August 27, 2019

RE: Ochoco Irrigation District Infrastructure Modernization Project

Dear stakeholders,

Ochoco Irrigation District (OID) is seeking federal funding to modernize irrigation canals, laterals, and other infrastructure throughout the District. The purpose of this letter is to:

- Transmit the Preliminary Investigative Report for this project;
- Advise you on the 30-day public comment period beginning on August 27, 2019; and
- Advise you on how to submit comments on the proposed project.

OID is seeking federal funding through the Natural Resources Conservation Service (NRCS's) Watershed Protection and Flood Prevention Program, Public Law (PL) 83-566. This funding would be invested in infrastructure improvements within the District and lands irrigated with McKay Creek water rights.

Federal investments through PL 83-566 need to comply with both the program's requirements and the National Environmental Policy Act (NEPA) process. Under the NEPA process, a federal agency independently evaluates the effects of a proposed project on social, cultural, and natural resources. NRCS is the lead federal agency managing the NEPA process for the OID Infrastructure Modernization Project.

Public scoping is the first step of the NEPA process. Under this step, NRCS releases a Preliminary Investigative Report (PIR) to resource agencies, interested stakeholders, and the public. The PIR identifies the proposed project and framework for analyzing resources that have the potential to be effected by the proposed project.

OID and NRCS will discuss the PIR with resource agencies, interested parties, and the public during a public scoping meeting to be held on September 18, 2019. The purpose of this meeting is to collect comments on the proposed project and any alternative actions that could also achieve the purpose and need of the project, as well as answer questions about the NEPA process. NRCS will use the comments gathered during public scoping to inform the next step in the NEPA process, which is the development of a Draft Watershed Plan – Environmental Assessment.

Agency and public comments in response to the issues discussed during the meeting and/or review of the PIR are due by October 18, 2019. Comments and questions can be emailed to: ochoco.id.comments@gmail.com.

OID thanks you for your interest in our system modernization and looks forward to your participation.

Sincerely,

Bruce Scanlon, General Manager

Preliminary Investigative Report for the Ochoco Irrigation District Infrastructure Modernization Project

Prepared by Farmers Conservation Alliance

Submitted to Natural Resources Conservation Service

Summer 2019

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Abbreviations

BMP	best management practice
EA	Environmental Assessment
NEPA	National Environmental Policy Act
NRCS	Natural Resources Conservation Service
O&M	Operations and Maintenance
OID or District	Ochoco Irrigation District
PIR	Preliminary Investigative Report
Plan-EA	Watershed Plan-Environmental Assessment
SHPO	State Historic and Preservation Office
SIP	System Improvement Plan
U.S./US	United States
USDA	United State Department of Agriculture
USFWS	United States Fish and Wildlife Service

1 Introduction

Ochoco Irrigation District (herein referred to as OID or the District) seeks federal funding through the Natural Resources Conservation Service's (NRCS's) Watershed Protection and Flood Prevention Act, Public Law 83-566, authorized by Congress in 1954 (herein referred to as PL 83-566), to implement the proposed irrigation infrastructure modernization project within Crook County, Oregon. The proposed project area spans from the Ochoco Reservoir to about 12 miles west of Prineville, and from the District's diversion along the Crooked River north to McKay Creek. It encompasses a collection of canals and laterals[1] in OID, as well as privately irrigated lands to the north of the District that are irrigated with McKay Creek water rights. Project actions would include converting existing canals and laterals to pipes, new pump stations, raising canal banks, and constructing a new lateral.

The District currently relies on a network of pump stations to distribute water through 120 miles of District operated canal and laterals, which are up to 102 years old. Modernizing OID's aging water distribution system would increase system efficiency and help address local water resource concerns. In addition to infrastructure modernization, the District also seeks funding to implement the McKay Creek Water Rights Switch Project (herein referred to as the McKay Switch Project) (see Section 6.2.2 for more information).

The National Environmental Policy Act (NEPA) of 1969 and other applicable laws require a complete analysis of the environmental effects of the proposed project, as well as, the consideration of additional alternatives. Following the scoping period, a Draft Watershed Plan-Environmental Assessment (Plan-EA) will be prepared that reviews the potential effects and mitigation requirements of the project, and details project specifics.

The Draft Plan-EA will describe the proposed project in detail and analyze its potential effects on cultural, social, and environmental resources in the vicinity. NRCS will then release the Draft Plan-EA for public comment.

2 Consultation and Participation

2.1 Sponsors, Local Partners, Agencies, and Tribal Participation

The scoping process is a collaboration between the District, NRCS, partners, agencies, tribes, and other stakeholders. It is intended to provide transparency, ownership, and cooperation towards a solution that meets the purpose and need for action (see Section 3). Additional opportunities for input will be during the Watershed Planning Process and development of the Draft Plan-EA.

Project sponsors are the parties involved in scheduling, facilitating communication, project design and development, and document writing. The project is co-sponsored by the Deschutes Basin Board of Control and OID. NRCS is the lead agency managing the NEPA process.

[1] "Laterals" refer to canals or pipelines that branch off from a main or larger canal or pipeline.

2.2 Permits and Compliance

Partners seek federal funding through PL 53-866. Therefore, it will require an environmental assessment to comply with NEPA. The NEPA processes will identify the necessary compliance with all relevant state and federal permits and regulations, including Section 106 of the National Historic Preservation Act (managed by the State Historic and Preservation Office [SHPO]), Section 7 of the Endangered Species Act (managed by the National Oceanic and Atmospheric Administration Fisheries and the U.S. Fish and Wildlife Service [USFWS]), and Sections 404 and 401 of the Clean Water Act (managed by Oregon Department of State Lands and the U.S. Army Corps of Engineers). Permits that are not received during the NEPA process will be received prior to beginning construction of the proposed project.

2.3 Mitigation

Mitigation for environmental, historical, or other social effects will be considered and described in the Draft Plan-EA, and consultation with appropriate agencies will be conducted to agree on the mitigation plans.

3 Purpose and Need for Action

The purpose of the proposed project is to improve water conservation, water delivery reliability, and public safety on District-owned canals and laterals.

Federal support would enable the District to pursue a strategic, comprehensive approach to implementing projects that address the following watershed problems and resource concerns: water loss in District conveyance systems, water delivery and operations inefficiencies, instream flow for fish and aquatic habitat, and risks to public safety from open irrigation canals.

3.1 Watershed Problems and Resource Concerns

3.1.1 Water Loss in District Conveyance Systems

The District's open canals and laterals lose about 30 percent of their flow to seepage, evaporation, and end spills[2] (OID 2017). Water losses due to inefficient conveyance systems can prevent the District from delivering to its patrons the full rate and duty associated with each water right. The District identifies that reducing or eliminating end spills is a high priority to both conserve water and improve operational efficiencies. Details of water losses and demands can be found in the District's System Improvement Plan (SIP; OID 2017), which is included as Appendix A to this document.

3.1.2 Water Delivery and Operation Inefficiencies

The District's canals and laterals do not transport and deliver water as precisely, accurately, or efficiently as a modernized system would. Water losses through seepage, lack of measurement devices at turnout locations, and fluctuations in water demand make it much more challenging for the District to deliver the amount of water that patrons want when they need it. The challenge of

[2] The District operationally spills excess water that is not used by patrons at the ends of its canals and laterals. This excess water typically spills into a ditch, creek, stream, or river and is referred to as "end spills."

assuring patrons at the tail end of the system receive water, compounded by the operational inefficiencies mentioned above, result in end spills of water at various points of the District.

The District relies on a series of pump stations to lift and carry water across their delivery system. Most of these pumps were installed over 60 years ago and have increasingly become less reliable, less efficient at pumping water, and costlier to operate and maintain over time. The failure of pumps and temporary shutdown of pumps for repair or maintenance affects the District's ability to efficiently provide water to its patrons.

3.1.3 Instream Flow for Fish and Aquatic Habitat

Currently, waterbodies affected by irrigation diversions may experience low streamflow during the irrigation season. Low streamflow negatively impacts water quality and limits aquatic habitat. Stakeholders have expressed interest in restoring streamflow to improve fish and aquatic habitat in waterbodies such as McKay Creek, Ochoco Creek, and the Crooked River. The District would like to implement projects that support these activities, such as the McKay Switch Project, which would help to restore spawning and rearing grounds for anadromous fish.

3.1.4 Risks to Public Safety

Open canals pose a risk to public safety during the irrigation season. In addition to multiple instances of injury and car accidents, several drowning deaths or near-drowning instances have occurred in OID and adjacent district canals (OID 2018). The District's facilities located in urbanized areas heighten the potential for safety issues.

Canal breaching also poses a serious safety risk during the irrigation season. The District has experienced multiple canal breaching events. These events stop the District's pumping facilities, temporarily inhibit delivery of water to patrons, and cause property damage from resulting flooding (OID 2018).

3.2 Watershed and Resource Opportunities

The following resource opportunities would be realized through the implementation of the project.

- Improve irrigation water management and irrigation water delivery to OID patrons by improving conveyance efficiencies.
- Improve streamflow, and enhance water quality and aquatic habitat availability.
- Minimize the potential for injury and loss of life associated with open OID canals and laterals.
- Reduce the operations and maintenance involved in delivering irrigation water to OID patrons.
- Extend the recreation season on reservoirs and streams through maintenance of reservoir levels and increased instream flow.

4 Scope of the Environmental Assessment

NRCS and OID are conducting public scoping as a part of the project's NEPA review. Public scoping seeks to identify issues of economic, environmental, cultural, and social importance in the watershed. Following the scoping process, a Draft Plan-EA will be drafted to determine if the proposed project meets the program criteria found in Title 390, National Watershed Program Manual, Part 500, Subpart A, Sections 500.3 and 500.4.

5 Affected Environment - Existing Conditions

5.1 Project Location and Project Area

The District serves 898 accounts across 20,062 irrigated acres in Crook County. The project area consists of the District infrastructure to be modernized (canal, laterals, and pumps), areas where new infrastructure would potentially be built, and associated rights-of-way and/or easements where construction would take place.

5.1.1 Current Infrastructure and Water Rights

The District stores, diverts, and delivers water under multiple water rights with priority dates that fall primarily between 1869 and 1917[3]. These water rights allow the District to divert water primarily from Ochoco Creek, McKay Creek, Crooked River, and other sources. The District owns, operates, maintains, and has storage rights in the Ochoco Reservoir. The District has contracted with U.S. Bureau of Reclamation for the storage of 57,899 acre-feet of irrigation water in Prineville Reservoir. The District also has a contract with the U.S. Bureau of Reclamation to operate and maintain Bowman Dam and Prineville Reservoir.

The District conveys water through three primary canals with a series of laterals branching off them (Figure 5-1). These canals and laterals, the majority of which are open and unlined, generally move water from the southeast to the northwest. In the late 1960s and early 1970s, the District worked to conserve water by piping approximately 26.5 miles of canals and laterals. However, much of the pipe that was used was concrete, and subsequently the pipe has become leaky in some portions and does not allow for pressurization.

Water from Ochoco Reservoir is released into both Ochoco Main Canal, located at the reservoir outlet, and into Ochoco Creek for downstream diversions. District water from Prineville Reservoir is released into the Crooked River, then diverted into the Crooked River Diversion Canal. The District also operates minor diversions where the Crooked River Distribution Canal passes across McKay, Lytle, Dry, and Johnson creeks. Correspondingly, the District uses segments of Ochoco Creek and the Crooked River as well as Johnson, Dry, McKay, and Lytle creeks to convey irrigation water (OID 2013). Due to the relatively gradual change in elevation in the District's topography, the District operates seven pumping plants for lifting and distributing water through its canals and laterals. The District spills any undelivered water from the ends of its canals and laterals into the Crooked River, Ochoco Creek, and McKay Creek.

[3] There is also a water right with the priority date of 1986.

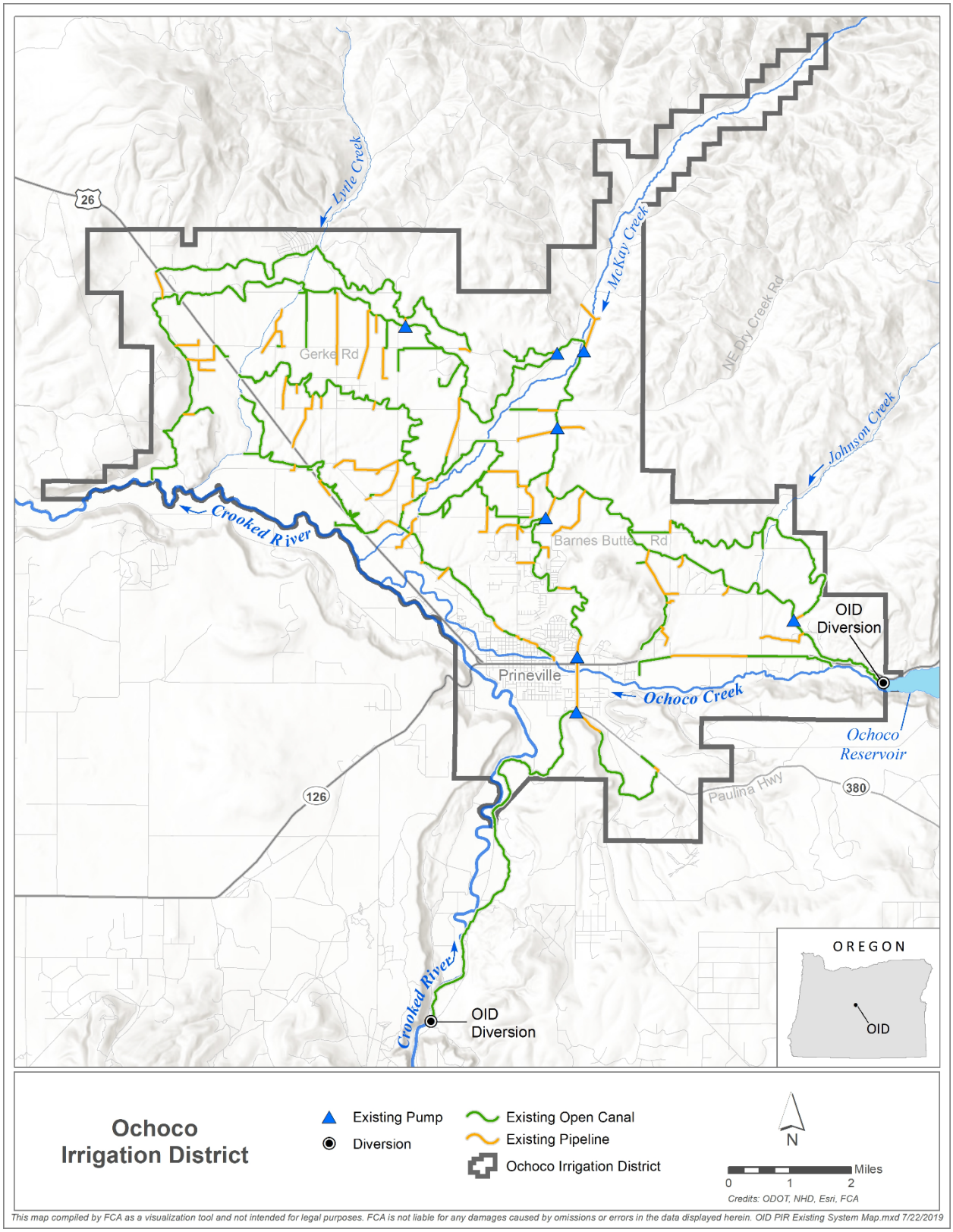

Figure 5-1. Ochoco Irrigation District current infrastructure.

Privately owned conveyances, including both pipes and open canals, stem off of the District's system. Patron turnouts[4] from the District's canals and laterals to these private conveyances are generally regulated by District staff and weir[5]-measured. District staff regulate flows through each District canal, lateral, and patron turnout.

To the north of the District, 15 irrigators draw water directly from McKay Creek. These irrigators are interested in becoming District patrons and switching the source of their water from natural flow in McKay Creek to storage rights in Prineville Reservoir. New infrastructure would deliver water from Prineville Reservoir to these irrigators.

5.1.2 Climate and Topography

Average annual precipitation in the District is 9 inches, with only 1.1 inches of rain falling during the summer months (June, July, and August). Summer temperature in July averages 66 degrees Fahrenheit with highs generally around 90 degrees Fahrenheit. The typical growing season in the District is 105 days (OID 2013).

Irrigated lands vary in elevations from approximately 2,800 feet to 3,120 feet above sea level. This variation is generally gradual; most District canals slope at a rate of 1 foot per 1,000 feet of length. (OID 2017).

5.2 Resource Issues, Project-Related Effects and Proposed Measures

Table 5-1 provides an overview of the resource issues identified to date, and OID's proposed measures to avoid or mitigate adverse environmental effects during the construction and operation of its proposed irrigation conveyance system.

Table 5-1. Overview of Currently Identified Resource Issues, Proposed Analysis, and Mitigation Measures to be Included in the Draft Watershed Plan-Environmental Assessment.

Resource	Resource Issues to be Analyzed	Proposed Analysis and Mitigation Measures
Geology and Soils	Effects from erosion of exposed and disturbed soils (both surface and backfill) on soil resources and proximate surface waters	Review NRCS and other available soil survey and geology maps. Develop and implement an Erosion and Sediment Control Plan. Incorporate best management practices (BMPs) during and post construction.
Cultural Resources	Effects of construction and operation of the proposed project on historic resources that are, or may be eligible for, inclusion in the National Register of Historic Places	Survey the project area and consult with SHPO prior to project construction. Develop and implement a Historic Properties Management Plan to provide a formal framework for the future treatment of all known historic properties within the area of potential effects that are eligible to be listed on the National Register of Historic Places.

[4] A "turnout" is the point at which the control of the water changes from the District to the patron(s).

[5] A "weir" is a structure built to measure the rate of flow of water coming from the canal or pipe to the patron's turnout.

Resource	Resource Issues to be Analyzed	Proposed Analysis and Mitigation Measures
	Effects of construction of the proposed project on archeological resources	Analyze previous archeological reports and potential effects, and consult with SHPO prior to project construction. Develop and implement an Unanticipated Discoveries Plan.
Vegetation	Potential for noxious weed distribution during and post construction	Incorporate noxious weed and revegetation BMPs during construction.
	Removal of general vegetation for project construction	Incorporate noxious weed and revegetation BMPs during construction.
	Potential for impact to sensitive and/or rare plant species	Review state and federal listings specific to the project area. Determine measures based on species presence.
Fish	General Fish	Communicate with USFWS and ODFW and review available literature. No measures proposed at this time.
	Threatened and Endangered Species	Review state and federal listings specific to the project area and region. Determine measures based on species presence.
Wildlife	Effects on General Wildlife	Review available literature and communicate with USFWS and ODFW. Incorporate BMPs during construction.
	Effects of the project on Threatened and Endangered Species	Review state and federal listings specific to the project area. Determine measures based on species presence.
	Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act	Review state and federal listings specific to the project area and communicate with USFWS. If there is potential to effect Migratory Bird Treaty Act and Golden Eagle Protection Act species through vegetation clearing or construction activities, follow seasonal restrictions and incorporate BMPs during construction.
Surface Water	Effects of increased turbidity during project construction due to exposed and disturbed soils	Develop and implement an Erosion and Sediment Control Plan. Incorporate BMPs during construction.
	Effects to streamflow in McKay Creek and other local waterbodies	Review literature and interview local experts. No measures proposed at this time.
	Effects on water quality from end spills into surface waters in association with District operations	Review literature and interview local experts. No measures proposed at this time.
	Effects of water rights transfers on private water right holders along McKay Creek and on OID patrons	Communicate with OWRD and local experts. No measures proposed at this time.

Resource	Resource Issues to be Analyzed	Proposed Analysis and Mitigation Measures
Groundwater	Effects of removing potential source of groundwater recharge	Review literature and interview local experts. No measures proposed at this time.
Wetlands, Riparian Areas, and Floodplains	Impacts to wetlands	Review the National Wetlands Inventory Database and available literature. If jurisdictional wetlands are identified, consult with Oregon Department of State Lands and the U.S. Army Corps of Engineers. No measures proposed at this time.
	Impacts to floodplains	Present the proposed project to the Crook County Flood Administrator to determine effects; measures would be determined.
	Impacts to riparian areas	Review available literature and interview local experts. No measures proposed at this time.
Land Use and Recreation	Effects of project construction, operation, and maintenance on agriculture, irrigation, residential, and other land uses near the project	Review spatial and zoning data and available literature. No measures proposed at this time.
	Effects of project construction, operation, and maintenance, including dust and noise, on recreation resources near the project	Review spatial data to determine presence of trails and parks with the potential to be affected. No measures proposed at this time.
Environmental Justice	Effects of project construction and implementation on minority, low income, tribal, or indigenous community	Review socioeconomic data and spatial data. No measures proposed at this time.
Socioeconomic Resources	Effects of project construction, operation, and maintenance on the local economy of Crook County	Prepare a National Economic Efficiency and a Regional Impact Analysis as required by NRCS to determine the effect of the alternatives on a region's economy.
	Effects of project construction and completion on property values in the project area	Review available literature. No measures proposed at this time.
Public Health and Safety	Danger of drowning in canals	Review of available literature. No measures proposed at this time.

6 Alternatives

6.1 Formulation Process

In order to determine the most viable alternatives to meet the project's purpose and need, NRCS and OID are considering the needs of the water users, goals for conservation and restoration, resources, and funding available for both the District and the water users, and the current status of the District's previous improvements.

6.2 Description of Alternatives Considered

6.2.1 No Action Alternative (Future without Project)

Under the No Action Alternative, the District would continue to operate and maintain the existing canal and lateral system in its current condition; however, the District would begin to update the pumping system through increased patron fees and pursuance of a debt plan. This alternative assumes that modernization of the District's system would not be reasonably certain to occur, as funding at the large scale necessary to modernize the District's infrastructure is not anticipated from other sources. The No Action Alternative is a continuation of the District's standard operations and maintenance.

6.2.2 Modernization Alternative

The Modernization Alternative is OID's desired alternative. The District has determined that this alternative is technically feasible and addresses the project's purpose and need (OID 2017; Black Rock Consulting 2018). Under the Modernization Alternative, OID would pipe high priority canals and/or laterals in the District (Figure 6-1). To assure that water is being efficiently and reliably provided to patrons, the District would install new pump stations. A full description of the actions proposed under this alternative can be found in OID's SIP (OID 2017; Appendix A). This project would save water by eliminating seepage, evaporation, and end spills. The saved water would be used to restore instream flows, improve agricultural water supplies, or put to another beneficial use.

In addition to high priority District infrastructure, the Modernization Alternative would also include activities to implement the McKay Switch Project. As part of the McKay Switch Project, private irrigators who currently pump water from McKay Creek would switch their source of natural flow water from McKay Creek to Prineville Reservoir storage, for which water was specifically allocated in Prineville Reservoir in the 2014 Crooked River Legislation. The private water rights on McKay Creek would be transferred to the State of Oregon as permanently protected instream water rights through Oregon's Allocation of Conserved Water Program. McKay Switch Project activities would include constructing a lateral to carry the new irrigation district water to the landowners and installing a new pump station to lift water to the new lateral. Additionally, this proposed McKay Switch Project would add District infrastructure to accommodate deliveries of additional water to these new patrons. Activities to accommodate the additional water would include: raising the Crooked River Diversion weir, raising canal banks, two new pump plants, and upsizing various infrastructure such as siphons and intakes.

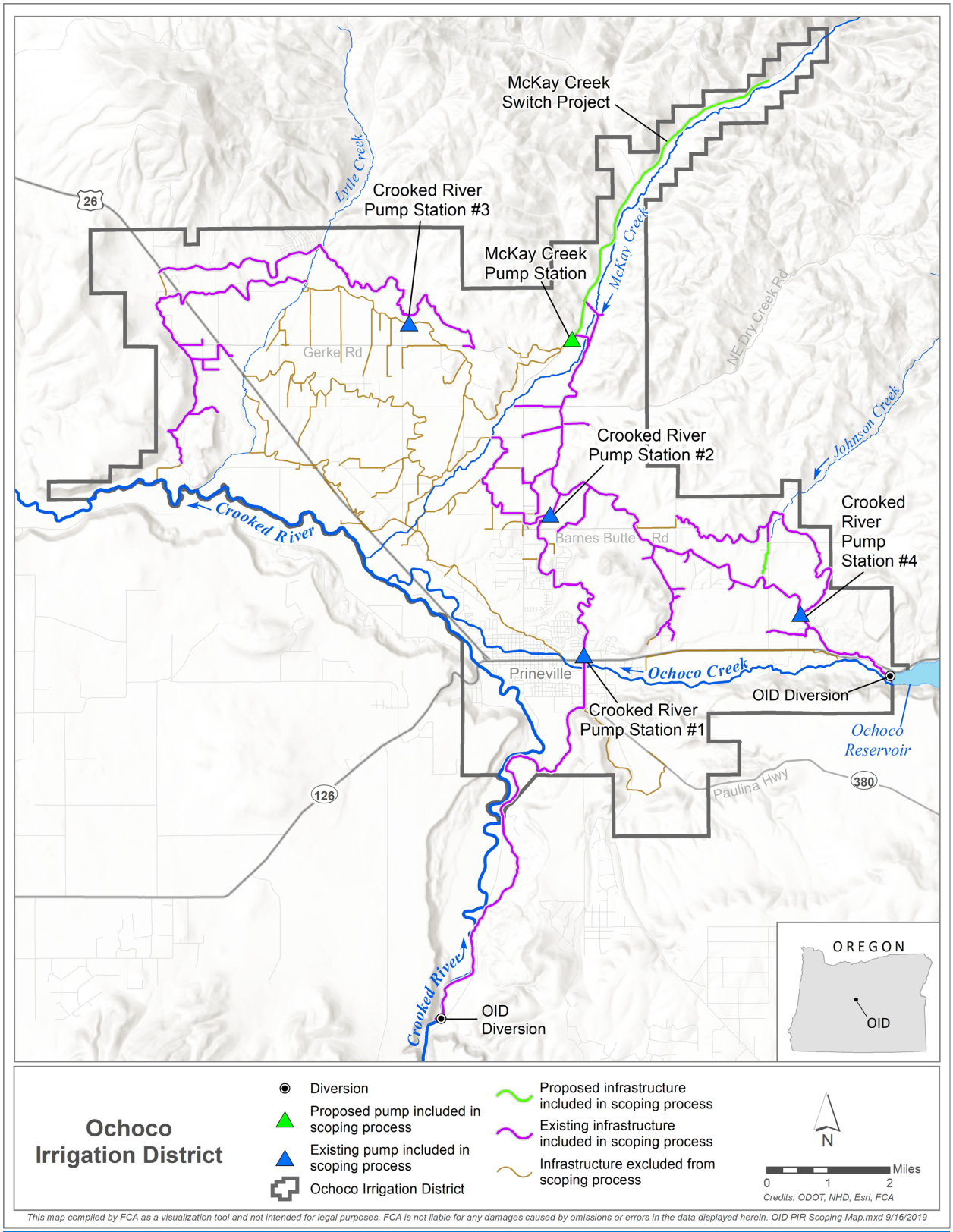

Figure 6-1. Ochoco Irrigation District proposed piping.

6.3 Alternatives Proposed for Elimination from Detailed Study

During the scoping process, the following alternatives will be analyzed to determine if they should be studied in detail or eliminated from further study. They will be evaluated based on the criteria in the U.S. Department of Agriculture (USDA's) Guidance for Conducting Analysis Under the Principles, Requirements, and Guidelines for Water and Land Related Resources Implementation Studies and Federal Water and Resource Investments (USDA 2017). Pursuant to this guidance, alternatives that become "unreasonable due to cost, logistics, existing technology, social, or environmental reasons," or generally unable to address the purpose and need for action, may be removed from consideration.

6.3.1 Dryland Farming

Under the dryland farming alternative, District patrons would no longer rely on irrigation water delivered by the District. Instead, crop growth would be dependent on precipitation as its water supply.

6.3.2 Fallowing of Farm Fields

The fallowing of farm fields alternative could include temporary transfer of water rights off irrigated lands or not using water rights appurtenant to irrigated lands. Although fallowing of farm fields would allow for less use of irrigation water, only through a leasing or donation program would the unused water remain instream.

6.3.3 On-Farm Efficiency Upgrades

Under the on-farm efficiency upgrades alternative, the District's laterals and canal would remain in their current state, and patrons would upgrade their on-farm irrigation methods and management practices to use newer irrigation technologies.

6.3.4 Exclusive or Partial Use of Groundwater for Irrigation

Exclusive or partial use of groundwater for irrigation has been considered in order to leave more surface water available in streams and rivers. The exclusive or partial use of groundwater would involve forgoing more senior surface water rights and pumping groundwater to meet irrigation needs in the District.

6.3.5 Canal Lining

Under the canal lining alternative, the bottom and sides of the currently open canal and laterals would be covered with a geotextile liner and shotcrete to prevent water from seeping into the underlying soils and rock.

6.4 Economics

A National Economic Efficiency analysis will be completed for the project during the Plan-EA process.

7 References

Black Rock Consulting. (2018). Technical Memorandum—Summary Analysis: Potential Effects of the McKay Switch Project Flows on Existing Ochoco Irrigation District Facilities. Bend, OR: Author.

Ochoco Irrigation District (OID). (2013). Water Management and Conservation Plan.

Ochoco Irrigation District (OID). (2017). Ochoco Irrigation District System Improvement Plan. Prineville, OR.

Ochoco Irrigation District (OID). (2018). Ochoco Irrigation District Questionnaire.

U.S. Department of Agriculture (USDA). (2017). Guidance for Conducting Analysis Under the Principles, Requirements, and Guidelines for Water and Land Related Resources Implementation Studies and Federal Water and Resource Investments (DM 9500-013). Washington, DC: USDA.

8 Appendix A

Appendices are provided in a separate document.

Appendix A. System Improvement Plan