



CONCEPT INVESTIGATION

PIPE BRIDGE REPLACEMENT PEDESTRIAN PIPE BRIDGE OPTION

Ashley & Vance Engineering, Inc.
September 28, 2023

Prepared for:

San Simeon Community Services District

111 Pico Avenue
San Simeon, CA 93452



SAN SIMEON
Community Services District

WHAT, WHY, & HOW?

At the request of the San Simeon Community Services District (CSD), our team has investigated the potential for incorporating a pedestrian component into the proposed pipe bridge replacement that crosses Arroyo Del Padre Juan. Our initial findings identified a number of challenges and potential roadblocks, several of which have been presented below in a question & answer format.

Q What could the bridge look like?

A A pedestrian pipe bridge would likely look very similar to the image to the right and is consistent with the concept we investigated. As shown here, piping would be suspended below the pedestrian walking surface and include a simple but functional railing with concrete abutments and foundations at either end. The location would match that of the current pipe bridge in order to best work with the various site constraints, including existing easements and pipe elevations.

Photo Right: "Pipelines." *Process Pipeline Services*,
www.processpipelineservices.com/project-gallery-page-2.



Q Does the CSD currently have access to the land it would need?

A The current pipe bridge and proposed pedestrian pipe bridge are both located within an existing easement on land that is not currently owned by the CSD. Additional easements will be required to gain public access to the proposed pedestrian pipe bridge, triggering significant coordination and negotiation with adjacent property owners. Construction staging area(s) will also be needed for personnel, equipment, and material storage. The pedestrian pipe bridge option will require larger staging areas for longer periods of time relative to the like-in-kind pipe bridge replacement; prompting further coordination with adjacent property owners.

Q What will be required to allow public access to the bridge?

A Typically, pedestrian access is required to meet the state ADA regulations. On the North side of the bridge, there is a significant change in elevation between the street and the proposed bridge location. Due to this difference, an estimated 140 ft (minimum) of ADA-compliant ramping will be required. On the South side, a new sidewalk will be required from the cul-de-sac to the bridge. A pedestrian access easement or agreement from adjacent property owners will also be required.

Q Can the existing concrete abutments remain in place for the proposed pedestrian pipe bridge?

A No. Due to the significant increased weight for a pedestrian pipe bridge, as well as the additional loads imposed by pedestrian traffic, the existing bridge abutments and foundations will likely need to be removed and replaced. Abutment and foundation removal and replacement introduces substantial additional design efforts, significantly longer construction periods, and a much higher overall project cost.

Q Are there any additional permitting requirements or agencies involved for the pedestrian pipe bridge design?

With the expanded scope of work required for incorporating a pedestrian pipe bridge, significant additional agency review and permitting will be necessary. This additional permitting will likely include but is not limited to:

A

- Army Corps of Engineers - 404
- Regional Water Quality Control Board - 401
- California Coastal Commission - Coastal Development Permit

The additional permitting above introduces a significant extension to the overall project schedule as well as expenses paid to the consultant team for navigating the project through the various regulatory agencies.

Note: For the pipe bridge only (without pedestrian access), a categorical exemption from the County would be pursued in order to avoid issuance of a Coastal Development Permit.

Q How does the existing system remain operational during construction?

A

The original like-in-kind pipe bridge replacement allows for a relatively short disruption in service to the existing system. By expanding the scope to a pedestrian pipe bridge, the disruption to service will extend over a longer period of time. In order to maintain adequate service to the District, a much more sophisticated bypass system will be required while new bridge abutments and foundations are constructed. This could mean a secondary pipe support bridge installed temporarily during construction or alternatively, manually pumping and rerouting the water and sewer lines while the existing pipes are removed.

Q Will there be any environmental impacts due to the extensive demolition of the existing structure and installation of the new pedestrian pipe bridge?

A

All work conducted within the existing arroyo and nearby areas has the potential to impact the environment and trigger mitigation measures. Due to the extensive work required in and around the arroyo to construct the pedestrian pipe bridge, the potential environmental impacts and mitigation measures are substantially increased. Additional biological surveys and amendments to the corresponding biological resource assessment report will be required along with environmental monitoring during construction. The original like-in-kind pipe bridge replacement keeps this work to a minimum and reduces the overall potential for environmental impact and mitigation.

Q What is the timeline for the pedestrian pipe bridge option?

A

An additional 2-3 years of work is anticipated as a result of the supplemental design time, permitting requirements & agency approvals, and prolonged bidding/construction phases. Considering the deteriorating condition of the existing pipe bridge, significant and extensive repairs or complete replacement of the existing pipe bridge would be crucial for continued operation while the pedestrian pipe bridge is being designed and constructed.

Q How much would the pedestrian pipe bridge option cost when compared to a like-in-kind replacement of the existing pipe bridge?

A

An additional estimated cost **\$1 - \$1.5 million** will be required for the pedestrian pipe bridge option. Please note that this is a rough approximation of the total added project cost given the information available at this time.

ADVANTAGES & DISADVANTAGES SUMMARY



PIPE BRIDGE ONLY

ADVANTAGES

- ✓ Replaces aging infrastructure
- ✓ Reuses existing concrete abutments & foundations
- ✓ Shorter timeline
- ✓ Lower cost
- ✓ Fewer permitting requirements
- ✓ No additional land use and access rights required
- ✓ No additional ADA access requirements
- ✓ Lower environmental disturbance and monitoring

DISADVANTAGES

- ✗ No pedestrian public access and use
- ✗ May not serve future wastewater treatment plant (WWTP)

PEDESTRIAN PIPE BRIDGE

ADVANTAGES

- ✓ Replaces aging infrastructure
- ✓ Provides pedestrian public access and use (even if the WWTP is relocated)
- ✓ Potential contribution to the California Coastal Trail
- ✓ Potential state and/or local funding sources

DISADVANTAGES

- ✗ Existing concrete abutments demolished and replaced
- ✗ Additional land use and access rights required
- ✗ Additional ADA access required
- ✗ Requires additional agency review and permitting
- ✗ Extends the project schedule
- ✗ Increases the environmental disturbance
- ✗ Increases overall project cost
- ✗ Additional geotechnical and environmental investigations
- ✗ Ongoing existing bridge maintenance