Appendix A: Consultation and Coordination

November 11, 2021

Re: Request to be a Cooperating Agency for the Alpine Aqueduct Reach 1 Replacement and Resiliency Project

Dear

The Central Utah Water Conservancy District (CUWCD) and the Department of the Interior-Central Utah Project Completion Act Office, as Joint Lead Agencies (JLAs), are preparing National Environmental Policy Act documentation, in accordance with 36 CFR 1500-1508, for the proposed Alpine Aqueduct Reach 1 Replacement and Resiliency Project. The JLAs are requesting that the U.S. Bureau of Reclamation – Provo Area Office be a cooperating agency for this project as defined in 40 Code of Federal Regulations 1501.8. Should your agency accept our invitation to be a cooperating agency, specific duties may involve:

- Participating in cooperating agency meetings;
- Providing comments on alternatives and issues to be analyzed in the EA;
- Providing input on resolution of issues associated with the proposed action; and
- Providing information as requested by the JLAs and assisting with analyses relevant to your agency's jurisdiction or area of special expertise.

Enclosed is a scoping document that outlines specifics about the Project. A segment of the Alpine Aqueduct Reach 1 (AA 1) is located within an active landslide in the foothills above Orem near the mouth of Provo Canyon. The landslide has caused operation and maintenance issues with AA 1. In addition, AA 1 crosses several splays of the Wasatch Fault. In the fall of 2020, CUWCD completed an analysis of options to address the geotechnical issues and concerns related with AA 1. The Proposed Action for the AA-1 Resiliency and Replacement Project would relocate the AA-1 pipeline to a location that would avoid the landslide complex and would construct segments of the pipeline that cross the WFZ in a manner that can better withstand potential seismic activity. The EA will also evaluate the construction of one or more pump stations to increase resiliency of the water delivery systems at the mouth of Provo Canyon. If you have any questions or concerns, please call me at (801) 226-7147 or send an email to sarah@cuwcd.com.

Sincerely,

Sarah Sutherland

Sarah Sutherland
Environmental Programs Manager

ec: Reed Murray, CUPCA Office, Program Director

United States Department of the Interior

BUREAU OF RECLAMATION
Provo Area Office
302 East Lakeview Parkway
Provo, UT 84606

IN REPLY REFER TO:
PRO-637
2.1.4.17

Ms. Sarah Sutherland
Environmental Programs Manager
Central Utah Water Conservancy District
1426 East 750 North, Suite 400
Orem, Utah 84097

Subject: Request to be a Cooperating Agency for the Alpine Aqueduct Reach 1 Replacement and Resiliency Project – Environmental Assessment, Utah

Dear Ms. Sutherland:

We received your letter dated November 11, 2021, regarding the Alpine Aqueduct Reach 1 Replacement and Resiliency Project (EA) concerning relocating the aqueduct to avoid a landslide complex. On behalf of the Central Utah Water Conservancy District (CUWCD) and the Department of the Interior, Central Utah Project Completion Act Office, as Joint Lead Agencies (JLAs), you requested the Bureau of Reclamation be a cooperating agency for the project as defined in 40 CFR 1501.6.

This letter is to inform you that we accept your request to be a cooperating agency on the EA. Mr. Wyatt Carter from our Environmental Group will be the team lead on your project. Please work directly with him to develop a Memorandum of Understanding outlining responsibilities under the National Environmental Policy Act for the respective agencies. Mr. Carter can be reached at (801) 379-1161 or by email at wcarter@usbr.gov. For Text Telephone Relay Service access, call the Federal Relay System Text Telephone (TTY) number at (800) 877-8339.

Sincerely,

Acting For

Digitally signed by
RICK BAXTER
Date: 2022.01.24
14:30:16 -07'00'

Kent Kofford
Area Manager

2.A.M.A00.1.ED.090 and 629

United States Department of the Interior
OFFICE OF THE SECRETARY
Central Utah Project Completion Act Office
302 East Lakeview Parkway
Provo, Utah 84606

CA-1300
2.1.4.17

Subject: Alpine Aqueduct Reach 1 Replacement and Resiliency Project Environmental Assessment – Tribal Consultation – Section 202(a)(1) – Central Utah Project Completion Act

Dear

The Department of the Interior – Central Utah Project Completion Act Office (Interior) and the Central Utah Water Conservancy District (District) are evaluating a replacement alternative and resiliency measures for the Alpine Aqueduct Reach 1 (AA-1) near the mouth of Provo Canyon. The District and Interior, as Joint Lead Agencies (JLAs), have initiated an environmental assessment (EA), consistent with the National Environmental Policy Act (NEPA), to analyze and disclose the potential impacts of replacing the AA-1 on a different alignment. Currently, the JLAs are initiating agency and public involvement by conducting scoping activities and are requesting input on the realignment and replacement of the AA-1 pipeline and resiliency options.

The JLAs have determined that the pipeline is at risk of failure from both seismic and non-seismic events, which is unacceptable for a critical water supply. The Project would relocate the AA-1 pipeline to a location that would avoid a landslide complex and would construct segments of the pipeline that cross the Wasatch Fault Zone in a manner that can better withstand potential seismic activity.

We invite you to a public scoping meeting to discuss the proposed action on Tuesday, November 30, 2021, from 6:00-7:30 p.m. This meeting will be held at the Central Utah Water Conservancy District Offices located at 1426 East 750 North, Building 2, Orem, Utah 84097. Enclosed is a scoping packet regarding the proposed Project.

We appreciate your participation on this Project. Comments must be submitted by Monday, December 20, 2021, to Mr. W. Russ Findlay, 302 East Lakeview Parkway, Provo, Utah 84606-7317, or by email to wfindlay@usbr.gov. For Text Telephone Relay Service access, call the Federal Relay System Text Telephone (TTY) number at (800) 877-8339.

Sincerely,

Digitally signed by REED MURRAY
Date: 2021.11.15 15:54:07 -07'00'

Reed R. Murray
Program Director

Enclosure

ec: mholden@usbr.gov
gene@cuwcd.com
(w/encl to each)

Findlay, Walter (Russ)

From: Richard M. Begay <r.begay@navajo-nsn.gov>
Sent: Tuesday, November 23, 2021 10:11 AM
To: Findlay, Walter (Russ)
Cc: Timothy Begay
Subject: [EXTERNAL] RE: 20211123-Alpine Aqueduct Reach 1 Replacement and Resiliency Project Envir-1111131220211123-pdf

Good morning Mr. Findlay

I am in receipt of the letter inviting the Navajo Nation to participate in the scoping activities for the Alpine Aqueduct Reach 2. The Navajo Nation has no concerns and will decline to participate in the scoping for this undertaking. Please proceed without further consultation with the Navajo Nation.

Richard M. Begay, THPO
Navajo Nation Heritage and Historic Preservation Dep't
Window Rock, AZ

From: Priscilla Chee <priscillachee@navajo-nsn.gov>
Sent: Tuesday, November 23, 2021 9:20 AM
To: Rudolph R. Shebala <rudyshebala@navajo-nsn.gov>; Richard M. Begay <r.begay@navajo-nsn.gov>; Elfreida Woodman <elfreidawoodman@navajo-nsn.gov>
Cc: Jonathan Nez <jonathannez@navajo-nsn.gov>; Myron Lizer <myronlizer@navajo-nsn.gov>; Paulson Chaco <paulsonchaco@navajo-nsn.gov>; James J. Davis, Jr <jjdavisjr@navajo-nsn.gov>; Davis Filfred <davisfilfred@navajo-nsn.gov>; Ettie Anderson <eanderson@navajo-nsn.gov>; Christopher T. Bahe <cbahe@navajo-nsn.gov>; Sharon Yazzie <sharonyazzie@navajo-nsn.gov>; Brenda Yazzie <brendayazzie@navajo-nsn.gov>
Subject: 20211123-Alpine Aqueduct Reach 1 Replacement and Resiliency Project Envir-1111131220211123-pdf

Fwd: DNR

Priscilla Chee

Sr. Office Specialist

THE NAVAJO NATION

Office of the President & Vice President

P.O. Box 7440 | 100 Parkway | Window Rock, AZ 86515

Office: (928) 871-7000 | Facsimile: (928) 871-4025

E-mail: priscillachee@navajo-nsn.gov

SCOPING PACKET

Alpine Aqueduct Reach 1 Replacement and Resiliency Project

INTRODUCTION

The Central Utah Water Conservancy District (District) and the Department of the Interior – Central Utah Project Completion Act Office (Interior) are evaluating a replacement alternative and resiliency measures for the Alpine Aqueduct Reach 1 (AA-1) near the mouth of Provo Canyon. The District and Interior, as Joint Lead Agencies (JLAs), have initiated an environmental assessment (EA), consistent with the National Environmental Policy Act (NEPA), to analyze and disclose the potential impacts of replacing the AA-1 on a different alignment. Currently, the JLAs are initiating agency and public involvement by conducting scoping activities and are requesting input on the realignment and replacement of the AA-1 pipeline and resiliency options.

Alpine Aqueduct

The Alpine Aqueduct was constructed as part of the Municipal and Industrial System of the Bonneville Unit of the Central Utah Project in 1979-80 by the Bureau of Reclamation. It is a 13.2-mile-long pipeline beginning at the 10-million-gallon (MG) Olmsted Reservoir in Provo Canyon and terminating in northern Utah County. It delivers untreated water to three water treatment plants (through a connection with the Jordan Aqueduct) as well as to secondary pressurized irrigation systems. The Alpine Aqueduct was constructed in reaches: AA-1 (proposed project reach); Reach 2, which delivers treated water from the Don A. Christiansen Regional Water Treatment Plant (DACRWTP) to Orem and Provo; and Reach 3, which delivers secondary irrigation water to northern Utah County.

Construction of the Alpine Aqueduct Reach 1

Alpine Aqueduct Reach 1 —

The AA-1 pipeline is part of the regional water delivery systems that traverse the mouth of Provo Canyon and is an integral part of the water delivery systems for Utah and Salt Lake Counties. It delivers municipal and industrial (M&I) water to approximately 1.6 million people in these counties. The AA-1 pipeline is 90-inches in diameter and approximately 1.1 miles long. It is comprised of an 1,830-foot-long tunnel and a 400-foot section that is aboveground. The remainder of the AA-1 pipeline is buried and connects to the DACRWTP. The existing AA-1 pipeline is shown in Figure 3.

Regional Water Facilities

DACRWTP — The DACRWTP is a 100-million-gallon-per-day (MGD) water treatment plant located above the Orem cemetery in the foothills of Mount Timpanogos. It delivers treated water to Orem, Provo, and other District customers.

JORDAN AQUEDUCT— The Jordan Aqueduct is a 38-mile-long pipeline beginning near the DACRWTP and terminating near 2100 South/Bangerter Highway in West Valley City. It is a major conveyance facility to the western and southern Salt Lake Valley areas delivering water from the Provo River to the 180 MGD Jordan Valley Water Treatment Plant and the 70 MGD Point of the Mountain Water Treatment Plant.

PROVO RIVER AQUEDUCT — The Provo River Aqueduct (PRA), previously known as the Murdock Canal or the Provo Reservoir Canal, is a 21-mile-long pipeline from the mouth of Provo Canyon to the Point of the Mountain. It was enclosed in 2014 with a 126-inch welded steel pipe and delivers water from the Provo River to Utah and Salt Lake Counties and to the Jordan Valley and Point of the Mountain Water Treatment Plants.

SALT LAKE AQUEDUCT — The Salt Lake Aqueduct (SLA) is a 69-inch diameter, 42-mile-long pipeline beginning at the base of Deer Creek Dam. It is a major conveyance facility for eastern Salt Lake Valley delivering water from Deer Creek Reservoir to the 113 MGD Little Cottonwood Water Treatment Plant. The SLA can also supply water to the DACRWTP on a space-available basis.

ALTA SPRINGS PIPELINE — The Alta Springs Pipeline delivers Orem City M&I water from springs located about 3 miles up Provo Canyon to storage tanks near the DACRWTP. It is a steel pipeline that ranges from 30 to 16 inches in diameter.

800 NORTH AQUEDUCT — The District owns and operates the non-federal Central Water Project that develops and delivers M&I water to northwest Utah County and to a turnout for Jordan Valley Water Conservancy District. The 800 North Aqueduct is part of the Central Water Project delivering treated water from the DACRWTP.

SPANISH FORK PROVO RESERVOIR CANAL PIPELINE — The Spanish Fork Provo Reservoir Canal Pipeline (SFPRCP) is a 60-inch, 19-mile-long welded steel pipe that conveys Strawberry Reservoir water to Utah and Salt Lake Counties. The SFPRCP connects to AA-1 (through the Olmsted hydroelectric powerplant and the 10 MG Olmsted Reservoir) and to the PRA.

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CENTRAL UTAH WATER CONSERVANCY DISTRICT

Continued from Page 1

GEOLOGIC HAZARDS AT THE MOUTH OF PROVO CANYON

These water delivery pipelines, including AA-1, are located at the mouth of Provo Canyon and cross the Wasatch Fault Zone (WFZ). Other challenges include geologic hazards such as landslides, steeply incised canyons, and unstable bedrock conditions. The AA-1 pipeline is at risk of failure due to landslides and/or a seismic event.

Wasatch Fault

The WFZ is a 230-mile-long fault zone that is the largest seismic fault in northern Utah. It is the most likely fault in the area to produce a moderate- to large-magnitude earthquake. According to a recent study, there is an 18 percent probability that the WFZ will produce at least one magnitude 6.75 or greater earthquake in the next 50 years.

The Provo Segment of the WFZ (Figure 4) has produced five surface rupturing events over the last 7,000 years, with average vertical displacements ranging from 4.5 to 8.2 feet. Based on these values, vertical displacement estimates for a future design seismic event range from 11.4 to 15.7 feet along the Provo Segment. Displacement of this magnitude would damage pipelines, tunnels, and aqueducts that cross the fault (Figure 1). The AA-1 pipeline can only withstand a limited amount of landslide movement before rupturing and causing more damage to the surrounding area.

Figure 1

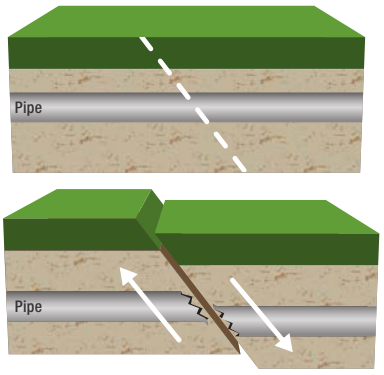

Figure 2

Landslide Complex

Another geologic hazard in the foothills above Orem at the mouth of Provo Canyon is a large landslide complex (Figure 4). It has been mapped by several different entities and is about 5,000 feet long and 1,800 feet wide. The AA-1 pipeline is at risk of failure from seismic shaking; non-seismic, moisture-induced landslide activity; and from localized landslides that exist within the larger landslide complex.

The landslide is promoted and activated by the presence of weak bedding planes and sheer surfaces that enable its movement. In the last 20 years, the AA-1 pipeline has ruptured five times due to landslide movement and hillside slumping. This landslide continues to put stress on the existing AA-1 pipeline and has damaged, deformed, and corroded the pipe in several locations.

CRITERIA	ITEMS CONSIDERED	WEIGHT
Reliability	• Non-Seismic Events • Seismic Events • Consequences of Failure/Flooding Risk • Potential for Interconnection	**40%**
Repairability	• Accessibility • Repair Materials and Methods • Time to Repair	**20%**
Operations and maintenance	• Access • Maintenance • Security	**20%**
Environment	• Wetlands/Rivers/Groundwater • Species/ Land Disruption • Community Impacts • Visual/Safety	**10%**
Implementation/Constructability	• Construction Risk • Property/Right-of-Way • Schedule	**10%**

AA-1 RESILIENCY ASSESSMENT

The District initiated the 2020 Alpine Aqueduct Reach 1 Resiliency Assessment Project (resiliency assessment) to evaluate options to improve the AA-1 pipeline and its resiliency. The objectives of the resiliency assessment were to evaluate its vulnerability, risk, and consequences of failure; determine its existing resiliency; and develop reasonable alternatives to decrease consequences of failure and increase reliability for District customers. A copy of the resiliency assessment is found on the AA-1 project website, **https://cuwcd.com/alpineaqueduct.html**.

Evaluations of Preliminary Alternatives

The resiliency assessment developed replacement options based on weighted non-cost evaluation criteria deemed to be most critical to provide safe, reliable operations of AA-1 (Figure 2). Replacement and rehabilitation options were ranked. The preliminary analyses yielded one potential pipeline alignment that scored significantly higher than the other options evaluated as part of the resiliency assessment. This alignment is referred to as option 3B in the resiliency assessment, but for purposes of this EA it will be referenced as the Proposed Action Alternative. The EA will evaluate the Proposed Action Alternative, No Action Alternative, and any reasonable alternatives proposed by the public or agencies.

PROPOSED ACTION

The Proposed Action for the AA-1 Replacement and Resiliency Project would relocate the AA-1 pipeline to a location that would avoid the landslide complex and would construct segments of the pipeline that cross the WFZ in a manner that can better withstand potential seismic activity.

NEED FOR THE PROJECT

AA-1 is expected to provide reliable service year-round. Failure of AA-1 would cause significant economic impact to the communities it supports and pose a substantial hazard to human life and property located below it. As discussed, the AA-1 pipeline crosses through and along a large landslide complex that has seen continued and recent localized slippage activity resulting in the rupture and failure of the

Continue on page 3

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pipeline multiple times since its construction.

Due to the critical nature of the AA-1 facility, the JLAs have determined that the pipeline is at risk of failure from both seismic and non-seismic events, which is unacceptable for a critical water supply. The vulnerability of the AA-1 pipeline greatly decreases the resiliency of the Wasatch Front water delivery facilities. Therefore, there is a need to evaluate the Proposed Action Alternative to increase AA-1's resiliency and reliability to provide water to Utah and Salt Lake Counties.

Photo of a Landslide along AA-1 Pipeline

PROPOSED ACTION ALTERNATIVE

The Proposed Action Alternative would consist of replacing and relocating the existing AA-1 pipeline outside of the landslide complex. It would also be designed and constructed to minimize the effects of an earthquake. Since the WFZ extends north and south along the Wasatch Front, any alignment option would require crossing the WFZ. To help mitigate the WFZ crossing, current seismic pipeline design standards and practices for fault crossings would be followed and flexibility would be incorporated in the pipeline itself. These updated designs significantly decrease the potential for failure due to fault displacement and increase the resiliency of the facility. The Proposed Action Alternative is the highest-rated option evaluated in the resiliency assessment.

The Proposed Action Alternative would connect with the existing AA-1 pipeline at its tunnel outlet portal, continue south down the hillside, turn west onto 1060 North street in Orem, turn north onto 1360 East street, and continue through the former Cascade Golf Course to the DACRWTP. The proposed AA-1 pipeline would be 108-inch welded steel and the existing AA-1 pipeline would be abandoned. Three options for alternate pipeline alignments are also under consideration. These options will allow the study team to examine costs and benefits of different alignments:

Option A would construct a new tunnel with a 102-inch diameter steel pipe for the first 3,200 feet. The new tunnel would run from the existing AA-1 tunnel inlet portal near the 10 MG Olmsted Reservoir to an area east of the 1060 North/1560 East intersection. From there, a new 102-inch pipeline would continue along the alignment described above in the Proposed Action Alternative.

Option B would construct a new tunnel with a 108-inch diameter steel pipe for the first 1,400 feet. Most of the existing AA-1 tunnel would remain in use, but the remainder of the existing AA-1 pipeline would be abandoned. The proposed tunnel would connect into the existing AA-1 tunnel and would head south to an area east of the 1060 North/1560 East intersection. From there, a new 108-inch pipeline would continue along the alignment described above in the Proposed Action Alternative.

Option C is independent of the alignment options A or B. It would involve extending the 108-inch Proposed Action Alternative pipeline farther north on 1360 East and then west through the former Cascade Golf Course to the DACRWTP.

Resiliency Measures

The resiliency assessment also evaluated measures to provide redundancy in the case of damage or rupture of the AA-1. Particularly, the resiliency assessment acknowledged the vulnerability of the major aqueducts located in Provo Canyon (e.g., Olmsted Flowline, SLA, and PRA) and considered reliability measures that could be implemented to improve the overall resiliency of the water delivery system. These measures include the interconnection between pipelines/aqueducts through the construction of proposed pump station(s), installation of valving, and the stockpiling of pipe and other appurtenances. The EA will evaluate the construction of one or more pump stations to increase resiliency of the water delivery systems at the mouth of Provo Canyon (Figure 4). Two pump station options are being considered as preliminary options:

Cascade Pump Station would be constructed adjacent to the 800 North park-n-ride lot and would pump water from the Provo Bench

Continue on page 4

Continued from Page 3

Canal into the PRA and/or to the realigned AA-1 pipeline through a newly proposed pipeline.

Murdock Pump Stations would consist of two pump stations — one located south of 800 North that would pump from the Provo Bench Canal into the PRA and the other near the Orem cemetery and would pump from the PRA to the DACRWTP and other water treatment plants located in the Salt Lake Valley.

The pump station options would not eliminate the need to replace AA-1. They are expected to operate even after a large seismic event. Either pump station option could potentially provide an opportunity for increased environmental benefit, depending on water contract holders' interest, by allowing water to continue down the Provo River below the Murdock Diversion instead of it being diverted above. If either option were constructed, water could then be diverted into the Provo Bench Canal and pumped into the PRA, AA-1, and/or the DACRWTP.

No Action Alternative

The No Action Alternative scored low in the resiliency assessment but is a requirement to be considered in the EA for comparison purposes. The No Action Alternative would leave the existing AA-1 pipeline in place. For the Resiliency Measures, no new pump station(s) would be constructed. In addition, the No Action Alternative would require the ongoing maintenance and repair to the existing AA-1 pipeline that currently presents risks to the surrounding area.

ENVIRONMENTAL RESOURCE CONCERNS

Resources identified as cause for concern include community impacts during construction, visual resources, and water quality. The Proposed Action Alternative crosses through a residential neighborhood that would experience temporary impacts during construction. The area would be restored as part of the construction process. Other resources will be evaluated as part of the EA.

SCOPING INFORMATION

We invite the public to provide input on the AA-1 project, as well as concerns and suggestions regarding the Proposed Action Alternative and any additional alternatives not included. An open house will be held Tuesday, Nov. 30, 2021, from 6:00 p.m. to 7:30 p.m. where the public is encouraged to come, view exhibits, and talk with project representatives. The open house will be held at the District offices located at 1426 East 750 North in Orem.

Photo of a Break in the AA-1 Pipeline

Comments can be submitted on the AA-1 project webpage using the interactive project map (https://cuwcd.com/alpineaqueduct.html) or by email (info@alpineaqueduct.com). A dedicated project hotline will be maintained throughout the study period (385-376-4400). Please submit any comments by Monday, Dec. 20th. There will continue to be opportunities for the public to give input throughout the NEPA process over the next year. We value your ideas and look forward to your continued involvement in improving the resiliency and reliability of the Alpine Aqueduct.

PUBLIC SCOPING MEETING

OPEN HOUSE

WHEN:
Tuesday, Nov. 30, 2021, 6-7:30 p.m.

WHERE:
Central Utah Water Conservancy District Offices
1426 East 750 North, Building 2, Orem, UT 84097

WE WANT YOUR INPUT

Formal comment period will be open until Dec. 20, 2021.

HOW TO COMMENT

- Attend the Public Scoping Meeting on Nov. 30, 2021, to submit a formal verbal comment.
- Submit a comment on the interactive map at cuwcd.com/alpineaqueduct.html.
- Call the study hotline at 385-376-4400.
- Email the study team at info@alpineaqueduct.com.
- Pick up a physical comment form and a copy of the Scoping Document at the CUWCD's Orem office.
- Mail in a physical comment form to:
  Central Utah Water Conservancy District
  c/o Alpine Aqueduct Reach 1 Project
  1426 East 750 North, Suite 400
  Orem, UT 84097-54742

DEFINITION OF ACRONYMS:

AA-1 - Alpine Aqueduct Reach 1

DACRWTP - Don A. Christiansen Regional Water Treatment Plant

EA - Environmental Assessment

JLA - Joint Lead Agency

M&I - Municipal and Industrial

MGD - Million-gallon-per-day

NEPA - National Environmental Policy Act

PRA - Provo River Aqueduct

SLA - Salt Lake Aqueduct

WFZ - Wasatch Fault Zone

Figure 3: Regional Water Facilities

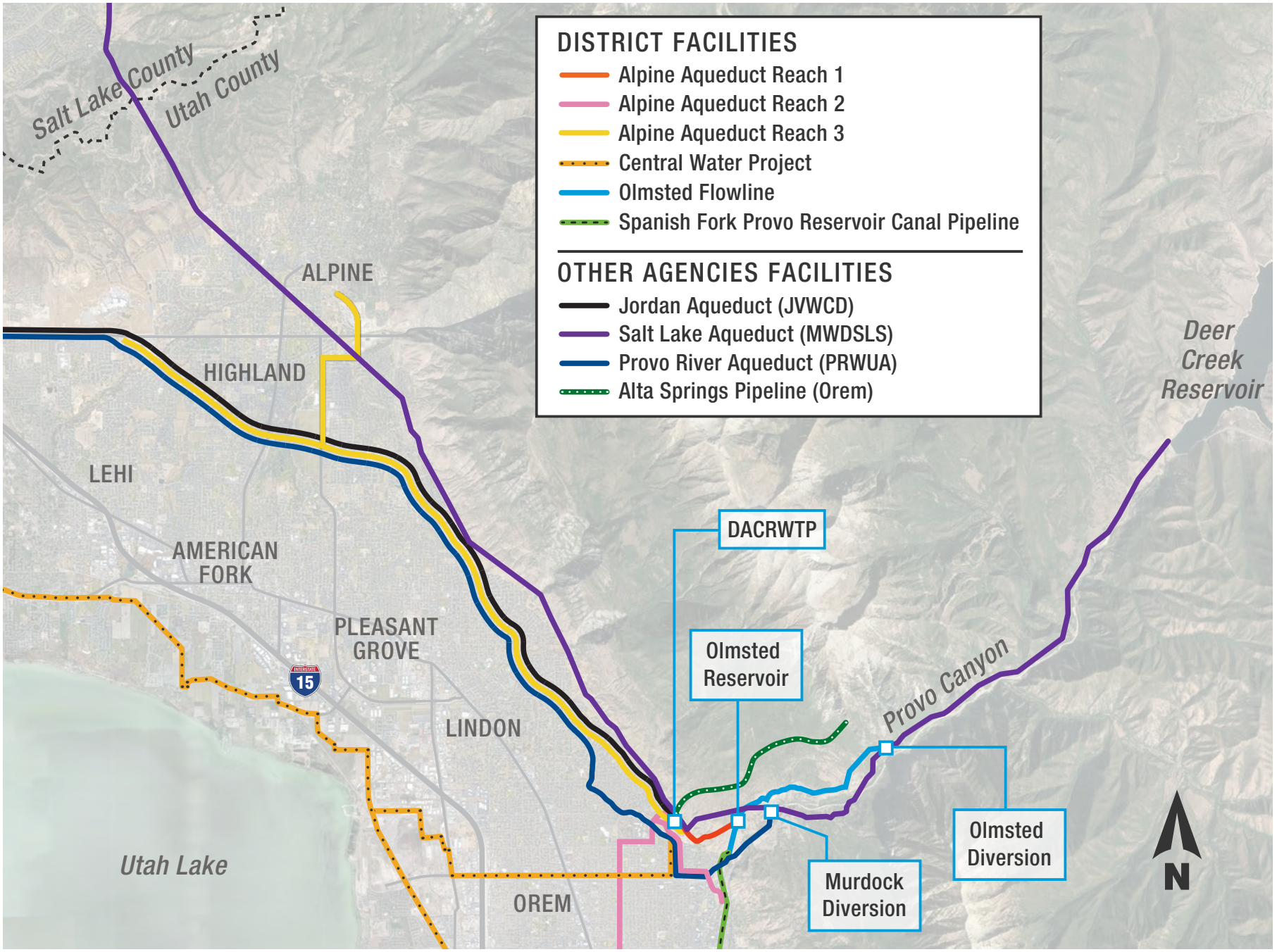
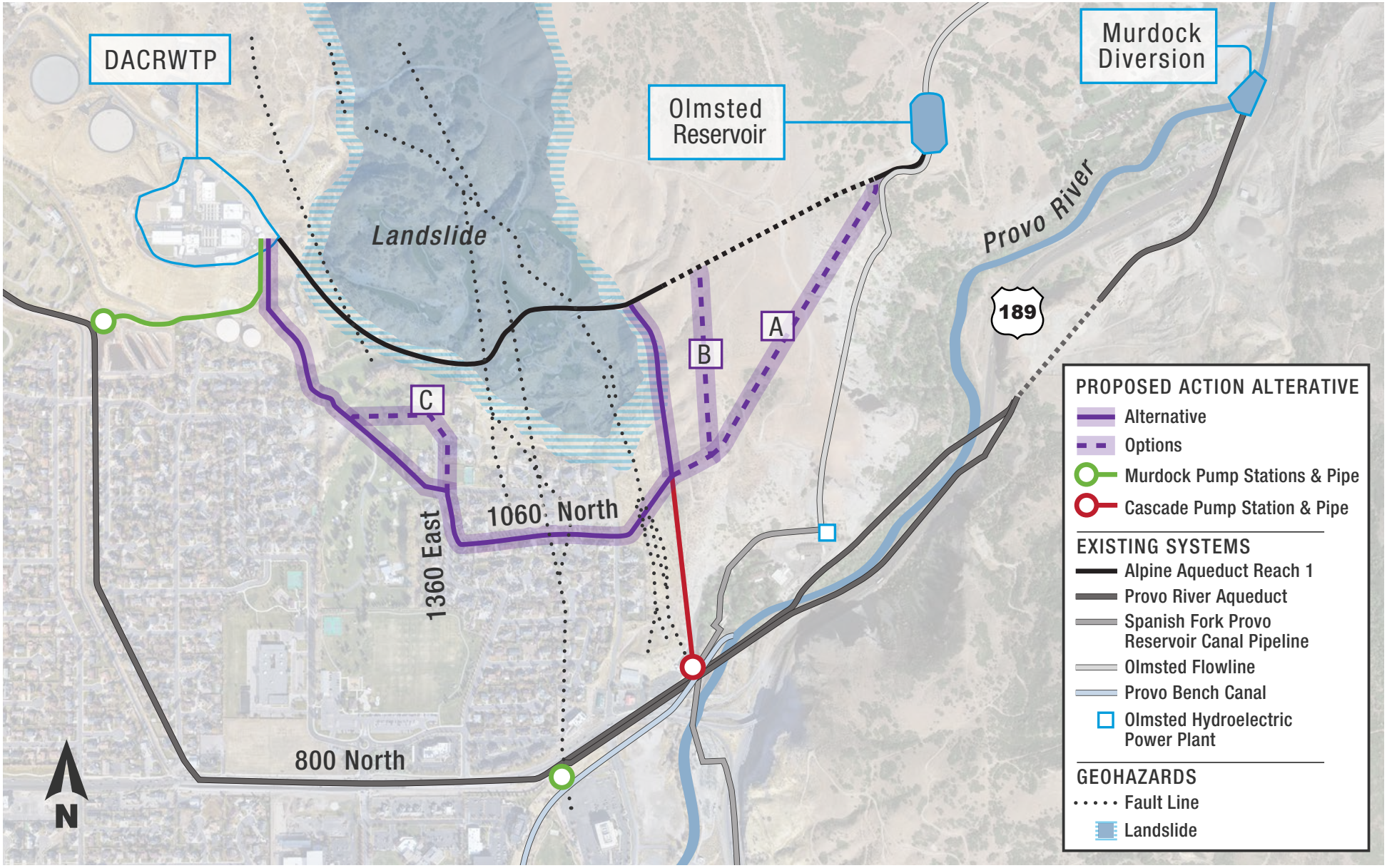


Figure 4: Proposed Action Alternative



CENTRAL UTAH WATER
CONSERVANCY DISTRICT

ALPINE AQUEDUCT REACH 1 EA
PUBLIC MEETING SUMMARY

PREPARED BY HORROCKS ENGINEERS
JANUARY 2022

Table of Contents

List of Appendices

Study Overview

The Central Utah Water Conservancy District (District) and the Department of the Interior – Central Utah Project Completion Act Office (Interior), as Joint Lead Agencies (JLAs), have initiated an Environmental Assessment (EA) to evaluate the replacement of a 1.4-mile segment of the Alpine Aqueduct at the mouth of Provo Canyon in Orem, Utah, and the potential addition of pump stations. The Alpine Aqueduct, through a connection with the Jordan Aqueduct, delivers water to approximately half of Utah's population, including Orem and Provo.

The EA study team is evaluating these improvements to protect this critical pipeline from geological hazards that are common along the Wasatch Front, such as landslides and earthquakes, and provide reliable service to Utahns well into the future. The study will comply with the National Environmental Policy Act (NEPA) requirements.

NEPA Scoping Purpose and Goals

NEPA regulations for scoping in 40 Code of Federal Regulations 1501.9 states, that agencies should use an early and open process to determine the scope of issues for analysis to be addressed and for identifying the significant issues related to a proposed action.

The purpose of scoping is to obtain information that will focus the NEPA analysis on the potentially significant environmental issues and de-emphasize insignificant issues. Scoping engages the general public and other entities that may have an interest in the project with the goal of soliciting input on the issues, impacts, and potential alternatives to be addressed in the NEPA document.

Scoping Process

Scoping was conducted in accordance with the District's 2016 *Handbook for the National Environmental Policy Act*, which specifies that "The District will provide an opportunity for scoping at the beginning of the NEPA process. Notifications will be made to the general public within the potential area of effect of the proposed action. Input to development of the EA will be solicited from the general public, interested parties, environmental groups, local, state and Federal agencies."

Public Outreach

A variety of methods were employed to advertise the beginning of the NEPA process and the Public Meeting, which took place on Nov. 30, 2021 (see Appendix A: Outreach).

- An invitation to the Public Meeting and the Scoping Document were mailed to approximately 300 Orem residents located near the project area and federal, state, and local agencies and interested parties including, U.S. Department of the Interior, U.S. Bureau of Reclamation, Utah Reclamation Mitigation and Conservation Commission, U.S. Forest Service, U.S. Fish and Wildlife Services, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, Utah Geological Survey, Utah Division of Water Resources, Utah Division of Forestry, Fire & State Lanes, Utah Division of Water Rights, Utah State Parks & Recreation, Utah Division of Wildlife Resources, Utah Department of Natural Resources, Governor's Office of Management & Budget, Utah Division of Water Quality, Utah Division of Drinking Water, Utah Division of State History & State Historic Preservation Office, Mountainland Association of Governments, Utah Department of Transportation, Utah Congressional Delegation, Provo City, Orem City, Alpine City, American Fork City, Highland City, Lehi City, Pleasant Grove City, Cedar Hills City, Saratoga Springs City, Lindon City, Vineyard City, Weber Basin Water Conservancy District, Jordan Valley Water Conservancy District, Metropolitan Water District of Salt Lake & Sandy, Provo River Water Users Association, Provo Bench Canal, North Union Irrigation Company, and PacifiCorp on Nov. 10, 2021.
- Interior sent a letter and the scoping document to Native American Tribal Governments and Bureau of Indian Affairs Agency Offices on Nov. 15, 2021, notifying them of the meeting, scoping comment period, and proposed project.
- The JLAs sent letters to agencies with jurisdiction by law or special expertise to notify them of the proposed action, the Public Meeting and inviting them to be a cooperating agency. The U.S. Bureau of Reclamation and Utah Reclamation Mitigation and Conservation Commission accepted the JLA's invitation to be cooperating agencies.
- The District website was made available to the public on Nov. 10, 2021 (cuwcd.com/alpineaquedcut.html). The website contained an overview of the study, instructions on how to provide feedback, the Scoping Document, the Public Meeting presentation materials, and an interactive comment map on which the public could leave geospatial comments.
- The formal comment period began on Nov. 15, 2021. A legal notice was advertised in the *Daily Herald*, *Salt Lake Tribune* and *Deseret News* on Nov. 15, 2021. The legal notice contained an overview of the study, instructions on how to provide feedback, and details about the upcoming Public Meeting.
- The District worked with Orem City and other key stakeholders to publish social media posts about the NEPA study and the upcoming Public Meeting in November 2021.
- The District met with the following stakeholders:
    - Orem City Council and Mayor
    - Bill Lee, Utah County Commissioner
    - Senator Mike Kennedy
    - Canyon Cove neighborhood representative

Opportunity for Public Comment

Interested parties were offered a variety of ways to submit comments throughout the comment period (Nov. 15, 2021 – Dec. 20, 2021).

- Email: info@alpineaqueduct.com
- Phone: 385-376-4400
- Website: cuwcd.com/aplineaqueduct.html
- Mail: Central Utah Water Conservancy District c/o Alpine Aqueduct Reach 1 Project 1426 East 750 North, Suite 400 Orem, UT 84097
- In-person: During the Public Meeting and at the District's main office

Public Meeting

The JLAs held an in-person Public Meeting to gather public input during the Scoping Phase of the Alpine Aqueduct Reach 1 (AA-1) EA. The Public Meeting was held on Tuesday, Nov. 30, 2021, from 5:30 – 7:30 p.m. at the District's Building 2 (1426 East 750 North, Building 2, Orem, UT 84097).

The meeting had 24 attendees. Of those attendees, 1 person left a written comment at the meeting. The meeting's presentation materials outlined the following items: study overview, regional facilities, project background, geotechnical investigations, evaluation criteria, project need, proposed action alternative, resiliency measures, how to provide comments, and schedule (see **Error! Reference source not found.** Study Information).

Summary of Comments and Issues Raised

The study team received a total of 11 comments throughout the comment period. The commenters addressed topics such as suggested pipeline alignments, resiliency measures, construction timeline and process, pipeline materials, accessibility to homes, the right-of-way process, maintenance disruptions, and safety.

The JLAs will consider the public scoping comments in developing the issues and alternatives and in shaping the impact analysis for the EA. A draft environmental document will be available for public comment in summer 2022.

#	COMMENT
1	I have the following questions/concerns: 1. I haven't been able to find a map of the fault lines that run through our neighborhood that matches the one you gave me. Would you mind giving me the source of the map? 2. The proposed route for the new pipeline avoids the landslide but still crosses a number of fault lines on the map you provided. In the information you provided, it states that fault displacement may range from 8-17 feet. If we have an event, I'm not sure having a pipeline run through our neighborhood is any better than having one above it. In my opinion, it would be best to avoid having the pipeline cross any of the fault lines. Could the pipeline be brought down the road that leads to Mama Chus/ gas station then go up 800 North? I know there is a pipeline already there but could a second one be installed that parallels the other one? Would that allow the pipeline to avoid the fault lines? Also, I have heard several concerns from the neighbors. They are listed as follows: 1. Limited access to their homes during construction. 2. Traffic flow through the neighborhood during construction. 3. Easements that may be granted to the CUWCD to access private property to install and maintain the pipeline. 4. Risk of flooding if we have an earthquake.
2	Thank you for your correspondence, regarding the Department of the Interior, Central Utah Project Completion Act Office and the Central Utah Water Conservancy District evaluating a replacement alternative and resiliency measures for the Alpine Aqueduct Reach I (AA-I) near the mouth of Provo Canyon Environmental Assessment. The Hopi Cultural Preservation Office appreciates the Central Utah Project Completion Act Office's solicitation of our input and your efforts to address our concerns. The Hopi Tribe claims cultural affiliation to earlier identifiable cultural groups in Utah, including the Fremont cultural group. The Hopi Cultural Preservation Office supports the identification and avoidance of our ancestral sites and Traditional Cultural Properties, and we consider the archaeological sites of our ancestors to be "footprints" and Traditional Cultural Properties. The Hopi Cultural Preservation Office requests consultation on any proposal with the potential to adversely affect prehistoric cultural resources in Utah. If the cultural resource survey of the area of potential affect identifies prehistoric sites that may be adversely affected by project activities, please provide us with copies of the survey report, draft environmental assessment and any proposed treatment plans for review and comment. In addition, we recommend that if any cultural features or deposits are encountered during project activities, these activities must be discontinued in the immediate area of the remains, and the State Historic Preservation Office must be consulted to evaluate their nature and significance. If any Native American human remains or funerary objects are discovered during construction, they must be immediately reported as required by law. Thank you again for your consideration.
3	Thank you for the information. Three other questions for tonight. 1. Why wasn't option 15 given more consideration? Cost? 2. Is there any information on how the water would flow through the neighborhood if there were a rupture in the existing system and the current option under consideration? 3. If the aqueduct were to rupture and flood homes in the neighborhood, would the CUWCD help with any of the costs to repair damage due to the flooding?

#	COMMENT
4	This is the ideal pump location. Extend the green line to the headworks for the plant. This is likely more feasible that going north from the pump site, running the aqueduct above ground and into the headworks. Noting the projections from AIG Climate models for 2070, any routing of the distribution system would be negatively impacted from erosion caused by the projected increase in precipitation.
5	Please try to schedule construction through the neighborhood - 1060 North/1360 East in spring/summer/fall - not during winter months when snow would further inconvenience residents having to park away from homes and make plowing of the streets difficult.
6	I am writing to request access daily to my house on [REDACTED] when you are doing the construction of the new pipeline. Please write it into the contractor's contract.
7	Please make daily access during the hours of 7 am thru 6 pm to the neighborhood and homes. Some are medical professional and need immediate access in and out of the neighborhood. Some homes have home businesses and have daily freight deliveries which need access as well. Please limit the working "closed" area to 200 feet or less at any one time. Keep the neighborhood clear of debris and dangers for children and mischievous teens.
8	I would like to thank you for holding the public meeting on November 30, 2021, regarding the Alpine Aqueduct Reach 1 Replacement and Resiliency Project. Many of the questions and concerns that I had with the project were addressed at the meeting; however, a few remain. At the meeting, I was told by Adam, Dave and Chris that I would receive follow-up on my remaining concerns. They are as follows: 1. It is my understanding that the majority of structural issues with the current pipeline have occurred in the area of the pipeline that is now above ground located north of the cul-de-sac on 1560 East. The natural flow of water from this area of pipeline is down 1560 East and if there were a problem with the pipeline, water from it would flow down the road avoiding the majority of homes in the Canyon Cove Estates neighborhood. If there is an issue with the pipeline west of the exposed area, I'm not sure how it being underground would affect the flow of the water but, any surface water should flow downhill, and a good portion of that water would probably run through the Pedersen's property avoiding most of the homes in our neighborhood. Moving the pipeline would disrupt the natural flow of water and increase the risk of water damage to homes in our neighborhood. 2. It is my understanding that CUWCD is going to use materials to construct the new pipeline and the immediate area around the pipeline that will mitigate the likelihood of the aqueduct rupturing or being displaced or compressed in a seismic event. I was shown an example of the material that may be used at the meeting and talked about various other materials that may be used. I would like to know what materials will be used and that they have been tested to withstand the potential 8-17 feet of vertical displacement and other damage that may occur in a seismic event. I've looked at companies that make pipelines in Japan that are engineered to withstand earthquakes, material such as Geofoam, etc. and if you read the small print, I am not sure they are made to withstand the amount of displacement that is described in the report generated for the CUWCD by Jacobs. 3. At the meeting, we were told that it takes 30-60 minutes to stop the water upstream after a leak is detected. Is there current technology that would allow CUWCD to determine a leak sooner than the technology currently in place and that would decrease the time window of turning the water off upstream? 4. In proposal #3, the new aqueduct would turn uphill onto 1360 East. If there were a leak, I assume the pipeline would lose pressure and the water headed uphill to the treatment facility would lose its forward momentum and reverse direction and run downhill. Is there a way to gate the pipeline to minimize the amount of water that would run downhill if a leak were to occur? 5. Last, I know in other areas such as golf courses next to neighborhoods that liability is determined by what was built first. For example, if the golf course was built prior to the homes, the golf course does not have any liability for a window in a home being broken by a golf ball. If the homes were there first, then the golf course is liable for the damage. With this proposed aqueduct route through our neighborhood, would CUWCD have any financial responsible for water damage to homes from a failed pipeline? Dave told me he would ask CUWCD's legal department this question and get back with me.

9	On behalf of [REDACTED], we appreciate the opportunity to comment on the proposed Alpine Aqueduct Reach 1 Replacement and Resiliency Project. My wife and I attended the November 30, 2021, Open House and we have considered the explanations we received at that time, and we have studied the materials you provided. In summary, we are very concerned about the proposal to route a new aqueduct along 1060 North. Our primary concern is that this proposal exposes our home – and all other homes in our neighborhood that are downhill from the proposed route – to greater long-term risk of water problems than the risk we currently have. In addition, we have the normal concerns about construction and maintenance disruptions in the neighborhood. Risk Exposure We moved into our home in the spring of 2011. With the first spring rains, we discovered that our window wells would rapidly fill with water. We (and our extended family when we were out of town) were constantly on-call to drop submersible pumps into the window wells whenever it rained. In speaking with neighbors, we discovered that they also had ground water problems, and many had installed drainage systems to mitigate the problem. After fighting the problem for a few years, we ultimately installed drainage systems in each of the three window wells that had the problem. Those holes for those systems were deep, well below the house footings. Much to our relief, this seemed to solve the problem. However, after several months, the same problem began appearing in other window wells that had never had the problem. We ultimately applied the same solution, and we have not had a problem in any of our window wells since. What we suspect is that there are groundwater flows under our neighborhood. When those flows are disrupted – as will most certainly be the case if the aqueduct is installed along 1060 North – the water will move to the next route of least resistance, and we will see new groundwater problems in neighborhood homes. Further, if there is ever a leak in the new aqueduct, the leaked water will find its way into our underground water flows, and potentially be exposed as water problems in neighborhood houses. As you likely know, the resolution of a groundwater problem in a house is not a trivial expense. So, the question is – will the Central Utah Water Conservancy District indemnify our neighborhood against any new groundwater problems our houses encounter during or after construction of the new 1060 North aqueduct? At the Open House when we expressed concern about potential flooding and groundwater problems, the response was to minimize the concern. We heard responses like: 1. “The pipe used for the new aqueduct will be very thick and won’t have many leaks.” Our reaction – if that’s the case, replace the existing aqueduct with that kind of pipe or better – or put that kind of pipe along 800 North. 2. “If there is an earthquake that breaks the new aqueduct, water flooding will be the least of our problems.” Our reaction – the same logic applies to the existing aqueduct. We should not minimize the ongoing concern by simply referencing an extreme catastrophe. 3. “Your neighborhood already has water problems, just think of the heavy rainstorm several years ago that flooded homes in your neighborhood.” Our reaction – that was a heavy rainstorm over a broad area that affected a few houses. It was not a concentrated break in a 7 or 8-foot pipe that is full of water. Imagine the pressure and resulting blast of water and erosion that will surely inundate houses that are only a few yards from such a break. Construction and Maintenance Problems All the problems associated with a major construction project in a compact neighborhood with many children are too many to mention. However, in addition to the disruption and inconvenience for months, we are extremely concerned about the danger such a project presents for children. This is a neighborhood that is busy with children in the streets and yards – and that is one of the desirable things about our neighborhood. Heavy machinery, large pipes, deep holes, re-routed traffic, etc. all seem like a recipe for serious accident. The same is true as maintenance will surely be required over time, and that maintenance may bring heavy equipment, excavation, and industrial materials into the neighborhood. All of these create the same risk to children as the original construction. Summary All in all – it seems that installing a major pipeline in a hillside neighborhood that already has groundwater and soil stability problems has great potential for more extreme problems. It seems to move the problem from one point in our neighborhood to another – but much closer to many more

#	COMMENT
	houses. There are groundwater issues in our neighborhood, and people have adapted to and resolved most of those problems. A new pipeline along 1060 North potentially disrupts those solutions and opens the door to more concentrated water problems in houses that are right next to the pipeline. The risks to children that are created by heavy construction, excavation, and pipeline maintenance in a neighborhood full of children cannot be minimized. Given the nature of our neighborhood, these risks alone may necessitate moving the plan to an alternative route. We believe there must be other solutions to the aqueduct issues that currently exist – and suggest those alternatives take priority.
10	To whom it may concern, My name is [REDACTED] and I live at [REDACTED] which is next to the new proposed path foe the new aqueduct. I do have a few questions? 1. Have you found that there is a drop in home values because people prefer not to live next to the aqueduct? 2. Are you planning to compensate homeowners for the loss in value of their homes because people prefer not to live next to this aqueduct? 3. If there is ever a break in the aqueduct that causes damage to homes nearby is there an insurance policy in place to compensate homeowners? 4. Is there an earthquake policy in place that covers damage to homes in the event of an earthquake? 5. What is the timeframe to complete the new aqueduct? 6. When will the new route be decided? Thanks for your time. I look forward to hearing back from you. Can you please reply that you received these questions?

#	COMMENT
11	My concerns about the proposed rerouting of the Alpine Aqueduct are as follows: Moving it into our neighborhood increases the risk to life and property in the event of an earthquake. It does not reduce the number of fault lines crossed but put the risk directly among people and their homes. I understand that the intent is to avoid the landslide area but putting it through the neighborhood also makes it far less accessible for repairs, which seems like a paramount concern if the primary goal is to keep water flowing to the million + users. Surely there will be some repairs required either way. It also seems like the damage would be much more likely to be catastrophic in an earthquake as opposed to the damage and maintenance required in the slow-moving slide area. As a result, the risk to us and our homes would be compounded - from earthquake damage and then significant flood damage as well. At the open house, much was made of how much more flexible the new pipe would be - we were shown a sharply bent piece of metal. But surely replacing the current pipe in its current location with more flexible material would make it much more resilient to movement of the landslide as well. Wouldn't the likely maintenance be reduced in that case as well? I would like the team to consider the potential for reducing maintenance costs in the current location. I'd also like the team to consider and share the cost comparison between the expected maintenance at the current location, the costs if the existing pipe were upgraded in the current location, and the costs of building the pipe in alternate, much longer route plus its maintaining it there. I was surprised that a cost comparison did not figure more prominently in the criteria defined in the materials I was sent. I expect that costs are rapidly rising with the recent building boom in Utah and the inflation around the country. In addition, I'd like the study team to consider putting in a gate in the pipe at the east side of the slide area so that the flow of water could more easily be stopped if repairs were needed. It seems like that would mitigate flood damage and facilitate repair and continued water flow more quickly than if the aqueduct has to be accessed under our roads and the water flow stopped well above us in the canyon. Also, at the open house, we were told that the study team had drilled extensively in the slide area to determine that tunneling to put the aqueduct below ground there was not feasible. But when I asked whether they had drilled under our neighborhood to test the stability of that soil, I was told they had not. I would very much like to see the results of such testing. We had a sewer line leak about 14 years ago. It was dug up and repaired - about 12 feed down at the street in front of our home. The area in the road and our gutter almost immediately settled and created a dip in the road and the curb where water collects and mosquitos breed in the summer. Many of our neighbors have experienced significant settling of their homes as well - one of them has had to shore up their foundation at significant cost. So, I'm concerned about whether the construction would exacerbate all of that and whether it is really suitable for putting such a large pipe in. Finally, I'm concerned about the damage construction may cause to our homes. The digging and heavy equipment 30 feet from my front door and going 30+ feet down will surely case significant vibration. So, I'm concerned about what that will do to the stability of our foundation and the whole structure. Thanks for your consideration. I am hopeful that you can find the best solution and I wish you luck with the project.