



# City of Modesto - North Valley Regional Recycled Water Program (NVRRW P)

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# City of Modesto Wastewater System

- Provides sewer service for Modesto, Empire and portions of Ceres and Stanislaus County
- Serving population approx. 224,000
- Collection System
  - Over 900 miles of sewer pipelines
  - Approximately 12 miles of Cannery Segregation pipeline
  - 40 Lift stations
- ADWF of 20.0 MGD
  - More that 7.6 billion gallons treated annually
- Tertiary facilities expansion driven by 2008 NPDES Permit
  - Compliance by 2018

# Modesto's wastewater comes from two sources:

- Domestic/Commercial

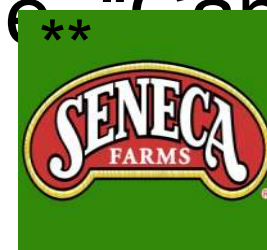


Domestic



Commercial

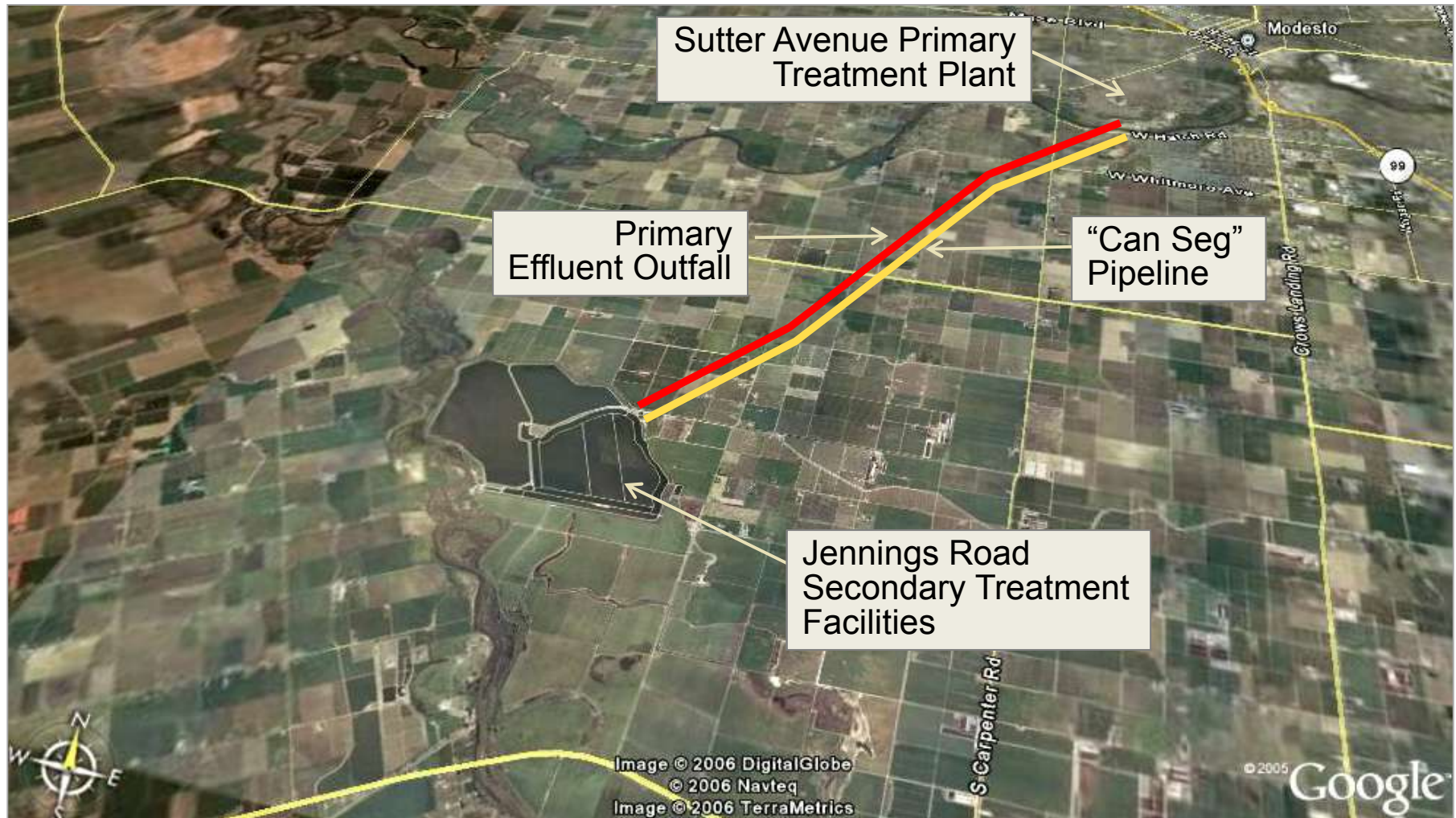
- Industrial – \* No Human Waste – i.e. “Can



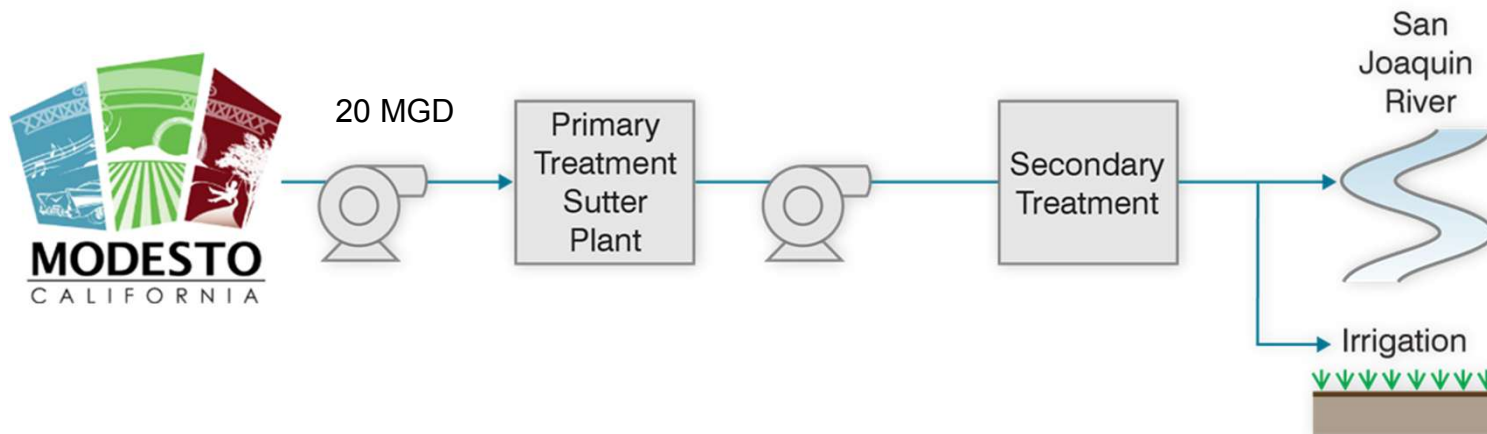
\* Year round

\*\* Cannery Season, June – September

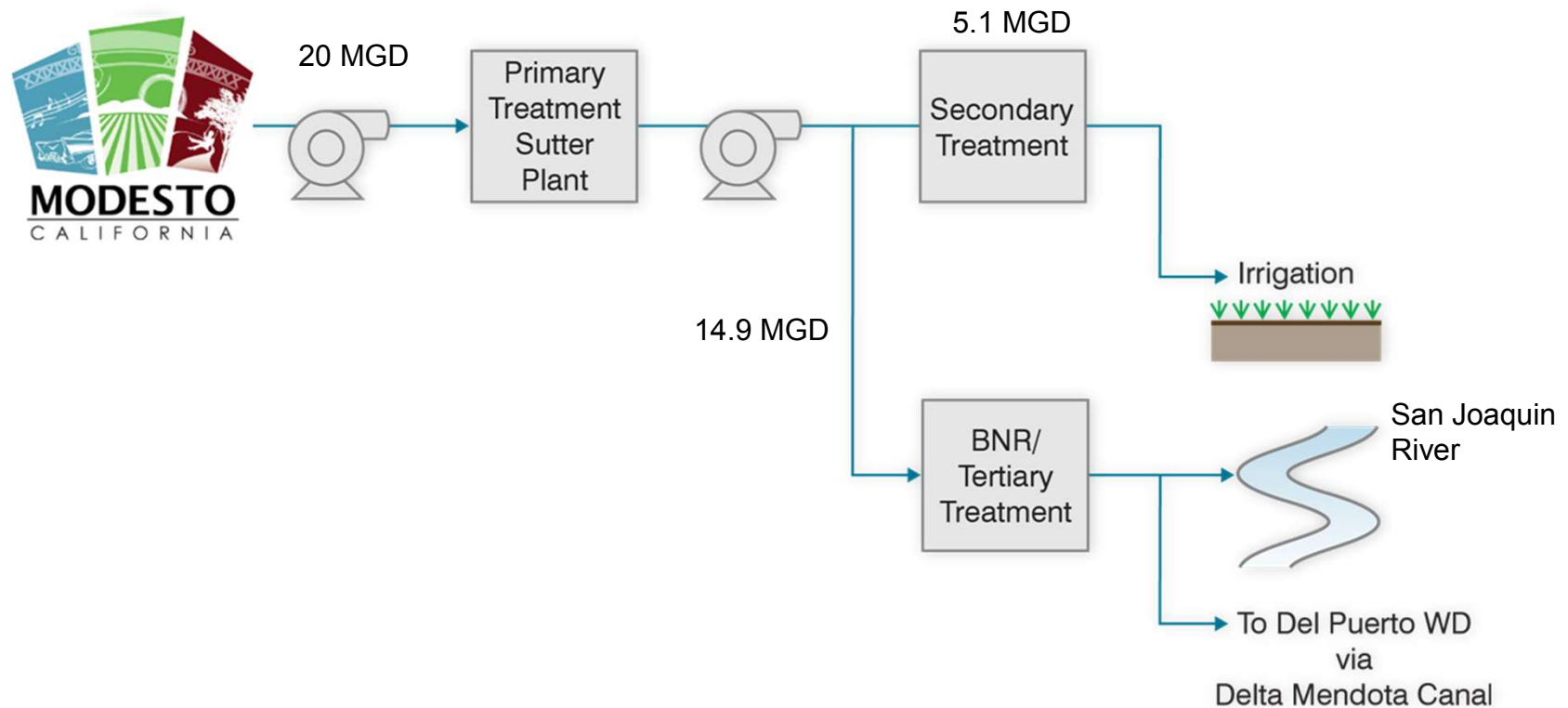
# Modesto's treatment facilities are in two separate locations



# Current Modesto discharge permit allows seasonal river discharge and land application of secondary effluent



# Addition of BNR/tertiary facilities produces high quality effluent suitable for reuse





# Modesto's Tertiary Treatment Facilities



# Making the shift from River discharge to recycled water supply





# North Valley Water Recycling Program (NVRWWP) is a Regional effort

- Growers experiencing drastically curtailed federal water allocations – they need a drought-proof supply
- Partnership formed in April 2010
  - Del Puerto Water District (DPWD)
  - City of Modesto
  - City of Turlock
  - City of Ceres
  - Stanislaus County
- Deliver recycled water produced by Modesto and Turlock plants for use by DPWD

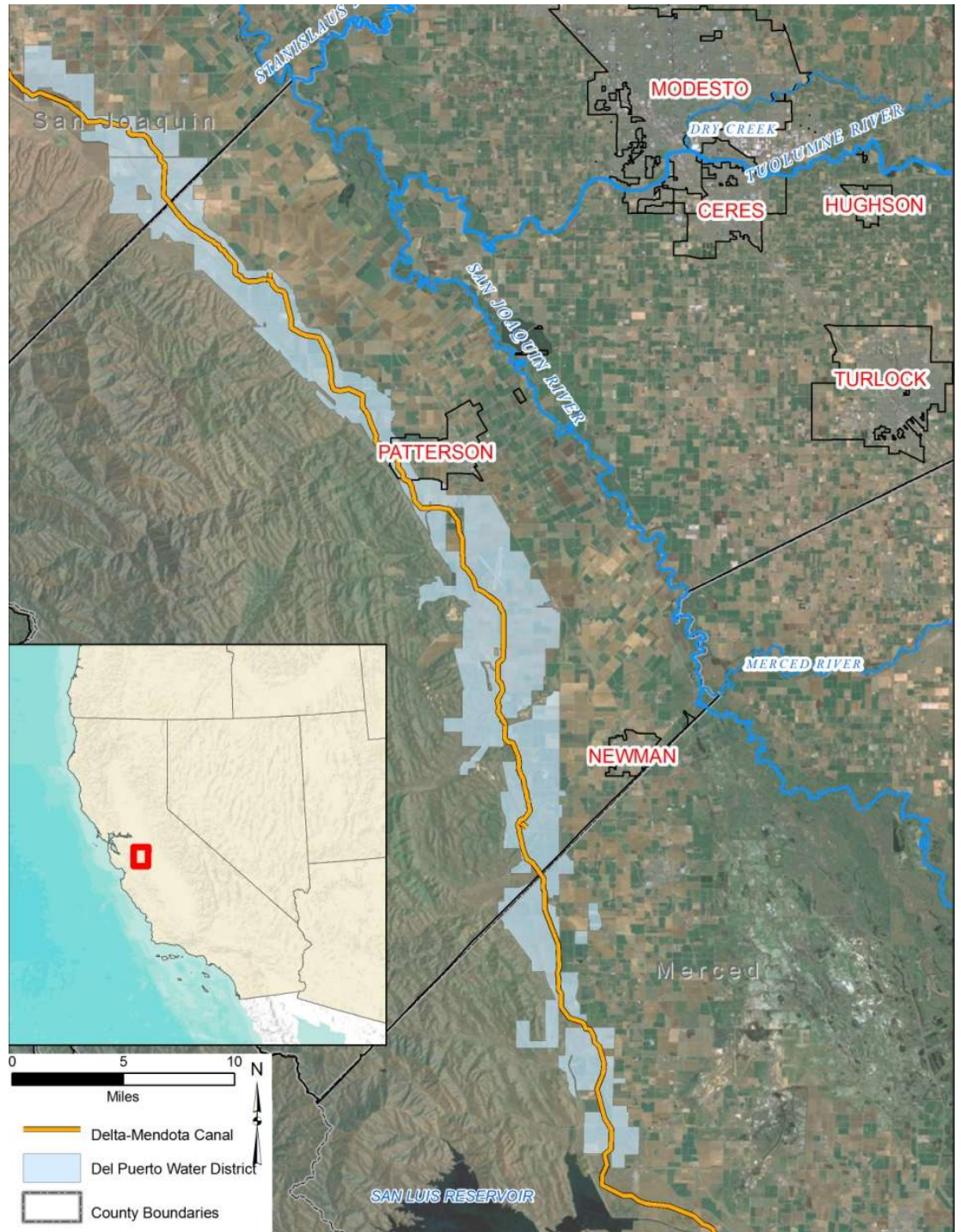
# NVRRWP established to:

- Regional solution to both local and State's water supply crisis
- Make recycled water available for agricultural irrigation and wildlife refuges
- Provide long-term, drought-proof water supplies to DPWD
- Reduce reliance on CVP allocations and groundwater pumping to meet unmet water supply needs



# Del Puerto Water District (DPWD)

- 45,200 irrigable acres
- More than 25 various high value crops
- Primary water source is federal allocations from Central Valley Project (CVP) via the Delta Mendota Canal (DMC)
- CVP allocations have been restricted due to drought and environmental concerns
  - 2014 & 2015: 0%
  - 2016: 5%

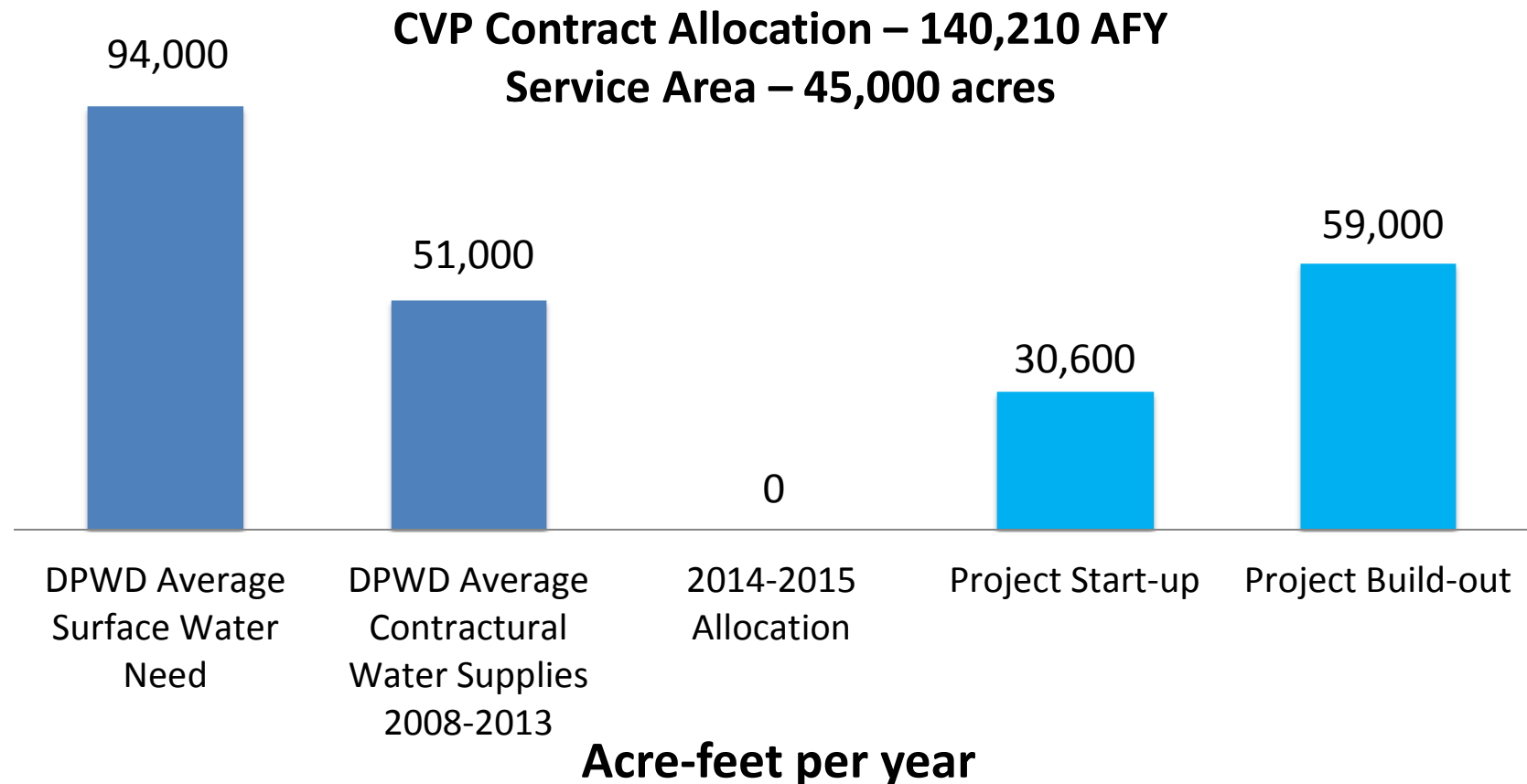


# NVRRWP Recycled Water Flows

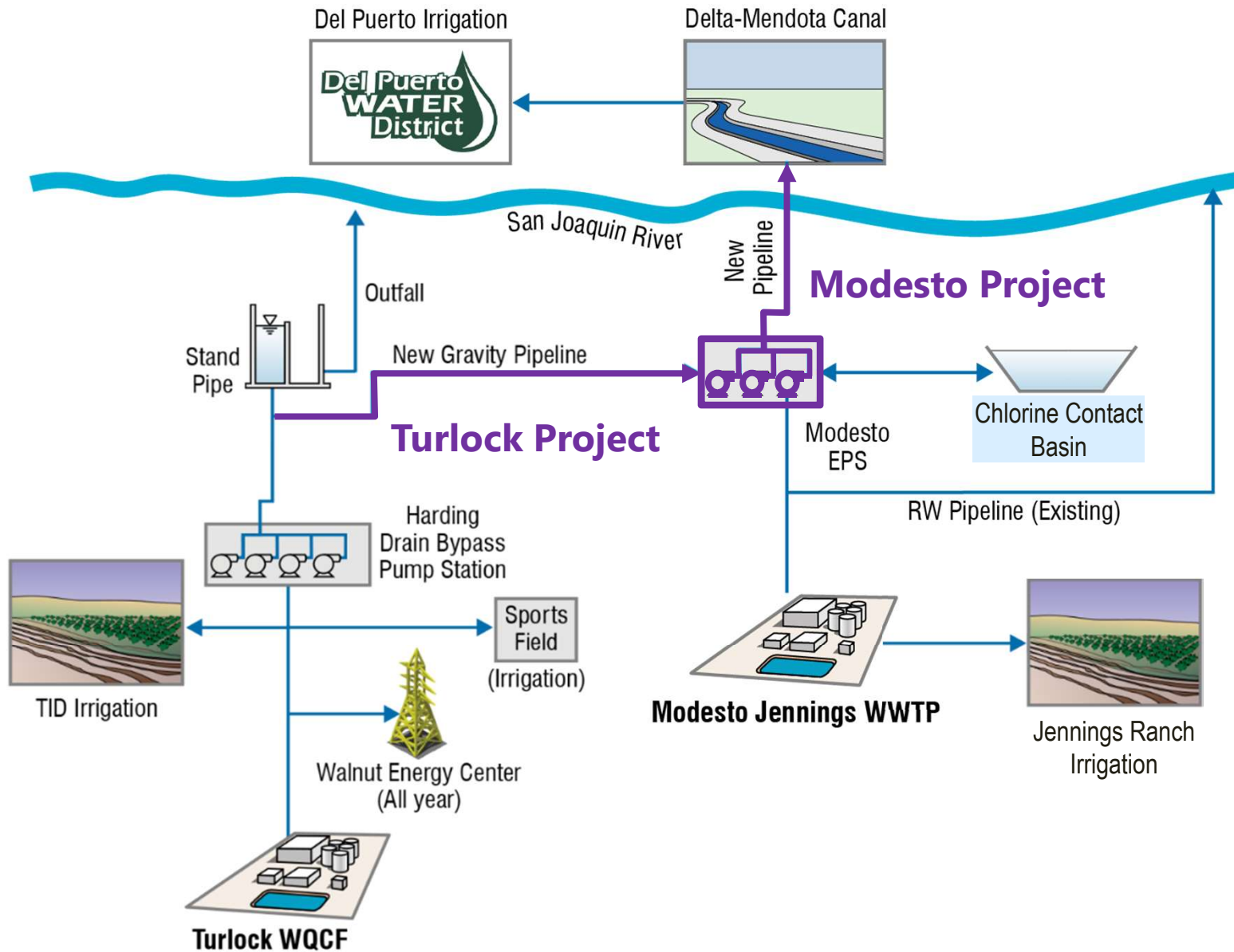
- Modesto = 14.9 MGD = 16,500 AFY (2017)
- Turlock = up to 12.6 MGD = 14,100 AFY (2020)
- Total = 30,600 AFY
- Buildout = up to 59,000 AFY



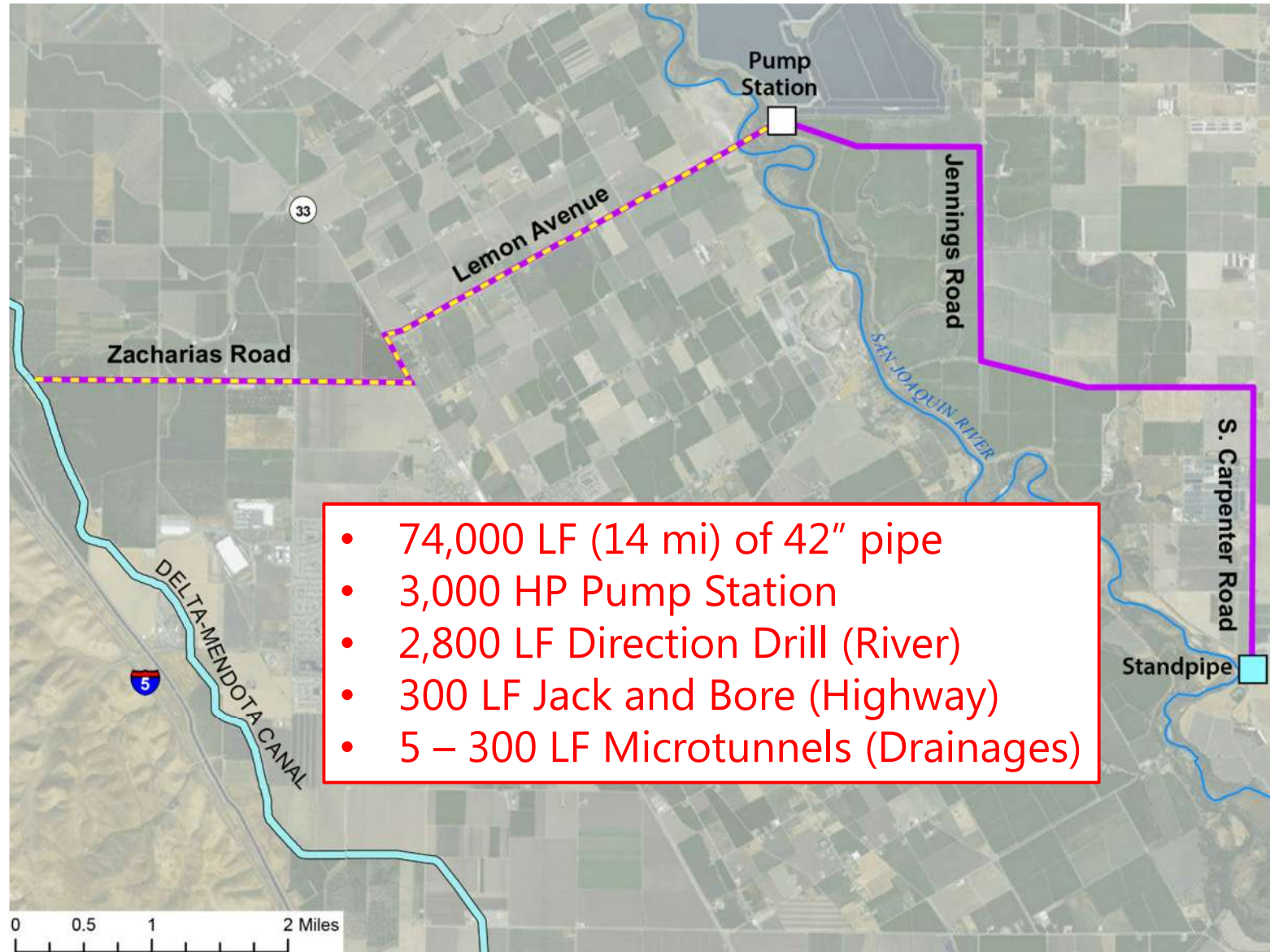
# NVRRWP will supply 30-60% of Del Puerto WD demand



# NVRRWP Overview



# Program Overview



# Project Funding and Timeline

- CWSRF loan requires Modesto's portion of the project completed by Dec. 2017
  - Funding available as response to Drought State of Emergency
  - City applied on behalf of the NVRRWP
  - Loan to be repaid by DPWD through water sales agreement
  - Prop 1 Grant obtained
- Modesto is implementing a Design-Build (D-B) approach
  - Expedites the design and construction process by compiling these services under a single entity
  - Minimize risks and reduce the project delivery schedule



# Design-Build progress-to-date

- ✓ Design-Build Owner's Advisor: November 2015
- ✓ D-B team RFQs issued: January 2016
- ✓ SOQs received: February 2016
- ✓ Shortlist approved and RFP issued: March 2016
- ✓ Proposals received: May 2016
  - ✓ D-B Team Selection: end of May 2016
  - ✓ Negotiation: June 2016
- ✓ Award to D-B Team: August 2016
- ✓ Construction Began: November 2016
- ❑ Construction Complete: Dec 2017



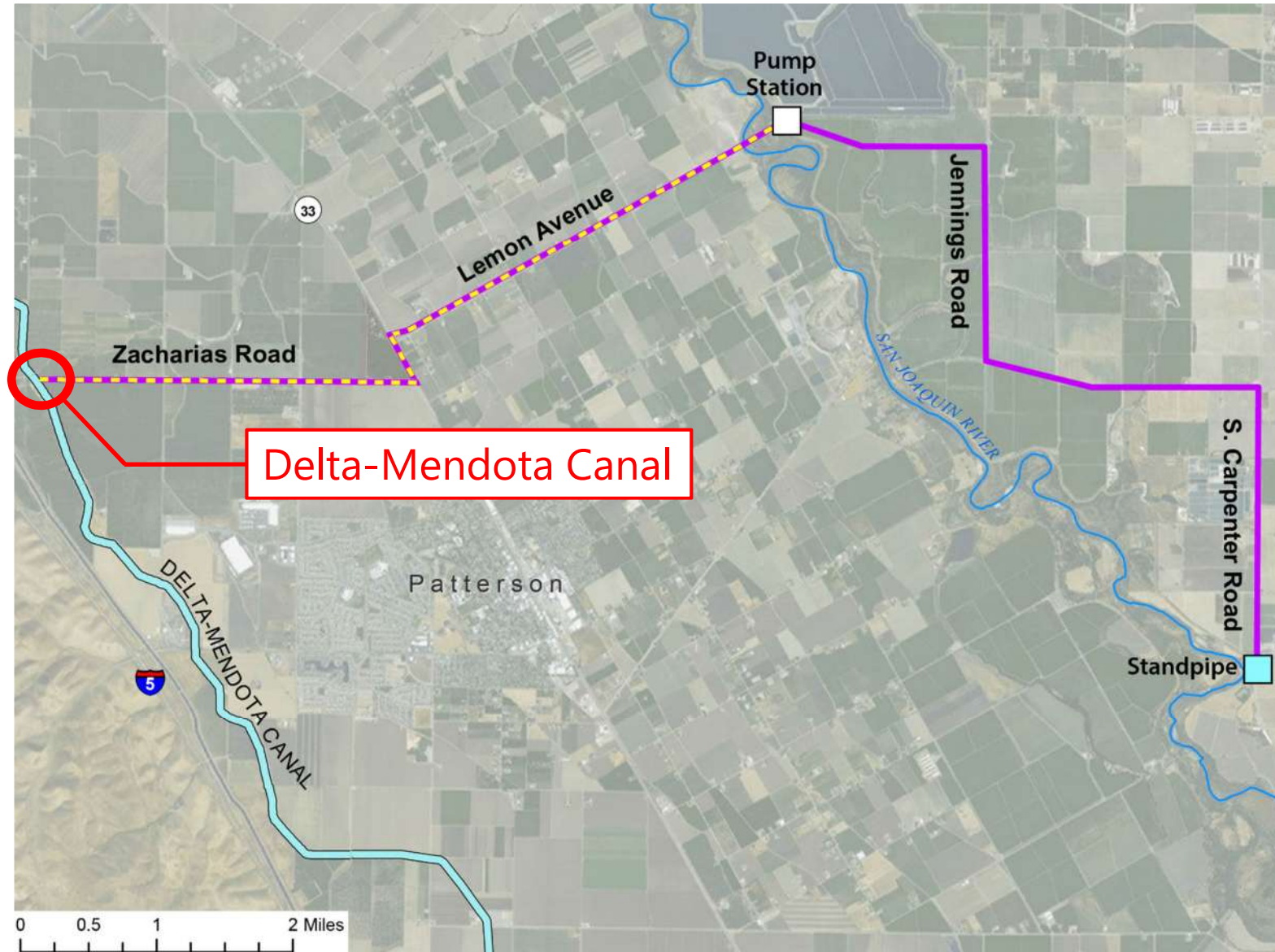
# Modesto Project Status

- All right-of-way secured
- 100% design and design review complete
- 15% of construction complete
- Long lead equipment procured and being fabricated
- San Joaquin River crossing permits nearly complete
  - All other permits in place
- SRF application submitted



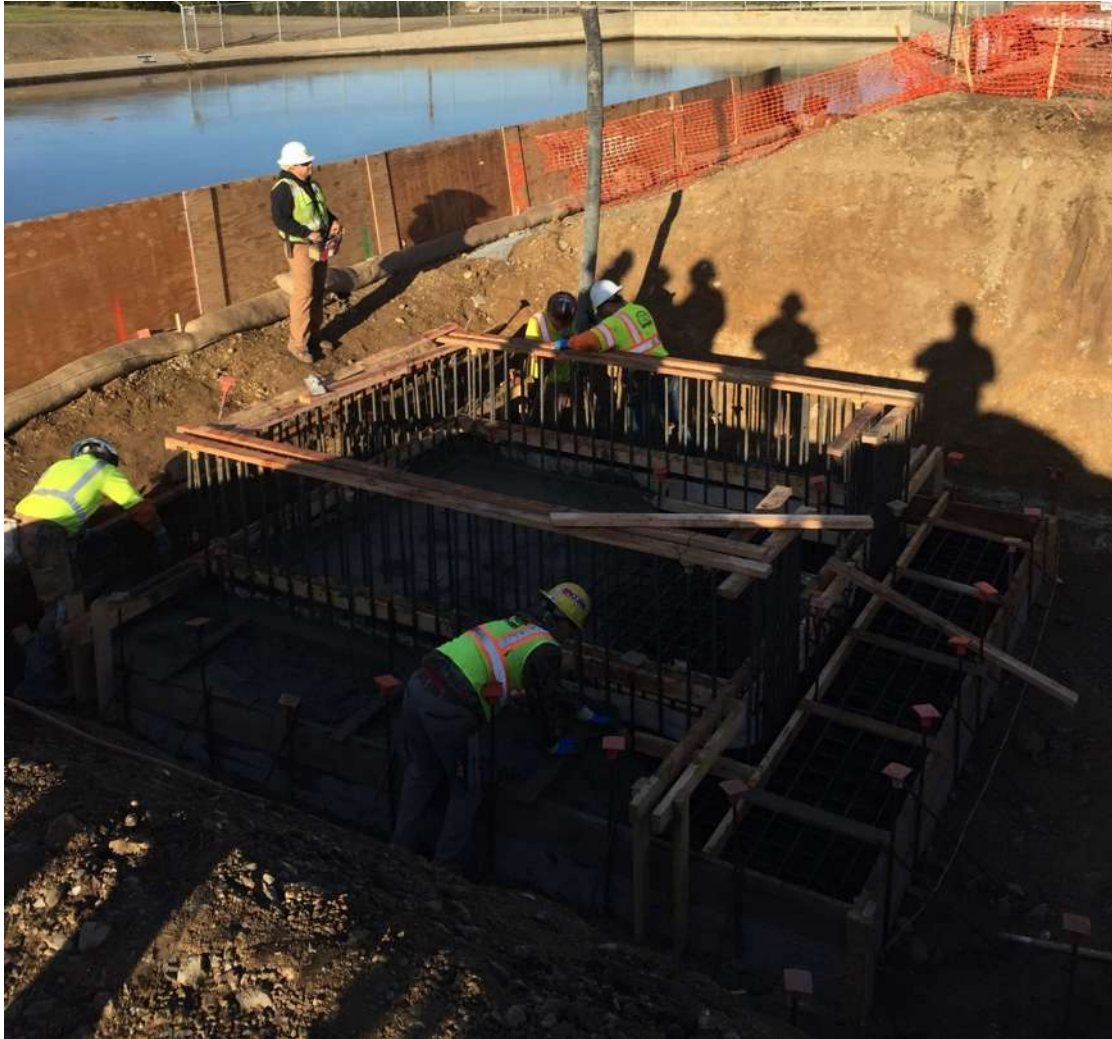


# Modesto Project Status



# Modesto Project Status

- Delta Mendota Canal – Outfall Structure





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- Delta Mendota Canal – Outfall Structure



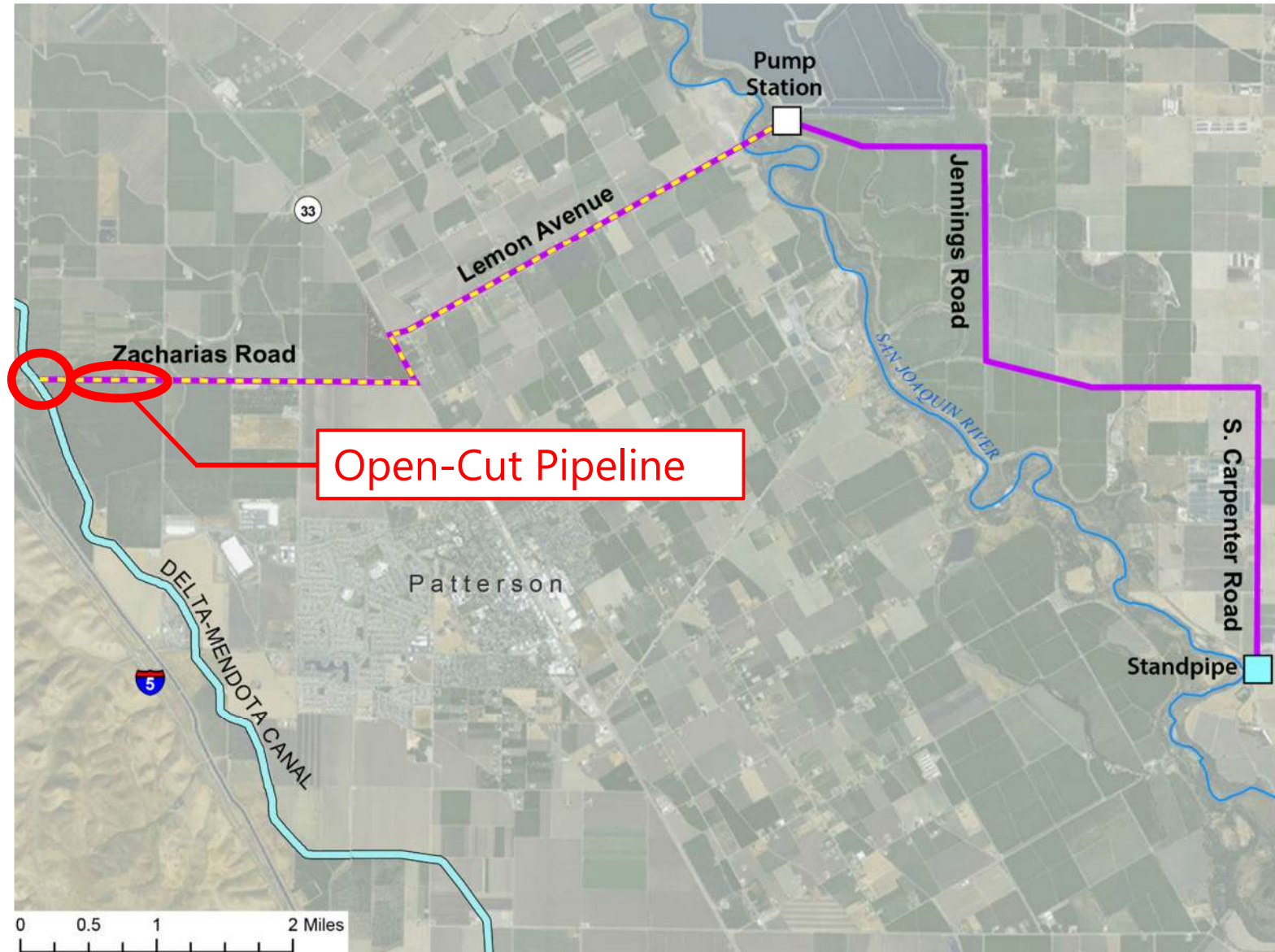
# Modesto Project Status

- Delta Mendota Canal – Meter Vault





# Modesto Project Status



# Modesto Project Status

- Open-Cut Pipeline



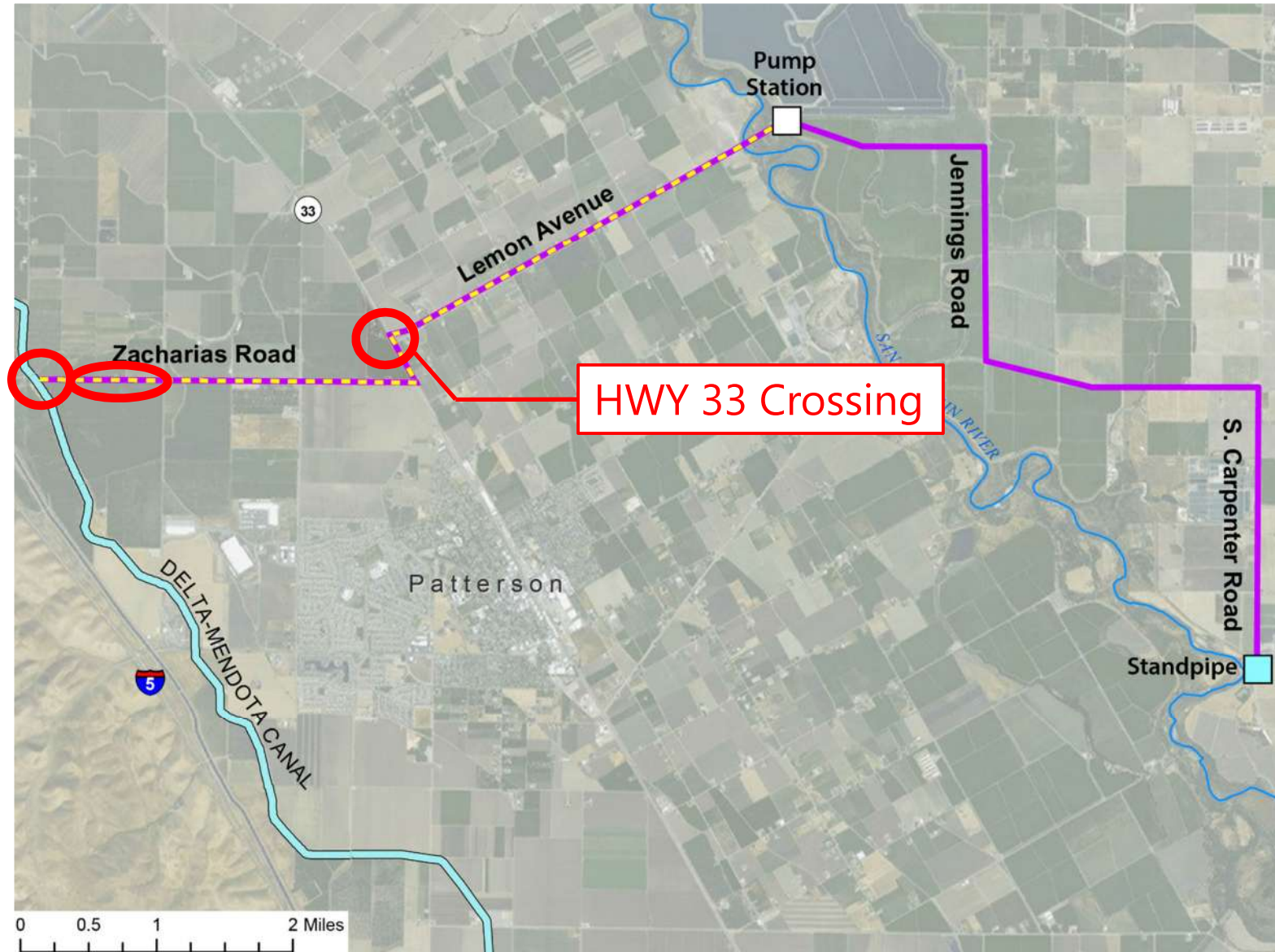


# Modesto Project Status

- Open-Cut Pipeline



# Modesto Project Status





# Modesto Project Status

- Highway 33 Crossing



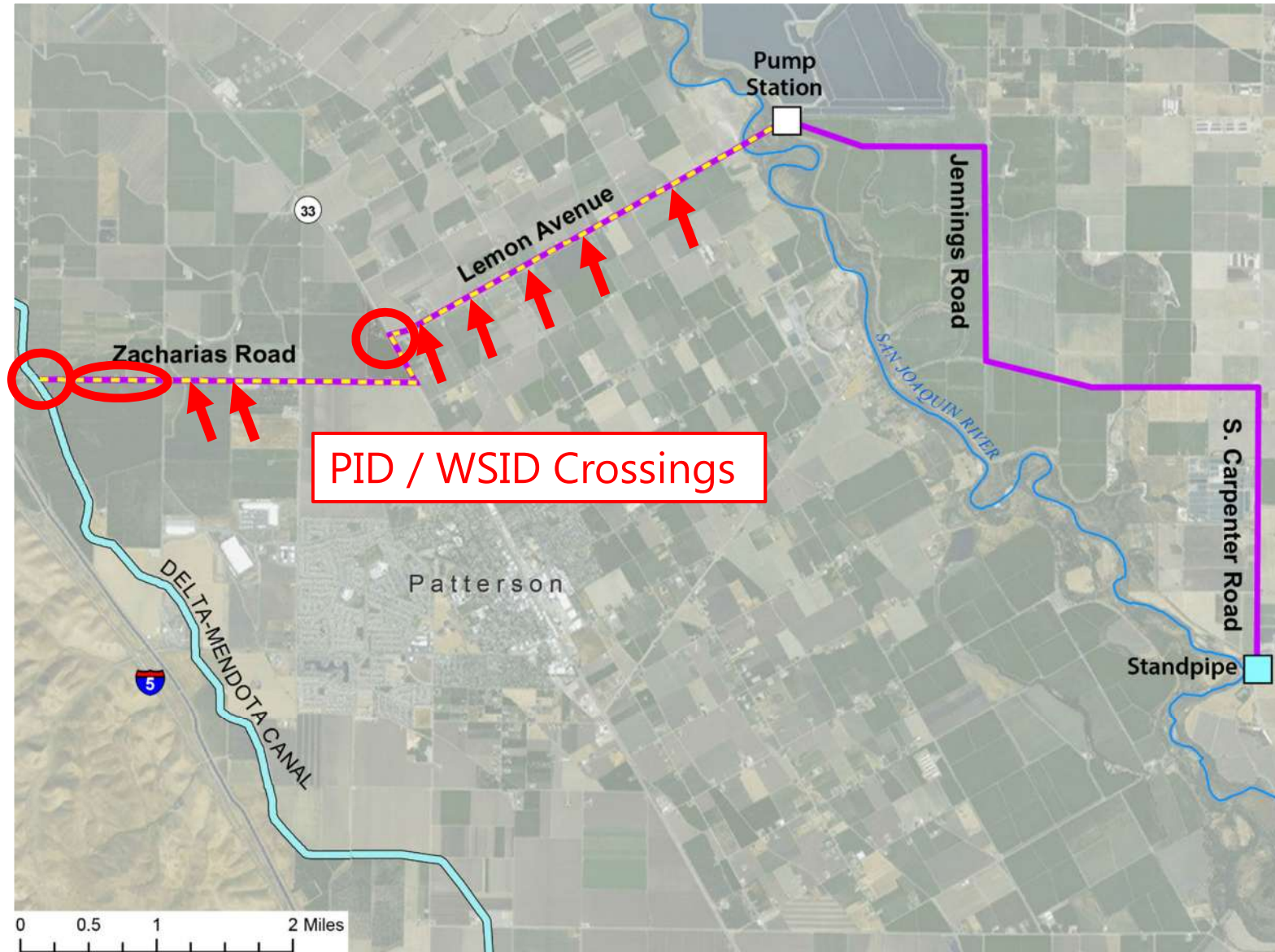


# Modesto Project Status

- Highway 33 Crossing



# Modesto Project Status





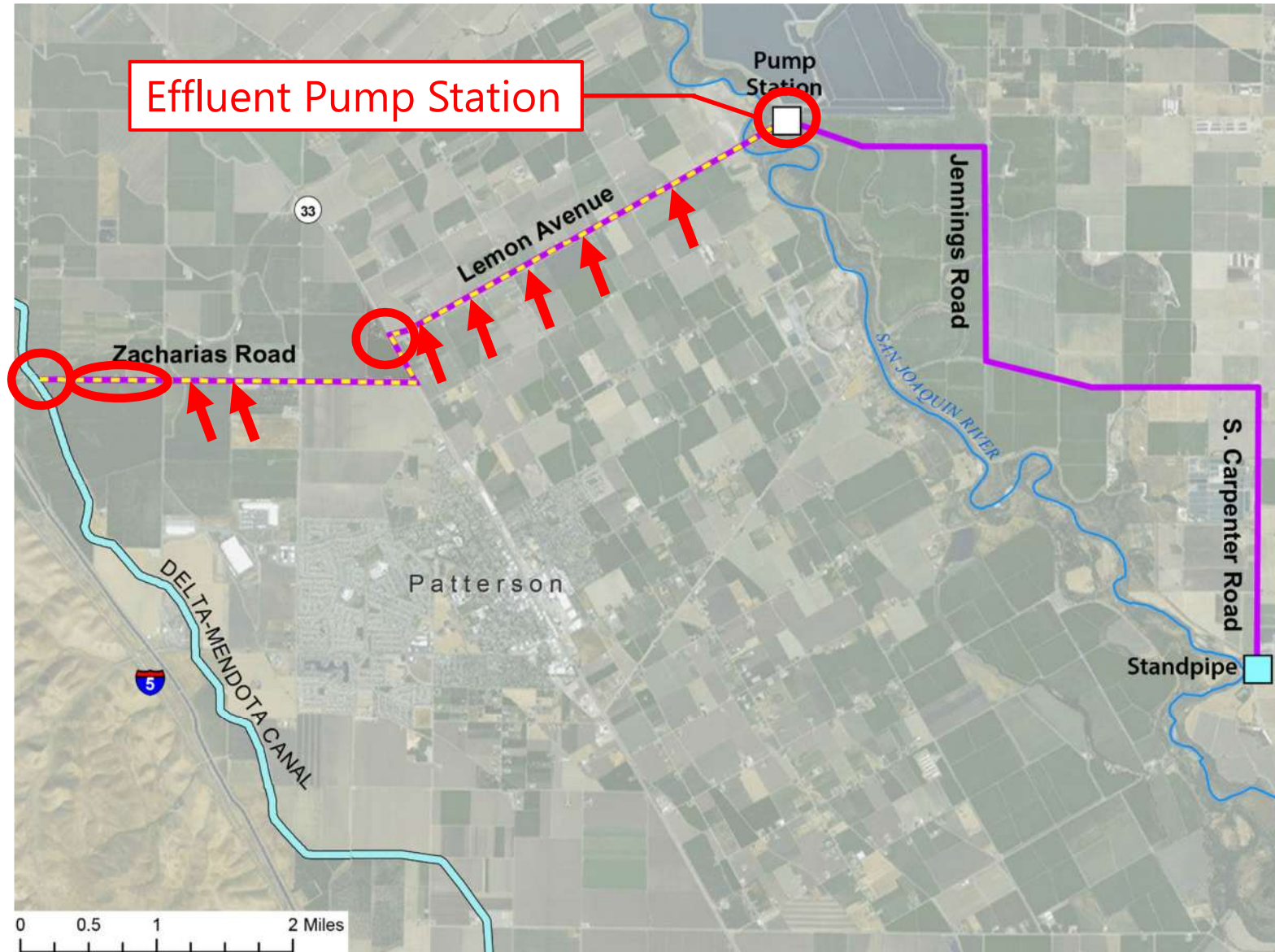
# Modesto Project Status

- PID / WSID Crossings



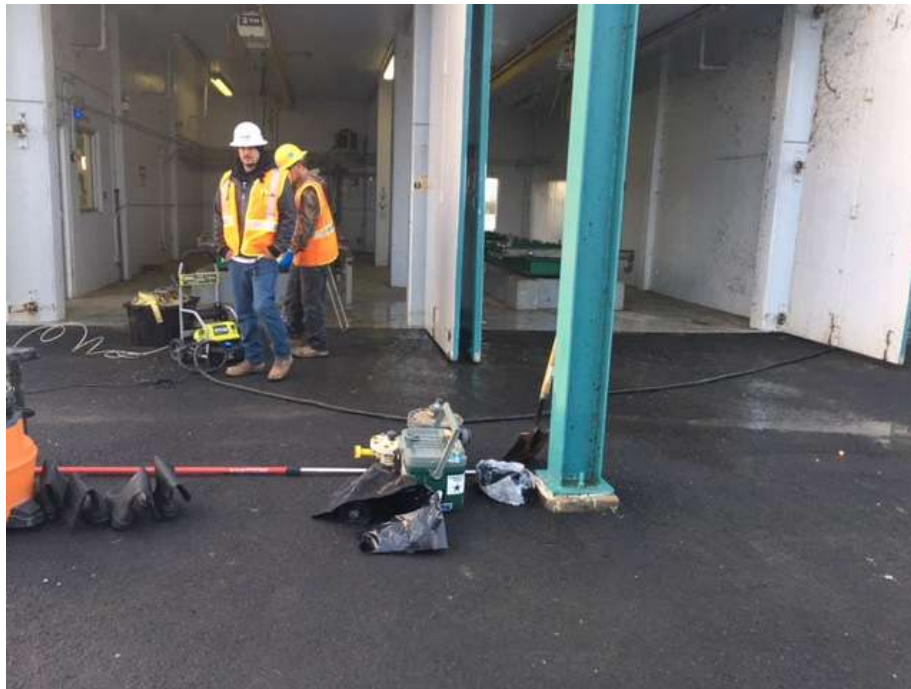


# Modesto Project Status



# Modesto Pro

- Effluent Pump Station





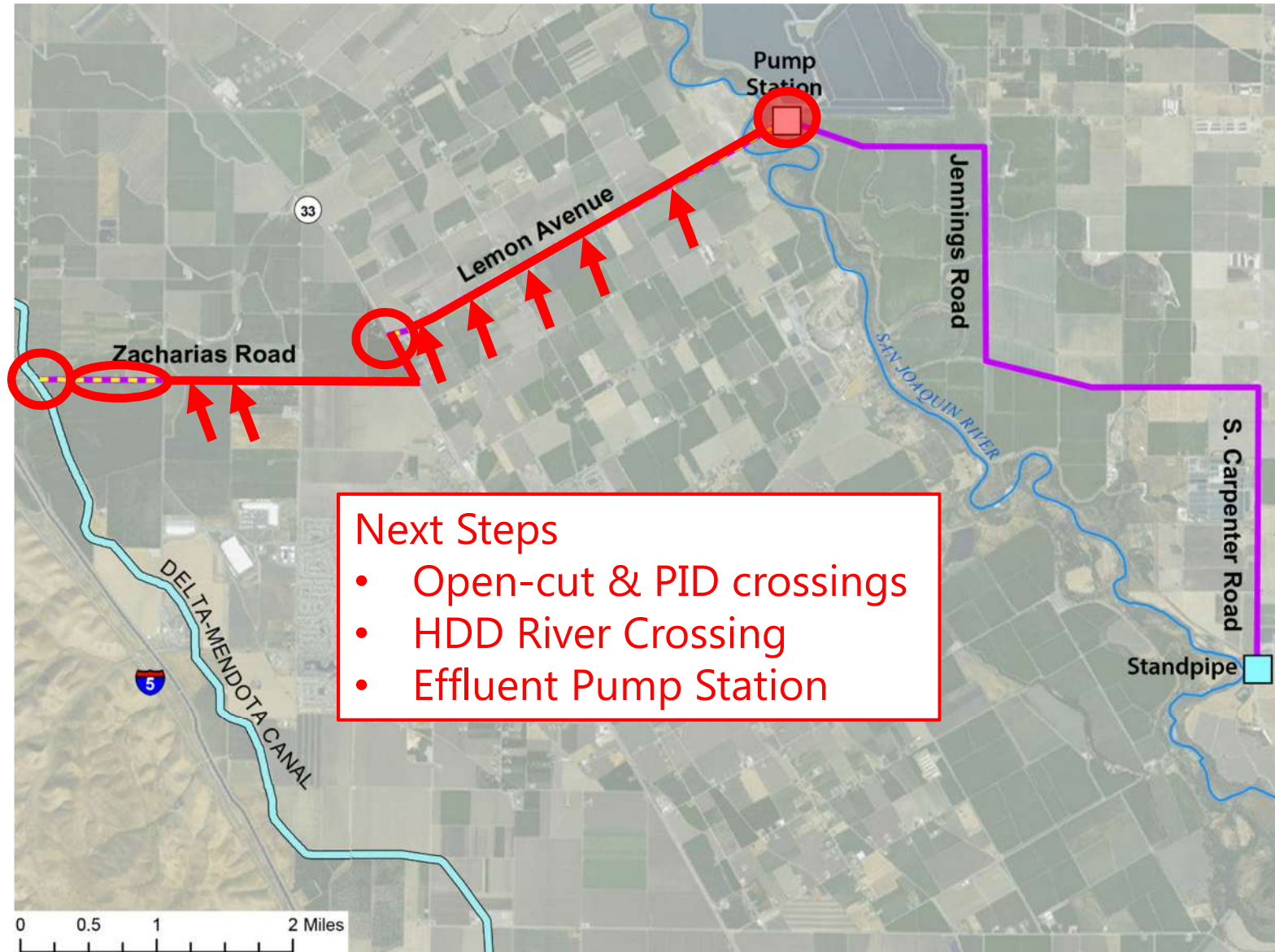
# Modesto Project Status

- Effluent Pump Station

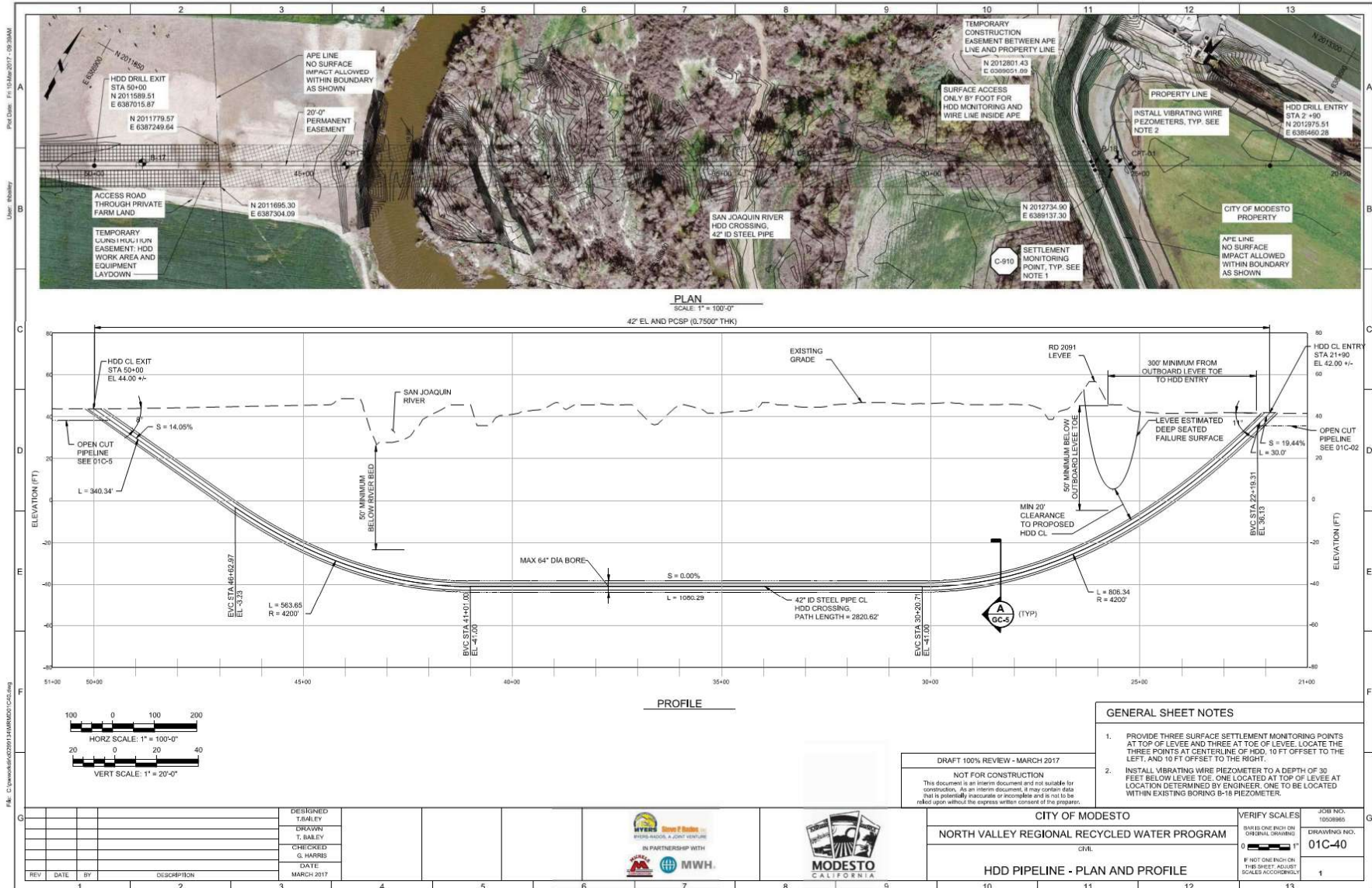




# Modesto Project Status



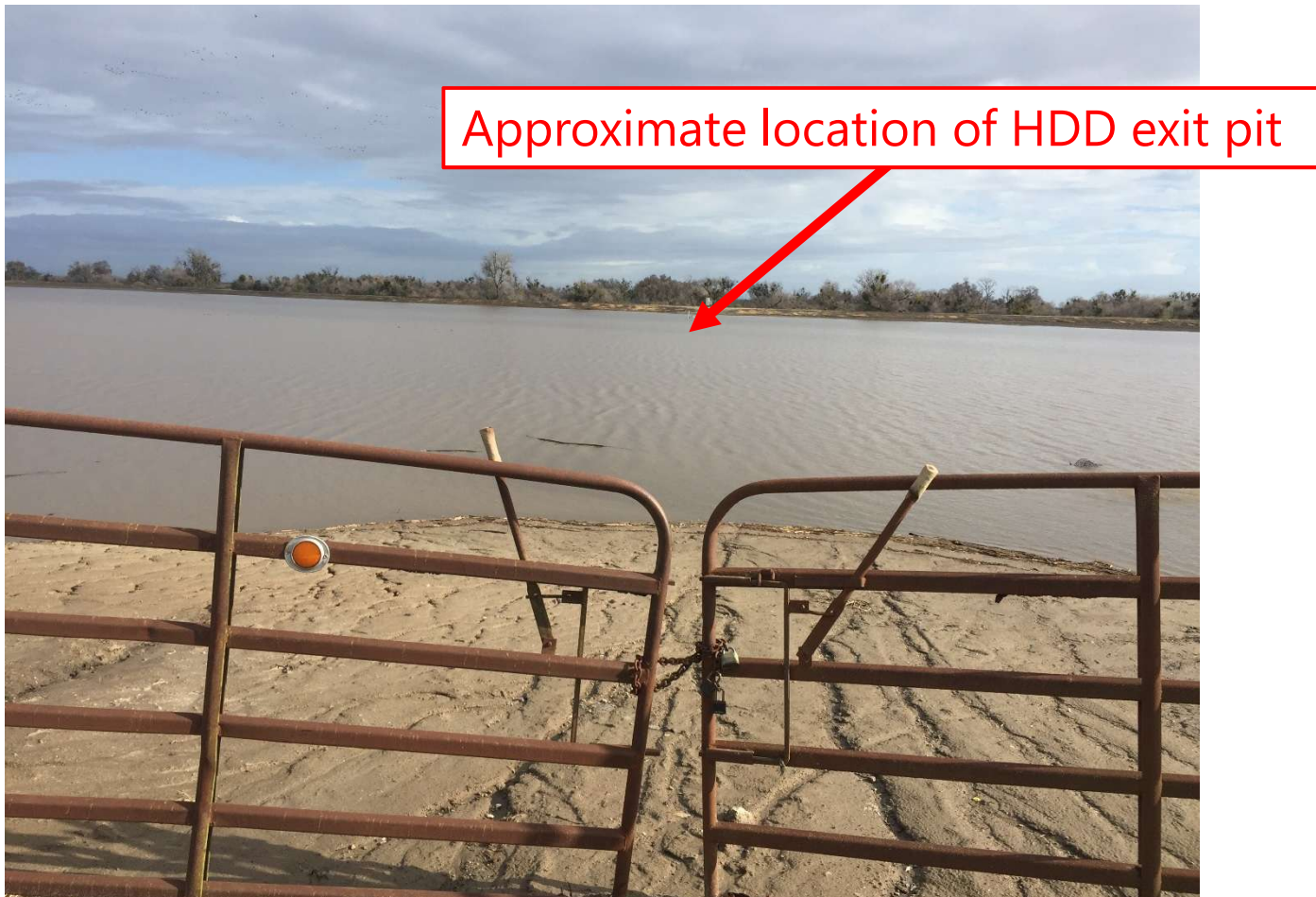
# San Joaquin River Crossing





# Upcoming Project Challenges

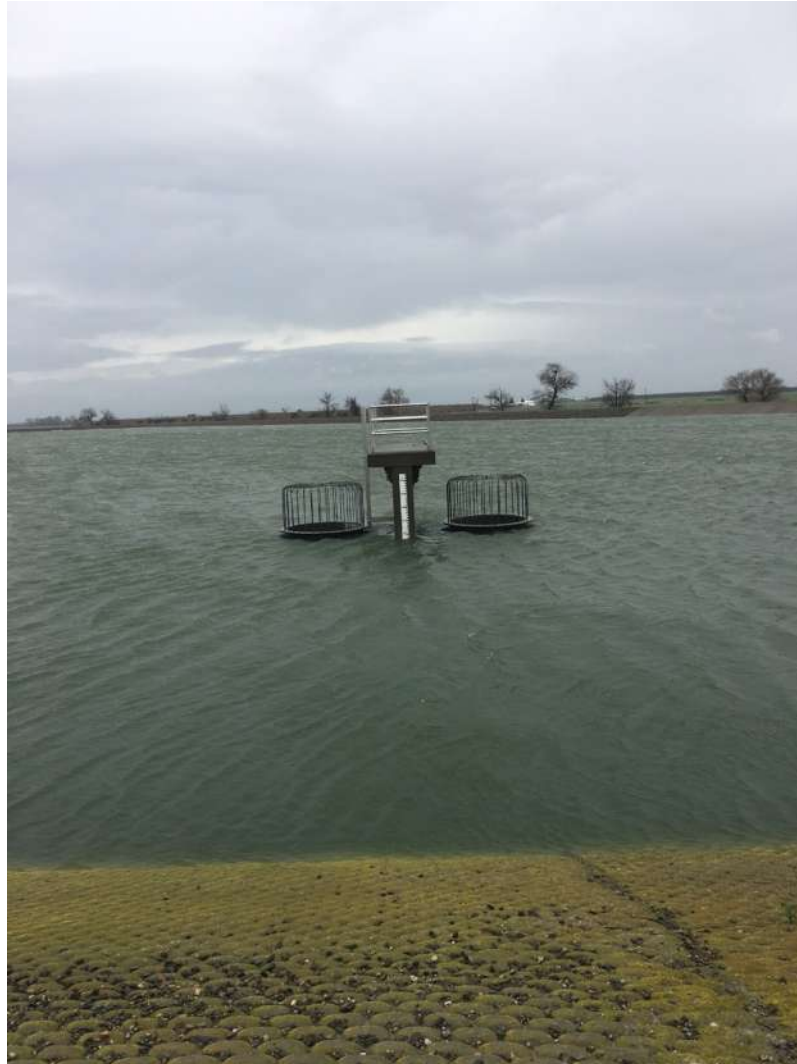
- HDD Installation and Schedule Issues





# Upcoming Project Challenges

- Modesto Effluent Pump Station and Pond Levels



# Upcoming Project Challenges

- CDFW Permit (Incidental take for river crossing)



***Swainson Hawk***

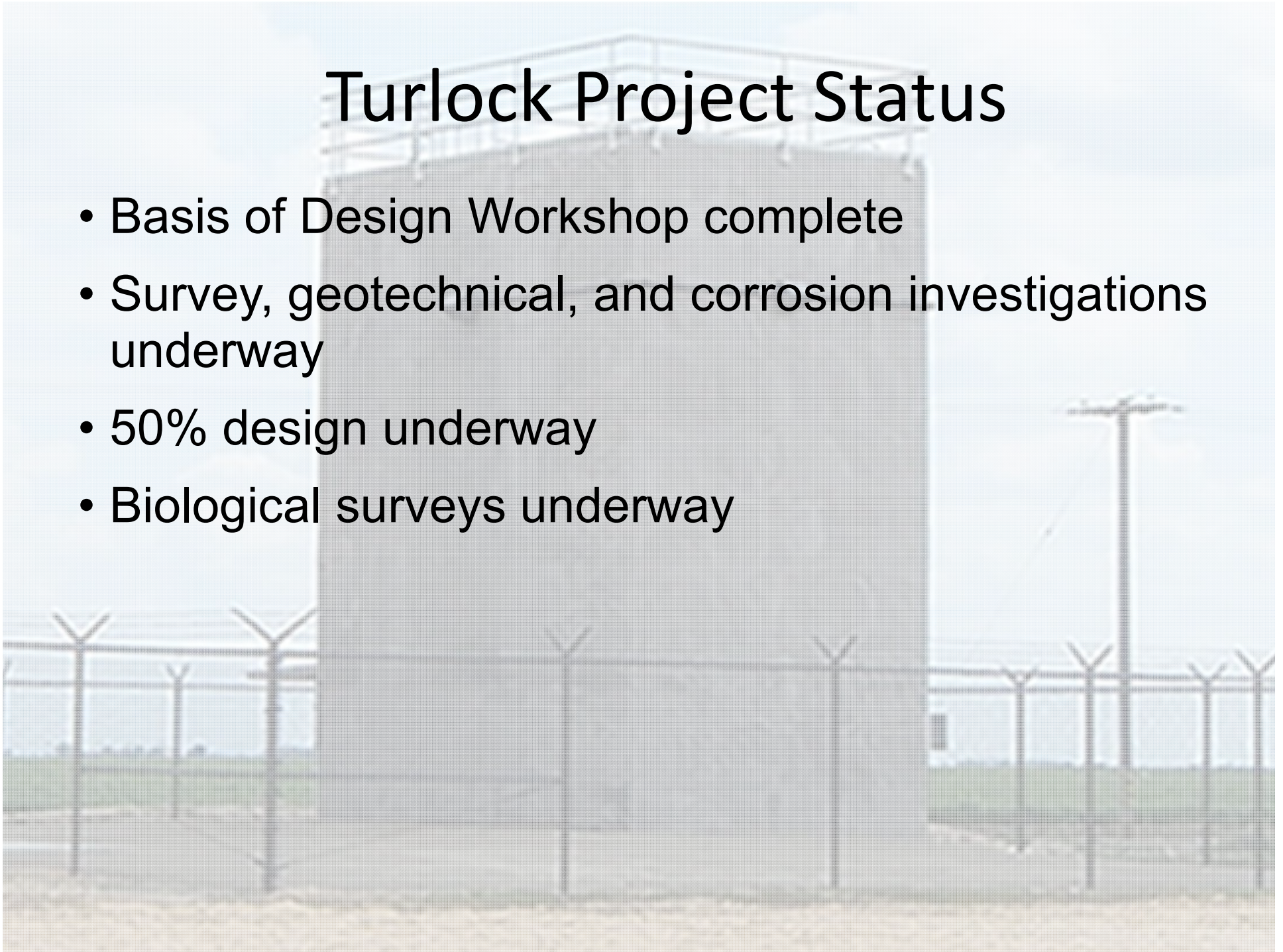


***Red Tailed Hawk***



# Turlock Project Status

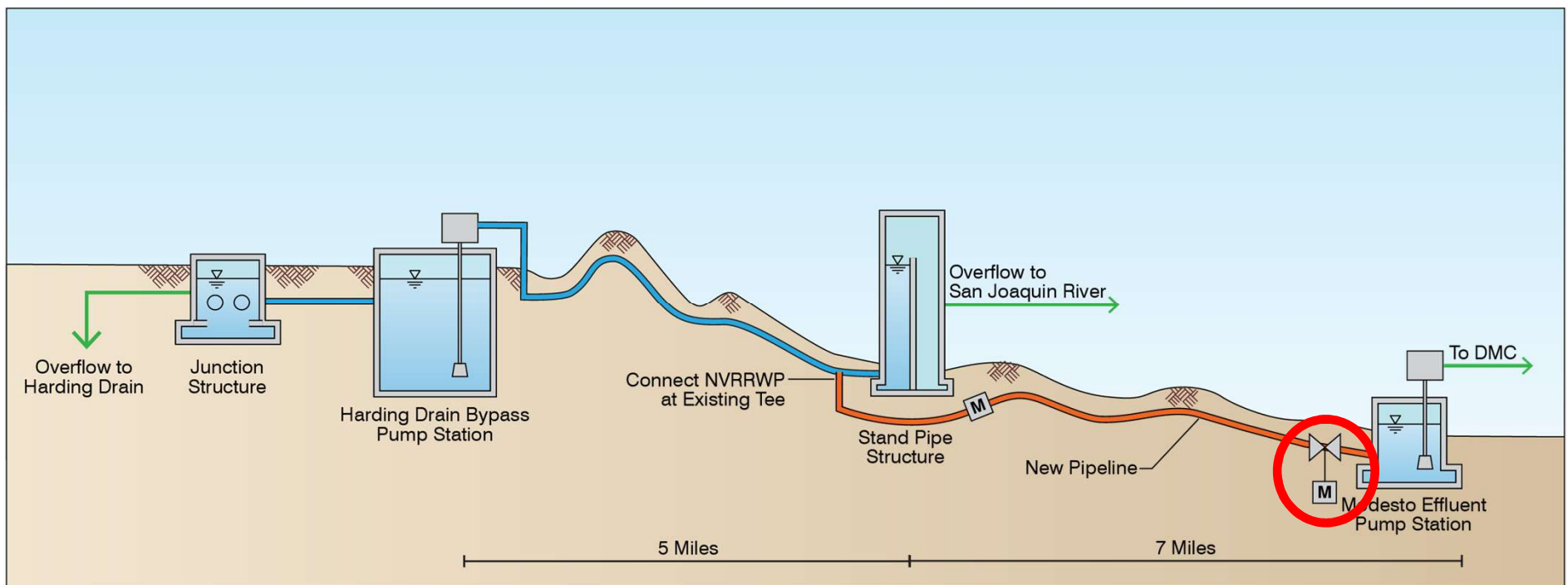
- Basis of Design Workshop complete
- Survey, geotechnical, and corrosion investigations underway
- 50% design underway
- Biological surveys underway





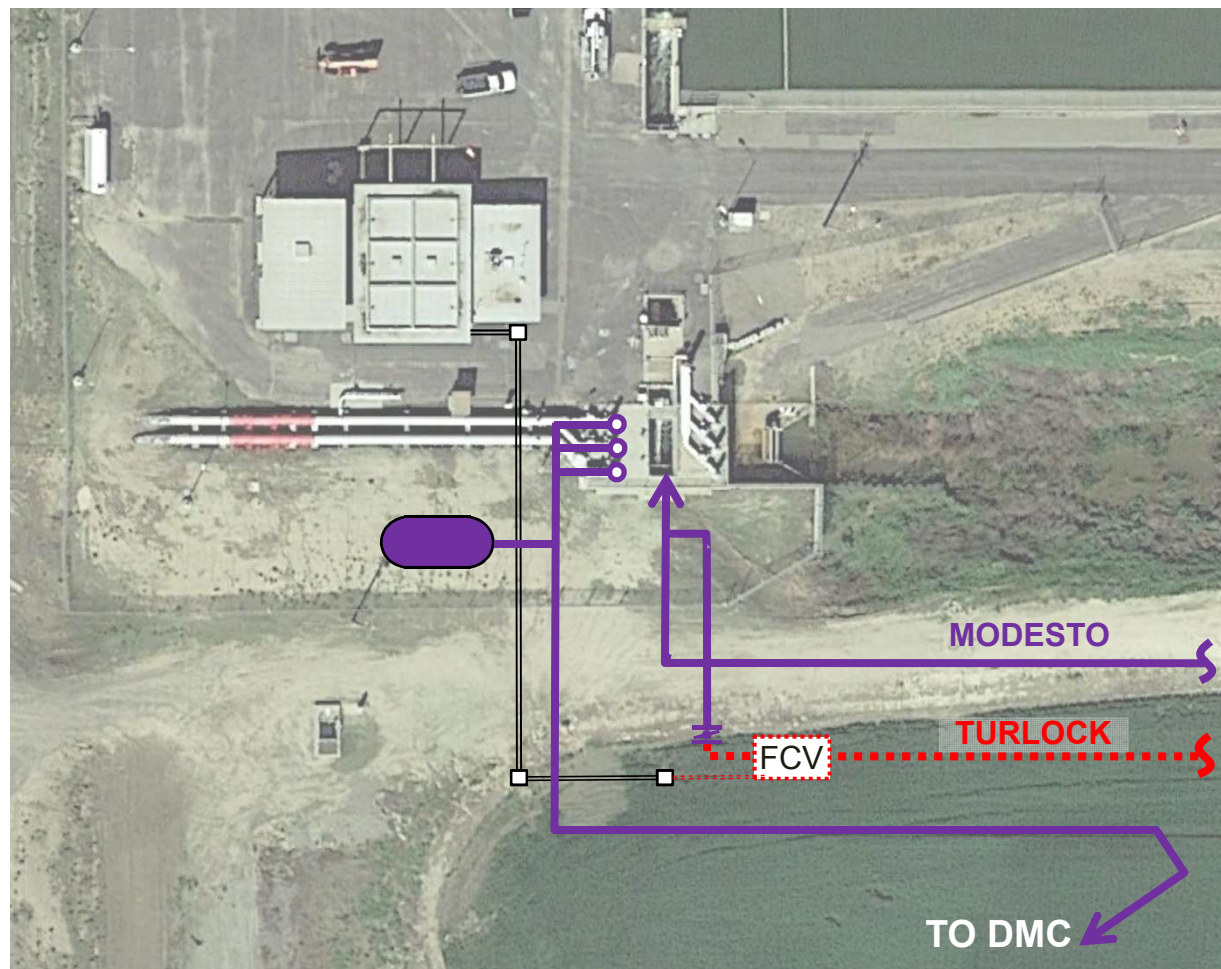
# Turlock Project Status

- Basis of Design Workshop - Operation

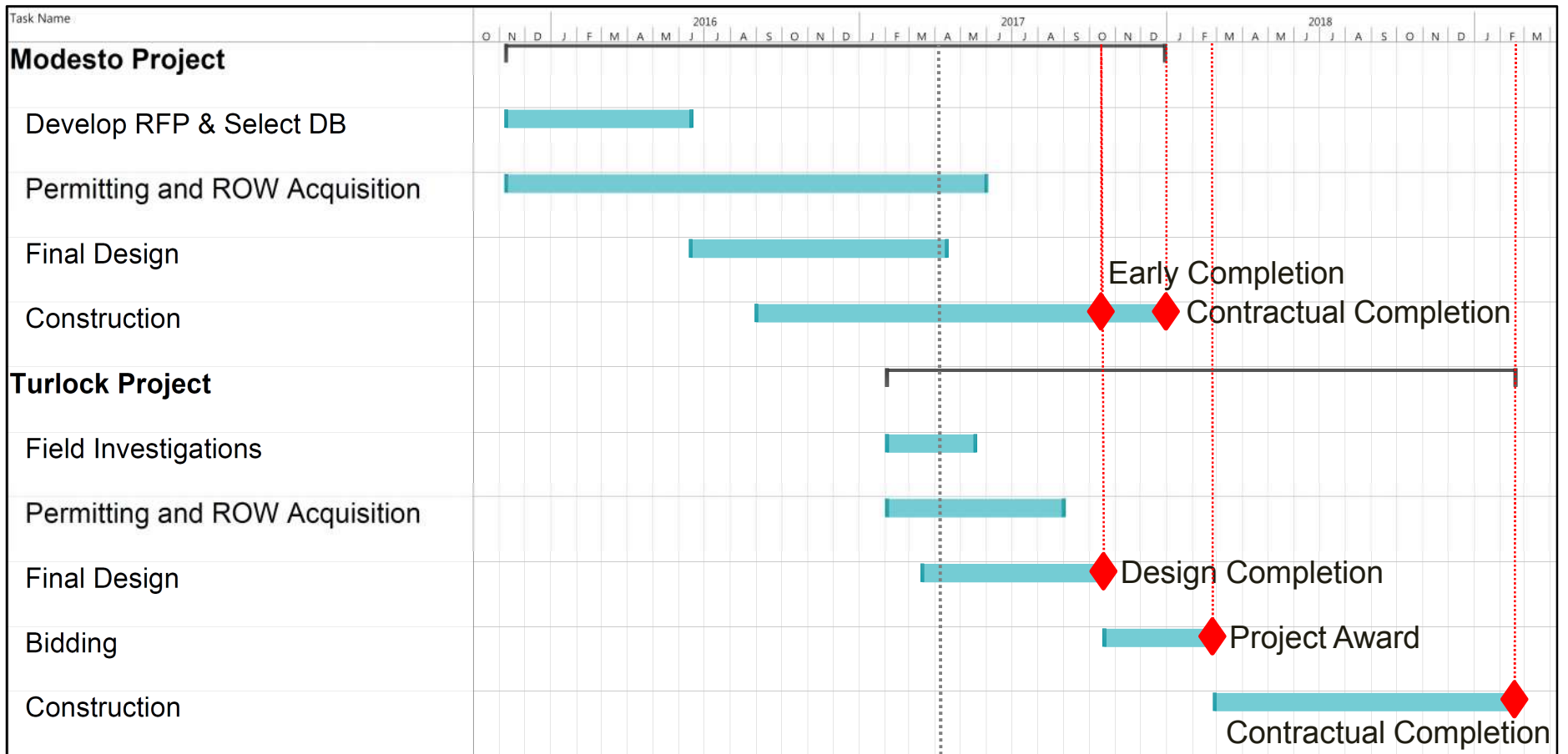


# Turlock Design-Bid-Build Status

- Basis of Design Workshop – Modesto Tie-in



# Program Schedule







# Questions?