United States Department of the Interior
Central Utah Completion Act Office

Central Utah Water Conservancy District

Finding of No Significant Impact

Alpine Aqueduct Reach 1 Replacement & Resiliency Project

November 2022

Recommended by: _____ Date: 11/7/2022

Gene Shawcroft
General Manager
Central Utah Water Conservancy District

Recommended by: W. Russ Findlay Date: 11-7-22

W. Russ Findlay
Program Coordinator
U.S. Department of the Interior

Approved by: Reed R. Murray Date: 7 NOV 2022

Reed R. Murray
Program Director
U.S. Department of the Interior
Central Utah Project Completion Act Office

CENTRAL UTAH WATER
CONSERVANCY DISTRICT

FINDING OF NO SIGNIFICANT IMPACT
Alpine Aqueduct Reach 1 Replacement & Resiliency Project

In accordance with Section 102(2)(c) of the National Environmental Policy Act (NEPA), as amended, the Council on Environmental Quality's (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and the U.S. Department of the Interior regulations for implementation of NEPA (43 CFR Part 46), the U.S. Department of the Interior Central Utah Project Completion Act Office (Interior) and the Central Utah Water Conservancy District (District), find that the Preferred Alternative analyzed in the Final Environmental Assessment (Final EA) for the Alpine Aqueduct Reach 1 Replacement & Resiliency Project (Project) would not significantly affect the quality of the natural or human environment. Therefore, an Environmental Impact Statement is not required for the proposed Project.

Project Area

The project is located in northeast Orem, west of Provo Canyon, within the Bonneville Unit of the Central Utah Project. The federally owned and District operated Alpine Aqueduct conveys water from the 10 MG Olmsted Reservoir to approximately half of Utah's population along the Wasatch Front through its three reaches: Reach 1, which connects to the Don A. Christiansen Regional Water Treatment Plant (DACRWTP) and into the Jordan Aqueduct near the DACRWTP; Reach 2, which delivers treated water from the DACRWTP to Orem and Provo; and Reach 3, which delivers untreated water to water treatment plants in Salt Lake County and to cities for use in their secondary pressurized irrigation systems in northern Utah County. This project involves Reach 1 (AA-1). The project study area is shown in Figure 1-4 of the Final EA.

Alternatives

No Action Alternative

The No Action Alternative has been developed in accordance with CEQ guidelines to provide a comparison with the Preferred Alternative. Under the No Action Alternative, the AA-1 pipeline would remain in place. The pipeline would continue to require extensive ongoing maintenance and repair to remain operational and its location poses a high failure hazard because of landslide movement and the potential for a seismic event.

Preferred Alternative

The Preferred Alternative refers to the alternative that would best accomplish the Project's purpose and need (43 CFR §46.420(d)). The Preferred Alternative would utilize the existing Alpine Tunnel and construct a new 1,100-foot-long tunnel running southward from the Alpine Tunnel outlet at the west end. From the end of the new tunnel there would be 750 feet of open cut construction for the pipeline to the intersection near 1060 North/1560 East in Orem. The realigned AA-1 pipeline would run west under 1060 North, turn north onto 1360 East, and continue through the former Cascade Golf Course toward Orem City's storage tanks before terminating at the DACRWTP.

The following are alternate variations on how to reach the Preferred Alternative's alignment northeast of 1060 North.

Variation A

Variation A would construct the new AA-1 pipeline beginning at the Alpine Tunnel outlet portal to an area east of 1060 North using open cut construction. The new AA-1 pipeline would be constructed along a steep slope which would require it to be rock bolted to the hillside to anchor the new pipe in place. The pipe would also be encased in reinforced concrete to protect and secure it.

Variation B

Variation B would include boring a new tunnel that would intersect the existing Alpine Tunnel near its midpoint and terminate at an area east of 1060 North. The pipeline would be installed within the tunnel. The lower portion of the Alpine Tunnel would be abandoned.

Variation C

Variation C would include boring a new tunnel beginning near the inlet to the Alpine Tunnel directly west of the 10 million-gallon (MG) Olmsted Reservoir to an area east of 1060 North. The existing Alpine Tunnel would be abandoned.

The Preferred Alternative and its variations are shown in Figure 2-2 in the Final EA.

Need for the Proposed Action

The need for the Project is to increase the physical integrity, functionality, and long-term viability of the AA-1 pipeline, which is the transmission line for a critical water supply.

Purpose for the Proposed Action

The purposes of the Project are:

1. Continue to provide Bonneville Unit's M&I System water to Orem, Provo, and northern Utah and Salt Lake Counties along the Wasatch Front by maintaining continual service during seismic and non-seismic events.
2. Prevent catastrophic damage to adjacent residential areas and the environment due to pipe failure.
3. Increase the reliability and resiliency of the AA-1 pipeline.
4. Increase seismic design performance to provide for continued operation of the DACRWTP. In addition, the AA-1 pipeline provides a critical water supply to the JVWTP and POMWTP located in the Salt Lake Valley.
5. Reduce operation, maintenance, and repair (OM&R) costs associated with AA-1 pipeline.

Findings

The finding of no significant impact (FONSI) is based on the analysis presented in the Final EA and the summary of impacts in Table 1.

Table 1. Summary of Impacts.

Resource	Cumulative Impact (Yes/No)	Rationale
Air Quality	No	Temporary impacts
Climate Change	No	Temporary impacts
Cultural Resources	No	No impacts
Geological Hazards	No	Unavoidable crossing of WFZ
Groundwater and Subsurface Water	No	No impacts
Indian Trust Assets	No	No impacts
Public Health and Safety	No	Temporary impacts
Socioeconomics	No	No impacts
Soils	No	Temporary impacts

Resource	Cumulative Impact (Yes/No)	Rationale
Threatened and Endangered Species	No	No impacts
Transportation and Utilities	No	Temporary impacts
Vegetation and Invasive Species	No	Temporary impacts
Visual Resources	No	Temporary impacts
Wildlife	No	Temporary impacts

The effects determinations for threatened, endangered, and candidate species in regard to the Preferred Alternative are summarized in Table 2.

Table 2. Threatened, Endangered, and Candidate Species Determination.

Species	Status	Occurrence in the Study Area	Determination
Yellow-billed cuckoo (*Coccyzus americanus*)	Threatened	Although there is suitable habitat within 0.5 miles of the study area, there are no documented occurrences of yellow-billed cuckoo within 2 miles.	No effect
June sucker *(Chasmistes liorus)*	Threatened	There is no potential for the June sucker species to occur in the study area.	No effect
Canada lynx (*Lynx canadensis*)	Threatened	No suitable habitat and no documented occurrences within or near the study area have been recorded. Therefore, this species is not found in or near the study area.	No effect
Monarch Butterfly (*Danaus plexippus*)	Candidate	A milkweed obligate species. There are many species of milkweed that grow in a variety of habitat types, including those found in the study area. It is possible this species could occur in and near the study area.	No effect

The Preferred Alternative does not violate federal, state, or local laws or requirements imposed for the protection of the environment. The Interior and the District have analyzed the public comments, alternatives, and environmental effects in detail and find that the Preferred Alternative meets the purpose and need described in the Final EA with no significant impacts to the natural or human environment.

Decision

Interior and the District have decided to implement the Preferred Alternative as described in the Final EA. The JLAs evaluated the Preferred Alternative which included an approximately 1,100-foot-long tunnel beginning at the existing Alpine Tunnel outlet portal on the eastern part of the Alpine Aqueduct Reach 1 alignment. Also, three variations of the pipelines proposed alignment in the eastern part of the Project were evaluated - two longer tunnels and one open cut option along the steep hillside (See Figure 2-4 in the Final EA). Additional geotechnical investigations will be conducted as part of the design and will be used to verify the feasibility of constructing the new 1,100-foot-long tunnel as part of the Preferred Alternative.

If it is determined through the geotechnical investigation that the 1,100-foot-long tunnel alignment is not feasible, the other alignments that were analyzed would be further investigated. It has been determined through the EA process that there would be no significant environmental impacts from any one of the variations.

Environmental Commitments

Proactive measures would be implemented to avoid or prevent adverse impacts that could otherwise result from project measures. In addition to Best Management Practices (BMPs), the following mitigation commitments for air quality, climate change, cultural resources, geological hazards, groundwater and subsurface water, hazardous wastes, invasive species, noise and vibration, soils and vegetation, transportation and utilities and wildlife, would be part of the construction contract.

Air Quality

BMPs would be employed during construction to mitigate for temporary impacts on air quality due to construction related activities. The BMPs may include:

- The application of dust suppressants and watering to control fugitive dust.
- Minimizing the extent of disturbed surfaces.
- Restricting earthwork activities during times of high wind.
- Establishing appropriate construction zone areas and stabilizing exits to reduce soil track-out onto the adjacent roadways.
- Slower speed limits on access roads to limit the amount of dust.
- If sediment is tracked off-site onto adjacent roadways, the sediment would be collected by sweeping and/or shoveling and disposed of in a stable location.
- Material stockpiles would be wetted to prevent wind-blown emissions.
- Vegetative cover would be established on bare ground as soon as possible after grading to reduce wind-blown dust.
- Use of properly operating well-maintained construction equipment.

Climate Change

BMPs would be employed during construction to mitigate for temporary impacts on climate change due to construction-related activities. The BMPs may include requirement of appropriate emission-control devices on all construction equipment.

Cultural Resources

Construction activities could have the potential to discover previous, unknown, cultural resources or Native American artifacts. In the event of a discovery, construction activity would be suspended, a treatment plan developed immediately, and coordination with State Historic Preservation Office (SHPO).

Geological Hazards

Design considerations for crossing the WFZ must be accommodated by movement in the pipeline, or the surrounding ground as opposed to resisting the movement through force. Some methods include increasing pipe wall thickness, using welded steel pipe, pipe yielding, pipe stacking (zig-zag configuration across the fault so that the pipe can expand and contract during an earthquake), designing around pipe strain limits, and providing movable and yielding backfill around the pipeline. Recommendations also include a soil/pipe structural analysis to identify and confirm reasonable design and mitigation approaches (Jacobs 2020).

Groundwater and Subsurface Water

The JLAs would investigate the presence of subsurface water that may exist along the Preferred Alternative alignment – specifically along 1060 North and 1360 East. If it is determined that corrective measures are needed so that the Project does not increase subsurface flows, the JLAs would incorporate corrective measures as part of the Project and coordinate authorizations and necessary permits with Orem City.

Hazardous Wastes

BMPs would be employed during construction to mitigate for hazardous wastes due to construction-related activities. The BMPs may include:

- All hazardous waste materials, including wastes, petroleum products, and solid wastes, would be handled, stored, and disposed of in conformance with federal and state regulations to prevent soil, groundwater, or surface water contamination.
- The Utah Division of Environmental Response and Remediation (DERR) would be contacted immediately if any contaminated soil or hazardous material is discovered during construction, including petroleum hydrocarbons or other previously unidentified hazardous materials or contaminated soils. The appropriate characterization and handling of the material would be conducted in accordance with DERR guidance.
- Absorbent pads or sheets would be readily available onsite. If onsite maintenance of construction equipment is required, absorbent pads would be placed under likely leak or spill sources. Mitigation for incidental spills or leaks of hydraulic fluid or diesel fuel from construction equipment would be implemented, including cleaning up the spill immediately, removing contaminated soil from the site, and properly disposing of it in conformance with federal and state regulations.

Invasive Species

BMPs would be employed during construction to mitigate for invasive species due to construction-related activities. The BMPs may include:

- Weed removal or reseeding after construction would be applied as required by landowners.
- BMPs would be utilized during construction and the District's Integrated Pest Management Plan would be implemented after construction for ongoing monitoring and treatment of invasive species.

Noise and Vibration

BMPs would be employed during construction to mitigate for noise and vibration due to construction-related activities. The BMPs may include:

- The JLAs would comply with applicable federal, state, and local laws, orders, and regulations concerning the prevention, control, and abatement of excessive noise and vibration.
- The contractor may be required to monitor for vibration when construction activities are within city streets and near residential dwellings.
- Prior to construction activities, the existing condition of foundations, basements, and other structural features along the Preferred Alternative alignment would be documented via photos and video methods and may include exterior and interior of the structures. Any damage to adjacent properties that are a result of the pipeline construction would be mitigated by the selected contractor.

Public Safety and Health

BMPs would be implemented to minimize the potential for risk and safety concerns during construction in the residential streets. The BMPs may include:

- At all times, construction fencing would be around the perimeter of construction zones to warn and keep out non-construction persons.
- Cover all open trenches with heavy metal plates outside of construction times.
- Use of orange construction signs warning of risk.
- A public information plan would be prepared and distributed, including project schedule, status, utility disruptions, and contact information.
- Construction traffic would maintain minimum driving speeds within residential neighborhoods.

Soils and Vegetation

The following BMPs would be implemented to minimize the potential for soil erosion, particularly in areas with steep slopes within all alignments:

- Erosion-control measures would be installed as necessary immediately during and after construction to control and minimize erosion and runoff; including but not limited to silt fencing, straw bales, application of gravel or riprap, and minimization of disturbed vegetated areas.
- Topsoil and excavated soil would be salvaged and stockpiled adjacent to trenching activities and used to fill in the open trenches as soon as possible upon completion of pipe installation.
- Where compatible with land use, disturbed areas would be reseeded to stabilize soils and reduce erosion with native vegetation.
- A Stormwater Pollution Prevention Plan (SWPPP) would be prepared in compliance with Section 402 of the Clean Water Act (CWA); which would describe measures to minimize erosion and soils from leaving the Project site during construction activities.
- The Preferred Alternative and alignment variations would avoid the landslide complex. The Preferred Alternative would be designed to current seismic standards for the 975-year event. More information regarding the design techniques used for crossing seismic zones is found in Section 2.5.1 in Chapter 2.
- If vegetation is removed during the migratory bird breeding season (April 1 – July 15), a qualified biologist would conduct nesting surveys within the construction footprint and within 100-foot buffer zone, no more than 7-days prior to ground disturbing activities, to verify that no migratory birds are nesting in the vegetation to be removed. The surveys would be conducted in consultation with USFWS.
- Disturbed areas would be reseeded with native vegetation including appropriate seed mix species for the Monarch butterfly (where applicable), and the District's Integrated Pest Management Plan would be implemented after construction for ongoing monitoring and treatment of invasive species.
- Additional geotechnical testing would be performed in conjunction with the Project's design phase.

Threatened and Endangered Species

The natural areas that are disturbed by construction would be reseeded with a native seed mix that benefits the Monarch butterfly. The USFWS would be consulted to determine the appropriate species to include in the seed mix to provide floral resources throughout the breeding and migration season for Monarch butterfly.

Transportation and Utilities

BMPs would be required by the contractor during construction to mitigate for expected transportation impacts including:

- Where possible, the use of residential urban streets for construction haul routes would be minimized.
- Traffic control plans would be developed in coordination with Orem City and Utah Department of Transportation (UDOT) to minimize impacts to the public.
- A public information plan would be prepared and distributed, including project schedule, status, utility disruptions, and contact information.
- Advance notice for road closures, detours, and delays would be provided.
- Access to residences would be maintained as possible. Although vehicle access to driveways would be restricted for likely several weeks, walk-in and emergency access would be provided.
- Detailed inventory of utilities and utility providers would be prepared to minimize disruption in utility service.

Wildlife

The following mitigations would be implemented to minimize disturbance to migratory birds and raptors caused by construction:

- All vegetation in the construction area would be cleared and grubbed outside the nesting season for most migratory birds (April 1 – July 15).
- Construction activities, including storing equipment and parking vehicles, would not take place within 0.5 miles of any red-tailed hawk nests or during the seasonal buffer for the nesting season (March 15 – August 15).
- A survey would be conducted for peregrine falcon nests to verify whether or not they are nesting and if so, construction activities would not occur during the seasonal buffer (April 1 – August 31).
- If construction activities cannot comply with these mitigation recommendations, the USFWS would be consulted to determine other methods for minimizing impacts.

Public Comment and Review

The Joint Lead Agencies released the Draft EA on Monday, August 1, 2022, for public and agency review. The public and agency review period ended Friday, September 9, 2022. Activities used to notify the public and agencies of the release of the Draft EA consisted of:

- Letters mailed to Orem residents located near the study area.
- Legal notices in local newspapers
- Four email updates to stakeholder database were sent during the comment period.
- Updated the project website with a copy of the Draft EA along with a means to provide comments.
- Social media posts were published on Orem City's page and the District's pages during the comment period.
- Presentation at the Orem City Council meeting on August 23, 2022.

Public Meetings

An in person public scoping meeting was held on Tuesday, November 30, 2021 at the District's office to present overall project information, answer questions, and gather public input. Twenty-four people attended the meeting in addition to the project team.

Another public meeting was held on August 30, 2022 at the District's office to present the Draft EA, answer questions, and gather public input. Seven households attended the meeting in addition to the project team.

Comments Received

Eleven comments were received during the scoping period which are found and responded to in Table 4-2 in the Final EA. A total of five comments were received on the Draft EA and are found and responded to in Table 4-3 in the Final EA. Comments were received from local residents.

The comments received were carefully considered and reviewed together with the information contained in the Draft EA in determining whether to issue a FONSI.

Tribal Consultation

Interior sent letters requesting consultation for the Project on potential properties of religions or cultural importance to Native American Tribal Governments and Bureau of Indian Affairs Agency Offices on November 15, 2021. The Hopi Cultural Preservation Office and the Navajo Nation responded. The Hopi Tribe requests that if the cultural resource survey identifies prehistoric sites that may be adversely affected by the Project, to consult with them. No prehistoric sites were identified. The Navajo Nation responded that the project could continue without further coordination with them. Additionally, if any Native American human remains or funerary objects are discovered during construction, to immediately stop construction and report the findings.

The Native American Tribes were notified of the release on the Draft EA, the public information meeting date and time, and the comment period. No responses were received.

More information on public and agency public involvement process is found in Section 4.1 of the Final EA.

The Final EA and FONSI are available on the internet at www.doi.gov/cupcao and www.cuwcd.com/alpineaqueduct.html. Copies of the Final EA and FONSI are available on request by contacting:

Sarah Sutherland
Environmental Programs Manager
Telephone: (801) 226-7100
Email: sarah@cuwcd.com