

Application for a Permit to Use Surface Water



Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, Oregon 97301-1266
(503) 986-0900
www.wrd.state.or.us

Water-Use Permit Application Processing

1. Completeness Determination

The Department evaluates whether the application and accompanying map contain all of the information required under OAR 690-310-0040 and OAR 690-310-0050 (www.oregon.gov/owrd/law.our). The Department also determines whether the proposed use is prohibited by statute. If the Department determines that the application is incomplete, all fees have not been paid, or the use is prohibited by statute, the application and all fees submitted are returned to the applicant.

2. Initial Review

The Department reviews the application to determine whether water is available during the period requested, whether the proposed use is restricted or limited by rule or statute, and whether other issues may preclude approval of or restrict the proposed use. An Initial Review (IR) containing preliminary determinations is mailed to the applicant. The applicant has 14 days from the mailing date to withdraw the application from further processing and receive a refund of all fees paid minus \$200. The applicant may put the application on hold for up to 180 days and may request additional time if necessary.

3. Public Notice

Within 7 days of the mailing of the initial review, the Department gives public notice of the application in the weekly notice published by the Department at www.oregon.gov/owrd. The public comment period is 30 days from publication in the weekly notice.

4. Proposed Final Order Issued

The Department reviews any comments received, including comments from other state agencies related to the protection of sensitive, threatened or endangered fish species. Within 60 days of completion of the IR, the Department issues a Proposed Final Order (PFO) explaining the proposed decision to deny or approve the application. A PFO proposing approval of an application will include a draft permit, and may request additional information or outstanding fees required prior to permit issuance.

5. Public Notice

Within 7 days of issuing the PFO, the Department gives public notice in the weekly notice. Notice includes information about the application and the PFO. Protest must be received by the Department within 45 days after publication of the PFO in the weekly notice. Anyone may file a protest. The protest filing fee is \$350.00 for the applicant and \$700.00 for non-applicants. Protests are filed on approximately 10% of Proposed Final Orders. If a protest is filed the Department will attempt to settle the protest but will schedule a contested case hearing if necessary.

6. Final Order Issued

If no protests are filed, the Department can issue a Final Order within 60 days of the close of the period for receiving protest. If the application is approved, a permit is issued. The permit specifies the details of the authorized use and any terms, limitations or conditions that the Department deems appropriate.

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Minimum Requirements Checklist

Minimum Requirements (OAR 690-310-0040, OAR 690-310-0050 & ORS 537.140)

Include this checklist with the application

Check that each of the following items is included. The application will be returned if all required items are not included. If you have questions, please call the Water Rights Customer Service Group at (503) 986-0900.

- ☐ SECTION 1: applicant information and signature
- ☐ SECTION 2: property ownership
- ☐ SECTION 3: source of water requested
- ☐ SECTION 4: water use
- ☐ SECTION 5: water management
- ☐ SECTION 6: resource protection
- ☐ SECTION 7: project schedule
- ☐ SECTION 8: within a district
- ☐ SECTION 9: remarks

Attachments:

- ☐ Land Use Information Form with approval and signature (*must be an original*) or signed receipt
- ☐ Provide the legal description of: (1) the property from which the water is to be diverted, (2) any property crossed by the proposed ditch, canal or other work, and (3) any property on which the water is to be used as depicted on the map.
- ☐ Fees - Amount enclosed: \$ 4,850
See the Department's Fee Schedule at www.oregon.gov/owrd or call (503) 986-0900.

Provide a map and check that each of the following items is included:

- ☐ Permanent quality and drawn in ink
- ☐ Even map scale not less than 4" = 1 mile (example: 1" = 400 ft, 1" = 1320 ft, etc.)
- ☐ North Directional Symbol
- ☐ Township, Range, Section, Quarter/Quarter, Tax Lots
- ☐ Reference corner on map
- ☐ Location of each well, and/or dam if applicable, by reference to a recognized public land survey corner (distances north/south and east/west)
- ☐ Indicate the area of use by Quarter/Quarter and tax lot clearly identified
- ☐ Number of acres per Quarter/Quarter and hatching to indicate area of use if for primary irrigation, supplemental irrigation, or nursery
- ☐ Location of main canals, ditches, pipelines or flumes (if well is outside of the area of use)
- ☐ Other:

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SECTION 1: APPLICANT INFORMATION AND SIGNATURE

Applicant Information

NAME EAST IMPROVEMENT DISTRICT		PHONE (HM) NA	
PHONE (WK) 541-564-1000	CELL 541-969-8026	FAX N/A	
ADDRESS 3750 SW MARSHALL PLACE			
CITY PENDLETON	STATE OR	ZIP 97801	E-MAIL * CARL@JSHFARMS.COM

Organization Information

NAME SAME AS ABOVE		PHONE		FAX
ADDRESS			CELL 5	
CITY	STATE	ZIP	E-MAIL *	

Agent Information – The agent is authorized to represent the applicant in all matters relating to this application.

AGENT / BUSINESS NAME	
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SECTION 2: PROPERTY OWNERSHIP

Please indicate if you own all the lands associated with the project from which the water is to be diverted, conveyed, and used.

Yes

There are no encumbrances.

This land is encumbered by easements, rights of way, roads or other encumbrances.

X No

I have a recorded easement or written authorization permitting access.

X I do not currently have written authorization or easement permitting access.

☐ Written authorization or an easement is not necessary, because the only affected lands I do not own are state-owned submersible lands, and this application is for irrigation and/or domestic use only (ORS 274.040).

☐ Water is to be diverted, conveyed, and/or used only on federal lands.

List the names and mailing addresses of all affected landowners (*attach additional sheets if necessary*).
See Exhibit A for a list of names and addresses of all affected landowners by map and tax lot

SECTION 3: SOURCE OF WATER

A. Proposed Source of Water

Provide the commonly used name of the water body from which water will be diverted, and the name of the stream or lake it flows into. If unnamed, say so:

Source 1: Columbia River (PODs

☐ By checking this box, you are requesting that the Department process your application under the standard process outlined in ORS 537.150 and 537.153, rather than the expedited process provided by ORS 537.147. To file an application under the standard process, you must enclose the following:

- A copy of a signed non-expired contract or other agreement with the owner of the reservoir (if not you) to impound the volume of water you propose to use in this application.
- A copy of your written agreement with the party (if any) delivering the water from the reservoir to you.

SECTION 4: WATER USE

Provide the amount of water you propose to use from each source, for each use, in cubic feet-per-second (cfs) or gallons-per-minute (gpm). If the proposed use is from storage, provide the amount in acre-feet (af):

(1 cfs equals 448.8 gpm. 1 acre-foot equals 325,851 gallons or 43,560 cubic feet)

SOURCE	USE	PERIOD OF USE	AMOUNT
Columbia River	Irrigation	March 1 to November 1	6.05 ☒ cfs ☐ gpm ☐ af
			☐ cfs ☐ gpm ☐ af
			☐ cfs ☐ gpm ☐ af
			☐ cfs ☐ gpm ☐ af

For irrigation use only:

Please indicate the number of primary and supplemental acres to be irrigated.

☒ Pump (give horsepower and type) see table:

Station Name (pump type)	Number of Pumps	Individual pump Size (HP)	Capacity (gpm)	TDH (feet)	Total Capacity (gpm)
Point of Diversion E (Existing)					
Hawman Farms	6	500	2,200	560	13,200
Hawman Farms	1	250	1,100	560	1,100
Point of Diversion F (Existing)					
St Hilaire Brothers	7	800	4,000	600	28,000
Point of Diversion G (Existing)					
Stanfield Hutterian	11	1,000	5,700	585	62,700
Stanfield Hutterian	1	500	3,300	585	3,300
Point of Diversion H (Existing)					
Royale Columbia	3	800	6,550	410</	

SECTION 6: RESOURCE PROTECTION

In granting permission to use water from a stream or lake, the state encourages, and in some instances requires, careful control of activities that may affect the waterway or streamside area. See instruction guide for a list of possible permit requirements from other agencies. Please indicate any of the practices you plan to undertake to protect water resources.

- ☒ Diversion will be screened to prevent uptake of fish and other aquatic life.
Describe planned actions: All Columbia River Diversions will have approved fish screens installed consistent with current criteria of regulating agencies
- ☒ Excavation or clearing of banks will be kept to a minimum to protect riparian or streamside areas.
Describe planned actions: No new construction is proposed at POD's E, F, G, H, and I. The applicant is proposing to utilize existing capacity during periods of off-peak demand (when capacity is available) at POD's E-I. All excavation at POD J will be completed in compliance with the conditions of the diversion owners permit granted by the United States Army Corps of Engineers.
- ☒ Operating equipment in a water body will be managed and timed to prevent damage to aquatic life.
Describe: No improvements are anticipated for POD's E, F, G, H and I. Proposed construction and improvements to POD J will be in compliance with applicable state and federal permitting agencies and applicable in-water permits.
- ☒ Water quality will be protected by preventing erosion and run-off of waste or chemical products.
Describe: No improvements are anticipated for POD's E, F, G, H and I. Proposed construction and improvements to POD J will be in compliance with applicable state and federal permitting agencies and applicable in-water permits

SECTION 7: PROJECT SCHEDULE

Note: Construction schedule provided below applicable to POD J only. No new construction is proposed or necessary for POD's E, F, G, H and I

Date construction will begin: November, 2016

Date construction will be completed: March, 2017

City Echo	State Oregon	Zip 97826
Irrigation District Name Echo Irrigation District	Address 73120 HWY 207	
City Echo	State Oregon	Zip 97826

SECTION 9: REMARKS

Use this space to clarify any information you have provided in the application.

Place of Use Acreage

The East Improvement District and NOWA have indicated the full boundary where new water supplies from this permit may be used. Final place of use, as well as total primary and total supplemental acreages will be detailed prior to final proof survey. In addition to final details, the Port of Umatilla will provide a map annually, detailing the annual place of use of the new water and whether the water will be utilized for either primary or supplemental irrigation.

Period of Use Division 33 Mitigation Proposed

The East Improvement District and NOWA proposes a period of use from March 1 to November 1 of each year. Water from the Columbia River will be subject to mitigation from April 15 to September 30. From March 1 to April 14 and from October 1 to November 1 of each year, the East Improvement District may pump out of the Columbia River without the need for mitigation. The East Improvement District proposes to secure mitigation at the appropriate level required by regulating agencies to pump Columbia River water from April 15 to September 30. Sources of mitigation will be documented and reported to OWRD prior to the start of the mitigation season and the pumping rate during the mitigation season will be directly proportionate to the mitigation secured. The period for mitigation requirements is currently 169 days of the period of use. EID, through NOWA has option agreements with mitigation water sources to have all mitigation to satisfy the max rate (39.3 cfs) for the maximum mitigation duration (169 days) in place by 2016.

Land Use Information Form



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NOTE TO APPLICANTS

In order for your application to be processed by the Water Resources Department (WRD), this Land Use Information Form must be completed by a local government planning official in the jurisdiction(s) where your water right will be used and developed. The planning official may choose to complete the form while you wait, or return the receipt stub to you. Applications received by WRD without the Land Use Form or the receipt stub will be returned to you. Please be aware that your application will not be approved without land use approval.

This form is NOT required if:

- 1) Water is to be diverted, conveyed, and/or used only on federal lands; **OR**
- 2) The application is for a water right transfer, allocation of conserved water, exchange, permit amendment, or ground water registration modification, and **all** of the following apply:
 - a) The existing and proposed water use is located entirely within lands zoned for exclusive farm-use or within an irrigation district;
 - b) The application involves a change in place of use only;
 - c) The change does not involve the placement or modification of structures, including but not limited to water diversion, impoundment, distribution facilities, water wells and well houses; and
 - d) The application involves irrigation water uses only.

NOTE TO LOCAL GOVERNMENTS</

Date _____

(For staff use only)



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WE ARE RETURNING YOUR APPLICATION FOR THE FOLLOWING REASON(S):

- ☐ SECTION 1: _____
- ☐ SECTION 2: _____
- ☐ SECTION 3: _____
- ☐ SECTION 4: _____
- ☐ SECTION 5: _____
- ☐ SECTION 6: _____
- ☐ SECTION 7: _____
- ☐ SECTION 8: _____
- ☐ SECTION 9: _____
- ☐ Land Use Information Form _____
- ☐ Provide the legal description of: (1) the property from which the water is to be diverted, (2) any property crossed by the proposed ditch, canal or other work, and (3) any property on which the water is to be used as depicted on the map.
- ☐ Fees _____

MAP

- ☐ Permanent quality and drawn in ink
- ☐ Even map scale not less than 4" = 1 mile (example: 1" = 400 ft, 1" =

Exhibit A

Legal Description of Point of Diversion and Lands Encumbered by Hawman Farms (POD E) and Delivery Infrastructure

Authorized Point of Diversion:

Township	Range	Meridian	Section	¼ ¼	Lot	Location
5N	30E	Willamette	8	NE NW		9,360 feet North and 3,530 feet West from SE Corner, Section 17

Lands Encumbered by Existing Pipe and Canal Works:

Township & Range (Map #)	Tax Lot #	Owner	Address
5N 30E	106	Hawman Properties, LLC	84917 Hwy 37 Hermiston, OR 97838
5N 30E	200	USA	PO Box 2965 Portland, OR 97208
5N 30E	300	Lewis Clark College (TRS)	615 SW Palatine Hill Rd Portland, OR 97219
5N 30E	1001	Hawman Properties, LLC	84917 Hwy 37 Hermiston, OR 97838
5N 30E	1102	Hawman Properties, LLC	84917 Hwy 37 Hermiston, OR 97838
5N 30E	1201	Hawman Properties, LLC	84917 Hwy 37 Hermiston, OR 97838

Exhibit B

Legal Description of Point of Diversion and Lands Encumbered by St Hilaire Brothers Hermiston Farms LLC (POD F) and Delivery Infrastructure

Authorized Point of Diversion:

Township	Range	Meridian	Section	¼ ¼	Lot	Location
5N	30E		8	SW NW		2910 feet North and 120 feet East from SW Corner, Section 8

Lands Encumbered by Existing Pipe and Canal Works:

Township & Range (Map #)	Tax Lot #	Owner	Address
5N 30E	106	Hawman Properties, LLC	84917 Highway 37 Hermiston, OR 97838
5N 30E	200	USA	PO Box 2965 Portland, OR 97208
5N 30E	1200	St Hilaire Brothers Hermiston Farm, LLC	84186 Highway 37 Hermiston, OR 97838
5N 30E	1201	Hawman Properties, LLC	84917 Highway 37 Hermiston, OR 97838
5N 30E	1304	St Hilaire Brothers Hermiston Farm, LLC	84186 Highway 37 Hermiston, OR 97838

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Exhibit C

Legal Description of Point of Diversion and Lands Encumbered by Stanfield Hutterian Farm & Hale Farms (Exhibit G) and Delivery Infrastructure

Authorized Point of Diversion:

Township	Range	Meridian	Section	¼ ¼	Lot	Location
5N	30E	Willamette	8	SW NW		2910 Feet North and 120 Feet East from SW Corner, Section 8

Lands Encumbered by Existing Pipe and Canal Works:

Township & Range (Map #)	Tax Lot #	Owner	Address
4N 30E	705	Stahl Hutterian Brethren	1485 N Hoffman Rd Ritzville, WA 99169
5N 30E	106	Hawman Properties, LLC	84917 Highway 37 Hermiston, OR 97838
5N 30E	200	USA	PO Box 2965 Portland, OR 97208
5N 30E	1100	Royale Columbia Farms Inc.	PO Box 93 Hermiston, OR 97838
5N 30E	1200	St Hilaire Brothers Hermiston Farm, LLC	84186 Highway 37 Hermiston, OR 97838
5N 30E	1201		

Township & Range (Map #)	Tax Lot #	Owner	Address
3N 29E	3900	Hale Farms, LLC	115 Hermiston Ave #Ste 240 Hermiston, OR 97838
3N 29E	4000	Ramos Charles J & Ramos John Brinker	PO Box 188 Echo, OR 97826
3N 29E	4100	Hale Farms, LLC	115 Hermiston Ave #Ste 240 Hermiston, OR 97838
3N 29E 15	600	Hale Farms, LLC	115 Hermiston Ave #Ste 240 Hermiston, OR 97838
3N 30E B	300	Hale Farms, LLC	115 Hermiston Ave #Ste 240 Hermiston, OR 97838
3N 30E B	1200	Reese Donald G	PO Box 245 Liberty Lake, WA 99019
3N 30E B	1300	Crow Family Properties Oregon Limited	8145 Edgewater Way Wilsonville, OR 97070
3N 30E B	1500	Hale Farms, LLC	115 Hermiston Ave #Ste 240 Hermiston, OR 97838
4N 29E D	200	Ditchen Land Company, LLC	7385 Howell Prairie Rd Ne Silverton, OR 97381
4N 29E D	204	Ditchen Land Company, LLC	7385 Howell Prairie Rd Ne Silverton, OR 97381
4N 29E D	4800	Ditchen Land Company, LLC	7385 Howell Prairie Rd Ne Silverton, OR 97381
4N 30E	703	Stahl Hutterian Brethren	1485 N Hoffman

Exhibit D

Legal Description of Point of Diversion and Lands Encumbered by Royale Columbia Farms (POD H) and Delivery Infrastructure

Authorized Point of Diversion:

Township	Range	Meridian	Section	¼ ¼	Lot	Location
5N	30E	Willamette	8	SW NW		2860 feet North and 70 feet East from SW Corner, Section 8

Lands Encumbered by Proposed Pipe and Canal Works:

Township & Range (Map #)	Tax Lot #	Owner	Address
4N 30E	600	Royale Columbia Farms Inc.	PO Box 93 Hermiston, OR 97838
5N 30E	106	Hawman Properties, LLC	84917 Highway 37 Hermiston, OR 97838
5N 30E	200	USA	PO Box 2965 Portland, OR 97208
5N 30E	201	Lewis & Clark College (TRS)	615 SW Palatine Hill Rd Portland, OR 97219
5N 30E	900	Lewis Clark College (TRS)	615 SW Palatine Hill Rd Portland, OR 97219
5N 30E	903	Royale Columbia Farms Inc.	PO Box 93 Hermiston, OR 97838
5N 30E	1100	Royale Columbia Farms Inc.	

Exhibit E

Legal Description of Point of Diversion and Lands Encumbered by Superior Farms (POD I) and Delivery Infrastructure

Authorized Point of Diversion:

Township	Range	Meridian	Section	¼ ¼	Lot	Location
5N	30E	Willamette	7		1	460 feet North and 1680 feet East from SW Corner, Section 7

Lands Encumbered by Proposed Pipe and Canal Works:

Township & Range (Map #)	Tax Lot #	Owner	Address
5N 29E D	102	JB Land, LLC	PO Box 130 Hermiston, OR 97838
5N 29E D	2701	JB Land, LLC	PO Box 130 Hermiston, OR 97838
5N 29E D	2800	JB Land, LLC	PO Box 130 Hermiston, OR 97838
5N 29E D	2900	Royale Columbia Farms Inc.	PO Box 93 Hermiston, OR 97838
5N 29E D	3200	JB Land, LLC	PO Box 130 Hermiston, OR 97838
5N 30E	200	USA	PO Box 2965 Portland, OR 97208
5N 30E	201	Lewis & Clark College (	

Exhibit F

Legal Description of Point of Diversion and Lands Encumbered by Proposed NOWA East Project (POD J) and Delivery Infrastructure

Authorized Point of Diversion:

Township	Range	Meridian	Section	¼ ¼	Lot	Location
5N	30E	Willamette	8	SW NW		2,910 feet North and 120 feet East from SW Corner, Section 8

Lands Encumbered by Proposed Pipe and Canal Works:

Township & Range (Map #)	Tax Lot #	Owner	Address
4N 29E D	200	Ditchen Land Company, LLC	7385 Howell Prairie Rd Ne Silverton, OR 97381
4N 29E D	204	Ditchen Land Company, LLC	7385 Howell Prairie Rd Ne Silverton, OR 97381
4N 29E D	4800	Ditchen Land Company, LLC	7385 Howell Prairie Rd Ne Silverton, OR 97381
4N 30E	703	Stahl Hutterian Brethren	1485 N Hoffman Rd Ritzville, WA 99169
4N 30E	3300	Piercy Lloyd & Lois	33927 Riverview Dr Hermiston, OR 9783

Township & Range (Map #)	Tax Lot #	Owner	Address
4N 29E 13	100	Brian & Duane, LLC	7385 Howell Prairie Rd Ne Silverton, OR 97381
4N 29E A	100	Royale Columbia Farms Inc.	PO Box 93 Hermiston, OR 97838
4N 29E A	200	USA	Cold Springs Reservoir Hermiston, OR 97838
4N 29E A	2700	Brian & Duane, LLC	7385 Howell Prairie Rd Ne Silverton, OR 97381
4N 29E D	100	Ditchen Land Company, LLC	7385 Howell Prairie Rd Ne Silverton, OR 97381
4N 30E	600	Royale Columbia Farms Inc.	PO Box 93 Hermiston, OR 97838
4N 30E	700	Royale Columbia Farms Inc.	PO Box 93 Hermiston, OR 97838
4N 30E	701	Royale Columbia Farms Inc.	PO Box 93 Hermiston, OR 97838

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EXHIBIT H

EAST PROJECT FEASIBILITY STUDY

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5-88206



EAST IMPROVEMENT DISTRICT
MODIFIED EAST POTENTIAL PIPELINE SYSTEM
FEASIBILITY STUDY – 156 CFS

Prepared by IRZ Consulting, LLC
December 10, 2015

BACKGROUND

Based on the studies done in the past for the Northeast Oregon Water Association (NOWA) for the East Potential Pipeline System, a modified version of the findings is presented here for the East Improvement District (EID). The goal is to present an approximate capital cost of constructing a pipeline from the Columbia River to the water users in Northern Umatilla County, Oregon. The water would be used for irrigation. This study considers a (LOW) flow scenario of 156 cubic feet per second (cfs), The other study for a (HIGH) flow of 284 cfs is provided in a separate report.

SYSTEM DESCRIPTION

Delivery Points

There are five proposed delivery points in the study. See Table 1 below for the associated delivery rates. Also see the Overview map in the Appendix. The first delivery point is about .6 miles south of the Columbia River and the last one is about 8.6 miles south.

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2815 St. Andrews Loop, Suite A | Pasco, Washington 99301 | 509.544.2295 office



Table 1: Low Flow Delivery Points

Delivery Point	Delivery Rates	
	(cfs)	(gpm)
1	45	20,200
2	21	9,400
3	11	4,900
4	21	9,400
5	58	26,100
TOTAL	156	70,000

The proposed pipeline route is based on the previous study done for NOWA. Water delivery will be made at the delivery points shown, and participating users would be responsible for the system from the delivery points to their desired field locations.

River Pumping Station

The proposed river pump station is located at the bank of the Columbia River about two miles northeast of Hermiston, Oregon, near the existing Stahl-G2-JSH pump stations. The water will be harvested via an intake structure and screen placed on the bed of the river. The maximum capacity of the river station would be 156 cfs (70,000 gpm) with a lift of 425 ft. The total power load at the river station would be 8,800 brake horsepower (bhp). There will be a total of 6 – 1500 horsepower pumps at the station. A steel common manifold will connect to a 72" steel mainline that runs up hill to the booster station.

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Booster Pumping Station

The proposed booster station is located after the first delivery point approximately .6 miles south of the river. The maximum capacity of the booster station would be 111 cfs (50,000 gpm) with a lift of 193 ft. The total power load at the station would be 2,860 bhp. There will be a total of 5 – 800 horsepower pumps at the booster station.

Table 2 below shows the pump capacities at the two stations.

Table 2: Low flow Pump Capacities

Station	TDH (feet)	Capacity (cfs)	Capacity (gpm)	Total BHP (hp)	Full Load Demand (kW)
River Pump Station	425	156	70,000	8,838	5,900
Booster Pump Station	193	111	49,800	2,848	1,900
Totals:				11,686	7,800

Pipe Layout

There will be a total of approximately 48,000 ft. of pipe installed. Table 3 below provides the footage for each pipe size.

Table 3: Pipe Footage



Pipe Description	Footage
72" Steel Poly Coated & Lined	3,600
60" Steel- Poly Coated & Lined	100
60" C905 125	17,880
54" C905 125	2,960
48" C905 125	12,820
42" C905 125	4,780
42" C905 100	5,840
42" Steel Poly Coated & Lined	125
TOTAL:	48,105

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Optimizing Water Resources Through Technology



Road and Railroad crossings

There will be three major road crossings and one railroad crossing that the pipeline will be required to make. The first road to cross is Highway 730 close to the river. This would entail 120 ft. of 72" steel carrier pipe (78" diameter steel sleeve) bored under the paved road.

The second major road crossing is Highway 37. It would be 80 ft. of 60" steel carrier pipe (66" diameter steel sleeve) bored under the paved road.

The third major road crossing is the 42" steel carrier pipeline crossing Despain Gulch Road near the end of the system. This will also be an 80 ft. of bored crossing with a 48" steel sleeve.

The railroad crossing will occur about 400 ft. south of the river pumping station. This will be about 330 ft. of boring through the rocks under the railroad with 72" steel carrier pipe (78" diameter steel sleeve).

Utilities Upgrade

The total demand at the new river station would be 8,840 Kilowatt (KW) and at the booster station would be 2,860 KW. This study assumes that utilities upgrade will be done to supply the power.

COST ESTIMATE

Capital Cost

The cost estimates have been based on the previous feasibility study reports submitted to NOWA. They are calculated based on pump station locations and sizes, pipe routes, and obvious obstacles. Cost estimates are based on experience with agricultural irrigation system pumping station and pipeline construction in the Columbia Basin and should be considered feasibility level approximations. It is prudent, in studies of this scale, to account for unforeseen challenges and expenses by including a contingency cost. A total contingency



installing this pipeline. The material costs are based upon the best estimate for costs as of the date of the report, and will need to be verified upon final design.

The following cost breakdown table indicates the cost of the various sections of the system located between the various delivery points shown on the attached map. For example, Section 3 is located between the Delivery 2 and Delivery 3 on the map.

Table 4: Estimated Capital Costs Summary.

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Optimizing Water Resources Through Technology



LOW FLOW OPTION
Estimated Costs by Pipeline Section

Section	Description	Materials	Installation	Totals
1	River Pump Station	\$6,800,000	\$4,700,000	\$11,500,000
	Pipeline	\$1,400,000	\$2,000,000	\$3,400,000
	Crossings	\$400,000	\$1,700,000	\$2,100,000
Sub-Totals for Section 1:		\$8,600,000	\$8,400,000	\$17,000,000
2	Booster Pump Station	\$2,200,000	\$1,000,000	\$3,200,000
	Pipeline	\$5,400,000	\$2,100,000	\$7,500,000
	Crossing	\$50,000	\$70,000	\$120,000
Sub-Totals for Section 2:		\$7,650,000	\$3,170,000	\$10,820,000



The estimated energy usage, averaged over the total head of the system, is approximately **754 Kilo-Watt Hour per acre-foot (kWh/ac-ft.)**. Based upon the running average energy cost of \$0.06, the estimated energy cost is approximately \$45.00 for each acre-foot of water delivered to every participating user.

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500 N. 1st Street | Hermiston, Oregon 97838 | 541.567.0252 office | www.irz.com
2815 St. Andrews Loop, Suite A | Pasco, Washington 99301 | 509.544.2295 office

Optimizing Water Resources Through Technology



APPENDIX

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2815 St. Andrews Loop, Suite A | Pasco, Washington 99301 | 509.544.2295 *office*

Optimizing Water Resources Through Technology

S-00006



COLUMBIA RIVER

RIVER PUMP
STATION
(156 cfs)

COLD
SPRINGS
RESERVOIR

NO.	REVISION DESCRIPTION	DATE
4		
3		
2		
1		

FILE PATH:
1ClientEast Improvement District - 647647-16-001
MappeID_HF.dwg

EAST IMPORVEMENT DISTRICT PROPOSED PIPELINE AND DELIVERIES - LOW FLOW OVERVIEW MAP

IRZ
Consulting, LLC
500 N 1ST, HERMISTON, OREGON 97838
OFFICE (541) 567-0252 FAX (541) 567-4239

EXHIBIT I

NARRATIVE DESCRIPTION FROM IRZ
CONSULTING DOCUMENTING AVERAGE
WATER USE

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Eastern Oregon communities are all centered on agriculture. With the abundant sunshine and the long growing season, the region is considered prime farm ground. With the variety of crops that are grown in the area, it allows numerous food processing facilities to be based here providing employment for many citizens. The output of their product is shipped around the state for further processing providing jobs for other areas in Oregon. The thriving communities in Eastern Oregon all depend on agriculture to provide them with a living wage. The basis for agriculture that keeps this area alive is water.

Many excellent quality high value crops are grown in the area by using Good Agricultural Practices. This entails taking care of the soil all year round instead of only when there is a crop planted.

In the fall it is considered a Good Agricultural Practice to plant a cover crop to shelter the soil through the winter until planting the following spring. This practice is used to suppress weeds by choking them out, and reduces soil water evaporation by increasing shade. Cover crops also improve soil health by creating channels in the soil with the plant's roots, and reduces soil erosion caused by wind and water runoff. A cover crop can consume upwards of 3 to 4 inches of water depending on the time of year it is planted.

Before tillage and planting can occur, there needs to be an optimal amount of moisture available in the soil. Our primary soil type in the region is the sandy loam. If the sandy loam does not have enough moisture, the equipment will be unable to produce the desired effects that are needed from tillage. Optimal amount of moisture needs to be in place for the seeds to germinate. After planting has occurred, 1 to 2 inches of water is typically irrigated on the field in order to achieve prime germination.

Crop water needs vary by plant variety, but one thing is true for all plants; they need the right amount of water at key stages of plant growth in order to produce a viable product. In this area, water usage can range from 36 to 40 inches of water per season for high quality food output.

With these Good Agricultural Practices in place in the area, it can take upwards of 38-42 inches of irrigation a year.

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EXHIBIT J

POU LAND OWNER LIST

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OWHJ

Land Use Information Form



Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, Oregon 97301-1266
(503) 986-0900
www.wrd.state.or.us

Applicant: _____ East Improvement District _____
First Last

Mailing Address: 3750 SW Marshall Place _____

_____ Pendleton _____ OR _____ 97801 _____ Daytime Phone: 541-969-8026 _____
City State Zip

A. Land and Location

Please include the following information for all tax lots where water will be diverted (taken from its source), conveyed (transported), and/or used or developed. Applicants for municipal use, or irrigation uses within irrigation districts may substitute existing and proposed service-area boundaries for the tax-lot information requested below.

Township	Range	Section	¼ ¼	Tax Lot #	Plan Designation (e.g., Rural Residential/RR-5)	Water to be:			Proposed Land Use:
See Attached Map and landowner list						X Diverted	X Conveyed	X Used</	

Note to applicant: If the Land Use Information Form cannot be completed while you wait, please have a local government representative sign the receipt at the bottom of the next page and include it with the application filed with the Water Resources Department.

See bottom of Page 3. →

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For Local Government Use Only

The following section must be completed by a planning official from each county and city listed unless the project will be located entirely within the city limits. In that case, only the city planning agency must complete this form. This deals only with the local land-use plan. Do not include approval for activities such as building or grading permits.

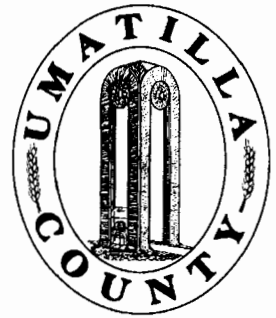
Please check the appropriate box below and provide the requested information

- ☒ Land uses to be served by the proposed water uses (including proposed construction) are allowed outright or are not regulated by your comprehensive plan. Cite applicable ordinance section(s): See attached.
- ☐ Land uses to be served by the proposed water uses (including proposed construction) involve discretionary land-use approvals as listed in the table below. (Please attach documentation of applicable land-use approvals which have already been obtained. Record of Action/land-use decision and accompanying findings are sufficient.) **If approvals have been obtained but all appeal periods have not ended, check "Being pursued."**

Type of Land-Use Approval Needed (e.g., plan amendments, rezones, conditional-use permits, etc.)	Cite Most Significant, Applicable Plan Policies & Ordinance Section References	Land-Use Approval:	
		☐ Obtained ☐ Denied	☐ Being Pursued ☐ Not Being Pursued
		☐ Obtained ☐ Denied	☐ Being Pursued ☐ Not Being Pursued
		☐ Obtained ☐ Denied	☐ Being Pursued ☐ Not Being Pursued

Umatilla County

Department of Land Use Planning



DIRECTOR
TAMRA
MABBOTT

East Improvement District Land Use Information Form

LAND USE
PLANNING,
ZONING AND
PERMITTING

CODE
ENFORCEMENT

SOLID WASTE
COMMITTEE

SMOKE
MANAGEMENT

GIS AND
MAPPING

RURAL
ADDRESSING

LIAISON,
NATURAL
RESOURCES &
ENVIRONMENT

Plan Designations:

The following zoning designations exist in the place of use area and along the proposed pipeline.

- Exclusive Farm Use/EFU
- Exclusive Farm Use-40/EFU-40
- Rural Light Industrial/RLI



Oregon Water Resources Department
Apply for a Permit to Appropriate Surface Water

[Main](#) [Help](#)
[Return](#) [Contact Us](#)

Today's Date: Tuesday, September 13, 2016

Base Application Fee for use of Surface and optionally Stored Water.		\$800.00
Number of proposed cubic feet per second (cfs) to be diverted. (1 cfs = 448.83 gallons per minute)	6.05	\$2,100.00
Number of proposed Use's for the appropriated water. (i.e. Irrigation, Supplemental Irrigation, Pond Maintenance, Industrial, Commercial, etc) *	1	
Number of proposed Surface Water points of diversions. **	6	\$1,500.00
Number of Acre Feet to be diverted from Stored Water. (if the application is appropriating water from a pond/reservoir)	0	
Permit Recording Fee. ***		\$450.00
* the 1st Water Use is included in the base cost. ** the 1st Surface Water point of diversion is included in the base cost. *** the Permit Recording Fee is not required when the application is submitted but, must be paid before a permit will be issued. It is fully refundable if a permit is not issued. If the		