

IV. Grant Specifics

Section A. Common Criteria

Instructions: Please answer all questions contained in this section. It is anticipated that completed applications will result in additional pages.

1. Describe your goal and how this study helps to achieve the goal.

The goal of the study is to identify the maximum beneficial reuse applications of the City's domestic and growing industrial wastewater flows. The study will be the first phase toward beneficially reusing both the industrial and domestic wastewater because industrial flows from the Port of Umatilla are beginning to impact the City's groundwater supply and wastewater facilities.

The City completed an initial reuse evaluation (see attachment #1) to determine how to mitigate immediate capacity issues and identify beneficial reuse options available to the City. The evaluation recommended:

- a) Separating the industrial flows from the domestic flows.*
- b) Beneficially reusing the industrial flows by recycling the water into the WEID through the Umatilla feed canal.*
- c) Beneficially reusing domestic flows by recycling water at the WWTP to irrigate grass at the Marina, City parks, and/or the "old town" area near the WWTP in collaboration with the CTUIR.*
- d) 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 in the deep basalt aquifer.*

To address the City's immediate capacity needs, the City has been working with the US Bureau of Reclamation (USBR), Oregon Department of Environmental Quality (DEQ), and the West Extension Irrigation District (WEID), to initiate regulatory permitting requirements to recycle the current non-contact cooling tower flows into the Umatilla Feed canal.

2. Describe the water supply need(s) that the proposed project addresses. Identify any critical local, regional, or statewide water supply needs that implementation of the project associated with the feasibility study will address. **Responses should rely upon solid water availability and needs data/analysis.** For examples of water supply needs see "Criteria and Evaluation Guidance Document."

Population growth, industrial development, and decreasing groundwater supplies have prompted the City to examine a number of possible wastewater reuse options. There has been recent, rapid industrial growth in and around the Port of Umatilla, with additional development and expansions planned for the near future. The proposed project will quantify the water needs of the new VADATA data centers at the Port, the Confederated Tribes of the Umatilla Indian Reservation (CTUIR)'s new Wanapa Industrial Site, and the Port's growing needs. The Study will quantify 20 year, and long-term water demands based on updated growth assumptions and develop alternatives to provide a sustainable water supply. One option is to utilize the City's surface water rights to reduce demands on the deep groundwater aquifer well.

The City's public water system uses the deep groundwater aquifer for municipal and industrial flows. The public wastewater system is experiencing capacity issues with the recent increase in industrial demand, but the public water system has adequate short-term capacity; including the potential 1.0 mgd increase. However, historical data from the Oregon Water Resources Department (OWRD) indicates that the deep aquifer levels in this region have been decreasing over the past several years. Using surface water may require the installation of a water treatment plant to provide equivalent water quality to the current and future industrial users, but it will reduce the demand on the City's deep groundwater aquifer.

The CTUIR is also developing land adjacent to the Port at the Wanapa Industrial Site. Collaboration with CTUIR on their industrial water needs and disposal options, in the context of regional water needs, enables efficient solutions that promote water conservation.

The study will evaluate the most effective and environmentally compatible water supply/source for the City's, Port's, and Tribe's current and long term water demands.

3. Explain how the proposed project will meet the water supply need(s), and indicate what percentage of that need will be met. (For example: If your water supply need is 20,000 acre-feet of additional water and the project will supply 10,000 additional acre-feet, 50 percent of your need will be met).

The greatest need for water in the Umatilla Basin is between April and October and this project will meet 100% of the irrigation needs on at least 42 acres. This project proposes to beneficially reuse industrial wastewater by discharging the water into the USBR Phase 1 Exchange canal between April to October. The initial amount of industrial reuse water will be approximately 54.3 million gallons, or 165 acre-feet, during April-October period. The Study will determine the maximum beneficial reuse for industrial and domestic wastewater, with the potential to recycle far greater volumes and irrigate 100% of over 200 acres after completion of multi-phase project.

The largest crop types being irrigated by WEID are pasture (34%), alfalfa/hay (24%), and corn (19%). The District's crops average 4.0-4.5 acre-feet per acre, which also accounts for evapotranspiration, canal seepage, operational spills, etc.

4. Describe the technical aspects of the feasibility study and why your approach is appropriate for accomplishing the specific study goals and objectives.

A Feasibility Study is essential to develop an effective implementation plan that succeeds from a regulatory, technical, and economic standpoint. The Study will:

- *Quantify and evaluate the existing and long-term water supply requirements for the City, Port, and potentially CTUIR-developed area. J-U-B will meet with the City, Port, and CTUIR to review assumptions and develop criteria for evaluating current and future water demands. J-U-B will review current groundwater and surface water rights to in order to identify potential water supply bottlenecks, potential impacts from conservation, and benefits and implications of exercising surface water rights for current and future users and the deep basalt aquifer.*

- *Quantify and evaluate recycled water demands. The industrial flow demands will be used to evaluate required upgrades or modifications on the USBR Feed and WEID identified in the City's Initial Reuse Report in subsequent tasks. Domestic flow demands will be used to evaluate required infrastructure and upgrades to the City's WWTP and irrigation system identified in the Initial Reuse Report in subsequent tasks. The demands will be categorized as irrigation and non-irrigation flows to estimate storage requirements to accommodate non-irrigation season recycled water flows. Potential storage volume will be collaborated with WEID for potential future regional storage projects.*

- *Develop alternatives for domestic and industrial flows in adequate detail to evaluate probable costs, risks, environmental and social implications for each phase.*

- *Develop the non-contact cooling tower disposal step to a preliminary engineering level to allow for accurate probable costs, NPDES permit application, and suitable fiscal analysis to quantify rates for current industrial users, while mitigating the wastewater capacity limitations in a timely manner.*

- *Develop an Implementation Plan for the remaining steps that provide trigger points for each step based on population, flow, and/or loads.*

- *Develop a Financial and Funding Plan to determine the most feasibly approach to execute the Implementation Plan so that each phase stands on their own from a regulatory, technical, and economic standpoint.*

Our approach of quantifying and addressing each bottleneck (disposal, supply, treatment) in a collaborative, regional, manner will allow for the successful implementation of beneficial reuse in the City, Port, and potentially the CTUIR service area.

5. Describe how the feasibility study will be performed. Include:
- a. General summary statement that describes the study progression.
 - b. When the feasibility study will begin.
 - c. Listing of key tasks to be accomplished with each task having:
 - i. Title
 - ii. Timeline for completion
 - iii. Description of the activities to be performed in this key task
 - iv. Description of the resources necessary for accomplishing the key task

Example:

- (i) Streamflow measurement;
- (ii) September-April;
- (iii) Weekly streamflow measurements will be performed to gather hydrographic data for the hydrologic analysis to take place in May;
- (iv) A technician will be hired to perform the streamflow measurements.

(Key tasks listed here are to be placed in Section VI. Project Feasibility Study Schedule for a quick reference “graphical” representation of the schedule.)

The proposed scope of work for the feasibility study, prepared by J-U-B Engineers Inc. (J-U-B), is included in full as Attachment #3. The City hired J-U-B to assist with reviewing the capacity issues at the existing wastewater treatment plant and initiating beneficial reuse scenarios (refer to Attachment #1) and is now the City Engineer.

J-U-B will complete the study in 6 months from the date the notice to proceed is issued by the City.

Task 1

- i. Task 001 – Project Administration & Communication*
- ii. Length of project (15 months, depending on award date)*
- iii. J-U-B will oversee project tasks and coordinate with the City representatives to manage the scope, schedule, budget, and work plan. Invoices will be prepared and submitted to the City on a monthly basis and include a brief outline of work accomplished during the billing period. Russ Pelleberg of the City will also be working on this portion of the project as the City's in-kind match.*
- iv. City cash & in-kind match from City*

Task 2

- i. Task 002 - Phase 1: NPDES, and PER*
- ii. 4 months.*
- iii. J-U-B will begin provide engineering assistance to complete the NPDES permit application, SURVEY and preliminary design to install the industrial disposal line from the Port of Umatilla to the Umatilla Feed Canal. This task will include: NPDES Permit Application – J-U-B will assist the City with completing EPA Form 1 and 2E for submittal to DEQ; Preliminary Engineering Report which will include: hydraulic analysis, sizing, alignment selection, monitoring & control upgrades, and opinion of probable costs; Coordination with USBR for design criteria and technical requirement for at recycled*

water discharge into the feed canal, necessary lift station modifications at the end of the feed canal, and necessary modifications at the feed canal discharge into the WEID.

iv. City cash

Task 3

i. Task 003 – Existing & Long Term Water Supply Evaluation

ii. 2.0 months

iii. J-U-B will evaluate, identify, and estimate domestic and industrial water demands for existing and future parcels within the City, Port of Umatilla, and the CTUIR. J-U-B will meet with the City, Port, and CTUIR to review assumptions and develop criteria for evaluating current and future water demands.

iv. Cash and WRD funds

Task 4

i. Task 004 – Recycled Water Demand Evaluation

ii. 2.0 months

iii. J-U-B will review and quantify the recycled water demand and capacity for domestic and industrial recycled water flows. The industrial flow demands will be used to evaluate required upgrades or modifications on the USBR Feed and WEID identified in the City's Initial Reuse Report in subsequent tasks.

iv. WRD funds

Task 5

i. Task 005 – Domestic & Industrial Supply Alternatives

ii. 6 months

iii. This task will review develop and evaluate the cost, risk, environmental, and social implications for the recycled water alternatives developed in the City's Initial Report. The evaluation will develop phasing that will stand on their own from a technical, regulatory, and fiscal perspective.

iv. WRD funds

Task 6

i. Task 006 – Regulatory Permitting, Environmental & Social Implications

ii. 3 months

iii. Evaluation of the regulatory, environmental, and social implications of selected options in the prioritization plan will be evaluated. Regulatory Standards – J-U-B will meet with DEQ to review and summarize existing and potential future regulations and requirements that may affect the level of treatment and required industrial pretreatment program for the City for both the domestic and industrial recycled water systems. Environmental Implications – J-U-B will review, summarize, and document the environmental implications of beneficially reusing the domestic and industrial wastewater and conservation efforts to reduce dependence on the deep basalt aquifer to provide industrial flows. Social Implications – J-U-B will review, summarize, and document the social implications of beneficially reusing domestic and industrial wastewater and conservation efforts on the deep basalt aquifer.

iv. WRD funds

Task 7

i. Task 007 – Implementation Plan Development

ii. 1.0 month

iii. *Based on the work products of prior tasks, J-U-B will develop opinion of probable costs for the recommended upgrades and modifications based on preliminary planning level quantities.*

iv. *WRD funds*

Task 8

i. *Task 008 – Financial & Funding Plan*

ii. *1.0 months*

iii. *J-U-B will coordinate with our financial subconsultant (Shaun Piggot & Associates) for the preparation of the Financial and Funding Plan for the beneficial reuse and new facilities only. The objective is to document the manner in which to fund the implementation plan developed in Task 006, as well as establish revenue required for the operation, maintenance, and replacement (OM&R) of the future upgrades.*

iv. *WRD funds*

Task 9

i. *Task 009 – City Review Draft & Review*

ii. *1.5 month*

iii. *J-U-B will develop and draft the wastewater facility plan in accordance with the Oregon guidelines for Preparing Wastewater Planning Documents and Environmental Reports for Public Utilities.*

iv. *WRD funds*

Task 10

i. *Task 010 – Agency Submittal & Review*

ii. *1 month*

iii. *Based on the City's review comments of the draft facility plan, J-U-B will incorporate comments and prepare the final facility plan for Agency Submittal.*

iv. *WRD funds*

Task 11

i. *Task 011 – City Adoption*

ii. *0.5 month*

iii. *J-U-B will incorporate any agency review comments and upon Agency approval, provide the City with a final facility plan for Council adoption.*

iv. *WRD funds*

6. Please provide the following data and information for the proposed project and the project's sources of water supply:

a. The location of the proposed project. Include the basin, county, township, range and section. Attach a **map** that identifies the project's implementation area to this application.

Refer to Figure 4.1 in Attachement #2.

b. The name(s) and river mile(s) of the source water and what they are tributary to, if applicable.

Columbia River approx River Mile 292, Port of Umatilla's Regional Water supply system

- c. Whether the project will be off-channel or on-channel (for above-ground storage only).

N/A for reuse.

- d. Water availability to meet project storage. For above-ground storage the Department typically evaluates availability using a 50 percent exceedance water availability analysis.

No water being stored under this Feasibility Study and subsequent implementation plan. Future potential storage of recycled water will be studied collaboratively with WEID.

- e. Proposed purposes and/or uses of conserved or stored water.

Industrial use, municipal use, and agricultural use.

- f. Environmental flow needs and water quality requirements of supply source water bodies.

N/A.

7. What local, state or federal project permitting requirements/issues/approvals do you anticipate in order for the feasibility study to be conducted? If approvals are required, indicate whether you have obtained them. If you have not obtained the necessary permits/governmental approval, describe the steps you have taken to obtain them. If no permits are needed, please provide explanation.

There are no permitting requirements, issues, or approvals required in order to conduct the feasibility study.

To delineate regulatory requirements needed to develop a feasibility implementation plan, the City has ongoing discussions with the US Bureau of Reclamation (BOR), Oregon Department of Environmental Quality (DEQ), and the West Extension Irrigation District (WEID), to initiate regulatory permitting requirements for the first step of the implementation plan - conveying recycled the current non-contact cooling tower flows into the Umatilla Feed canal.

The implementaiton plan will outline Oregon recycled water regulations specified in OAR 340-055, including devleopemnt of NPDES permit requirements based on ongoing discussions with DEQ.

8. Describe the level of involvement, interest and/or commitment of local entities associated with the feasibility study. Describe how the feasibility study and/or proposed project will benefit/impact these entities. Attach letters of support if available.

The City of Umatilla has been working with the Port of Umatilla, the Confederate Tribes of the Umatilla Indian Reservation (CTUIR), the BOR, the WEID, and Northeast Oregon Water Association (NOWA), to develop a regional, collaborative process to beneficially reuse industrial water. The feasibility study will develop an implementation plan that each of these entitites may participate in regional goals, production of reuse water, or acceptance of reuse water.

The Confederated Tribes of the Umatilla Indian Reservation, CTUIR, have been informed of and have participated in joint meetings for the City's reuse project. A joint meeting was held on October 15, 2015 with the City of Umatilla, CTUIR, the Port of Umatilla, West Extension Irrigation District, the Bureau of Reclamation and delegates from VADATA. Our project was discussed in detail with CTUIR and how their future project for developing their land at Wanapa would benefit from being engaged with the City in our re-used efforts. On no less than 5 separate telephone conversation between Russ Pelleberg and Ryan Degrofft, CTUIR Economic Planner, the City discussed the beneficial aspects of why CTUIR should consider working with the City on the reuse project. Mr. Pelleberg has also discussed this with the consulting engineer, Anderson Perry, that CTUIR has hired to do the design work for their Wanapa site. Anderson Perry was also present at the October 15, 2015 meeting and we discussed the possibility of them design-ing in an industrial waste water line to be constructed as part of CTUIR's overall project.

Funding this project conforms with OR's Integrated Water Resources Strategy Recommendations 2A, 10C and 13C. The IWRS emphasizes the importance of reuse projects, especially in regard to climate change resiliency and water conservation. "Along with multi-purpose storage projects, the State of Oregon encourages the reuse of water, so long as the use protects public health and the environment... Reusing [industrial wastewater] water can provide many benefits to both water quantity and quality. Water quality can be improved by the reduction of discharged treated effluent. It can also provide a benefit to water quantity by reducing the demand on drinking water sources. In general, recycled water places fewer demands on freshwater, leaving more water instream or for other uses" (OR IWRS, pg. 93-95)

Letters of Support for the City of Umatilla Reuse Project attached from J.R. Cook of NOWA and Beverly Bridgewater of WEID.

9. Identify when matching funds will be secured, from whom, and the dates of matching funds availability.

The City has budgeted and secured the matching funds.

10. Provide a description of the relevant professional qualifications and/or experience of the person(s) that will play key roles in performing the feasibility study. If the personnel have not been decided upon, include a description of the professional qualifications and/or experience of the person(s) you anticipate will play key roles in performing the feasibility study.

The City of Umatilla will support J-U-B in completing the water reuse feasibility study. City Administrator Bob Ward and Public Works Director Russ Pelleberg have significant knowledge of water issues in the community and have an understanding of the potential recycled water opportunities that will provide valuable information and contacts for J-U-B to complete the technical evaluations.

J-U-B Engineers is an engineering consulting firm specializing in water resources. In addition, to completing the initial evaluation, J-U-B has completed numerous treatment and recycled water projects in Oregon, Washington, and Idaho. John Garlitz, P.E., the J-U-B La Grande office engineering manager, has over 20 years of experience in water resources engineering and will be Russ Pelleberg's primary contact for this project.

Section B. Unique Criteria

Instructions: Address the set of items below that applies to the type of feasibility study that this grant will fund.

Water Conservation or Reuse

1. Water Conservation or Reuse projects that are identified by the Department in a statewide water assessment and inventory receive a preference in the scoring process. Contact the Department's Grant Specialist to include your project on the inventory.

The City of Umatilla is located within the Lower Umatilla Basin Groundwater Management Area (LUBGWMA). While the City's water source is in the deep groundwater aquifer, the reuse options may reduce the need to utilize the shallow aquifer which has high concentrations of nitrate-nitrogen concentrations.

A WRD Inventory Form was included in regards to this project on 1/19/2016 with the WRD Implementation Application and in Attachment #5.

2. Explain how the associated project will either: (a) mitigate the need to develop new water supplies and/or (b) use water more efficiently. Reference documentation and/or examples of the success of similar or comparable water conservation/reuse projects that would be available upon request.

(a) Currently, the Umatilla Basin and WEID are in need of additional water for irrigation. Piping recycled water to the WEID mitigates their need to develop new sources to meet the same irrigation need on their existing acreage. The reuse project will reduce water competition in the long-term as industrial, domestic, agricultural, and municipal users can recycle, or reuse, much of the same water for two uses.

The City's public water system uses the deep groundwater aquifer for municipal and industrial flows. The public wastewater system is experiencing capacity issues with the recent increase in industrial demand, but the public water system has adequate short-term capacity; including the potential 1.0 mgd increase. However, historical data from the Oregon Water Resources Department (OWRD) indicates that the deep aquifer levels in this region have been decreasing over the past several years.

(b) Recycled water leaves more water in-stream for other uses. Both industrial and domestic wastewater reuse will be analyzed in the Feasibility Study. The City currently uses a well for much of its water needs and the Feasibility Study will determine if domestic wastewater flows can be reused for municipal uses like parks or public greenspace.

3. Provide a description of: (a) Local, state and/or federal permitting requirements and issues posed by the **implementation** of the project associated with the feasibility study and (b) property ownership status within the project implementation area. If permitting or other approvals are not needed please indicate and provide an explanation.

Implementation of the selected solution will require at a minimum an EPA NPDES Permit and a Land Use Compatibility Statement. The specific requirements will be identified in the Feasibility Study. The Study must also determine whether using the Port or City's water right will be more beneficial and/or cost effective.

(a)

NPDES Permit

An NPDES permit for non-contact cooling tower water will be obtained by the City. A land use compatibility statement will be required by the NPDES permit.

USBR/WEID

City will submit plans to USBR for agency approval. The City will also file Encroachment Permit for construction and will file for authorization to discharge the reuse water.

City of Umatilla local agency permits

The City has a local permitting process for work in a public right-of-way that the Study will confirm prior to installation.

Permanent Easements (PE) &/or Temporary Construction Easements (TCE's)

If the routing of the pipeline requires impacts to private lands, permission and permanent easements will be obtained by the property owner (private of POU). If construction impacts are outside of the public right of way, temporary construction easements (TCE's) will be obtained during the design phase and prior to bidding and construction.

(b)

Solutions studied will be on publicly owned land and in public right-of-ways. It is unknown at the time if land acquisition will be needed. Study will determine.

Above-Ground Storage

Please answer the following three questions **BEFORE** proceeding:

Will the project divert more than 500 acre-feet of surface water annually?

Yes No

Will the project impound surface water on a perennial stream?

Yes No

Will the project divert water from a stream that supports sensitive, threatened or endangered species?

Yes No

If you answered "Yes" to any of these questions, by signature on this application, you are committing to include the following required elements in your feasibility study.

Describe how you intend to address the required elements in your feasibility study:

- a) Analyses of by-pass, optimum peak, flushing and other ecological flows of the affected stream and the impact of the storage project on those flows.
- b) Comparative analyses of alternative means of supplying water, including but not limited to the costs and benefits of water conservation and efficiency alternatives and the extent to which long-term water supply needs may be met using those alternatives.
- c) Analyses of environmental harm or impacts from the proposed storage project.
- d) Evaluation of the need for and feasibility of using stored water to augment instream flows to conserve, maintain and enhance aquatic life, fish life and any other ecological values.

Is the proposed storage project for municipal use?

Yes No

If "Yes," then please describe how you intend to address the following required element in your feasibility study:

- e) For a proposed storage project that is for municipal use, analysis of local and regional water demand and the proposed storage project's relationship to existing and planned water supply projects.

Proceed in addressing the following items:

1. Describe to what extent the project associated with the feasibility study includes provisions for using stored water to augment instream flows to conserve, maintain and enhance aquatic life, fish life or other ecological values. Projects that include the above provisions receive preference in the scoring process.

N/A

2. Provide a review of: (a) Local, state and/or federal permitting requirements and issues posed by the **implementation** of the project associated with the feasibility study and (b) property ownership status within the project implementation area.

N/A

Storage Other Than Above-Ground [Including Aquifer Storage and Recovery (ASR)]

Please answer the following three questions **BEFORE** proceeding:

Will the project divert more than 500 acre-feet of surface water annually?

Yes No

Will the project impound surface water on a perennial stream?

Yes No

Will the project divert water from a stream that supports sensitive, threatened or endangered species?

Yes No

If you answered “Yes” to any of these questions, by signature on this application, you are committing to include the following required elements in your feasibility study.

Describe how you intend to address the required elements in your feasibility study:

- a) Analyses of by-pass, optimum peak, flushing and other ecological flows of the affected stream and the impact of the storage project on those flows.
- b) Comparative analyses of alternative means of supplying water, including but not limited to the costs and benefits of water conservation and efficiency alternatives and the extent to which long-term water supply needs may be met using those alternatives.
- c) Analyses of environmental harm or impacts from the proposed storage project.
- d) Evaluation of the need for and feasibility of using stored water to augment instream flows to conserve, maintain and enhance aquatic life, fish life and any other ecological values.

Is the proposed storage project for municipal use?

Yes No

If “Yes,” then please describe how you intend to address the following required element in your feasibility study:

- e) For a proposed storage project that is for municipal use, analysis of local and regional water demand and the proposed storage project’s relationship to existing and planned water supply projects.

N/A

Proceed in addressing the following items:

1. Underground storage projects that are identified by the Department in a statewide water assessment and inventory receive a preference in the scoring process. Contact the Department’s Grant Specialist to include your project on the inventory.
N/A
2. Provide a review of: (a) Local, state and/or federal permitting requirements and issues posed by the **implementation** of the project associated with the feasibility study and (b) property ownership status within the project implementation area.

V. Match Funding Information

Applicants must demonstrate a minimum dollar-for-dollar match based on the total funding request. The match may include a) 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 feasibility study. For secured funding, you must attach a letter of support 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.

In the “type” column below matching funds may include:	In the “status” column below matching funds may have the following status:
<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 - Secured funding commitments 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.

Match Funding Source (if in-kind, briefly describe the nature of the contribution)	Type (✓ One)	Status (✓ One)	Amount/ Dollar Value	Date Match Funds Available (Month/Year)
<i>City of Umatilla, cash match</i>	<input checked="" type="checkbox"/> cash <input type="checkbox"/> in-kind	<input checked="" type="checkbox"/> secured <input type="checkbox"/> pending	\$110,000	February 16
<i>City of Umatilla, admin assistance</i>	<input type="checkbox"/> cash <input checked="" type="checkbox"/> in-kind	<input type="checkbox"/> secured <input type="checkbox"/> pending	\$20,000	February 16
	<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		

VI. Feasibility Study Schedule

Estimated Study Duration: February 1, 2016 to May 1, 2017

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

Feasibility Study Key Tasks	2015			2016				2017 & Beyond
	2 nd Qtr	3 rd Qtr	4 th Qtr	1 st Qtr	2 nd Qtr	3 rd Qtr	4 th Qtr	
<i>Task 001 - Project Admin & Communication</i>				X	X	X	X	X
<i>Task 002 - Phase 1 Non-Contact Cooling Tower Discharge: NPDES Permit Application & Preliminary Engineering</i>				X	X			
<i>Task 003 - Existing & Long-Term Water Supply Evaluation</i>						X	X	
<i>Task 004 - Recycled Water Demand Evaluation</i>						X	X	
<i>Task 005 - Domestic and Industrial Alternatives Development & Screening</i>							X	X
<i>Task 006 - Regulatory, Environmental, & Social Implications</i>							X	X
<i>Task 007 - Implementation Plan Development</i>								X
<i>Task 008 - Financial & Funding Plan</i>								X
<i>Task 009 - City Review Draft & Review</i>								X
<i>Task 010 - Agency Submittal & Review</i>								X
<i>Task 011 - City Adoption of Study</i>								X

- **Please Note:** Successful grantees must include all invoices and identify which key tasks are associated with each invoice when requesting financial reimbursement.

VII. Feasibility Study Budget

Section A

Please provide an estimated line item budget for the proposed feasibility study. Examples would include: labor, materials, equipment, contractual services and administrative costs.

Line Items	Number of Units* (e.g. # of Hours)	Unit Cost (e.g. hourly rate)	In-Kind Match	Cash Match Funds	OWRD Grant Funds	Total Cost
Staff Salary/Benefits						
Contractual/Consulting	<i>Contracted, see Attachment #3</i>			\$110,000	130,000	\$240,000
Equipment (must be approved)						
Supplies						
<i>Other:</i>						
Administrative Costs**	160	\$125.00	20,000			\$20,000
Total for Section A			\$20,000	\$110,000	\$130,000	\$260,000
Percentage for Section A			8	42%	50%	100%

* Note: The "Unit" should be per "hour" or "day" – not per "project" or "contract." $Units \times Unit\ Costs = Total\ Cost$

** Administrative Costs may not exceed 10 percent of the total funding requested from the Department

Section B

If grant amount requested is \$50,000 or greater, you **MUST** complete Section B. Key Tasks in Section B should be the same as the Key Tasks in Section VI (Feasibility Study Schedule).

LETTERS OF SUPPORT

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

ATTACHMENTS:

- #1. Wastewater Treatment and Reuse Evaluation
- #2. Figure 4.1, Project Overview Map
- #3. Draft Proposed Scope of Work
- #4. Anticipated Project Work Plan
- #5. WRD Inventory Form



J-U-B ENGINEERS, INC.



**THE
LANGDON
GROUP**
a J-U-B Company



**GATEWAY
MAPPING
INC.**
a J-U-B Company

OTHER J-U-B COMPANIES

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: Feasibility Study 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 Conservation Reuse Feasibility Study grant program.

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 has submitted a grant proposal for storage feasibility study for sites along its main canal.

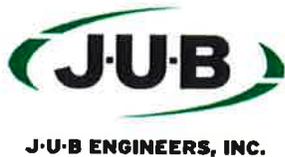
As stated in the opening sentence, we support this application and look forward to reuse of industrial and eventually wastewater for the benefit of our irrigation patrons. In these uncertain times of water delivery and drought, we are excited to be part of planning for the future with the City and its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

Sincerely,

A handwritten signature in black ink that reads "Beverly J. Bridgewater". The signature is written in a cursive, flowing style.

Beverly J. Bridgewater
District Manager

ATTACHMENT #1
Wastewater Treatment and Reuse Evaluation



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

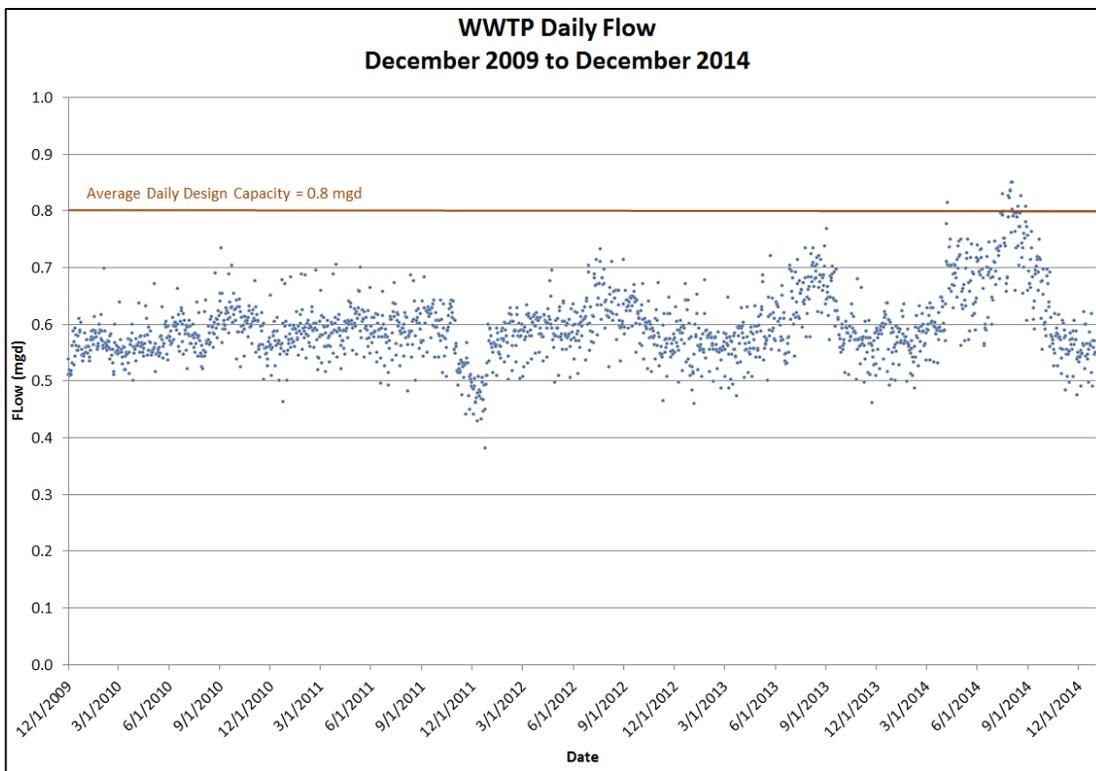
Oregon Department of Environmental Quality (ODEQ) completed a NPDES permit evaluation Report on June 22, 2013 as part of the City's NPDES permit renewal. The evaluation report concluded the "facility currently has adequate capacity." This conclusion was based on a review of flows from November 2006 to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

2016.01.08_UmatillaLtrRpt.

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 contribute 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

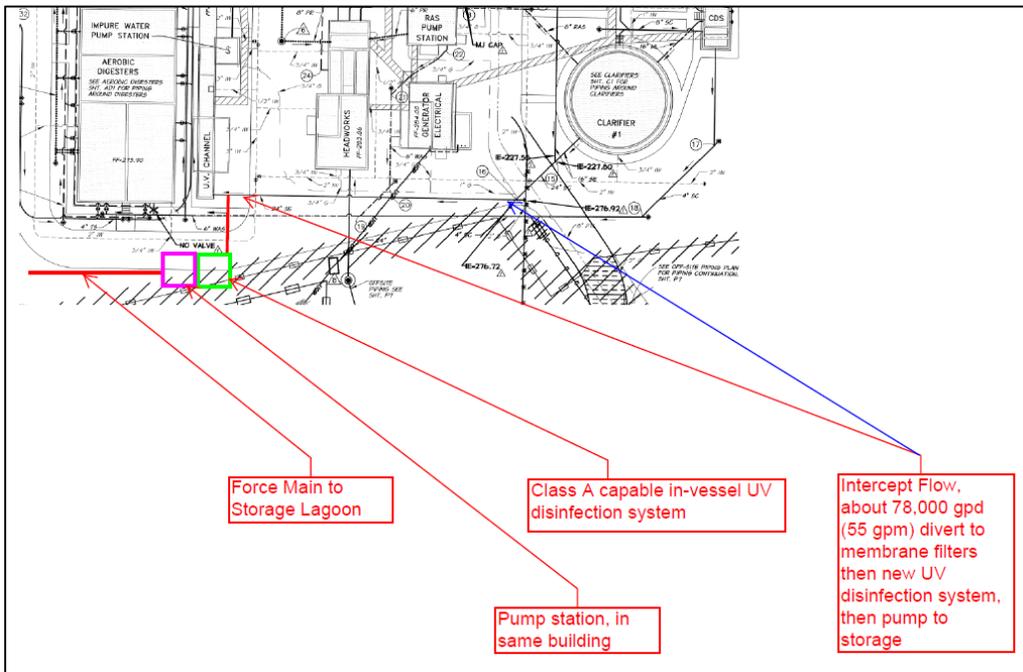


Figure 2.3 – 0.8 mgd Reuse Water Option: Marina Park Irrigation



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 be 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:

- City of Umatilla
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.
- Land Application
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 NPDES 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 CUTIR, 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

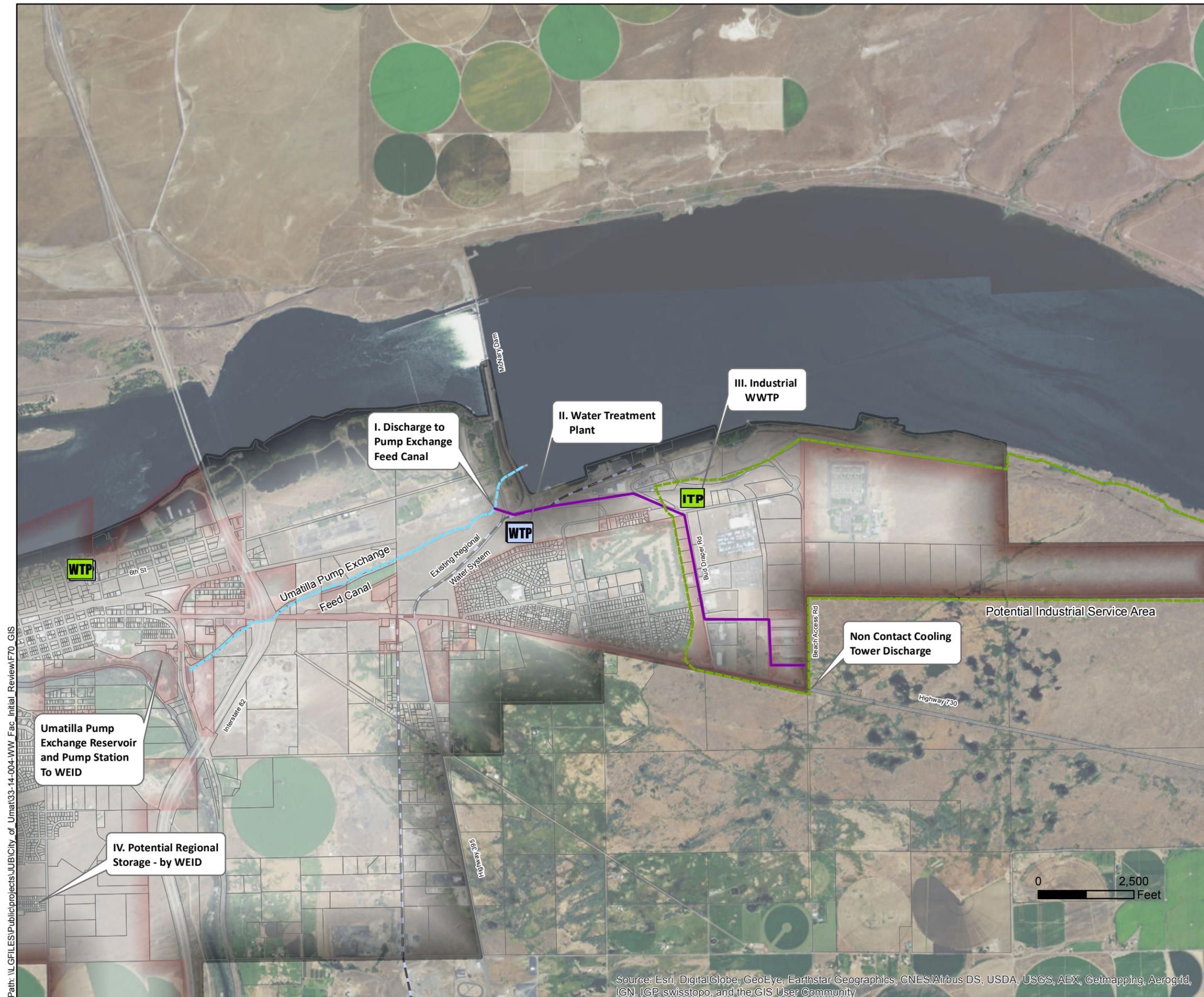
Attachment A Figure 4.1 – Initial Beneficial Reuse Alternatives

**CITY OF UMATILLA
WASTEWATER FACILITIES INITIAL REVIEW**

**FIGURE 4.1
INITIAL INDUSTRIAL BENEFICIAL REUSE
ALTERNATIVES**

LEGEND

-  Parcels
-  City Limits
-  UGB
-  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
-  Proposed Industrial Waste Water Treatment Plant Location TBD
-  Proposed Water Treatment Plant-Connect to Exst Water Distribution System Location TBD



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

Revision Date: 12/1/2015



ATTACHMENT #2

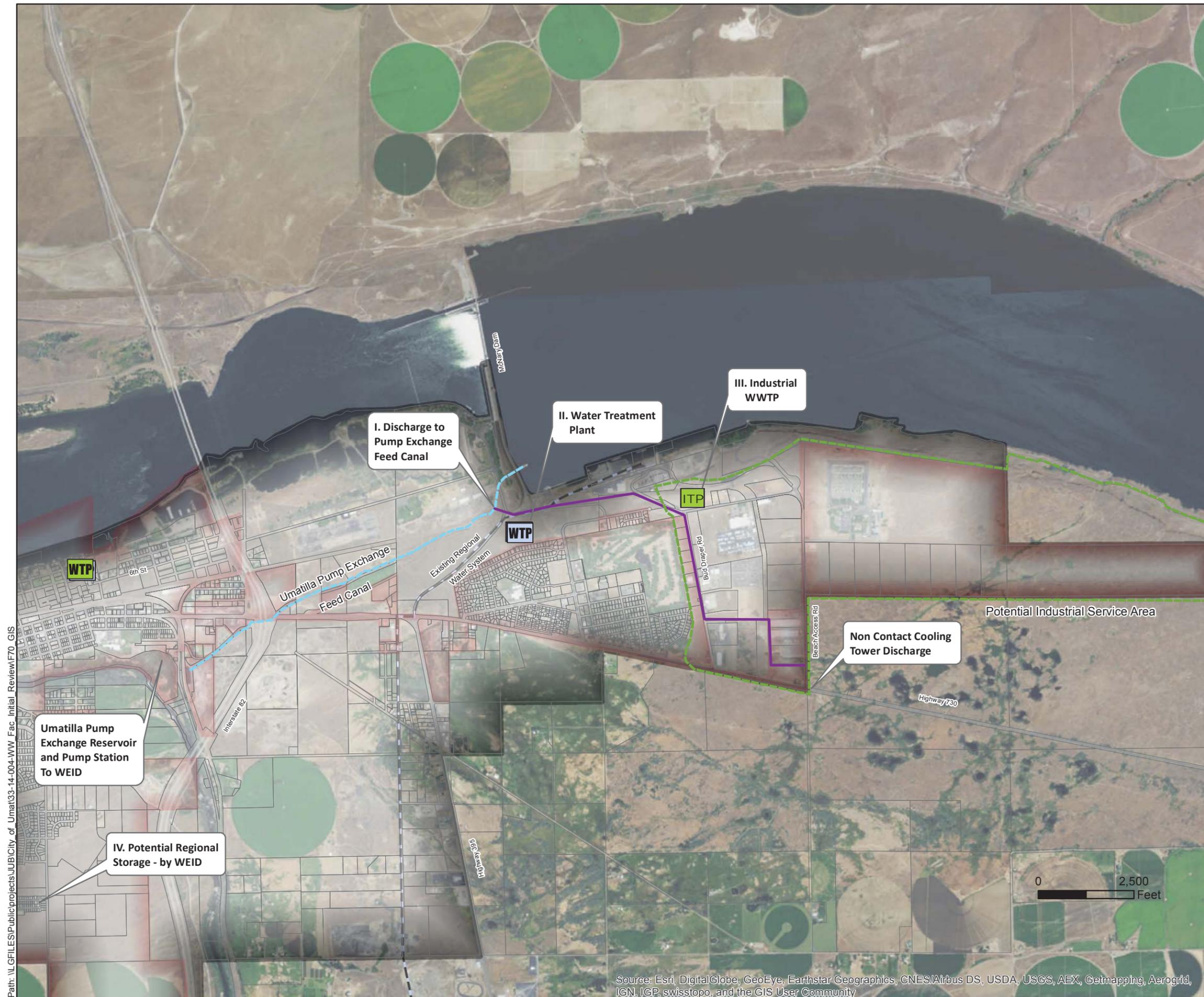
Figure 4.1, Project Overview Map

**CITY OF UMATILLA
WASTEWATER FACILITIES INITIAL REVIEW**

**FIGURE 4.1
INITIAL INDUSTRIAL BENEFICIAL REUSE
ALTERNATIVES**

LEGEND

-  Parcels
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-  Existing Umatilla WWTP
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-  Potential Industrial Service Area (1.9 SQ MI.)
-  Proposed Industrial Effluent Pipe Discharge
-  Proposed Industrial Waste Water Treatment Plant Location TBD
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Revision Date: 12/1/2015



ATTACHMENT #3
Draft Proposed Scope of Work

**J-U-B ENGINEERS, Inc.
AGREEMENT FOR PROFESSIONAL SERVICES**

**FOR
City of Umatilla
Water Reuse Feasibility Study**

Attachment 1– Scope of Services, Schedule, and Basis of Fee

The Agreement for Professional Services is amended and supplemented to include the following provisions regarding the Scope of Services, Schedule of Services, and the Basis of Fee:

For the purposes of this attachment, ‘Agreement for Professional Services’ and ‘the Agreement’ shall refer to the document entitled ‘Agreement for Professional Services,’ executed between J-U-B and the City of Umatilla to which this exhibit and any other exhibits have been attached.

PROJECT UNDERSTANDING

The City of Umatilla (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). Due to recent industrial growth, the City has experienced a maximum daily flow in excess of 0.8 MGD, affecting the WWTP hydraulic and treatment capacity. In November of 2014, the City contracted with J-U-B Engineers, Inc. (J-U-B) to develop wastewater reuse scenarios for the City’s domestic and industrial flows. The evaluation was documented in a letter report. The letter report recommended the following:

- Separate the industrial wastewater flows from the domestic wastewater flows.
- Beneficially reuse the industrial flows by recycling the water into the West Extension Irrigation District (WEID) for agricultural use.
- Beneficially reuse the domestic flows by recycling the water at the WWTP to irrigate the Marina, City parks, and/or the “old town” area.
- 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.

These recommendations require further evaluation through a Feasibility Study (Study) to quantify the engineering, environmental, economic, and social implications of beneficially reusing the City’s wastewater and expanding the water supply to include the City’s surface water rights to reliably provide water long term, while conserving their deep basalt aquifer. The general outline of the Study is shown in the following table:

Recycled Water Feasibility Plan Table of Contents
Executive Summary
Chapter 1 – Introduction and Background
Chapter 2 – Planning Information
Chapter 3 – Long Term Water Supply Evaluation
Chapter 4 – Recycled Water Demand Evaluation
Chapter 5 – Industrial Recycled Water Alternatives
Chapter 6 – Domestic Recycled Water Alternatives
Chapter 7 – Regulatory, Environmental, and Social Implications Evaluation
Chapter 8 – Feasible Implementation Plan
Chapter 9 – Financial and Funding Plan
Chapter 10 – Conclusion and Next Steps

PART 1 - SCOPE OF SERVICES

- A. **Basic Services** - J-U-B's Basic Services under this Agreement are limited to the following tasks. The City reserves the right to add subsequent phases or related work to the scope of services upon mutual agreement of scope, additional fees, and schedule. Related wastewater facilities work may include, but is not limited to, engineering studies and analysis, pilot studies, preliminary/final/construction engineering of required infrastructure (treatment, storage, & conveyance).

TASK 001 – PROJECT ADMINISTRATION & COMMUNICATION

J-U-B will oversee project tasks and coordinate with the City representatives to manage the scope, schedule, budget, and work plan. Invoices will be prepared and submitted to the City on a monthly basis and include a brief outline of work accomplished during the billing period.

J-U-B will organize, participate, and document outcomes of various meetings/presentations with the City. Subconsultant team members may attend meetings as related to their specific tasks as requested by J-U-B.

B. The anticipated meetings include:

- a) Kickoff meeting to discuss and develop goals and objectives of the project with City staff, leadership, and elected officials.
- b) Discuss design criteria and preparation of the Study's tasks.
- c) One-day workshop to discuss alternatives development, screening, and prioritization plan in order to develop a feasible Implementation Plan.
- d) Review meeting to discuss the recommended Implementation Plan, Financial Plan, and Funding Strategies.
- e) Draft Feasibility Study Meeting.
- f) Presentation of the Feasibility Study to the City Council.

Deliverables:

- (i) Monthly invoices and project status reports.
- (ii) Meeting agendas and minutes.

TASK 002 – PHASE 1 NON-CONTACT COOLING TOWER WATER: NPDES PERMIT APPLICATION, & PRELIMINARY ENGINEERING REPORT

J-U-B will begin provide engineering assistance to complete the NPDES permit application, SURVEY and preliminary design to install the industrial disposal line from the Port of Umatilla to the Umatilla Feed Canal. This task will include:

- a) NPDES Permit Application – J-U-B will assist the City with completing EPA Form 1 and 2E for submittal to DEQ.
- b) Preliminary Engineering Report which will include: hydraulic analysis, sizing, alignment selection, monitoring & control upgrades, and opinion of probable costs.
- c) Coordination with USBR for design criteria and technical requirement for at recycled water discharge into the feed canal, necessary lift station modifications at the end of the feed canal, and necessary modifications at the feed canal discharge into the WEID.

Assumptions: No topographic survey &/or geotechnical analysis will be completed, and the opinion of probable costs will be incorporated in Task 008.

Deliverables:

- (i) Draft Preliminary Engineering Report (PER) for USBR & Agency approvals.
- (ii) Final PER for City acceptance.

TASK 003 – EXISTING AND LONG TERM WATER SUPPLY EVALUATION

J-U-B will evaluate, identify, and estimate domestic and industrial water demands for existing and future parcels within the City, Port of Umatilla, and the CTUIR. J-U-B will meet with the City, Port, and CTUIR to review assumptions and develop criteria for evaluating current and future water demands.

J-U-B will review current groundwater and surface water rights to in order to identify potential water supply bottlenecks, potential impacts from conservation, and benefits and implications of exercising surface water rights for current and future users and the deep basalt aquifer.

Deliverables:

- (i) Demand Summaries – Immediate, Short Term, & Long Term.
- (ii) Chapter 3.

TASK 004 – RECYCLED WATER DEMAND EVALUATION

J-U-B will review and quantify the recycled water demand and capacity for domestic and industrial recycled water flows. The industrial flow demands will be used to evaluate required upgrades or modifications on the USBR Feed and WEID identified in the City's Initial Reuse Report in subsequent tasks. Domestic flow demands will be used to evaluate required infrastructure and upgrades to the City's WWTP and irrigation system identified in the Initial Reuse Report in subsequent tasks.

The demands will be categorized as irrigation and non-irrigation flows to estimate storage requirements to accommodate non-irrigation season recycled water flows.

Deliverables:

- (i) Recycled water demand estimates.

(ii) Chapters 4.

TASK 005 – DOMESTIC AND INDUSTRIAL ALTERNATIVES DEVELOPMENT, & SCREENING

This task will review develop and evaluate the cost, risk, environmental, and social implications for the recycled water alternatives developed in the City’s Initial Report. The evaluation will develop phasing that will stand on their own from a technical, regulatory, and fiscal perspective.

The evaluation of the industrial alternative will include developing the sizing, routing alignment, of the initial disposal system into the BR feed canal for the non-contact cooling tower water to be used in subsequent tasks. Future phases for the industrial alternative will be quantified and costs developed to use in subsequent tasks.

The evaluation of the domestic alternative will be quantified and costs developed to use in subsequent tasks.

d) Performance & design criteria – J-U-B will summarize City provided data and demand estimates to develop design criteria relative to update, refine, and develop alternatives.

e) Evaluation of the industrial phasing will include:

- Do nothing – conditions and remaining capacity (or degree of overloading) based on undertaking indicate no improvements to the existing components or required upgrades to the existing wastewater facilities are necessary
- Develop an separate industrial wastewater system including:
 - Water supply treatment to supplement/offset industrial demands on the deep basalt aquifer.
 - Industrial treatment plant located at the Port of Umatilla area to treat industrial flows to levels that allow outfall into the feed canal.
 - Developing storage requirements to allow for future industrial process water to be treated to levels required for discharge into the feed canal.

Incorporate Task 002, non-contact cooling tower discharge, as appropriate for Task 005, 006, 007 & 008.

Prepare probable costs for the purposes of initial screening. The cost opinions for this initial screening shall be based on typical ranges for capital costs for processes and components (i.e. dollars per gallon treated) and/or construction costs for similar facilities, with estimated O&M requirements.

f) Evaluation of the Domestic Alternatives will include:

- Do nothing – conditions and remaining capacity (or degree of overloading) based on undertaking no improvements.
- Developing a domestic reuse alternative that includes:
 - Treatment upgrades the WWTP to Class A effluent for beneficial reuse.
 - Storage requirements for current and future domestic flows.
 - Disposal infrastructure to convey irrigation water to the Marina, City Parks, and “old town” sites.

Prepare probable costs for the purposes of initial screening. The cost opinions for this initial screening shall be based on typical ranges for capital costs for processes and components (i.e.

dollars per gallon treated) and/or construction costs for similar facilities, with estimated O&M requirements.

- g) Alternatives Screening and Selection – J-U-B will summarize screening level results and prepare draft selection criteria for review. One workshop with J-U-B and City staff and City decision-makers will be held to review industrial and domestic reuse alternatives and ranking for initial selection. J-U-B will compile the results and summarize for inclusion into the Study, including process schematics, figures, preliminary site plans, and related exhibits for recommended improvements.
- h) Prioritization Plan – Based on the initial selection in the preceding task, J-U-B will summarize the recommended improvements, present worth cost (2015), trigger points (population, flows, and/or loads), and priority for implementation. This information will be used to develop the implementation plan in Task 007.

Deliverables:

- (i) Alternatives screening and prioritization workshop.
- (ii) Chapters 5 and 6.

TASK 006 – REGULATORY, ENVIRONMENTAL, AND SOCIAL IMPLICATIONS EVALUATION

Evaluation of the regulatory, environmental, and social implications of selected options in the prioritization plan will be evaluated as follows:

- a) Regulatory Standards – J-U-B will meet with DEQ to review and summarize existing and potential future regulations and requirements that may affect the level of treatment and required industrial pretreatment program for the City for both the domestic and industrial recycled water systems. J-U-B will summarize potential permit conditions for consideration and cost and risk implications. For scoping purposes, it is assumed that traditional pollutants of concern for domestic and industrial treatment facilities will be included for this effort. If other pollutants or toxins such as PCB's, heavy metals, pesticides, pharmaceuticals, and personal care products (PPCP's), etc. are included through discussions with DEQ, assistance, analysis, and process evaluation associated with these pollutants shall be completed as an additional service
- b) Environmental Implications – J-U-B will review, summarize, and document the environmental implications of beneficially reusing the domestic and industrial wastewater and conservation efforts to reduce dependence on the deep basalt aquifer to provide industrial flows.
- c) Social Implications – J-U-B will review, summarize, and document the social implications of beneficially reusing domestic and industrial wastewater and conservation efforts on the deep basalt aquifer. Implications regionally for maximum beneficial reuse as well as alignment with other regional efforts will be documented.

Deliverables:

- (i) Chapter 7.

TASK 007 – IMPLEMENTATION PLAN DEVELOPMENT

Based on the work products of prior tasks, J-U-B will develop opinion of probable costs for the recommended upgrades and modifications based on preliminary planning level quantities. Since J-U-B has no control over the cost of labor, materials, equipment, or services furnished by other, or over contractor(s) methods of determining process, or competitive bidding or market conditions, J-U-B's opinions of probable construction costs are to be made on the basis of J-U-B's experience and qualifications and represent J-U-B's best judgement as an experienced and qualified professional engineering firm familiar with the construction industry; but J-U-B cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from the opinions of probable cost prepared by J-U-B. If the City wishes to assure as to construction costs, the City can employ an independent cost estimator.

J-U-B will prepare a feasible implementation plan and engineer's opinion of probable cost for the improvement projects. The selected alternatives will be incorporated into the facility plan as a tabloid sized plan view exhibit that will include project details to aid the City in future project efforts.

Deliverables:

- (ii) Implementation plan and engineer's opinion of probable costs.
- (iii) Chapter 9.

TASK 008 – FINANCIAL & FUNDING PLAN

J-U-B will coordinate with our financial subconsultant (Shaun Piggot & Associates) for the preparation of the Financial and Funding Plan for the beneficial reuse and new facilities only. The objective is to document the manner in which to fund the implementation plan developed in Task 007, as well as establish revenue required for the operation, maintenance, and replacement (OM&R) of the future upgrades. *Financial funding for the existing facilities and the City's water and wastewater capital improvement plan and/or master planning documents is excluded.*

The Financial Plan will be included as chapter 9 as follows:

- a) Implementation Plan – Evaluate capital funding options and develop a capital financing plan for the Implementation Plan. The analysis will include a forecast of capital funding needs, borrowing requirements, and associated cash flow and balances over the study period. Evaluate and recommend an appropriate balance of funding from cash, connection fees, bonds, low interest rate loans, grants, and/or other available revenue sources. Depending upon preliminary results of ratepayer impacts, J-U-B's subconsultant will work closely with the City to perform a sensitivity analysis for alternate scheduling of capital projects in order to smooth ratepayer impacts. Up to three (3) financing scenarios will be analyzed.
- b) Operating forecast – J-U-B and J-U-B's subconsultant will develop basic operation and maintenance (O&M) costs for the upgrades in the implementation plan. J-U-B's subconsultant incorporate engineering planning growth forecasts and establish economic factors for cost escalation of O&M expenses for use in subsequent tasks.
- c) Revenue needs assessment – Integrate fiscal policies, capital financing impacts and the operating forecast, and develop an operating cash flow projection over the implementation plan. Compare forecasted financial requirements against forecasted revenue under proposed (new) rates to determine annual and cumulative rate strategies to develop financial sustainability of the upgrades in the implementation plan over time.
- d) This evaluation will provide a defensible basis for assigning "cost shares" and establishing "equity" for the recycled water customers with the development of a series of allocations that will be based on customer data and engineering/planning criteria in order to assign utility cost recovery to customers in proportion to their actual demands and facility requirements. Major subtasks to the cost of service analysis include:
 - Evaluate customer billing statistics to develop customer profiles of usage characteristics.
 - Determine the appropriate grouping of customers or level of service to review. The intent of the service distinction is to evaluate any potential cost differences that may exist in serving different customer classes (residential, multifamily, commercial, or if new service groupings are warranted, industrial or other).
 - Utilize the functional classification and allocate costs to customer classes. The analysis will review the existing and planned infrastructure along with annual costs to determine how best to assign cost pools. In general, industry standard cost pools for sewer utilities include:
 - Volume
 - Strength (BOD/TSS)
 - Customer – accounts
 - The cost of service summary will be distributed to each functional cost pool to each of the existing class/service groups based on the class/group specific demands and facility

requirements. The results will identify warranted shifts in cost burden to form the existing rate structure.

- Provide the unit costs for each major utility service function (volume and strength). Union costs will serve as the building block for rate design.
 - Calculation of Strong Waste Surcharge. The city occasionally accepts strong waste at the WWTP. An analysis of cost recovery based on strong waste users (RV's, etc.) will be completed.
 - An important consideration is to determine if the addition of future capital projects, outlined in the implementation plan, will materially alter the results of the allocation – therefore, the full implementation plan will be included
- e) Rate Forecast & Affordability Test – Develop a new rate forecast for the 6-year period. Up to two new rate structures will be developed. The rate alternatives will be developed to be consistent with the City's fiscal policies, generate sufficient revenue to meet the revenue requirement forecast and begin to address any inequities identified in the cost of service findings. The rate structure analysis will evaluate the fixed and variable rate weightings, the appropriateness of the multi-unit rate differential and the development of a strength based rate/fee. Other rate structures alternatives will be discussed with the City as warranted.

Perform an affordability test as an indication of a residential and industrial customer's ability to pay the proposed and forecasted rates. This includes a median household income index analysis and comparison of the sewer systems existing and forecasted average residential bills to 1.5% of the median household income. This test will be conducted at the six (6) year and full implementation plan.

- Connection Fee Development – Develop connection fees for the implementation plan. Follow industry guidelines and legal precedence, conduct a technical analysis to incorporate current system assets, eligible capital projects (or portions thereof) from the implementation plan, and system capacity estimates provided by J-U-B. Work closely with J-U-B to determine the appropriate allocation of each capital project to the categories of (a) repairs & replacements and (b) upgrades and expansions. Calculate the maximum allowable connection fee per customer equivalent and develop a schedule of fees.
- Meetings – Attend up to three (3) meetings with the City staff and/or J-U-B to review draft and/or final results.
- Documentation – Craft Chapter 9 for J-U-B and City review. An electronic copy of draft Chapter 9 and Excel based tables will be provided to J-U-B to incorporate into the facilities plan. Incorporate requested changes, as appropriate, and submit the final version of Chapter 9. The financial chapter will be extended in length to include the full rate study process, results, and findings.
- Provide the City an executive level memorandum documenting the rate model key assumptions, inputs, outputs, and instructions for running sensitivity analyses.

Exclusions: System Development Charges.

Deliverables:

- (i) Rate Model spreadsheet (.xls format) and explanatory memo.
- (ii) Chapter 9.

TASK 009 – CITY REVIEW DRAFT FEASIBILITY STUDY

J-U-B will develop and draft the wastewater facility plan in accordance with the Oregon guidelines for *Preparing Wastewater Planning Documents and Environmental Reports for Public Utilities*.

Deliverables:

- (i) Executive Summary, Chapters 1 to 10.

TASK 010 – AGENCY SUBMITTAL OF WASTEWATER FACILITY PLAN

Based on the City’s review comments of the draft facility plan, J-U-B will incorporate comments and prepare the final facility plan for Agency Submittal.

Deliverables:

- (i) Executive Summary, Chapters 1 to 10.

TASK 011 – FINAL FEASIBILITY STUDY FOR CITY ADOPTION

J-U-B will incorporate any agency review comments and upon Agency approval, provide the City with a final facility plan for Council adoption.

Deliverables:

- (i) Executive Summary, Chapters 1 to 10.

B. **CLIENT’s Responsibilities** - CLIENT is responsible for completing, authorizing J-U-B to complete as Additional Services, or authorizing others to complete all tasks not specifically included above in J-U-B’s Basic Services that may be required for the project, including, but not limited to:

1. Provide J-U-B with all criteria and full information as to the City’s requirements for the project, including planning objectives and constraints, space, capacity, and performance requirements, flexibility, expandability, and any budget limitations.
2. Furnish to J-U-B any other available information pertaining to the project including reports and data relative to previous plans.
3. Follow J-U-B’s assessment of initially available project information and data, and upon J-U-B’s request, furnish or otherwise make available such additional project related information and data as is reasonably required to perform services under the agreement.
4. Authorize J-U-B to provide additional services as required and directed by the City.
5. Arrange for safe access and make all provisions for J-U-B to enter upon public and private property as required for J-U-B to perform services under the agreement.
6. Examine all alternatives, studies, reports, sketches, drawings, specifications, proposals, and other documents presented by J-U-B (including obtaining advice of an attorney, insurance counselor, or other advisors or consultants as City deems appropriate with respect to such examination) and render in writing timely decision pertaining thereto.
7. Provide and pay for reviews, approvals, and permits from all governmental authorities having jurisdiction to approve all phases of the project designed or specified by J-U-B and such reviews, approvals, and consents from others may be necessary for completion of each phase of the project.
8. Recognize and acknowledge that J-U-B’s services do not include the following services:
 - a. Accounting, bond and financial advisory, independent cost estimating, and insurance

- counseling services.
- b. Legal services with regard to issues pertaining to the project as City requires, Contractor requires, or J-U-B reasonably requests.
 - c. Auditing services as the City requires to ascertain as to how, or for what purposes, City funds were expended.
 - d. Master planning per OAR 660, Division 11 – Public facilities plan and procedures for statewide planning goal 11.
 - e. System Development Charges per ORS 233.297-.314.
 - f. Pilot Studies
9. Provide copies of past reports, studies, record drawings, operation and maintenance manuals, equipment cut sheets, and design criteria, correspondence with regulatory agencies, etc. pertaining to the wastewater treatment plant performance.
 10. Obtain samples for laboratory analysis and pay for analytical work.
 11. Provide existing and future population projections.
 12. Provide land use planning information and assumptions.
 13. Provide WWTP influent, effluent, and process monitoring data for the WWTP in Excel (.xls) format.
 14. Provide existing sewer collection system flow information in Excel (.xls) format.
 15. Provide water service meter data in Excel (.xls) format.
 16. Provide current GIS information, and assist with inquiries with the County pertaining to tax lots, parcels, and other available GIS information.
 17. Provide record drawings for all capital sewer collection system projects construction since startup of the current WWTP.
 18. Provide lift station record drawings, dimensions, pump curves, float settings, and other information necessary for the hydraulic model.
 19. Provide updated surveying services as necessary for any missing information or errors noticed in the sewer collection system.
 20. Provide pretreatment program documentation to be included in the facility plan.
 21. Provide information regarding significant industrial users and any future plans for increased flows or loadings.
 22. Participate in discussion of future permit conditions with DEQ and J-U-B.
 23. Provide financial, budgeting, rate, and customer information as needed for the Financial Plan.
 24. Provide information regarding assessment of conditions of existing facilities.

PART 2 - SCHEDULE OF SERVICES

- A. The following table summarizes the anticipated schedule for the identified Basic Services predicated upon timely receipt of CLIENT-provided information, typical review periods, and active direction during work. CLIENT acknowledges that the J-U-B will not be responsible for impacts to the schedule by events or actions of others over which J-U-B has no control.

Task Number	Task Name	Anticipated Schedule
001	Project Administration and Communications	15 months
002	NPDES Permit Application & Preliminary Engineering Report	4 months
003	Existing and Long Term Water Supply Evaluation	2 months
004	Recycled Water Demand Evaluation	2 months
005	Domestic and Industrial Alternatives Development & Screening	6 months
006	Regulatory, Environmental, & Social Implications Evaluation	3 months
007	Implementation Plan Development	1 month
008	Financial & Funding Plan	1 month
009	City Review Draft of Feasibility Study	1.5 months
010	Agency Submittal of Feasibility Study	1 month
011	Final Feasibility Study for City Adoption	0.5 months

J-U-B will make reasonable efforts to complete the services within the anticipated schedule and keep the CLIENT informed on the project schedule. The CLIENT acknowledges that J-U-B will not be responsible for impacts to the schedule by actions of others over which J-U-B has no control. If actions by others affect the anticipated schedule, J-U-B will keep the CLIENT informed of these actions so adjustments can be made, if necessary.

PART 3 - BASIS OF FEE

A. CLIENT shall pay J-U-B for the identified Basic Services as follows:

1. For Lump Sum fees:

a. The portion of the Lump Sum amount billed for J-U-B's services will be based upon J-U-B's estimate of the percentage of the total services actually completed during the billing period.

2. For Time and Materials fees:

a. CLIENT shall pay J-U-B an amount equal to the cumulative hours charged to the Project by each J-U-B employee times that employees' standard billing rate for all services performed on the Project, plus Reimbursable Expenses and J-U-B's Consultants' charges, if any.

B. The fee types and amounts for each task are presented in the following table.

Task Number	Task Name	Fee Type	Amount
001	Project Administration and Communications	T&M	\$ 15,000
002	NPDES Permit Application & Preliminary Engineering Report	T&M	\$ 90,000
003	Existing and Long Term Water Supply Evaluation	T&M	\$ 8,000
004	Recycled Water Demand Evaluation	T&M	\$ 5,000
005	Domestic and Industrial Alternatives Development & Screening	T&M	\$ 50,000
006	Regulatory, Environmental, & Social Implications Evaluation	T&M	\$ 10,000
007	Implementation Plan Development	T&M	\$ 10,000
008	Financial & Funding Plan	T&M	\$ 30,000
009	City Review Draft of Feasibility Study	T&M	\$ 10,000
010	Agency Submittal of Feasibility Study	T&M	\$ 7,000
011	Final Feasibility Study for City Adoption	T&M	\$ 5,000
TOTAL NOT TO EXCEED (LS)			\$ 240,000

The Fee Estimate Not to Exceed limit is for the total of all tasks. Fees for individual task will vary based on the level of effort involved, but not the TOTAL. J-U-B will make reasonable efforts to complete the services within the estimated budget and keep the CLIENT informed of progress to that end so that budget or work efforts can be adjusted if found necessary.

ATTACHMENT #4
Anticipated Project Work Plan

Umatilla Reuse Feasibility Study

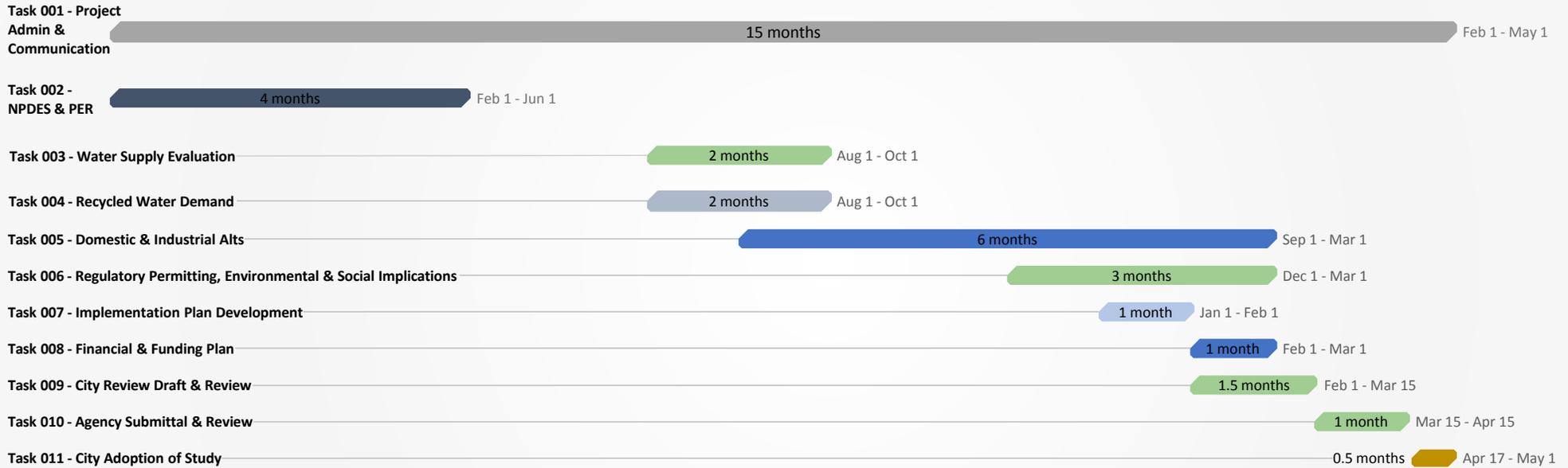
ANTICIPATED PROJECT WORK PLAN

Date: January 27, 2016

Waiting Period for OWRD Grant Award

6 months

Feb 1 - Aug 1



2016

Feb

Apr

Jun

Aug

Oct

Dec

2017

Apr

2017

Today

ATTACHMENT #5
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 <input checked="" type="checkbox"/> Capital Conservation Project <input type="checkbox"/> 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 reuse 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 additional funding sources in order to install the recycled water pipeline
This is a <input type="checkbox"/> Capital Conservation Project <input type="checkbox"/> 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 -