LETTERS OF SUPPORT

J.R. Cook, Northeast Oregon Water Association
Beverly J. Bridgewater, West Extension Irrigation District

ATTACHMENTS:

#1. Figure 4.1, Project Overview Map

#2. Phase 1 Reuse: Opinion of Probable Costs

#3. Communication with Legislative Commision on Indian Services

#4. Anticipated Project Work Plan

#5. Wastewater Treatment and Reuse Evaluation

#6. WRD Inventory Form

LETTERS OF SUPPORT

Sent via email to: Russell W. Pelleberg
In-coming City Manager/Public Works Director
City of Umatilla, OR 97882

January 19, 2016

Russ-

Pursuant to our discussions yesterday, I want to confirm NOWA's interest and support in working with you on your short and long-term water recycling and re-use efforts in Umatilla. We intend to work with you to identify both funding sources and matching commitments for Phase I of your project (i.e. the gravity fed re-use line to the West Extension Phase I exchange canal), as well as for your feasibility study to identify options for future phases of your project. We understand that the feasibility study will look at pre-treatment facilities, additional land application opportunities including agriculture and city green spaces, and a wastewater collection system for future build out at the Port of Umatilla industrial park and potentially for the industrial lands owned by the Confederated Tribes of the Umatilla Indian Reservation.

One of NOWA's short-term "Water Development" performance measures is to identify and implement a solution to the long-standing issue between well owners hydraulically connected to the Umatilla River and West Extension Irrigation District who relies, in part, on return flows to the Umatilla River to meet some of their senior surface water rights. Your project, as well as the great work WEID is doing to identify large surge reservoirs that could be used throughout the irrigation season, is a great step forward to fixing this problem and also to providing additional surface water rights to lands within the Ordnance Gravel and Ordnance Basalt Critical Groundwater Areas. After 10 years of being a part of the return flow issues and discussions, I can honestly say we are onto something that is both an economically and environmentally viable solution. It would be great to fix this problem within the first 5 years of NOWA's existence and I believe you have not only the support of NOWA, but also of the impacted well owners and WEID in this endeavor.

There are three re-use projects that NOWA is excited to participate in as an active partner. Your project is exciting due to the benefits listed above. In addition to your project, the Port of Morrow has designed an innovative system that uses a mix of effluent and freshwater to assist landowners in the Butter Creek and Ordnance Critical Groundwater Areas without the requirement of any new Columbia River water rights. The City of Pendleton is looking at re-use on local feed crop producing farms as a way to address their TMDL issues relating to temperature in the Umatilla River. The City of Pendleton's project not only benefits their "point of pipe" temperature issues but also enables the participating landowners to lease a mix of senior Birch Creek and Umatilla River water rights in stream as well as some private McKay Storage contracts to add cold live flow to these creeks to benefit listed and anadromous fish species.

These three projects, combined with the City of Hermiston's re-use project already completed and the City of Echo's project that they are working on independently, represent a great model for multibeneficial re-use in the State of Oregon. I look forward to supporting you and working with you on your efforts in the future.

Best regards,

J.R. Cook

West Extension Irrigation District

P. O. Box 100; Irrigon, OR 97844-0100
541-922-3814 (ph) 541-922-9775 (fax)
bbridge@oregontrail.net

January 15, 2016

To: Oregon Water Resources Department

Re: Water Supply Development Account Grant Funding Application – City of Umatilla

The West Extension Irrigation District (District) is offering this letter of support for the City of Umatilla's (City) request for grant funding under the Water Supply Development Program (SB 839).

Phase 1 of the City's re-use project will consist of the installation of a gravity pipeline to carry non-contact cooling water from the Amazon data centers, located in the Port of Umatilla's (Port) industrial area, to the Bureau of Reclamations Phase I (Umatilla Basin Act of 1988) canal at the foot of McNary Dam. The water will then flow to the Phase I ponds and be pumped into the District's main canal. There it will co-mingle with other canal water and be delivered to our agricultural irrigation water users.

This first phase will be the anchor of a much larger phased project that will ultimately see an industrial waste water treatment plant. This plant will treat future industrial waste to Class A effluent. It will provide additional infrastructure as well as a future water treatment plant for industrial uses in the Port of Umatilla area.

An additional phase that has been discussed with this application is the need for downstream storage. This is where our two future projects ultimately come together. One will definitely support the other. The District will be submitting a grant proposal for storage feasibility study for sites along its main canal.

The City has been working with the District and the Bureau of Reclamation for planning this project. We are working on the federal permit. We understand that the City is working with DEQ on the project permit with the State.

As stated in the opening sentence, we support this application and look forward to reuse of industrial and eventually wastewater for the benefit of our irrigation patrons. In these uncertain times of water delivery and drought, we are excited to be part of planning for the future with the City and its staff.

Sincerely,

Beverly J. Bridgewater

Beverly J. Bridgewater
District Manager

ATTACHMENT #1
Figure 4.1, Project Overview Map

CITY OF UMATILLA
WASTEWATER FACILITIES INITIAL REVIEW

FIGURE 4.1
INITIAL INDUSTRIAL BENEFICIAL REUSE ALTERNATIVES

LEGEND

- Parcels
- City Limits
- UGB
- WTP — Existing Umatilla WWTP
- Existing Umatilla Pump Exchange Feed Canal
- Existing Regional Water System
- Potential Industrial Service Area (1.9 SQ MI.)
- Proposed Industrial Effluent Pipe Discharge
- ITP — Proposed Industrial Waste Water Treatment Plant Location TBD
- WTP — Proposed Water Treatment Plant-Connect to Exst Water Distribution System Location TBD

I. Discharge to Pump Exchange Feed Canal

II. Water Treatment Plant

III. Industrial WWTP

IV. Potential Regional Storage - by WEID

Umatilla Pump Exchange Reservoir and Pump Station To WEID

Non Contact Cooling Tower Discharge

Potential Industrial Service Area

WTP

ITP

WTP

Umatilla Pump Exchange Feed Canal

Existing Regional Water System

6th St

Interstate 82

Highway 395

Highway 730

Beach Access Rd

Bud Drayer Rd

McNary Dam

0 2,500 Feet

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Path: \\LGFILES\Public\projects\JUB\City of Umatil\33-14-004-WW Fac Initial Review\F70_GIS

Revision Date: 12/1/2015

J-U-B ENGINEERS, INC.

ATTACHMENT #2
Phase 1 Reuse: Opinion of Probable Costs

Phase 1 Industrial Wastewater Reuse Pipeline
City of Umatilla, Oregon
Opinion of Probable Costs
Draft Revision Date January 11, 2016

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Reuse Pipe Installation (Excavation, Pipe, Bedding, & Backfill)	LF	12,000	$ 138	$ 1,656,000
Surface Restoration (Pavement &/or gravel)	LF	12,000	$ 8.5	$ 102,000
Electrical & Controls Installation/Upgrades	LS	1	$ 125,000	$ 125,000
Connection Control Structure to Pump Exchange Canal	LS	1	$ 25,000	$ 25,000

Subtotal	$	1,908,000
Contruction Contingency (20%)	$	381,600
Subtotal	*$*	*2,289,600*
NPDES Permit Application & PER	$	90,000
Survey & Geotechincal (3%)	$	68,688
Design & Construction Engr/Admin (20%)	$	457,920
Environmental Review (2%)	$	45,792
Legal, Easements, & City Administration (2%)	$	45,792
Subtotal	*$*	*708,192*
TOTAL PROJECT BUDGET ESTIMATE =	$	3,000,000

ATTACHMENT #3
Communication with Legislative Commision on Indian Services

Nicholas Ducote

From: Nicholas Ducote
Sent: Monday, January 11, 2016 1:19 PM
To: 'karen.m.quigley@state.or.us'
Subject: Consultation about Affected Indian Tribes for OWRD Grants

Karen,
I am putting together two implementation grants for the Oregon Water Resources grant programs and Jon Unger said you were the person to contact regarding this portion of the application.

The first is a water compliance project in the City of Haines. We have completed a cultural review already, to comply with IFA/HUD Block Grant rules on our design phase, and worked with Confederated Tribes of the Umatilla Indian Reservation (CTUIR) on that.

The second is a reuse project in the City of Umatilla. The City has been collaborating with CTUIR on this project and it will also serve an industrial site CTUIR is developing.

Let me know if you need more information. Thanks,

NICK DUCOTE
Funding Specialist

J-U-B ENGINEERS, Inc.
1201 Adams Avenue, La Grande, OR 97850
e nducote@jub.com *w* www.jub.com
p 541 963 7100 *c* 541 805 5543

Nicholas Ducote

From: Quigley Karen M <karen.m.quigley@state.or.us>
Sent: Monday, January 11, 2016 2:07 PM
To: Nicholas Ducote
Subject: RE: Consultation about Affected Indian Tribes for OWRD Grants

For the Haines project, you might consider notifying Kathleen Sloan, Cultural resources Manager at Warm Springs, kathleen.sloan@ctwsbnr.org and Diane Teeman, Cultural Resources Director at Burns Paiute, dlteeman.burns.paiute@gmail.org
Thanks,
Karen

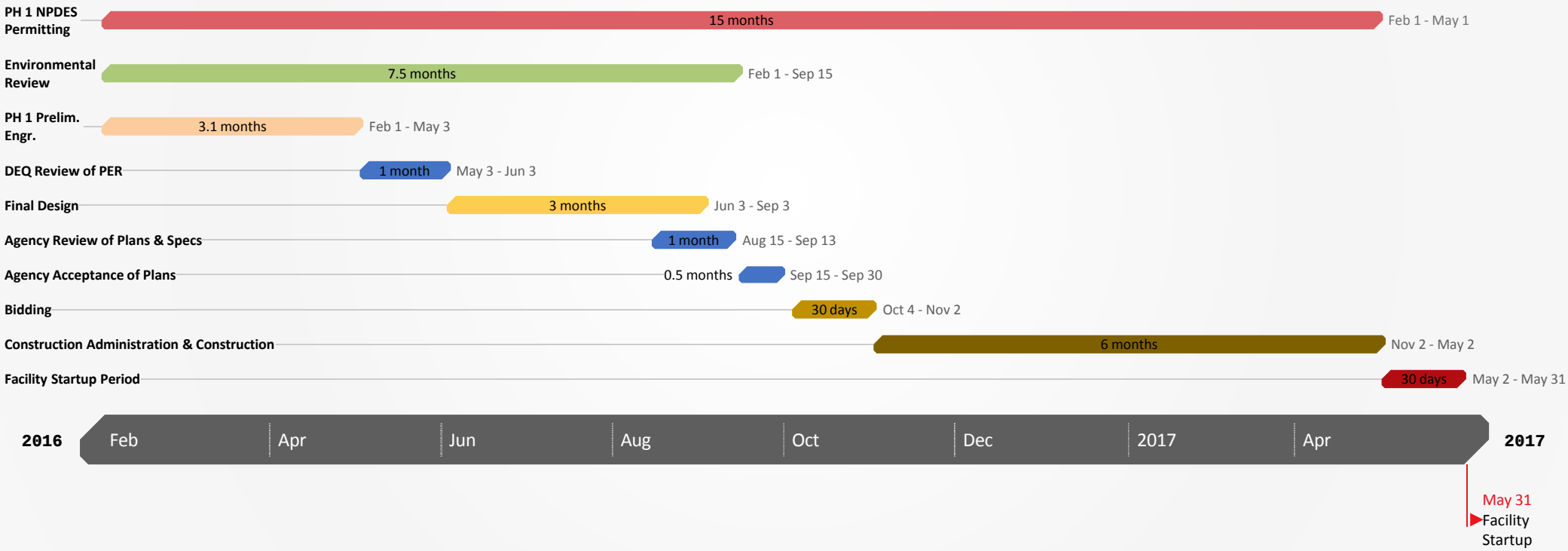
Karen Quigley, Executive Director
karen.m.quigley@state.or.us
Legislative Commission on Indian Services

ATTACHMENT #4
Anticipated Project Work Plan

Umatilla Phase 1 Reuse Discharge Pipe Project

ANTICIPATED PROJECT WORK PLAN

Draft Revision Date: January 8, 2016



ATTACHMENT #5
Wastewater Treatment and Reuse Evaluation

J-U-B ENGINEERS, INC.

J-U-B COMPANIES | THE LANGDON GROUP | GATEWAY MAPPING INC.

MEMORANDUM

DATE:	January 8, 2016
TO:	Russ Pelleberg, City of Umatilla Public Works Director
FROM:	John Garlitz, P.E.
SUBJECT:	**Wastewater Treatment and Reuse Evaluation**
PROJECT:	Wastewater Facilities Initial Review
PROJECT NO.:	33-14-004

The City of Umatilla (City) authorized J-U-B ENGINEERS, Inc. (J-U-B) to prepare this memorandum through a professional services agreement dated November 6, 2014.

1. PURPOSE AND OVERVIEW

The City collects and treats municipal and industrial wastewater and discharges treated effluent year-round to the Columbia River in compliance with the City's NPDES Permit. The wastewater treatment plant (WWTP) has an average dry weather design capacity of 0.8 million gallons a day (mgd) and a maximum day demand of 1.3 mgd. Due to recent industrial growth at the Port of Umatilla (Port), the WWTP experiences maximum daily flow in excess of 0.8 MGD during the summer months.

While expansions of wastewater facilities are completed through a wastewater facility plan to meet existing and future flow and loads, the City requires an immediate, initial evaluation to define potential beneficial water reuse options within the City's urban growth boundary. This memo summarizes:

- Budgetary engineer's opinion of probable costs:
  - To reuse the current 0.8 mgd flows from the existing WWTP, and
  - To expand the current 0.8 mgd WWTP to 3.0 mgd, Class A reuse facility.
- Document water reuse scenarios that may be available for the industrial flows from the Port.

This information will assist City staff with ongoing discussions with various stakeholders related to increased industrial flows, beneficial water reuse, in order to document and illustrate the need for water reuse needs within the City for funding applications.

2. WASTEWATER TREATMENT PLANT

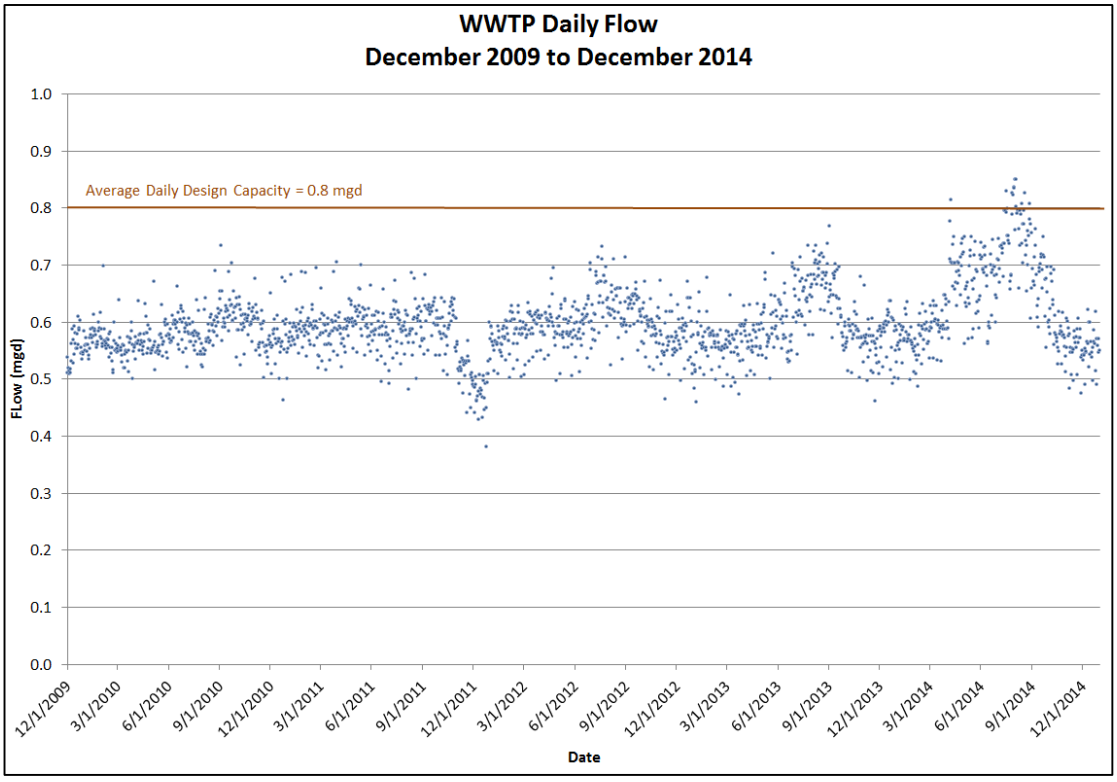
Oregon Department of Environmental Quality (ODEQ) completed a NPDES permit evaluation Report on June 22, 2013 as part of the City's NPDES permit renewal. The evaluation report concluded the "facility currently has adequate capacity." This conclusion was based on a review of flows from November 2006 to January 2013

a 1201 Adams Avenue, La Grande, OR 97850-2607 p 541 963 7100 f 541 963 7118 w www.jub.com

where the average monthly flow was 0.575 mgd with a maximum daily flow was 0.645 mgd compared to the average dry weather design flow of 0.8 mgd.

Since January 2013, the recent and ongoing installation of the VA Data Center facilities in the Port discharges large volumes of industrial flows into the McNary Industrial Interceptor, which can contributed up to 0.25 mgd of flow from the data center single-pass cooling system. An additional 4 facilities are planned and being constructed, which could increase the discharge flows up to 1 mgd. However, the VA Data Center is installing a use multiple cooling system with a reverse osmosis (RO) treatment process to limit the buildout flows to approximately the current level of discharge flows. A visual representation of the impact of the Data Center is illustrated in Figure 2.1. Note the increase in flows after January 2013.

Figure 2.1 – WWTP Daily Flows



Install Upgrades to Current 0.8 mgd Facility for Class A Reuse

Engineers Opinion of Probable Budget: $5.8M to $7.5M

J-U-B reviewed options to convert the existing treatment facility to provide Class A reuse water. Treated effluent can be diverted downstream of the clarifiers and directed to a Class A capable filtration unit process, an in-vessel UV disinfection system, then conveyed to a pump station that can pump to a storage facility for constant reuse or directly to an irrigation system during irrigation season and discharge into Columbia River during non-irrigation season. These upgrades are visually represented in Figure 2.2 on the next page.

Constant reuse water production would require a 5.3 million gallon storage facility with the ability to irrigate 20 acres. The City can install reuse water pipe from the treatment facility and connect to the irrigation system at the Marina and/or install underground irrigation system at the soccer fields utilizing the current irrigation well at the Marina for make-up water if the storage facility is not to be installed. An illustration of the areas for reuse water irrigation is provided in Figure 2.3 on the next page.

Figure 2.2 – Required WWTP Upgrades

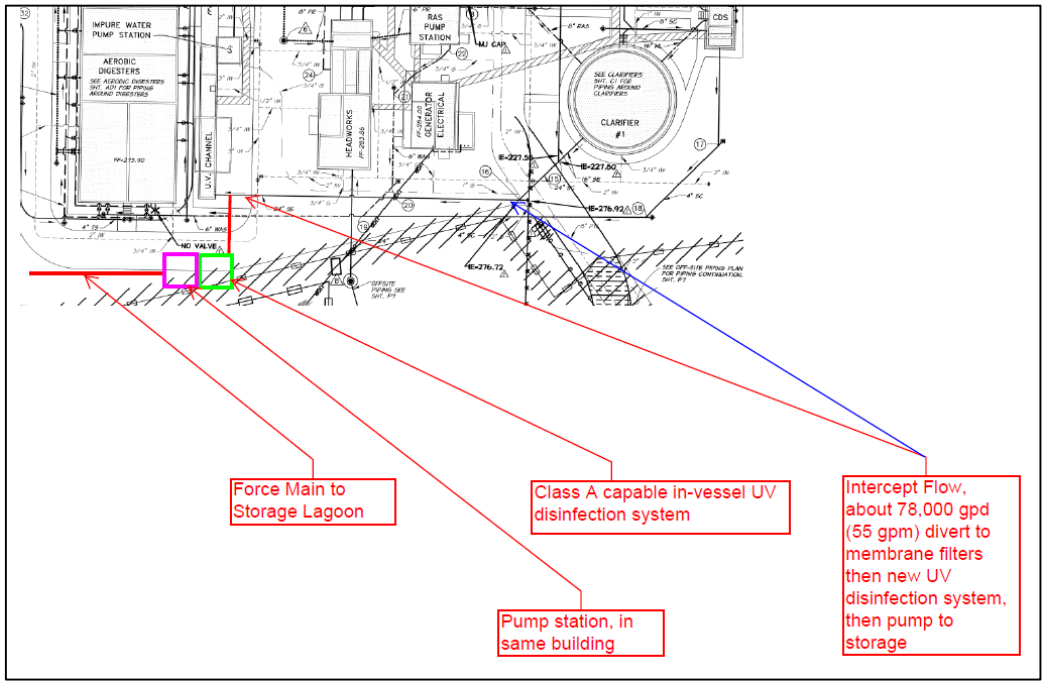


Figure 2.3 – 0.8 mgd Reuse Water Option: Marina Park Irrigation

Upgrade Current 0.8 mgd WWTP to 3.0 mgd Class A WWTP

Engineers Opinion of Probable Budget: $22M to $25M

Industrial growth in the area has triggered an interest in increasing the capacity of the Cities WWTP to accommodate more flow. J-U-B reviewed the major unit process at the plant and estimated the cost to increase the overall capacity from 0.8 mgd to 3 mgd. The cost estimate is a Class C planning level type estimate and should updated during feasibility and facilities planning analysis to confirm ancillary process capacity.

The current facility has components that can hydraulically convey 3.0 mgd, but not treat an average annual flow of 3.0 mgd with typical peaking factors. At this point, it was assumed that a capacity increase to 3 mgd (annual average) would need to pass a peak hour flow of 8 mgd which is typical for domestic flow; however, the projected flow should be evaluated to confirm peaking factors. A brief summary of unit process modifications follows:

- Headworks
  - Outfit manual rake channel with mechanical screen
  - Add third channel for bypass
- Raw Sewage Pumping
  - Increase pumping capacity 350%
- Splitter Box
  - Increase splits from 3 to 4
- Oxidation Ditches
  - Add three basins and supporting equipment

- Secondary Clarifiers
  - Add a fourth clarifier (60' diameter)
- RAS pumping
  - Install pumps in reserve spots
- Disinfection
  - Outfit second channel
- Aerobic Digesters
  - Add 4 basins
- Dewatering
  - Increase runtime to 30 hours per week
- Outfall
  - Assumed adequate, for cost estimating purposes, effluent disposal was assumed to remain to the Columbia River; however, reuse disposal options near the WWTP for a portion of the flow are provided above.

3. OPTIONS FOR REUSE

Industrial growth in the area has triggered an interest in wastewater treatment and disposal options in addition to the option of increasing the capacity of the WWTP. Development interest in the Port area allows the opportunity to investigate beneficial use disposal options for the beneficial reuse of industrial flows. Domestic flows from the Port area as well as flow from the correctional facility would continue to be conveyed to the City's WWTP for treatment and disposal. Industrial treatment and reuse disposal options require new facilities to:

- Convey flow (separate collection pipe) to an,
- Industrial wastewater treatment facility (separate treatment plant) and
- Disposal system
  - Pipe to disposal system
  - Disposal system (land application via crop irrigation)

Alternative treatment and disposal systems would negate the need to upgrade the City WWTP while allowing for industrial growth.

Disposal Options

Options to dispose of industrial reuse water were reviewed and include:

- <u>City of Umatilla</u>
  Flows can continue to be conveyed to the CIty's WWTP and disposed of in the Columbia River. Continued Class B treatment levels are required.
- <u>Land Application</u>
  Flows can be used as irrigation to grow a crop with the recycled water providing valuable nutrients at agronomic rates. Reuse water allows more land to be irrigated because it can be used on land without water rights. Class C treatment levels are the minimum required.

- West Extension Irrigation District (WEID)
  Treated industrial wastewater flows can be conveyed to the WEID through the Umatilla Pump Exchange for disposal via land application. Since reuse is generally unrestricted, typical Class A treatment levels are required.
- Regional Water System Pipe (RWS)
  Flows can be injected into the RWS pipeline and then conveyed to industrial, agricultural, and municipal users downstream. Class A treatment levels are required for this option due to the downstream municipal and industrial connection.
- Treatment Wetlands
  Treatment Wetlands is considered an indirect discharge to a surface water via groundwater or hyporheic flows. This method of effluent disposal contains compliance risks with the Clean Water Act and unknown future environmental litigation if the groundwater is determined to be hydraulically connected to an impaired receiving stream or water body. The US Environmental Protection Agency (USEPA) and Northwest Environmental Advocates (NWEA) have concerns about compliance with federal NPDES regulations when discharges are permitted into hyporheic zones. If cooling or chemical quality of the discharge is the main objective, it is best to have the treatment wetlands located away from receiving stream. However, since groundwater flows are laminar and do not readily mix, the location of the treatment wetland would have to be located where groundwater is being driven away from the receiving stream in order to be considered a potential long term, viable option.

Treatment Options

The level of treatment required is a function of disposal. Based on the disposal options available, treatment options and levels include:

- City of Umatilla WWTP
  Treatment of the industrial flows can be accomplished at the existing WWTP after increasing the capacity to 3.0 mgd.
- Existing system at the VA Data Center facility
  The newly installed reverse osmosis (RO) system is sufficient to provide Class A treatment for discharge to the WEID, RWS or wetland. The RO system may be expandable to accommodate growth or if water quality is adequate, direct discharge from the non-contact cooling tower may be an option.
- Install a regional industrial treatment plant at a location in the Port
  A new regional plant can be installed to allow treatment to Class C or Class A levels. Class C treatment is more affordable to treat than Class A and provide nutrients in the irrigation water, reducing the need to apply fertilizer on crops. Class A is more expensive, but provides the ability to utilize other disposal options, should the downstream user need a higher treatment level.

Industrial Water Source Options

Sources for industrial water were reviewed and include:

- City of Umatilla
  Continued use of the City's drinking water can be used as the source for industrial water until the water right has been maximized or the City needs the water for domestic use. Use of this water source would not require the installation of a water treatment facility.

- Port of Umatilla's Regional Water Supply
  The Port's regional water system currently draws surface water from the Columbia River and provides surface water to domestic, industrial, and agricultural user downstream. The Port's facility has adequate capacity and surface water rights to provide industrial flows. Additional raw water can be withdrawn from River, treated in a water treatment facility to industrial requirements and then conveyed to the industrial users at the Port.
- New City Surface Water Supply
  The City currently has 25 cfs of surface water rights from the Columbia River which can be a potential water source.

4. RECOMMENDED GOALS FOR BENEFICIALLY REUSING WATER

Based on the City's existing wastewater facilities, potential disposal and treatment options, and current environmental conditions, we recommend the City incorporate the following water reuse goals:

- Separate the industrial wastewater flows from the domestic wastewater flows.
  Separating industrial and domestic flows reduce future capital and operation & maintenance costs to both domestic and industrial ratepayers.
- Beneficially reuse the industrial flows by recycling the water into the West Extension Irrigation District (WEID) through the Umatilla Feed Canal for agricultural use.
  Utilizing the WEID likely provides the least cost to the current and future industrial ratepayers.
- Beneficially reuse the domestic flows by recycling the water at the WWTP to irrigate the Marina, City parks, and/or the "old town" area near the WWTP.
  Implementing reuse near the current WWTP likely provides for the least cost to current and future domestic ratepayers.
- Develop surface water supply options from the City's water right to provide domestic and industrial water at the Port of Umatilla area, allowing the City to conserve water from the deep basalt aquifer.
  While the City has capacity in their current groundwater water rights to provide service to the current and future industrial users, the groundwater water right will not allow for buildout water demands within the City's urban growth boundary (UGB). Developing a surface water supply option will provide an adequate water supply for industrial users, while conserving the groundwater in the deep basalt aquifer.

5. INITIAL REUSE ALTERNATIVE DEVELOPMENT & STAKEHOLDER OUTREACH

Through an amendment, the City directed J-U-B to develop a potential reuse alternative that can be advanced to a feasibility stage. Based on the options, the following approach was developed:

Immediate Needs: Install a separate industrial disposal system to mitigate capacity issues at the WWTP.

i. Install a discharge line from the non-contact cooling tower water to the Umatilla feed canal, disposing of the cooling tower water through a NPDES permit. This will mitigate capacity limitations experienced by the City's WWTP during the summer months when the cooling tower water is used and allow for the beneficial reuse of the water.

Near Term Needs: Mitigate water supply bottlenecks and install industrial treatment to allow for industrial economic development.

ii. Install a surface water treatment plant, removing the water supply as a potential bottleneck while allowing conservation of the City's deep aquifer water right

iii. Install a regional industrial wastewater treatment plant (WWTP), allowing treatment of future process to water quality levels required for an NDPES permit into the Umatilla feed canal.

iv. Install local or regional storage to allow non-irrigation season discharges from industrial users.

This approach will mitigate capacity impacts at the City's WWTP, beneficially reuse treated effluent, and provide for economic development with the City, Port, and potentially the Wanapa Industrial Site.

These steps can be developed to economically and regulatory stand-alone. Beyond the first step, the order is unknown and dependent on current and prospective industrial user's needs. A graphical illustration of this approach is provided in Figure 4.1, which is Attachment A.

6. STAKEHOLDER & REGULATORY OUTREACH

This reuse approach was discussed with the WEID, BOR, ODEQ, Confederate Tribes of the Umatilla Indian Reservation (CUTIR), Port of Umatilla (POU), Northeast Oregon Water Association (NEOWA), and VA Data. Discussions with these stakeholders are provided below:

- On August 20, 2015, the City and J-U-B met with the WEID and the US Bureau of Reclamation (USBOR). WEID stated that the District has the capacity to accept water the City can discharge into the Umatilla Feed Canal. USBOR stated the USBOR does not have issues in accepting recycled water into the feed canal through a NPDES permit. There will likely be technical issues such as adjustment to canal flow controls and pumps to address during design and construction.
- On October 15, 2015, the City and J-U-B met with the Oregon Department of Environmental Quality (ODEQ) to discuss regulatory compliance items when discharging into the Umatilla feed canal. ODEQ stated that the discharge into the WEID would be similar in nature to the City of Hermiston NPDES permit. ODEQ would research if the Use Attainability Analysis (UAA) completed for the WEID to remove fish and recreation as beneficial uses included the Umatilla feed canal.
- On October 15, 2015, the City and J-U-B met with the CTUIR, POU, NEOWA, and VA Data to provide general information to all potential stakeholders, obtain feedback, and gain support. All stakeholders expressed interest in
- On October 28, 2015, the City and J-U-B met with ODEQ in Pendleton, OR. ODEQ stated that the Umatilla feed canal was not included in the UAA, and currently includes fish and recreation as beneficial uses due to blanket beneficial uses attributed to all natural and man-made water bodies in Oregon. However, the water quality standards for discharge of non-contact cooling tower can be met without modifying the UAA. ODEQ will internally discuss the best approach to include the feed canal in the UAA, which is required before subsequent steps can advance.

Discussions with regulatory, private, and public stakeholders indicates that there is support for the City to provide beneficial reuse of industrial wastewater.

7. RECOMMENDED NEXT STEPS

The recommended next steps for the City include:

I. Initiate beneficial reuse by irrigating the treated effluent within the City's WWTP facility as a demonstration project.

II. Initiate NPDES permitting and preliminary design report (topographic survey, sizing, hydraulic analysis, alignment, and monitoring/control upgrades), and a financial plan of the non-contact cooling tower water disposal into the Umatilla Feed Canal for current industrial users.

III. Complete a Feasibility analysis that:

- Evaluates existing and long-term water supply requirements.
- Evaluates recycled water demands.
- Develops the domestic and industrial alternatives in adequate detail to evaluate probable costs, risk, environmental, and social implications for each step listed in Section 5.
- Develops an Implementation Plan for the remaining steps that provide trigger points for each step based on population, flow, and/or loads.
- Develops a Financial and Funding Plan to determine the best feasible approach to execute the Implementation Plan so that each phase stand on their own from a technical, regulatory, and economic standpoint.
- Adopts the Feasibility Analysis for implementation and incorporation into future master planning efforts.

IV. Complete Final Design, Bidding, and Installation of the non-contact cooling tower disposal pipe.

V. Obtain an NPDES permit for the non-contact cooling tower water.

VI. Begin discharging the non-contact cooling tower water.

VII. Evaluate and determine which step of the domestic and industrial reuse alternatives to execute next based on the actual conditions, financial and funding, and stakeholder collaboration.

8. REFERENCES

1. 1998 WWTP Design Memorandum No. 1 Design Loadings and Permit Requirements.
2. 1999 WWTP Record Drawings
3. 1999 McNary Interceptor Record Drawings
4. July 22, 2013 NPDES Permit Evaluation Report and Fact Sheet
5. October 11, 2013 NPDES Waste Discharge Permit
6. February 29, 2012 Beach Access Road Sewer Extension Design Memo
7. June 2011 Beach Access Road Sewer Extension Record Drawings
8. July 26, 2013 Letter from Northwest Environmental Advocates to US Environmental Protection Agency, RE: Use of Hyporheic Flows for the Cooling of Thermal Discharges
9. August 10, 2015 Letter from the US Environmental Protection Agency to Oregon Department of Environmental Quality RE: City of Prineville's Hyporheic Zone Discharge Permit Modification, NPDES No. 101433.

ATTACHMENTS

Attachment A Figure 4.1 – Initial Beneficial Reuse Alternatives

CITY OF UMATILLA
WASTEWATER FACILITIES INITIAL REVIEW

FIGURE 4.1
INITIAL INDUSTRIAL BENEFICIAL REUSE ALTERNATIVES

LEGEND

- Parcels
- City Limits
- UGB
- WTP — Existing Umatilla WWTP
- Existing Umatilla Pump Exchange Feed Canal
- Existing Regional Water System
- Potential Industrial Service Area (1.9 SQ MI.)
- Proposed Industrial Effluent Pipe Discharge
- ITP — Proposed Industrial Waste Water Treatment Plant Location TBD
- WTP — Proposed Water Treatment Plant-Connect to Exst Water Distribution System Location TBD

I. Discharge to Pump Exchange Feed Canal

II. Water Treatment Plant

III. Industrial WWTP

IV. Potential Regional Storage - by WEID

Umatilla Pump Exchange Reservoir and Pump Station To WEID

Non Contact Cooling Tower Discharge

Potential Industrial Service Area

WTP

ITP

WTP

Umatilla Pump Exchange Feed Canal

Existing Regional Water System

6th St

Interstate 82

Highway 395

Highway 730

Beach Access Rd

Bud Drayer Rd

McNary Dam

0 2,500 Feet

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Path: \\LGFILES\Public\projects\JUB\City of Umatil\33-14-004-WW Fac Initial Review\F70_GIS

Revision Date: 12/1/2015

J-U-B ENGINEERS, INC.

ATTACHMENT #6
WRD Inventory Form

Request to be added to the Oregon Water Resources Department's

Inventory of Potential Conservation Opportunities

The purpose of this inventory is to catalogue potential conservation projects that water users themselves have identified but not yet pursued because of financial, institutional, or other barriers. For the purpose of this application, water storage other than above-ground are included as conservation opportunities and are most likely capital conservation projects.

As a water provider or user, you know your water demands and water conservation opportunities better than anyone. We would appreciate your assistance with this important data collection effort by completing this survey. Your participation will help provide the building blocks we need to begin to identify and achieve potential future water supplies. Please answer the questions as completely as possible, to the best of your ability. We appreciate your help with this important effort.

This inventory of already-identified, potential conservation projects includes both capital and programmatic projects. Capital projects are defined as one-time, large investments resulting in water savings. Examples include reclaimed water plants, reservoir covering, transmission line upgrades reducing leaks, or industrial engineering modifications to re-use process water. Programmatic projects are defined as ongoing investments resulting in water savings. Examples include facilitating upgrades to more efficient water using devices (e.g., distributing free showerheads, toilet rebates) and distribution system leak detection programs. The conservation inventory is primarily intended to include "planned" projects rather than projects that are currently being implemented. However, currently active programmatic projects may be listed if they will continue or expand in future years. The inventory of projects submitted will be compiled by county or basin.

Examples are provided below.

	Example **Capital Conservation Project**	**Example** **Programmatic Conservation Project**
Project Description Provide brief sentence	Line 3 miles of unlined ditch.	Toilet rebate program for residential customers
Estimated Future Savings Provide brief sentence, including information regarding savings seasonality.	20 acre feet of water per year	If we spend our full budget each year, we estimate 50,000 gallons of water save per year
Seasonality Indicate what part of the year savings are generated (e.g. year-round; summer only; etc.).	Peak (irrigation) season savings.	Savings should occur throughout the year.
Estimated Future Costs Provide brief sentence.	$500,000 total project costs.	$40,000 a year.
Implementation Schedule Provide brief sentence.	Not set. Have conducted cost and savings estimate, but still seeking funding.	We started the program in 2005 and plan to implement until 2015.
Project Funded? Designate either "yes", "no", or provide brief sentence if necessary	No. Pursuing grant funding.	Yes. IN our CIP through the next 5 years.

To add a project to the inventory of potential conservation opportunities, please provide the following information for each conservation project.

This is a ☒ Capital Conservation Project ☐ Programmatic Conservation Project	
Project #/Name	**3 miles of recycled water pipeline, City of Umatilla**
Project Description	Install a pipeline to recycle industrial wastewater flows within the City and Port of Umatilla for beneficial resue into the WEID
Estimated Future Savings	Reuse, 54.3-325.8 million gallons
Seasonality	Irrigation Season (April to October)"
Estimated Future Costs	$3,000,000
Implementation Schedule	2016-2017
What are the barriers to implementation, e.g. funding?	Funding. City has partial funds available but must secure additonal funding sources in order to install the recycled water pipeline
This is a ☐ Capital Conservation Project ☐ Programmatic Conservation Project	
Project #/Name	
Project Description	
Estimated Future Savings	
Seasonality	
Estimated Future Costs	
Implementation Schedule	
What are the barriers to implementation, e.g. funding?	

- Include this form with your application -