

2024 APWA PROJECT OF THE YEAR AWARD – July 15, 2024

KENNEFICK ROAD FLOOD CONTROL PROJECT



PROJECT TEAM

- Design Engineering - Nichols Consulting Engineers (NCE)
- Contractor – RX Lodge, Incorporated
- Construction Management – San Joaquin County Public Works with general environmental monitoring support by NCE
- Cultural Resources Monitoring – Wilton Rancheria





HISTORY AND BACKGROUND

Following severe rainstorms in February 2017, Kennefick Road, located north of Liberty Road and southeast of Galt, California, experienced significant flooding that washed away approximately 100 feet of the roadway and undermined the cross-pipe culverts. This event severed the sole access route for the local community north of Liberty Road. Emergency repairs were swiftly executed to restore basic access using temporary measures until a more permanent solution could be implemented.

Upon securing funds from the Federal Emergency Hazard Mitigation Grant Program for design and construction, the County engaged a consultant to develop a permanent solution capable of withstanding drainage flows comparable to those experienced in 2017. The project commenced in July 2023 and reached substantial completion, with public access restored, by October 2023. Final enhancements were subsequently constructed, achieving full completion in January 2024.



KEY FEATURES

- **Infrastructure Replacement:** Temporary pipe culverts were replaced with a triple-box reinforced concrete culvert comprising six precast units and a concrete overlay.
- **Roadway Reconstruction:** The roadway approaches and profile of the new structure were raised to accommodate the differing upstream and downstream ground elevation conditions while also providing additional freeboard for drainage flows.
- **Safety and Erosion Control Enhancements:** A new parapet with approach guard railing was installed to enhance motorist safety. Permanent erosion control fabric and additional rock slope protection were implemented. Additionally, side drains were installed for the roadway approaches.

PRIMARY OBJECTIVE

The project's primary objective was to increase drainage capacity beneath Kennefick Road to prevent future roadway washouts and disruptions in access. The installation of a triple-box reinforced concrete culvert and alteration of the roadway profile have significantly enhanced drainage capabilities:

- **Increased Capacity:** The pre-existing culverts lacked sufficient capacity, causing flooding and disruptions. The new structure can convey drainage flows approximately 17 times more than the previous pipe culverts.
- **Risk Reduction:** By increasing drainage capacity, the project mitigates the risk of future failures during similar rain events, ensuring reliable access to residences, farms, and businesses north of Liberty Road.





STAKEHOLDER ENGAGEMENT

To ensure the project's success, San Joaquin County actively engaged with community residents, collaborated with the Wilton Rancheria Tribe whose indigenous territory encompasses the project area, coordinated with utility companies, and worked with a neighboring property to construct a temporary bypass road.

COORDINATION WITH WILTON RANCHERIA

Recognizing the importance of preserving and respecting these artifacts, the project incorporated a detailed plan provide by Wilton Rancheria Native America Tribe to ensure proper handling and protection. Examples of such materials that could have been potentially discovered included midden soils, artifacts, chipped or worked stone, baked clay, shell, or bone.

Significance of Preservation

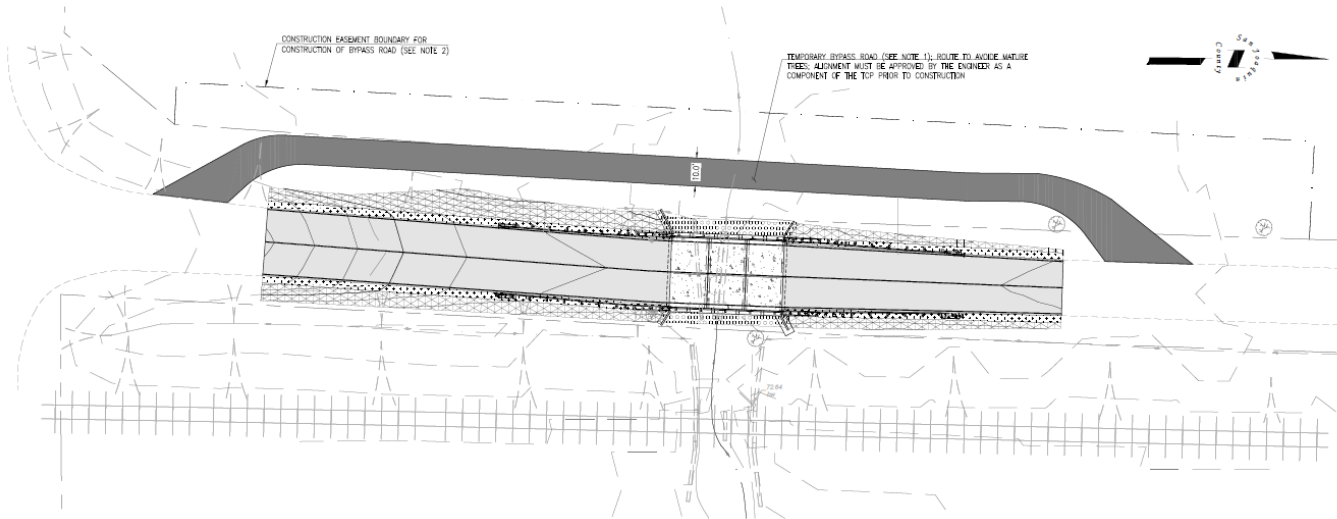
- **Cultural Heritage:** These artifacts represent the cultural heritage and history of Native American tribes, and their preservation is vital for maintaining the cultural identity and legacy of these communities.
- **Educational Value:** Artifacts provide valuable insights into the historical and cultural practices of indigenous peoples.
- **Respect for Ancestors:** Respecting and preserving these artifacts honors the ancestors of Native American tribes and ensures that their legacy is protected for future generations.
- **Monitoring and Preservation Efforts and Collaboration with Wilton Rancheria:** In addition to Wilton Rancheria's involvement, the County supplemented monitoring efforts with its consultant, Nichols Consulting Engineers (NCE). This collaboration ensured that culturally appropriate treatments were applied, preserving the cultural qualities and integrity of any tribal cultural resources.



TEMPORARY BYPASS ROAD

Due to Kenefick Road being a dead-end with no viable alternate routes, the project team constructed a temporary bypass road. This ensured maintained access for local residents, businesses, emergency responders, and services such as mail delivery while keeping motorists away from critical operations.

Consequently, the project proceeded with minimal interruptions and reduced the construction crews' exposure to public traffic.



PROJECT COMPLETION

Beyond infrastructure improvements, the project has positively impacted the community by enhancing the capacity and resilience of the drainage conveyance facility, ensuring reliable access for residents and emergency services.

