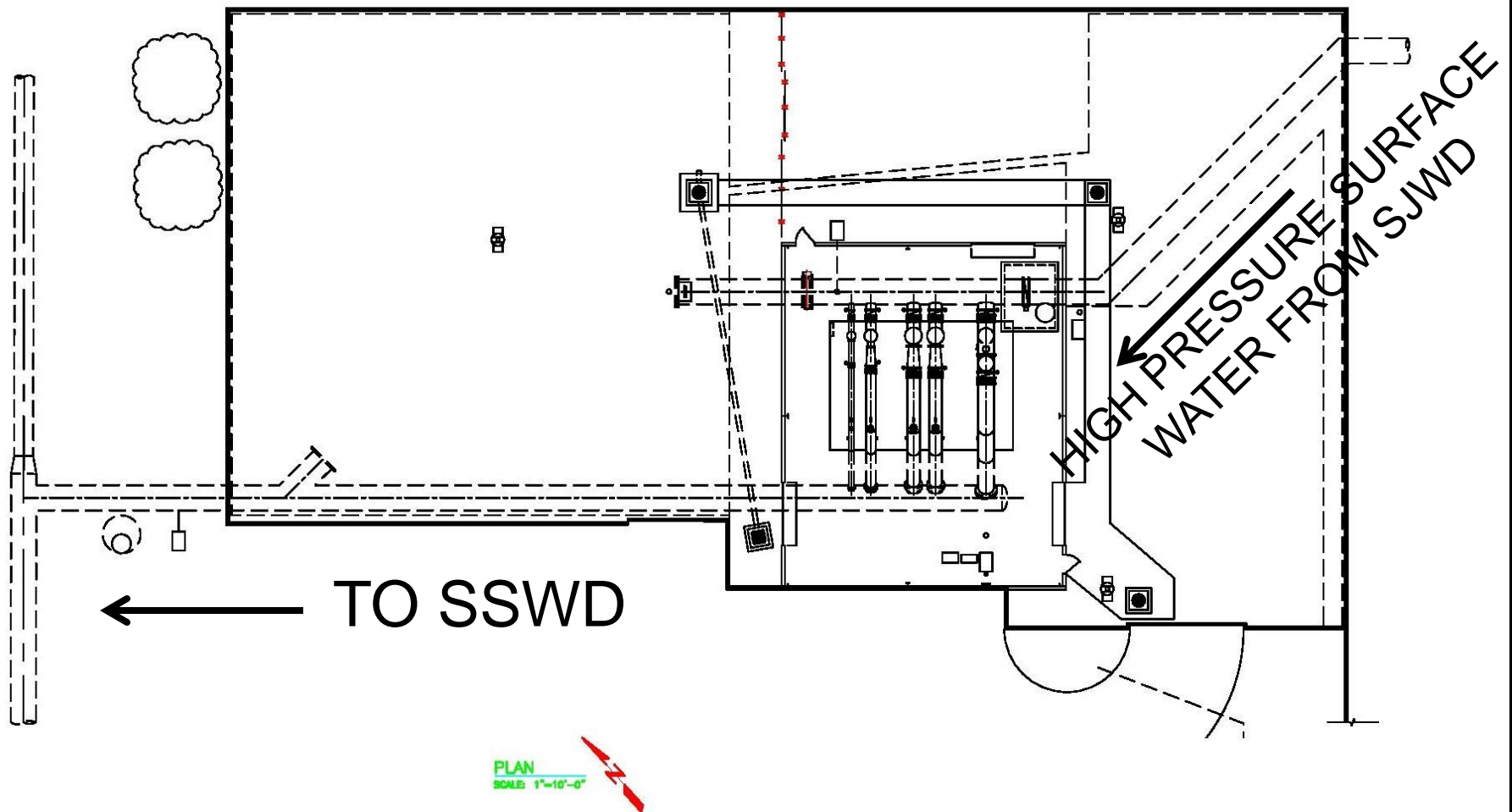
- Analysis considered:
  - Future demands
  - Age of wells
  - Proposed new wells
  - Water quality
- Excess capacity between 5,000 to 15,000 GPM

## Memorandum of Understanding

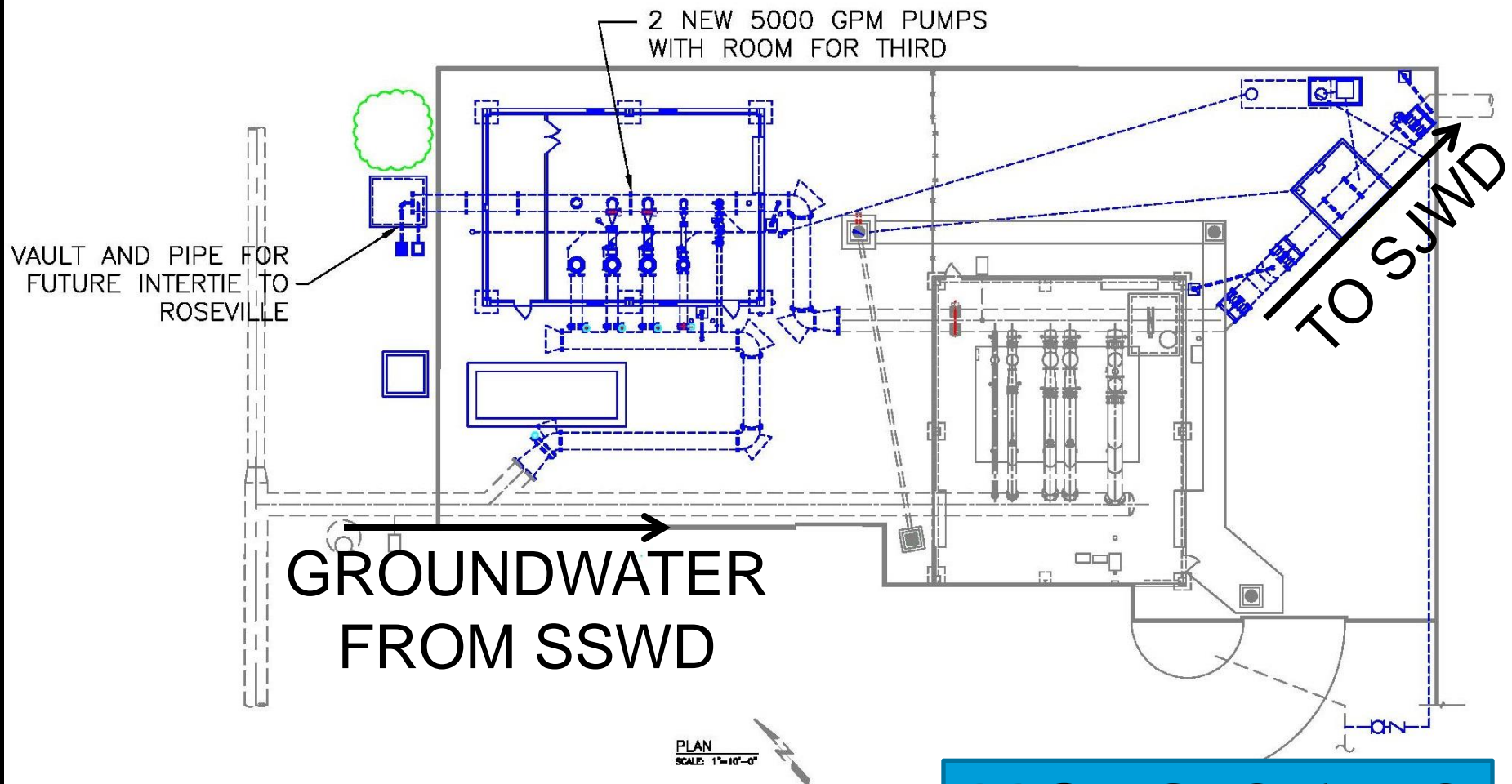
- MOU between agencies required to determine responsibility for:
  - Operation
  - Maintenance
  - Funding



# Existing Antelope PR Station



# Pumpback Facility Layout



**PROJECT STATUS**



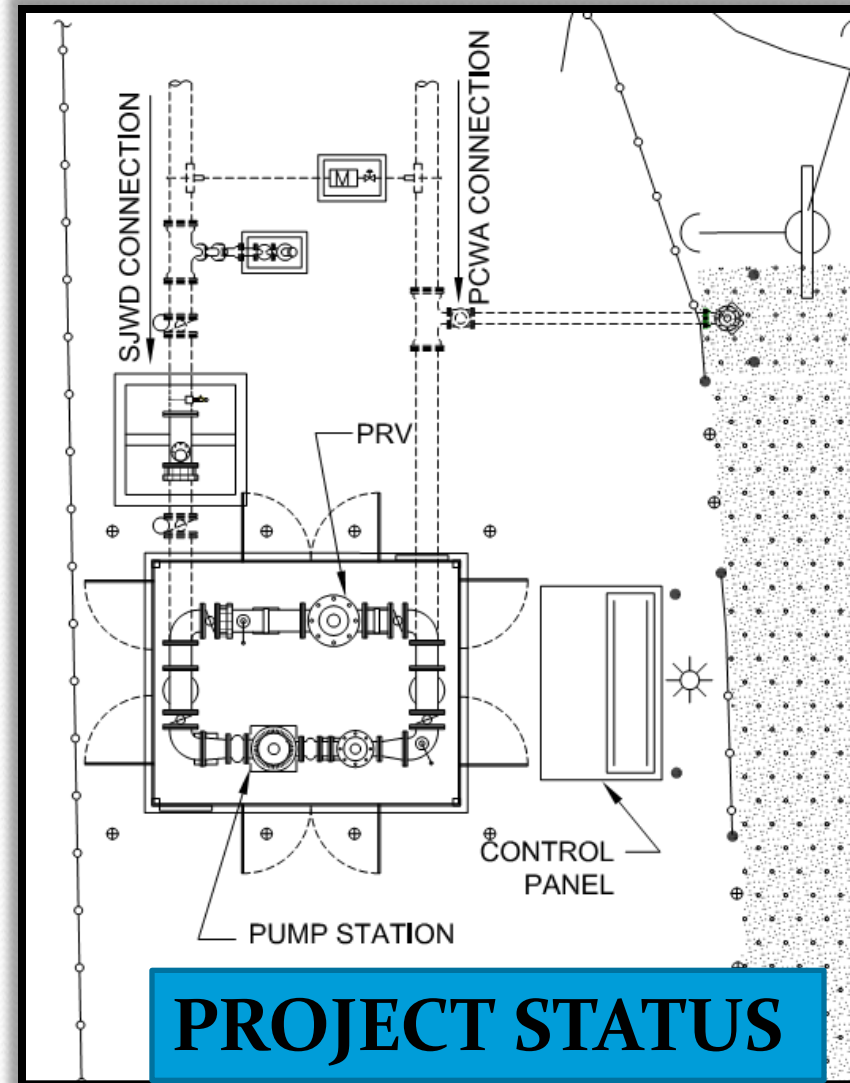
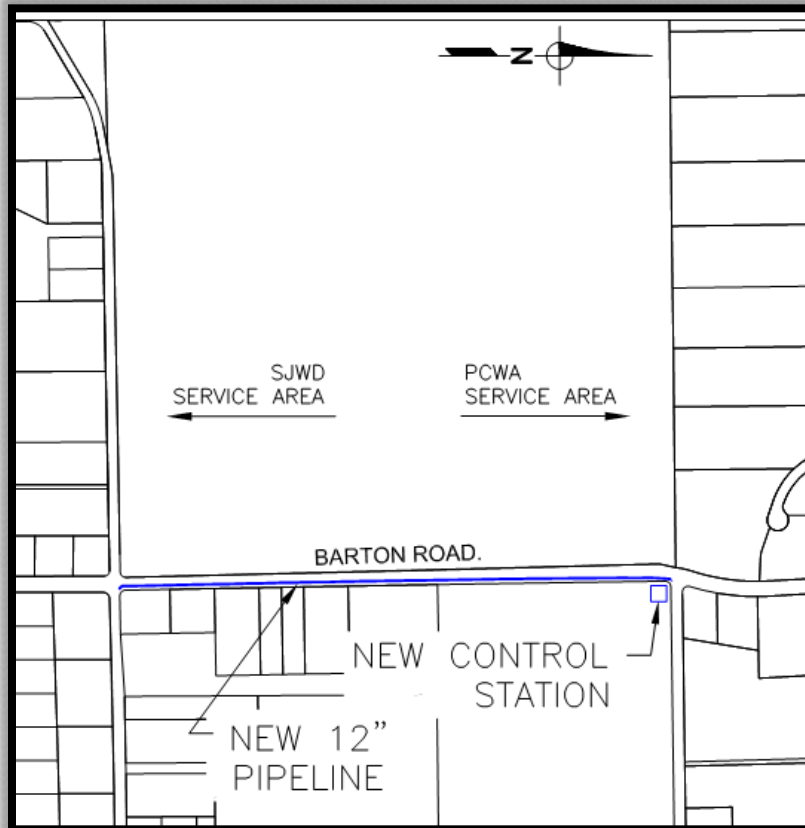
# **San Juan Water District (SJWD) and Placer County Water Agency (PCWA)**

## **Pipeline Intertie with Pumpback Capabilities**

- Another example of interagency use
- New facilities required to intertie agencies including:
  - Pipeline
  - Pressure Reducing Station
  - Pumpback facility
- Station allows for possible pump back from SJWD to PCWA
- Also requires an MOU

# Intertie Project Features

- 2700 feet of pipeline
- 1,400 GPM pump
- CLA-VAL PRV





# Goals of Water Action Plan and Water Bond

## Improve regional self-reliance

➤ New water resources from a combination of:

- Improved conservation
- Conjunctive water management
- **Water supply and use efficiency**
- Recycled water
- Drinking water treatment
- Groundwater remediation
- Brackish and seawater desalinization

# Water Saving Projects



El Dorado Irrigation District  
Main Ditch Improvements



Other Mountain Counties  
Ditch Lining and Piping  
Projects



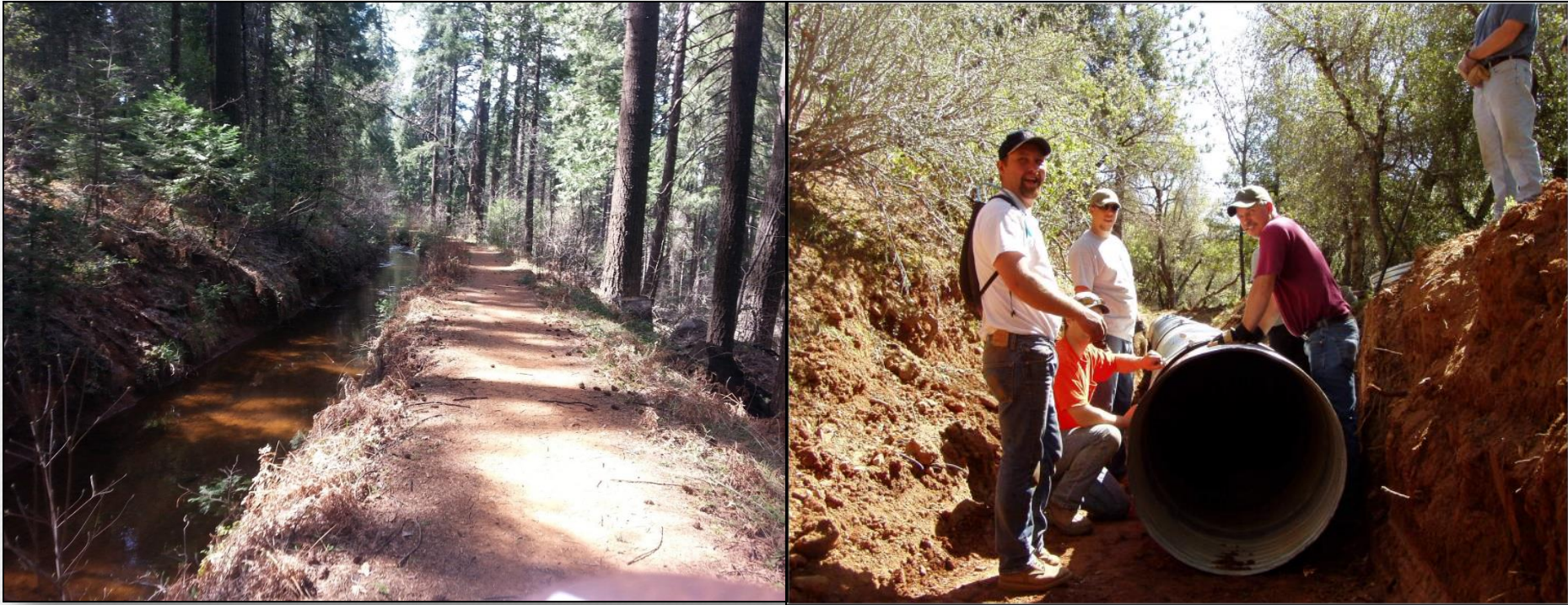
# El Dorado Irrigation District Upper Main Ditch Project



- Replace open ditch with 3 miles of buried 36" and 42" PVC pipeline
- Pre-design completed considered
  - Alignment
  - ROW needs
  - Costs
- Recently received funding for final design and construction



# Water Saving Benefits



- Reduce leakage and losses
  - Current losses estimated at 1,300 acre feet/year
- Improve water quality of water entering the treatment plant



# Typical Project Challenges and Solutions

## Interagency agreements

Challenge	Solution
Must establish how it will be operated and funded	Establish Co-equal goals
Interagency politics can delay the process	Early communication

# Typical Project Challenges and Solutions

## Groundwater quality and supply reliability

Challenge	Solution
Tougher regulations and decreasing water quality	Costs and benefits of treatment should be evaluated
Outdated water demand and supply assessments	Supply assessments should be continually updated as system changes are made



# Typical Project Challenges and Solutions

## Environmental Process and Permits

Challenge	Solution
Permitting process can delay projects and increase costs	Streamline permitting process for supply reliability projects

# Typical Project Challenges and Solutions

## Infrastructure needs and Cost requirements

Challenge	Solution
Interties and water savings projects will require system upgrades	Look for existing intertie opportunities
High Costs can be a burden	More grants and low interest loans



# Questions????

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