



**OREGON WATER RESOURCES DEPARTMENT
WATER SUPPLY DEVELOPMENT ACCOUNT
LOAN AND GRANT APPLICATION**

I. Project Information

Project Name: East Fork Irrigation District Highline Canal Pipeline

Type of Project: Water Conservation Check box if project type includes storage

Funding Request Type: Loan Grant

Funding Amount Requested: \$ \$566,299 Total cost of project: \$ \$784,699

Note: Grant funding requests must demonstrate cost match of at least 25% of total project cost. This may include in-kind.

II. Applicant Information

Principal Contact: <i>John Buckley, East Fork Irrigation District</i>	Fiscal Officer: <i>Sharon Swyers, EFID</i>
Address: <i>PO Box 162</i>	Address: <i>same</i>
<i>Odell, OR, 97044</i>	<i>same</i>
Phone: <i>541-354-1185</i> Fax:	Phone: <i>same</i> Fax:
Email: <i>johnefid@hoodriverelectric.net</i>	Email: <i>sharonefid@hoodriverelectric.net</i>

Involved Landowner 1: <i>NA--EFID holds all water rights in trust for all district water rights holders and decisions for district actions are made by the EFID Board of Directors</i>	Involved Landowner 2:
Address:	Address:
Phone: Fax:	Phone: Fax:
Email:	Email:

**Please include a supplementary document that lists all additional involved landowners if applicable.*

Certification:

I certify that this application is a true and accurate representation of the proposed project work and that I am authorized to sign as the Applicant or Co-Applicant. By the following signature, the Applicant certifies that they are aware of the requirements of an Oregon Water Resources Department funding award and are prepared to implement the project if awarded.

Applicant Signature: *John Buckley* Date: 1/15/16

Print Name: John Buckley Title/Organization: District Manager, East Fork Irrigation District

III. Project Summary

Please provide a description of the need, purpose and nature of the project. Include what the applicant intends to complete and how the applicant intends to proceed.

The purposes of this project are to 1) improve instream flows and water quality on the East Fork Hood River, 2) increase operational efficiency for East Fork Irrigation District (EFID), and 3) improve irrigation water reliability for EFID patrons. This will be accomplished by piping the 12,000-foot Highline Lateral diversion ditch.

Increasing streamflows in the summer will significantly benefit ESA-listed threatened populations of winter steelhead, spring Chinook, and coho salmon. Low summertime streamflow on the East Fork has been identified as a primary limiting factor to the recovery of these species. Irrigation diversions for agriculture, on average, withdraw one-third of the flow in the Hood River during the summer. EFID has a water right of 120 cfs, which it diverts from a single point on the East Fork Hood River. During peak irrigation season, EFID can divert up to 85% of natural streamflow. In part, this is due to the extensive remaining network of open canals and 60 end spills, which lose 20 to 25 cfs that could otherwise be left instream at the point of diversion. This project will save 0.7 cfs and is an important step towards the critical objective of piping all of EFID's remaining open canals.

EFID's open canals also negatively impact irrigation water reliability and operational efficiency. During drought years, EFID struggles to balance irrigation demand with streamflow needs for fish. In addition, maintaining ditches requires an extensive amount of staff time to clean out debris and repair damage from the winter and control algal growth in the summer.

This project will conserve water by eliminating canal seepage loss and two end spills. The Highline Lateral is a diversion ditch that begins at the end of the Dukes Valley Lateral canal near Gilhouley Road (lat 49.6299, long 121.5757) and serves 321 acres. The proposed project would provide piping for the open ditch sections, which total approximately 12,000 linear feet.

The key tasks for this project are to complete a construction design and install the pipeline. A topographic survey will be done to inform the final construction design and specifications. A pedestrian cultural resource survey will be conducted to ensure that no archaeological sites or artifacts are within the project footprint. No removal-fill permit requirements are anticipated since the project has no impacts to streams or wetlands. (The canal is located well above the valley floor and does not cross any streams or wetlands.)

The project will be completed with relatively small equipment (e.g., 10,000 lb excavators) using several road access points along the length of the pipeline. The pipe will be buried in the existing ditch location, which will minimize surrounding ground disturbance, excavation, and cost. Assuming a pipeline flow velocity of around 4 fps, it is anticipated the pipeline diameter would begin at around 15 inches and could reduce to 12 inches approximately halfway down the ditch. Although the ditch is a gravity system now, the master plan for this segment of the EFID system would be to install low head pressurized piping the entire length of the upstream Dukes Valley lateral, which feeds the Highline system. The static pressure in the overall system would be determined by an open gravity head box at the beginning of the Dukes Valley canal near Central Vale Road. Consequently, future pressure requirements for the Highline pipeline would range from approximately 13 pounds per square inch (psi) of head at the beginning of the line to 26-35 psi of head at the end.

The pipe material anticipated for the project is PVC gasketed pipe. Pipe sizes anticipated for the project (predominantly 12-inch and 15-inch diameter) are produced in accordance with the Natural Resources Conservation Service (NRCS) 430-DD specification and dimensionally comply with Annex A1 of ASTM D2241. Pipes are available in DR 64 (63 psi), DR 51 (80 psi), DR 41 (100 psi), and DR 32.5 (125 psi). This is consistent with the type of piping used for other recent ditch projects in the District including the Christopher Ditch pipeline project completed in 2015.

In addition to piping the main ditch line, connections to irrigation patrons and EFID sublaterals would be made at the current turnout locations along the route of the pipeline. Connections would be sized based on pressure and acreage served. A current spill location at the end of the Highline Lateral would be eliminated.

IV. Project Specifics

Instructions: Answer all questions in this section by typing the answer below the question, using additional space as needed.

- 1. Describe how the project will provide public benefits in each of the three public benefit categories.** Project applications will be scored and ranked based on the economic, environmental and social/cultural public benefits identified below. Describe the conditions prior to and after project implementation to demonstrate changes resulting from the project. Descriptions should be quantitative when possible. Information provided must be sufficient to allow evaluation of the public benefits of the project. **Please see the Public Benefit and Evaluation Guidance document for a description of how public benefits will be evaluated.** Applications that do not demonstrate public benefit in each of the three categories (economic, environmental, social/cultural) will be deemed incomplete. Leave blank any categories that are not applicable to project.

Economic Benefits ORS 541.673(2)

(a) Job creation or retention:

This project is critical to the long-term retention of approximately 30 agriculture-based jobs in EFID. (This estimate is based on 1 FTE/11 acres and does not include the jobs supported by packing, delivery, and sales of the harvested fruit.) By improving irrigation water reliability through increased water conservation, orchardists on 321 acres will be able to continue to support their families and hire workers to help with irrigation, pruning, and harvesting. The farms in EFID are family owned, typically ranging in size from 50 to 100 acres. Water shortfalls during the growing season can cause long-term damage to trees and/or affect fruit size and quality, all of which could be devastating to these small but otherwise financially sound operations. (The cost to plant fruit trees ranges from \$5,000 to \$12,000/acre.)

This project will also support local construction jobs with an estimated 12 FTE being supported for 6 months during implementation of the pipeline projects.

The economy of Hood River County is heavily dependent upon irrigated agriculture, with 1/3 of personal incomes in the County coming from the fruit industry (Radtke et al, 2000). In 2012, gross agricultural commodity sales in Hood River County were \$112,094,000 (<http://oain.oregonstate.edu/>). This is a 100% increase since 1999, demonstrating the growth of jobs and economic impact of the tree fruit industry in the Hood River Valley. Vital to the continued growth in agricultural production and associated jobs is a reliable water supply that supports the existing agricultural base both now and in a future warmer, drier climate.

(b) Increases in economic activity:

This project will have a significant, long-term positive effect on economic activity for farmers within EFID by increasing the reliability of irrigation water. In addition, the local construction industry will benefit from the pipeline project. This project will also boost long-term economic activity for the local and regional economy, which is heavily dependent on irrigated agriculture. Finally, improved instream flows will benefit sport and subsistence fishing, recreation, and tourism.

Water security for agricultural use is essential to maintaining the family owned farms in EFID. Without a reliable water source, it is difficult to plan for the future. As the next generation of farmers move into leadership roles, they must know that they have a water supply that will allow their farms to operate into the future. As with any business, investing in the future depends heavily on confidence in the ability to successfully operate into the future.

The 321 agricultural acres served by this project represent 1% of the Hood River Valley's agricultural base and therefore contributed over \$1 million in gross agricultural sales in 2012. The estimated value added as the fruit crop moves through the first handler level is two times the gross agricultural sales (Oregon State University

Extension, 2007), which means that the \$1 million in gross sales has at least a \$3 million value to the local economy. Maintaining a reliable water supply therefore contributes to both job growth, as described above, and increased economic activity through processing and packing, transportation and handling, marketing, management, and local tax revenue. This effect reverberates through the state and regional economy, as the Hood River Valley produces roughly 25% of the nation's pears.

From a fisheries perspective, increases or even stabilization of salmon and steelhead runs brings economic growth through the sport fishing industry. The Confederated Tribes of the Warm Springs (CTWS) tribal members could also benefit from increased or improved salmon and steelhead runs as the Hood River is a traditional fishing ground and the CTWS has ceded fishing rights in the Hood River.

(c) Increases in efficiency or innovation:

This project will provide exceptional improvement in operational efficiency for EFID. The Highline Lateral diversion ditch is one of their most time-consuming open ditches to maintain, costing approximately \$10,000/year of labor in daily canal checks during the irrigation season and ditch cleaning/repair at the end of each winter. The ditch's small size causes it to plug with debris easily and the steep hillside makes it vulnerable to slope failures. Replacing this open system with a pipeline will eliminate these maintenance costs and allow EFID to allocate these resources to the next pipeline project on the list.

Patrons served by the new Highline Lateral pipeline will receive more reliable, cleaner water, which will make it easier for them to use high efficiency irrigation systems.

(d) Enhancement of infrastructure, farmland, public resource lands, industrial lands, commercial lands or lands having other key uses:

This project enhances EFID's water delivery infrastructure, making it more efficient and resilient to changing environmental conditions. It will also increase the property value of farmland along the new Highline Lateral pipeline by enabling EFID to provide reliable, pressurized water, thus facilitating the use of more efficient irrigation application methods.

This project also supports the long term stability of irrigated agriculture, upon which the entire County economy depends. From a big-picture perspective, added ecosystem resiliency to climate change will be realized through the substantial decrease in diversion and consequent increased instream flow in East Fork Hood River, which will decrease water temperatures, further restore and protect cold-water habitat, and ameliorate impacts from drought.

(e) Enhanced economic value associated with tourism or recreational or commercial fishing, with fisheries involving native fish of cultural significance to Indian tribes or with other economic values resulting from restoring or protecting water instream:

The Hood River Watershed is part of the ceded lands of the Confederated Tribes of the Warm Springs Reservation (CTWS). To improve subsistence fish harvest opportunities for tribal members, CTWS created the Hood River Production Program (HRPP). The Tribes propagate winter steelhead and spring Chinook at a hatchery located in the Middle Fork Hood River Sub-basin for release at various locations throughout the basin while concurrently implementing a suite of stream restoration projects to improve fish habitat and restore stream flows. The HRPP funding has resulted in the investment of millions of dollars into the Basin, which has helped pay for numerous water conservation and habitat restoration projects. To date over 20 cfs of instream flows have been realized due in large part to the Tribes efforts with their watershed partners. These conservation projects are invariably constructed by local companies, which add significant value to the local economy. Ongoing water conservation and increased summer stream flow is vital to the continued investment of CTWS funding and success of the HRPP.

Hood River County has a significant tourism component to the local economy. The vast majority of the tourism industry is focused on agriculture or recreation. When the local agricultural system is strengthened, so is the agricultural tourism economy. Recreational tourism in Hood River County has a strong focus on water sports.

The Hood River is a favorite kayaking and swimming resource and any in-stream flow improvements will enhance the opportunities associated with water focused recreation.

Finally, recreational fishing as well as CTWS harvest opportunities would be enhanced by increased in-stream flow. Increased flow generally leads to better production and survival numbers which in turn leads to overall improved return of adult fish to spawn.

(f) Increases in irrigated land for agriculture:

As a result of this project, EFID could provide 0.2 cfs (16 acres) of water to patrons within the District on their waiting list. This represents a 5% increase in irrigated land within the area served by the Highline Lateral diversion ditch.

Environmental Benefits ORS 541.673(3)

(a) A measurable improvement in protected streamflows that accomplishes one or more of the following:

- (A) Supports the natural hydrograph;
- (B) Improves floodplain function;
- (C) Supports state- or federally-listed sensitive, threatened or endangered fish species;
- (D) Supports native fish species of cultural importance to Indian tribes; or
- (E) Supports riparian habitat important for wildlife:

The 6.4-mile stream reach below EFID's diversion contains the best spawning and rearing habitat on the East Fork Hood River due to gradient, valley width, and stream substrate. This project will result in a 0.5 cfs Conserved Water Allocation, which will directly benefit this 6.4-mile reach. In a drought year, EFID diverts up to 85% of the East Fork's flow, causing instream flows to get as low as 15 cfs. This can limit fish passage and reduce spawning and rearing habitat. Leaving an additional 0.5 cfs instream during this time is a 3% increase in stream flow, which is an important increase to winter steelhead, spring Chinook, and coho spawning and rearing habitat.

The East Fork Hood River supports native populations of spring Chinook salmon, and winter steelhead and coho. All of these species are identified as species of concern by the State of Oregon and considered "threatened" under the federal Endangered Species Act. Pacific lamprey have started to recolonize the East Fork after the removal of Powerdale dam in 2010. These fish populations are culturally important to the CTWS and they have invested over three million dollars in fish habitat improvement projects in the East Fork Hood River, including helping EFID with their Central Canal Pipeline Project , Christopher Ditch Piping Project, and upgrading their diversion structure by installing a fish ladder, Obermeier weir, and new intake gates. CTWS is providing matching funds for the proposed Highline Pipeline project and is committed to helping EFID continue to pipe their district, with the long-term goal of returning 20 cfs instream.

(b) A measurable improvement in groundwater levels that enhances environmental conditions in groundwater restricted areas or other areas:

This project will protect groundwater levels by reducing the desire or need for agricultural producers to seek new wells or more heavily utilize existing wells. The vast majority of agricultural land in the Hood River Valley is irrigated with surface water. By maintaining sufficient irrigation water quantity, through more efficient infrastructure and technology, we anticipate that growers will not resort to the time or expense of pumping groundwater. To evaluate current groundwater levels, OWRD and the Hood River Watershed Group (HRWG) have been monitoring 52 wells around the Valley, which will enable us to track groundwater levels over the long-run and better predict whether more groundwater use could be an option for sustainably augmenting irrigation and instream flows in the future.

(c) A measurable improvement in the quality of surface water or groundwater:

Eliminating the end spill associated with the current open ditch will result in exceptional water quality improvement in the mainstem Hood River (where the water spills) by eliminating the delivery of sediment and

nutrients coming off the agricultural and residential lands along the ditch. It will also eliminate slope failures caused by the open ditch, which have happened in the past. When this occurs, large amounts of sediment wash downslope into the mainstem Hood River.

Increasing streamflow on the East Fork, with a 0.5 CWA, will significantly improve stream temperatures (i.e., greater volumes of water heat up less from solar radiation and ambient air temperature). The East Fork Hood River often does not meet state instream temperature standards from July through September (ODEQ, 1999; unpublished temperature data, 2000 - 2015).

(d) Water conservation:

This project will result in a 19% reduction in water use to achieve the same irrigation benefits. Currently, EFID sends 3.7 cfs down the Highline Lateral diversion ditch. Once the project is complete they will send 3.2 cfs down the new Highline Lateral Pipeline and allocate 0.2 cfs for new irrigated land.

(e) Increased ecosystem resiliency to climate change impacts:

Increasing streamflow, through water conservation, is the best way to mitigate instream impacts from climate change. This conclusion is drawn from a recently completed Basin Study authored by the Bureau of Reclamation (2015). The study found that by the year 2050, average air temperatures in the Hood River Basin are expected to increase by 2.3° F. This will lead to more precipitation falling as rain instead of snow, resulting in less snowpack, higher winter streamflows, and lower summer streamflows (BOR, 2015). The Highline Pipeline Project, with its resulting 0.5 cfs increase in stream flow in the summer, is therefore the best project type that EFID can currently implement to make the District and its patrons more resilient to climate change impacts.

(f) Improvements that address one or more limiting ecological factors in the project watershed:

The Hood River Aquatic Habitat Restoration Strategy (Shively 2006), Hood River Sub-basin Plan for Fish and Wildlife (Coccoli 2004), and the Lower Columbia River Recovery Plan for Oregon Populations of Salmon and Steelhead (ODFW, 2010) identified low streamflow as a primary limiting factor to the recovery of ESA-listed threatened salmon and steelhead. Irrigation withdrawal for agriculture was identified as the main contributing factor to summer low flows. Within the Hood River Basin, summertime spawning and rearing habitat conditions in the East Fork are by far the most limited by instream flow. This project will increase summer streamflows by at least 0.5 cfs, which will be a critical step towards addressing this limiting factor.

Social/Cultural Benefits ORS 541.673(4)

(a) The promotion of public health and safety and of local food systems:

Unreliable water ultimately equates to an unreliable national food system, and Hood River County's contribution to national food production accounts for 25% of the U.S. pear crop for fresh consumption. The patrons along the Highline Lateral diversion ditch will directly benefit from the completion of this project, but so too will the Hood River Valley economy, ecology, and culture at-large. This is evidenced by successful pipeline and on-farm conservation projects completed by the Middle Fork Irrigation District and Farmers Irrigation District, which not only exceeded water conservation expectations but also decreased greenhouse gas emissions, enhanced drought resiliency, decreased instream water temperatures, decreased sediment delivery to streams, enhanced on-farm and community economics, and preserved cultural aesthetics on a basin-wide scale. As the deleterious impacts on public health, as a function of global warming in general, become increasingly self-evident, the link between effective water conservation projects and public health, safety, and local food systems becomes clear. The EFID Highline Lateral Pipeline Project will thus provide a critical step in the right direction in this regard.

(b) A measurable improvement in conditions for members of minority or low-income communities, economically distressed rural communities, tribal communities or other communities traditionally underrepresented in public processes:

This project will provide exceptional benefits to both tribal and minority communities in the Hood River Valley. In addition, CTWS was integral to the development of this project and is providing matching funds for its

implementation. The project was also presented for approval to the Hood River Watershed Group (HRWG), which is Hood River's watershed council and open to all members of the community. Meetings and agendas are published in the Hood River News.

Tribal members harvest salmon and steelhead from the Hood River for subsistence and ceremonial purposes. Tribal fishing opportunity has become severely restricted because of low fish populations and the need to protect weak or threatened stocks. Instream flows have been identified as a primary limiting factor to the recovery of salmon and steelhead, and an increase to instream flow in the East Fork Hood River offers meaningful stream enhancement potential. Furthermore, the success of this and similar flow restoration projects is pivotal to the success of CTWS' Hood River Production Program and the ultimate increase in tribal fishing opportunity in the Hood River Watershed.

Hood River County has a substantial and growing Hispanic population making up approximately 30% of the entire population. Migrant workers (primarily from Mexico) began arriving in the Hood River Valley in the early to mid 1970's to work in the harvest and production of tree fruit. Since that time, descendants of the original migrants, as well as others moving to the area for work, have become established and valued members of the community, taking leadership roles in agriculture, business and community organizations. Despite the achievements made by some in the Hispanic population, there still exists a problem with the living conditions and access to services for members of the Hispanic population at a disproportionate rate to the rest of the population.

Irrigated agriculture was historically (and still is) the primary draw that attracts migrant labor. Irrigated agriculture has provided opportunities for economic growth for many who have chosen to make the Hood River Valley their permanent home. Some families have chosen to open businesses, some have purchased or leased their own acreage, and many have moved into leadership or management roles with associated businesses. Labor shortages in recent years have led to increased pay and improvement in housing and working conditions in the agricultural sector and this trend is expected to continue. Water supply security and efficiency of application both directly affect the long term viability of irrigated agriculture. The Hispanic community is just beginning to reach a place where social and economic parity is possible across the entire community. Irrigated agriculture will continue to be the primary conduit for economic and social growth within the Hispanic community and therefore improving the long term security and viability of irrigated agriculture in Hood River County will lead to improvement in conditions for members of a minority population that has historically had disproportionate representation in the low-income end of the economic spectrum.

(c) The promotion of recreation and scenic values:

The Hood River Valley is known for its scenic beauty as well as the vast array of recreational opportunities. Along with the pure geographic beauty of the Hood River Valley, irrigated agriculture provides a stunning landscape throughout the seasons. In the spring, the entire valley is carpeted in white and pink pear, apple, and cherry blossoms, which attracts people from around the world. Tree fruit are a core part of the scenic beauty and culture of Hood River County.

Many opportunities exist for recreation in Hood River County and the most popular forms of recreation revolve around water. Adequate stream flows are necessary for rafting, swimming, and kayaking and also to support populations of fish that are essential to the sport fishing industry.

(d) Contribution to the body of scientific data publicly available in this state:

EFID will monitor flow on the Highline Lateral diversion ditch during summer 2016 to document pre-project water use. Once the pipeline is installed a SonTek IQ flow meter will be installed in the pipe to document water use for the Conserved Water Allocation. This data will be publicly available.

CTWS, ODFW, and HRWG have a long history of collecting stream flow and temperature data in the East Fork Hood River Watershed. These partners will continue flow and temperature monitoring to evaluate project effectiveness, which will be publicly available upon request. Furthermore, the HRWG will continue to track progress for all its basin partners as part of its Watershed Action Plan, which is updated every 5 years and available on the HRWG's website (www.hoodriverswcd.org/hrwg)

(e) The promotion of state or local priorities, including but not limited to the restoration and protection of native fish species of cultural significance to Indian tribes:

This project strongly supports both state and local priorities. The Hood River is an essential basin within Oregon for recovery of the Lower Columbia Salmon and Steelhead ESU. This is due to the unique genetics and life history diversity of its populations (e.g., the basin contains the only population of summer steelhead in the Lower Columbia ESU). With the exception of winter steelhead, the current extinction risks of salmon and steelhead populations within the Hood are very high (Lower Columbia River Recovery Plan for Oregon Populations of Salmon and Steelhead, ODFW 2010). A primary limiting factor to recovery is low streamflow in the summer. The primary threats to streamflow are withdrawals for agriculture and off-channel hydropower production, as well as predicted reduction in summer streamflow from climate change. Tribal, state, and federal fisheries agencies estimate that recovery of Hood River winter steelhead and spring Chinook populations is likely with appropriate restoration and conservation actions. Chief among these is restoration of summer instream flows.

The 6.4-mile reach below the EFID diversion contains the best spawning and rearing habitat on the East Fork Hood River and has been identified by CTWS, USFS, ODFW, and DEQ as a top priority for streamflow restoration in order to improve instream habitat and water quality (Hood River Watershed Action Plan, 2014; Western Hood River Subbasin TMDL, 2001). This project will result in at least 0.5 cfs being left in the East Fork, which will increase spring Chinook spawning and rearing habitat and winter steelhead rearing habitat. Spring Chinook and winter steelhead are culturally important to the Confederated Tribes of the Warm Springs. CTWS has a hatchery in the Hood River Basin and has been working closely with EFID to improve streamflow and habitat conditions on the East Fork Hood River.

(f) The promotion of collaborative basin planning efforts, including but not limited to efforts under Oregon's Integrated Water Resources Strategy:

This project is a result of exceptional collaborative planning efforts. In 2015, the Hood River Water Conservation Strategy (HRWCS) was developed by Hood River Watershed Group partners to identify, quantify, and prioritize the best opportunities for water conservation and instream flow enhancement in the watershed. Similar to OWRD's Place-Based Planning Initiative, the HRWCS arose from the locally driven Hood River Basin Study (Watershed Professionals Network, 2013 a & b, Bureau of Reclamation, 2015), which included an assessment of current water use and instream conditions, potential for water conservation, and likely impacts to local water resources from climate change. (The Basin Study was partially funded by an OWRD Feasibility Study grant.) Developing the HRWCS also included partner and community discussions of how best to meet future out-of-stream and instream needs. The two most important project types identified in the HRWCS were on-farm irrigation efficiency projects and conveyance system improvements, both for their significant overall impact and cost effectiveness. The HRWCS also notes that "...fish populations, the local economy, and social equity are inextricably linked in the Hood River Basin. From an ecological standpoint, if instream flows are insufficient, Hood River salmon and steelhead will not recover to self-sustaining levels. From an economic standpoint, a certain amount of water is required to sustain existing agricultural and energy production. Furthermore, from a cultural and societal perspective, healthy fish runs benefit the local economy through sport fishing revenues, tourism, health benefits associated with a healthy ecology and aesthetics, and the avoidance of costly conflicts over water allocations. Identifying and building local support for effective solutions that keep both fish and people on a positive, synergistic trajectory is the essential goal of the HRWCS."

The proposed project is perfectly aligned with Oregon's Integrated Water Resources Strategy (IWRS), which promotes the protection and long-term sustainability of instream and out of stream water use. Like the HRWCS, the IWRS calls out the effects of a warming climate, which will necessitate even greater attention to water conservation and related innovations to maintain and possibly improve water supply and instream conditions in the future. The Highline Lateral Pipeline Project addresses several of the recommended actions under Objective 4 of the IWRS, including "improve water use efficiency and water conservation," "reach environmental outcomes with non-regulatory alternatives," "improve watershed health, resiliency, and capacity for natural storage," and "protect and restore instream habitat and habitat access for fish and wildlife."

2. Identify Project Location.

(a) Attach map of project implementation area if appropriate. List map(s) in this space and attach to application.
See attached map

(b) Township	Range	Section	Quarter-Quarter Section
2N	10E	28	NW/NE, NW/SE, NW/NW
2N	10E	29	NE/SE, SE/NW
2N	10E	21	SW/SE

(c) Tax Lot Number(s)
021028 2700, 2600, 1800, 2100, 2500, 2200; 021021 5201, 5200, 5100; 021029 100, 1200, 108, 103, 506, 509, 508, 507, 512, 501, 503, 701, 700

(d) Latitude/Longitude
49.6299/ 121.5757

(e) County
Hood River

(f) Watershed
Hood River

(g) River/Stream Mile (where applicable)
n/a

3. (a) Will the project result in a physical change on private land? Yes No

If yes, attach evidence that landowners are aware of and agree to the proposal. List attachments below.
East Fork Irrigation District, by virtue of its statutory authority under ORS 545 and other related State law in association with newly established easements, already has the required land control to move forward with this project.

(b) Will the project result in monitoring on private land? Yes No

If yes, attach evidence that landowners agree to the proposal and are aware that monitoring information is public record. List attachments below.

4. Provide a project schedule, including beginning and completion dates. Use the following table as a guide. Attach a separate sheet to application if needed.

Estimated Project Duration: June 1, 2016 to May 1, 2018

Place an "X" in the appropriate column to indicate when each Key Task of the project will take place.

Project Key Tasks	2016				2017				2018 & Beyond
	1 st Qtr	2 nd Qtr	3 rd Qtr	4 th Qtr	1 st Qtr	2 nd Qtr	3 rd Qtr	4 th Qtr	
<i>Topographic survey</i>		X							
<i>Cultural resources survey</i>		X							
<i>Construction design</i>			X						
<i>Pipeline installatioin</i>				X	X			X	X
<i>Flow monitoring (pre & post project)</i>			X						X

5. Describe any conditions that may affect the completion of the project.

none

6. Attach a completed feasibility analysis if one has been completed.

A feasibility study for all pipeline projects in EFID, funded by OWRD and CTWS, was completed in January 2016 (East Fork Irrigation District System Improvement Plan, Mark Wharry, KPFF). This document is 67 MB; a link to download it is available upon request.

7. Provide suggestions for interim and long-term project performance benchmarks.

A flow meter will be installed at the upper end of the new pipeline to document post-project flow.

8. Provide letters of support for the proposed project (list in this space and attach to application).

Hood River County, Confederated Tribes of the Warm Springs, Oregon Department of Fish & Wildlife, Hood River Watershed Group

9. Describe partnerships and collaborative efforts associated with the project.

This project arose out of two collaborative planning efforts. The first was the Hood River Water Conservation Strategy, described in section "f" of Social/Cultural Benefits. The second was the EFID System Improvement Plan. This feasibility study was funded by CTWS and OWRD. The Hood River Watershed Group (HRWG) Coordinator convened CTWS and EFID to discuss the first project to pursue under the System Improvement Plan. The Highline Pipeline project was prioritized because of its low cost, ease of execution, and significant benefits to EFID's operations. The HRWG coordinator assisted EFID with this grant application and CTWS is providing matching funds.

10. Consultations/communications with affected Indian tribes and with the Legislative Commission on Indian Services regarding the project.

Has the Legislative Commission on Indian Services been contacted to identify tribes affected by the project?

Yes No

Please provide correspondence as an attachment to this application.

see attached

Has there been consultation/communications with affected Indian tribes?

Yes No

Please provide a description of consultation/communication that occurred and attach documents to this application if applicable.

The Confederated Tribes of the Warm Springs (CTWS) has supported EFID over the past several years by providing funding to help pipe EFID's central canal, upgrade their main diversion structure, and pipe Christopher Ditch. CTWS, along with OWRD, provided a majority of funding for EFID's System Improvement Plan, which describes this project. Please see attached letter of support from CTWS regarding their support of this project.

11. Provide a description of:

(a) Required local, state and/or federal [permits](#) and/or authorizations for project implementation that have been secured to date. Please attach secured permits/authorizations to the application.

none

(b) Required local, state and/or federal permits and/or authorizations that will be secured in the future to implement the project. Describe efforts to date in securing these permits and/or authorizations.

A County land use permit will be required; application will be made after topographic survey is complete. The pipeline will not cross any perennial streams or wetlands, so a removal-fill permit is not likely to be necessary. Because the irrigation ditch only has water in it 5 months/year, it is not considered a regulated wetland or waterway by the State of Oregon or Corps of Engineers. A cultural resources survey will be completed, which will include a consultation with the State Historic Preservation Office.

12. Provide any additional supplemental materials to demonstrate ability to implement the project. Examples include project plans and specifications, engineering details and [water availability analysis](#). List documents in this space and attach to application.

A construction design and specifications will be developed as part of this project. The preliminary specifications (i.e., pipe size, length, valves) were developed as part of the EFID System Improvement Plan. This plan was provided to OWRD and is available for download upon request.

V. Storage Project Requirements (if not a storage project continue to Section VI)

For any storage project please contact Water Resources Grant Administrator, Jon Unger, at (503) 986-0869 prior to completing the application.

13. Storage Project Type: Above Ground Below Ground

14. If above-ground storage, would the proposed storage project be located in-channel?

- Yes No N/A

15. Identify the capacity in acre-feet of the proposed storage project.

16. Has a water right application been filed for the proposed storage project?

- Application not yet made.
- Water right application made; permit not yet issued Application #
- Permit issued. Application # Permit #

For Questions 17 & 18 answer the following:

(a) Does the proposed storage project impound surface water on a perennial stream?

- Yes No Uncertain

(b) Does the proposed storage project divert water from a stream that supports state- or federally-listed sensitive, threatened or endangered fish species?

- Yes No Uncertain

(c) Does the proposed storage project divert more than 500 acre-feet of water annually?

- Yes No

17. Water Dedicated Instream N/A

For above ground storage projects seeking grant funding: If you answered “yes” to any of the questions posed in a-c above a minimum volume of water equal to at least 25% of the stored water must be dedicated to instream use.

Identify percentage of stored water to be dedicated to instream use.

%

Note: Any storage project dedicating 25% of stored water to instream use will automatically receive a median score in the environmental public benefit category with the opportunity to demonstrate additional environmental benefit to increase the score.

18. Seasonally Varying Flow Prescription

For all storage projects: If you answered “yes” to any of the questions posed in a-c above the project will need a **Seasonally Varying Flow (SVF) Prescription**, determining the duration, timing, frequency and volume of flows (including ecological baseflow), necessary for protection and maintenance of biological, ecological, and physical functions outside of the official irrigation season. The initial step in defining

the SVF for the project is to schedule an SVF meeting with OWRD. For assistance and more information please contact Water Resources Grant Administrator Jon Unger at (503) 986-0869.

Identify whether the storage project will need a Seasonally Varying Flow Prescription.

Yes No Uncertain

VI. Environmental Public Benefit for Conservation Projects Dedicating Water Instream (if not a conservation project continue to Section VII)

19. Identify percentage of conserved water to be dedicated to instream use. N/A

75 %

Note: Any project that conserves water and dedicates at least 25% of the conserved water quantity to instream use will automatically receive a median score in the environmental public benefit category with the opportunity to demonstrate additional environmental benefit to increase the score. Water dedicated to instream use must be permanently placed instream and protected by the Oregon Water Resources Department.

VII. Financial Information

For Loan Applicants – Since loan applications do not require cost match, loan applicants who do not offer a cost match need not complete Section A and can disregard the match funding columns in Sections B and C. Budget and costs of key tasks must be identified in sections B & C. Loan applicants will be required to provide additional financial information related to their ability to repay the loan. This request for information will take place after the scoring and ranking process for those projects that are recommended for funding.

For Grant Applicants – Complete Sections A, B and C.

Section A – Cost Match Information

Applicants must demonstrate a minimum 25% funding match based on the total project cost. The match may include: a) applicant funds or secured funding commitment from other sources; b) pending funding commitment from other sources; and/or c) the value of in-kind labor, equipment rental, and materials essential to the project. For secured funding, the applicant must attach a funding award letter from the match funding source that specifically mentions the dollar amount shown in the “Amount/Dollar Value” column. For pending resources, documentation showing a request for the matching funds must accompany the application. Funds expended prior to grant agreement are not reimbursable nor do they qualify for cost match without prior authorization by the Department.

<p>In the Type column below matching funds may include:</p>	<p>In the Status column below matching funds may have the following status:</p>
<ul style="list-style-type: none"> • Cash - Cash is direct expenditures made in support of the feasibility study by the applicant or partner*. 	<ul style="list-style-type: none"> • Secured - Funding commitments already secured from other sources.
<ul style="list-style-type: none"> • In-Kind - The value of in-kind labor, equipment rental and materials essential to the feasibility study provided by the applicant or partner. 	<ul style="list-style-type: none"> • Pending - Pending commitments of funding from other sources. In such instances, Department funding will not be released prior to securing a commitment of the funds from other sources. Pending commitments of the funding must be secured within 12 months from the date of the award.

* “Partner” means a non-governmental or governmental person or entity that has committed funding, expertise, materials, labor, or other assistance to a proposed project planning study. OAR 690-600-0010.

<p>Match Funding Source (if in-kind, briefly describe the nature of the contribution)</p>	<p>Type (✓ One)</p>	<p>Status (✓ One)</p>	<p>Amount/ Dollar Value</p>	<p>Date Match Funds Available (Month/Year)</p>
<p><i>Confederated Tribes of the Warm Springs</i></p>	<input checked="" type="checkbox"/> cash <input type="checkbox"/> in-kind	<input type="checkbox"/> secured <input checked="" type="checkbox"/> pending	<p>\$175,000</p>	<p>October 16</p>
<p><i>East Fork Irrigation District</i></p>	<input checked="" type="checkbox"/> cash <input type="checkbox"/> in-kind	<input checked="" type="checkbox"/> secured <input type="checkbox"/> pending	<p>\$35,000</p>	<p>May 16</p>
<p><i>East Fork Irrigation District-RFP distribution, contractor selection & oversight, fiscal management & OWRD reporting, pre-project flow monitoring on Highline Canal</i></p>	<input type="checkbox"/> cash <input checked="" type="checkbox"/> in-kind	<input checked="" type="checkbox"/> secured <input type="checkbox"/> pending	<p>\$8,400</p>	<p>May 16</p>
	<input type="checkbox"/> cash <input type="checkbox"/> in-kind	<input type="checkbox"/> secured <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in-kind	<input type="checkbox"/> secured <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in-kind	<input type="checkbox"/> secured <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in-kind	<input type="checkbox"/> secured <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in-kind	<input type="checkbox"/> secured <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in-kind	<input type="checkbox"/> secured <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in-kind	<input type="checkbox"/> secured <input type="checkbox"/> pending		

