BUREAU OF RECLAMATION

Use of Reclamation Facilities for City of Fernley Municipal Water

Newlands Project, Nevada
Interior Region 10: California-Great Basin
Draft Environmental Assessment
CGB-EA-2020-031, LO-2018-1014

Estimated Lead Agency Total Costs Associated with Developing and Producing This EA: $22,000

Mission Statements

The Department of the Interior (DOI) conserves and manages the Nation's natural resources and cultural heritage for the benefit and enjoyment of the American people, provides scientific and other information about natural resources and natural hazards to address societal challenges and create opportunities for the American people, and honors the Nation's trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities to help them prosper.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Cover Photo: Proposed location of the City of Fernley's Truckee Canal turnout structure, Lyon County, Nevada.

Table of Contents

List of Acronyms and Abbreviations

AF	Acre-Foot, Acre-Feet
AFY	Acre-Feet per Year
APE	Area of Potential Effects
BMPs	Best Management Practices
CFR	Code of Federal Regulations
CLSM	Controlled Low Strength Material
CO_2	Carbon Dioxide
Decree	Orr Ditch Decree
DOI	Department of the Interior
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
Fallon	City of Fallon
Fernley	City of Fernley
FMCW	Fernley Municipal Credit Water
FPST	Fallon Paiute-Shoshone Tribe
GHG	Greenhouse Gases
LCT	Lahontan Cutthroat Trout
MAD	Maximum Allowable Diversion
MGD	Million Gallons per Day
MHE	Maximum Headgate Entitlement
NAAQS	National Ambient Air Quality Standards
National Register	National Register of Historic Places
NDEP	Nevada Division of Environmental Protection
NDOW	Nevada Department of Wildlife
NDWR	Nevada Division of Water Resources
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRS	Nevada Revised Statutes
State Engineer	Office of the State Engineer of the State of Nevada
OCAP	1997 Adjusted Operating Criteria and Procedures for the Newlands Project
O&M	Operations and Maintenance
pers. comm.	Personal Communication
Plant	City of Fernley Water Treatment Facility
PLPT	Pyramid Lake Paiute Tribe
PM	Particulate Matter
ppm	Parts Per Million
PVC	Polyvinyl Chloride
Reclamation	Bureau of Reclamation
ROW	Right-of-Way
SHPO	State Historic Preservation Office
TCID	Truckee-Carson Irrigation District
USC	United States Code

USFWS	U.S. Fish and Wildlife Service
YBC	Yellow-billed Cuckoo
XM	Truckee Canal Extraordinary Maintenance Project

Section 1 Introduction

1.1 Background

1.1.1 Canal Act of 1890

The United States Congress passed the Canal Act of 1890 to allow for construction of canals and ditches to provide irrigation of arid western lands and thereby encourage homesteading of those lands (26 Statute 391, 43 United States Code (USC) 945). The Canal Act expressly reserved to the federal government an easement[1] of right-of-way (ROW) across all land west of the 100th Meridian.[2]

1.1.2 Newlands Project

The Newlands Project in western Nevada and eastern California was one of the first irrigation projects constructed by the Bureau of Reclamation (Reclamation). Water for the Newlands Project comes from the Carson River and from the Truckee River. These basins cover nearly 3,400 square miles with a combined average annual runoff of about 850,000 acre-feet (AF) of water (Reclamation 2014). Major Newlands Project features include the Lake Tahoe Dam, Derby Diversion Dam (Derby Dam), Truckee Canal, Lahontan Dam, Old Lahontan Power Plant, and Carson River Diversion Dam. In addition, the Newlands Project has 68.5 miles of main delivery canals, more than 300 miles of lateral canals for water distribution, and almost 350 miles of drains (Reclamation 2011). Reclamation exercised ROWs for many Newlands Project features under the Canal Act including portions of the Truckee Canal and associated lateral canals.

The Newlands Project has two water service (delivery) areas in Nevada – the Truckee Division and the Carson Division. Truckee River water is diverted into the Truckee Canal at Derby Dam to serve the Truckee Division and for conveyance to Lahontan Reservoir in the Carson River basin to serve the Carson Division. Together, the Truckee and Carson Divisions provide water for up to 66,700 acres of croplands, wetlands, and pasture in the Lahontan Valley near the City of Fallon (Fallon) in Churchill County and 6,200 acres of fertile benchlands near the City of Fernley (Fernley) in Lyon County (Reclamation 2014). In the Truckee-Carson-Pyramid Lake Water Rights Settlement Act of 1990 (Settlement Act; Public Law 101–618, Title II, § 209(a)(l)(B)), Congress expanded the authorized purposes of the Newlands Project to include "municipal and industrial water supply in Lyon and Churchill counties, Nevada, including the Fallon Indian Reservation."

1.1.3 City of Fernley Water Rights

In 1992, 1996 and 1997, Fernley (incorporated in 2001) applied to the Office of the State Engineer of the State of Nevada (State Engineer) to change the place and manner of use of water rights they had acquired associated with 138 separate parcels of land in the Newlands Project (Applications

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[1] An easement is an interest in land that consists of the right to use or control the land for a specific purpose, but which does not constitute full ownership of the land (43 Code of Federal Regulations (CFR) 429.2).

[2] A north-south line of 100 degrees west longitude as determined from the Prime Meridian at Greenwich, England, which represents 0 degrees longitude. In the United States, the 100th Meridian passes through North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, and Texas.

57555, 61893, and 63277). These Truckee River water rights had decreed uses of irrigation, storage, power, domestic, and other purposes under the Newlands Project Claim No. 3 portion of the Orr Ditch Decree (Decree)[3] with Reclamation's Derby Dam on the Truckee River as the point of water diversion. Fernley applied to transfer these water rights to municipal use within the Fernley Utilities water service area.

In 2007, the State Engineer approved Fernley's applications, enabling the transfer of certain water rights within the Newlands Project from irrigation to municipal use (Ruling #5744 on May 31, 2007; Ruling #5744A on June 12, 2007) despite timely protests filed by Reclamation and the Pyramid Lake Paiute Tribe (PLPT). The United States appealed the State Engineer's rulings to the United States District Court for the District of Nevada.[4] Reclamation also protested multiple additional Fernley water right transfer applications then pending before the State Engineer.[5] The State Engineer eventually approved the transfer of a cumulative total of 9,723 AF per year (AFY; 2,160.67 acres) of Fernley's Newlands Project Claim No. 3 water rights from irrigation to municipal use (Stanka Consulting 2016). The firm yield of Fernley's surface water rights is estimated at 6,500 AFY based on a study by Precision Water Resources Engineering (Farr West Engineering 2020).

In 2009, Fernley and the United States reached a settlement (*Agreement Between the City of Fernley and the United States Regarding Settlement of Claims and Protests Over the Use of Federal Reclamation Facilities*; Settlement Agreement). In accordance with the Settlement Agreement (Section II.6), Fernley submitted a water conservation plan to Reclamation in September 2016 which was revised and accepted by Reclamation in March 2018. In November 2018, Fernley sent Reclamation an *Application for Transportation and Utility Systems and Facilities of Federal Lands* (Standard Form-299) with the required application fee and supporting documents requesting use of federal facilities to divert and convey their municipal water from the Truckee Canal to the City of Fernley Water Treatment Facility (Plant). The supporting documents included: (1) *Truckee Canal Delivery Efficiency Study – OCAP*[6] *Accounting Plan*, (2) *City of Fernley Water Conservation Plan*, and (3) project construction plan. Following reviews by Reclamation and PLPT, Reclamation accepted Fernley's application package with revised supporting documents in May 2020. Reclamation's receipt of the 100 percent design project construction plans and copies of Fernley's permit(s) from the Nevada Division of Environmental Protection (NDEP) are still pending.

1.1.4 Fernley Municipal Credit Water Implementation

The 2008 Truckee River Operating Agreement (TROA; 43 CFR 419), which was negotiated pursuant to the Settlement Act (Section 205(a)) and effective as of December 1, 2015, authorized Fernley Municipal Credit Water (FMCW; TROA Section 7.F.). All TROA water right holders, including Fernley, generally can accumulate and store credit water in federal reservoirs upstream in the Truckee River basin by retaining or capturing water that otherwise would have been released from reservoir storage or passed through the reservoirs to serve a downstream water right or to

[3] United States v. Orr Water Ditch Co., In Equity, Docket No. A-3 (D. Nev. Sept. 4, 1944)
[4] United States v. Orr Water Ditch Co./Re: Nevada State Eng'r Ruling #5744/5744A, Case No. 3:73-cv-19-LDG (D. Nev.)
[5] Applications 74911,74943, 74944, 74980, 75503, 75504, 75581, 75582, 75583, 75862, 75863, 75864, 75865, 76061,76209, 76292, 76837, 76976, 76977, 77006, 77050, 77276, 77923, 77924, and 78626
[6] Operating Criteria and Procedures for the Newlands Project (43 CFR 418) effective as of December 16, 1997 (OCAP)

meet Floriston Rates.[7] Per TROA (Section 7.F.1), Fernley may store FMCW throughout the year on a flexible 12-month diversion schedule while focusing on establishment during November through June. If a drought situation[8] does not exist by April 15, any FMCW accumulated in excess of 10,000 AF on April 1 of the same year then converts to Fish Credit Water. Storage of FMCW is not limited by TROA during a drought situation. Credit water storage can only take place in accordance with State water law and after execution of a water storage contract between a TROA water right holder and a dam owner (*e.g.*, Reclamation, Truckee Meadows Water Authority). Credit water is generally retained or exchanged among the upstream reservoirs until called upon to satisfy its beneficial use. Per TROA, FMCW may also be released from storage and used for groundwater aquifer recharge and storage, revegetation of former agricultural lands, improving water quality in local effluent-based wetlands, or to enhance fish flows in the Truckee River. Per the Settlement Agreement (Section II.2(D)), Fernley may only divert FMCW during the Newlands Project irrigation season, which is specified annually by the Truckee-Carson Irrigation District (TCID) and typically extends from March 15 to November 15. On March 3, 2011, the State Engineer (Ruling #6102) approved Fernley's applications for water storage. On April 6, 2017, Fernley received a 40-year water storage contract (No. 16-WC-20-4949) from Reclamation to store up to 10,000 AFY of FMCW in federal reservoirs.

1.2 Scope of Environmental Assessment and Decision to be Made

Federal agencies must comply with the provisions of the National Environmental Policy Act (NEPA). Analysis is required under NEPA to assess the significance of possible environmental, social, and economic impacts to the human environment from a federal proposed action. An Environmental Assessment (EA) serves as the basis for determining whether implementation of the federal proposal would constitute a major federal action significantly affecting the quality of the human environment. This EA has been prepared to assist Reclamation's decision-making regarding whether to authorize Fernley's use of federal facilities associated with the Newlands Project to divert and convey municipal water, including FMCW, from the Truckee Canal to the Plant. The scope of analysis in this EA is limited to that provided in the 2009 Settlement Agreement.

1.3 Need for the Proposal

Fernley has requested Reclamation authorization to utilize existing federal facilities to build permanent structures that would be used to divert their municipal water, including FMCW, from the

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[7] Floriston Rates were set in the 1915 Truckee River General Electric Decree as a mean flow of water in the Truckee River near Floriston, California, and modified in the 1935 Truckee River Agreement. Floriston Rates are currently measured at the U.S. Geological Survey's stream gage (#10346000) near Farad, California.

[8] A drought situation would exist when the April 15 run-off forecast for the Truckee River indicates there would not be sufficient unregulated water and Floriston Rate Water to maintain Floriston Rates through the water year (October through September), or if the elevation of Floriston Rate Water in Lake Tahoe is forecast to drop below 6,223.5 feet Lake Tahoe datum before November 15.

Truckee Canal and convey it approximately 0.25 mile to the Plant in order to use those surface water rights for the benefit of the city.

1.4 Authorization for the Proposal

The Reclamation Project Act of 1939 (Section 10, 43 USC 373) provides the Secretary of the Interior with the authority and discretion to grant leases, licenses, easements and ROWs for the use of Reclamation lands, facilities and waterbodies, including those ROWs established under the Canal Act, when such uses are determined to be "compatible" with authorized project purposes. Detailed guidance for issuing such authorizations can be found in 43 CFR 429 (Use of Bureau of Reclamation Land, Facilities, and Waterbodies), Reclamation Manual Directives and Standards LND 08-01 (Land Use Authorizations), and Office of Management and Budget Circular A-25 Revised (User Charges).

Per the Settlement Agreement (Section 3.E.), Reclamation shall determine whether to grant authorization for Fernley's use of federal facilities for municipal purposes subject to compliance with NEPA, the Endangered Species Act (ESA), federal reclamation law and all other applicable laws, and after consultation with the PLPT. Reclamation must also ensure that Fernley's municipal water diversions adhere to the same rules applied to irrigation diversions, including Newlands Project efficiency standards and adherence to the accounting and reporting requirements in the OCAP (see below).

Section 2 Alternatives Including the Proposed Action

2.1 No Action

Under No Action, Reclamation would not authorize Fernley's use of federal facilities associated with the Newlands Project to construct new facilities to divert municipal water, including FMCW, from the Truckee Canal or to convey municipal water across federal facilities to the Plant. Unused municipal surface water rights would remain in the system to be utilized by other decreed water right holders or flow to Pyramid Lake. Fernley's year-round use of their municipal groundwater rights would continue, and groundwater volumes used would likely gradually increase over time with continued population growth. Local groundwater availability for municipal as well as private domestic wells would potentially decrease if artificial recharge of the aquifer from Truckee Canal seepage is reduced by future implementation of Reclamation's Truckee Canal Extraordinary Maintenance (XM) Project (Reclamation 2020). Truckee Division and overall Newlands Project efficiency under OCAP (see below) would not change under the No Action alternative.

2.2 Proposed Action

The Proposed Action would implement the Settlement Agreement, as signed in 2009. Reclamation would issue Fernley a consent document[9] authorizing the use of certain federal facilities associated with the Newlands Project in perpetuity for the construction of facilities to divert and convey Fernley's municipal water, including FMCW, to the Plant during the Newlands Project irrigation season, including:

- A turnout structure within Reclamation's 1890 Canal Act easement[10] for the Truckee Canal to divert municipal water;
- A flowmeter/vault within Reclamation's 1890 Canal Act easement for the Truckee Canal to measure municipal water diversions; and
- A pipeline within Reclamation's 1890 Canal Act easements for the Truckee Canal and the TC-1 and TC-1-1 lateral canals[11] to convey municipal water (Figure 1).

These proposed facilities associated with Reclamation's Proposed Action are described in more detail below, as well as OCAP efficiency and accounting requirements for Fernley from the Settlement Agreement. The turnout structure and flowmeter/vault would be incorporated into the federal facilities for the Newlands Project. Additional proposed construction activities and structures required by Fernley to complete the overall proposed project to deliver their municipal water to the Plant are located entirely on private property outside of Reclamation easements. They are described below, but do not require federal authorization and are not part of Reclamation's Proposed Action. Reclamation would provide construction oversight for activities within federal facilities.

This EA only considers potential direct, indirect, and cumulative impacts to the affected environment associated with authorizing use of federal facilities for FMCW that were not previously addressed in the 2008 TROA Final EIS (DOI and State of California 2008; see EIS pages 3–112 to 3–119). Specifically, the analysis in this EA includes potential impacts from Fernley using current year Claim 3 water rights (direct diversions) and FMCW for municipal purposes at the same time.[12]

[9] A consent document is a written agreement or notification listing conditions which will prevent unreasonable interference with a Reclamation easement (43 CFR 429.2).
[10] Reclamation's easement extends 100 feet on each side of the centerline of the Truckee Canal.
[11] Reclamation's easements extend 30 feet on each side of the centerlines of the TC-1 and TC-1-1 lateral canals.

[12] Delivery of FMCW is allowed in addition to OCAP diversions (Chad Blanchard, Federal Watermaster, personal communication (pers. comm.) 2018).

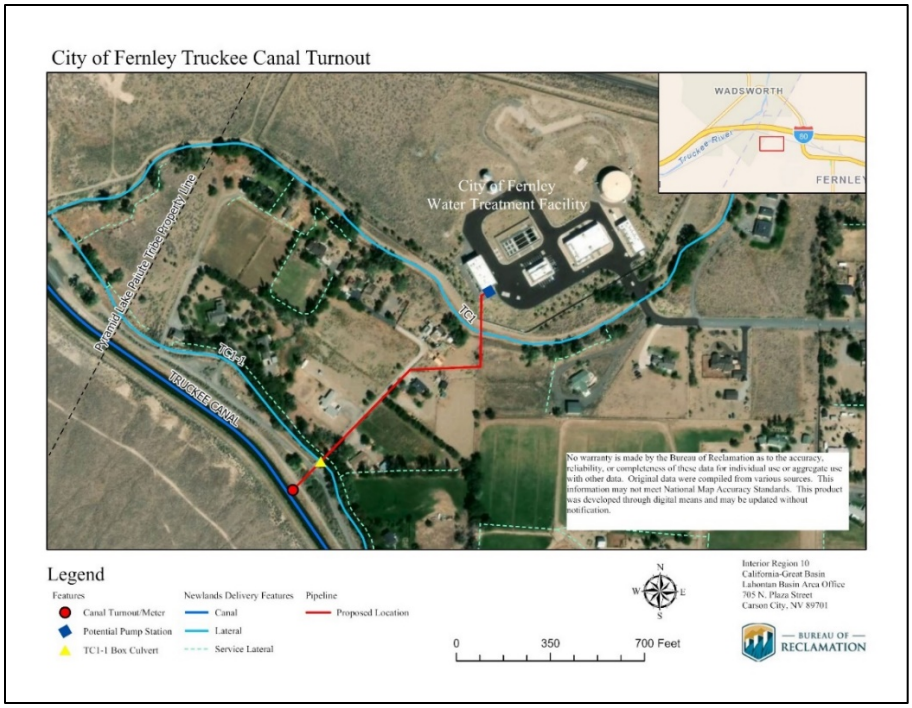

Figure 1. Location of the proposed Truckee Canal turnout structure, flowmeter/vault, and pipeline to the City of Fernley Water Treatment Facility, Lyon County, Nevada.

2.2.1 Truckee Canal Turnout

Under the Proposed Action, Reclamation would authorize use of its Truckee Canal easement for Fernley to construct a new turnout within the northeast embankment,[13] approximately 1,500 linear feet downstream of the TC-1 turnout near the western edge of Fernley (Figure 1). Reclamation's easement extends 100 feet out from the Truckee Canal centerline. The proposed turnout design is consistent with other newer turnouts located in the Fernley Reach (11 miles) of the Truckee Canal such as the TC-1 turnout built by TCID in 2013 (Figure 2). The concrete portion of the turnout would be approximately 16 feet high and 22 feet wide. The turnout would include a 30-inch by 30-inch vertical, metal slide gate that would be manually operated with a hand wheel by TCID to control water deliveries. The turnout would also have a steel trash rack on the water side for public safety and to keep large floating and submerged debris in the Truckee Canal out when the slide gate is open. Layers of filter fabric and 8-inch-diameter rock would be placed on the water side of the embankment for approximately 65 feet upstream and downstream of the turnout to provide slope protection. The embankment crest within the proposed turnout site (21–24 feet wide) is used as a road for Truckee Canal operations and maintenance (O&M) purposes. Approximately 89 linear feet of the crest would have a 6-inch layer of compacted aggregate road surfacing added.

[13] An embankment is a shaped earthen structure where the top is higher than the adjoining surface. It generally consists of fill material (soil or rock) placed with sloping sides and with a length greater than its height.

Figure 2. TC-1 turnout structure on the Truckee Canal.

2.2.2 Flow Measurement

Under the Proposed Action, Reclamation would authorize use of its Truckee Canal easement for a new 8-foot-square by 7-foot high, underground precast concrete vault containing a solar-powered Rosemount 8750W Magnetic Flowmeter. The flowmeter would be located on the proposed pipeline, 12 feet from the turnout within the northeast embankment. Fernley would construct the vault and install and operate the flowmeter; TCID would maintain the vault as a federal facility. Reclamation and TCID would have Cloud access to flowmeter data. The flowmeter would be tested by a National Institute of Standards and Technology-certified laboratory, and Fernley would have it cleaned and calibrated as recommended by the manufacturer.

2.2.3 Pipeline

Under the Proposed Action, Reclamation would authorize use of its Truckee Canal easement (100 feet from centerline) and TC-1 and TC-1-1 lateral canal easements (30 feet from centerline) for a 30-inch-diameter suction pipeline. Fernley would construct and maintain the pipeline. The pipeline would convey surface water 1,115 feet from the new turnout to the Plant (Figure 1). The entire pipeline would be installed by open trenching. The pipeline would extend from the turnout through the Truckee Canal embankment, under Truckee Lane (paved road with public utility easement; Figure 3), under a private concrete box culvert containing the TC-1-1 lateral canal (Figure 4) and an unpaved private road with public utility easement that is used as a residential driveway before turning easterly and then northerly along private property parcel boundary lines, then crossing under the unlined TC-1 lateral canal (Figure 5) and under an unnamed, unpaved public road before entering the Plant property boundary. The existing box culvert on the TC-1-1 lateral canal would be replaced with an equivalent 3-foot-wide by 3-foot-high by 17-foot-long box culvert. The TC-1 lateral canal crossing site would have Controlled Low Strength Material (CLSM)[14] added to provide

[14] A mixture of Portland cement, fine aggregate, coarse aggregate, water, entrained air, and chemical admixtures to accelerate cure time.

structural bedding for the pipeline and filter fabric would be added to protect the embankments; the CLSM and filter fabric would not be visible within the canal prism even when dewatered.

Within all Reclamation easements, the pipeline would consist of reinforced concrete; elsewhere it would be Standard Dimension Ratio 25 polyvinyl chloride (PVC) thermoplastic material (*i.e.*, rigid PVC). The entire pipeline would maintain a minimum depth of 3 feet below ground level, which complies with Reclamation flowline separation requirements for the lateral canal easement crossings.

Figure 3. Looking south across Truckee Lane at the proposed sites for the pipeline road crossing and the flowmeter/vault and turnout on the Truckee Canal embankment.

Figure 4. Looking east down the TC-1-1 lateral canal to the box culvert and private road crossing for the proposed pipeline.

Figure 5. Looking east down the TC-1 lateral canal. Note the orange/white pole centered in the bottom of the canal prism marking the proposed pipeline crossing and the Plant boundary wall at left.

2.2.4 Municipal Water Deliveries

Fernley's exercise of its Newlands Project Claim 3 water rights for municipal purposes is subject to all applicable federal and state laws, decrees, and regulations including federal reclamation law; OCAP; determinations made by Reclamation pursuant to the O&M contract between Reclamation and TCID; and TCID's Operating Rules and Regulations. The Decree limits the volume of Claim 3 water rights that can be diverted in any single month to 25 percent of the total AF allowed for the entire irrigation season for the land associated with the water rights. The Settlement Agreement set the diversion timeframe of Fernley's municipal water to match the Newlands Project irrigation season, typically from March 15 to November 15.[15] FMCW diversions will only occur within the irrigation season. Under the Proposed Action, Fernley will contact the Federal Watermaster to schedule FMCW deliveries at least 1 day in advance of receiving the deliveries to enable the Federal Watermaster to process, schedule, and coordinate it with other water deliveries using Derby Dam and the Truckee Canal.

The Plant has a capacity of 20 million gallons of water per day (MGD) or approximately 22,418 AFY with an ultimate buildout capacity of 30 MGD or approximately 33,627 AFY (Farr West Engineering 2020). The Plant is currently equipped to treat up to 15 MGD (approximately 16,813 AFY) of surface water (Farr West Engineering 2020). Fernley's design flows for the pipeline are 3.6–7.0 MGD or approximately 4,035–7,846 AFY. With the potential future addition of a second pump station at the Plant the pipeline could carry up to 10.8 MGD or approximately 12,106 AFY (AECOM, *in litt.* 2018a; Thomas Guinn, AECOM, pers. comm. 2020). As described above, Fernley's Claim 3 surface water rights total 9,723 AF. In any single month during the irrigation season, the Decree would limit Fernley's maximum turnout rate of their existing Claim 3 water rights to approximately 2,431 AF (25%); FMCW could also be used in addition to their Claim 3 water. Fernley will share proportionally in any future Newlands Project water shortages (*e.g.*, drought periods). However, delivery of FMCW stored in upstream reservoirs would not be affected by such

[15] Fernley would continue to use groundwater during the non-irrigation season.

water shortages and could be used to augment Fernley's municipal water deliveries during the irrigation season.

As required by the Settlement Agreement and described above, Fernley is installing a flowmeter on the pipeline to measure all municipal water received through federal facilities under the Proposed Action. Fernley will report to Reclamation and TCID monthly on the quantities diverted from the Truckee Canal and water deliveries made to Fernley Utilities customers and diversions to Fernley's Out of Town Park and the Golf Club.[16]

2.2.5 TCID O&M Charges

TCID is a quasi-municipal political subdivision of the State of Nevada that provides care, operation, and maintenance of certain Newlands Project facilities and infrastructure used in the storage, transport, and delivery of water within the Carson and Truckee Divisions under an O&M contract with Reclamation (Contract Number 7–07–20–X0348; Reclamation 1996). Under the Proposed Action, TCID would perform O&M on the new turnout structure and flowmeter vault. Fernley would continue to pay annual Newlands Project O&M charges to TCID based on the water rights they own, as well as any applicable future Newlands Project water user assessments.

2.2.6 Newlands Project OCAP

The Settlement Agreement (Section II.3(C)(1)) required Fernley, in cooperation with Reclamation, to conduct an analysis of the impact of the Proposed Action on Newlands Project efficiency as determined under OCAP (43 CFR 418.12). OCAP is a federal rule that specifies how the Newlands Project is operated. Its main purposes are to:

- ensure legitimate Newlands Project water rights are served;
- regulate the timing and amount of water that can be diverted out of the Truckee River to serve Newlands Project water rights; and
- minimize the use of the Truckee River and maximize the use of the Carson River.

Some OCAP subtasks applicable to the Proposed Action are to:

- set a target Newlands Project conveyance system efficiency in non-drought and Lahontan Reservoir non-spill years to encourage good management of Newlands Project water; and
- direct the Newlands Project operator (TCID) to maintain records of water-righted lands and water deliveries.

2.2.6.1 Water Conservation

Under the Settlement Agreement, Fernley prepared a water conservation plan in cooperation with Reclamation to implement within its municipal water service area (Stanka Consulting 2016). Fernley's water conservation plan includes an inventory of Fernley's water resources and evaluated 15 best management practices (BMPs) for implementation. Fernley currently has active programs in place which implement 5 of the 15 BMPs. One of the remaining 10 BMPs is not applicable to Fernley, and programs are being established to implement the remaining 9 BMPs subject to cost

[16] Fernley has 1,469.04 AFY of groundwater rights for irrigation which are used on 406.2 acres at the golf course (Farr West Engineering 2020).

feasibility and available funding. Reclamation accepted Fernley's final water conservation plan on March 6, 2018.

2.2.6.2 Efficiency

The OCAP efficiency study required by the Settlement Agreement was restricted to the Fernley area including Truckee Canal laterals TC-1 through TC-13. The efficiency of the Newlands Project as determined under OCAP is "a measure of how much water is released into the irrigation system relative to actual headgate deliveries" (43 CFR 418.12(c)). Annual efficiency calculations made by Reclamation under OCAP include both the Truckee and Carson Divisions.

Newlands Project deliveries are quantified at the location where the water leaves a federal facility, which typically occurs at a turnout. Water losses downstream of a federal facility are considered private conveyance losses and are not included in OCAP accounting. For the Proposed Action, the water delivery point for the project operator (TCID) would be at the proposed turnout where the water would leave the Truckee Canal and enter a non-federal water distribution system. Fernley analyzed the impact that municipal water diversions using the new turnout and pipeline authorized under the Proposed Action would have on the combined efficiencies of Truckee Canal laterals within the Truckee Division. Efficiency for the Truckee Division is calculated by dividing the amount of water delivered to farms by the amount of water diverted from the Truckee Canal to the 13 lateral canals serving those farms. Therefore, efficiency is based on the seepage losses of the Truckee Division lateral canals. Losses of water directly from the Truckee Canal (*e.g.*, seepage) are not included in these Truckee Division efficiency calculations.

Fernley's analysis compared the combined efficiencies of the 13 existing Truckee Canal laterals with and without their proposed project for scenarios using 50, 75, and 100 percent of their municipal surface water rights. Fernley used 100 percent for the new pipeline's efficiency because it would be made of non-permeable material and likely have insignificant seepage losses. The results of the analysis were increases in combined Truckee Canal lateral efficiencies for the Proposed Action under each of three different percent allocation water year scenarios. Under the Proposed Action the combined Truckee Canal lateral efficiencies for the 50 percent allocation water year increased from 96.6 to 96.9 percent, the 75 percent allocation year increased from 62.1 to 64.8 percent, and the 100 percent allocation year increased from 77.4 to 79.0 percent. These Truckee Division calculated increased efficiencies under the Proposed Action would then propagate to the efficiency calculations of the entire Newlands Project.

2.2.6.3 Accounting Procedures

The Settlement Agreement required Fernley to develop accounting procedures for tracking their municipal water use under OCAP. OCAP allows delivery of Newlands Project water to serve valid water rights for "Domestic and other uses of Project water as defined by the decrees" (43 CFR 418.2(d)). The Decree allows the use of Newlands Project water "for supplying the inhabitants of cities and towns on the project." While OCAP does not expressly regulate the use of Newlands Project water for municipal purposes, proposed accounting procedures for Fernley's municipal water deliveries must fit into a tracking system more commonly used for irrigation water rights based on acres of land and the water duties associated with irrigating the land.

Fernley developed OCAP accounting rules using the concept of will-serve commitments assigned to a Newlands Project water right. Will-serve commitments are typically letters provided to an applicant (*e.g.*, housing developer) by a water supplier granting the applicant's request for water

deliveries to supply a new water service area (*e.g.*, new housing development). Fernley would provide their will-serve commitments to Reclamation and TCID prior to March 1 of each year to establish their simulated anticipated irrigated acreage (will-serve commitments divided by associated water-righted duty) for that water year. Reclamation would use this simulated anticipated irrigated acreage in combination with the anticipated irrigated acreage of other water users to calculate the Newlands Project's Maximum Allowable Diversion (MAD) by March 15th of each year. The MAD is the maximum amount of Newlands Project water diversions from the Truckee and Carson Rivers combined. It is calculated by multiplying anticipated irrigated acres by their associated water duties.

The Newlands Project's Maximum Headgate Entitlement (MHE) is the maximum volume of water that could be applied to water righted-irrigated fields, and it is calculated at the end of the irrigation season by Reclamation by multiplying the irrigated acreage by the allowable water duty. For consumptive uses such as Fernley's municipal use, the total water volume delivered during the irrigation season should be equal to the MHE. The consumptive use MHE is then divided by the weighted average duty for all associated water rights to back calculate the estimated irrigated acreage. To determine if over deliveries of consumptively used water occurred, the MHE (delivered volume) would be subtracted from TCID's calculated water allocation to the Plant. A negative value would indicate an over delivery, which would contribute to the total invalid deliveries for the Newlands Project. Invalid deliveries may result in TCID being penalized for not meeting established Newlands Project operational efficiency requirements. This process is currently utilized for all wetlands uses in the Newlands Project and for the Fallon Reservation (see Indian Trust Assets).

Water deliveries from the new turnout would be dedicated to the Plant and metered. Reclamation and TCID would have access to real-time accurate measurements of water deliveries to the Plant throughout the irrigation season. Fernley would also provide the previous month's delivery/diversion data to TCID for inclusion in the Delivery Report that TCID sends to Reclamation each month.

2.2.7 Non-Federal Proposed Actions and Structures

2.2.7.1 Pump Station and Flowmeter

Fernley would construct a trench type intake sump pump station at the discharge end of the pipeline within the Plant property. A 30-inch gate valve would control the pipeline inlet to the pump station and facilitate pump station maintenance. A Rosemount 8750W magnetic flowmeter would be installed on the discharge end of the pipeline. A second pump may be added at the Plant in the future to increase pipeline discharge. The Plant is designed to treat both surface and groundwater sources using either common or separate flash mix paths.[17] Fernley has evaluated the water treatment path alternatives, and their future treatment selection would determine which of two existing connections at the Plant are used for the pump station and the required discharge conditions (AECOM, *in litt.* 2018a). General water treatment requirements for public water systems are provided in the Nevada Administrative Code (445A.495–445A.540).

[17] Flash mixing combines a coagulant chemical and untreated (raw) water. A rapid chemical process forms small particles (microfloc), which are removed in other treatment processes.

2.2.7.2 Utility Infrastructure and Road Paving

The 30-inch pipeline would be lower in elevation in the middle of its alignment, requiring a blowoff valve and an access hatch to facilitate Fernley's periodic pipeline draining and removal of accumulated sediment. The hatch would be located within the public utility easement on the unpaved private road. Concurrent with the proposed 30-inch pipeline installation, Fernley would install an 8-inch potable water pipeline and install water and fire hydrant connections underground within this public utility easement. These facilities would be utilized in the future if the municipal water service area expands into the local area. Fernley would also pave the private road with asphalt after the pipeline and utility infrastructure are installed.

2.2.7.3 Site Access, Staging Areas, and Equipment

Existing paved and unpaved public and private roads would primarily be used for access to the Truckee Canal embankment and the pipeline corridor. Cross-country travel by heavy equipment would potentially occur on approximately 0.5 acre of private lands along the pipeline corridor and at the Plant. The temporary staging area for heavy equipment, construction worker vehicles, and construction material storage would be at the Plant. Heavy equipment used during construction within federal facilities and/or on private lands would likely include a backhoe, dump truck, water truck, cement truck, and asphalt paving equipment.

2.3 Schedule

Turnout construction within the Truckee Canal embankment would occur outside of the irrigation season from November to February or would be scheduled to occur during periods when the Truckee Canal is shut down for maintenance or other reasons. Pipeline construction and flowmeter/vault installation within Reclamation's Truckee Canal easement may occur concurrent with the turnout construction. Construction activities elsewhere in the project area may occur at any time. The overall project would take approximately 8 months to complete given construction window constraints (AECOM 2018a). Construction is anticipated to begin in late 2020.

2.4 Environmental Protection Measures

Environmental Protection Measures (EPMs) were developed by Reclamation to avoid or minimize the impacts of the Proposed Action within Reclamation facilities. In addition, Fernley would follow BMPs identified by the NDEP Nonpoint Source Pollution Management Program as conditions of their stormwater management permit throughout the project area. Similarly, Fernley would follow BMPs identified by NDEP's Bureau of Air Pollution Control if an air quality permit is required based on estimated total surface disturbance in the project area. The BMPs would be utilized to control pollution by managing the sources from which pollutants are released and/or treating areas that have become polluted. Source control and treatment BMPs limit the amount of pollutants that otherwise would enter the water or air due to land development or other disturbances. The BMPs are typically designed and developed on a site-specific basis.

EPMs for construction activities within Reclamation easements associated with the Proposed Action include:

- Silt fencing and/or fiber rolls would be placed around material stockpiles and around the perimeter of earthwork to control stormwater runoff and prevent soil loss and sediment transport;
- Natural erosion control materials (*e.g.*, fiber rolls, straw bales) would be certified weed-free, and heavy equipment would be pressure-washed to remove all soil and vegetation seeds or fragment prior to entering Reclamation facilities;
- Heavy equipment and vehicles would use existing access routes and avoid cross-country travel to the extent feasible to minimize surface and native vegetation disturbance;
- Disturbed surfaces would be restored to their original pre-construction contours to the extent feasible;
- Heavy equipment and vehicle fueling, fluid leak inspections, maintenance, and cleaning would only occur within designated staging areas at the Plant;
- Water would be sprayed on disturbed surfaces during excavation, fill, and grading activities to control fugitive dust; and
- Heavy equipment and generators would be shut off when not in use to reduce exhaust emissions from idling.

Note that vegetation seeding or planting of the Truckee Canal or lateral canal embankments within Reclamation's easements would not occur. Reclamation (2008) has guidelines regarding minimum vegetation clearance zones for water conveyance features to prevent embankment damage from root growth and to allow for visual detection of wildlife burrowing activity that can compromise the structural integrity of canals.

Section 3 Affected Environment and Environmental Consequences

3.1 No Action

Under No Action, Reclamation would not authorize Fernley's use of federal facilities associated with the Newlands Project to construct new facilities to divert municipal water, including FMCW, from the Truckee Canal or to convey municipal water across federal facilities to the Plant. Without such authorization from Reclamation, Fernley would have to explore other options and that would delay construction of municipal facilities to divert and convey their surface water rights from the Truckee River to the Plant for municipal use.

Unused municipal surface water rights would remain in the system to be utilized by other decreed water right holders or flow to Pyramid Lake. Fernley's year-round use of their municipal groundwater rights would continue, and groundwater volumes used would likely gradually increase over time with continued population growth. Local groundwater availability for municipal as well as

private domestic wells would potentially decrease if artificial recharge of the aquifer from Truckee Canal seepage is reduced by future implementation of Reclamation's XM Project (Reclamation 2020). Truckee Division and overall Newlands Project efficiency under OCAP (see below) would not change under the No Action alternative. The effects of the No Action would be the same or less than the Proposed Action, and thus no further analysis is necessary for No Action.

3.2 Proposed Action

3.2.1 Air Quality

Environmental concerns for air quality would be pollutant emissions related to vehicle and construction equipment exhaust that may generate Greenhouse Gases (GHG) as well as particulates generated by soil disturbance during and after construction. Activities affecting air quality emissions would fall under the Clean Air Act (42 USC 7401 *et seq.*). This section summarizes the National Ambient Air Quality Standards (NAAQS; 80 *Federal Register* 65292, October 26, 2015), the attainment status of Fernley and Lyon County with these standards and monitored air pollutant concentrations as an indicator of air quality trends. The dispersive nature of air pollutants makes it appropriate to consider a broader range of influence such as Lyon County. The predominant wind direction in Nevada is from the west, but winds are mostly southerly in the winter and westerly to northwesterly from spring to fall in the area surrounding the proposed project (Western Regional Climate Center 2020a). Predominantly westerly winds would tend to blow any pollutants from the project area into Fernley.

The NDEP collects air quality data through an Ambient Air Quality Monitoring Program network of gaseous and particulate pollutant monitors throughout rural Nevada. From 2000 to 2010, monitored pollutants in Fernley included ground-level ozone and particulate matter (PM) ≤ 10 micrometers in diameter (PM_{10}) and ≤ 2.5 micrometers in diameter ($PM_{2.5}$) (NDEP 2010). None of these pollutants exceeded the NAAQS during that 10-year period, and ambient concentrations of $PM_{2.5}$ decreased (NDEP 2010). The only pollutant currently actively monitored in Fernley is ground-level ozone (NDEP 2020). During 2009–2011, the average ozone concentration in Fernley was 0.064 parts per million (ppm), approximately 91 percent of the NAAQS (0.070 ppm). Air pollutant concentrations in Lyon County are currently below the NAAQS for all monitored pollutants (Environmental Protection Agency (EPA) 2020a).

Under the Proposed Action, there may be small, temporary localized increases in fugitive dust (PM_{10} and $PM_{2.5}$) generated by soil-disturbing activities during construction, including excavation, trenching, and vehicle traffic. Fernley would use a water tender truck to control dust emissions on site during construction and follow all NDEP BMPs if an air quality permit is required. After construction, much of the pipeline alignment would be either surfaced with aggregate (embankment maintenance road) or paved with asphalt (private road), which would permanently reduce local dust emissions on windy days over current surface conditions. Increased fugitive dust emissions may temporarily continue after construction during windy periods, specifically along the outer slope of the Truckee Canal embankment and from unpaved reaches of the pipeline alignment, until the ground surface in these areas is further compacted by vehicles, pedestrians, natural soil settling, and/or precipitation. With implementation of the proposed EPMs and NDEP BMPs, the Proposed Action is not expected to have a significant impact on particulate matter concentrations in Fernley or Lyon County.

Climate change over time is due to natural internal processes and variability or as a result of human activity (International Panel on Climate Change 2014). GHGs are compounds that contribute to climate change by trapping heat in the atmosphere. The most important naturally occurring GHG compounds are carbon dioxide (CO_2), methane, nitrous oxide, ozone, and water vapor. NDEP (2016) estimated that Nevada's statewide GHG emissions in 2013 totaled the equivalent of 48.5 million tons of CO_2 equivalents (CO_2e). This was 0.65 percent of the total 2013 United States GHG emissions. The major sectors contributing to Nevada's GHG emissions are electric power generation (34%); transportation (33%); residential, commercial, and industrial sources (16%); industrial processes (8%); waste management (4%); agriculture (3%); and the fossil fuel industry (2%) (NDEP 2016).

During the Proposed Action, equipment and vehicle exhaust would produce combustion-related emissions including carbon monoxide, nitrogen dioxide, volatile organic compounds, and sulfur dioxide; hazardous air pollutants, such as diesel particulate matter, acetaldehyde, benzene, and formaldehyde; and GHGs. The GHG emission levels would be influenced by the number and type of equipment and vehicles used and the duration of construction activities. Given the small scale of the project area, limited (8 month) project duration and implementation of proposed EPMs and NDEP BMPs, the Proposed Action is not expected to have a significant impact on annual local, county, statewide, or United States GHG emissions and is not anticipated to contribute to an adverse effect on global climate change.

3.2.2 Biological Resources

3.2.2.1 Vegetation

Vegetation is a general term that includes aquatic and terrestrial and native and nonnative species. Newlands Project facilities incidentally support a variety of vegetation. A site visit was conducted by Reclamation, which included observing vegetation within portions of the project area visible from public roads and on Reclamation easements. Data on ESA listed plant species from USFWS (2020) were reviewed for the project area. Similarly, data on special status plant species from the Nevada Natural Heritage Program (2020) were reviewed for Lyon County. No special status plants were observed in recent Truckee Canal surveys (Reclamation 2016, 2018) or are known to occur within the project area, which is all previously disturbed land. As discussed above, Reclamation sets vegetation clearance zones for water conveyance features, and TCID maintains Newlands Project facilities by removing vegetation where necessary to prevent embankment damage from root growth and to allow for visual detection of wildlife burrowing activity that can compromise the structural integrity of canals.

3.2.2.1.1 Upland Vegetation

The native vegetation communities surrounding the project area include primarily Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland combined with Intermountain Basins Mixed Salt Desert Scrub (Reclamation 2016). Construction for the proposed project would directly impact less than 0.5 acre of previously disturbed upland habitat with sparse amounts native and nonnative vegetation. There is no vegetation within the Truckee Lane pipeline crossing site (paved) and almost no vegetation within the two unpaved roads along the pipeline alignment, one of which would be paved as part of the proposed project. Vegetation on the residential lots in the project area is also sparse (Figure 1). The Proposed Action is not expected to have a significant impact on upland native vegetation communities relative to the amount of similar vegetation

adjacent to the project area, the higher quality intact upland native vegetation communities in the local region, and implementation of proposed EPMs and NDEP BMPs.

3.2.2.1.2 Wetland and Riparian Vegetation

Wetlands are lands that are inundated or saturated by water for at least several weeks of the year and contain hydric soils and hydrophytic vegetation. Riparian refers to the habitat next to or near streams, lakes, ponds, and wetlands that is influenced by water (Wisdom *et al.* 2003). Outside of Newlands Project facilities, no water bodies or wetlands occur in the project area (USFWS 2020a). Within the Truckee Canal prism there is often a narrow band of wetland vegetation along the typical waterline as it is commonly operated nearly year-round. Dominant vegetation species near the waterline throughout the entire length of the Truckee Canal are redtop (*Agrostis gigantea*), Baltic rush (*Juncus balticus*), cattail (*Typha* spp.), stinging nettle (*Urtica dioica*), English plantain (*Plantago lanceolata*), Mexican whorled milkweed (*Asclepias fascicularis*), and common sunflower (*Helianthus annuus*). The Truckee Canal also supports sporadic patches of riparian vegetation within the prism and on the embankments in areas where soil moisture is present. Common woody riparian vegetation includes native cottonwood trees (*Populus fremontii*) and willows (*Salix* spp.) and nonnative Russian olive trees (*Elaeagnus angustifolia*). Lateral distribution canals such as the TC-1 (Figure 5) and smaller laterals such as the TC-1-1 (Figure 4) are dewatered outside of the irrigation season and do not provide extensive habitat for wetland or riparian vegetation, especially in downstream reaches. Wetland and riparian vegetation along Reclamation facilities are both limited by TCID annual maintenance.

Under the Proposed Action, approximately 152 square feet of wetland vegetation along the waterline on one side of the Truckee Canal prism (see Cover Photo) would be permanently replaced by filter fabric, rock, and concrete associated with the new turnout. There is a cottonwood tree and a clump of willows on the outer embankment of the Truckee Canal (Figure 3) which are presumably supported by Truckee Canal seepage. Construction activities may require the direct removal of this woody vegetation to accommodate heavy equipment or clear work areas. Indirect impacts to woody vegetation may also occur due to mechanical damage by heavy equipment or increased water stress due to changes in the embankment, which may lead to mortality. The TC-1 and TC-1-1 pipeline crossing sites do not support wetland or riparian vegetation, so there would be no impact due to the Proposed Action. The Proposed Action is not expected to have a significant impact on wetland and riparian vegetation communities overall based on the minor loss of such vegetation relative to the amount of similar vegetation in the Truckee Canal prism and on the embankment upstream and downstream and based on typical TCID annual maintenance activities that would occur in the project area.

Pursuant to Section 404 of the Clean Water Act (33 USC 1344) and Federal Regulations (33 CFR 323.4(a)(3)), certain discharges of dredged or fill material for the construction or maintenance of irrigation ditches have been exempted from requiring a Section 404 permit. Included in the exemption are the construction or maintenance of irrigation ditches. Discharges associated with pumps, headgates, wingwalls, diversion structures, and such other facilities as are appurtenant and functionally related to irrigation ditches are included in this exemption (U.S. Army Corps of Engineers 2004).

3.2.2.1.3 Weeds

Noxious weeds and nonnative, invasive plants are often referred to collectively as weeds. Many terrestrial weeds readily colonize disturbed soils. Small patches of tall whitetop (*Lepidium latifolium*)

are present along the Truckee Canal embankment adjacent to the proposed turnout site under the Proposed Action. Other noxious weeds commonly observed along the Truckee Canal include musk thistle (*Carduus nutans*), hoary cress (*Cardaria draba*), and Russian knapweed (*Acroptilon repens*) (Reclamation 2016). Along the pipeline route all vegetation is generally sparse, but roadsides and former agricultural fields often support a variety of weeds. Under the Proposed Action, construction activities could spread weed seeds or vegetation. Disturbed soils along the Truckee Canal prism and embankment would primarily be permanently covered with filter fabric and rock, road aggregate, and concrete which would limit the spread of weeds. The TC-1-1 pipeline crossing would remain weed free within a box culvert. The TC-1 pipeline crossing could experience weed establishment after construction as it is adjacent to an unpaved public road, but weeds would likely be limited by reduced rooting depths due to the CLSM pipeline bedding and water deliveries only during the irrigation season. Also, TCID implements weed management along Newlands Project facilities. In addition, the private road along much of the pipeline corridor would be paved and public vehicle travel on the unpaved road crossing and residential use on other private properties would both continue. Thus, the Proposed Action is not expected to have a significant impact on weed spread or establishment in the project area with implementation of proposed EPMs and NDEP BMPs.

3.2.2.2 Wildlife

Newlands Project facilities convey water that incidentally supports a variety of wildlife. Wildlife is a general term that includes aquatic and terrestrial species and species native and nonnative to the project area. During recent terrestrial surveys of the entire length of the Truckee Canal, 35 bird, 7 mammal, 5 reptile and 1 amphibian species were directly observed or detected by sign, such as tracks, burrows or scat (Reclamation 2016, 2018).

3.2.2.2.1 Fish

Newlands Project facilities generally do not support fish populations except in areas where water is typically maintained year-round (*e.g.*, Truckee Canal, reservoirs). Lateral canals in the project area are not known to support fish even during the irrigation season. NDOW has identified native and nonnative fish that have been documented in the Truckee Canal (Reclamation 2016). Native fish include Lahontan redside (*Richardsonius egregius*), redside shiner (*R. balteatus*), mountain sucker (*Catostomus platyrhynchus*), Tahoe sucker (*C. tahoensis*), mountain whitefish (*Prosopium williamsoni*), and speckled dace (*Rhinichthys osculus*). Nonnative fish documented include bluegill (*Lepomis macrochirus*), green sunfish (*Lepomis cyanellus*), brown trout (*Salmo trutta*), rainbow trout (*Oncorhynchus mykiss*), common carp (*Cyprinus carpio*), fathead minnow (*Pimephales promelas*), Sacramento blackfish (*Orthodon microlepidotus*), Sacramento perch (*Archoplites interruptus*), smallmouth bass (*Micropterus dolomieu*), and western mosquitofish (*Gambusia affinis*). NDOW (2018) has stocked some fish species (*e.g.*, rainbow trout) directly into the Truckee Canal for recreational purposes, while other species likely originated from populations upstream in the Truckee River through Newlands Project diversions or through public releases into the Truckee Canal. No fish were observed in the Truckee Canal during recent terrestrially based surveys (Reclamation 2016).

3.2.2.2.2 Mammals

Terrestrial mammal species from recent Truckee Canal vicinity surveys included black-tailed jackrabbit (*Lepus californicus*), desert cottontail rabbit (*Sylvilagus audubonii*), California ground squirrel (*Otospermophilus beecheyi*), white-tailed antelope ground squirrel (*Ammospermophilus leucurus*), woodrat (*Neotoma* sp.), and coyote (*Canis latrans*). The Truckee Canal provides marginal habitat for

semiaquatic mammals, such as the North American beaver (*Castor canadensis*) and muskrat (*Ondatra zibethicus*). Their burrows in the embankment are a safety issue, and TCID has a trapping program to remove these species from the Truckee Canal. Drought conditions and periodic dewatering of the Truckee Canal have reduced the quality of the habitat for these semiaquatic species, and none were observed during recent surveys (Reclamation 2016). Bats use various habitats for roosting including caves and abandoned mine lands, live and dead trees, and buildings. Potential foraging habitat for bats exists throughout the project area, especially when there is water in Reclamation facilities that can provide insect habitat. NDOW has documented multiple bat species in the vicinity of the Truckee Canal: Arizona myotis (*Myotis occultus*), big brown bat (*Eptesicus fuscus*), Mexican free-tailed bat, hoary bat (*Lasiurus cinereus*), long-legged myotis (*M. volans*), pallid bat (*Antrozous pallidus*), canyon bat (*Parastrellus hesperus*), western red bat (*L. blossevillii*), small-footed myotis (*M. ciliolabrum*), and Yuma myotis (*M. yumanensis*) (Reclamation 2016). There may be suitable bat roosting habitat in mature cottonwood trees along the unpaved private road, but no overwintering bat colonies are known to occur in or near the project area.

3.2.2.2.3 Birds

Numerous migratory bird species regulated under the Migratory Bird Treaty Act have the potential to occur in or near the project area. Thirty-five bird species were observed during recent surveys of the entire Truckee Canal (Reclamation 2016). Of these 35 species, native migratory birds included: American robin (*Turdus migratorius*), American white pelican (*Pelecanus erythrorhynchos*), barn swallow (*Hirundo rustica*), black-billed magpie (*Pica hudsonia*), black-throated sparrow (*Amphispiza bilineata*), Brewer's blackbird (*Euphagus cyanocephalus*), Brewer's sparrow (*Spizella breweri*), Bullock's oriole (*Icterus bullockii*), Canada goose (*Branta canadensis*), cliff swallow (*Petrochelidon pyrrhonota*), common raven (*Corvus corax*), house finch (*Haemorhous mexicanus*), horned lark (*Eremophila alpestris*), killdeer (*Charadrius vociferous*), mallard (*Anas platyrhynchos*), mourning dove (*Zenaida macroura*), northern flicker (*Colaptes auratus*), red-winged blackbird (*Agelaius phoeniceus*), rock wren (*Salpinctes obsoletus*), snowy egret (*Egretta thula*), western kingbird (*Tyrannus verticalis*), western meadowlark (*Sturnella neglecta*), and western tanager (*Piranga ludoviciana*).

Raptors use riparian woodlands along the Truckee Canal and other water sources for foraging and nesting. Signs of raptor use include observations of perched birds, stick nests, pellets, feathers, prey remains, and whitewash. Seven raptor species were observed during surveys of the entire Truckee Canal: American kestrel (*Falco sparverius*), great horned owl (*Bubo virginianus*), northern harrier (*Circus cyaneus*), osprey (*Pandion haliaetus*), red-tailed hawk (*Buteo jamaicensis*), Swainson's hawk (*B. swainsoni*), and turkey vulture (*Cathartes aura*) (Reclamation 2016). Five active red-tailed hawk nests, one active Swainson's hawk nest, and two inactive Swainson's hawk nests have been observed in cottonwood trees within the Fernley Reach of the Truckee Canal but all were well outside of the project area.

Native non-migratory birds observed in recent surveys included California quail (*Callipepla californica*). Several nonnative species were also observed that are also not covered by the Migratory Bird Treaty Act including Eurasian collared dove (*Streptopelia decaocto*), European starling (*Strunus vulgaris*), house sparrow (*Passer domesticus*), and rock pigeon (*Columba livia*).

3.2.2.2.4 Reptiles

Reptiles typically inhabit rocky, brush, and scrub habitats. Common reptile species observed in surveys along the length of the Truckee Canal were the desert spiny lizard (*Sceloporus magister*), western fence lizard (*S. occidentalis*), long-nosed leopard lizard (*Gambelia wislizenii*), western whiptail

(*Cnemidophorus tigris*), and zebra-tailed lizard (*Callisaurus draconoides*) (Reclamation 2016). In the project area, only the Truckee Canal embankment provides dense brushy habitat.

3.2.2.2.5 Wildlife Summary for Proposed Action

The Proposed Action is not expected to have a significant impact on wildlife in the project area based on construction within Reclamation facilities occurring in fall and winter when lateral canals are dewatered and when the Truckee Canal would not be operating; the limited amount (< 0.5 acre) of surface disturbance and native vegetation removal and availability of similar habitats nearby; TCID's trapping program and annual maintenance activities; implementing construction activities after most bats and birds would have migrated; and implementation of proposed EPMs and NDEP BMPs. The proposed addition of rocks along the Truckee Canal embankment may provide new reptile habitat.

3.2.3 Cultural Resources

Cultural resources is a term used to describe both 'archaeological sites' depicting evidence of past human use of the landscape and the 'built environment' which is represented in structures such as dams, roadways, and buildings. The National Historic Preservation Act of 1966 (NHPA; 54 USC 306108) is the primary legislation which outlines federal agencies' responsibilities to consider cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking on historic properties, which are cultural resources listed or eligible for listing on the National Register of Historic Places (National Register).

Implementing regulations for Section 106 (36 CFR Part 800) describe the process that Federal agencies must take to identify historic properties and determine the level of effect that a proposed undertaking would have on such properties. In summary, it must first be determined whether the action is the type of activity that has the potential to affect historic properties. If the action is that type of activity, then the agency must identify the area of potential effects (APE), determine if historic properties are present within the APE, determine the effect that the undertaking would have on historic properties, and seek to resolve any adverse effects through consultation with the State Historic Preservation Officer (SHPO), Indian tribes, and any other consulting parties.

The Proposed Action includes installing a new turnout on the Truckee Canal and crossing two other Reclamation conveyance features, the TC-1 and TC-1-1. To identify historic properties Reclamation conducted an in-house file review, an online records search using the Nevada Cultural Resources Information System, and a pedestrian survey of the APE on October 8, 2019. Three components of the Newlands Project were identified as being within the APE: segments of the Truckee Canal, the TC-1, and the TC-1-1. Reclamation previously documented the Truckee Canal, and for this undertaking is including documentation of the current condition of the area of the turnout structure that would be installed under the Proposed Action. The Truckee Canal was determined eligible, with consensus from the SHPO, for listing on the National Register in 2017 as part of the XM Project. It is considered significant under National Register Criterion A as an important and early feature of the Newlands Project, which contributed to the significant impact on settlement patterns and agricultural development throughout the region. Reclamation recorded, documented, and evaluated the other two conveyance features, the TC-1 and TC-1-1 on Nevada Architectural Resources Assessment forms and determined that the TC-1 is eligible as a contributing component to the Newlands Project, but that the TC-1-1 is not eligible as a contributor. Neither of these laterals are eligible as individual properties (Bruce and Williams 2020).

All three resources reside on 1890 Canal Act easements. The easement requires that Reclamation inventory the APE for the Proposed Action and evaluate resources for inclusion in the National Register. Reclamation is consulting with Indian tribes and the SHPO regarding historic properties identification related to the Proposed Action.

3.2.4 Environmental Justice

Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) provides that each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. The EPA guidelines for evaluating potential adverse environmental effects of projects require specific identification of minority populations when a minority population either exceeds 50 percent of the population of the affected area or represents a meaningfully greater increment of the affected population than of the population of some other appropriate geographic unit.

Racial and ethnic minorities represent 15.8 percent of the population around the project area in Fernley, which is slightly more than estimates for Lyon County (10.4%) and significantly less than in Nevada as a whole (36.6%) (U.S. Census Bureau 2020). The 2020 poverty threshold in the United States is an annual income of $26,200 for a family of four (U.S. Department of Health and Human Services 2020). The percentage of people living below the poverty level around the project area in Fernley (9.4%) is slightly lower than in both Lyon County (10.5%) and Nevada (12.9%) (U.S. Census Bureau 2020). The Proposed Action would not disproportionately affect racial or ethnic minority or low-income populations based on the U.S. Census Bureau (2020) data.

3.2.5 Geology and Soils

Issues of environmental concern for geology and soil resources are erosion or topsoil loss; slope instability; and effects of earthquakes. Fernley is located north of the Virginia Range on a plain of valley fill over 1,000 feet deep, comprised of Pleistocene age lake sediments (Sinclair and Loeltz 1963). The underlying consolidated volcanic rocks forming the bedrock are relatively impermeable to groundwater (Sinclair and Loeltz 1963). The Pyramid Lake Fault bisects the Truckee Canal just west of the U.S. Highway 95 bridge in Fernley (Reclamation 2015a). Most soils in the region are aridic (Natural Resources Conservation Service 2016). These soils are not highly susceptible to water erosion (Reclamation 2014); wind erosion ratings vary.

Construction activities would affect soils in the project area. However, the project area is small (< 0.5 acre) with previously disturbed soils and has relatively low slopes except where it intersects the Truckee Canal and lateral canal prisms. Construction activities within Reclamation easements would meet Reclamation's design standards, including seismic and embankment stability criteria. All excavations would be backfilled, compacted, and recontoured to original slopes where possible. Portions of the Truckee Canal prism and embankment would have slope protection and road aggregate added, which would reduce soil erosion. The private road would be paved which would permanently reduce erosion from the roadway while creating an impermeable surface that could increase stormwater runoff along the roadside. The Proposed Action is not expected to have a significant impact on geology or soils with implementation of Reclamation design standards, proposed EPMs, and NDEP BMPs for stormwater pollution prevention.

3.2.6 Indian Sacred Sites

Per Executive Order 13007, an Indian Sacred Site means any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the Federal agency of the existence of such a site. No Indian Sacred Sites are known to occur on the federal facilities within the project area. The Proposed Action would not limit access to or ceremonial use of Indian Sacred Sites on federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sites.

3.2.7 Indian Trust Assets

Indian Trust Assets (ITA) are legal interests in property or natural resources held in trust by the United States for Indian tribes or individuals. The Secretary of the Interior is the trustee for the United States on behalf of Indian tribes; all Interior bureaus share the Secretary's duty to act responsibly to protect and maintain ITAs reserved by or granted to Indian tribes or Indian individuals by treaties, statutes, and executive orders. There are two federally recognized Indian tribes located in the vicinity of the Proposed Action or with Newlands Project water rights (Bureau of Indian Affairs 2020).

The Pyramid Lake Reservation is immediately northwest of Fernley (Appendix A). It covers 475,085 acres and includes Pyramid Lake and the lower Truckee River. The Settlement Act affirmed that "all existing property rights or interests, all of the trust land within the exterior boundaries of the Pyramid Lake Indian Reservation shall be permanently held by the United States for the sole use and benefit of the Pyramid Tribe (Section 210[b][1])." The PLPT is allocated water from the Truckee River under the Decree for irrigation of bottomlands (14,742 AF, Claim No. 1) and benchlands (15,345 AF, Claim No. 2) on the Pyramid Lake Reservation. The Pyramid Lake fishery is culturally and economically important for the tribe. The PLPT operates fish hatcheries on the Pyramid Lake Reservation that rear Lahontan Cutthroat Trout (LCT; *Oncorhynchus clarkii henshawi*) and Cui-ui (*Chasmistes cujus*), and they manage all fishing and hunting on tribal lands. The estimated percent increase (0.3–2.7%) in Truckee Canal laterals efficiency under the Proposed Action would not appreciably reduce Truckee River diversions, so no significant beneficial indirect impacts to ITAs of the PLPT are expected to occur.

The Fallon Reservation and Colony are ITAs for members of the Northern Paiute and Western Shoshone Indians known as the Fallon Paiute-Shoshone Tribe (FPST). The Fallon Reservation (8,156 acres) is approximately 10 miles northeast of Fallon; the Fallon Colony (60 acres) is located closer to Fallon. Colony land is used for residential and commercial purposes. Water rights on and appurtenant to the Fallon Reservation are served by Newlands Project facilities pursuant to OCAP and are in the Carson Division. These water rights may be used for irrigation, fish and wildlife, municipal and industrial, recreation or water quality purposes, or for any other beneficial use subject to applicable laws of the State of Nevada. The FPST dedicated Fallon Reservation acreage to be used as wetland habitat for wildlife and acquired water rights to support the wetlands. The Proposed Action would have no significant direct or indirect impact on ITAs for the FPST.

3.2.8 Land Use and Planning

Land use and planning concerns are typically related to whether a project would physically divide an established community or conflict with any applicable land use plans or policies. The proposed project is within the Stock Lane Special Planning Area of Fernley, an area zoned as Rural Residential with a minimum lot size of 2 acres (Fernley 2018). All existing land uses (residential, irrigated agriculture, and transportation) and zoning in the project area would be maintained under the Proposed Action. New structures that would be authorized under the Proposed Action are within Reclamation's easements, and other municipal structures that would be part of the proposed project are within existing local road and utility easements or at the Plant, and neither would have significant impacts on local land use or planning.

3.2.9 Noise

Noise concerns are typically described in terms of effects on noise-sensitive land uses that are located within hearing range of a noise-producing activity. These noise-sensitive land uses are referred to as "sensitive receptors" and typically include residences, schools, hospitals, child-care facilities and other similar land uses. Noise sources for construction projects that are generally of concern for sensitive receptors include heavy equipment, gas or diesel motors (*e.g.*, generators) and vehicle traffic. Average noise levels of construction equipment range from 77 to 85 decibels at 50 feet from the source (Federal Highway Administration 2006).

Sensitive receptors near the project area include several residences within 100 feet of proposed construction. Ambient noise conditions include periodic TCID O&M of Reclamation facilities, Fernley's Plant O&M, local traffic, human activity, Union Pacific Railroad train traffic, and Interstate 80 traffic. Under the Proposed Action increased local traffic and construction would temporarily elevate noise levels. Impacts would be mitigated to a less than significant level by limiting construction to normal business days and work hours (Guinn, pers. comm. 2020). Any noise from Fernley's new pump station (March through November) is expected to be minimized by the Plant's existing concrete block wall along the facility perimeter.

3.2.10 Public Health and Safety

Issues of environmental concern for public health and safety are hazardous materials (*e.g.*, petroleum products), turnout entrainment, and Truckee Canal operational safety. As an EPM, Fernley would utilize a staging area at the Plant for hazardous materials. Fernley would comply with federal and state hazardous materials handling, storage and transportation laws, as well as NDEP BMPs. Infrastructure in the project area includes federal facilities that are closed to public use but typically unfenced and fenced municipal facilities at the Plant. The turnout would include a trash rack which would prevent human entrainment in the pipeline. Construction is scheduled to occur outside of the irrigation season or when federal facilities would not be conveying water. The proposed Truckee Canal prism/embankment slope protection measures upstream and downstream of the new turnout would reduce the risk of a future breach near the turnout. Reclamation would continue annual risk inspections of the Truckee Canal (Reclamation 2015b). The TCID would also continue to inspect and maintain the Truckee Canal and TC-1 and TC-1-1 lateral canals. Fernley would maintain the flowmeter and pipeline. Impacts to public health and safety under the Proposed Action are not expected to reach a significant level.

3.2.11 Transportation/Access

Level of Service is a qualitative description of traffic flow based on factors such as speed, travel time, delay, freedom to maneuver, volume, density, and capacity. The Proposed Action and overall proposed project would involve a temporary increase in traffic along local roads as a result of construction activities due to heavy equipment and worker vehicles. Roads likely to be affected by increased traffic would include a portion of Mesa Drive, Truckee Lane, Truckee Canal maintenance road, the unpaved private road, and the unpaved public road adjacent to the Plant boundary. These roads are all low volume traffic areas. Traffic volumes associated with the construction are not anticipated to increase to an amount that would diminish the overall existing level of service within the project area. Sections of the Truckee Canal maintenance road, Truckee Lane, unpaved private road, and unpaved public road would each be closed to through traffic at some time during construction. Temporary impacts to access would be minimized through construction phasing, signage, flaggers, and/or detour routes for local traffic and to allow residents to safely access their homes. The Proposed Action is not expected to have significant effects on transportation or access.

3.2.12 Visual Resources

Visual resources, including aesthetics and scenic resources, are the visible physical features of a landscape (*e.g.*, land, water, vegetation, animals, structures, and other features). Effects on visual resources are determined through the consistency of actions with Reclamation's mission to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public. Effects are determined to be adverse if actions diminish visual resources by introducing intrusions into the landscape.

Under the Proposed Action, the new turnout and flowmeter vault would be visible from the Truckee Canal maintenance road and Truckee Lane, and from hillsides across the Truckee Canal. The turnout would match the design of multiple other newer turnouts on the Truckee Canal both upstream and downstream. The new flowmeter vault and entire pipeline would be primarily and entirely underground, respectively. The new box culvert on the TC-1-1 would match the existing structure with limited visibility of it underneath the private road from either the Truckee Canal maintenance road or Truckee Lane. The new pipeline bedding on the TC-1 lateral canal at the crossing would not be visible within the canal prism. The visible structures built under the Proposed Action would be consistent with the existing visual resources of the surrounding irrigated agricultural and residential landscape in the project area and nearby. Other proposed activities by Fernley, including road paving and underground utility infrastructure would also be consistent with visual resources of the low-density residential area surrounding the project area. The pump station and flowmeter at the Plant would be visually screened from nearby residences behind an existing block wall, while remaining visually consistent with existing municipal water system facilities. The Proposed Action is not expected to have significant impacts on visual resources.

3.2.13 Water Resources

Water resources of environmental concern include surface water and groundwater within and surrounding the project area. This section addresses the potential impacts to water resources under the Proposed Action including water quality and artificial groundwater recharge. Activities affecting water quality would fall under the Clean Water Act (33 USC 1251 *et seq.*). Fernley currently supplies its potable water demands from six municipal wells, pumping an average of 3,943 AFY (Farr West Engineering 2020). Groundwater is pumped from the wells and conveyed by gravity in pipelines to the Plant where it is treated, distributed to six aboveground water storage tanks and eventually

delivered to municipal water users. The urban distribution system consists of nearly 240 miles of pipeline with approximately 8,200 metered water connections (Stanka Consulting 2016).

3.2.13.1 Surface Water

The climate within the region of influence for the Truckee Canal is arid. Runoff (April-July) from the Sierra Nevada snowpack is the primary source of surface water for the Truckee and Carson River Basins. Peak river runoff typically occurs in May. Fernley has an arid climate with an average of 6.05 inches of annual precipitation. Rainfall is distributed throughout the year with May being the wettest month (Western Regional Climate Center 2020b). Fernley experiences an average of 13 thunderstorms per year.

Based on a review of aerial photography, a 2019 site visit and the National Wetlands Inventory map (USFWS 2020a), there are no known natural surface water bodies within or immediately adjacent to the project area. Surface water is present nearly year-round in the Truckee Canal; the TC-1 and TC-1-1 lateral canals and private service laterals associated with those lateral canals are only supplied with surface water deliveries during the irrigation season. These are all primarily unlined earthen facilities and routinely maintained to conserve their water conveyance capacity. The slope of canals in the Newlands Project are nearly level, and canal flows are generally slow due to lack of head differential (TCID 2010).

Construction work would be scheduled to occur when the Truckee Canal is not being operated and after the irrigation season when the lateral canals are typically dewatered. Turnout construction would include Truckee Canal prism slope protection materials which could slightly reduce future local sediment inputs to the canal but would likely not measurably improve surface water quality based on the small scale compared to miles of unprotected prism slopes upstream and downstream. Within the area of the proposed pipeline crossing, the TC-1-1 lateral canal flows within a concrete box culvert. This box culvert would be replaced with an equivalent structure and no changes in surface water quality are expected during subsequent water deliveries. The TC-1 pipeline crossing site would have buried CLSM pipeline bedding and filter fabric but there would be no change in future surface water quality under the Proposed Action as the lateral canal prism at the crossing site would remain unlined. Proposed EPMs would be used to protect surface water quality by requiring silt fencing and/or fiber rolls around material stockpiles and earthwork to control stormwater runoff; allowing heavy equipment and vehicle maintenance to occur only within designated staging areas at the Plant; and restoring disturbed surfaces to their original pre-construction contours where possible to avoid changing stormwater runoff patterns. NDEP BMPs would also be used by Fernley during construction as required under their stormwater management permit. The Proposed Action is not expected to have significant impacts to surface water quality in the federal facilities within or downstream of the project area.

3.2.13.2 Groundwater

Groundwater generally occurs under both unconfined (water table) and confined (artesian) conditions. The confined groundwater generally occurs in deeper aquifers beneath unconfined aquifers (Sinclair and Loeltz 1963). In Nevada, the major aquifers are basin-fill aquifers composed primarily of alluvial, colluvial and lacustrine deposits; most groundwater withdrawals for development are from the upper 500 feet of such aquifers (Nevada Division of Water Planning 1999). Issues of environmental concern for groundwater include impacts to water availability and quality.

Fernley is located in the Fernley Area Hydrographic Basin (76,800 acres) within the West Central Region Hydrographic Area of Nevada. The Fernley Area is a designated Administrative Groundwater Basin of Nevada where groundwater appropriations have additional regulatory protections (Nevada Division of Water Resources (NDWR) 2020a; Order #699 on December 30, 1977; Order #1101 on November 21, 1989). The perennial yield of groundwater in the basin is 600 AFY; groundwater commitments[18] total 16,636.39 AFY (NDWR 2020b). Fernley has groundwater rights for approximately 8,900 AFY in this basin (Farr West Engineering 2020).[19] The regional groundwater system in the Fernley Area has eastern and western components based on a groundwater divide in the eastern portion of Fernley. The western component flows to the east, starting below Derby Dam, and then flows north paralleling the Truckee River toward Pyramid Lake. Groundwater generally flows northeasterly through Fernley, and then northwest toward the Truckee River (Epstein *et al.* 2007). Pleistocene Lake Lahontan inundated the Fernley region during four high lake level periods (Sinclair and Loeltz 1963). As the lake was in a large closed basin, the salinity of the lake water increased due to evaporation. These minerals were eventually deposited in lake sediments. The groundwater in Fernley can be highly mineralized, commonly with sodium and sulfate ions, where it is in contact with readily soluble materials in lacustrine sediments (Sinclair and Loeltz 1963).

Groundwater availability near Fernley is influenced by artificial groundwater recharge caused by seepage from unlined portions of the Truckee Canal. A 2007 Fernley-Wadsworth steady state groundwater flow model water budget estimated that groundwater recharge was a combination of the infiltration from the Truckee Canal (14,151 AFY), mountains (5,115 AFY), lateral canals (3,584 AFY), irrigation (2,539 AFY), and the Truckee River (573 AFY) (Epstein *et al.* 2007). In 2011 hydrologic modeling, Truckee Canal seepage estimates around Fernley ranged from 14,000 to 22,000 AFY (Stanka Consulting 2012). Seepage losses from the Truckee Canal vary with flows. As of 2014, Fernley was using 4,096 AFY of its groundwater rights for its municipal wells (Stanka Consulting 2016). Private wells pump approximately 3,100 AFY from the local groundwater basin (D. Rigdon, pers. comm., as cited in Perea 2020).

Fernley's municipal production wells range from 199 to 1,000 feet deep. Raw water from Fernley's deeper wells has tested high (> 10 micrograms per liter) for arsenic (Stanka Consulting 2016). Fernley's wells are also high in total dissolved solids (Farr West Engineering 2020). As of 2019, treated potable water from the Plant did not exceed any of the maximum levels for regulated contaminants in Nevada (Fernley 2020).

With the Proposed Action, Fernley would implement their Water Resources Plan adopted in January 2020 (Farr West Engineering 2020). Surface and groundwater resources would be conjunctively managed to provide a sufficient volume of water to meet Fernley's water service demands once the proposed project is complete. The Proposed Action is not expected to have a significant effect on the availability or quality of groundwater resources because the calculated increases in Truckee Canal laterals efficiency under various water year scenarios is small (0.3–2.7%), indicating that any reduction in artificial groundwater recharge in the Truckee Division would likely be unmeasurable.

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[18] Groundwater committed is the sum of all permitted, certificated, decreed, reserved, relinquished, revocable and unadjudicated vested claims to groundwater rights (NDWR 2020b).

[19] Fernley also has groundwater rights to 2,100 AFY in the Brady's Hot Springs Hydrographic Area (Farr West Engineering 2020). Infrastructure is needed to integrate this groundwater into the municipal water system.

3.2.14 Cumulative Effects

Per Council on Environmental Quality regulations for implementing the procedural provisions of NEPA, a cumulative impact is defined as the impact on the environment which results from the incremental impact of a proposed action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

All GHGs contribute to cumulative climate change impacts. The transportation system is the second largest contributor (33%) to GHG emissions in Nevada (NDEP 2016). Although incremental increases in GHG and particulate matter would occur during construction, these increases would be minor in comparison with the normal range of everyday local traffic. For context, the EPA's mandatory reporting threshold for large sources of GHG is 25,000 metric tons of CO_2 emitted annually (EPA 2016). This threshold is approximately the amount of CO_2 generated by 5,281 passenger vehicles per year (EPA 2020b). Comparatively, mobile emissions from 5–10 pieces of construction equipment (backhoe, dump truck, water truck, cement truck, and asphalt paving equipment) and worker vehicles during the Proposed Action and proposed project would be considerably lower and not have a significant cumulative effect on GHGs.

Reclamation's XM Project for the Truckee Canal is a reasonably foreseeable future action within the project area which could have cumulative effects with the Proposed Action. The XM Project's construction actions would follow Reclamation's standard design practices to minimize geologic impacts, such as assessing geologic risk and building to conform to seismic standards. The Proposed Action also incorporates Reclamation design practices and is not expected to significantly contribute to cumulative geologic impacts. Truckee Canal safety fixes under the XM Project would increase public safety by reducing the risk of future canal breaches in the Fernley Reach. The Proposed Action would impact approximately 150 feet of the Truckee Canal embankment and would not have significant cumulative effects on public safety with the substantially larger XM Project.

A review of groundwater supplies versus demands indicates possible groundwater shortages for Fernley if safety improvements identified in the XM Project are implemented and artificial groundwater recharge from the Truckee Canal is eventually decreased within the Fernley Reach (Reclamation 2020). A reduction of artificial recharge could have an indirect adverse effect on groundwater quality (Farr West Engineering 2020). Reclamation reviewed the State Engineers' record of groundwater wells that may be affected by reducing the artificial groundwater recharge caused by lining the Truckee Canal for the XM Project and determined that 622 domestic groundwater wells may be affected within the Fernley municipal boundary (Reclamation 2020). Fernley may extend its water system infrastructure to provide water hookups to affected residences within the city that have been using groundwater wells since 1993 without needing to obtain additional groundwater rights (State Engineer Ruling #1184).

Fernley's population increased from less than 9,000 in 2001 to 19,700 in 2020, driven by economic development, its proximity to Reno/Sparks, the Tahoe-Reno Industrial Center and major national transportation corridors (Interstate 80, Union Pacific Railroad). Population growth and future residential and commercial development are expected to continue in Fernley outside of the project area. Fernley may purchase water rights to increase its water supply and support future development. Fernley may develop infrastructure to deliver its Brady's Hot Springs Hydrographic

Area groundwater rights to the Plant. Fernley may also require that as agricultural lands within the city limits are developed for municipal and industrial uses, the applicants for water service dedicate enough valid water rights to meet future needs. An effluent water delivery system may be initiated in the future if Fernley files secondary use applications which would offset treated water demands by using effluent for non-potable uses such as landscaping (Farr West Engineering 2020). The Proposed Action is not expected to have significant cumulative adverse effects on groundwater resources. Authorizing use of federal facilities for municipal water purposes may mitigate the potential indirect adverse effects of the XM Project on groundwater resources.

Section 5 Consultation and Coordination

5.1 Public Involvement

Reclamation is making this EA available to the public for a 2-week comment period.

5.2 Endangered Species Act

Section 7 of the ESA (16 USC 1531 *et seq.*) requires Federal agencies, in consultation with the Secretary of the Interior, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of the critical habitat of these species. Reclamation obtained an official species list from the U.S. Fish and Wildlife Service (USFWS). Three species listed under the ESA were identified as potentially occurring within the project area and/or affected by the proposed project – the endangered Cui-ui, threatened LCT, and threatened Western United States Distinct Population Segment of Yellow-billed Cuckoo (YBC, *Coccyzus americanus*) (USFWS 2020b).

Reclamation has a November 6, 1997, biological opinion from USFWS for Cui-ui and LCT covering the OCAP. Based on Fernley's OCAP efficiency analysis, the diversion and conveyance of Fernley's municipal water associated with the use of federal facilities under the Proposed Action would slightly increase the efficiency of the Truckee Division and thereby potentially slightly increase the efficiency of the Newlands Project as a whole. Thus, the Proposed Action would not increase the adverse effects of the Newlands Project on the listed fish as covered under the 1997 biological opinion. Reclamation has also recently reinitiated formal Section 7 consultation with the USFWS for Cui-ui and LCT regarding the OCAP (Reclamation 2020). Reclamation's 2020 biological assessment for the reinitiation of consultation addresses potential adverse effects to Cui-ui and LCT associated with diversions of up to 600 cfs of Claim No. 3 water rights from the Truckee River, including Fernley's municipal water.

As discussed above, the estimated percent increase (0.3–2.7%) in Truckee Canal laterals efficiency under the Proposed Action would not appreciably reduce Truckee River diversions, so no significant beneficial indirect impacts to Cui-ui or LCT are expected to occur. Use of FMCW in combination with direct diversions of municipal water during the Newlands Project irrigation season would likely result in similar or potentially slightly greater OCAP efficiencies for the Truckee Division than

Fernley calculated for the direct diversions alone, unless no other water deliveries were being made during the irrigation season using the Truckee Canal. Any potential increase in Truckee Canal laterals efficiency under the Proposed Action with concurrent use of FMCW would still not be expected to appreciably reduce Truckee River diversions, so no significant beneficial indirect impacts to Cui-ui or LCT in the lower Truckee River or Pyramid Lake are expected to occur.

Reclamation has determined that the Proposed Action will have no effect on the YBC because there are no recent YBC records within or near the project area, and the project area does not have the extent of riparian woodlands characteristic of YBC breeding habitat (≥50-acre patches, ≥33-foot-wide linear habitats; Halterman *et al.* 2015). In addition, the Proposed Action would not change the amount of water entering Lahontan Reservoir to measurably affect flooding of seasonally occupied YBC habitat upstream on the Carson River.

5.3 National Historic Preservation Act

Reclamation is consulting under Title 54 USC 306108, commonly known as Section 106 of the NHPA, which requires that federal agencies give the Advisory Council on Historic Preservation an opportunity to comment on the effects of an undertaking on historic properties, properties that are eligible for inclusion in the National Register. The 36 CFR Part 800 regulations implement Section 106 of the NHPA. Section 106 of the NHPA requires federal agencies to consider the effects of federal undertakings on historic properties, properties determined eligible for inclusion in the National Register.

5.4 Tribal Coordination

The PLPT was provided with a draft of the *Truckee Canal Diversion Efficiency Study – OCAP Accounting* report. Reclamation met with PLPT on July 11, 2019, to discuss their comments on the draft report. In accordance with the Settlement Agreement, the PLPT was provided with an advance copy of this EA for review prior to its public release. Reclamation is also consulting with the PLPT's Tribal Historic Preservation Office.

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Appendix A Indian Trust Assets

Indian Trust Assets Request
Form (CGB Region)

Submit your request to your office's ITA designee or to CGB-400, attention Deputy Regional Resources Manager.

Date: July 8, 2020

Requested by	Selena J. Werdon, Natural Resources Specialist Lahontan Basin Area Office/Resources Division
Fund	XXXR0680R1
WBS	RR17529652.2600081
Fund Cost Center	2630000
Region # (if other than MP)	
Project Name	Use of Reclamation Facilities for City of Fernley Municipal Water
CEC or EA Number	LO-2018-1014
Project Description (attach additional sheets if needed and include photos if appropriate)	The City of Fernley (Fernley) has submitted an SF-299 *Application for Transportation and Utility Systems and Facilities on Federal Lands* to Reclamation. Under the Proposed Action, Reclamation would authorize the use of federal facilities associated with the Newlands Project in perpetuity by Fernley for diversion and conveyance of municipal water, including Fernley Municipal Credit Water, to their Water Treatment Plant during the Newlands Project irrigation season. Fernley's construction activities would occur on the Truckee Canal and the TC-1 and TC-1-1 lateral canals on Reclamation easements acquired under the Canal Act of 1890 (43 USC 945). Activities would include installing a Truckee Canal turnout structure, 1,115-foot pipeline, flowmeter, and flowmeter vault. The turnout structure and vault would be incorporated into the federal facilities for the Newlands Project. Reclamation would provide construction oversight for activities within federal facilities. TCID would perform O&M work on the new turnout and flowmeter vault. Fernley would continue to pay TCID O&M fees. The Proposed Action would implement the 2009 *Agreement Between the City of Fernley and the United States Regarding Settlement of Claims and Protests Over Use of Federal Reclamation Facilities*. The Agreement (Section II.3(C)(1)) required Fernley, in cooperation with Reclamation, to conduct an analysis of the impact of the Proposed Action on Newlands Project efficiency as determined under the 1997 Adjusted Operating Criteria and Procedures (43 CFR 418.12). The analysis showed increases in combined Truckee Canal lateral efficiencies for the Proposed Action

	under each of three different percent allocation water year scenarios. Under the Proposed Action the combined Truckee Canal lateral efficiencies for the 50 percent allocation water year increased from 96.6 to 96.9 percent, the 75 percent allocation year increased from 62.1 to 64.8 percent, and the 100 percent allocation year increased from 77.4 to 79.0 percent. These Truckee Division calculated increased efficiencies under the Proposed Action would then propagate to the efficiency calculations of the entire Newlands Project. Turnout construction within the Truckee Canal embankment would occur outside of the irrigation season from November to February or would be scheduled to occur during periods when the Truckee Canal is shut down for maintenance or other reasons. Pipeline construction and flowmeter/vault installation within Reclamation's Truckee Canal easement may occur concurrent with the turnout construction. The overall project would take approximately 8 months to complete given construction window constraints. Construction is anticipated to begin in late 2020. Per the Settlement Agreement, the Pyramid Lake Paiute Tribe is reviewing the draft environmental assessment for the Proposed Action.
***Project Location (Township, Range, Section, e.g., T12 R5E S10, or Lat/Long cords, DD-MM-SS or decimal**	T20N, R24E, SW¼ Section 10, Lyon County, Nevada 39° 36' 37.90"N, 119° 16' 53.46"W See attached figures for maps of the project area and the closest Native American lands.

SELENA WERDON Digitally signed by SELENA WERDON Date: 2020.07.08 18:57:44 -07'00'

Signature | Selena J. Werdon (Printed name of preparer) | 7/8/2020 (Date)

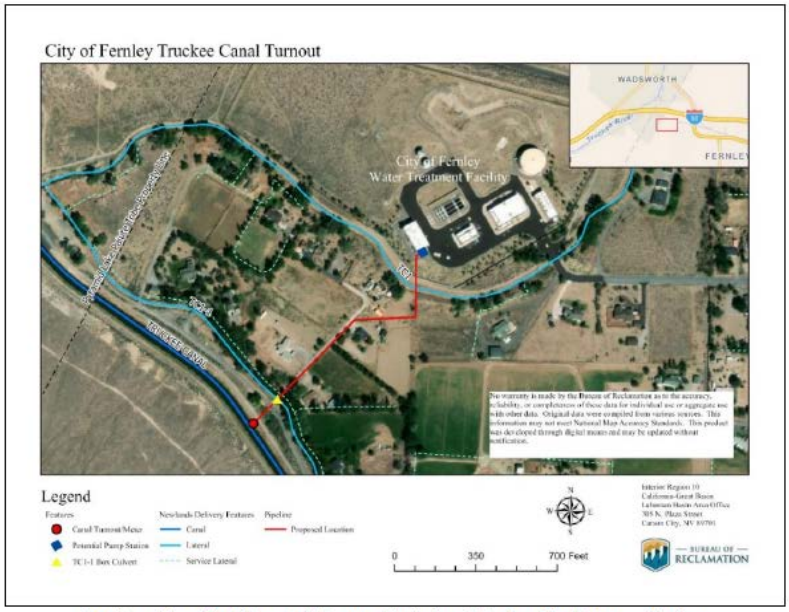
ITA Determination:

The closest ITA to the proposed Fernley Municipal Water activity is the Pyramid Lake Reservation for the Pyramid Lake Paiute Tribe, Nevada about 0.16 mile to the northwest (see attached image).

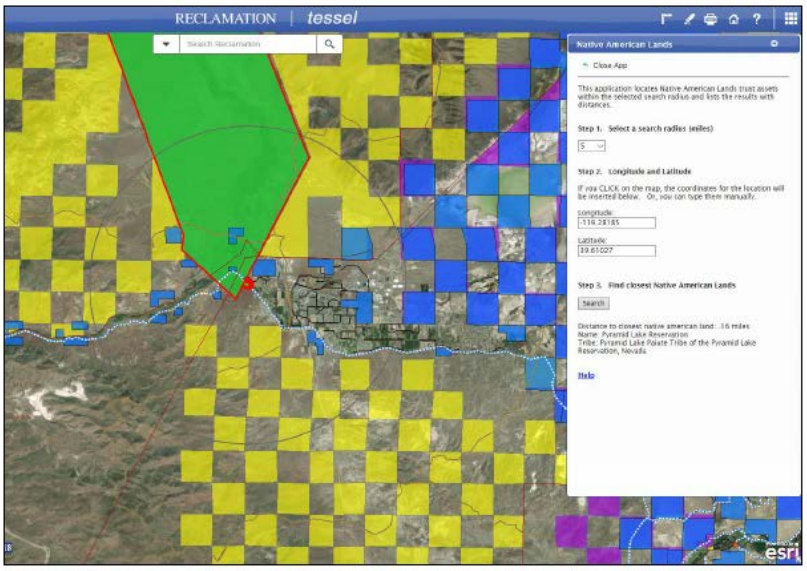
Based on the nature of the planned work it does not appear to be in an area that will impact Indian hunting or fishing resources or water rights nor is the proposed activity on actual Indian lands. It is reasonable to assume that the proposed action will not have any impacts on ITAs.

RENA BALLEW Digitally signed by RENA BALLEW
Date: 2020.07.09 07:01:40 -07'00'

Signature	Printed name of approver	Date



Location of the City of Fernley's Proposed Project and Reclamation's Proposed Action.



Native American Lands within 5 miles of the City of Fernley's Truckee Canal Takeout, Lyon County, Nevada.