

**FEDERAL EMERGENCY MANAGEMENT AGENCY**  
**FINDING OF NO SIGNIFICANT IMPACT**  
**Long-Term Sustainability for Provo's Water Supply**  
**Utah County, Utah**

Provo City (City) proposes to construct an aquifer storage recovery (ASR) system in Provo City, Utah County, Utah. Provo applied to the Federal Emergency Management Agency (FEMA) through the Utah Division of Emergency Management for a grant under FEMA's Building Resilient Infrastructure and Communities (BRIC) grant program, EMD-2021-BR-063-0001. BRIC supports states, local communities, tribes, and territories as they undertake hazard mitigation projects, reducing the risks they face from disasters and natural hazards.

An Environmental Assessment (EA) was completed in compliance with the National Environmental Policy Act (NEPA) and is incorporated by reference. Other Federal laws, regulations, and Executive Orders, and FEMA policies for compliance with those laws and regulations, including 44 CFR Parts 9 and FEMA Directive 108-1 & Instruction 108-1-1 have also been considered. Other federal agencies may adopt the EA and this Finding of No Significant Impact (FONSI) under their own authorities.

## **BACKGROUND**

The proposed project is to construct an ASR system, which includes construction of a new water treatment plant near the intersection of Freedom Boulevard and West 2230 North, approximately 9,000 feet of new piping infrastructure, and a new booster pump station along Temple View Drive near 900 East. The water would be diverted from the Provo River, treated to drinking water standards, and piped to Rock Canyon Creek using a combination of new and existing municipal infrastructure. The water would be discharged as surface water into an existing natural stream channel to infiltrate and replenish the aquifer. Water diverted from the Provo River and treated at the water treatment plant may also be used directly in the City's municipal water system instead of using groundwater supplies, thus keeping groundwater in the aquifer and increasing community resilience against future drought. The operating capacity of the facility would be limited to approved water rights available to the project proponent.

The purpose of the proposed BRIC project is to create a sustainable water supply for Provo to mitigate the effects of long-term drought and build resilience by increasing the City's reliable water supply year-round, including during times of drought. The proposed project is needed to provide (1) long-term sustainability of Provo's water supply and mitigate the impacts from drought currently affecting all Provo residents and surrounding communities who share the aquifer and (2) redundancy to the single spring transmission pipeline in the event of a failure of the pipeline due to a catastrophic failure such as an earthquake.

In December 2023, FEMA completed the referenced EA for the Long-Term Sustainability for Provo's Water Supply project (the proposed FEMA undertaking), which is incorporated by reference. Two alternatives were considered, the No Action Alternative and the Proposed Action Alternative. Other alternatives were considered but dismissed, including demand management, use of treated wastewater effluent, non-potable reuse, construction of a new surface water reservoir, use of the existing Central Utah

Conservancy Water District Water Treatment Plant, no water treatment plant construction with water piped directly to Rock Canyon, and construction of a smaller capacity water treatment plant. These alternatives were either considered infeasible, were not cost effective, and/or do not meet the purpose and need for the project.

No significant environmental impacts were identified by FEMA through the EA process. On September 12, 2023, Provo and CUWCD entered into a negotiated binding Agreement to support the ASR project and document roles, responsibilities, obligations regarding use of water as they relate to the NEPA evaluation of the ASR Project. As described in the Agreement, Provo City's use of the water would have no detrimental effect on the flows in the Provo River that would adversely affect CUWCD's ability to manage Utah Lake or pose a threat to rights and obligations under the June Sucker Recovery Implementation Program. Therefore, FEMA has determined, and USFWS concurred, that the Proposed Action "may affect but is not likely to adversely affect" the June sucker and would not adversely modify designated critical habitat for the June sucker.

The EA was made available to agencies, tribes, and the public for review and comment for a 30-day comment period beginning September 22, 2023. The draft EA was made available on Provo's websites at <https://www.provo.org/departments/public-works/water-resources> and <https://www.provo.org/about-us/public-notice> and FEMA's website at <https://www.fema.gov/emergency-managers/practitioners/environmental-historic/nepa/environmental-assessment-long-term>.

No comments were received from the general public or tribes. Comments from the following agencies were received during the comment period: U. S. Bureau of Reclamation, Central Utah Project Completion Act Office, Utah Reclamation Mitigation & Conservation Commission, and the Central Utah Water Conservancy District. Substantive comments were addressed in the preparation of the final EA. Comments not addressed in the EA are attached as an appendix to the final EA.

## **MITIGATION MEASURES AND CONDITIONS**

The City is responsible for complying with all applicable permit requirements, conditions, and mitigation measures, including but not limited to the following:

- The City is responsible for following all commitments outlined in the Agreement among Central Utah Water Conservancy District, Provo City Corporation, and the U.S. Department of the Interior pertaining to the Provo City Aquifer Storage and Recovery Project.
- Implementation of the Proposed Action must be consistent with the existing June sucker recovery plan and the June Sucker Recovery Implementation Program (JSRIP).
- The Utah Division of Water Rights approved Stream Alteration Permit (Number 23-55-0SSA- approved May 3, 2023) for work within Rock Canyon Creek under Section 404 of the Clean Water Act (CWA), consistent with the Programmatic General Permit 10 issued to the State of Utah by USACE on February 22, 2021. The City must comply with the conditions outlined in the approved authorization, as well as the Programmatic General Permit 10 conditions, including the

implementation of BMPs and the minimization of impacts. Impacts to wetlands and Waters of the U.S. will not occur outside areas included in the Stream Alteration Permit.

- A Utah Pollutant Discharge Elimination System Permit from the Utah Division of Water Quality is required for stormwater discharges from construction activities because the project will impact greater than one acre of land. The City must obtain any other applicable Clean Water Act Section 401 Water Quality certifications.
- A U.S. Forest Service special use permit has been obtained for the area where the project will cross National Forest System lands; all conditions in this permit will be followed.
- Project activities have the potential to impact migratory birds and raptors. The proposed action is subject to compliance with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The applicant is responsible for obtaining and complying with any necessary permits from the USFWS. To avoid impacts to migratory birds and raptors, the project area must be inspected for nesting activity prior to the removal of vegetation. Nest surveys/searches shall occur no earlier than two weeks prior to construction. If active nests are discovered, the Utah Ecological Services Field Office must be contacted. Appropriate USFWS buffer zones and/or seasonal restrictions may be required. Alternatively, work can be completed outside of the nesting season (generally between March and August).
- Areas of disturbance will be restored with native trees and vegetation. Weed-free seed and erosion control measures will be used, and the seed mix verified to ensure it does not contain invasive plants.
- The Utah Division of Air Quality regulates fugitive dust from construction sites and requires compliance with rules for sites disturbing greater than 0.25 acre. Utah Administrative Code Rule R307-205-5 requires steps be taken by the City and their contractor to minimize fugitive dust from construction activities.
- All construction equipment is required to meet current EPA emissions standards. Vehicle and equipment run times will be kept to a minimum. All construction equipment will be well-maintained, have sound-control devices no less effective than those provided on the original equipment, and have muffled exhaust.
- Areas of exposed soil will be covered or wetted to reduce fugitive dust.
- Equipment will be kept in good condition and any spills or leaks from equipment will be contained and cleaned up right away. All equipment and project activities will adhere to local regulations to reduce the risk of hazardous leaks and spills.
- Any hazardous material unexpectedly encountered during construction will be reported to the Utah Department of Environmental Quality.
- The City will develop a traffic control plan and adhere to any conditions laid out in all necessary permits obtained. Traffic control measures will be put in place during construction of all new distribution lines.
- If cultural materials or human remains are discovered during the project, a report will be made immediately to the City, the Utah Division of Emergency Management, the FEMA Environmental and Historic Preservation Regional Officer, and the Utah State Historic Preservation Office (SHPO).
- Fill material (soil, boulders, and/or riprap, etc.) must be obtained on site from within the project Area of Potential Effect or from previously approved sources (Utah State Licensed Pits, existing

commercial sources, existing contractor or county stockpiles); otherwise, additional coordination with FEMA and the Tribal Historic Preservation Office and Utah SHPO will be required to obtain necessary permits.

- Construction workers will be trained to identify historic and prehistoric artifacts and features.
- All excavation and vegetation removal activities must be completed in accordance with BMPs to reduce impacts to soils and water resources.
- Staging areas will be located where they will minimize new disturbance of area soils and vegetation. Ground disturbance will be minimized to the extent possible.
- All excess excavated soil must be stockpiled outside the 100-year floodplain and outside of any wetland areas.
- All permits and documentation of coordination and compliance with any conditions should be provided to the state and FEMA for inclusion in the permanent project files at project close-out.

## FINDINGS

Based upon the information contained in the referenced Environmental Assessment completed in accordance with NEPA; National Historic Preservation Act (NHPA) and tribal considerations; Endangered Species Act (ESA); Executive Orders (EO) addressing Floodplains (EO 11988), Wetlands (EO 11990), and Environmental Justice (EO 12898); and FEMA's agency guidance for implementing NEPA (FEMA Directive 108-1 and Instruction 108-01-1), it is found that the Proposed Action with the prescribed mitigation measures and stipulations will have no significant adverse impact on the human environment. **As a result of this Finding of No Significant Impact**, an Environmental Impact Statement will not be prepared, and the Proposed Action with the associated mitigation measures and stipulations as described in the Final Environmental Assessment and FONSI may proceed.

## APPROVAL

STEVEN E HARDEGEN

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HARDEGEN  
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12.15.2023

Steven E. Hardegen  
FEMA Region VIII  
Regional Environmental Officer

Date



Final Environmental Assessment

# Long-Term Sustainability for Provo's Water Supply

EMD-2021-BR-063-0001

Provo City, Utah County, Utah

December 2023



**FEMA**

Federal Emergency Management Agency  
Region 8  
Department of Homeland Security  
Denver Federal Center, Building 710  
P.O. Box 25267  
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## Acronyms and Abbreviations

AADT	annual daily traffic
APE	Area of Potential Effect
AF	Acre-feet
ASR	aquifer storage recovery
BMPs	Best Management Practices
BRIC	Building Resilient Infrastructure and Communities
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic feet per second
CUPCA	Central Utah Project Completion Act Office
CUWCD	Central Utah Water Conservancy District
CWA	Clean Water Act
DAHP	Department of Archaeology and Historic Preservation
dba	A-weighted decibels
DBH	diameter at breast height
EA	environmental assessment
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRM	flood insurance rate map
FONSI	finding of no significant impact
HDPE	high-density polyethylene

JSRIP	June Sucker Recovery Implementation Program
MBTA	Migratory Bird Treaty Act
MGD	million gallons per day
msl	mean sea level
NAAQS	National Ambient Air Quality Standards
NATA	National Scale Air Toxics Assessment
NEPA	National Environmental Policy Act
PM <sub>2.5</sub>	fine particulate matter less than 2.5 micrometers in diameter
PM <sub>10</sub>	particulate matter that is less than 10 micrometers in diameter
TMDLs	Total Maximum Daily Loads
URMCC	Utah Reclamation Mitigation and Conservation Commission
USACE	United States Army Corps of Engineers
USBR	United States Bureau of Reclamation
U.S.C.	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
Utah DEQ	Utah Department of Environmental Quality
WTP	water treatment plant
YBCU	yellow-billed cuckoo

# SECTION 1. Introduction

Provo City proposes to construct an aquifer storage recovery (ASR) system in Provo City, Utah County, Utah (**Figure 1-1**). Provo applied to the Federal Emergency Management Agency (FEMA) through the Utah Division of Emergency Management for a grant under FEMA’s Building Resilient Infrastructure and Communities (BRIC) grant program. Utah Division of Emergency Management is the direct applicant for the grant, and Provo City is the Subapplicant. The BRIC grant program is authorized under Section 203 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 United States Code (U.S.C.) 5133, as amended by the Disaster Recovery Reform Act of 2018.

The proposed project is to construct an ASR system, which would include construction of a new water treatment plant (WTP) and approximately 9,000 feet of new piping infrastructure, along with a new booster pump station (**Figure 1-2**). The water would be diverted from the Provo River, treated to drinking water standards, and piped to Rock Canyon Creek using a combination of new and existing municipal infrastructure. The water would be discharged as surface water into an existing natural stream channel to replenish the aquifer. Water diverted from the Provo River and treated at the WTP may also be used directly in the City’s municipal water system instead of using groundwater supplies, thus keeping groundwater in the aquifer and increasing community resilience against future drought.

FEMA prepared this environmental assessment (EA) in accordance with the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) regulations to implement NEPA (40 Code of Federal Regulations [CFR] Parts 1500–1508), and FEMA guidance for implementing NEPA (U.S. Department of Homeland Security Instruction 023-01-001 and FEMA Instruction 108-01-1). FEMA is required to consider potential environmental impacts before funding or approving actions and projects. The purpose of this EA is to analyze the potential environmental consequences of the proposed project and alternatives, including a no action alternative. FEMA used the findings in this EA to determine whether to prepare an environmental impact statement or to issue a finding of no significant impact (FONSI).

In accordance with CEQ regulations implementing NEPA (40 CFR Part 1501.8), FEMA sent formal requests to multiple agencies to become cooperating agencies for the planning and development of the EA on January 11, 2023. All of the agencies were identified as having special expertise or jurisdiction by law related to the project. The following agencies accepted FEMA’s invitation to act as a cooperating agency:

- U.S. Bureau of Reclamation (USBR), Provo Area Office
- Central Utah Project Completion Act Office (CUPCA)
- Utah Reclamation Mitigation and Conservation Commission (URMCC)
- Central Utah Water Conservancy District (CUWCD)
- U.S. Environmental Protection Agency (EPA) Region 8
- U.S. Fish and Wildlife Service (USFWS), Utah Ecological Services Field Office

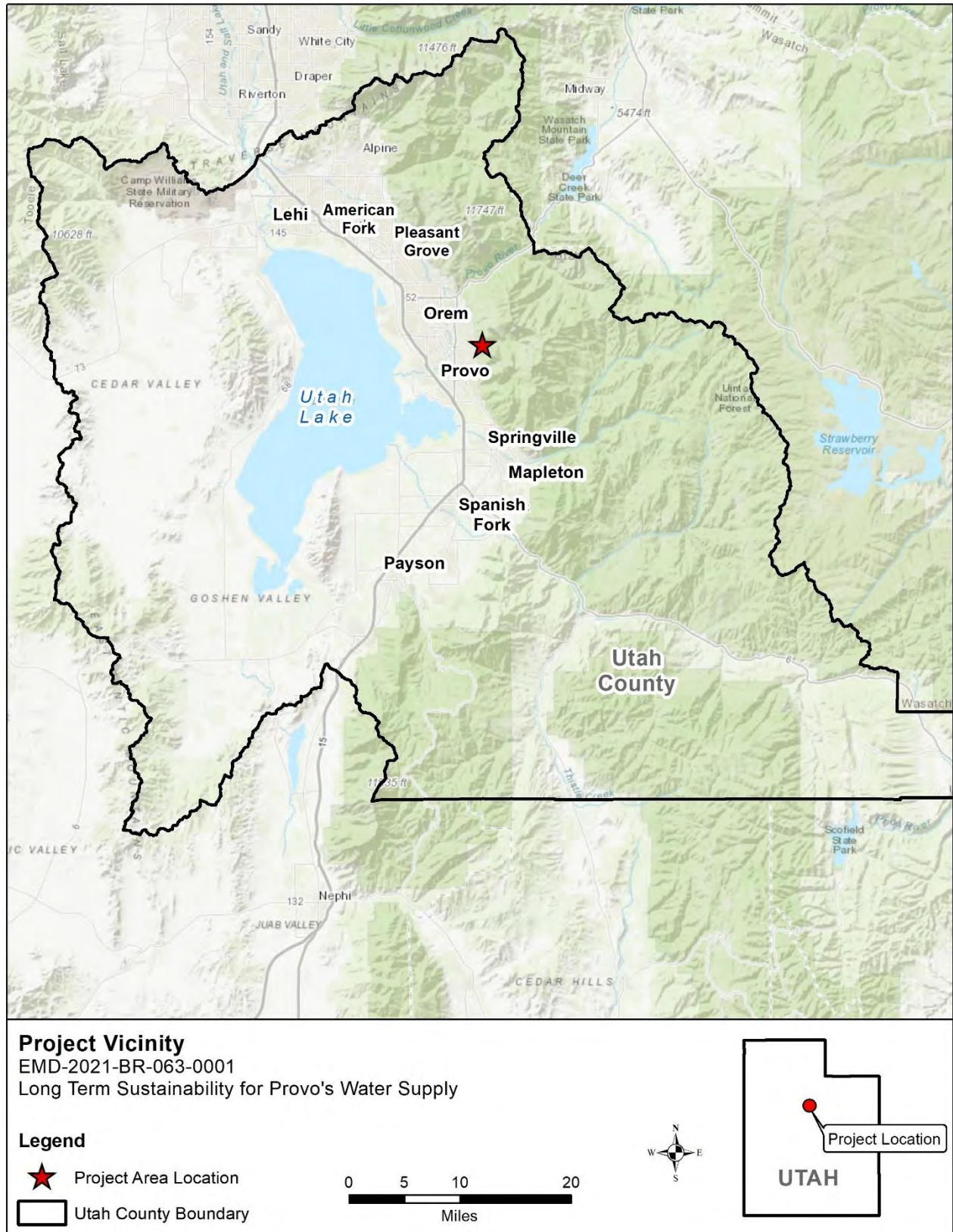


Figure 1-1. Project Vicinity

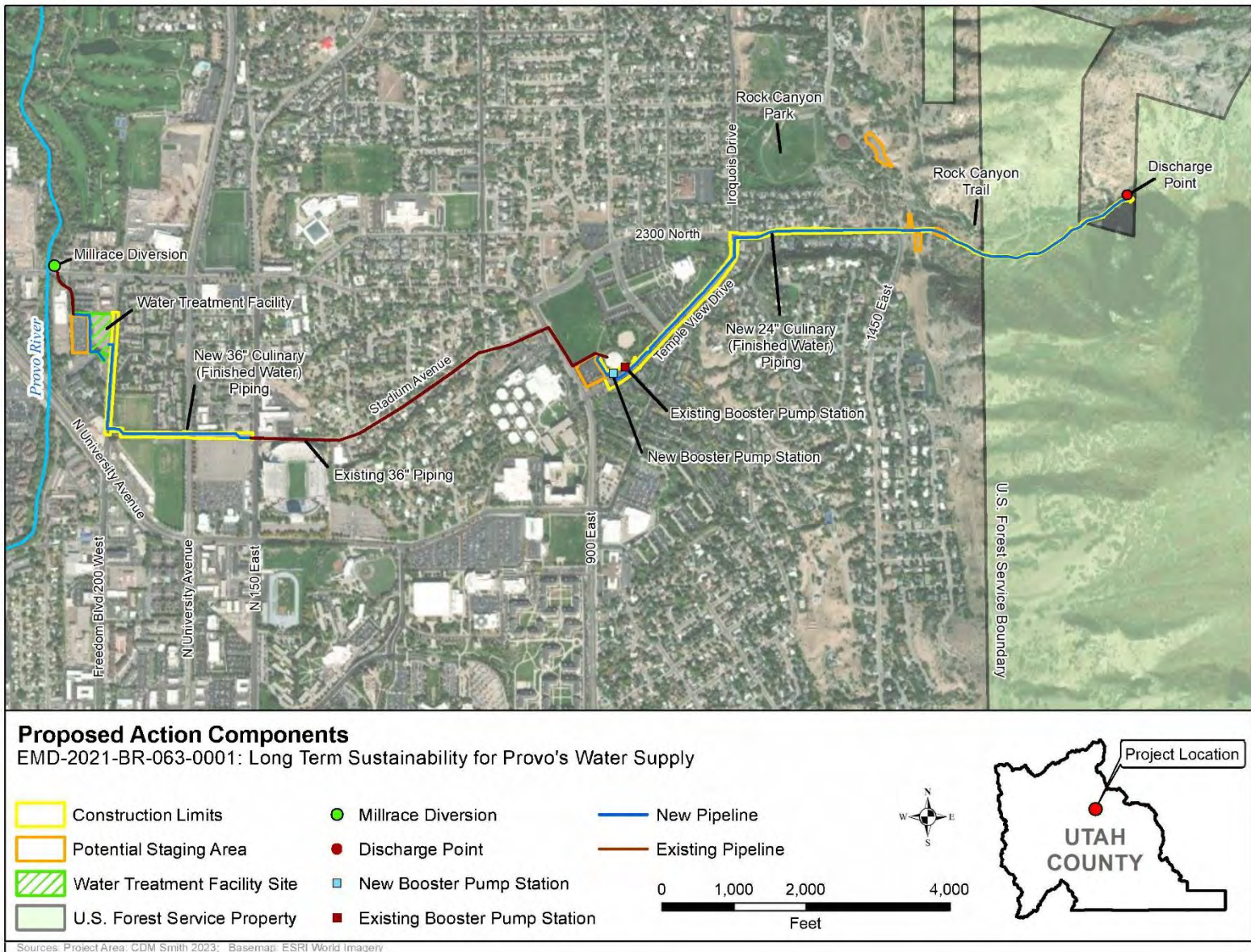


Figure 1-2. Proposed Action Components

## SECTION 2. Purpose and Need

FEMA's BRIC Program provides funds to eligible state and local governments and federally recognized tribes to implement natural hazard mitigation projects that are cost-effective and designed to reduce injuries, loss of life, and damage and destruction of property. The objective of the BRIC program is to shift the federal focus away from reactive disaster spending and toward research-supported proactive investment in community resilience to reduce overall risk to the population and structures from future hazard events. Specifically, the purpose of the proposed BRIC project is to create a sustainable water supply for Provo to mitigate the effects of long-term drought and build resilience by increasing the City's reliable water supply year-round, including during times of drought.

The proposed project is needed to provide (1) long-term sustainability of Provo's water supply and mitigate the impacts from drought currently affecting all Provo residents and surrounding communities who share the aquifer and (2) redundancy to the single spring transmission pipeline in the event of a failure of the pipeline due to a catastrophic failure such as an earthquake.

### 2.1. Background

Utah is the second driest state in the country, with annual precipitation averaging 13 inches. The National Drought Mitigation Center identifies areas in drought and labels them according to intensity—normal conditions, abnormally dry (D0), moderate (D1), severe (D2), extreme (D3), and exceptional (D4). Several inputs are used to classify drought intensity, including precipitation, streamflow, reservoir levels, temperature and evaporative demand, soil moisture, and vegetation health. According to the National Drought Mitigation Center (2023), Utah County has experienced several extreme droughts (drought intensity category D3) and, in 2021, an exceptional drought (drought intensity category D4). **Figure 2-1** shows historical drought conditions in Utah.

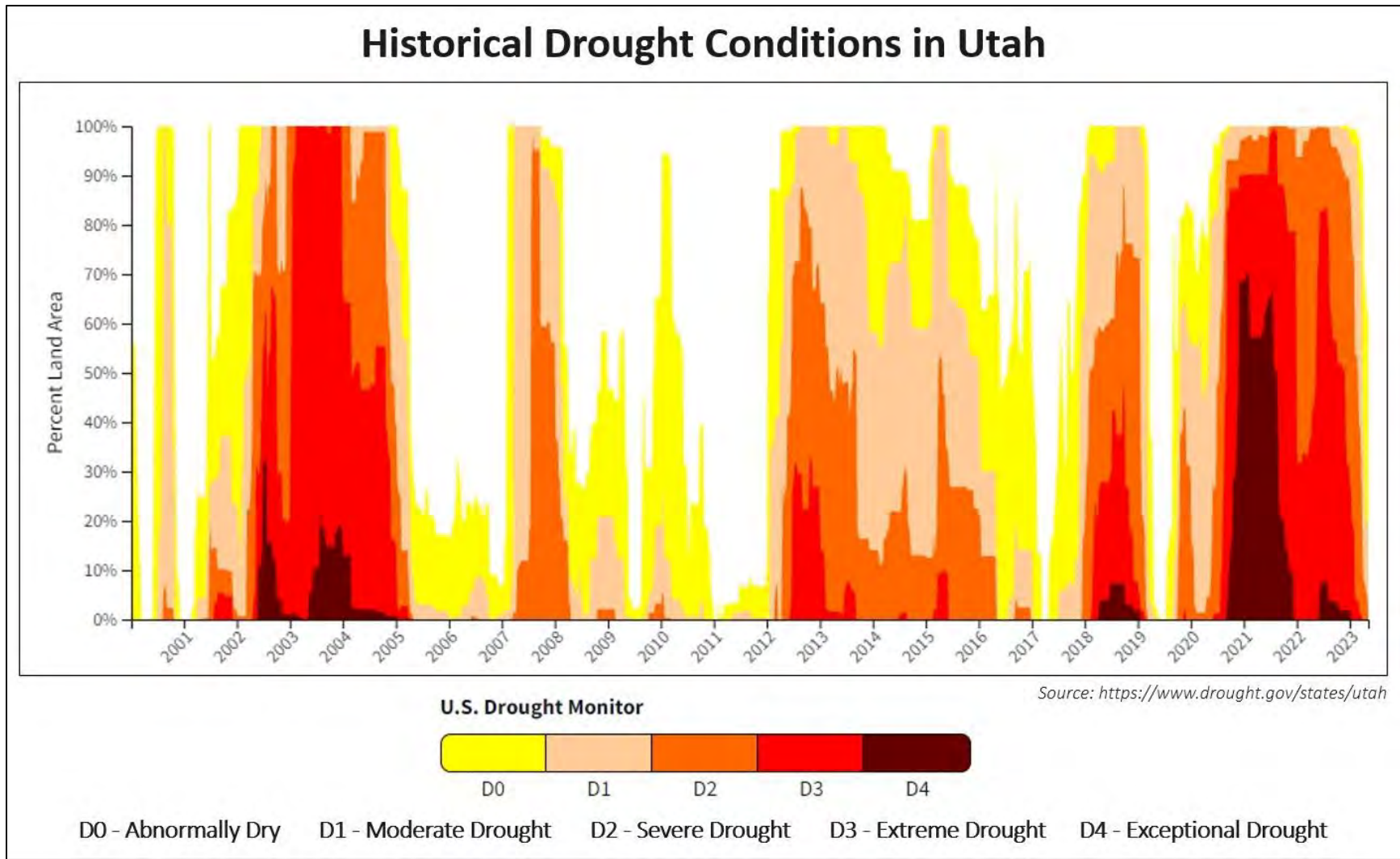
Based on a drought analysis prepared by Provo using the Standard Precipitation Index and Palmer Drought Severity Index, the occurrence of moderate, severe, and extreme drought in Provo has increased in the past 10 years compared to the 72-year period of record. The drought analysis also considered the potential impact of climate change on Provo's water supply using EPA's national stormwater calculator tool. Climate change is a change in the state of the climate that can be identified by changes in the mean and/or variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings such as modulations of the solar cycles, volcanic eruptions, and persistent human-driven changes in the composition of the atmosphere or in land use (U.S. Global Change Research Program 2022). The results showed that under the hot/dry climate change scenario, there is a significant increase in the estimated drought return periods when compared to historical conditions without climate change considerations. It is expected that, as a result of climate change, drought will occur more frequently (approximately 1.5 to 2 times more likely) and be more severe than it has in the past (Provo City 2021).

During droughts there is a risk of shortages of water in reservoirs, streams, and groundwater wells, which subsequently lead to water emergencies. Governor Spencer J. Cox issued an Executive Order (EO) on March 17, 2021, declaring a state of emergency due to drought, and a second EO on May 3, 2021, requiring water conservation at state facilities. Many communities in Utah County rely on surface water reservoirs, such as Deer Creek Reservoir and Jordanelle Reservoir, as well as Utah Lake. This surface water is subject to evaporation and, according to a 2022 study, long-term average lake evaporation has increased from 1985 to 2018, mostly due to an increasing evaporation rate from increased average temperatures, decreasing lake ice coverage, and increasing lake surface area. The study also found that while reservoirs account for only 5 percent of the global lake storage capacity, they contribute 16 percent to the evaporation volume (Zhao et al. 2022).

Provo's drinking water comes predominantly from springs and groundwater wells with a small supply treated at the CUWCD's Don A. Christiansen Regional WTP. Prolonged drought conditions have impacted the groundwater levels in the aquifer used by Provo, thus requiring increased pumping and stresses on the aquifer supply. Provo's water well levels have dropped as much as 60 feet over the past 40 years. Large amounts of groundwater withdrawal can lead to land subsidence, which is a gradual settling or sudden sinking of the land-surface elevation due to the loss of water pressure in the supporting aquifer. This can result in a permanent reduction in the total storage capacity of the aquifer system as the soil and rocks within the aquifer settle and compact (United States Geological Survey [USGS] 2018a).

In addition to drought, according to the USGS National Seismic Hazard Map, the project is within an area designated as severe/violent for ground shaking (Utah Geologic Survey 2020). Currently, a single concrete pipeline conveys the water from the springs in Provo Canyon to the City's distribution system. The pipeline supplies approximately 50 to 60 percent of the City's water supply. If the pipeline were to be damaged during a seismic event, the City would be cut off from this water supply.





**Figure 2-1. Historical Drought Conditions in Utah**

## SECTION 3. Alternatives

This section describes the no action alternative, the proposed action, and alternatives that were considered but dismissed.

### 3.1. No Action Alternative

Under this alternative, the ASR system and WTP would not be constructed to reduce the impacts of drought. Provo would continue efforts to mitigate the effects of drought, including continuing its comprehensive water conservation program, landscape conservation programs and incentives, reclaimed water use, and use of advanced irrigation technology. However, these efforts have largely been implemented to their maximum potential and have a limited ability to continue to improve drought resiliency and water supply reliability. Because current drought hazards in the project area may not be substantially reduced under the no action alternative, the probability of reduced water supply reliability in the event of a drought would continue to be high and the community would continue to be vulnerable. Under the no action alternative, the project area would continue to rely on surface reservoirs and overused regional aquifers, while not proactively managing the groundwater system.

### 3.2. Proposed Action

Provo City proposes to construct an ASR system in northeastern Utah County. The ASR system would use an existing diversion structure—known as the Mill Race Diversion—to divert water from the Provo River (**Figure 3-1**). Raw water would be conveyed to a new WTP via existing pipes, treated to drinking water standards, and pumped through a combination of new and existing pipes in the City's water distribution system to be discharged into Rock Canyon Creek, an ephemeral stream that is well connected to the local aquifer system. Once discharged, water would infiltrate into the ground and recharge the aquifer.

The new WTP would be located near the intersection of Freedom Boulevard and West 2230 North and would be sized to treat 30 million gallons per day (MGD) (equivalent to approximately 46 cubic feet per second [cfs]). Approximately 2,850 feet of new 36-inch-diameter pipe would be installed from the proposed WTP, traversing south along Freedom Boulevard, and then traversing east across the Brigham Young University Stadium parking lot to the intersection of North 150 East and Stadium Avenue. The new pipe would connect to an existing 36-inch-diameter pipe that runs from North 150 East to an existing water tank and booster pump station on Temple View Drive (**Figure 3-2**). The existing booster station would remain in service while a new expanded booster pump station would be built approximately 100 feet southwest of the existing booster station. The existing booster station is necessary for redundancy and would remain operational for the foreseeable future. From the new booster pump station, approximately 6,400 feet of new 24-inch-diameter pipe would be installed northeast along Temple View Drive, east along East 2300 North Street, and traverse into Rock Canyon to a discharge point in Rock Canyon Creek (**Figure 3-3**).



Figure 3-1. Mill Race Diversion and Water Treatment Plant Site



Figure 3-2. Proposed Booster Pump Station

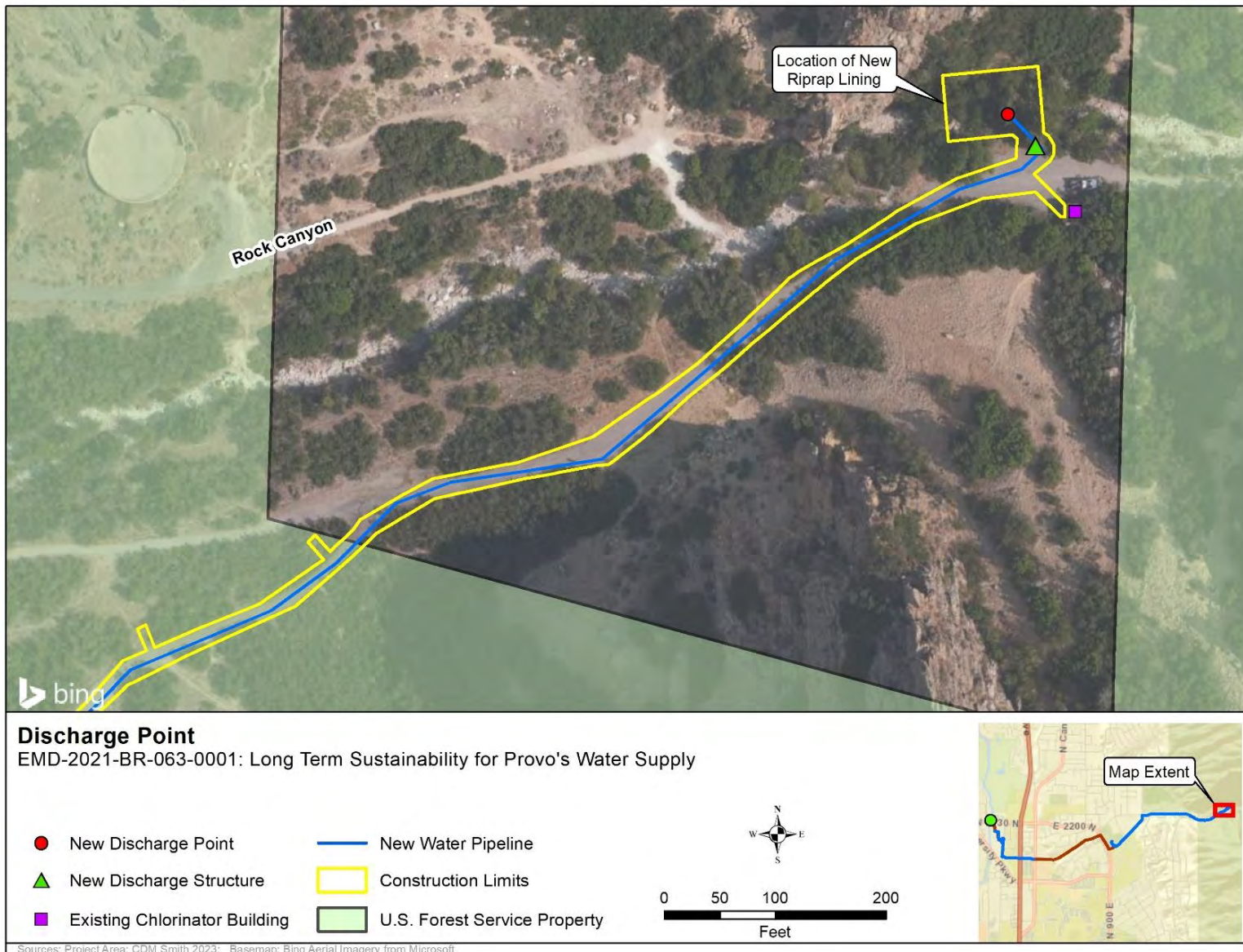


Figure 3-3. Rock Canyon Discharge Point

### 3.2.1. PROJECT ELEMENTS

#### Mill Race Diversion and New Distribution Line Installation

Raw water for the WTP would be diverted from the Provo River at the existing Mill Race Diversion. This diversion would not require any modification prior to its use under the proposed action. From the diversion, an existing 42-inch-diameter high-density polyethylene (HDPE) pipe would be used to convey water to the northwest corner of the Raintree Commons Apartments' parking lot. Approximately 180 feet of new 42-inch-diameter HDPE pipe would be constructed from the end of the existing pipeline to a new diversion box in the northwest corner of the WTP site. A section of the existing Mill Race pipeline would be replaced with approximately 500 feet of new 42-inch-diameter reinforced concrete pipe would continue south from the diversion box for stormwater management and would reconnect to the existing Mill Race pipeline and stormwater system (**Figure 3-1**). Once at the WTP, the raw water would be treated to drinking water standards. From the WTP site, approximately 2,850 feet of new 36-inch-diameter ductile iron pipe, with two small sections of 36-inch diameter welded steel pipe, would be installed traversing south along Freedom Boulevard and east across the Brigham Young University Stadium parking lot to connect to the existing pipeline at the intersection of North 150 East and Stadium Avenue. The existing pipeline connects to the Main Tank Reservoir near 900 East and Temple View Drive. Approximately 300 feet of new pipeline would be constructed from the existing pipeline near the tank—southeast to the new booster pump station (**Figure 3-2**). From the new booster pump station, approximately 6,400 feet of new 24-inch-diameter pipe would be installed northeast along Temple View Drive, east along East 2300 North, and into Rock Canyon.

All roads, except for University Avenue, would be temporarily closed and traffic control measures would be put in place during construction of the new distribution lines. Installation across University Avenue would be done in two segments, by shifting all traffic to one side, keeping two lanes open in both directions, while the pipe is installed through the other side of the street. The asphalt roadways would be demolished and excavated to allow for the pipe placement. The pipe would be placed around existing utilities, none of which would need to be relocated. The new lines would be installed at depths required to avoid existing utilities as well as frost protection, up to 15 feet below grade. Following installation, trenches would be backfilled and compacted, and pavement would be replaced or restored to existing conditions upon project completion. Excavation would be limited to existing asphalt roadways. Distribution line installation would be in public rights-of-way and on Provo City property, except for approximately 1,200 feet of pipeline in Rock Canyon, which would cross property owned by the U.S. Forest Service, and approximately 1,410 feet of pipeline that would cross two parking lots on Brigham Young University property. Work within the canyon would adhere to government agency permits and requirements while on federal lands and a special use permit has been obtained by Provo for this segment. Provo has obtained easements for work on Brigham Young University property.

### Water Treatment Plant

The WTP would be constructed on a City-owned vacant parcel currently used as a parking lot. Preliminary sitework would include pavement removal, clearing and grubbing, and removal of trees. Construction of the WTP would require excavation to a depth of approximately 15 to 20 feet below existing grade. Excavation would be done using standard track-mounted excavators and wheeled dump trucks. Deep foundations may also be required below the WTP, consisting of soil mix columns or compacted aggregate columns. The WTP would include a two-level process area and have a capacity of 30 MGD. The process area would consist of inline coagulation, low service pumps, strainers, pressurized ultrafiltration membranes and cleaning system, advanced oxidation, chlorine disinfection, clearwell storage in a partially belowground tank, high-service pump station, and a compressed air system. Development of the new facilities would also require utility installation, including electrical, natural gas, plumbing, heating, ventilation, air-conditioning, fire protection, and a control system.

### Booster Pump Station Upgrade

An existing booster pump station—which houses three intermediate systems' pumps and three Rock Canyon pumps—is currently located on the south side of the Main Tank Reservoir. Under the proposed action, a new booster pump station would be constructed approximately 100 feet west of the existing booster station on Provo City property (**Figure 3-2**). The existing booster pump station would remain operational throughout construction of the new booster station. An in-line booster style pump station would be constructed, replacing the existing pump station, with all pumps placed in a line in a large diameter suction header pipe located within a single trench to minimize the footprint of the building. The new expanded booster pump station would accommodate additional pumps to convey water up to the Rock Canyon discharge point. The new booster station would also include an upgraded electrical system. After completion of the new booster pump station, the existing booster station would remain in place for the foreseeable future.

### Rock Canyon Discharge Point

The proposed action would include one discharge point in Rock Canyon near the existing chlorinator building and would discharge water into the ephemeral Rock Canyon creek bed (**Figure 3-3**). The surficial geology within the ephemeral creek bed is predominantly boulders, cobbles, and large rocks. The pipeline would be constructed to discharge into the ephemeral creek among the rocks and boulders in such a way as to prevent any scouring of erosive materials from occurring. Restoration in the ephemeral creek bed and the area around the pipe at the discharge point would utilize the existing boulders, cobbles, and large rocks salvaged during construction as riprap to prevent erosion. There would be a protected diversion control valve near the point of discharge to regulate flows that would be powered from the nearby chlorinator building. Construction of the new discharge point would be done during the late summer or fall when there is usually no flow in the creek. The proposed 24-inch-diameter distribution pipelines connecting to Rock Canyon would support the delivery and discharge of as much as 13 MGD (20 cfs) of water supplied by the WTP for ASR in Rock Canyon. Water would flow west toward Rock Canyon Park, and it would infiltrate into the groundwater aquifer as it travels along the creek bed.

### 3.2.2. EQUIPMENT AND STAGING

**Table 3.1** shows the anticipated vehicles and equipment that would be required to implement the proposed action. Six existing paved parking areas throughout the project area would be used for staging (**Figure 1-2**). For the WTP and booster station, two parking lots (one directly west of the WTP site and one directly west of the booster station site) would be used for staging. Staging in Rock Canyon would occur at three parking areas near the Rock Canyon Trailhead. A parking area east of Rock Canyon Park (off of Foothill Drive) would also be used for staging.

**Table 3.1. Construction Equipment List**

Equipment Description	Quantity
Articulated boom lift	1
Asphalt paver	1
Automatic scaffolding system (continuous lift)	1
Concrete boom pump truck	2
Concrete stinger vibrator	4
Crawler crane	1
Electric scissor lift	2
Extended reach forklift	2
Forklift	1
Grader	2
Jumping jack compactor	2
Pickup trucks	8
Ready-mix concrete mixer truck	4
Remote controlled trench roller	1
Ride-on roller compactor	1
Skid steer loader (bobcat)	1
Standard track-mounted excavator	4
Truck-mounted crane	1
Water truck	2
Wheeled dump trucks	4
Wheeled front-end loader	3



### 3.2.3. PROJECT DURATION

Construction of the WTP and ASR system, including preliminary sitework and final testing, would take approximately 3 years. Road closures and installation of distribution lines near and through the Brigham Young University parking lots and intramural fields would be limited to the spring and summertime offseason to avoid impacting the athletic events taking place at the university.

### 3.2.4. PROPOSED OPERATION

#### Provo River System

The Provo River originates in the Uinta Mountains and flows west into the Jordanelle Reservoir. From Jordanelle, the river flows south into Deer Creek Reservoir and through Provo Canyon. The Provo River is widely used as a source of water for irrigation, hydropower, and domestic water, with the earliest water diversion dating back to the 1800s. Historical points of diversion along the Lower Provo River, from the mouth of Provo Canyon downstream to Utah Lake, include Timpanogos, Provo Bench, Upper East Union, Upper West Union, Lake Bottom, Upper City, Lower City, Mill Race (Factory Race), City Race, Tanner Race, and Fort Field (URMCC 2001). Newer diversions along the Lower Provo River, such as Olmsted Diversion and Murdock Diversion, are also part of the Provo River distribution system. June and July are typically the months when the greatest amount of water is diverted, with diversions usually occurring from April through October (URMCC 2001). The river flows through Provo and into Utah Lake. Utah Lake empties into the Jordan River, which flows north into the Great Salt Lake.

#### Water Rights in Provo for Proposed Project

The Utah Division of Water Rights is an agency of the Utah State Government within the Department of Natural Resources that administers the appropriation and distribution of the state's water resources, including Provo River diversions. Because of Provo City's historical use of the Provo River, the City's rights are among the most senior on the river. The rights that the City would use for the WTP and ASR system include Class A rights from the 1921 Morse Decree.

Adjudication of water rights are legal actions governed by Utah Code Title 73, Chapter 4 which defines the overall process. FEMA has determined that per 40 CFR 1508.1 (aa), the outcomes of the adjudication process are not "reasonably foreseeable", defined as sufficiently likely to occur such that a person of ordinary prudence would take it into account in reaching a decision, because the timing and outcomes of the process remain highly uncertain and speculative. Therefore, FEMA is responsible only for considering impacts associated with water rights that may be used specific to this project. Since no new water rights would be needed to construct and operate the project, FEMA did not consider the need for acquiring or using new water rights since it was outside of the scope of this project. For future projects that are "major federal actions" that need to use new water rights, an analysis of the environmental consequences of use of those water rights would be addressed in the federal action agency's NEPA process.

Provo proposes to use Water Right No. 55-11001, aka the "4(a) water right," Water Right No. 55-11002, aka the "4(b) water right", Water Right No. 55-11003, aka the "4(c) water right", 55-7078, and 55-8388 under approved Recharge Permit RC019, and Water Right No. 55-11005, aka the "4(e) water right" year -round under approved Recharge Permit RC024 for the proposed project. Each water right has an associated period of time when the water can be diverted from the source, a quantity of water that can be diverted, and acceptable water uses.

Provo currently diverts water from the Provo River during the irrigation season using Water Right Numbers 55-11001, 55-11002, and 55-11003. Water Right Numbers 55-7078 and 55-8388 are from sources in Rock Canyon. The quantity of water that may be diverted under these rights varies by the period of use, as shown in **Table 3.2.** and **Figure 3-4.** Operation of the proposed project with water from these water rights would be limited to between April 1 through October 31, as approved under Recharge Permit RC019.

**Table 3.2. Water Rights on the Provo River for Proposed Project**

Water Right Number	Water Use	Source	Period of Use	Quantity of Use (cfs)
55-11001	Municipal	Provo River	April 1 to May 10	29.41
			May 10 to June 20	36.12
			June 20 to July 20	32.68
			July 20 to October 31	29.41
55-11002	Municipal	Provo River	April 1 to May 10	7.14
			May 10 to September 1	10.00
			September 1 to October 31	7.14
55-11003	Municipal	Provo River	April 1 to October 31	16.50

Key: cfs = cubic feet per second

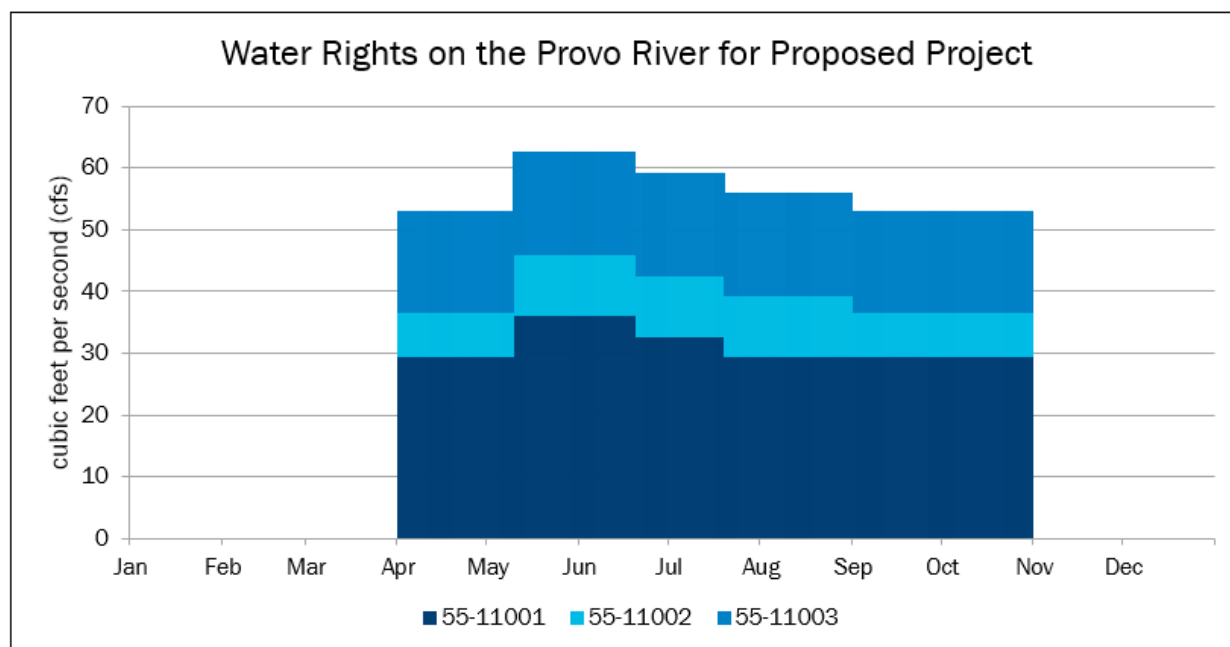


Figure 3-4. Provo’s Water Rights on the Provo River for Proposed Project

Water associated with Water Right Number 55-11005 is diverted year-round from multiple springs in the canyon north of Provo for municipal use. This water right is an existing water right that is currently in use and, therefore, would not affect water storage in Jordanelle Reservoir or the instream flows in the Provo River. The quantity of water in the springs available for diversion varies based on hydrologic and seasonal conditions. Larger quantities are diverted in the summer during wet years, sometimes as much as 13 cfs, and smaller quantities are diverted in the winter during dry years, as little as 1 cfs. This water would be used to supplement the ASR system.

### Rock Canyon Operation

Recharge Permit Application RC019, filed by Provo on October 9, 2020, was approved to support the recharge of the valley fill aquifer underlying the Provo area of the Utah Valley in the amount of 7,250 acre-feet (AF) of water annually. Recharge Permit RC019 is supported by Water Right Numbers 55-7078 and 55-8388 from Rock Canyon Creek, and 55-11001, 55-11002, and 55-11003 from the Provo River. RC019 is limited by the diversion, use, and period of use allowed under the supporting water rights.

The proposed 24-inch distribution pipelines connecting to Rock Canyon would support the delivery and discharge of up to 13 MGD (20 cfs) of water supplied by the treatment plant for ASR in Rock Canyon. Provo has agreed it would use Water Right Numbers 55-11001, 55-11002, and 55-11003 for the diversion of water from the Provo River for the ASR system only during April 1 through October 31. The ASR system would deliver approximately 13 MGD or a constant rate of approximately 20 cfs and, if operated at a constant rate throughout a 7-month period as permitted under existing water rights (April 1 through October 31), would generate the 7,250 AF of capacity available for recharge. The 7,250 AF could come from water diverted under Water Right Numbers 55-11001, 55-11002,

and 55-11003 or through using a combination of Water Right Numbers 55-11001, 55-11002, and 55-11003 and Water Rights 55-7078 and 55-8388. Diversion for aquifer recharge at Rock Canyon would occur during the winter months using Water Right No. 55-11005 and Recharge Permit RC024 (Table 3.3). These water rights are existing water rights currently in use by Provo and, therefore, would not affect water storage or meaningfully affect flows in the Provo River.

**Table 3.3. Project Water Supply Time Constraints**

	Time Constraints	Water Quantity (Daily)	Permitted Water Quantity (Annual)
<b>Operational Capacity for ASR</b>	Year-round – 12 months	13 MGD / 20 cfs	15,661 AF per year
<b>Water Rights 55-7078, 55-8388, 55-11001, 55-11002, and 55-11003</b>	Summer – 7 months	13 MGD / 20 cfs	7,250 AF per year
	Winter – 5 months	0 MGD / 0 cfs	
<b>Water Right 55-11005</b>	Year-round – 12 months	varies based on conditions	varies based on conditions up to 8,411 AF

Key: ASR = aquifer storage recovery; MGD = million gallons per day; cfs = cubic feet per second; AF = acre-feet

### Surface Water Use In Place of Groundwater Use

In addition to the 13 MGD aquifer recharge through infiltration, Provo would also be able to treat Provo River water to drinking water standards for immediate use instead of using groundwater for municipal needs. Provo would use Water Right Numbers 55-11001, 55-11002, and 55-11003 to divert water from the Provo River to be treated at the proposed WTP. Provo anticipates treating 30 MGD, limited to April 1 through October 31, which would allow 17 MGD of groundwater to stay in the aquifer. Provo would also use spring water sources under Water Right Number 55-11005 to offset the use of groundwater. This approach would reduce groundwater pumping and would effectively recharge the aquifer by allowing groundwater to remain within the aquifer without being lost to evaporation. Groundwater that is not pumped would be available to support the community during a drought emergency when Provo River water may not be available or could be used by other users.

### Total Aquifer Recharge

Under the proposed project, Provo would be able to recharge as much as 13 MGD in Rock Canyon through infiltration. In addition, Provo would conserve as much as 17 MGD in groundwater wells by treating 17 MGD of Provo River water for immediate use. The recharge of 13 MGD through infiltration combined with the maintenance of 17 MGD of groundwater through surface water offset would fully use the proposed 30 MGD (46 cfs) capacity of the WTP. Overall, the ASR system would store as much as 30 MGD in the aquifer during April 1 through October 31 and at least 13 MGD in the aquifer during the non-irrigation season.

## **The Agreement**

On September 12, 2023, Provo and CUWCD entered into a negotiated binding Agreement (Appendix A) to support the ASR project and document roles, responsibilities, obligations regarding use of water under the Decree rights 4(a) through 4(e) as they relate to the NEPA evaluation of the ASR Project. As described in the Agreement and supported by CUWCD's current model, Provo City's use of the water under existing Decree rights should have no detrimental effect on the flows in the Provo River that would adversely affect CUWCD's ability to manage Utah Lake or pose a threat to CUWCD's and CUPCA's rights and obligations under the June Sucker Recovery Implementation Program (JSRIP). The "effective date" of the Agreement is the day that both CUWCD and Provo City have signed the Agreement. Therefore, the Agreement is currently in effect and will further be binding for CUPCA, when CUPCA signs the Agreement. The City has confirmed there are no other water rights for the foreseeable future in connection with the project, other than those enumerated in the Agreement.

### **3.2.5. MAINTENANCE ACTIVITIES**

The Provo Public Works Division of Water Resources would perform long-term maintenance of the WTP and ASR on an annual basis. Existing staff would be maintained and one to two new employees would be needed to operate the WTP. Maintenance would include annual water quality sampling and field support.

## **3.3. Additional Action Alternatives Considered and Dismissed**

Several alternatives to the proposed action were considered to mitigate risks associated with ongoing drought and water shortages in Provo. However, since none of these alternatives meet the proposed project's purpose and need, they were dismissed from further consideration. In addition, the use of any other water rights to operate the ASR Project or other action alternatives has also been dismissed. The use of other water rights is currently not practicable or feasible. The availability of other water rights to be used for the ASR Project immediately after the project is constructed, or at some point in the future, is speculative and uncertain because the availability of those rights is subject to a state adjudication proceeding, administrative approvals, and potential legal challenges, which all have uncertain outcomes.

### **3.3.1. DEMAND MANAGEMENT**

Water demand management strategies and policies to control, influence, or conserve the use of water, were considered to reduce the impacts of the ongoing drought. Provo currently has designated a Water Conservation Coordinator who is responsible for the City's public education program, attending the annual Utah Growing Water Smart workshop, and distributing water conservation information at City events. Other current management efforts include a seasonal rate structure with an increased peak season overage rate, leak detection, advanced metering infrastructure, and landscape and advanced irrigation technology programs and incentives. Current efforts have primarily focused on education and pricing to motivate customers to voluntarily reduce demand, which have been effective. However, a significantly more aggressive demand management

effort beyond education and voluntary conservation would be needed to meet future water demands during periods of drought.

According to the Provo 40-Year Water Supply Plan, existing City supplies are currently inadequate to meet projected demands. Historically, deficiencies have been eliminated through demand reduction by residents and by pumping wells above the estimated sustainable yield of the aquifer. While using extra groundwater has allowed the City to avoid any water shortfalls in the past, this is not a sustainable long-term solution to this deficiency. As of 2019, the deficit was approximately 9,900 AF of water per year, yet to meet future demands an estimated 17,400 AF of water per year would be needed – a more than 75 percent increase (Provo City 2019). To achieve this volume through demand reduction, consumption would need to be reduced by approximately 130 gallons per day per capita, which is considered to be infeasible. Under this alternative, Provo would also continue to depend on the single pipeline delivering water from the springs in Provo Canyon. Therefore, this alternative was dismissed from further consideration as it would be infeasible to implement, would not substantively contribute to a long-term sustainable water supply, and would not meet the proposed project's purpose and need. It also would leave the aquifer in a depleted state with risk of collapse.

### 3.3.2. USE OF TREATED WASTEWATER EFFLUENT

#### Potable Reuse

Future use of the Water Advanced Treatment and Resource Recovery Center (Wastewater Treatment Plant) effluent for indirect potable reuse or direct potable reuse was considered to reduce the impacts of the ongoing drought. Indirect potable reuse is the intentional reuse of treated wastewater effluent for potable water supply that involves storing treated effluent in an environmental buffer (typically a surface waterbody or an aquifer). ASR using treated effluent as a water source is considered indirect potable reuse. Direct potable reuse is the intentional reuse of treated wastewater effluent for potable water supply that does not involve storing treated effluent in an environmental buffer. Both reuse methods would require additional treatment of the effluent using carbon-based advanced treatment in an advanced treatment facility, as well as semi-permeable membrane treatment. Due to the high cost associated with disposal of brine created during the treatment process, this alternative was determined to not be cost effective. This alternative was also dismissed from further consideration because of pending development of regulations associated with carbon-based advanced treatment in Utah. The 2023 House Bill 349, Water Reuse Projects Amendments, restricts wastewater reuse. Provo plans to investigate this alternative further in the future as more carbon-based pilot projects and full-scale operations throughout the country are developed that meet regulatory requirements. In addition, a portion of Provo's treated wastewater effluent is needed to meet its return flow requirements related to its water rights. Due to these limitations on wastewater reuse, a feasibility study explored treatment of Provo River water. The study recommended further evaluation of a site at the mouth of Provo Canyon at a gravel quarry on land currently owned by the City. The site was initially thought to be a good location for ASR, but further evaluations determined it was not. To deliver treated Provo River water to the Rock Canyon ASR site, a new pipeline would be required. An alignment study for a pipeline from the mouth of

Provo Canyon to the Main Water Tanks was completed in 2020 and estimated the cost for this pipeline to be in the \$30 to \$50 million range which would be nearly \$60 to \$100 million in 2023. The potable reuse alternative was determined to not be technically feasible for ASR, the Provo River treatment at this location was determined to be infeasible, and, therefore, was these were dismissed from further consideration.

### Non-Potable Reuse

Use of treated wastewater effluent for non-potable reuse (reuse for irrigation) was also considered to reduce the impacts of the ongoing drought. Effluent treated with an ultrafiltration process would only require the addition of chlorine to be delivered for non-potable reuse, which could be used for the planned and ongoing west side development in Provo. However, new non-potable irrigation distribution lines and pumping stations would need to be installed because the non-potable water cannot be distributed in the same lines that carry potable water. Conveyance and pumping costs also would be high because of the distance between the source and the end use. In addition, there would be limited demand because water for irrigation is only needed from early spring to late fall. This alternative was determined to not meet the proposed project's purpose and need or be cost-effective.

#### **3.3.3. NEW SURFACE WATER RESERVOIR**

Construction of a new surface water reservoir was considered to reduce the impacts of the ongoing drought. However, surface water supplies are especially susceptible during times of drought, as they are not protected from evaporation and water quality degradation. A new surface water reservoir would not provide a sustainable water supply. In addition, a new surface water reservoir would require a large land area and disproportionately high costs to construct and maintain, as compared to the proposed action. Obtaining regulatory approvals (environmental permitting) for a complex project of this type has been determined to be time prohibitive with approvals estimated to take multiple years. Overall, construction of a new surface water reservoir would not be feasible and would not meet the purpose and need. Therefore, this alternative was dismissed from further consideration.

#### **3.3.4. USE EXISTING CENTRAL UTAH CONSERVANCY WATER DISTRICT WATER TREATMENT PLANT**

Provo considered using existing capacity available at the CUWCD's Don A. Christiansen Regional WTP to treat their water and then use existing infrastructure to transmit and deliver the treated water to ASR discharge locations. However, the existing CUWCD WTP does not currently have capacity to provide 30 MGD to Provo for the ASR project. To meet the project need, the plant would need to be expanded. Provo estimated the cost to upgrade the pipeline delivery system between the plant and City's main water tanks to be in the \$60 to \$100 million range. An estimated cost to expand the CUWCD WTP was not developed as the City considered the entire project to not be economically practicable. Further, based on a preliminary analysis of CUWCD costs completed by Provo, it is estimated that the fee to use CUWCD's WTP would be 150 percent to 300 percent of the cost for Provo to construct their own WTP and treat water over the life cycle of the WTP (Provo City 2020).

Provo would also continue to depend on the single pipeline delivering water from the springs in Provo Canyon, and this alternative would not provide a redundant water supply to the City if the main spring water transmission pipeline was damaged by an earthquake, landslide, or other similar event. This alternative was eliminated from further consideration as it does not meet the purpose and need of providing a sustainable water supply and is cost prohibitive.

### **3.3.5. NO WATER TREATMENT PLANT WITH WATER PIPED DIRECTLY TO ROCK CANYON**

This alternative would deliver untreated water from the Provo River directly to Rock Canyon for infiltration and would require construction of two new pump stations, a storage regulating basin, and new dedicated transmission lines. Construction of the new lines would cause additional disruption of traffic and destruction of roadways. While river water could be used for infiltration, with some treatment such as the settling of suspended solids, there is still the chance that some contaminant in the river water could be discharged undetected. In addition, the raw river water has a higher sediment load than treated water. Even with some settling, there would still be the potential for fine particles to accumulate in the infiltration zone and eventually prevent water from infiltrating into the aquifer. Construction of the pump stations, regulating basin, and transmission line would result in lower water quality in comparison to water treated at the WTP. In addition, this alternative would not provide an opportunity to recharge the aquifer by offsetting groundwater use (i.e., not pumping from the wells) with surface water use. In addition, Provo would also continue to depend on the single pipeline delivering water from the springs in Provo Canyon and this alternative would not provide a redundant water supply to the City if the main spring water transmission pipeline was damaged by an earthquake, landslide, or other similar event. Therefore, this alternative was dismissed from further consideration as it does not meet the purpose and need.

### **3.3.6. SMALLER CAPACITY WATER TREATMENT PLANT**

Provo considered multiple WTP capacities, including a 13 MGD capacity WTP to only supply the ASR in Rock Canyon and a reduced 20 MGD capacity WTP. However, a larger capacity WTP was found to be more cost-effective and Provo has existing summer water rights that exceed the proposed 30 MGD capacity of the WTP. Therefore, while considering the opportunity to maximize drought resiliency and the greater water management options available with a larger capacity WTP, a smaller capacity WTP, which would slow the rate of groundwater mitigation substantially, was determined to not meet the proposed project's purpose and need and was dismissed from further consideration.



## **SECTION 4. Affected Environment, Potential Impacts, and Mitigation**

This section describes the environment potentially affected by the alternatives, evaluates potential environmental impacts, and recommends measures to avoid or reduce those impacts. When possible, quantitative information is provided to establish potential impacts; the significance of potential impacts is based on the criteria listed in **Table 4.1**. The study area generally includes the project area and access and staging areas needed for the alternatives. If the study area for a particular resource category is different from the project area, the differences will be described in the appropriate subsection.

**Table 4.1. Evaluation Criteria for Potential Impacts**

Impact Scale	Criteria
None/Negligible	The resource area would not be affected, or changes or benefits would be either nondetectable or, if detected, would have effects that would be slight and local. Impacts would be well below regulatory standards, as applicable.
Minor	Changes to the resource would be measurable, although the changes would be small and localized. Impacts or benefits would be within or below regulatory standards, as applicable. Mitigation measures would reduce any potential adverse effects.
Moderate	Changes to the resource would be measurable and have either localized or regional-scale impacts/benefits. Impacts would be within or below regulatory standards, but historical conditions would be altered on a short-term basis. Mitigation measures would be necessary to reduce any potential adverse effects.
Major	Changes would be readily measurable and would have substantial consequences on a local or regional level. Impacts would exceed regulatory standards. Mitigation measures to offset the adverse effects would be required to reduce impacts, though long-term changes to the resource would be expected.

### **4.1. Resources Not Affected and Not Considered Further**

The following resources (**Table 4.2**) would not be affected by either the no action alternative or the proposed action because they do not exist within the project area or the alternatives would have no effect on the resource. These resources have been removed from further consideration in this EA.

## Affected Environment, Potential Impacts, and Mitigation

**Table 4.2. Resources Eliminated from Further Consideration**

Resource Topic	Reason for Elimination
Farmland Protection Policy Act	The project area is within Provo municipal boundaries, which is designated by the U.S. Census Bureau (2010) as an urban area. Therefore, the Farmland Protection Policy Act is not applicable to the no action alternative or the proposed action and no further compliance work is necessary (7 CFR 658.2[a]).
Wild and Scenic Rivers Act	According to the National Wild and Scenic River System website (National Wild and Scenic Rivers System 2023), the closest National Wild and Scenic River, the Green River, is approximately 110 miles southeast of the proposed project area. Thus, the alternatives would have no effect on wild and scenic rivers.
Sole Source Aquifers	According to the EPA's sole source aquifer map (EPA 2023a), there are no sole source aquifers designated in Utah County; therefore, the alternatives would have no effect on sole source aquifers.
Land Use and Zoning	This proposed action would not change existing land uses and is consistent with the current zoning. The alternatives would have no effect on land use and zoning.
Essential Fish Habitat (Magnuson-Stevens Fishery Conservation and Management Act)	The project area is not within or near designated Essential Fish Habitat (National Oceanic and Atmospheric Administration 2023).

### 4.2. Geology, Topography, and Soils

The project area is within both Utah Valley (on the eastern bank of Utah Lake on the Wasatch Front) and Rock Canyon (a feature of the Wasatch Mountains). Most of the project area lies at an elevation between 4,600 feet and 4,700 feet above sea level, with the elevation at the proposed Rock Canyon Creek discharge point approximately 5,200 feet above sea level.

The Wasatch Fault Zone, consisting of a network of Quaternary faults, lies on the west side of the Wasatch Mountains, with the Provo segment posing significant seismic hazards. According to the USGS National Seismic Hazard Map, the project is within an area designated as severe/violent for ground shaking (Utah Geologic Survey 2020).

Utah Valley consists of unconsolidated sediments from the surrounding mountain blocks, deposited by colluvial, alluvial, fluvial, and lacustrine processes. The transgressions and regressions of Lake Bonneville resulted in alternating sequences of coarser and finer grained sediments. The soil types found within the project area are listed in **Table 4.3**. The overall project area is relatively level with a gentle slope up towards the escarpment at the base of the Wasatch Mountains to the Rock Canyon Trailhead. The project area follows Rock Canyon Trail into Rock Canyon, a narrow canyon with steep sides of rocky cliffs, and continues along the relatively flatter canyon bottom from the Rock Canyon Trailhead to the discharge point.

**Table 4.3. Project Area Soil Types**

Soil Type	Acres in Project Area	Percentage of Project Area
Cobbly alluvial land	2.0	11.7%
Hillfield-Sterling complex, 20- to 35-percent slopes	0.3	1.8%
Keigley silty clay loam, 1- to 3-percent slopes	1.9	11.0%
Pits and dumps	0.7	4.0%
Pleasant Grove gravelly loam, 3- to 6-percent slopes	2.9	17.1%
Pleasant Grove gravelly loam, 6- to 10-percent slopes	4.1	24.1%
Pleasant Grove-Terrace escarpments complex, 30- to 60-percent slopes, eroded	0.1	0.4%
Provo-Sunset complex	0.9	5.1%
Sunset loam	3.9	23.2%

Source: U.S. Department of Agriculture 2023.

When groundwater levels decrease within aquifers, the pore spaces in the soils collapse and the ground subsides. Groundwater levels within the aquifer near the mouth of Provo Canyon (approximately 3.5 miles from the project area) have decreased as much as 70 to 100 feet in the past 40 years, according to monitoring data from Provo’s 5600 North Well. Surface subsidence can result in fissures that damage infrastructure and allow for the introduction of contaminants to the groundwater.

### 4.2.1. NO ACTION ALTERNATIVE

Under the no action alternative, there would be no construction-related short-term impact on topography, geology, or soils in the project area.

In the long term, Provo would continue efforts to mitigate the effects of drought. However, the probability of reduced water supply reliability during drought events would continue to be high, requiring increased groundwater pumping to meet water supply demands. Climate change is also expected to increase the frequency and intensity of drought. Without the project, the groundwater aquifer could continue to decline with use, potentially resulting in subsidence. Roads, bridges, utilities, and buildings in northern Provo City and Orem City could be severely damaged over time. Water supply infrastructure that could be damaged by subsidence includes the Provo River Aqueduct, Provo Bench, Timpanogos, East and West Union Canals, and the Spanish Fork-Provo Reservoir branch of the Utah Lake Drainage Basin Water Delivery System Pipeline. Therefore, this alternative could result in moderate to major long-term adverse impacts on geology and topography due to subsidence, depending on the intensity and duration of future drought events.

### 4.2.2. PROPOSED ACTION

Under the proposed action, excavation and soil disturbance would be required to build the WTP and new pump station and install the new pipeline. The WTP, clearwell, and pump station would require excavation to a depth of 15 to 20 feet below the existing grade. The pipelines would require trenching to depths of 10 to 15 feet below the existing grade. Soil exposed during construction and soil stockpiles would be subject to erosion during storm events and high winds. However, best management practices (BMPs) to control erosion and sediment runoff would be implemented during construction. Areas temporarily disturbed during construction would be stabilized, primarily by replacing existing pavement, once construction is completed, thereby preventing erosion. The proposed action would result in a minor short-term adverse impact on soils due to erosion with implementation of BMPs to control erosion and sediment.

Construction of the WTP would require grading and fill and would have a minor impact on the overall topography at the site. The installation of salvaged rock and boulders at the discharge point would result in a slight alteration of the topography in Rock Canyon Creek, resulting in a negligible adverse impact on topography. The riprap placed within the channel would aid in preventing erosion in the long term by dissipating the energy of the discharged water.

Operation of the proposed action would recharge the groundwater aquifer, increasing groundwater levels and helping avoid future subsidence. This would have a moderate long-term benefit on the geology and topography in the region.

### 4.3. Visual Quality and Aesthetics

Because the proposed construction activities include the removal of vegetation and installation of infrastructure, the proposed project has the potential to affect visual quality. Visual quality is a qualitative analysis that considers the visual context of the project area, the potential for changes in character and contrast, an assessment of whether the project areas include any places or features designated for protection, the number of people who can view the site and their activities, and the extent to which those activities are related to the aesthetic qualities of the area.

The viewshed within the western portion of the project area (west of 1450 East) is typical of residential, commercial, and industrial areas; dominant visual features include houses, apartment complexes, buildings, roadways, street trees and recreational landscaped fields, and other associated infrastructure. Typical viewers of this portion of the project area include students and visitors to the Brigham Young University Campus, residents of the area, or people traveling through the region via the roadways. The eastern portion of the project area (east of 1450 East) is within Rock Canyon, where the viewshed is dominated by steep, rocky slopes vegetated by conifer trees and shrubs. The roadway in this portion of the project area is narrow and partially paved. People typically visit this portion of the project area to engage in recreational activities, such as hiking and birdwatching, or other activities related to the aesthetic quality of the area.

### 4.3.1. NO ACTION ALTERNATIVE

No construction would occur under the no action alternative; therefore, there would be no short-term impacts on visual resources within the project area.

In the long term, Provo would continue efforts to mitigate the effects of drought. However, the probability of reduced water supply reliability during drought events would continue to be high and climate change is also expected to increase the frequency and intensity of drought. Under this alternative, urban landscaping and vegetation throughout Provo may dry out and/or die if not properly irrigated for long periods of time. Larger amounts of dry and dead vegetation could impact the quality of the viewshed along roadways and at residences, businesses, and parks in Provo. Therefore, this alternative could have minor to moderate long-term adverse impacts on the visual quality within Provo, depending on the intensity and duration of future drought events.

### 4.3.2. PROPOSED ACTION

Under the proposed action, a new WTP would be constructed at the western end of the project area, new pipes would be installed throughout the entire project area, a new booster pump station would be constructed at the intersection of Temple View Drive and 900 East, and a new discharge point structure would be constructed in Rock Canyon. The construction of the project components would require heavy equipment, described in **Table 3.1**, to be staged and operated within the project area, subjecting viewers to visual elements that would temporarily disrupt the existing visual character of the project area and surrounding views. This visual disruption would be more apparent in the Rock Canyon portion of the project area, as construction equipment and activities are more incongruent with the surrounding viewshed in Rock Canyon than in the developed urban portions of the project area. However, these visual disruptions would be temporary, and the most dramatic visual disruptions in Rock Canyon would likely be observed by a relatively small number of people. Therefore, construction of the proposed action would have minor short-term adverse impacts on visual resources within the project area.

As described previously, two new structures and a piped outlet would be constructed as part of the proposed action. The WTP and the booster pump station would be constructed in locations where similar infrastructure either already exists or where the introduction of the new structure would be congruent with the existing viewshed of the area. Both the WTP and booster pump station would be fully enclosed buildings and, following construction, native trees and bushes would be planted in front of the WTP along Freedom Boulevard and a few native trees and shrubs would be planted around the booster station. Preliminary WTP design and renderings were on display for public viewing in August 2022. Updated design plans and renderings are available for public review upon request. The new piped outlet would be installed off the main roadway in Rock Canyon, mostly hidden from viewers' sight. Therefore, the construction of the new structures and piped outlet would not introduce visual elements incongruent with the surrounding viewsheds and the proposed action would have negligible long-term adverse impacts on visual resources within the project area.

Implementation of the proposed action would increase water supply reliability in Provo. This would help maintain the water supply for the irrigation of urban vegetation, reduce the risk of vegetation drying out

or dying that could disrupt visual quality. In addition, water discharged into Rock Canyon Creek would maintain green vegetation along the stream. Therefore, implementation of the proposed action could improve visual quality throughout Provo and result in minor, long-term visual benefits.

### 4.4. Air Quality and Climate

The Clean Air Act, as amended, requires EPA to establish National Ambient Air Quality Standards (NAAQS) for six pollutants harmful to human and environmental health, including ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, lead, and particulate matter (including particulate matter that is less than 10 micrometers in diameter [PM<sub>10</sub>] and fine particulate matter less than 2.5 micrometers in diameter [PM<sub>2.5</sub>]). Fugitive dust, which is considered a component of particulate matter, can also affect air quality. Fugitive dust is released into the air by wind or human activities, such as construction, and can have human and environmental health impacts. Federally funded actions in nonattainment and maintenance areas for these pollutants are subject to conformity regulations (40 CFR Parts 51 and 93) to ensure that emissions of air pollutants from planned federally funded activities would not cause any violations of the NAAQS, increase the frequency or severity of NAAQS violations, or delay timely attainment of the NAAQS or any interim milestone. According to the EPA Green Book (2023), Utah County is currently in attainment status for nitrogen dioxide, sulfur dioxide, and lead (EPA 2023b). The Southern Wasatch Front portion of Utah County, which includes Provo, is classified as a marginal nonattainment area for 8-hour ozone under the 2015 rule. The Provo area is also classified as a serious nonattainment area for PM<sub>2.5</sub> under the 2006 rule (EPA 2023b).

Climate change refers to a change in the state of the climate that can be identified by changes in the mean and/or variability of its properties and that persists for an extended period, typically decades or longer (U.S. Global Change Research Program 2022). Its primary cause is emissions of greenhouse gases, including carbon dioxide and methane. Climate change is capable of affecting species distribution, temperature fluctuations, and weather patterns. The CEQ's *National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change* (2023) recommends that agencies quantify projected direct and indirect greenhouse gas (GHG) emissions of a proposed agency action, taking into account suitable available data and GHG quantification tools. Agencies use projected GHG emissions (including, where applicable, carbon sequestration implications associated with the proposed agency action) as a proxy for assessing potential climate change effects when preparing a NEPA analysis for a proposed agency action. When agencies do not quantify a proposed agency action's projected GHG emissions—because tools, methodologies, or data inputs are not reasonably available to support calculations for a quantitative analysis—agencies include a qualitative analysis in the NEPA document and explain the basis for determining that the quantification is not reasonably available (CEQ 2023). Previous CEQ guidance suggested quantitative analysis should be done if an action would release more than 25,000 metric tons of GHG per year (CEQ 2010).

The temperature in Provo ranges from an average low of 22 degrees Fahrenheit in January to an average high of 94 degrees Fahrenheit in July (U.S. Climate Data 2023). Provo receives an average of approximately 19.75 inches of precipitation annually, which falls throughout the year, with the

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highest precipitation levels occurring in the late spring and late fall (April, May, and October) and the lowest precipitation levels occurring in summer (June through September) (U.S. Climate Data 2023). In 2011–2020 global surface temperature increased 1.96 degrees Fahrenheit from the 1850–1900 period, with larger increases over land (Intergovernmental Panel on Climate Change 2023). Temperatures in Utah have increased more than 2.5 degrees Fahrenheit since the beginning of the 20th century. Climate models are not consistent in their projections of precipitation for Utah; but, generally, droughts, a natural part of Utah’s climate, are expected to become more intense (Frankson et al. 2022).

### 4.4.1. NO ACTION ALTERNATIVE

No construction would occur under the no action alternative; therefore, there would be no emissions and no short-term impacts on air quality or climate change.

In the long term, Provo would continue efforts to mitigate the effects of drought. However, the probability of reduced water supply reliability during drought events would continue to be high and climate change is also expected to increase the frequency and intensity of drought. A lack of water to irrigate landscaping within Provo could lead to dry soil and vegetation, which can impact air quality and increase the number of particulates that are suspended in the air, such as dust (Centers for Disease Control and Prevention 2020). In the future, the no action alternative would have an increased long-term negligible adverse impact on air quality.

### 4.4.2. PROPOSED ACTION

Under the proposed action, the use of construction equipment and vehicles would result in the short-term release of air pollutant emissions. Construction of the proposed action would require the use of the equipment listed in **Table 3.1**. Emissions from off-road construction equipment, on-road construction-related vehicles, and dust-generating construction activities have the potential to affect short-term air quality. Heavy equipment and earth moving machinery could temporarily increase the levels of some pollutants, including carbon monoxide, volatile organic compounds, nitrogen dioxide, ozone, and particulate matter. The proposed action would take approximately 3 years to construct, with the WTP and the booster station having the longest construction duration of the proposed project activities. Construction of the WTP and booster station would be below "de minimis" thresholds for the General Conformity Rule, and air emissions would not increase to the extent that a general conformity analysis would be required for the proposed action. The pipeline would be installed in segments and work at any one location along the pipeline route would typically be less than one month. Thus, vehicle and equipment use in the project area would be temporary and localized. Temporary impacts on air quality would be reduced through the implementation of BMPs. Vehicles and equipment running times would be kept as short as possible and areas of exposed soil would be covered or wetted to reduce fugitive dust. All construction equipment would be required to meet current EPA emissions standards. Therefore, construction of the proposed action would have minor short-term adverse impacts on air quality within the project area.

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Operation of the new WTP and ASR system would require one to two new employees and one truck trip per week for deliveries and waste disposal. The additional trips by the employees and weekly truck trip to and from the WTP would not substantially increase traffic or alter traffic patterns in a way that would impact air quality. Operation of the electric pumps at the new WTP and booster station would not result in long-term emissions. Construction of the new facilities would be completed to current building codes and standards; as such, the pumps would likely be more energy efficient than pumps at other similar older facilities. In addition, power would be provided to the new WTP and booster station by Provo Power, whose overall resource mix consists of 48-percent green energy with a goal to be 60-percent green by 2030 (Provo Power 2015). The use of surface water in place of groundwater under the proposed action would also reduce emissions associated with the use of groundwater pumps. Therefore, the proposed action would have negligible long-term effects on air quality, because although it would be a new source of power demand, the project is unlikely to result in a measurable change in the load requirements for Provo Power.

Operation of the ASR system under the proposed action would increase the reliability of Provo's water supply in the long term. With an improved future water supply, urban irrigation could be maintained and an increase in soil moisture could reduce the number of particulates that are suspended in the air. Therefore, the proposed action would have a minor, long-term, beneficial effect on air quality.

### 4.5. Water Quality and Quantity

The Clean Water Act (CWA) of 1977, as amended, regulates the discharge of pollutants into water, with sections falling under the jurisdiction of the U.S. Army Corps of Engineers (USACE) and EPA. Section 404 of the CWA establishes the USACE permit authority to regulate the discharge of dredged or fill materials into waters of the United States. Under the National Pollutant Discharge Elimination System, EPA and the Utah Department of Environmental Quality (DEQ) regulate both point and nonpoint pollutant sources, including stormwater and stormwater runoff, via a permitting system. Activities that disturb one or more acres of ground are required to apply for a Utah Pollutant Discharge Elimination System Stormwater permit through the Utah DEQ.

CWA Section 303(d) requires states to identify waters that do not or are not expected to meet applicable water quality standards with current pollution control technologies alone. Under Section 303(d), states must develop Total Maximum Daily Loads (TMDLs) for impaired water bodies. A TMDL establishes the maximum amount of a pollutant or contaminant allowed in a water body and serves as a planning tool for restoring water quality. Utah DEQ is responsible for compliance with Section 303(d) of the CWA.

Relevant state regulations include Standards of Quality for Waters of the State (Utah Administrative Code R317-2), Groundwater Quality Protection (Utah Administrative Code R317-6), and Utah Water Quality Act (Title 19 Environmental Quality Code, Chapter 5 Water Quality Act).

The project area is in the Utah Lake watershed, hydrologic unit code 16020201, and the Provo River watersheds, hydrologic unit code 16020203. The project area includes the Provo River and Rock



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Canyon Creek. The Provo River originates in the Uinta Mountains and flows west into the Jordanelle Reservoir. From Jordanelle, the river flows south into Deer Creek Reservoir and through Provo Canyon. The river flows through Provo and into Utah Lake. Utah Lake empties into the Jordan River, which flows north into the Great Salt Lake. As discussed in Section 3.2.4, Provo City would use a variety of existing and approved water rights for the Project, consistent with the Agreement (Appendix A).

To comply with CWA Section 303(d), Utah DEQ maintains a database of waters requiring a TMDL, also known as the 303(d) list or Category 5 waters. Provo River has TMDLs in place for dissolved oxygen and benthic macroinvertebrates bioassessments and Utah Lake has TMDLs in place for eutrophication, polychlorinated biphenyls, E. coli, algal blooms, phosphorus, and total dissolved solids (Utah DEQ 2023).

Water quality data from the groundwater monitoring wells near the Rock Canyon discharge area indicate that groundwater has an average total dissolved solids content of 340 milligrams per liter. Utah groundwater quality standards (Utah Administrative Code R317-6-3.2) classifies the groundwater as Class IA, pristine groundwater. The monitoring wells also indicate that concentrations of other constituents in the groundwater do not violate Utah groundwater quality standards.

### **4.5.1. NO ACTION ALTERNATIVE**

Because the no action alternative would not require construction, it would have no short-term impacts on water resources and quality. Under the no action alternative, Provo would continue efforts to mitigate the effects of drought. However, the probability of reduced water supply reliability during drought events would continue to be high, requiring increased groundwater pumping to meet water supply demands. Climate change is also expected to increase the frequency and intensity of drought.

Groundwater quality generally degrades with increasing depth within an aquifer; thus, groundwater depletion can lead to a deterioration of groundwater quality (USGS 2018b). Therefore, the continued groundwater pumping during future droughts may negatively impact groundwater quality. As discussed in Section 4.2, as groundwater is withdrawn from the aquifer, the subsurface soils may collapse and compact leading to reduced aquifer capacity. Even if drought conditions ease, the capacity of the aquifer may be permanently compromised. The no action alternative would have minor to moderate adverse impacts on groundwater water quality and quantity, depending on the intensity and duration of future drought events.

### **4.5.2. PROPOSED ACTION**

Under the proposed action, instream impacts would be limited to the small area where the ASR pipeline would be placed within Rock Canyon Creek at the discharge point. Existing boulders, large rocks, and cobbles would be salvaged during construction and placed back around the discharge point as riprap to prevent erosion. Construction of the new discharge point would be done during the late summer or fall when there is usually no flow in the creek. On May 3, 2023, the Utah Division of

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Water Rights approved a Stream Alteration Permit (Number 23-55-OSSA) for work within Rock Canyon Creek under Section 404 of the CWA, consistent with the Programmatic General Permit 10 issued to the State of Utah by USACE on February 22, 2021. Provo would comply with the conditions outlined in the approved authorization, as well as the Programmatic General Permit 10 conditions, including the implementation of BMPs and the minimization of impacts. In addition, Provo would implement a Stormwater Pollution Prevention Plan in compliance with the general stormwater permit for construction activities that would cover all project activities. Therefore, there would only be a short-term minor adverse impact on water quality from construction-related activities as long as all required BMPs are used.

In January 2023, the Utah Division of Water Quality issued Groundwater Discharge Permit Number UGW490010 allowing Provo to discharge water into Rock Canyon Creek for groundwater infiltration and recharge. Water would be treated to drinking water standards prior to being discharged and would not impair groundwater quality. In the long term, the proposed action would recharge the aquifer with high-quality treated surface water. In addition, the construction of the WTP would allow Provo to reduce its reliance on groundwater, reserving groundwater in the aquifer for more severe droughts. The proposed action would result in a long-term, minor to moderate beneficial impact on groundwater quantity without compromising quality.

Implementation of the proposed action would increase water supply reliability in Provo. Provo currently diverts water from the Provo River and springs and would continue to do so after the completion of the proposed project, consistent with the existing approved permits. Under the proposed action there would be no change to the existing approved permits for water diversions during the irrigation season relative to existing conditions. As noted in the Agreement, with the Agreement in place, there would be no change to Provo water rights and baseline conditions. CUWCD's model concluded that if Provo uses water as set forth in the Agreement, there would be no detrimental effect on the flows in the Provo River that could adversely affect CUWCD's ability to manage Utah Lake or pose a threat to CUWCD's and CUPCA's rights and obligations under the June Sucker Recovery Implementation Program (Appendix A). Therefore, operation of the proposed action would not impact existing Provo River water supplies for other customers. The proposed action would result in a long-term, moderate beneficial impact on water supply for Provo and would have no impact on other Provo River water users.

### 4.6. Wetlands

EO 11990, Protection of Wetlands, requires federal agencies to consider alternatives to work in wetlands and limits potential impacts on wetlands if there are no practicable alternatives. FEMA regulation 44 CFR Part 9, Floodplain Management and Protection of Wetlands, sets forth the policy, procedures, and responsibilities to implement and enforce EO 11990 and prohibits FEMA from funding activities in wetlands unless no practicable alternatives are available. Activities that disturb wetlands may also require a permit from USACE under Section 404 of the CWA.

A review of the USFWS National Wetlands Inventory mapper indicates that no wetlands are present in or directly adjacent to the project area (USFWS 2023a).

### 4.6.1. NO ACTION ALTERNATIVE

Because there are no existing wetlands within or adjacent to the project area, implementation of the no action alternative would have no short- or long-term impact on wetlands.

### 4.6.2. PROPOSED ACTION

Because there are no existing wetlands within or adjacent to the project area, implementation of the proposed action would have no short- or long-term impact on wetlands.

## 4.7. Floodplains

EO 11988, Floodplain Management, requires federal agencies to avoid, to the extent possible, short- and long-term, adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. FEMA regulations (44 CFR Part 9.7) use the 1-percent-annual-chance flood as the minimal area for floodplain impact evaluation. FEMA follows an eight-step decision-making process to ensure compliance with EO 11988, which requires the evaluation of alternatives to the use of a floodplain prior to funding the action.

The project area spans three FEMA flood insurance rate map (FIRM) panels: 49049C0343F (dated June 19, 2020), 49049C0344F (dated June 19, 2020), and 49049C0375F (dated June 19, 2020). According to these FIRMs, the project area is entirely within FEMA Flood Zone X, an area of minimal flood hazard (FEMA 2023). The new discharge point in Rock Canyon Creek would use an existing channel that eventually flows down through Rock Canyon Park, which is within Flood Zone AH, an area with a 1-percent annual chance of shallow (1 to 3 feet deep) flooding/ponding. The mapped floodplain is approximately 0.5 mile from the proposed discharge point in Rock Canyon Creek.

### 4.7.1. NO ACTION ALTERNATIVE

Because the project area is not located within floodplains, implementation of the no action alternative would have no short- or long-term impacts on floodplains.

### 4.7.2. PROPOSED ACTION

No construction would occur within floodplains; therefore, the proposed action would have no short-term impact on floodplains.

The proposed new discharge point in Rock Canyon Creek would be approximately 0.5-mile upstream of Rock Canyon Park, which has a 1-percent annual chance of shallow flooding. Water discharged into the existing channel in Rock Canyon Creek would infiltrate into the ground along the creek bed before reaching the park and would not contribute to flooding at the park. In addition, the ASR system would not be operated during times when the ephemeral stream is running or when there is a potential for flooding to occur. Therefore, the proposed action would have no long-term adverse impacts on floodplains.

### 4.8. Vegetation

The project area largely consists of urbanized areas within Provo that have been highly developed for human uses. Vegetation in these developed areas is generally restricted to flower beds, maintained patches of turfgrass, and linear landscaped features along roadways that support ornamental trees, shrubs, and patches of weedy herbaceous species. According to site assessments conducted in 2022, tree species occurring within the developed portions of the project footprint include: Siberian elm (*Ulmus pumila*), honey locust (*Gleditsia triacanthos*), littleleaf linden (*Tilia cordata*), Callery pear (*Pyrus calleryana*), Japanese zelkova (*Zelkova serrata*), blue spruce (*Picea pungens*), box elder (*Acer negundo*), red maple (*Acer rubrum*), Siberian crabapple (*Malus baccata*), ponderosa pine (*Pinus ponderosa*), Engelmann spruce (*Picea engelmannii*), Norway maple (*Acer platanoides*), bur oak (*Quercus macrocarpa*), and Gambel oak (*Quercus gambelii*) (BIO-WEST, Inc. 2022). Additional woody species present within developed portions of the project area include Oregon grape (*Berberis aquifolium*), wintercreeper euonymus (*Euonymus fortunei*), and oakleaf hydrangea (*Hydrangea quercifolia*) (BIO-WEST, Inc. 2022). Prevalent herbaceous species within the developed portions of the project area include Kentucky blue grass (*Poa pratensis*), meadow fescue (*Schedonorus pratensis*), white clover (*Trifolium repens*), and common dandelion (*Taraxacum officinale*) (BIO-WEST, Inc. 2022).

The portion of the project area within Rock Canyon is comparatively undisturbed and largely consists of areas vegetated with a mix of naturally growing trees, woody shrubs, and naturalized nonnative grasses. The tree stratum is generally dominated by Gambel oak. Other trees occurring throughout the canyon include velvet ash (*Fraxinus velutina*) and bigtooth maple (*Acer grandidentatum*). Commonly occurring shrub species include Oregon grape, big sagebrush (*Artemisia tridentata*), white sagebrush (*Artemisia ludoviciana*), and rubber rabbitbrush (*Ericameria nauseosa*). Prevalent herbaceous species include cheatgrass (*Bromus tectorum*), meadow fescue, and foxtail barley (*Hordeum jubatum*).

Federally listed plant species that may occur in the vicinity of the proposed project areas are discussed in Section 4.10.

#### Invasive Species

EO 13112 requires federal agencies to prevent the introduction of invasive species and provide for their control to minimize the economic, ecological, and human health impacts that invasive species cause. Invasive species, such as cheatgrass, prefer disturbed habitats and generally possess high-dispersal abilities, enabling them to out-compete native species.

#### 4.8.1. NO ACTION ALTERNATIVE

Under the no action alternative, no vegetation removal related to construction would occur. The spatial extent and composition of existing vegetation, including the proportion of invasive species, would be largely maintained. Therefore, the no action alternative would have no short-term impacts on vegetation within the project area.

In the long term, Provo would continue efforts to mitigate the effects of drought. However, the probability of reduced water supply reliability during drought events would continue to be high, and climate change is also expected to increase the frequency and intensity of drought. Under this alternative, urban landscaping and vegetation within Provo may dry out and/or die if not properly irrigated for long periods of time. Therefore, this alternative could have minor to moderate long-term adverse impacts on the vegetation within Provo, depending on the intensity and duration of future drought events.

### 4.8.2. PROPOSED ACTION

Under the proposed action, impacts on vegetation would include the removal of existing trees, shrubs, forbs, and grasses within the project footprint. This would include the removal of trees where the WTP would be constructed and ten trees where the booster station would be constructed. Temporarily disturbed unpaved portions of the project area (e.g., staging areas and access routes) would likely naturally revegetate through the establishment of plants growing from the existing soil seed bank or seeds from nearby plants. Following construction of the project, the area around the WTP and booster station would be landscaped with a variety of native trees and shrubs. In addition, other temporarily disturbed areas are expected to naturally revegetate in approximately 1 to 2 years following project completion. Therefore, the temporary removal of vegetation during construction activities would have a negligible adverse short-term impact on vegetation.

Existing vegetation within the footprints of the new WTP, booster station, and piped discharge outlet into Rock Canyon Creek would be permanently removed. However, the majority of vegetation that would be permanently removed consists of ornamental species and weedy grasses and forbs. Additionally, the extent of vegetation loss resulting from the proposed action would be minimal relative to the amount of similarly vegetated areas that would remain within and near the project area upon project completion. Following construction, several native trees and bushes would be planted in front of the WTP along Freedom Boulevard and a few native trees and shrubs would be planted around the booster station. Provo would be required to use seed mix free of invasive species for the revegetation of the project area. To the greatest extent possible, native seed mix and native plant species would be planted. Therefore, permanent vegetation removal within the footprints of the new WTP, booster station, and piped discharge into Rock Canyon Creek would have a minor adverse impact on vegetation by incrementally reducing the amount of vegetation within the project area, including existing invasive species.

Implementation of the proposed action would increase water supply reliability in Provo. This would help maintain the water supply for the irrigation of urban vegetation and reduce the risk of vegetation drying out or dying. In addition, water discharged into Rock Canyon Creek would maintain green vegetation along the stream. Therefore, implementation of the proposed action could improve the health of vegetation throughout Provo and result in minor long-term benefits.

### 4.9. Fish and Wildlife

Fish and wildlife include the species that occupy, breed, forage, rear, rest, hibernate, or migrate throughout the project area. Regulations relevant to fish and wildlife include the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act. Threatened and endangered fish and wildlife species are evaluated separately in Section 4.10.

The MBTA of 1918, as amended (16 U.S.C. 703–711), provides protection for migratory birds and their nests, eggs, and body parts from harm, sale, or other injurious actions except under the terms of a valid permit issued pursuant to federal regulations. The U.S. Fish and Wildlife Service (USFWS) is the lead federal agency for implementing the MBTA. All native birds are protected by the MBTA.

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), enacted in 1940, provides for the protection of bald and golden eagles by prohibiting the take, possession, sale, purchase, barter, transport, export, or import of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit. This act requires consultation with USFWS to ensure proposed federal actions do not adversely affect bald or golden eagles.

The following paragraphs describe the existing terrestrial and aquatic habitats within the project area and the wildlife and fish species that may occupy those habitats.

#### Terrestrial Fauna

Other than the portion within Rock Canyon, the project area is composed of urbanized areas that are expected to have minimal value to wildlife and likely only function as marginal foraging or dispersal habitat, except for urban-adapted species. Hence, wildlife with the potential to occur across the majority of the project area would include regionally common species that are adapted to living in and near developed areas with frequent human disturbance. Such species include the mule deer (*Odocoileus hemionus*), raccoon (*Procyon lotor*), and garter snakes (*Thamnophis* spp.) (iNaturalist 2023). The portion of the project area within Rock Canyon provides higher quality wildlife habitat relative to the remainder of the project area (owing to lower levels of human disturbance and a greater range of less altered natural habitats). Consequently, this portion of the project area has the potential to support a slightly more diverse assemblage of wildlife, including species such as the rock squirrel (*Otospermophilus variegatus*), bobcat (*Lynx rufus*), common sagebrush lizard (*Sceloporus graciosus*), western rattlesnake (*Crotalus oreganus*), canyon tree frog (*Hyla arenicolor*), and western toad (*Bufo boreas*) (iNaturalist 2023).

Additionally, existing habitats throughout the project area have the potential to support a variety of native bird species protected under the MBTA, including the American robin (*Turdus migratorius*), House finch (*Haemorhous mexicanus*), Mourning dove (*Zenaida macroura*), and Western kingbird (*Tyrannus verticalis*). The nesting season for these species is generally March through September (eBird 2023a; iNaturalist 2023).

Both bald and golden eagles have potential to occur transiently in the project area. Bald eagles are most likely to occur in association with large surface water bodies such as Utah Lake, outside the

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project area, and may forage in the Provo River near the project area. In addition, bald eagles are known to nest along the shores of Utah Lake (eBird 2023b). Golden eagles are regularly observed flying over the portion of the project area near Rock Canyon (eBird 2023b), and Rock Canyon provides suitable foraging habitat for golden eagles. While there are no known golden eagle nests in the vicinity of the project area, suitable nesting habitat for golden eagles may be present on high elevation rocky cliffs in areas of Rock Canyon away from frequent disturbance.

### Aquatic Fauna

Although the project area does not contain aquatic resources, project activities would occur in close proximity to the lower Provo River and Rock Canyon Creek, and operations associated with the proposed action may influence both watercourses. The lower Provo River has been extensively modified by human activities and flows in the lower Provo River are greatly influenced by a complicated network of dams and water diversions. Flow regimes for the lower Provo River are intensely managed with consideration for maintaining favorable conditions for aquatic species, especially the federally threatened June sucker (*Chasmistes liorus*). The June sucker and all other federally listed species with the potential to be impacted by the action alternatives are discussed in Section 4.10. In addition to the June sucker, fish species known to occur in the lower Provo River include the native mottled sculpin (*Cottus bairdii*), speckled dace (*Rhinichthys osculus*), Utah sucker (*Catostomus ardens*), mountain sucker (*Catostomus platyrhynchus*), Bonneville cutthroat trout (*Oncorhynchus clarkii utah*), and mountain whitefish (*Prosopium williamsoni*), as well as numerous introduced species such as the common carp (*Cyprinus carpio*), white bass (*Morone chrysops*), green sunfish (*Lepomis cyanellus*), and largemouth bass (*Micropterus salmoides*) (URMCC et al. 2015). Rock Canyon Creek is an intermittent stream that typically only flows during snowmelt runoff in the late spring and early summer. Therefore, Rock Canyon Creek lacks a sufficient hydroperiod to support fish or other fully aquatic species.

#### 4.9.1. NO ACTION ALTERNATIVE

Under the no action alternative, there would be no construction-related impacts on terrestrial or aquatic fauna within or near the project area, including migratory birds. Therefore, the no action alternative would have no short-term impacts on fish and wildlife with the potential to occur within or near the project area.

In the long term, Provo would continue efforts to mitigate the effects of drought. However, the probability of reduced water supply reliability during drought events would continue to be high, and climate change is also expected to increase the frequency and intensity of drought. Under this alternative, a lack of water to irrigate landscaping within Provo could lead to dry soil and vegetation, including vegetation in parks and green space throughout Provo that support a variety of birds and urban-adapted wildlife species. Larger amounts of dry and dead vegetation could impact the quality of the habitat in the parks and green space within Provo. Therefore, this alternative could have minor to moderate long-term adverse impacts on wildlife within Provo, depending on the intensity and duration of future drought events.

### 4.9.2. PROPOSED ACTION

Under the proposed action, there is the potential for direct harm to terrestrial fauna to result from the use of heavy equipment during construction. Localized vegetation removal and disturbance associated with construction work would cause some extant urban-adapted wildlife to leave the limited amount of low-quality habitat within the project area in search of refuge, which could make them vulnerable to injury, predation, loss of food resources, and subject to increased competition for remaining resources. However, the number of individuals that would be displaced because of project-related disturbance is expected to be relatively small owing to the limited extent and low quality of existing wildlife habitat. Further, displaced individuals would be able to relocate to habitats of comparable quality in the vicinity and would be able to return to temporarily disturbed portions of the project area once construction is complete. The proposed action would result in an incremental reduction of marginal terrestrial wildlife habitat where the new WTP, booster station, and piped outlet into Rock Canyon Creek are constructed. However, the footprints of the new WTP and booster station are highly developed and the footprint of the piped outlet into Rock Canyon Creek is subject to regular ongoing human disturbance from recreational use of the adjacent hiking trail. Therefore, the proposed action would not result in the loss of any unique or high-quality habitats for terrestrial wildlife. Additionally, construction activities under the proposed action would not involve work in or directly adjacent to waters with the potential to support fish or other fully aquatic species, and operational activities under the proposed action would not have an appreciable impact on existing flow conditions in the lower Provo River. For these reasons, construction activities conducted under the proposed action would have minor short- and long-term adverse impacts on terrestrial fauna and negligible short- and long-term adverse impacts on aquatic fauna.

Birds are mobile and can readily fly away from construction noise and disturbance. However, if construction occurs during the general bird breeding season (i.e., March through September), related activities could have moderate short-term adverse impacts on species protected by the MBTA because vegetation removal could result in nest destruction and the loss of eggs and/or young. In addition, tree removal associated with construction of the WTP would have a minor long-term adverse impact on migratory birds by incrementally decreasing nesting habitat availability within the project area. Given the potential for take of migratory birds to occur, the proposed action would be subject to the prohibitions of the MBTA and Provo would be responsible for complying with federal and state laws for the protection of birds before initiating work. To the extent feasible, activities involving the removal of vegetation would occur outside of the general bird nesting season for migratory birds, which is April 1 through August 31 for songbirds and January 15 through August 31 for raptors. If vegetation removal must occur during the general bird nesting season for migratory birds and raptors, Provo shall retain a qualified biologist to perform a pre-construction survey of potential nesting habitat to confirm the absence of active nests belonging to migratory birds and raptors afforded protection under the MBTA. The pre-construction survey shall be performed no more than seven days prior to the commencement of vegetation removal activities. The results of the pre-construction survey shall be documented by the qualified biologist and submitted to Provo. If the qualified biologist determines that no active migratory bird or raptor nests are present, the activities shall be allowed to proceed without any further requirements. If the qualified biologist determines that an active migratory bird or raptor nest is present, no construction activity within 300 feet (500



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feet for raptors) of the active nest shall occur until the young have fledged the nest and the nest is confirmed to no longer be active, or as determined by the qualified biologist. The biological monitor may modify the buffer or propose other recommendations in order to minimize disturbance to nesting birds. With compliance with the MBTA, the proposed action would have a negligible short-term adverse impact and a negligible long-term adverse impact on bird species protected under the MBTA.

There are no known bald or golden eagle nests in the project area. The nearest bald eagle nesting habitat is over three miles west of the project area along Utah Lake. Therefore, there would be no short-term adverse impacts on nesting bald eagles during construction of the proposed action. Golden eagles may nest on rocky cliffs above the project area in Rock Canyon. However, golden eagles would select nest sites away from areas with frequent human presence and activity such as that associated with recreational use of the Rock Canyon portion of the project area. Golden eagles that may forage within Rock Canyon would likely avoid the canyon bottom during construction due to the activity along the road. However, the canyon represents a small portion of an eagle's foraging range and is an area that typically has a relatively high level of human activity; therefore, there would only be a negligible effect on golden eagles during construction. The proposed action would have no long-term adverse impacts on bald or golden eagles.

Implementation of the proposed action would increase water supply reliability in Provo. This would help maintain the water supply for the irrigation of urban vegetation and reduce the risk of vegetation drying out or dying. Therefore, implementation of the proposed action could improve the quality of the habitat in the parks and green space within Provo. This would have a minor long-term benefit on the wildlife in the City.

### 4.10. Threatened and Endangered Species and Critical Habitat

The Endangered Species Act (ESA) of 1973 gives USFWS and the National Marine Fisheries Service authority for the protection of threatened and endangered species. This protection includes a prohibition on direct take (e.g., killing, harassing) and indirect take (e.g., destruction of habitat).

The ESA defines the action area as “all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action” (50 CFR 402.02). Therefore, the action area where effects on listed species must be evaluated may be larger than the project area where project activities would occur. With respect to the terrestrial component of the action area, noise from heavy equipment used during construction is expected to be the farthest-reaching effect of the proposed action and thus an appropriate determinant of the action area's extent on land. Hence, the terrestrial component of the action area is defined to extend to the point where noise is expected to attenuate to background levels. This is conservatively estimated to be approximately 300 feet from the construction limits, based on an analysis of expected noise levels generated by the types of equipment that would be used (Federal Highway Administration 2017) and estimated ambient noise levels within the action area (USFWS 2006). The aquatic component of the action area includes all sections of the Provo River main stem that may experience hydraulic and hydrologic changes due to

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the proposed action. Hence, the aquatic portion of the action area includes the Provo River main stem from the Jordanelle Dam to the Provo River’s confluence with Utah Lake.

The USFWS Information for Planning and Consultation and the National Marine Fisheries Service Protected Resource Application were used to identify proposed, threatened, and endangered species with the potential to occur within the action area (USFWS 2023b, National Marine Fisheries Service 2023). Based on information obtained from these resources, four federally listed species have the potential to occur within the action area, all of which are under the jurisdiction of USFWS (Table 4.4). The likelihood of these species to occur within the action area is briefly discussed below.

**Table 4.4. Federally Listed Species with the Potential to Occur Within or Near the Project Area**

Common Name	Scientific Name	Status
<b>Mammals</b>		
Canada lynx	<i>Lynx canadensis</i>	Threatened
<b>Birds</b>		
Yellow-billed cuckoo, western distinct population segment	<i>Coccyzus americanus</i>	Threatened
<b>Fish</b>		
June sucker	<i>Chasmistes liorus</i>	Threatened
<b>Plants</b>		
Ute ladies'-tresses	<i>Spiranthes diluvialis</i>	Threatened

Sources: USFWS 2023b

Canada Lynx: The Canada lynx inhabits large tracts of boreal forest that support sufficient abundance of its primary prey, snowshoe hares (*Lepus americanus*). No suitable habitat for this species is present within the action area. Additionally, according to the species status assessment conducted by USFWS in 2017, Utah does not support any resident lynx populations (USFWS 2017). Therefore, the Canada lynx is not expected to occur within or near the action area and is not discussed further in this EA.

Yellow-billed cuckoo (YBCU), western distinct population segment: The YBCU is a migratory bird species that travels from its wintering grounds in Central and South America to its breeding grounds in North America where it remains for the duration of the breeding season (i.e., May through September). The YBCU typically breeds in large blocks of riparian habitat and generally prefers riparian woodlands with cottonwoods (*Populus* spp.) and (*Salix* spp.) willows. The YBCU generally occurs along perennial rivers and streams, which provide sufficient moisture to support the dense riparian plant communities required by the species for nesting, shelter, cover, and food resources. According to the Utah Natural Heritage Program database, the YBCU was detected in 2005 within approximately 2 miles of the project area (as cited in BIO-WEST, Inc. 2022). Additionally, the action

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area overlaps an approximately 0.1-mile-long section of the riparian corridor along the eastern bank of the Provo River, near the site of the proposed WTP, that could provide marginal YBCU breeding habitat. Therefore, the YBCU is considered to have some, albeit extremely low, potential to occur within the action area.

June sucker: The June sucker is endemic to Utah Lake and its tributaries, which serve as the primary spawning habitat for the species. The majority of June sucker spawning occurs in the Provo River because the river's flow conditions best support the habitat types preferred by the June sucker for spawning (i.e., moderately deep runs and riffles in slow to moderate current with a substrate composed of coarse gravel or small cobble that is free of silt and algae). The June sucker was listed as endangered in 1986 (USFWS 2021). Since 1994, efforts have been made to manage flows in the lower Provo River for the benefit of the June sucker and the species was subsequently downlisted to threatened in 2021 (USFWS 2021) because of substantial improvements in the species' overall status.

Since its establishment in 2002, the multi-agency June Sucker Recovery Implementation Program (JSRIP) has provided annual recommendations for river flows to water-managing entities to support June suckers in the Provo River based on the known biology of the species and historical flow levels (USFWS 2021). The flow scenarios recommended by the JSRIP generally attempt to mimic the natural lower Provo River spring hydrograph with which the June sucker has evolved and adapted. As such, hydrographs recommended by the JSRIP include consideration for early season attractant flows needed to cue spawning adults, sustained base flows in spawning areas to maintain optimal conditions for egg incubation, and flows needed by larval June suckers to move into downstream rearing habitats (USFWS 2021). The upstream limit of June sucker migration and spawning in the Provo River corresponds to the Tanner Race Diversion Dam, which is approximately 4.9 miles upstream of the Provo River's confluence with Utah Lake and approximately 1 mile downstream of the Mill Race Diversion. The Tanner Race Diversion Dam is a total barrier to June sucker movement under all flow conditions. Hence, within the action area, June sucker are restricted to the lowermost 4.9 miles of the Provo River.

The action area includes an approximately 4.9-mile stretch of the lower Provo River, starting approximately 1 mile downstream of the project area to Utah Lake, that has been designated as critical habitat for the June sucker.

Ute ladies'-tresses: Ute ladies'-tresses are known primarily from moist meadows and wetland habitats associated with perennial stream terraces, floodplains, and oxbows at elevations between 4,300 and 6,850 feet above mean sea level. Historically, Ute ladies'-tresses have been detected in riparian and wetland habitats along the Provo River (Walter et al. 2005). Additionally, marginally suitable habitat for the species occurs along the section of the Provo River included within the action area. Therefore, this species has low potential to occur within the action area.

### 4.10.1. NO ACTION ALTERNATIVE

Under the no action alternative, no construction-related disturbance or operational changes to the existing diversion of water in the lower Provo River would occur. Therefore, the no action alternative would have no short- or long-term impacts on federally listed species with the potential to occur within the action area.

### 4.10.2. PROPOSED ACTION

Yellow-billed cuckoo: As discussed above, the YBCU is highly unlikely to occur within the action area. However, if individuals were to occur within the action area during project implementation, they could be subject to construction-related noise disturbance that may disrupt their normal nesting and/or foraging behavior. However, the nearest potentially suitable YBCU habitat is approximately 300 feet away from the anticipated limits of construction. At this distance, it is expected that construction related noise would reduce to levels within the range of existing noise sources. Therefore, construction related noise is not expected to alter the normal behavior of any YBCUs that may occur within the action area during project implementation. Further, it is expected that operational impacts of the proposed action would not have an appreciable effect on existing riparian vegetation that may constitute suitable YBCU habitat along the Provo River because existing hydrology would be maintained. Therefore, the proposed action would have no short- and long-term impacts on the YBCU.

June sucker: As discussed above, the June sucker is known to occur within the action area in the lowermost 4.9 miles of Provo River. This stretch of the lower Provo provides essential habitat for June sucker spawning, hatching, larval transport, rearing, and recruitment; hence, this stretch has been designated as a critical habitat for the species. The proposed action would not involve work in aquatic habitats occupied by the June sucker; therefore, the proposed action would not directly impact the species. However, the proposed action could indirectly impact the June sucker and its critical habitat if water diverted from the Provo River for the operation of the WTP and ASR system were to decrease water availability such that flow deliveries to the Provo River recommended by the JSRIP could not be fully implemented. Of particular concern would be any resulting flow reductions during the spawning season when specific flow conditions are required to facilitate successful spawning and larval transport to Utah Lake. Additionally, any reduction in summer base flows due to operation of the proposed action could decrease the quality and quantity of rearing habitat at the interface of the Provo River and Utah Lake, thereby posing a threat to the successful recruitment of young June sucker to the adult life stage and potentially impairing recovery of the species. However, the water rights that would be used for the proposed action are existing water rights currently in use by Provo, and therefore, would not affect June sucker water storage or meaningfully affect June sucker flows in the Provo River. Under the proposed action there would be no change to the existing approved permits for water diversions during the irrigation season relative to existing conditions and the JSRIP would continue to manage flows for the benefit of the species. Additionally, Provo and CUWCD have entered into an agreement to ensure that the operation of the proposed action is consistent with the existing June sucker recovery plan, as implemented by the JSRIP, and operational impacts of the proposed action would not adversely affect the June sucker or its designated critical

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habitat. As noted in the Agreement, CUWCD's model concluded that if Provo uses the water as set forth in the Agreement, there would be no detrimental effect on the flows in the Provo River that could adversely affect CUWCD's ability to manage Utah Lake or pose a threat to CUWCD's and CUPCA's rights and obligations under the June Sucker Recovery Implementation Program (Appendix A). Consistent with the Agreement, Provo would not use any water under Water Right No. 55-11004, aka the "4(d) water right" for the Proposed Action. Therefore, the proposed action would not impact existing water supplies for June sucker flows, and thus would have a negligible adverse long-term impact on the species and its critical habitat.

Ute ladies'-tresses: As discussed above, Ute ladies'-tresses have low potential to occur within the action area. Although no suitable habitat is present within the project footprint, suitable habitat does occur along the section of the lower Provo River included in the action area. The proposed action could impact Ute ladies'-tresses if water diverted for operation of the proposed action were to decrease flows in the Provo River to the extent that the hydrology of adjacent wetlands would be altered. However, operation of the proposed action would not impact existing Provo River flow conditions. In addition, the JSRIP would remain in effect and continue to manage flows for the benefit of the June sucker. Therefore, the proposed action would not impact the existing hydrology of streamside habitats along the lower Provo River that may support the species. Hence, the proposed action would have no short-term and long-term- adverse impacts on the species.

Effects Determination Summary: FEMA determined that the proposed action may affect, but is not likely to adversely affect, listed species (**Table 4.5**). Coordination with USFWS has been ongoing throughout project development. The Section 7 ESA consultation was submitted to USFWS for review and concurrence on August 17, 2023. USFWS concurred on September 22, 2023, that the proposed action may affect, but is not likely to adversely affect, listed species. Correspondence with USFWS is included in Appendix B.

**Table 4.5. Effect Determination Summary for Federally Listed Species**

Federally Listed Species	Effect Determination
Canada lynx	No Effect
Yellow-billed cuckoo	No Effect
June sucker	May Affect, but is Not Likely to Adversely Affect
Ute ladies'-tresses	No Effect

### 4.11. Cultural Resources

This section provides an overview of potential environmental effects on cultural resources, including historic properties. Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470f), requires that activities using federal funds undergo a review process to consider potential effects on historic properties that are listed in or may be eligible for listing in the National Register of Historic Places. Cultural resources include prehistoric or historic archeology; historic

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standing structures; historic districts; objects; artifacts; cultural properties of historic or traditional significance, referred to as Traditional Cultural Properties, which may have religious or cultural significance to federally recognized Indian tribes; or other physical evidence of human activity considered to be important to culture, subculture, or community for scientific, traditional, religious, or other reasons.

Pursuant to 36 CFR 800.4(a)(1), FEMA has defined an Area of Potential Effects (APE) that includes all areas within which the undertakings may directly affect cultural resources. The APE encompasses 16.97 acres of land within public rights-of-way and on City property, except for approximately 1,200 feet of pipeline in Rock Canyon, which would cross property owned by the U.S. Forest Service, and approximately 1,410 feet of pipeline that would cross two parking lots on Brigham Young University property. The U.S. Forest Service did their own evaluation of cultural resources under Section 106. The two parking lots on Brigham Young University property were included in the APE. The vertical depth of the APE includes the deepest extent of project-related ground-disturbing activity anticipated, not to exceed 20 feet below existing grade.

The proposed clearwell at the western end of the APE in the proposed new WTP would be the area with the deepest potential effects. The western portion of the project pipeline (approximately 75 percent) would be constructed within existing curb-and-gutter paved roadway in Provo City. The easternmost portion of pipeline would be constructed within an existing roughly paved road (no curb and gutter). Nearly the entire APE has been previously subjected to ground disturbance and substantial portions are covered with pavement.

There is some, albeit fairly small, potential for buried prehistoric and historic archaeological resources to be present within the APE. However, no known subsurface archaeological resources have been identified within the APE to date. Such resources may include, but are not limited to, sites associated with Native American occupation and use of the area (e.g., camps or habitation locales) or historic settlement and development of the area (e.g., historic pipelines, building foundations, trash deposits, outhouses). Between the developed nature of nearly all of the APE and the limited potential for buried archaeological deposits beneath the ground surface or existing roads in the APE, no subsurface archaeological testing was conducted.

Identification efforts included a records search combined with an intensive pedestrian inventory of 8.34 acres that identified three cultural resources, all of which are historic properties (Johnson 2023). These three historic properties are part of the historic Mill Race Canal, and two public water system buildings. The remnant Mill Race Canal segments were deemed not eligible for inclusion in the National Register. The two public water system buildings were deemed eligible for the National Register under Criterion C (design/construction).

### **4.11.1. NO ACTION ALTERNATIVE**

Under the no action alternative, there would be no construction-related impacts on historic properties in the APE or the surrounding area.

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In the long term, Provo would continue efforts to mitigate the effects of drought. However, the probability of reduced water supply reliability during drought events would continue to be high and climate change is also expected to increase the frequency and intensity of drought. Without the project, the groundwater aquifer could continue to decline with use, potentially resulting in subsidence. Roads, bridges, utilities, and buildings in northern Provo City and Orem could be severely damaged over time. Water supply infrastructure that could be damaged by subsidence includes the Provo River Aqueduct, Provo Bench, Timpanogos, East and West Union Canals, and the Spanish Fork-Provo Reservoir branch of the Utah Lake Drainage Basin Water Delivery System Pipeline. Although not evaluated for eligibility, some of these resources may be eligible now or in the future. Therefore, this alternative could result in long-term minor negative impacts on historic properties depending on the intensity and duration of future drought events.

### 4.11.2. PROPOSED ACTION

The proposed action would result in a No Adverse Effect determination for the two National Register eligible historic properties known to exist within the APE because the project would not alter the characteristics of those historic properties that qualify them for the National Register. Under the proposed action excavation and soil disturbance would be required to build the WTP and new pump station and install the new pipeline. The WTP, clearwell, and pump station would require excavation to a depth of 15 to 20 feet below the existing grade. The pipelines would require trenching to depths of 10 to 15 feet below the existing grade. FEMA consulted with the Utah State Historic Preservation Office (SHPO) on June 29, 2023; on July 17, 2023, the SHPO concurred with FEMA's determinations of eligibility for the identified historic properties and the finding of No Adverse Effect for the Undertaking. Correspondence with the SHPO is included in Appendix B.

FEMA consulted with the seven Native American Tribes claiming cultural affinity to the APE in July and early August 2023. These tribes are the Confederated Tribes of Goshute, the Paiute Indian Tribe of Utah, the Northwestern Band of Shoshone Nation, the Skull Valley Band of Goshute, the Ute Indian Tribe of the Uintah and Ouray Reservation, the Ute Mountain Ute Tribe, and the Navajo Nation. No responses from the tribes were received.

As yet unidentified cultural resources (in the form of buried archaeological deposits) could be exposed and impacted during construction. However, the potential for encountering significant cultural resources within project area during the proposed action is very limited. Furthermore, BMPs for identifying archaeological materials would be implemented during construction. Construction workers would be trained to recognize historic and prehistoric artifacts and features. If unanticipated cultural resources are discovered during construction, protocols for timely notification to Provo City, SHPO, and FEMA, and professional resource documentation, evaluation, and (if necessary) treatment would be fulfilled. Therefore, implementation of the proposed action would result in mitigation of possible adverse effects to any newly discovered historic properties or other cultural resources.

### 4.12. Environmental Justice

Environmental justice is defined by EO 12898 (59 Federal Register 7629) and CEQ guidance (1997). Under EO 12898, demographic information is used to determine whether minority populations or low-income populations are present within the areas potentially affected by the range of project alternatives. If so, a determination must be made whether implementation of the project alternatives may cause disproportionately high and adverse human health or environmental impacts on those populations.

The study area for construction of the proposed project includes the project area and access and staging areas, and the Provo municipal utility district. Thus, the study area for the environmental justice analysis includes Provo City. The study area represents the area where project-related impacts would occur, potentially causing disproportionately high and adverse effects on neighboring minority and low-income populations. For the purposes of this analysis, environmental justice populations are identified using demographic indicators and Environmental Justice Indexes.

In accordance with the FEMA EO 12898 Environmental Justice: Interim Guidance for FEMA EHP Reviewers, environmental justice populations are defined as meeting either or both of the following criteria:

- The populations within the project benefit area contains a minority or low-income population that is equal to or exceeds the 50th percentile compared to the average of the state where the affected environment is located.
- One or more Environmental Justice Index (e.g., air quality pollutants, traffic proximity and volume, proximity to hazardous waste sites) equals or exceeds the 80th percentile compared to the average of the state.

EPA defines minority populations (people of color) as individuals who list their racial status as a race other than white alone and/or list their ethnicity as Hispanic or Latino (i.e., all people other than non-Hispanic white-alone individuals) (EPA 2023c). Low-income populations are measured as households with an income that is less than or equal to twice the federal poverty level. The EJ Indices combine environmental indicators with socioeconomic indicators to identify areas where there may be a disproportionate exposure to environmental pollution.

**Table 4.6** and **Table 4.7** depict the demographic indicators and Environmental Justice Indexes for the study area and the state and identify if environmental justice populations are present based on the criteria described above.



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**Table 4.6. Environmental Justice Population Demographic Indicators – Provo City**

Demographic Indicator	Provo City Average Percentage	Utah Average Percentage	Percentile in State	Environmental Justice Population Present in the Study Area?
People of Color	28%	22%	72	Yes
Low-Income	46%	26%	86	Yes

Source: EPA 2023d

**Table 4.7. Environmental Justice Indexes – Provo City**

EJ Index	Percentile in State	Environmental Justice Population Present in the Study Area? <sup>1</sup>
Particulate Matter	29	No
Ozone	30	No
NATA Diesel Particulate Matter	71	No
NATA Air Toxics Cancer Risk	1	No
NATA Respiratory Hazard Index	16	No
Toxic Releases to Air	48	No
Traffic Proximity and Volume	85	Yes
Lead Paint Indicator	68	No
Proximity to National Priorities List Sites	25	No
Proximity to Risk Management Plan Sites	49	No
Proximity to Treatment Storage and Disposal Facilities	73	No
Underground Storage Tanks	72	No
Wastewater Discharge Indicator	85	Yes

Source: EPA 2023d

Notes: <sup>1</sup> Index equals or exceeds the 80th percentile compared to the average of Utah; therefore, an environmental justice population is present.

As shown in **Table 4.6** and **Table 4.7**, the study area meets the criteria for containing environmental justice populations based on thresholds for minority populations, low-income populations, traffic proximity and volume, and the wastewater discharge indicator. Traffic proximity and volume is based on the count of vehicles per day (average annual daily traffic) at major roads within 500 meters of environmental justice populations, divided by distance in meters. The wastewater discharge indicator

is based on EPA's modeled toxic concentrations at stream segments within 500 meters, divided by distance in kilometers. The high percentage of low-income households is related to the study area having a high concentration of college students, due to its proximity to Brigham Young University.

### **4.12.1. NO ACTION ALTERNATIVE**

Under the no action alternative, no construction of the ASR system would occur; thus, no construction-related impacts, such as increased noise or temporary reductions in air quality, would occur. Therefore, the no action alternative would have no short-term impacts on environmental justice populations.

In the long term, implementation of the no action alternative would not reduce the impacts of drought within the project area, and environmental justice populations within Provo would continue to be vulnerable. Drought could result in the increased cost of utilities and water shortages, both of which would place a disproportionate burden on environmental justice populations that are unlikely to have the same financial capacity to pay for increased water costs, as compared to other populations. Therefore, the no action alternative could have a disproportionately high and adverse effect on environmental justice populations over the long term, depending on the intensity and duration of future drought events.

### **4.12.2. PROPOSED ACTION**

Under the proposed action, construction activities would result in short-term adverse effects, including noise and reduced air quality, which would impact those proximate to work areas. Low-income populations in Provo are evenly distributed around Brigham Young University campus to the north, where the project construction would occur, as well as to the south and west. As previously mentioned, this corresponds with the high student population living near the campus. Construction and installation of distribution lines near and through the Brigham Young University would be limited to the spring and summertime when there is a lower student population present, which would reduce potential impacts. In addition, these effects would not disproportionately impact environmental justice populations, as these short-term effects would impact all residents near the project areas equally. Therefore, construction of the proposed action would have minor short-term adverse effects on environmental justice populations as well as the entire community, but there would be no disproportionately high and adverse impacts on these populations.

Implementation of the proposed action would not result in any residential or business displacements. However, under the proposed action, operation of the WTP could result in adverse impacts related to noise, which would impact those near the new WTP. The main source of noise from operation of the WTP would be from the pump station, located on the east side of the WTP site along Freedom Boulevard, and would include the operation of five water pumps. However, all the WTP components, including the pump station, would be fully enclosed within the WTP facility. Construction of the WTP facility would include the installation of acoustical sound absorption panels on the walls and ceiling to attenuate noise levels to be below Provo City's permitted continuous and intermittent noise limits, outlined in Chapter 9.06 of the Provo Municipal Code. Operation of the

expanded booster station could also result in long-term adverse impacts related to noise, impacting those near the booster station. However, the booster station would replace an existing booster station in the same location. The booster station would also be built with updated equipment operating at a lower noise volume and the building would be constructed with improved noise attenuation construction methods. As previously mentioned, low-income populations in Provo are evenly distributed around Brigham Young University campus, where operation of the WTP and booster station would occur. Therefore, the proposed action would have minor long-term adverse effects on environmental justice populations, but there would be no disproportionately high and adverse impacts on these populations.

Implementation of the proposed action would reduce the impacts of drought, which would benefit the entire surrounding community, including environmental justice populations. In addition, the proposed action would provide reliable water over the long term at a lower cost than if Provo purchased water through CUWCD. Therefore, the proposed action would have a minor long-term benefit on environmental justice populations.

### 4.13. Hazardous Materials

Hazardous materials are those substances defined by the Comprehensive Environmental Response, Compensation, and Liability Act, as amended by the Superfund Amendments and Reauthorization Act, and the Toxic Substances Control Act. The Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, which was further amended by the Hazardous and Solid Waste amendments, defines hazardous wastes. In general, both hazardous materials and waste include substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may present substantial danger to public health or the environment when released or otherwise improperly managed.

Hazardous materials may be encountered in the course of a project, or they may be generated by the project activities. To determine whether any hazardous waste facilities exist in the vicinity or upgradient of the proposed project area, or whether there is a known and documented environmental issue or concern that could affect the proposed project area, a search for Superfund sites, toxic release inventory sites, industrial water dischargers, hazardous facilities or sites, and multiactivity sites was conducted using EPA's NEPA Assist website (EPA 2023e) and EPA's Underground Storage Tank (UST) Finder (EPA 2023f). According to the NEPA Assist database, there are 36 permitted wastewater dischargers and 13 hazardous waste generators within an approximate 0.5 mile of the project area. Hazardous waste generators near the project area include a Chevron station, a Jiffy Lube, a Chevrolet dealership and service center, and ignitable waste from the *Daily Herald*. There is one open UST within 0.5 mile of the project area, at Stadium Chevron 0.2 mile south of the project area (EPA 2023f). However, it is not expected that contaminated soils or hazardous materials exist within the project footprint where ground disturbance or excavation would occur as there are no hazardous facilities or open USTs listed within the limits of the project area. No Superfund sites are located within a mile of the project area (USEPA 2023e).

### 4.13.1. NO ACTION ALTERNATIVE

No construction would occur under the no action alternative; therefore, no short-term impacts related to hazardous materials would occur as a result of construction equipment use or the exposure of contaminated materials through ground-disturbing activities. Under this alternative there would be no potential for long-term production or exposure of hazardous wastes or materials. Therefore, this alternative would have no short- or long-term impacts related to hazardous materials.

### 4.13.2. PROPOSED ACTION

Under the proposed action, construction would occur and the use of mechanical equipment and vehicles would introduce a risk of leaks and spills of hazardous fuels, oils, and lubricants. However, all equipment used would be in good condition and project activities would adhere to local and state regulations to reduce the risk of hazardous leaks and spills. Any spills during construction would be immediately contained and cleaned. Although no known subsurface hazardous materials are present within the project area, excavation activities could expose or otherwise affect previously undetected subsurface hazardous wastes or materials. Any hazardous materials discovered, generated, or used during implementation of the proposed action would be disposed of and handled in accordance with applicable local, state, and federal regulations. Any hazardous material unexpectedly encountered during construction would be reported to the Utah DEQ. Therefore, there would be a negligible short-term adverse impact from the use of vehicles and equipment or from the potential for inadvertent exposure of previously unknown hazardous materials.

In the long term, operation of the water treatment plant would involve the storage and use of hazardous material, including chlorine gas. Provo would develop an emergency response protocol that would be updated annually. The gas storage room would be properly labelled with hazard signs, sealed from the remainder of the building, and equipped with remote control and an emergency shut off switch. Rubber gloves, protective clothing, gas masks, and a bottle of ammonia hydroxide solution, used for leak detection, would be stored nearby. All chemical storage and handling would comply with local, state, and federal regulations. Therefore, there would be a minor long-term adverse impact from the transport, storage, and use of hazardous material during operation of the WTP.

## 4.14. Noise

Sounds that disrupt normal activities or otherwise diminish the quality of the environment are considered noise. Noise events that occur during the night (10 p.m. to 7 a.m.) are more disruptive than those that occur during normal waking hours (7 a.m. to 10 p.m.). Noise is regulated at the federal level by the Noise Control Act of 1972 (42 U.S.C. §§ 4901, et seq). At the local level, noise is regulated in the Provo City Code. Section 9.06.030 of the City Code, *Noise Limits*, provides the maximum lawful noise limits during the day and night for different kinds of noise (intermittent, continuous, and impulse noise) in different districts (residential/agricultural, commercial, and industrial) (Provo City 2023a). Section 9.06.040 of the City Code, *Exemptions*, exempts sounds created by construction from the regulations laid out in Section 9.06.030 provided a permit is obtained from the mayor (Provo City 2023a).

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Assessment of noise impacts includes the proximity of the proposed action to sensitive receptors, which are defined as an area of frequent human use that would benefit from a lowered noise level. Typical sensitive receptors include residences, schools, churches, hospitals, nursing homes, and libraries. Ambient noise levels vary throughout the project area; the western segment of the project area has the highest ambient noise level, as it is surrounded by some industrial, commercial, and educational land uses. Typical noises in this region are generated by traffic, recreational activities, and intermittent fanfare during large athletic events at the Brigham Young University stadium. The middle segment of the project area (Temple View Drive to 1450 East) is surrounded by residential land uses and has a lower ambient noise level than the western portion of the project area, with most noise being generated from traffic and recreational activities. The eastern portion of the project area within Rock Canyon has the lowest ambient noise level, with most noise being generated from wildlife, wind, and low levels of traffic. Many sensitive receptors occur in or directly adjacent to the project area, including multiple residences (especially along Stadium Avenue, Temple View Drive, and 2300 North), three churches within 0.25 mile of the project area (the closest of which is directly adjacent to Stadium Avenue), and the Brigham Young University campus, through which the project area passes.

### **4.14.1. NO ACTION ALTERNATIVE**

No construction would occur under the no action alternative and implementation of the no action alternative would not introduce a new permanent noise source. Therefore, this alternative would have no short- or long-term noise impacts.

### **4.14.2. PROPOSED ACTION**

Construction activities, including demolition, excavation, and construction of the new WTP and other structures, would cause temporary increases in noise levels. Residences, churches, and the university would likely experience a temporary increase in daytime noise levels. Temporary increases in noise levels owing to construction activities would be minimized through compliance with the local noise ordinance and adherence to any conditions described in issued permits. Additionally, all construction equipment would be well maintained, have sound-control devices no less effective than those provided on the original equipment, and have muffled exhaust. With the implementation of these BMPs and compliance with all applicable noise regulations, implementation of the proposed action would have minor short-term adverse noise impacts.

In the long term, as discussed in Section 4.12.2, operation of the WTP could result in adverse impacts related to noise. The main source of noise from operation of the WTP would be from the pump station, located on the east side of the WTP site along Freedom Boulevard, and would include the operation of five water pumps. However, all the WTP components, including the pump station, would be fully enclosed within the WTP facility. Construction of the WTP facility would include the installation of acoustical sound absorption panels on the walls and ceiling to attenuate noise levels to be below Provo City's permitted continuous and intermittent noise limits, outlined in Chapter 9.06 of the Provo Municipal Code. Operation of the expanded booster station could also result in long-term adverse impacts related to noise. However, the booster station would replace an existing

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booster station in the same location. The booster station would also be built with updated equipment operating at a lower noise volume, would be fully enclosed and constructed with improved noise attenuation construction methods. Therefore, the proposed action would have a negligible long-term adverse noise impact.

### 4.15. Transportation

Provo City can be accessed regionally via US Route 89 (State Street), US Route 189 (North University Avenue), and State Route 265 (North University Parkway). Freedom Boulevard 200 West, North University Avenue, North 150 East, 900 East, and some smaller roadways provide local access to the project area. Arterial and collector roadways within the project area include Freedom Boulevard 200 West, Stadium Avenue, 900 East, Temple View Drive, and 2300 North. **Table 4.8** presents the most updated (2020) approximate average annual daily traffic (AADT) counts along the roadways within the project area for which data are available (Utah Department of Transportation 2021).

**Table 4.8. Average Annual Daily Traffic within the Project Area**

Street	2020 AADT (number of vehicles)
Freedom Boulevard 200 West	5,400
900 East	24,000
Temple View Drive	4,800
2300 North	990

Source: Utah Department of Transportation 2021

Key: AADT = average annual daily traffic

Note: AADT numbers represent traffic in both directions

The Utah Transit Authority operates several bus lines on roadways adjacent to the project area, including along the portions of Freedom Boulevard and 900 East south of the project area, the portion of 2230 North west of the project area, and along University Parkway (Utah Transit Authority 2023).

#### 4.15.1. NO ACTION ALTERNATIVE

Under the no action alternative, no construction would occur along the roadways within the project area. Thus, there would be no short-term potential for traffic in the area to increase because no equipment or personnel would be transported to the project area, and no road closures or other traffic detours would occur. The no action alternative would not alter long-term road use. Therefore, the no action alternative would have no short- or long-term impacts on transportation.

#### 4.15.2. PROPOSED ACTION

Under the proposed action, roadways in the project area would be temporarily closed and traffic control measures would be put in place during construction of all new distribution lines. The asphalt

roadways presented in **Table 4.8** would be closed during demolition and trench excavation to allow for the new pipes to be placed, and travelers would be directed to use alternative routes. Only a short segment of a roadway would be closed at any one time (e.g., one to two blocks at a time). Following pipe installation, the trenches would be backfilled, compacted, and repaved or restored to pre-construction conditions. Installation across University Avenue would be done in two segments, by shifting all traffic to one side, keeping two lanes open in both directions, while the pipe is installed through the other side of the street. Although the road closures would not directly impact bus routes, increased traffic due to construction equipment and personnel access and traffic detours caused by the road closures may increase traffic along the nearby roadways that support bus routes. However, construction activities and road closures would be temporary, and Provo would develop a traffic control plan and would adhere to any conditions laid out in all necessary permits obtained. Additionally, road closures related to the installation of distribution lines near and through the Brigham Young University parking lots and intermural fields would be limited to the spring and summertime to avoid impacting athletic events that take place at the university. Therefore, implementation of the proposed action would have moderate, short-term adverse impacts on transportation in and around the project area.

Implementation of the proposed action is not expected to measurably increase the number of travelers to the project area. The WTP would only require one to two new workers who would commute to the plant and one truck trip per week for deliveries and waste disposal. Therefore, the proposed action would have no long-term adverse impact on transportation in or around the project area.

### 4.16. Public Services and Utilities

The Provo Public Works Department provides water and sewer services, trash collection, and stormwater management services to the project area (Provo City n.d.-a). Provo Power provides electricity to the project area, and Dominion Energy provides natural gas (Provo Power 2015).

The project area includes the Rock Canyon Trailhead and a portion of the Rock Canyon Trail, which provides the public with recreational opportunities such as hiking, rock climbing, and mountain biking. The Rock Canyon Trailhead also includes a picnic pavilion and open-air amphitheater (Provo City n.d.-b).

#### 4.16.1. NO ACTION ALTERNATIVE

No construction activities would occur under the no action alternative; therefore, this alternative would not disrupt or increase demand on public services or utilities in the project area in the short term.

In the long term, the probability of reduced water supply reliability during drought events would continue to be high and climate change is also expected to increase the frequency and intensity of drought. Drought could result in water shortages and service interruptions. Therefore, this alternative

could have minor to moderate long-term adverse impacts on utilities within Provo depending on the intensity and duration of future drought events.

### **4.16.2. PROPOSED ACTION**

During construction of the proposed action, installation of the new pipeline would mostly be placed around existing utilities, with some smaller utility lines relocated under the new pipeline.

Construction of the proposed action would include the temporary closure of the Rock Canyon Trailhead and a portion of the Rock Canyon Trail during installation of the new pipeline within Rock Canyon. Therefore, the proposed action would have minor short-term adverse impacts on recreation within the project area. Following construction, the trail would be restored to pre-project conditions with an improved natural surface and both the Rock Canyon Trailhead and the Rock Canyon Trail would reopen to the public. There would be no long-term adverse impacts on recreation under the proposed project.

Operation of the proposed action would improve water supply reliability during drought events and would reduce the risk of water shortages and service interruptions. Therefore, this alternative would have minor to moderate long-term beneficial impacts on utilities within Provo.

## **4.17. Public Health and Safety**

Police services in the area are provided by the Provo Police Department located at 445 West Center Street, approximately 2.3 miles away from the WTP site and 4 miles from the Rock Canyon Trailhead (Provo City 2023b). Fire and Emergency Medical Services are provided by the Provo Fire Department, with Station Numbers 22 and 23 being the closest in proximity to the project area. Station 22 is located at 2737 North Canyon Road, approximately 0.8 mile from the WTP site and 2 miles from the Rock Canyon Trailhead. Station 23 is located at 601 Columbia Lane, approximately 1.2 miles from the WTP site and 3 miles from the Rock Canyon Trailhead (Provo City 2023c). Additional emergency services in the area are provided by Gold Cross Ambulance Service, located at 925 North 500 West, approximately 1.3 miles from the WTP site and 3.2 miles from the Rock Canyon Trailhead. Utah Valley Hospital is located at 1034 North 500 West, approximately 1.4 miles from the WTP site and 3.3 miles from the Rock Canyon Trailhead.

Provo is vulnerable to several natural hazards including wildfires, droughts, floods, landslides, avalanches, and earthquakes, which pose public health and safety concerns. The mayor is responsible for planning and responding to disasters and has appointed three committees with operational and planning responsibilities: the Emergency Management Executive Committee, the Hazards Subcommittee, and the Resources Committee. The City uses the Emergency Alert Notification System in conjunction with radio stations, sirens and speakers, local tv channels, and the Provo City website to alert the public during emergencies (Provo City 2023d).

### **4.17.1. NO ACTION ALTERNATIVE**

Under the no action alternative, there would be no short-term construction-related impacts on the health and safety of those in and near the project area.



In the long term, the ASR system would not be constructed and the probability of reduced water supply reliability in the event of a drought would continue to be high and the community would continue to be vulnerable. Climate change is also expected to increase the frequency and intensity of drought. Future drought conditions in Provo could lead to long-term public health problems, including shortages of drinking water, as well as impacts on air quality. Dry soil and vegetation increase the number of particulates that are suspended in the air, such as dust and smoke (Centers for Disease Control and Prevention 2020). These substances can irritate the bronchial passages and lungs, making chronic respiratory illnesses like asthma worse. Under the no action alternative, there could be minor to major adverse impacts on public health and safety depending on the scale and intensity of a drought.

### 4.17.2. PROPOSED ACTION

Under the proposed action, construction of the WTP, booster pump station, pipelines, and piped outlet would occur. As discussed in Section 4.15, construction would result in road closures, traffic, and detours that could impact emergency providers' response times. However, Provo would ensure emergency access through the work zones and work zones would be relatively short segments of the alignment at a time. Thus, there would be a negligible adverse impact on public health and safety in the short term.

Operation of the ASR system under the proposed action would increase the reliability of Provo's water supply in the long term. With an improved future water supply, the risk of public health problems related to drought, including shortages of drinking water and air quality impacts, would be reduced. Therefore, the proposed action would have a moderate, long-term, beneficial effect on public health and safety.

### 4.18. Summary of Effects and Mitigation

**Table 4.9** provides a summary of the potential environmental effects from implementing the proposed action, any required agency coordination efforts or permits, and any applicable proposed mitigation or BMPs.

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**Table 4.9. Summary of Impacts and Mitigation**

Resource	Potential Impacts	Agency Coordination or Permits	Mitigation/BMPs
<b>Geology, Topography, and Soils</b>	<p>Geology – no short-term impact; moderate long-term benefit.</p> <p>Topography – negligible short-term adverse impacts; moderate long-term benefit.</p> <p>Soil - negligible short-term adverse impacts; no long-term adverse impact.</p>	N/A	<ul style="list-style-type: none"> <li>▪ BMPs to control erosion and sediment runoff</li> </ul>
<b>Visual Quality and Aesthetics</b>	<p>Minor short-term adverse impact on visual quality and aesthetics; negligible long-term adverse impact and minor long-term benefit.</p>	N/A	N/A
<b>Air Quality</b>	<p>Construction would have minor short-term adverse impacts on air quality and climate.</p> <p>In the long term, operation would have negligible adverse impacts and minor beneficial impacts on air quality and climate.</p>	N/A	<ul style="list-style-type: none"> <li>▪ All construction equipment would be required to meet current EPA emissions standards.</li> <li>▪ Areas of exposed soil would be covered or wetted to reduce fugitive dust.</li> <li>▪ Vehicle and equipment runtimes would be kept to a minimum.</li> </ul>
<b>Water Quality and Quantity</b>	<p>Water Quality - Minor short-term adverse impacts; minor beneficial long-term impacts</p> <p>Water Quantity – No short-term impacts; moderate beneficial long-term impacts (Provo); no adverse long-term impacts (other Provo River water users)</p>	<p>Stream Alteration Application Number 23-55-05SA - USACE; Utah Pollutant Discharge Elimination System Stormwater permit - Utah DEQ; Groundwater Discharge Permit Number UGW490010 - Utah Division of Water Quality</p>	<ul style="list-style-type: none"> <li>▪ Erosion control BMPs</li> <li>▪ Project-specific Stormwater Pollution Prevention Plan would be prepared</li> </ul>

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Resource	Potential Impacts	Agency Coordination or Permits	Mitigation/BMPs
<b>Wetlands</b>	No short- or long-term adverse impacts on wetlands.	N/A	N/A
<b>Floodplains</b>	No short- or long-term adverse impacts on floodplains.	N/A	N/A
<b>Vegetation</b>	Construction would have short-term adverse impacts from removing vegetation and invasive species. Operation would have a minor beneficial long-term impact.	N/A	<ul style="list-style-type: none"> <li>▪ Use weed-free seed. Verify seed mix to ensure it does not contain invasive plants.</li> <li>▪ Restore project area with native trees and vegetation.</li> </ul>
<b>Fish and Wildlife</b>	Minor short- and long-term adverse impacts on wildlife and migratory birds from vegetation removal; negligible short- and long-term adverse impacts on aquatic fauna. No short- or long-term adverse impacts on bald or golden eagles. Operation would have a minor beneficial long-term impact.	N/A	<ul style="list-style-type: none"> <li>▪ To the extent feasible, activities involving the removal of vegetation would occur outside of the general bird nesting season for migratory birds.</li> <li>▪ If vegetation removal must occur during the nesting season, a qualified biologist must perform a pre-construction survey of potential nesting habitat prior to the start of vegetation removal activities.</li> </ul>
<b>Threatened and Endangered Species</b>	Construction would have no short-term impacts. Operation would have no to negligible long-term adverse impacts from project operation. The proposed action may affect, but would not likely adversely affect June sucker.	USFWS Informal Consultation	<ul style="list-style-type: none"> <li>▪ Any project conditions provided by USFWS will be made a condition of the FEMA grant.</li> </ul>

## Affected Environment, Potential Impacts, and Mitigation

Resource	Potential Impacts	Agency Coordination or Permits	Mitigation/BMPs
<b>Cultural Resources</b>	No adverse effect to historic properties.	Utah SHPO	<ul style="list-style-type: none"> <li>▪ Construction workers will be trained to identify historic and prehistoric artifacts and features.</li> <li>▪ Should resources be discovered during the project, a report will be made immediately to Provo City, the Utah Division of Emergency Management, the FEMA Environmental and Historic Preservation Regional Officer, and the Utah SHPO.</li> </ul>
<b>Environmental Justice</b>	The proposed action would have no short-term disproportionately high and adverse impact on environmental justice populations. Long-term minor beneficial effects would occur.	N/A	N/A
<b>Hazardous Materials</b>	The proposed action would have a negligible short-term adverse impacts and minor long-term adverse impacts.	N/A	<ul style="list-style-type: none"> <li>▪ Equipment would be kept in good condition.</li> <li>▪ Any spills or leaks from equipment would be contained and cleaned up right away.</li> <li>▪ All equipment and project activities would adhere to local regulations to reduce the risk of hazardous leaks and spills.</li> <li>▪ Any hazardous material unexpectedly encountered during construction would be reported to the Utah DEQ.</li> </ul>

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Resource	Potential Impacts	Agency Coordination or Permits	Mitigation/BMPs
<b>Noise</b>	Construction would have minor adverse impacts from increased noise within the project area and the immediate vicinity of the work. Operation would have negligible adverse impacts from increased noise associated with the operation of the WTP.	Provo will obtain a noise exemption permit from the Mayor if construction noise may exceed the limits described in Section 9.06.030 of the City Code	<ul style="list-style-type: none"> <li>▪ All construction equipment would be well maintained, have sound-control devices no less effective than those provided on the original equipment, and have muffled exhaust.</li> <li>▪ Vehicle and equipment runtimes would be kept to a minimum.</li> </ul>
<b>Transportation</b>	Construction would have moderate short-term adverse impacts. No long-term adverse impacts.	Coordinate with Utah DOT and Provo City to obtain necessary permits for road closures.	N/A
<b>Public Services and Utilities</b>	The proposed action would have a negligible short-term adverse impact on recreation and no short-term impact on utilities. No long-term impact on recreation.  The proposed action would have a long-term beneficial effect on utilities.	N/A	N/A
<b>Public Health and Safety</b>	Negligible short-term adverse impacts from construction.  Operation would have moderate long-term benefits.	N/A	N/A

## SECTION 5. Cumulative Effects

This section addresses the potential cumulative effects associated with the implementation of the proposed action. Cumulative effects are effects on the environment that result from the incremental effects of a proposed action when added to the effects of other past, present, and reasonably foreseeable actions. This EA reviews the potential for other local construction projects to create cumulative effects in and near the project area. Other statutes require federal agencies to consider cumulative effects. These include the CWA Section 404(b)(1) guidelines, the regulations implementing the conformity provisions of the Clean Air Act, the regulations implementing Section 106 of the NHPA, and the regulations implementing Section 7 of the ESA. Other past, present, and reasonably foreseeable future projects both close to the project construction area and within the area affected by operation of the proposed action are considered for cumulative effects.

### 5.1. Other Projects

Provo Utah Temple Rebuild – The Provo Utah Temple on Temple View Drive, northeast of the Main Tank Reservoir and proposed booster station, will be undergoing a major reconstruction starting in February 2024 (Church of Jesus Christ of Latter-Day Saints 2023). Provo City would coordinate with the Church of Jesus Christ of Latter-Day Saints to coordinate the construction of both projects at the same time to minimize the duration of impacts due to construction. Provo City would complete the construction along Temple View Drive around the same time as the rebuilding of the Provo Utah Temple in February 2024.

Mill Race Diversion and Canal Rehabilitation – The City of Provo rehabilitated the existing Mill Race Diversion at the Provo River and 600 feet of the canal as a maintenance project. The rehabilitation of the diversion structure included installation of a fish ladder for brown trout, replacement of the radial and slide gates, installation of a fish screen, and repairs of the diversion dam apron. Approximately 600 feet of HDPE pipe was installed from the diversion structure to replace some existing canal pipeline and enclose open sections of the canal. The maintenance work was performed in 2020. The work allows for improved efficiency in future maintenance of the diversion, but did not change the diversion flow capacity, and was authorized by agencies that included the USACE and Utah Division of Wildlife Resources. The Utah Division of Wildlife Resources supported the project due to the enhancement of the structure with the addition of the fish ladder to allow for passage of brown trout.

Rock Canyon Park Trailhead Improvements – Provo City Parks Department plans to improve the Rock Canyon Park Trailhead by reconstructing the access road, adding additional parking stalls, and installing other facility upgrades. Construction of these improvements is expected to start in 2024. The proposed action may be completed prior to the of the completion of the Rock Canyon Park Trailhead Improvements to avoid damage to new infrastructure.

Provo Wastewater Treatment Plant – Due to the aging infrastructure at the existing wastewater treatment plant, Provo City is currently constructing a new wastewater treatment plant in the same

area as the existing plant, at 1685 South East Bay Boulevard. Construction of the new wastewater treatment plant began in 2020 with Phase 1 of construction expected to be complete in 2024 (Provo City 2022). The wastewater treatment plant is located approximately 3.5 miles south of the proposed project area and discharges into the Mill Race, which empties into Utah Lake.

Provo River Delta Restoration Project – URMCC, CUWCD, CUPCA, and the JSRIP implemented the Provo River Delta Restoration Project to restore June sucker habitat in the Provo River Delta. The restoration project involves constructing a new system of braided channels and wetlands and connecting the area to the lower Provo River and Utah Lake. Construction of the project is expected to be fully complete in 2024 (Provo River Delta 2023). The proposed action would not involve work in the Provo River Delta or the Provo River; therefore, the proposed action would not have any direct cumulative impacts. Provo City and CUWCD have been working together to ensure that operation of the proposed action does not affect summer base flows (Appendix A). Therefore, there would be no decrease in the quality and quantity of water available to the restored rearing habitat in the Provo River Delta.

Direct Injection – Two methods, surface spreading and direct injection, are typically used for ASR. While the proposed action would include surface spreading, Provo also intends to use the direct injection method as a separate project, which involves using an existing or dedicated groundwater well to inject water directly into the aquifer for storage. Provo obtained permits to use two wells for this purpose and plans to permit additional wells in the future for operational flexibility of the ASR system.

Use of Treated Wastewater Effluent – In September 2023, Provo filed Reuse Application NS033 proposing the reuse of wastewater effluent, which is subject to review and approval by the State. The City filed this application based on a change in state law to preserve the City's right to reuse its water. Whether and when Provo will implement reuse is uncertain. If Provo implements reuse, it must be within the confines of its water rights, including diversion and depletion limitations. One of many reuse options that Provo is considering is using a pump station to transport treated wastewater effluent from the Water Advanced Treatment and Resource Recovery Center (wastewater treatment plant) to the proposed WTP where it would be further treated for direct potable reuse. The Water Advanced Treatment and Resource Recovery Center is not currently capable of treating wastewater effluent to drinking water standards. A future downstream advanced treatment facility, pump station and pipeline from the Water Advanced Treatment and Resource Recovery Center would require additional feasibility studies, planning, funding, design, and construction to develop ASR or direct potable reuse capability. Therefore, this is not a reasonably foreseeable project. A portion of Provo's treated wastewater effluent could also continue to be discharged into the Mill Race, emptying into Utah Lake, if necessary to meet return flow requirements related to its water rights."

Construction Projects Near Project Area – There are currently no additional construction projects planned near the project area.

### 5.2. Cumulative Effects

The proposed action would result in short-term negligible to minor adverse impacts on topography and soils, water quality, transportation, public services and utilities, and public health and safety and would also result in both short- and long-term negligible to minor adverse impacts on visual resources, air quality, terrestrial and aquatic environments, migratory birds, threatened and endangered species, hazardous materials, and noise. The proposed action would result in negligible to moderate long-term benefits on topography and soils, visual resources, water quality, vegetation, environmental justice, public services and utilities, and public health and safety.

Construction of the Provo Utah Temple rebuild would occur during the same time as the proposed action, which would result in minor short-term adverse cumulative impacts associated with construction of both projects. Thus, the construction of the Provo Temple rebuild, when combined with the proposed action, would result in minor short-term cumulative adverse impacts on visual resources, air quality, topography and soils, water quality, vegetation, terrestrial and aquatic environments, transportation, hazardous materials, noise, public services and utilities, and public health and safety when combined with the proposed action. Both projects would implement BMPs and mitigation measures to reduce impacts to the maximum extent practicable. In addition, construction of both projects at the same time would reduce the duration of these impacts within the area.

No cumulative adverse impacts would be expected when adding the effects of the proposed action with those of the Mill Race Diversion and Canal Rehabilitation project. The diversion rehabilitation project was fully authorized by federal, state, and local regulatory agencies, which would have included any pertinent agency consultations; did not result in adverse effects to the human environment; and will not result in alterations of existing water diversions of the Provo River. As the project is complete and the ASR Project construction has not begun, short term construction-related cumulative effects to the human environment, including natural and water resources, are not expected.

The Rock Canyon Park Trailhead Improvements, when combined with the proposed action, would not have cumulative impacts because of the different timing of construction between the two projects. The Provo River Delta Restoration Project, when combined with the proposed action, would not have cumulative impacts as the proposed action would not have an appreciable impact on existing flow conditions in the Provo River.

Construction and operation of the new Provo Wastewater Treatment Plant, when combined with the proposed action, would not have any short- or long-term cumulative impacts as the wastewater treatment plant has no direct impact on flows in the Provo River.

The direct injection, when combined with the proposed action, would not have short-term cumulative impacts because it would provide drought mitigation and aquifer recharge using existing infrastructure. Thus, the direct injection would result in minor long-term cumulative benefits on topography and soils, visual resources, water quality, vegetation, environmental justice, public services and utilities, and public health and safety when combined with the proposed action.



The use of treated wastewater effluent, when combined with the proposed action, would not have any adverse short- or long-term cumulative impacts as the potable reuse of treated wastewater effluent would have no direct impact on flows in the Provo River. In addition, the use of treated wastewater effluent would provide drought mitigation, resulting in minor long-term cumulative benefits on topography and soils, visual resources, water quality, vegetation, environmental justice, public services and utilities, and public health and safety when combined with the proposed action.

## **SECTION 6. Agency Coordination, Public Involvement, and Permits**

This section provides a summary of the agency coordination efforts and public involvement process for the proposed Long-Term Sustainability for Provo's Water Supply project. In addition, an overview of the permits that would be required under the proposed action is included in Section 6.3.

### **6.1. Agency Coordination**

FEMA consulted with the seven Native American Tribes claiming cultural affinity to the APE in July and early August 2023. These tribes are the Confederated Tribes of Goshute, the Paiute Indian Tribe of Utah, the Northwestern Band of Shoshone Nation, the Skull Valley Band of Goshute, the Ute Indian Tribe of the Uintah and Ouray Reservation, the Ute Mountain Ute Tribe, and the Navajo Nation. No responses from the tribes were received. FEMA consulted with the Utah SHPO on June 29, 2023, and on July 17, 2023, the SHPO concurred with FEMA's determinations of eligibility for the identified historic properties and the finding of No Adverse Effect for the Undertaking. Correspondence with the SHPO is included in Appendix B.

FEMA initiated informal consultation with USFWS on August 17, 2023. FEMA determined and USFWS concurred on September 22, 2023, that the proposed action may affect, but is not likely to adversely affect, listed species. Consultation with USFWS is included in Appendix B.

### **6.2. Public Participation**

A public scoping notice about the proposed project was published at [https://www.fema.gov/sites/default/files/documents/fema\\_ut-provo-asr-public-notice\\_03132023.pdf](https://www.fema.gov/sites/default/files/documents/fema_ut-provo-asr-public-notice_03132023.pdf) and in the *Daily Herald* newspaper on March 15, 2023, to notify and provide the public with an opportunity to comment on the proposed action, potential alternatives, and preliminary identification of environmental issues. The scoping notice was sent to the following federal agencies for comment:

- USBR, Provo Area Office
- CUPCA
- URMCC
- CUWCD
- EPA Region 8
- USFWS, Utah Ecological Services Field Office

The public comment period on the public notice closed on April 14, 2023.

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No comments were received from the general public during the 30-day comment period. Comments were received from CUWCD, CUPCA, Jordan Valley Water Conservancy District, June Sucker Recovery Implementation Program, Salt Lake City Department of Public Utilities, Metropolitan Water District of Salt Lake & Sandy, Utah Lake Distributing Company, Provo River Water Users Association, EPA, USFWS, URMCC, and USBR. The key areas of concern raised in the comment letters in response to the scoping notice included:

- The potential use of additional water rights.
- Impacts on June sucker habitat and implementation of the Provo River Delta Restoration Project.
- Potential reduction of instream flows in Provo River that would reduce water availability for the June sucker and impact the recovery of the species.
- Impairment of other water right holders' operations and water deliveries.

In accordance with FEMA's NEPA procedures, the public and resource agencies were notified the draft EA would be available for review and comment beginning on September 22, 2023, with a 30-day public review and comment period. Hard copies of the draft EA were made available at Provo Public Works, 1377 S 350 E Provo, UT 84606 and on its website(s) at <https://www.provo.org/departments/public-works/water-resources> and <https://www.provo.org/about-us/public-notice>.

No comments were received from the general public during the 30-day comment period. Comments were received from:

- CUPCA
- CUWCD
- USBR, Provo Area Office
- URMCC

A matrix summarizing the comments is attached as Appendix C. Substantive comments on the draft EA have been incorporated into this final EA, as appropriate, and used to inform the final decision regarding grant approval and project implementation. This final EA reflects the evaluation and assessment of FEMA, the lead federal agency for the proposed action and a FONSI will be issued by FEMA. The final EA and FONSI will be available on FEMA's website at: <https://www.fema.gov/emergency-managers/practitioners/environmental-historic/nepa-repository>

### 6.3. Permits

Provo will be responsible for obtaining or maintaining any necessary local, state, or federal permits needed to conduct the proposed work. The following permits would be required for the proposed

## **Agency Coordination, Public Involvement, and Permits**

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action and all work authorized under these permits must be performed in compliance with the conditions of the permits.

- Obtain a Utah Pollutant Discharge Elimination System Storm Water General Permit for Construction Activities from the Utah Division of Water Quality.
- Coordinate with Utah DOT and Provo City to obtain necessary permits for road closures.
- Obtain a noise exemption permit from the Mayor if construction noise may exceed the limits described in Section 9.06.030 of the City Code.
- Obtain Utah Division of Drinking Water Operating Permit following WTP construction.
- Maintain Stream Alteration Permit (Number 23-55-OSSA).
- Maintain Ground Water Discharge Permit (Number UGW490010).
- Maintain Recharge Permit RC019 and Recharge Permit RC024.
- Maintain the special use permit and obtain all required government agency permits for pipeline segment work on federal lands.

## SECTION 7. List of Preparers

The following is a list of preparers who contributed to the development of the Long-Term Sustainability for Provo's Water Supply Draft EA for FEMA. The individuals listed below had principal roles in the preparation of this document. Many others contributed, including senior managers, administrative support personnel, and technical staff, and their efforts in developing this EA are appreciated.

### CDM Smith

Preparers	Experience and Expertise	Role in Preparation
Bankston, Sam	Biologist	NEPA Documentation
Deats, Stewart	Cultural Resources Specialist	NEPA Documentation
Gledhill, Greta	Environmental Planner	NEPA Documentation
Quan, Jenna	Environmental Planner	NEPA Documentation
Shepard, Brian	GIS Specialist	GIS
Stenberg, Kate	PhD, Senior Biologist, Senior Planner	Quality Control/Technical Review
Woodruff, Abbie	Environmental Planner	NEPA Documentation

### Federal Emergency Management Agency

Reviewers	Role in Preparation
Jones, Daniel	Environmental Planning and Historic Preservation Specialist
Myers, Rick	Deputy Environmental Officer
Turner, Kate	Environmental Planning and Historic Preservation Specialist

This document was prepared by CDM Smith under Contract No.: 70FA6020D00000002, Task Order: 70FA6021F00000053.

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**Appendix A:**  
**Agreement Pertaining to the**  
**Provo City Aquifer Storage**  
**and Recovery Project**

## **AGREEMENT**

**by and among**

**CENTRAL UTAH WATER CONSERVANCY DISTRICT,  
PROVO CITY CORPORATION,  
and  
THE U.S. DEPARTMENT OF THE INTERIOR**

(Pertaining to the Provo City Aquifer Storage and Recovery Project)

**THIS AGREEMENT** (Agreement), is entered into by and among CENTRAL UTAH WATER CONSERVANCY DISTRICT, a Utah special district (Central Utah); PROVO CITY CORPORATION, a Utah municipal corporation (Provo City); United States Department of the Interior, Central Utah Project Completion Act Office (CUPCA Office or Interior), pursuant to the Reclamation Projects Authorization and Adjustment Act of 1992 (P.L. 102-575), as amended. Central Utah, Provo City, and Interior are sometimes referred to herein individually as a “Party” and collectively as the “Parties.”

### **RECITALS**

A. Central Utah, Provo City, Provo Metropolitan Water District, and the Bureau of Reclamation entered into a certain Agreement dated February 9, 1987 (1987 Agreement) that, among other things, acknowledged the water rights awarded to Provo City in the Provo River under the 1921 Provo River Morse Decree (Decree), Paragraphs 4(a), 4(b), 4(c), 4(d), and 4(e). This Agreement is independent from and in no way affects or amends the 1987 Agreement.

B. The water rights awarded to Provo City in the Provo River under Paragraphs 4(a), 4(b), 4(c), 4(d), and 4(e) of the Decree are now numbered in the water right records of the Division of Water Rights as Water Right Nos. 55-11001, 55-11002, 55-11003, 55-11004, and 55-11005, respectively. In addition to the above Decree rights, Provo City owns and maintains other appropriated stock and contract rights.

C. There is a disagreement among the Parties with regard to the use authorized under the Decree rights 4(a), 4(b), 4(c), and 4(d).

D. On April 8, 2022, Provo City filed with the Utah Division of Water Rights an Application for Permanent Change of Water No. a48787, pertaining to the Decree rights 4(a), 4(b), and 4(c). On the same day, Provo City also filed with the Utah Division of Water Rights an Application for Permanent Change of Water No. a48782, pertaining to the Decree right 4(d). Change Application No. a48787 and Change Application No. a48782 are sometimes referred to herein collectively as the “Provo City Change Applications.”

E. Central Utah, Interior, and numerous others protested the Provo City Change Applications. Provo City requested that the Utah Division of Water Rights delay action on the Provo City Change Applications while it discussed the protesting parties’ respective concerns. Accordingly, as of the Effective Date, the Utah State Engineer has not held hearings or otherwise taken any action on the Provo City Change Applications.

F. Provo City has over the past decades experienced a persistent decline in the static water level in their municipal wells thus threatening the reliability of Provo City’s municipal water sources. In response to this aquifer decline, Provo City has expended considerable effort and money in evaluating, planning for, and designing an aquifer storage and recovery project designated by Provo City as the “Aquifer Storage and Recovery Project” (ASR Project). The purpose of the ASR Project is to provide long-term sustainability for Provo City’s water supply and mitigate the impacts of the declining aquifer on Provo City’s residents and surrounding public water suppliers who share in the aquifer. The ASR Project includes, among other things, the construction of a new water treatment plant, approximately 9,000 linear feet of new distribution piping infrastructure, a pump station, well injection sites, and related improvements, all required to facilitate Provo City’s ASR Project (collectively, the ASR Project Facilities), generally located as shown in attached Exhibit A.

G. Provo City filed with the State of Utah certain recharge permit applications as follows:

(i) Recharge Permit Application RC019, providing for the use of water under Decree rights 4(a), 4(b), and 4(c). Recharge Permit Application No. RC019 has been approved by the State Engineer.

(ii) Recharge Permit Application RC020, providing for the use of water based on a right decreed in Page 25 Paragraph (h) of the Decree, now owned by Provo City and numbered at the Division of Water Rights as 55-11087. As of the Effective Date, Recharge Application RC020 has not been approved by the State Engineer.

(iii) Recharge Permit Application RC021, providing for the use of water under Decree right 4(d). As of the Effective Date, Recharge Application RC021 has not been approved by the State Engineer.

(iv) Recharge Permit Application RC024, providing for the use of water under Decree right 4(e) on a year-round basis. There were no protests to this recharge application. As of the Effective Date, Recharge Application RC024 has been approved by the State Engineer.

H. Central Utah and its consultant Precision Water Resources Engineering have prepared a model based upon Central Utah's Utah Lake Jordanelle Exchange obligation. According to Central Utah's modeling, Central Utah and Interior believe that Provo City's winter use of Decree rights 4(a), 4(b), and 4(d) will significantly impact the CUP project water supply, significantly impact to the June Sucker Recovery Implementation Program, interference with Central Utah's ability to manage Utah Lake in conformance with its legal obligations, and detrimentally impact Central Utah's rights in and obligations to Jordanelle Reservoir operations. However, and as stated herein, according to Central Utah's current evaluation utilizing its model, Provo City's use of the water under Decree rights 4(a), 4(b), 4(c), and 4(e) from April 1 to October 31 only and 4(e) from November 1 to March 31 should have no detrimental effect on the flows in the Provo River that would adversely affect Central Utah's ability to manage Utah Lake or

pose a threat to Central Utah's and Interior's rights and obligations under the June Sucker Recovery Implementation Program. Provo City has not seen or analyzed the modeling. Provo City does not accept or reject the modeling results and reserves the right to review and determine their validity.

I. In connection with the financing of the ASR Project, Provo City applied for and was selected for funding under a Building Resilient Infrastructure and Communities grant (BRIC Grant) from the Federal Emergency Management Agency (FEMA) in an amount of approximately \$50 million dollars as partial funding for the ASR Project Facilities. In conformance with the requirements of the BRIC Grant, Provo City is now obligated to assist FEMA in complying with the National Environmental Policy Act (NEPA) for use of the BRIC Grant for the ASR Project (NEPA Process). On March 15, 2023, FEMA published notice of its intent to prepare an Environmental Assessment (EA) for the ASR Project, requesting comments on the scoping document for the EA. Central Utah, Interior, and several other entities submitted comments to FEMA.

J. As a result of numerous discussions, the Parties have reached an agreement regarding Provo City's use of water under the Decree rights 4(a) through 4(e) as they relate to the NEPA evaluation of the ASR Project, which the Parties desire to memorialize in this Agreement.

**NOW, THEREFORE**, in consideration of the mutual covenants and agreements set forth herein, and other good and valuable consideration the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

**1. USE OF WATER UNDER DECREE RIGHTS 4(a), 4(b), 4(c), and 4(e) IN CONNECTION WITH THE ASR PROJECT.**

(a) Provo City agrees that it will divert and use water under the Decree rights 4(a), 4(b), and 4(c) as sources of water supply in the ASR Project, only from April 1 to October 31 and only as authorized under the terms of the Decree and under Change Application No. a46061 and Recharge Permit Application No. RC019. This paragraph applies only to Provo's use of water under the Decree rights 4(a),

4(b), and 4(c) for ASR purposes; Provo retains every right to use Decree rights 4(a), 4(b), and 4(c) for its other purposes as authorized under the terms of the Decree, change application a46061, or change applications approved after the Effective Date. Unless and until the State Engineer has published its proposed determination of rights in the Provo City North Book (55-7) of the Utah Lake Jordan River General Adjudication, and any litigation in connection with Decree rights 4(a) and 4(b) has concluded and any related appeals of the adjudication have been exhausted, Provo City will not use any water under Provo City's Decree rights 4(a) and 4(b) from November 1 to March 31 as a source of water supply for municipal and industrial (M&I) use in connection with the ASR Project or any other water resource project of Provo City.

(b) Provo City agrees that it will divert and use water under the Decree right 4(e), as a source of water supply in the ASR Project, only as authorized under the terms of the Decree and Recharge Permit Application No. RC024.

(c) Provo City may seek to amend RC019 or RC024 to, among other things, add points of diversion and recharge locations and to utilize water under the Decree rights 4(a), 4(b), and 4(c) to the full extent of the rights authorized under the Decree, change application a46061, or change applications approved after the Effective Date as long as any ASR Project amendments or applications do not negatively impact the June sucker recovery. Central Utah and Interior reserve the right to protest.

## **2. WATER UNDER DECREE RIGHT 4(d).**

(a) Unless and until the State Engineer has published its proposed determination of rights in the Provo City North Book (55-7) of the Utah Lake Jordan River General Adjudication, and any litigation in connection with Decree right 4(d) has concluded and any related appeals of the adjudication have been exhausted, Provo City will not use any water under Provo City's Decree right 4(d) as a source of water supply for M&I use in connection with the ASR Project or any other water resource project of Provo City.



(b) Within 30 days of the Effective Date, Provo City will submit in writing a withdrawal of Change Application a48782 and Recharge Permit Application No. RC021 and provide a copy of said written withdrawals to Central Utah and Interior.

(c) If Provo City does not receive the BRIC Grant funding from FEMA or withdraws its BRIC Grant application, Provo may refile a change application and recharge application in the same form as Change Application a48782 and Recharge Permit Application No. RC021.

### 3. CONSTRUCTION OF ASR PROJECT FACILITIES.

(a) Provo City plans to move forward with the construction of the ASR Project Facilities, which are intended to be financed using BRIC Grant funds, state loans, and other local funds. Subject to Provo City's compliance with its obligations hereunder, Central Utah will not oppose in the BRIC Grant NEPA Process the proposed construction of the ASR Project Facilities and recognizes the use of water under Provo City's water rights as limited to and defined in Sections 1 and 2 herein in connection with the ASR Project. Subject to Provo City's compliance with its obligations hereunder, Central Utah will provide comments in the NEPA Process for the ASR Project consistent with this Agreement and necessary to achieve a timely and accurate completion of the NEPA Process.

(b) Interior supports the BRIC Grant NEPA Process and agrees that its analysis and comments provided in the NEPA Process of Provo City's ASR Project will recognize the commitments Provo City has made in this Agreement, specifically those in Sections 1 and 2 above. Interior will provide a full, timely, objective, and accurate assessment of the environmental impacts of Provo City's ASR Project.

(c) All ASR Project Facilities will be planned, designed, financed, permitted, constructed, and installed by Provo City, and will thereupon be owned, operated, maintained, repaired, renewed, and replaced by Provo City all at its sole cost and expense in compliance with all applicable local, state and federal laws, policies, and requirements. Central Utah and Interior will have no obligation

to oversee, participate in, or otherwise share in the cost of the ASR Project Facilities and will at no time have any responsibility or obligation with respect thereto.

(d) Within 30 days of the Effective Date, Provo City will provide to Central Utah, Interior, and FEMA a list of any additional water rights under which Provo City intends to divert water for use in connection with the ASR Project in the foreseeable future. The Parties understand and agree that the use of these additional water rights under which Provo City intends to divert water for use in connection with the ASR Project will be evaluated as part of the NEPA Process to determine the potential environmental impacts, including but not limited to June sucker recovery, the impact to Utah Lake, and the impact to the Central Utah Project.

**4. UNDERGROUND RESERVOIR INCLUDED IN THE UTAH LAKE JORDANELLE EXCHANGE MODEL.** Central Utah and Interior will in good faith collaborate and work closely with Provo City to include and integrate underground storage created in conjunction with the ASR Project, as a component of the Utah Lake Jordanelle Exchange model created by Precision Water Resources Engineering. Provo City will provide, at its expense, such staff and consultants as shall be required to assist in the identification of the parameters and characteristics of the underground storage, and will provide such other information as Central Utah may reasonably require to be included in the model. Central Utah, at its expense, will provide for the reasonable use of Central Utah staff personnel and cover all costs associated with the use of Precision Water Resources Engineering as required to assist in this collaborative effort. Provo City will be fully advised as to relevant findings and other information generated in connection with the operation of the model, including assumptions and parameters included in model runs, and all such information will be shared with Provo City as and when generated.

**5. DEPLETION ACCOUNTING.** Provo City will annually publicly publish a mass balance depletion accounting showing that Provo City is not exceeding the total diversion and depletion limitations of all its water rights. (Annual Depletion Accounting Report). Provo City agrees to provide

the Provo River Commissioner a copy of the Annual Depletion Accounting Report by December 1<sup>st</sup> of each year for the prior water year.

**6. PROJECT OFFICERS; NOTICES AND ADDRESSES.** Each Party hereby appoints the following persons as its respective initial Project Officer hereunder and provides the following addresses for the purpose of notice hereunder. All notices and formal communications may be made by letter, facsimile, email, or other tangible documentary form and will be made to the mail and/or email address(es) set forth below. A Party may change its Project Officer or notice address by providing notice of the same to the other Parties.

For Central Utah:

General Manager  
Central Utah Water Conservancy District  
1426 East 750 North, Suite 400  
Orem, UT 84087  
Phone: 801-226-7100  
Email: [gene@cuwcd.gov](mailto:gene@cuwcd.gov)

For Interior:

Program Director  
Central Utah Project Completion Act Office  
302 East Lakeview Parkway  
Provo, UT 84606  
Phone: 801-379-1000  
Email: [rrmurray@usbr.gov](mailto:rrmurray@usbr.gov)

For Provo City:

Mayor  
Provo City Corporation  
351 W. Center Street  
Provo, UT 84601  
Phone: 801-852-6105  
Email: [mayor@provo.org](mailto:mayor@provo.org)

**7. INTEGRATION.** This Agreement represents the complete and entire Agreement among the Parties with respect to the subject matter hereof, and supersedes all prior agreements,

representations, conversations, and understandings of the Parties, whether written or oral, concerning the subject matter of this Agreement.

8. **TERMINATION.** This Agreement will automatically terminate when the State Engineer publishes the Provo City North Book (55-7) Proposed Determination of the Utah Lake Jordan River General Adjudication, any litigation in connection with Decree right 4(a), 4(b), 4(c), and 4(d) has concluded, and any appeals of the adjudication have been exhausted and an interlocutory decree on proposed determination 55-7 or other court Decree is thereby final as to Decree rights 4(a), 4(b), 4(c) and 4(d).

9. **DEFAULT.** Any Party will be considered to be in default hereunder if (i) it has substantially failed to perform under the terms of this Agreement through no fault of any other Party; and (ii) after sixty (60) days written notice from the other Party of such substantial failure to perform, it has not commenced to cure the failure and diligently completed the cure thereafter. In the event of default, any Party will be entitled to pursue any remedies available to it under this Agreement, at law or in equity.

10. **PARTIAL INVALIDITY.** If any term or provision of this Agreement or the application thereof to any person or circumstance shall, to the extent, be invalid or unenforceable, the remainder of this Agreement, or the application of such term or provisions to persons or circumstances other than those as to which it is held invalid or unenforceable, will not be affected thereby, and each such term and provision of this Agreement will be valid and enforceable to the fullest extent permitted by law.

11. **FURTHER ACTION.** The Parties hereby agree to execute and deliver such additional documents and to take further action as may become necessary or desirable to fully carry out the provisions and intent of this Agreement.

12. **AMENDMENT OR REVISION.** This Agreement cannot be amended or revised except pursuant to an instrument in writing executed by the Parties.

13. **NO WAIVER.** The failure of any Party to this Agreement to insist upon the performance of  
{02141954-1 }

any term or condition of this Agreement, or the waiver of any breach of any term or condition of this Agreement, will not be construed as thereafter waiving any such term or condition, but the same will continue and remain in full force and effect as if no such forbearance or waiver had occurred.

14. **TIME IS OF THE ESSENCE.** The Parties recognize that time is of the essence here and the other Parties hereto will suffer harm if the terms of this Agreement are not performed within the time specified in the Agreement, plus any extensions approved in writing by the other Parties hereto.

15. **AUTHORITY.** The individuals executing this Agreement on behalf of the Parties hereby represent that they have the requisite authority to execute this Agreement on behalf of the respective Parties and that the respective Parties have agreed to be and are bound hereby.

16. **EFFECTIVE DATE.** The Effective Date of this Agreement shall be the day both Central Utah and Provo City have signed it. It shall be binding on Interior when it signs the Agreement.

**IN WITNESS WHEREOF,** the Parties have caused this Agreement to be executed as of the Effective Date.

[SIGNATURES FOLLOW ON THE NEXT PAGE]

CENTRAL UTAH WATER CONSERVANCY DISTRICT

ATTEST:

By: *[Signature]*  
General Manager

*[Signature]*  
Administrative Assistant

Date: September 5, 2023

Date: September 5, 2023

DEPARTMENT OF THE INTERIOR

Reviewed for Legal Sufficiency for Interior:

By: \_\_\_\_\_  
Program Director

\_\_\_\_\_  
Office of the Regional Solicitor

Date: \_\_\_\_\_

Date: \_\_\_\_\_

PROVO CITY CORPORATION

ATTEST:

By: *[Signature]*  
Mayor

*[Signature]*  
City Recorder

Date: September 12, 2023

Date: September 12, 2023



**Appendix B:**  
**Agency Consultation**



FEMA

R8-Div

August 17, 2023

Mr. George Weekley,  
Deputy Field Office Supervisor  
Utah Ecological Services Field Office  
U.S. Fish and Wildlife Service  
2369 West Orton Circle, Suite 50  
West Valley City, Utah 84119

The U.S. Fish and Wildlife Service concurs with your determination that the proposed action may affect, and is not likely to adversely affect:	
Species:	June Sucker
Critical Habitat:	June Sucker
The proposed action is expected to be:	
Insignificant:	<input checked="" type="checkbox"/>
Discountable:	<input type="checkbox"/>
Beneficial:	<input type="checkbox"/>
U.S. Fish and Wildlife Utah Field Supervisor	
Office Code:	06E23000
Project Code:	2023-0086474

In Response Refer to: EMD-2021-BR-063-0001 Long Term Sustainability for Provo's Water Supply

Dear Mr. Weekley:

The Federal Emergency Management Agency (FEMA) is requesting your concurrence with a may affect, but not likely to adversely affect determination under Section 7 of the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) regarding a proposed aquifer storage recovery system (ASR) in Utah County. FEMA is proposing to provide funding to Provo City through the Building Resilient Infrastructure and Communities (BRIC) grant program for construction of an ASR. Enclosed please find FEMA's *Long-Term Sustainability for Provo's Water Supply Biological Assessment* (BA), which FEMA has prepared to evaluate the potential effects of the Proposed Action on species that are either listed or proposed for listing under the Endangered Species Act of 1973 (ESA), as amended, including species that are regulated by USFWS that may occur within the action area.

### Proposed Federal Action

Provo City applied for FEMA funding assistance through the Utah Division of Emergency Management to construct an ASR system to improve the health of groundwater supply aquifers, thereby improving the resiliency and long-term sustainability of the regional aquifer and the City's existing wells that withdraw from the regional aquifer. Prolonged drought conditions and population growth have impacted the groundwater levels in the aquifer used by the City, requiring increased pumping and stress on the aquifer supply. The primary purpose of the Proposed Action would be to reduce the risks associated with drought and water shortages in the City.

The Proposed Action entails construction a new water treatment plant (WTP), approximately 9,000 feet of new piping infrastructure, and a new booster pump station. The ASR system would use an existing diversion structure, known as the Mill Race Diversion, to divert water from the Provo River. Raw water would be conveyed to the new WTP, treated to drinking water standards, and pumped into the water distribution system to be discharged into Rock Canyon Creek, an ephemeral stream that is well connected to the local aquifer system. Once discharged, water would infiltrate into the ground and recharge the aquifer. Water diverted from the Provo River and treated at the WTP may also be used



directly in the City's municipal water system instead of using groundwater supplies, thus keeping groundwater in the aquifer.

Provo proposes to use existing water rights for the project including Water Right No. 55-11001, aka the "4(a) water right," Water Right No. 55-11002, aka the "4(b) water right", Water Right No. 55-11003, aka the "4(c) water right" from April 1st through October 31st under the approved Recharge Permit Application RC019, and Water Right No. 55-11005, aka the "4(e) water right" year-round under the approved Recharge Permit RC024 for the Proposed Action. Per the July 27, 2023, Agreement Pertaining to the Provo City Aquifer Storage and Recovery Project between the Central Utah Water Conservancy District (CUWCD) and Provo, Provo has agreed to withdraw Change Application a48782 and Recharge Permit Application RC021, which were related to the use of water during the winter months under Water Right No. 55-11004, aka the "4(d) water right."

### **Listed Species and Critical Habitat within the Action Area**

Based on a review of federal databases and an evaluation of existing conditions within the action area, one federally listed species has the potential to occur within the action area and be affected by the Proposed Action, the threatened June sucker (*Chasmistes liorus*). Additionally, the action area overlaps approximately 4.9 miles of designated critical habitat for the June sucker. FEMA excluded all other plant and animal species from further analysis in the BA because (1) suitable habitat for the species does not exist within the action area and/or (2) the Proposed Action would not affect habitat for the species, as described in Appendix C of the BA.

### **Effects of the Proposed Action**

The Proposed Action would not involve work in aquatic habitats occupied by the June sucker; therefore, the Proposed Action would not directly affect the species. However, the Proposed Action could indirectly affect the June sucker if water diverted from the Provo River for the operation of the WTP and ASR system were to decrease water availability (i.e., water storage in Jordanelle Reservoir) such that flow deliveries to the Provo River recommended by the June Sucker Recovery Implementation Program (JSRIP) could not be fully implemented. The JSRIP has provided annual flow recommendations for the Provo River to water managers based on the biological requirements of the June sucker since 2002. The JSRIP has also acquired water to enhance flows during the June sucker spawning season on the Provo River and to supplement base flows through the summer.

According to an analysis completed by CUWCD, which developed the model used by the JSRIP to estimate the quantity of water required to implement its recommended Provo River flow scenarios<sup>1</sup>, the withdrawal of up to 30 MGD for the operation of the WTP and ASR system during the irrigation season would not have an appreciable impact on existing flow conditions in the Provo River. Under the Proposed Action, the City would continue to use their existing water rights during the irrigation season and the approved permits for water diversions during the irrigation season would not change relative to existing conditions. Additionally, Provo and CUWCD have entered into an agreement to ensure that the operation of the Proposed Action is consistent with the existing June sucker recovery plan, as implemented by the JSRIP, and operational impacts of the Proposed Action will not adversely affect the June sucker or its designated critical habitat (Appendix D of the BA). Therefore, effects on

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<sup>1</sup> BIO-WEST, Inc. 2008. Lower Provo River Ecosystem Flow Recommendations Final Report. Logan, Utah: BIO-WEST, Inc. Report prepared for Utah Reclamation Mitigation and Conservation Commission.

ESA Consultation  
Long Term Sustainability for Provo's Water Supply  
August 17, 2023

the June sucker from implementation of the Proposed Action are expected to be discountable and insignificant.

### **Conclusion**

FEMA has determined that the Proposed Action **may affect, but is not likely to adversely affect** the June sucker or designated critical habitat for the June sucker. If you have any questions, please do not hesitate to contact me by telephone at 720-412-3672 or by email at [richard.myers2@fema.dhs.gov](mailto:richard.myers2@fema.dhs.gov).

Sincerely,



Richard Myers,  
Deputy Regional Environmental Officer

Enclosure: *Long-Term Sustainability for Provo's Water Supply Biological Assessment, August 2023*



Spencer J. Cox  
Governor

Deidre M. Henderson  
Lieutenant Governor



Christopher Merritt  
State Historic Preservation Officer  
Utah State Historic Preservation Office

July 17, 2023

Richard Myers  
Deputy Regional Environmental Officer  
Federal Emergency Management Agency  
Washington, D.C.

RE: Long Term Sustainability for Provo's Water Supply: 2021 Building Resilient Infrastructure and Communities Grant, FEMA EMD-2021-BR-063-0001

For future correspondence, please reference Case No. 23-1512

Dear Richard Myers,

The Utah State Historic Preservation Office received your submission and request for our comment on the above-referenced undertaking on June 29, 2023.

We concur with your determinations of eligibility and effect for this undertaking.

This letter serves as our comment on the determinations you have made within the consultation process specified in §36CFR800.4. If you have questions, please contact me by email at [rmcgrath@utah.gov](mailto:rmcgrath@utah.gov).

Sincerely,

Ryan McGrath  
Archaeologist

**Appendix C:**  
**Response to Comments**

Comment Topic	Comment	Organization	Comment Response	Change Made
Role as a Cooperating Agency	As a cooperating agency, the District anticipated being included in more coordination on the Draft EA and an earlier opportunity to review and provide feedback prior to it being released to the public for the 30 day review period.	CUWCD	Per 40 CFR 1501.7-1501.8, FEMA is the Lead Federal Agency and as such determines the level and type of participation of Cooperating Agencies. For the Provo ASR project, FEMA began interagency coordination early in the NEPA process. During that time, FEMA requested relevant existing environmental analysis and other proposals. It is FEMA's position that there have been ample opportunities to provide input as a Cooperating Agency through email correspondence, meetings, post-meeting actions items, and NEPA Public Notices. No questions or concerns were raised any time before FEMA received the replies to the Public Notice on 10/22/2023.	No Change.
Role as a Cooperating Agency	Previously, on January 23, 2023, we received FEMA's communication indicating the CUPCA Office had been accepted as a Cooperating Agency. Although we appreciate the opportunity to provide comments on the DEA, we are concerned that as a designated cooperating agency, we were not closely involved in the preparation process, and this is our first opportunity to provide comments on the DEA. We recommend Section 6 include a listing of those agencies invited as Cooperating Agencies and the involvement of each agency in the DEA process.	CUPCA	Per 40 CFR 1501.7-1501.8, FEMA is the Lead Federal Agency and as such determines the level and type of participation of Cooperating Agencies. For the Provo ASR project, FEMA began interagency coordination early in the NEPA process. During that time, FEMA requested relevant existing environmental analysis and other proposals. It is FEMA's position that there have been ample opportunities to provide input as a Cooperating Agency through email correspondence, meetings, post-meeting actions items, and NEPA Public Notices. No questions or concerns were raised any time before FEMA received the replies to the Public Notice on 10/22/2023. A list of Cooperating Agencies is included on Page 1-1 in Section 1 of the EA.	No Change.

Comment Topic	Comment	Organization	Comment Response	Change Made
Role as a Cooperating Agency	FEMA did not allow for cooperating agencies, including Reclamation, to assist in the preparation of the document prior to the public comment period.	USBR	Per 40 CFR 1501.7-1501.8, FEMA is the Lead Federal Agency and as such determines the level and type of participation of Cooperating Agencies. For the Provo ASR project, FEMA began interagency coordination early in the NEPA process. During that time, FEMA requested relevant existing environmental analysis and other proposals. It is FEMA's position that there have been ample opportunities to provide input as a Cooperating Agency through email correspondence, meetings, post-meeting actions items, and NEPA Public Notices. No questions or concerns were raised any time before FEMA received the replies to the Public Notice on 10/22/2023.	No Change.
Role as a Cooperating Agency	We are concerned with the accelerated timeline that FEMA appears to be pursuing for this NEPA process and the lack of interaction with cooperating agencies during the drafting of the EA.	Mitigation Commission	Per 40 CFR 1501.7-1501.8, FEMA is the Lead Federal Agency and as such determines the level and type of participation of Cooperating Agencies. For the Provo ASR project, FEMA began interagency coordination early in the NEPA process. During that time, FEMA requested relevant existing environmental analysis and other proposals. It is FEMA's position that there have been ample opportunities to provide input as a Cooperating Agency through email correspondence, meetings, post-meeting actions items, and NEPA Public Notices. No questions or concerns were raised any time before FEMA received the replies to the Public Notice on 10/22/2023.	No Change.

Comment Topic	Comment	Organization	Comment Response	Change Made
June Sucker Habitat	We believe that a more comprehensive explanation of why overall flows delivered to June sucker habitats would not be affected by the ASR Project is needed in Section 4.5. The DEA should describe current flows through June sucker habitats and how the diversion of water to the ASR Project would or would not affect these flows. Effects to seasonal river stage and duration of flows should be detailed.	CUPCA	Consistent with the Agreement in place, there would be no change to Provo water rights and baseline conditions. CUWCD's model concluded that if Provo uses the water as set forth in the Agreement, there will be "no detrimental effect on the flows in the Provo River that could adversely affect Central Utah's ability to manage Utah Lake or pose a threat to Central Utah's and Interior's rights and obligations under the June Sucker Recovery Implementation Program."	Details of the Agreement have been added to the EA and the Agreement is included as an appendix to the EA.
June Sucker Habitat	The analysis under the Biological Assessment Section 5. Effects Determination was made contingent on the ASR Project excluding water right No. 55-11004, known as the 4(d) water right. If, in the future, the 4(d) water right is exercised in conjunction with the ASR Project, Section 7 Consultation with the Fish and Wildlife Service would need to be re-initiated.	CUPCA	Per the Agreement, the ASR Project would only use those water rights listed in the Agreement. Adjudication of water rights are legal actions governed by Utah Code Title 73, Chapter 4 which defines the overall process. FEMA has determined that the outcomes of the adjudication process are not "reasonably foreseeable" per 40 CFR 1508.1(aa) as the timing and outcomes of the process remain highly uncertain and speculative. Therefore, FEMA is responsible only for considering impacts associated with water rights that may be used specific to this project.	Details of the Agreement have been added to the EA and the Agreement is included as an appendix to the EA.

Comment Topic	Comment	Organization	Comment Response	Change Made
June Sucker Habitat	Given the uncertainty of the Decree water rights included in the ASR Project, as outlined above, the assumption that there would be no change to water diversions during irrigation season is insufficient to fully understand the potential impacts to June sucker and its habitat. FEMA must analyze the direct and indirect impacts to June sucker, JSRIP, and other operations on the Provo River as they relate to June sucker under the Proposed Action. FEMA has also failed to consider reasonably foreseeable future actions, including additional water right usage as it relates to June sucker and its habitat. Any reasonably foreseeable actions associated with the ASR Project, and their direct or indirect effects on the operation of the CUP and the PRP must be considered and fully analyzed in the EA.	USBR	Per the Agreement, the ASR Project would only use those water rights listed in the Agreement. Adjudication of water rights are legal actions governed by Utah Code Title 73, Chapter 4 which defines the overall process. FEMA has determined that the outcomes of the adjudication process are not “reasonably foreseeable” per 40 CFR 1508.1(aa) as the timing and outcomes of the process remain highly uncertain and speculative. Therefore, FEMA is responsible only for considering impacts associated with water rights that may be used specific to this project.	Details of the Agreement have been added to the EA and the Agreement is included as an appendix to the EA.
June Sucker Habitat	The Biological Assessment (BA) provided to USFWS did not disclose the possibility of additional water rights being used in the ASR Project. The determination by FEMA, and subsequent concurrence by USFWS, that the Proposed Action may affect, but is not likely to adversely affect the June sucker or designated critical habitat is incomplete and does not disclose information that is critical to accurately determine impacts to June sucker and its associated habitat. FEMA must disclose these disputed water rights and the possibility of them being used in the ASR Project for USFWS to make an accurate determination of the potential effects of the Proposed Action.	USBR	Per the Agreement, the ASR Project would only use those water rights listed in the Agreement. FEMA made edits suggested by USFWS to the BA to clarify the water rights to be used for the ASR Project are currently in use. The Agreement was included as an attachment to the BA provided to USFWS. The EA has been revised to include the edits that were made to the BA and the Agreement is included as an appendix to the EA.	EA revised to include edits made to the BA, as suggested by USFWS.



Comment Topic	Comment	Organization	Comment Response	Change Made
Water Rights	The District is concerned that the Draft EA did not explain or analyze the current uses of the water rights proposed for use in the proposed ASR Project, including the Provo City spring rights. The locations, timing, and beneficial uses met currently with the proposed action water should be explained, and an analysis of how those needs will be met in the future when the proposed action is implemented. An analysis should be provided to determine the baseline conditions and the potential impacts to those conditions, including changes in depletions and return flows to Utah Lake.	CUWCD	Consistent with the Agreement in place, there would be no change to Provo water rights and baseline conditions. CUWCD's model concluded that if Provo uses the water as set forth in the Agreement, there will be "no detrimental effect on the flows in the Provo River that could adversely affect Central Utah's ability to manage Utah Lake or pose a threat to Central Utah's and Interior's rights and obligations under the June Sucker Recovery Implementation Program."	Details of the Agreement have been added to the EA and the Agreement is included as an appendix to the EA.
Water Rights	In Section 3.2.4, Proposed Operation, the third paragraph states, "Provo currently diverts water from the Provo River during the irrigation season" using the 4(a), 4(b), and 4(c) water rights. As requested above and based on the Agreement, please include a description and analysis of what these water rights are currently being used for and how Provo City will make those uses whole once it is diverting these water rights for ASR Project purposes.	CUWCD	Consistent with the Agreement in place, there would be no change to Provo water rights and baseline conditions. CUWCD's model concluded that if Provo uses the water as set forth in the Agreement, there will be "no detrimental effect on the flows in the Provo River that could adversely affect Central Utah's ability to manage Utah Lake or pose a threat to Central Utah's and Interior's rights and obligations under the June Sucker Recovery Implementation Program."	Details of the Agreement have been added to the EA and the Agreement is included as an appendix to the EA.
Water Rights	The Draft EA should provide an analysis of how Provo River water rights are currently being used and how those uses will be kept whole when the same water is diverted for use in the ASR Project.	CUWCD	Consistent with the Agreement in place, there would be no change to Provo water rights and baseline conditions. CUWCD's model concluded that if Provo uses the water as set forth in the Agreement, there will be "no detrimental effect on the flows in the Provo River that could adversely affect Central Utah's ability to manage Utah Lake or pose a threat to Central Utah's and Interior's rights and obligations under the June Sucker Recovery Implementation Program."	Details of the Agreement have been added to the EA and the Agreement is included as an appendix to the EA.

Comment Topic	Comment	Organization	Comment Response	Change Made
Water Rights	Impacts to water deliveries which are vital to June sucker recovery must be considered and fully analyzed in the DEA. The DEA does not appear to state categorically that these water deliveries would not be affected by the ASR Project. We recommend an additional subsection be added to Section 4 titled "Water Rights." This proposed subsection should specifically identify the water rights to be used as part of the ASR project, status of the water rights, and analyze potential impacts to the flows of the Provo River and June sucker habitats.	CUPCA	Section 3.2.4 of the EA identifies the water rights that would be used for the ASR Project, as well as the status and quantity associated with each right. Consistent with the Agreement in place, there would be no change to Provo water rights and baseline conditions. CUWCD's model concluded that if Provo uses the water as set forth in the Agreement, there will be "no detrimental effect on the flows in the Provo River that could adversely affect Central Utah's ability to manage Utah Lake or pose a threat to Central Utah's and Interior's rights and obligations under the June Sucker Recovery Implementation Program."	Reference to Section 3.2.4 added to Section 4.5, Water Quality and Quantity. Details of the Agreement have been added to the EA and the Agreement is included as an appendix to the EA.
Water Rights	The EA does not contain any detailed information comparing diversion timing, locations, or volumes between current use and with ASR project operations for the identified water rights. The EA should include a detailed explanation about exactly when, where, and how much water the ASR Project would divert from Provo River compared to when, where, and how much water is diverted under existing conditions. The EA does not explain how much water Provo City currently diverts at Lower City dam vs Upper City dam and it does not explain how instream flows between and below these diversion points will be maintained once water is diverted by the ASR Project at the upstream location.	Mitigation Commission	Consistent with the Agreement in place, there would be no change to Provo water rights and baseline conditions. CUWCD's model concluded that if Provo uses the water as set forth in the Agreement, there will be "no detrimental effect on the flows in the Provo River that could adversely affect Central Utah's ability to manage Utah Lake or pose a threat to Central Utah's and Interior's rights and obligations under the June Sucker Recovery Implementation Program."	Details of the Agreement have been added to the EA and the Agreement is included as an appendix to the EA.
Water Rights	Analysis for changes to Provo River flows that could result from the ASR Project should include effects to daily flow rates, summer and winter base flows, and springtime high flows. Dry, moderate, and wet water year scenarios should be considered, as well as scenarios that examine the effects of sequential dry years. The effects of climate change may further exacerbate water shortages in the Provo River system and thus should be included in analysis of the ASR Project.	Mitigation Commission	Consistent with the Agreement in place, there would be no change to Provo water rights and baseline conditions. CUWCD's model concluded that if Provo uses the water as set forth in the Agreement, there will be "no detrimental effect on the flows in the Provo River that could adversely affect Central Utah's ability to manage Utah Lake or pose a threat to Central Utah's and Interior's rights and obligations under the June Sucker Recovery Implementation Program."	Details of the Agreement have been added to the EA and the Agreement is included as an appendix to the EA.

Comment Topic	Comment	Organization	Comment Response	Change Made
Water Rights	<p>Failure to Include Assessment of the Water Rights Resource: Water rights, a resource fundamental to the operation of this project, have not been specifically considered and evaluated as a resource for this EA.</p> <p>Although the EA included a description of how Provo intends to use its water rights under an explanation of the Proposed Action in Section 3.2.4, this description does not constitute an analysis of the resource. A review of the affected environment, potential impacts resulting from the Proposed Action, and mitigation of the resource is needed within in Section 4 of the EA.</p> <p>Section 3.2.4 has not identified all the necessary applications for groundwater recharge and recovery or how Provo City has addressed the complex application process to demonstrate that they have secured the water rights needed to make their proposal operational as well as to perform a complete analysis of related environmental impacts.</p>	USBR	<p>Consistent with the Agreement in place, there would be no change to Provo water rights and baseline conditions. CUWCD's model concluded that if Provo uses the water as set forth in the Agreement, there will be "no detrimental effect on the flows in the Provo River that could adversely affect Central Utah's ability to manage Utah Lake or pose a threat to Central Utah's and Interior's rights and obligations under the June Sucker Recovery Implementation Program."</p>	<p>Details of the Agreement have been added to the EA and the Agreement is included as an appendix to the EA.</p>
Water Rights	<p>Groundwater Recharge - Proposed Water Rights and Applications:As it stands, Provo City is still in the process of securing these water right applications for use in recharge, recovery, and reuse. The Proposed Action requires that all three applications, in their respective proposed uses, be submitted and receive approval before this project can be implemented.In Section 3.2.4 of the EA, FEMA has not fully described the Proposed Action regarding the status, amount of water, and period of use for all water rights and applications proposed for use in the Provo ASR Project, nor has FEMA clearly identified and explained the total amount of water proposed by Provo city in relation to what has been approved by the State Engineer. Currently, Provo City does not have enough water approved by the State Engineer to use the fully proposed amount of 30 MGD (46 cfs).</p>	USBR	<p>As described in Section 3.2.4. of the EA, approved Recharge Permit RC019 and approved Recharge Permit RC024 would allow for the 13 MGD aquifer recharge through infiltration. In addition, Provo would conserve as much as 17 MGD in groundwater wells by using Water Right Numbers 55-11001, 55-11002, and 55-11003, which is approved for municipal use, to treat 17 MGD of Provo River water for immediate use.</p>	No Change.

Comment Topic	Comment	Organization	Comment Response	Change Made
Water Rights	<p>Recharge Application RC019: Regarding Recharge Application RC019 and the water rights included, FEMA failed to include Water Right Nos. 55-5078 and 55-8388 in the EA for review.</p> <p>FEMA has failed to mention information regarding the limitations listed in the approval of Recharge Application RC019.</p>	USBR	<p>Water Rights 55-7078 and 55-8388 were inadvertently left out of the EA and have been added to Section 3.2.4. The inclusion of these water rights does not change any of the analysis of potential environmental impacts.</p> <p>Limitations of Water Rights 55-7078, 55-8388, 55-11001, 55-11002, and 55-11003 are included in Section 3.2.4. and Table 3.3.</p>	Water Rights 55-7078 and 55-8388 added to Section 3.2.4.
Water Rights	<p>Recharge Application RC020: Although not approved for use in the Provo ASR Project by the State Engineer, FEMA has failed to include Recharge Application RC020 in the EA. By omitting the application, FEMA has not recognized the intent of Provo City to seek the approval of additional water in connection with the Project.</p>	USBR	<p>Provo has withdrawn Recharge Application RC020. Per the Agreement, the ASR Project would only use those water rights listed in the Agreement. Adjudication of water rights are legal actions governed by Utah Code Title 73, Chapter 4 which defines the overall process. FEMA has determined that the outcomes of the adjudication process are not “reasonably foreseeable” per 40 CFR 1508.1(aa) as the timing and outcomes of the process remain highly uncertain and speculative. Therefore, FEMA is responsible only for considering impacts associated with water rights that may be used specific to this project.</p>	No Change.
Water Rights	<p>Recharge Application RC021: In addition to Recharge Application RC020, FEMA has failed to mention Recharge Application RC021 in the EA. Although Application RC021 has been withdrawn, Provo City has indicated that it may seek for the use of this water right in upcoming adjudication. Given this position, the use of this water right must be evaluated as a foreseeable action.</p>	USBR	<p>Provo has withdrawn Recharge Application RC021. Per the Agreement, the ASR Project would only use those water rights listed in the Agreement. Adjudication of water rights are legal actions governed by Utah Code Title 73, Chapter 4 which defines the overall process. FEMA has determined that the outcomes of the adjudication process are not “reasonably foreseeable” per 40 CFR 1508.1(aa) as the timing and outcomes of the process remain highly uncertain and speculative. Therefore, FEMA is responsible only for considering impacts associated with water rights that may be used specific to this project.</p>	No Change.

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Water Rights	Recharge Application RC024: Recently, on September 20, 2023, Provo City filed Reuse Application NS033 proposing reuse sewage effluent water. Reuse Application NS033, which consists of numerous water rights, also includes the proposed use of Water Right No. 55-11005 for a quantity of 5,630.90 acre-feet. FEMA should inquire of Provo City to acquire the additional information regarding how Water Right No. 55-11005 can be used in both applications while also determining potential impacts to the Provo ASR Project.	USBR	In Reuse Application NS033, Provo identified numerous water rights that may be used for the reuse of sewage effluent water, including Water Right No. 55-11005. This does not prevent Provo from using Water Right No. 55-11005 for the ASR project. However, if this water right was not available, Provo could then instead rely on the other water rights identified to be used for the ASR Project, as listed in Section 3.2.4: Water Right No. 55-11001, aka the "4(a) water right," Water Right No. 55-11002, aka the "4(b) water right", Water Right No. 55-11003, aka the "4(c) water right" , 55-7078, and 55-8388 under approved Recharge Permit RC019.	No Change.
Water Rights	Recovery Permits: FEMA has failed to provide any information regarding the Recovery Permits that are required by the Division of Water Rights. In addition to acquiring Recovery Permits, there are also questions surrounding the proposed water uses for the Provo ASR Project and if they meet the limitations included in the approval letter. Additional information needs to be provided by FEMA to determine if Provo City can divert water approved under a Recharge Application in the proposed manner.	USBR	Provo maintains several groundwater rights. In 1977, Provo City consolidated 16 separate water rights into Change Application a9902. The change application provides Provo City with the right to pull 33.97 MGD (52.56 cfs) from any of 11 different municipal water wells with no limitation on the annual volume of water. Recharge of the aquifer would offset the use of these groundwater rights. In addition, no recovery of water is needed for the direct use of surface water in place of groundwater use.	No Change.

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Water Rights	<p>Direct and Indirect Effects: While the EA identifies water rights intended to be used in the immediate future, it is important to recognize that a project of this size will allow for use of additional water rights in the reasonably foreseeable future that could have significant impacts. As such, it is imperative that additional NEPA compliance be completed to address any use of water rights outside of those described in the Proposed Action in Section 3.2.4.</p> <p>It is important to recognize that the agreement signed in September of 2023 expires after the Adjudication, at which point Provo City may revert to using their Decree water rights in according with a more liberal interpretation. If these water rights were to be used, additional NEPA compliance is required analyze their impacts, and FEMA must make this clear to Provo City.</p>	USBR	<p>Per the Agreement, the ASR Project would only use those water rights listed in the Agreement. Adjudication of water rights are legal actions governed by Utah Code Title 73, Chapter 4 which defines the overall process. FEMA has determined that the outcomes of the adjudication process are not “reasonably foreseeable” per 40 CFR 1508.1(aa) as the timing and outcomes of the process remain highly uncertain and speculative. Therefore, FEMA is responsible only for considering impacts associated with water rights that may be used specific to this project.</p>	<p>Details of the Agreement have been added to the EA and the Agreement is included as an appendix to the EA.</p>
Water Rights	<p>FEMA must provide clarification that use of additional water rights aside from those described in the Proposed Action of the EA would require additional NEPA compliance if they aren't included in this EA. Any additional impacts to the PRP, CUP, JSRIP and their associated operations would also need to be included and fully analyzed.</p>	USBR	<p>Per the Agreement, the ASR Project would only use those water rights listed in the Agreement. Adjudication of water rights are legal actions governed by Utah Code Title 73, Chapter 4 which defines the overall process. FEMA has determined that the outcomes of the adjudication process are not “reasonably foreseeable” per 40 CFR 1508.1(aa) as the timing and outcomes of the process remain highly uncertain and speculative. Therefore, FEMA is responsible only for considering impacts associated with water rights that may be used specific to this project.</p>	<p>Details of the Agreement have been added to the EA and the Agreement is included as an appendix to the EA.</p>

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Provo/CUWCD/DOI Agreement	The Agreement was not mentioned in the Draft EA, but was referred to multiple times in the Biological Assessment. The District believes that this was a critical part of the ASR Project negotiations between the parties to the Agreement and requests that the Agreement be explained, and commitments made in that Agreement be included in the Draft EA. In addition, the District recommends that an executed copy of the Agreement be included in the Draft EA as an appendix. Section 3.2.4, Proposed Operation, would be a good place to explain Provo's 4(d) water rights and the Agreement that was entered into by Provo City, along with the two of the cooperating agencies mentioned above, to not use the 4(d) water rights for the proposed ASR project funded by the FEMA grant.	CUWCD	Details of the Agreement have been added to the EA and the Agreement is included as an attachment to the EA.	Details of the Agreement have been added to the EA and the Agreement is included as an appendix to the EA.
Provo/CUWCD/DOI Agreement	The DEA mentioned discussions between the Central Utah Water Conservancy District (District) and Provo City pertaining to the ASR Project. These discussions have resulted in an agreement negotiated among the District, Provo City, and the CUPCA Office (Agreement). Although the Agreement is mentioned in the Draft Biological Assessment, since the agreement is a key document in addressing potential impacts to water delivery for the threatened June sucker, it should also be included and described in the DEA. We recommend a discussion of the Agreement be included in Section 6 and that the heading be renamed: "SECTION 6. Agency Coordination, Public Involvement, <b>Agreements</b> , and Permits"	CUPCA	Details of the Agreement have been added to the EA and the Agreement is included as an attachment to the EA.	Details of the Agreement have been added to the EA and the Agreement is included as an appendix to the EA.

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Provo/CUWCD/DOI Agreement	The Agreement states: “This Agreement will automatically terminate when the State Engineer publishes the Provo City North Book (55-7) Proposed Determination of the Utah Lake Jordan River General Adjudication, any litigation in connection with Decree right 4(a), 4(b), 4(c), and 4(d) has concluded, and any appeals of the adjudication have been exhausted and an interlocutory decree on proposed determination 5 5-7 or other court Decree is thereby final as to Decree rights 4(a), 4(b), 4(c) and 4(d).” Therefore the termination of the Agreement may result in Provo City water rights reducing flows in the Provo River and thus must be analyzed in this DEA.	CUPCA	Adjudication of water rights are legal actions governed by Utah Code Title 73, Chapter 4 which defines the overall process. FEMA has determined that the outcomes of the adjudication process are not “reasonably foreseeable” per 40 CFR 1508.1(aa) as the timing and outcomes of the process remain highly uncertain and speculative. Therefore, FEMA is responsible only for considering impacts associated with water rights that may be used specific to this project.	No Change.
Provo/CUWCD/DOI Agreement	We are aware of an agreement among Provo City, Central Utah Water Conservancy District, and the Department of Interior Central Utah Project Completion Act Office that dictates future usage of water rights intended for the ASR Project. That agreement and the commitments of the various parties should be described in the EA and analyzed as part of the NEPA process.	Mitigation Commission	Details of the Agreement have been added to the EA and the Agreement is included as an attachment to the EA.	Details of the Agreement have been added to the EA and the Agreement is included as an appendix to the EA.
Cumulative Effects	In Section 5, the effects to the Provo River Delta Restoration Project (PRDRP) were mentioned under cumulative effects within the DEA. We remain concerned, however, that there may be direct effects to the PRDRP from the ASR Project.	CUPCA	Consistent with the Agreement in place, there would be no change to Provo water rights and baseline conditions. CUWCD’s model concluded that if Provo uses the water as set forth in the Agreement, there will be “no detrimental effect on the flows in the Provo River that could adversely affect Central Utah’s ability to manage Utah Lake or pose a threat to Central Utah’s and Interior’s rights and obligations under the June Sucker Recovery Implementation Program.” Therefore, there would be no impact on the Provo River Delta Restoration Project.	Details of the Agreement have been added to the EA and the Agreement is included as an appendix to the EA.



Comment Topic	Comment	Organization	Comment Response	Change Made
Cumulative Effects	Provo City has expressed that it would seek the use of additional water rights if approved in the Utah Lake Jordan River General Adjudication in conjunction with the ASR Project. Since the Adjudication is in the foreseeable future, and it could result in flow reductions, the potential use of future water rights must be analyzed in this DEA.	CUPCA	Adjudication of water rights are legal actions governed by Utah Code Title 73, Chapter 4 which defines the overall process. FEMA has determined that the outcomes of the adjudication process are not “reasonably foreseeable” per 40 CFR 1508.1(aa) as the timing and outcomes of the process remain highly uncertain and speculative. Therefore, FEMA is responsible only for considering impacts associated with water rights that may be used specific to this project.	No Change.
Cumulative Effects	Any actions previously implemented or planned to be implemented associated with the ASR Project must also be analyzed in Section 5 - Cumulative Effects of the DEA. We recommend these actions include improvements to the Millrace Diversion on the Provo River, which is a connected action to the ASR Project, or any improvements or reconstruction of pipelines or other infrastructure needed for the project. Analysis of any future plans for this water diverted from the Provo River besides being used for aquifer recharge should be analyzed under cumulative impacts.	CUPCA	Mill Race Diversion and Canal Rehabilitation added to Section 5 of the EA.	Mill Race Diversion and Canal Rehabilitation added to Section 5 of the EA.

Comment Topic	Comment	Organization	Comment Response	Change Made
Cumulative Effects	<p>There are no assurances provided to Reclamation or other water users on the Provo River that the ASR Project will not incorporate other water rights for consumptive use or aquifer recharge at a future date. FEMA must provide clarification that use of additional water rights aside from those described in the Proposed Action of the EA would require additional NEPA compliance if they aren't included in this EA. When considering reasonably foreseeable actions, it is important to consider the possibility that a broader use of Provo City's Decree water rights may be used in addition to the water rights outlined in the Proposed Action. FEMA has failed to provide adequate information in the EA concerning the uncertainty for the Decree water rights included in the Provo ASR Project. The importance of an official determination and how it impacts the feasibility of the Provo ASR Project was not included, and an analysis of the cumulative effects of the project in terms of reasonably foreseeable scenarios was not considered.</p>	USBR	<p>Adjudication of water rights are legal actions governed by Utah Code Title 73, Chapter 4 which defines the overall process. FEMA has determined that the outcomes of the adjudication process are not "reasonably foreseeable" per 40 CFR 1508.1(aa) as the timing and outcomes of the process remain highly uncertain and speculative. Therefore, FEMA is responsible only for considering impacts associated with water rights that may be used specific to this project. For future projects that are "major federal actions" that need to use new water rights, an analysis of the environmental consequences of use of those water rights would be addressed in the federal action agency's NEPA process.</p>	No Change.
Cumulative Effects	<p>Section 3.3.2 Use of Treated Wastewater Effluent, Potable Reuse - the District requests that the Draft EA address Provo City's submitted application to the State Engineer for approval to use treated wastewater to meet drinking water needs. It seems that this alternative has not been completely dismissed but is still a water source that Provo plans to investigate the use of in the future. Based on the permit application that has been submitted to the State, this application by Provo City should be analyzed as part of the Cumulative Impacts, including an analysis of the impacts to Utah Lake, June sucker recovery, and the Central Utah Project as required in Section 3(d) of the Agreement.</p>	CUWCD	<p>Provo does plan to investigate the direct potable use of wastewater in the future and submitted Reuse Application NS033 to support potential future potable reuse. Potable reuse is not consider part of the ASR project, as it is a future separate action being pursued by Provo which has not yet been planned or designed for implementation. In addition, the application is still under review by the State Engineer. Considering the initial step of submission of the reuse application, the use of treated wastewater effluent was added to cumulative impacts and analyzed accordingly. However, FEMA is responsible only for considering impacts associated with water rights that may be used specific to this project.</p>	Use of Treated Wastewater Effluent added to Section 5. Cumulative Impacts.

Comment Topic	Comment	Organization	Comment Response	Change Made
Editorial Comments	Page 2-2 states that Provo City receives a small supply of its drinking water from the District. It is correct that a small amount of the city's drinking water is treated at the District owned and operated Don A. Christiansen Regional Water Treatment Plant. However, this water is not supplied by the District, it is water that Provo City owns.	CUWCD	Text corrected.	Change made on Page 2-2.
Editorial Comments	Page 3-9, Water Rights in Provo for Proposed Project, paragraph three states, "even though the 1921 Morse Decree gives Provo the right to divert water from the Provo River at additional times of the year." Not all parties involved in this project agree with this statement. We request that the statement be removed to keep the document neutral.	CUWCD	Statement deleted.	Statement deleted.
Editorial Comments	Alternatives Considered and Dismissed - Reclamation is concerned that FEMA did not fully consider viable alternatives in the EA. Other alternatives are stated to be less cost-effective or were dismissed for having a high cost, yet FEMA does not provide clarification or include the referenced cost estimates in the EA. Many of the alternatives dismissed would cost less than the Proposed Action yet still accomplish the stated purpose and need.	USBR	Section 3.3 revised to include clarification and cost estimates.	Section 3.3 revised.