CONTRA COSTA WATER DISTRICT

Critical Pipeline Repair: Ensuring Water Reliability for Remote Treated Water Customers

PUG MEETING

JANUARY 13, 2026

CRITICAL PIPELINE REPAIR

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Contra Costa Water District (CCWD) History

- May 1936 voters formed CCWD for agricultural and industrial water supply
- 1960's CCWD acquired portion of California Water Service, including service to the town of Port Costa
- Water is delivered to Port Costa through a single 3-mile pipeline within the Union Pacific Railroad (UPRR) right-of-way
- Original cast iron pipeline constructed in the early 1900s; sections replaced in 1992 with 12" steel or slip-lined with 8" high-density polyethylene (HDPE)

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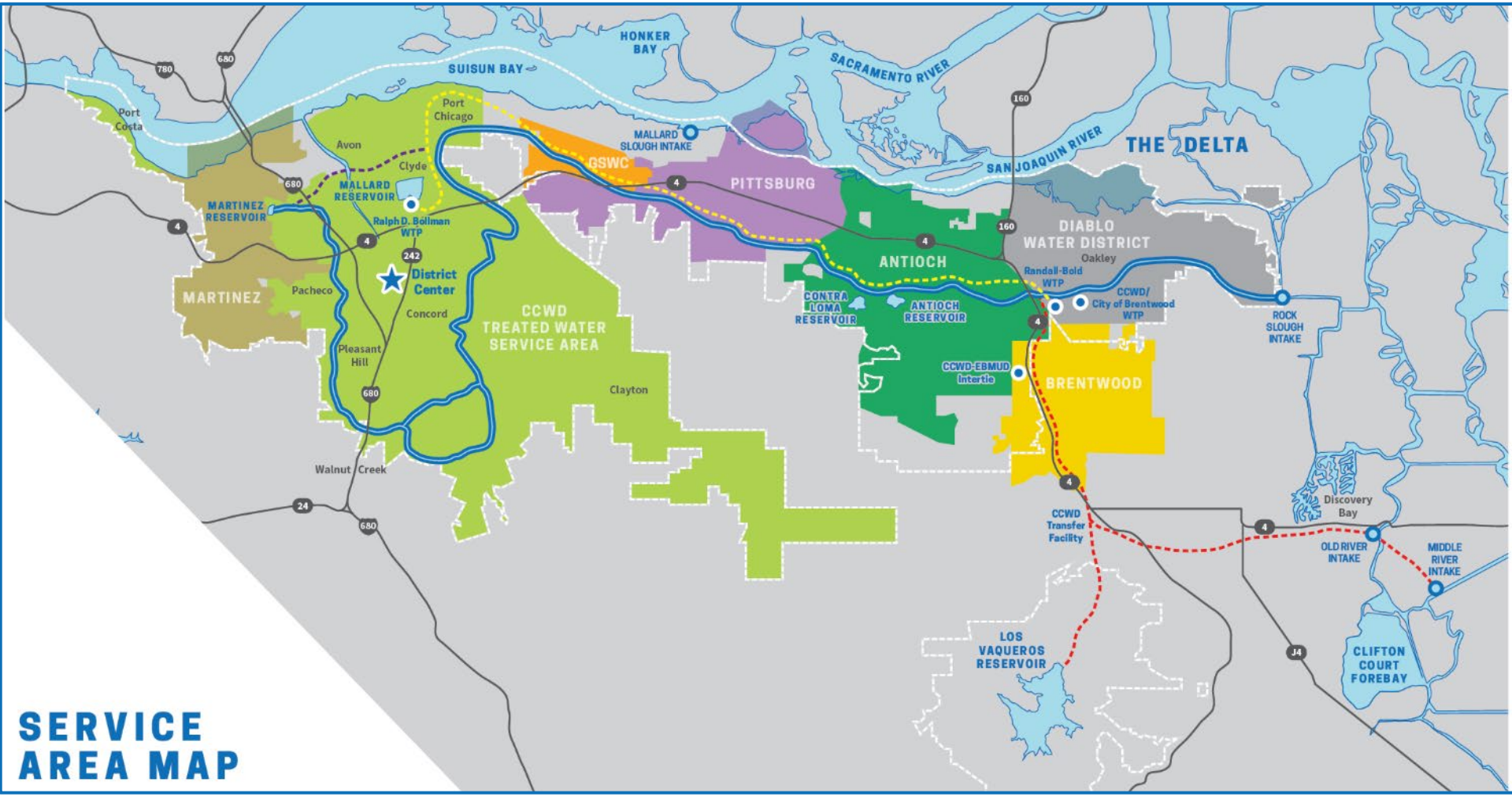

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Leak Response

- January 2025 a leak was reported along the pipeline
- Initiated CCWD Emergency Operations Center
- Actively monitored leak and developed contingency plans
- 0.5-million gallon reservoir in Port Costa was topped off
- Began permit process with UP to investigate the leak
- CCWD engaged on-call pipeline contractor to evaluate repair options

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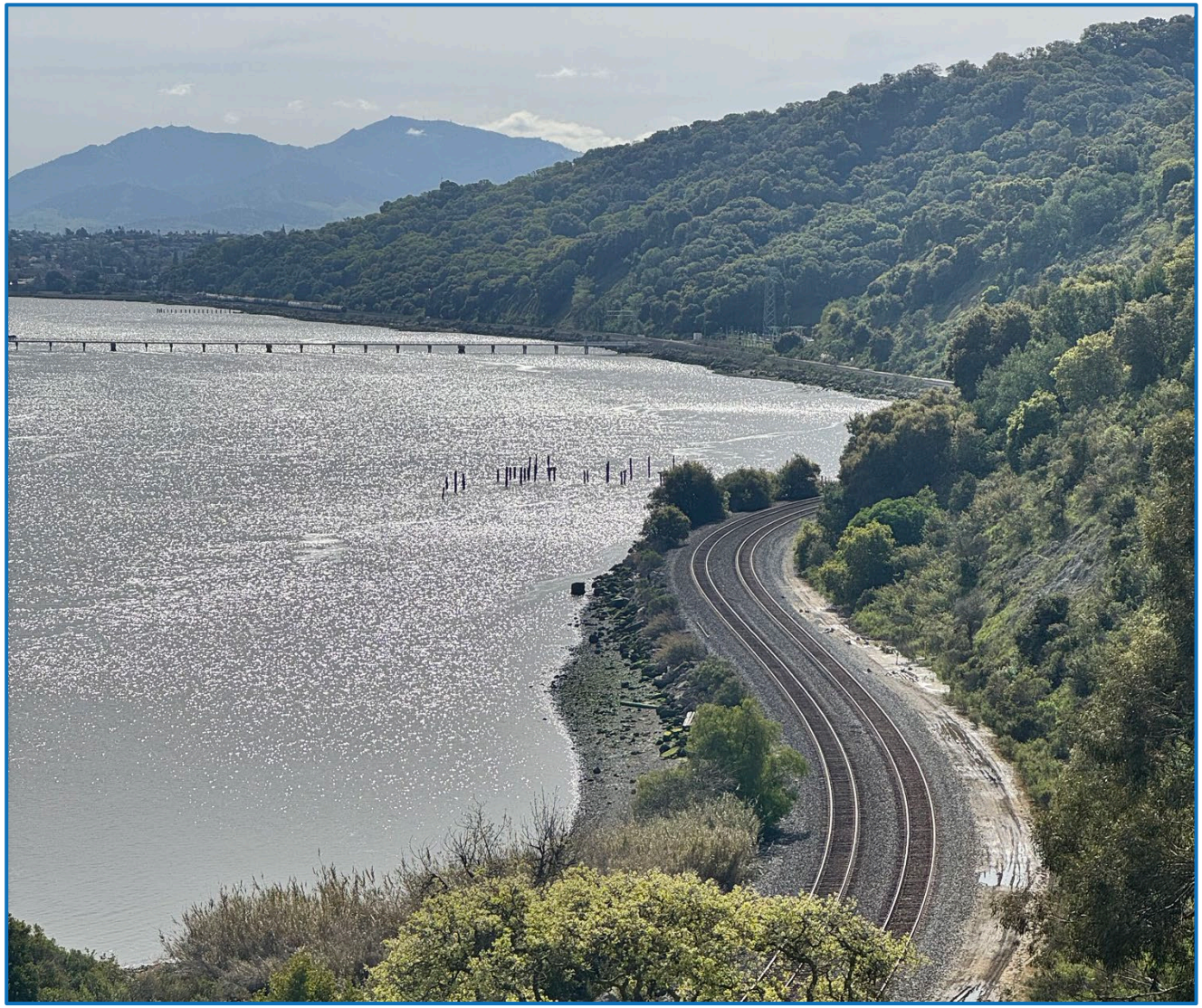

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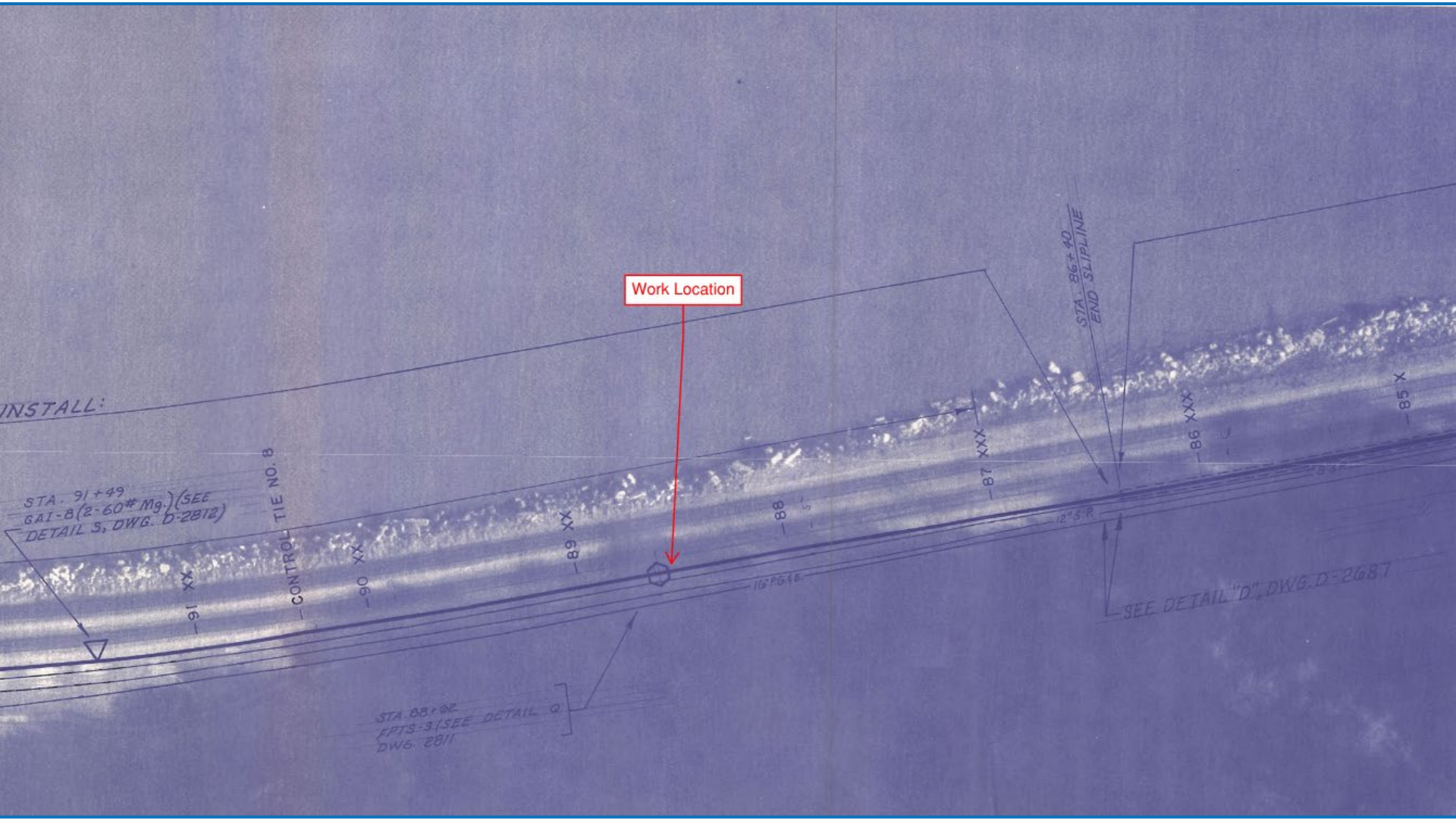

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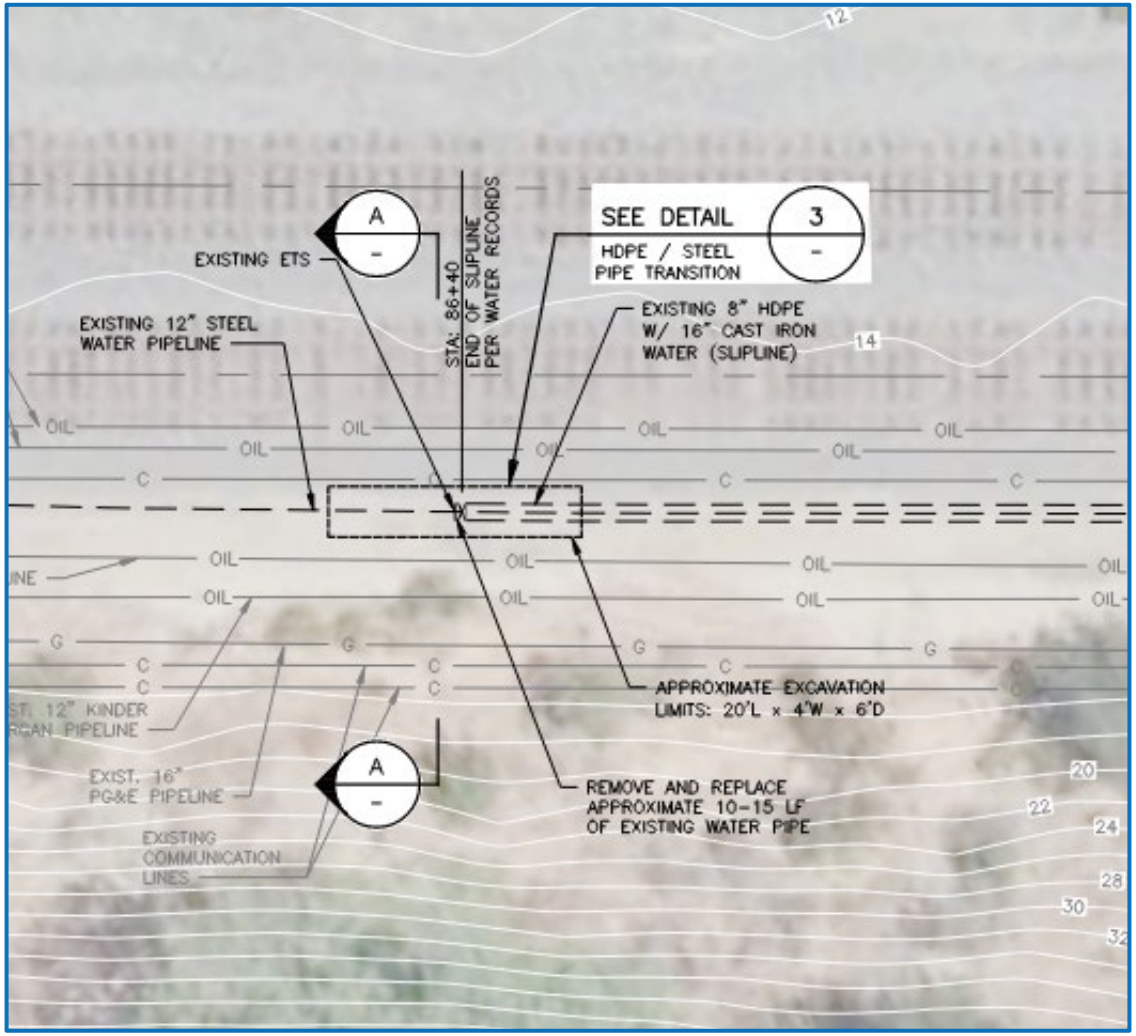

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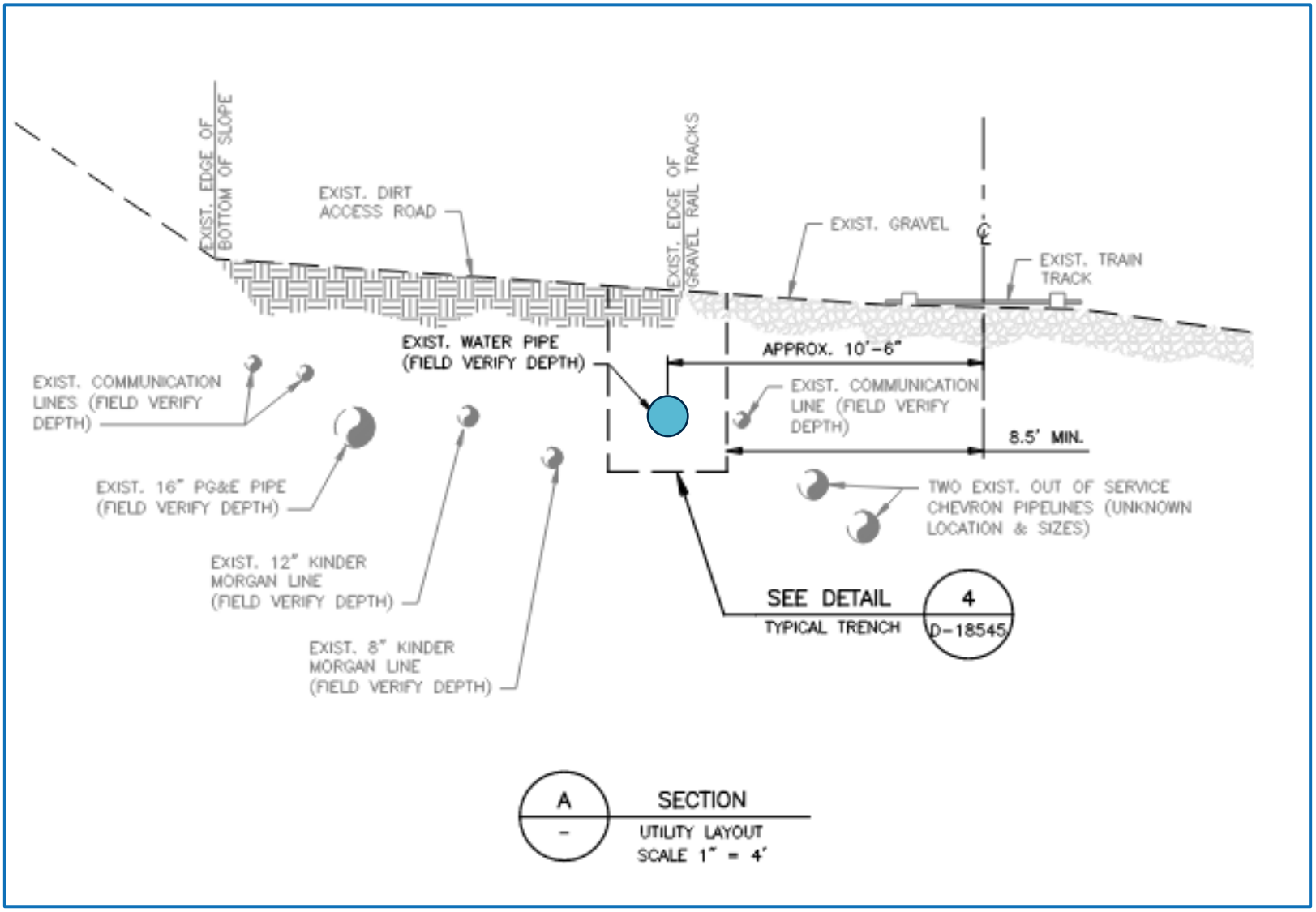

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Preconstruction coordination

- Issued pre-construction NTP to Con-Quest to UPRR develop permit submittals
- Expedited shoring plans, access routes, and construction means & method related requirements
- Coordinated with Kinder Morgan and adjacent utilities
- Obtained encroachment permit from EBRPD for alternate access
- Notified Contra Costa County Fire Protection District and customers that may be impacted during the repair

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UPRR Permit

- Standard permit requirements that limited feasibility to implement the repair
- Met regularly with UPRR and RailPros to develop an approach to allow the work
- Parallel pipeline in “no excavation” zone
- Pipeline repair prohibited direct buried pressurized plastic pipe
- Track and ground monitoring plan

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Construction Challenges

- Work Area Constraints
- Strict shoring requirements
- Constant track and ground settlement monitoring & 7 days after work
- Vacuum excavation in saturated soils
- Excavation proximity to edge of ballast <6-feet

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Work Access

- Narrow 10- foot access road with soft soils
- Road width limited 1 way traffic
- Once construction started there was 1 point of ingress/egress, could not drive through construction
- Unpredictable shift start and stop times due to train traffic
- $50k/min liquidated damages if trains delayed

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Shoring

- Design shoring for no excavation zone due to proximity to the tracks
- Box shoring not flexible
    - Risk of conflict with utilities
- Vactor excavation due to proximity of existing utilities

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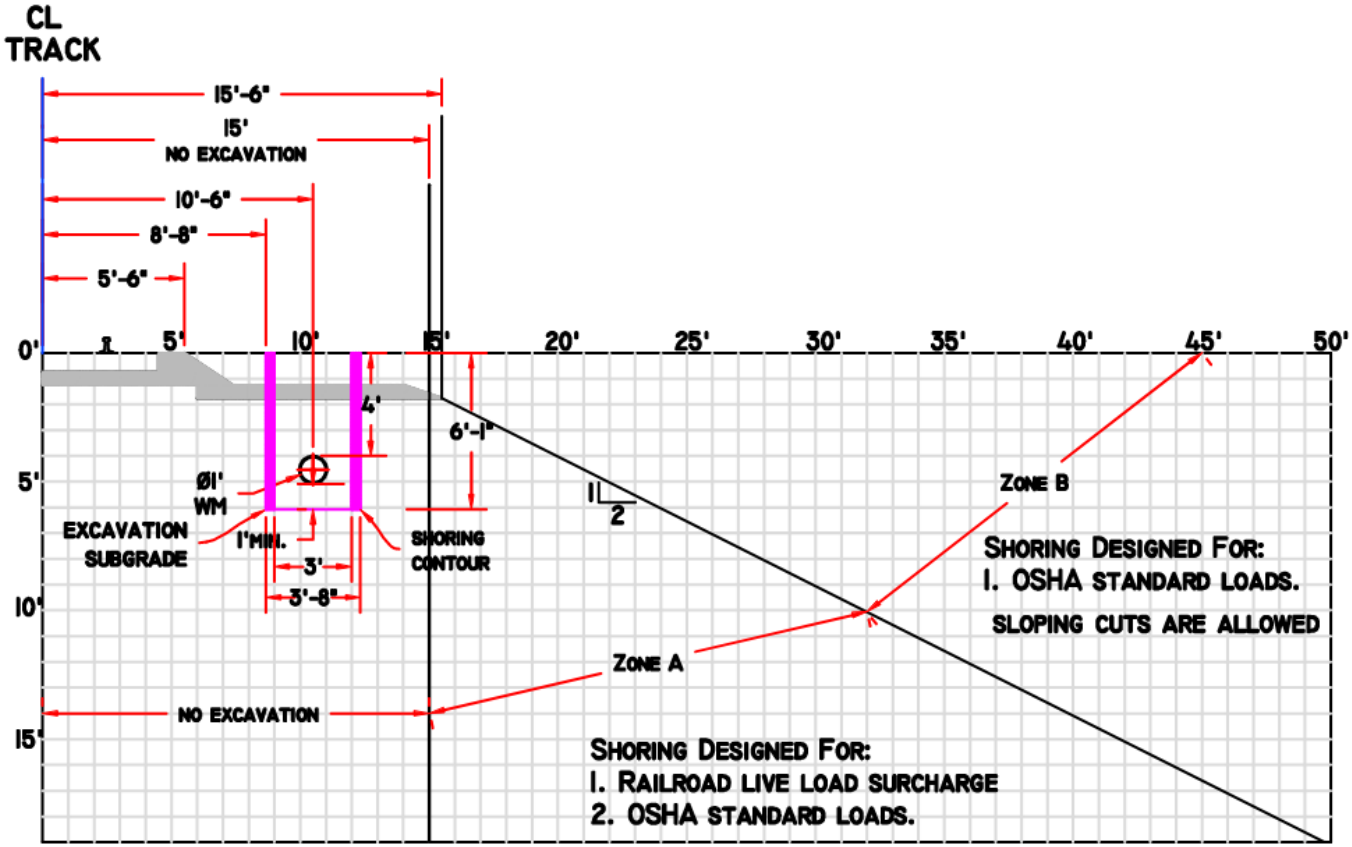

EXCAVATION & RAILROAD PROFILE

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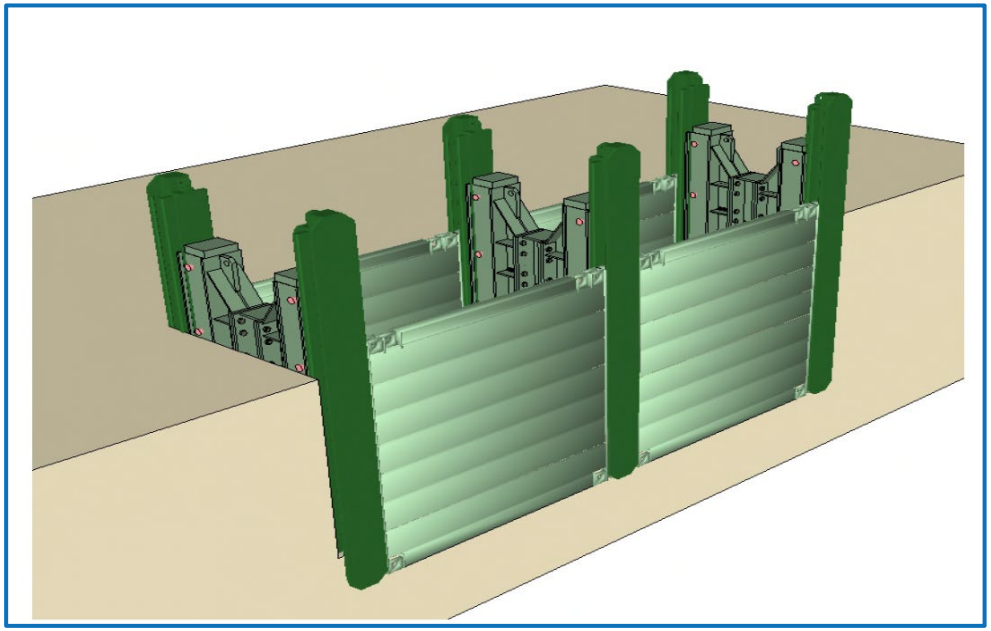
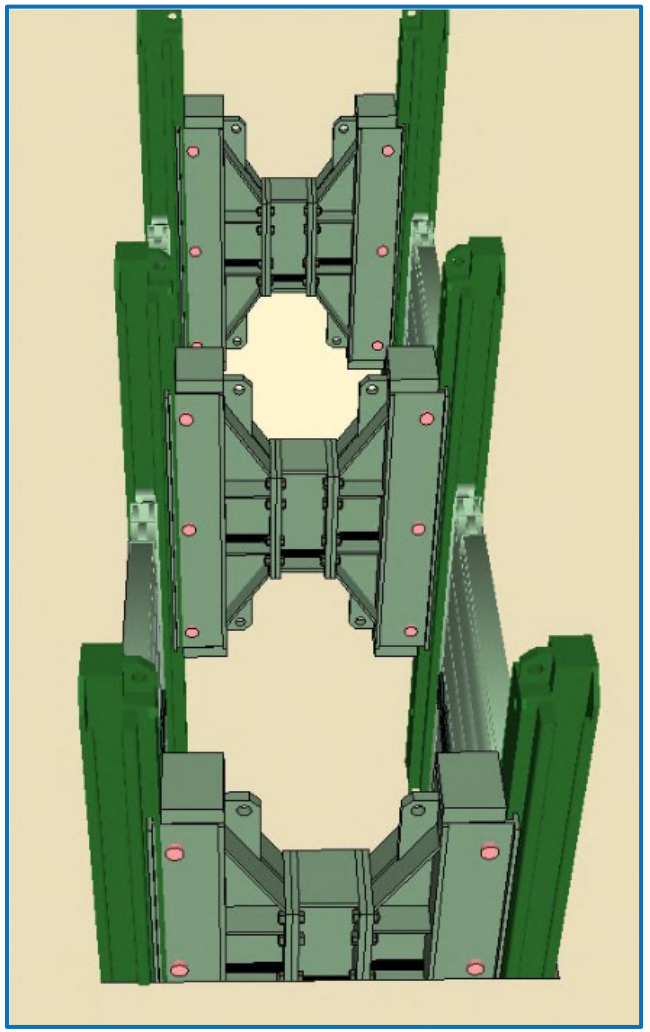
Slide Rail Shoring





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Pipeline Repair

- Leak located at failed cathodic weld for Electronic Test Station
- Installed repair clamp, pipeline wrapped and bagged
- Installed replacement anode

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Completed Project

- Construction Cost – $650k
- Planning – 5 months
- Construction – 6 nights

Next Steps

- Program preventative maintenance
- Evaluating options to increase reliability