OREGON
WATER RESOURCES DEPARTMENT

2023 SOLICITATION
FEASIBILITY STUDY GRANTS
GRANT APPLICATION

APPLICATION DEADLINE: 5:00PM ON OCTOBER 18, 2023

Application must be received by this date and time

Send application electronically to: OWRD.Grants@water.oregon.gov

Mail application to: OREGON WATER RESOURCES DEPARTMENT
Attention: Grant Coordinator
725 Summer Street NE, Suite A
Salem, OR 97301

Request a Pre-Application Conference

We encourage all applicants to request a Pre-Application Conference before applying. OWRD will review your draft application and provide feedback. You must submit your draft application two weeks before the pre-application conference. Pre-application conferences will not be scheduled the week before the application due date. To learn more, see the pre-application conference form on the Feasibility Study Grants Applications, Forms and Guidance webpage.

APPLICATION SUBMISSION INSTRUCTIONS

1. Complete Sections I through VIII in the spaces provided. **Use the Application Instructions, Storage Specific Study Requirements, and Grant Budget Procedures and Allowable Costs documents when completing your application.** All resources are available at the Feasibility Study Grants Applications, Forms, and Guidance webpage.
2. Complete all sections in the spaces provided. An application must be submitted on the attached form provided by OWRD. An explanation must accompany the application if any of the information required cannot be provided [OAR 690-600-0020(6)].
3. Please ensure that the Certification portion of Section II is signed with a live signature by the Applicant and, if applicable, the Co-Applicant.
4. Complete and sign the application checklist.
5. Submit the completed application and all attachments via email or in hard copy. Electronic submission of application is the preferred method. You may scan a copy of the signed signature page and submit with your application if both documents are included in the same email.
6. If application is submitted in hard copy, use 8 ½" x 11" single sided, unstapled pages. Provide any attachments to the application on 8 ½" x 11" single-sided, unstapled pages.

7. Applicants are discouraged from submitting information considered proprietary unless it is deemed essential for proper evaluation of the application. Please note that eligible and complete applications will be posted on the Feasibility Study Grants webpage.
8. Contact OWRD Grant staff at 971-301-0718 or OWRD.Grants@water.oregon.gov if you have any questions.

FEASIBILITY STUDY GRANT APPLICATION CHECKLIST

Instructions: Use this checklist to ensure that your application is complete. An incomplete application will not be eligible for further review and consideration.

Application Checklist Must Be Completed and Signed

SECTION A - Application

I. Study Information
- ☒ Study name and type(s) is complete and correct.
- ☒ The requested grant amount and previous Feasibility Study Grants for the study do not exceed $500,000.
- ☒ The requested grant amount does not exceed 50% of the Total Cost of the Study.

I. Applicant Information
- ☒ All applicant, co-applicant, and fiscal officer name(s) and contact information is complete and correct.
- ☒ Application is signed by Applicant/Authorized Person.
- ☒ Application is signed by Co-Applicant/Authorized Person *OR* there is no co-applicant.

Note: *If the project is awarded funding the co-applicant will be required to sign and be party to the grant agreement.*

II. Feasibility Study Summary
- ☒ A brief (4-5 sentence) summary of the feasibility study and goal is included.

III. Study Location
- ☒ All questions have been addressed.

IV. Feasibility Study Specifics
- ☒ All questions have been addressed.
- ☒ Study tasks are identified.
- ☒ The proposed study and all tasks are scheduled to be completed **by June 30, 2025**.

V. Feasibility Study Budget
- ☒ All tasks and budget items follow the OWRD's Budget Procedures and Allowable Costs guidance (available on the Feasibility Study Grants Applications, Forms and Guidance webpage).
- ☒ All budget information is accurate and complete.
- ☒ Administrative costs do not exceed 10% of total grant request.
- ☒ Tasks listed in budget match those identified in Questions 15 and 16.

VI. Match Funding Information
- ☒ Match funding table is complete, corresponds to match amount listed in all other places in the application, and is at a minimum, 50% of the Total Cost of the Feasibility Study.

VII. Storage-Specific Questions
- ☒ All questions have been addressed *OR* the application is not for a storage project.

NA Minimum Storage Specific Study Requirements are met and are incorporated into the study and tasks.

☐

SECTION B - Application Attachments

Instructions: Use this checklist to ensure required attachments are included with your application. Please identify the attachment number and name for each attachment either on the attachment itself or include a separate cover sheet for each attachment with this information. For all attachments, ensure documentation meets any criteria identified in the Application Instructions, Storage-Specific Study Guidance, and Guidance on Budget Procedures and Allowable Costs. For "other" optional attachments in excess of the three spaces provided, include a supplemental list.

Required Attachments:

☒ Attachment 1 – Site map (Question 3)

NA Attachment 2 – Signed Landowner Agreement Form(s) (Question 5) to verify that you have authorized access to the lands on which the study would occur.

☒ Attachment 3 – Documentation of matching funds (Question 23) includes the following:
a) Match documentation for all match fund sources listed in the match fund table.
b) Match fund documentation that clearly identifies the dollar amount and describes the work to be accomplished with the match.

NA Attachment 4 *(Select Storage Projects Only: if you answered "yes" to any part of Question 24)* – Description of approach to address storage-specific requirements; see the Storage-Specific Study Requirements: Application Guidance for the minimum requirements.

Optional Attachments:

☒ Letters of support (Question 14): Attachment # 5

NA Secured permits and regulatory approvals needed to implement the study (Question 19): Attachment #

NA Other: Attachment #

NA Other: Attachment #

NA Other: Attachment #

All required items within Sections A and B of the application checklist are completed and all identified criteria are addressed to the best of my knowledge.

Signature of Applicant/Authorized Person: Terrance Romaine Date: 10/16/23

Print Name: **Terrance Romaine** Title: **Resource Recovery Supervisor**

OREGON WATER RESOURCES DEPARTMENT

FEASIBILITY STUDY GRANTS

2023 GRANT APPLICATION

I. Study Information

Study Name: **Clackamas Water Environment Services MBR Water Reuse Feasibility Study**

Study Type (select all applicable, refer to Application Instructions for study type descriptions):

- ☐ Water Conservation
- ☒ Reuse
- ☐ Storage (Above-Ground)
- ☐ Storage (Below-Ground)
- ☐ Storage (Other)

Requested Grant Amount (must be no more than 50% of Total Study Cost): **$ 75,000**
Note: Request(s) may not exceed $500,000 per project.

Total Cost of Feasibility Study: **$ 150,000**

II. Applicant Information

Applicant Name: Clackamas Water Environment Services, Tri-City Water Resource Recovery Facility	**Co-Applicant Name:**
Address: 15941 S. Agnes Ave.	Address: N/A
Oregon City, OR 97045	
Phone: N/A	Phone: N/A
Email: N/A	Email: N/A

Principal Contact: Terrance Romaine	**Fiscal Officer: Erin Blue**
Address: 15941 S. Agnes Ave.	Address: 150 Beavercreek Rd. Floor 4
Oregon City, OR 97045	Oregon City, OR 97045
Phone: 971-978-8567	Phone: 503-742-4585
Email: TRomaine@clackamas.us	Email: EBlue@clackamas.us

Certification: I certify that this application is a true and accurate representation of the proposed work for a project feasibility study and that I am authorized to sign as the Applicant or Co-Applicant. By the following signature, the Applicant and Co-Applicant (if applicable) certifies that they are aware of the requirements of an Oregon Water Resources Department grant, have read and agree to all conditions within the sample Feasibility Study Grant Agreement and are prepared to conduct the study if awarded.

Signature of Applicant/Authorized Person: Terrance Romaine Date: 10/16/23

Print Name: **Terrance Romaine** Title: **Resource Recovery Supervisor**

Signature of Co-Applicant/Authorized Person: **N/A** Date: _____

Print Name: _____ Title: _____

III. Feasibility Study Summary

1. Please provide a brief, 4-5 sentence summary of the feasibility study. This summary should include a brief description of the goal of the water conservation, reuse, or storage project being studied and the purpose of the study. Please refer to the Feasibility Study Grant Application Instructions for additional information on what to include in your study summary.

The focus of the proposed feasibility study is the Class A wastewater effluent produced at our Tri-City Water Resource Recovery Facility (WRRF) utilizing a membrane bioreactor (MBR). The Tri-City Plant treats municipal wastewater (not drinking water) providing retail sanitary sewer services to the communities of Gladstone, Happy Valley, Milwaukie, Oregon City, West Linn and unincorporated Clackamas County.

Essentially, wastewater treatment involves separating the liquid portion from the solids portion of the waste stream. The solids are treated to standards that allow WES to apply the solids on agricultural fields to improve soil health. The remaining liquid, known as effluent, is treated and currently discharged to the Willamette River in compliance with Tri-City's National Pollutant Discharge Elimination System (NPDES) permit issued by the Oregon Department of Environmental Quality (DEQ). The goal is to reuse some or all of this effluent for beneficial reuse.

Recycled water must be oxidized and disinfected. Oregon DEQ, under its Recycled Water Use rule (340-055-0005), has designated three classes of recycled water that can be used for beneficial reuse: Class A, Class B and Class C. Class A achieves the highest level of treatment. To achieve a Class A designation for its effluent, Tri-City's NPDES permit requires the plant's effluent to meet the following criteria:

Prior to disinfection, turbidity must not exceed

- an average of 2 Nephelometric Turbidity Units (NTU's) within a 24-hour period
- 5 NTU's more than five percent of the time within a 24 hour period
- 10 NTU's at any time

After disinfection, Total Coliform must not exceed

- a median of 2.2 organisms per 100 mL based on results of the last seven days that analyses have been completed
- 23 total coliform organisms per 100 mL in any single sample.

The membrane bioreactor (MBR) provides the filtration needed to achieve the low turbidity and bacterial counts required to achieve Class A effluent.

Instructions: Please answer the following questions about the location of the feasibility study and project being evaluated.

IV. Study Location

2. **Location.** Please provide the following information about the study and project location.
   a. Latitude, Longitude (in decimal degrees): 122.5906078°W, 45.375920°N)
   b. County: **Clackamas**

c. Watershed/Basin (HUC 10 number): **17090011** (https://www.waterqualitydata.us/provider/STORET/OREGONDEQ/OREGONDEQ-19576-ORDEQ/)

3. **Site Map.** Please attach a site map showing all of the following items and label as Attachment #1:

a. Feasibility study area boundaries
b. Project area (if implemented)
c. True north arrow
d. Map title and legend
e. Latitude and longitude
f. Property boundaries
g. Surface water bodies
h. Sampling locations (if proposed)
i. Points of Diversion and Place of Use, labeled for each water right (if applicable)

4. **Properties Impacted or Accessed During Study.** Check the box which best describes the properties involved in the proposed Feasibility Study.

a. ☒ This Feasibility Study will **not** impact or access lands.
b. ☐ This Feasibility Study will impact or access lands. Complete the table below to identify any properties where access is required for the feasibility study or on which the study would occur. *Add rows as needed.*
c. ☐ This Feasibility Study will identify lands which may be impacted or accessed within the activities of this study. List the Task(s) describing this work:

Complete this table only if box "b" is checked.

Tax Map Number	Tax Lot Number	Ownership Type (✓ One)	Property Owner of Record
		☐ Public ☐ Private	
		☐ Public ☐ Private	
		☐ Public	

Tax Map Number	Tax Lot Number	Ownership Type (✓ One)	Property Owner of Record
		☐ Private	
		☐ Public ☐ Private	

5. **Landowner Agreement.** Attach a signed Landowner Agreement form for each property listed in Question 4 where access to the property is required or on which the Feasibility Study would occur. Attach Landowner Agreement form(s) only for those properties involved in the Feasibility Study and label Attachment #2. (Landowner Agreement forms may be found on the Applications, Forms and Guidance webpage.)

Stop: Does not apply if 4.a. was selected above.

a. You may list multiple properties on one form when the properties are owned by a single landowner entity.

b. For *public* lands attach the landowner form or other documented authorization from the federal

or state government property owner allowing the feasibility study activities **or** documentation that demonstrates such authorization is being pursued.

c. If Question 4.c. was checked above, list the Task describing work to obtain landowner agreement approvals.

6. **Properties Impacted or Accessed During Implementation.** Check the box which best describes the properties involved in future project implementation. Identify any lands that would be impacted or accessed during future project implementation. Check all that apply and provide the requested information.

   a. ☐The proposed project, if implemented, will only impact or access lands already identified in Question 4 (must have selected box "b" under Question 4).

   b. ☒ The proposed project, if implemented, will likely impact or access lands during implementation, but those lands have not been identified, OR this question is not applicable. If this box "6.b." is checked, do not complete the table below.

   c. ☐The proposed project, if implemented, is highly likely to impact or access additional lands during implementation. If this box "6.c." is checked, complete the table below to identify any additional properties (those not already identified under Question 4) where access is required for future project implementation. *Add rows as needed. No Landowner Agreement forms are required for lands listed only under this question.*

Tax Map Number	Tax Lot Number	Ownership Type (✓ One)	Property Owner of Record
		☐ Public ☐ Private	
		☐ Public ☐ Private	
		☐ Public ☐ Private	
		☐ Public ☐ Private	
		☐ Public ☐ Private	

V. Feasibility Study Specifics

Instructions: Please answer all questions in this section.

7. **Water Need, Issue, or Concern.** Describe the identified water need, issue, or concern that the study seeks to address (local, regional, or statewide). Please provide data or a narrative substantiating the need, issue, or concern.

The use of Class A recycled water will reduce the amount of potable water needed in the area. As the demand for water grows, more water is extracted, treated, and transported sometimes over great distances which can require a lot of energy. If the local source of water is ground water, the level of ground water becomes lower as more water is removed and this increases the energy required to pump the water to the surface. Recycling water on site or nearby reduces the energy needed to move water longer distances or pump water from deep within an aquifer. Tailoring water quality to a specific water use also reduces the energy needed to treat water.

Energy is required first in collecting, extracting, conveying, and distributing water to end users and second in treating and disposing of the wastewater once the end users have finished with it. Although it requires additional energy to treat wastewater for recycling, the amount of energy required to treat and/or transport other sources of water is generally much greater. WES continues to actively work with the Energy Trust of Oregon to reduce our energy consumption.

As water energy demands and environmental needs grow, water recycling will play a greater role in our overall water supply. Water recycling, along with water conservation and efficiency, can help us to sustainably manage our vital water resources.

Oregon's 2017 Integrated Water Resources Strategy encourages the State of Oregon to promote water reuse. This includes recycled water from municipal wastewater treatment facilities. The US EPA also promotes water reuse through its *National Water Reuse Action Plan*: "The changing climate is challenging many communities to meet their long-term water needs. Reuse of treated wastewater and stormwater for agricultural, non-potable, or even potable uses provides an alternative source of water that can be more reliable than traditional raw water sources. The capacity to incorporate water reuse into a community's water portfolio can provide resilience against climate-induced impacts."

8. **Study Goal.** Describe the feasibility study goal and how that goal addresses the water need, issue, or concern.

The ultimate goal is to offer up our Class A effluent for beneficial reuse. Tri-City's current use of recycled water is limited to in-plant use. We have been approached by several parties about the availability of our Class A water, to include reuse water for environmental remediation, aquifer storage and recovery and community garden irrigation. WES is also considering offering this water for dust suppression and street cleaning. Before we can engage in further dialog with interested parties, WES must determine how much Class A recycled water the Tri-City facility could make available at various times of the year (summer and winter) without negatively impacting our effluent quality and NPDES discharge permit. This feasibility study will answer that question and determine if the use of recycled water from the Tri-City WRRF is possible.

9. **Study Scope.** Describe how the proposed study would achieve the goal.

The feasibility study would only address the amount of water that could be made available at various time of the year. This is done by data analysis and modeling. The precise method for determining available recycled water is not fully developed, but will most likely include review of data on effluent flow, river flow, ammonia, alkalinity, temperature and pH. WES will work with the consulting engineers to develop an approach.

The Tri-City plant is in the process of constructing a new outfall for its effluent discharge. The new outfall will be south of the existing outfall. The proposed study will include assessment of available effluent considering the new outfall location and the existing location.

The feasibility of any specific project or water rights will **not** be addressed in this study.

10. **Water Planning and Preparation.** Identify the plan or planning effort that identifies the study or future project (if applicable). Describe how this study informs plans or preparations for a more secure water future.

WES' proposed Strategic Plan for 2024-2026 identifies as a key goal to obtain Oregon DEQ approval for a Recycled Water Use Plan (RWUP) by 2025. WES' previously approved Recycled Water Use Plan was limited to irrigation outside the property line of the plant. Recycled water for this irrigation is no longer provided, and recycled water is used only inside the plant boundaries. This type of use does not require a RWUP.

WES would like to maximize the use of the Class A effluent and identify additional reuse opportunities in the community. The results of this study will inform future water reuse opportunities. Approval of a RWUP necessitates a proposed project for approval. This feasibility study is the first step in moving towards a viable recycled water project and ultimately to an approved RWUP.

11. **Water Availability.** Please provide evidence that water is available to meet the above-described need, issue, or concern. Evidence can include regulatory and physical information regarding water availability.

The source water for beneficial reuse is the treated final effluent from the Tri-City Water Resource Recovery Facility's membrane bioreactor (MBR). The effluent is a drought proof supply since indoor water use discharged to the sanitary sewer generally does not fluctuate during drought cycles. On average, from 2018-2022, the Tri-City WRRF received 9.49 million gallons per day (MGD) of wastewater. This will only increase over time as growth in the area continues.

The Tri-City NPDES permit issued by Oregon DEQ allows for the use of recycled water in accordance with the terms outlined in the permit.

12. **Potential Impacts and Benefits.** Does this study investigate the potential impacts and benefits of project implementation on the economy, the environment, and/or the community? If applicable, list the tasks where that work will occur. *Note: Investigating potential impacts and benefits is one of a number of eligible study tasks.*
Task number and title – NA
Task number and title -

13. **Community Engagement.** Describe if any opportunities were provided for meaningful engagement, suitable for the public who may be interested in, or affected by the study or project implementation. Describe if there were any specific strategies to engage environmental justice communities.

Clackamas Water Environment Services produces clean water (effluent), protects water quality and recovers renewable resources. We do this by providing wastewater services, stormwater management and environmental education. It's our job to protect public health and support the vitality of our communities, natural environment and economy. WES' stated vision is "Be a collaborative partner in building a resilient clean water future where all people benefit and rivers thrive."

WES is proud of our community engagement efforts in governance, wastewater and stormwater and have a record of collaborative approaches with government agencies and community members. Any future proposed project would go through a public comment period as required by the ODEQ.

Submittal of this application to Oregon Water Resources Department was approved by the Clackamas County Administrator.

14. **Community Interests and Concerns.** If community interest or concerns were identified, describe the plans to address them in this study or future efforts. *(Note: You may attach Letters of Support to the application.)* Letters of support from City of Oregon City Department of Economic Development and Sunrise Water Authority (attachment #5)

15. **Study Tasks.** Identify the study tasks necessary to conduct the feasibility study using the following format and including as many tasks as necessary to complete the study. If your proposed study receives grant funding, the tasks identified will be incorporated into your grant agreement as the "Project Description."

Attention: The proposed feasibility study and all tasks MUST be completed by June 30, 2025. OWRD will be unable to offer grant amendments to extend the expiration date. The funding source for these grants are State of Oregon General Funds, which must be spent by June 30, 2025.

Note: Project management and administration are common functions within a specified task and not separate tasks themselves. All cost match and grant budget funds must apply to the tasks identified below. See the Budget Procedures and Allowable Costs document on the Applications, Forms and Guidance webpage for more information.

Task number. Task Title

- Task schedule: The approximate dates during which the task will be completed.
- Description of task activities: Include specific details of the task such as task purpose, planned approach, appropriate technical information, proposed methods, and rationale for the approach.
- Qualified personnel that will complete task: Include a description of the professional experience, professional qualifications and licensure of personnel necessary for task work.

The tasks identified below should match the tasks listed in Questions 16 and 22.

Task 1. Select Consultant

- Task schedule: June – August 2024
- Description of task activities: WES will publicly advertise a Request for Proposals from qualified consultants to complete the feasibility study. WES staff will review proposals and select the most qualified consultant to complete study. The Board of County Commissioners will approve a professional services agreement with the consultant that includes an approved scope and fee that covers the tasks and requirements of the feasibility grant prior to the consultant beginning work.
- Qualified personnel that will complete task: Board of County Commissioners, WES Director and staff

Task 2. Data Collection, analysis and model development

- Task schedule: Sept 2024 – March 2025
- Description of task activities: With the support of WES staff, Consultant will collect existing data that is needed to perform the analysis. Consultant will analyze data, prepare model. While the exact approach and data needed is unknown at this time, we expect flow and nutrient (Phosphorus, Nitrogen) data to be primary drivers for the modeling effort.
- Qualified personnel that will complete task: WES Resource Recovery and Operations staff; Engineering Consultant

Task 3. Prepare final report

- Task schedule: April - June 2025
- Description of task activities: Prepare final report and deliver modeling tool.
- Qualified personnel that will complete task: Engineering Consultant

Copy and paste additional tasks as needed.

16. **Study Task Scheduling**. Place an "X" in the appropriate column to indicate when each study task

would take place. Study tasks should match those listed as part of your response to the previous question. Note that successful applicants will receive their grant agreement in April or May 2024. OWRD cannot reimburse for costs incurred prior to the effective date of the grant agreement. Project tasks listed must match the tasks identified in Question 15. **The proposed feasibility study and all tasks MUST be completed by June 30, 2025.**

Feasibility Study Tasks (Add additional rows as needed)	**2024**				**2025**			
Clackamas Water Environment Services MBR Water Reuse Feasibility Study	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Task 1: Consultant Selection	☐	x	x	☐	☐	☐	☐	☐
Task 2: Data collection, analysis and model development (50% Completion)	☐	☐	x	x	x	☐	☐	☐
Task 3: Prepare final report (100% Completion)	☐	☐	☐	☐	☐	x	☐	☐

17. **Feasibility Study Water Rights.** Identify any water rights required to **conduct** the proposed Feasibility Study below. Check all of the following that apply and provide the information requested:

    a. ☒ No water rights are required to complete the proposed study. Continue to Question 18.

    b. ☐ The proposed study requires a new water right or other water right transactions to **conduct** the study. If checked, list the transaction(s) required (e.g., new right, transfer, etc.):

    c. ☐ This Feasibility Study will identify water rights necessary to **conduct** the activities of this proposed study. List the Task(s) describing this work:

    d. ☐ The applicant has legal access to a water right that will be used to **conduct** the study. The proposed study requires a water right, and the applicant holds or has been given permission to utilize the water right(s) for the proposed study. If checked, list all water rights required for the study in the table below, adding rows as needed. See the Application Instructions for further guidance, including how to find water right information.

This table is only required if you check box "d".

Water Right Number (Include prefixes, if applicable, e.g., CW 12345)	**Is this an application, permit, certificate, limited license, special or final order, transfer, decree, lease, or claim? Enter "New right Needed" below if a new water right is needed to do this work.**	**Tax Lot IDs within the Place of Use where water will be used to complete the study**

18. **Project Implementation Water Rights.** Identify any water rights needed to implement the proposed Project below. Check all of the following that apply and provide the information requested:

    a. ☒ The applicant does not know what water rights or water right transactions are required for the project. That will be determined through this study or other effort at a future date. Continue to Question 19.

b. ☐ The proposed project requires a new water right or other water right transactions. If checked, list transaction(s) required (e.g., new right, transfer, etc.):

c. ☐ The applicant holds the water right(s) required for the project. If "c" is checked, include list of rights in the table below, adding rows as needed. See the Application Instructions for further instruction, including how to find water right information.

This table is only required if you check "c".

Water Right Number (Include prefixes, if applicable, e.g., G 00010)	Is this an application, permit, certificate, limited license, special or final order, transfer, decree, lease, or claim?	Water Right Amount			Tax Lot IDs within the Place of Use where water will be used to implement the proposed project
		Max Volume (ac-ft)	Max Rate (cfs)	Duty (ac-ft/ac)	

Water Right Number (Include prefixes, if applicable, e.g., G 00010)	Is this an application, permit, certificate, limited license, special or final order, transfer, decree, lease, or claim?	Water Right Amount			Tax Lot IDs within the Place of Use where water will be used to implement the proposed project
		Max Volume (ac-ft)	Max Rate (cfs)	Duty (ac-ft/ac)	

19. **Feasibility Study Permits.** Provide a list of any permits and regulatory approvals needed to **conduct the Feasibility Study** and indicate the status of each in the table below. If permits/approvals are required, please submit copies of secured permits/approvals **or** describe efforts to secure permits/approvals including status.

Permit/ Regulatory Approval	Permitting Entity	Status and Efforts To Date
N/A		

a. If no permits or regulatory approvals are required, please provide an explanation in the text box below.

This project will be a process engineering analysis. No water reuse will occur during the course of the study.

20. **Project Implementation Permits.** Provide a list of the permits and regulatory approvals that you anticipate would be needed to implement the proposed **project** being studied. If permits/approvals are not required, please explain why and provide information regarding any agencies contacted to verify this determination: *To provide recycled water, WES will need to obtain permits/approvals from the following:*

Project Permit/Regulatory Approval *(add rows as needed)*	Permitting Entity
Approved and current NPDES permit	Oregon DEQ
Recycled Water Use Plan	Oregon DEQ
Registration of Recycled Water	Oregon Water Resources Department
Determination of any impacted water rights	Oregon Water Resources Department
Impact on listed fish species and instream flow targets	Department of Fish and Wildlife

VI. Feasibility Study Budget

Instructions: Please answer the following questions about the study budget using the tables provided. All Grant and Other Funds must be allowable costs as described in the OWRD's Grant Budget Procedures and Allowable Costs document.

21. **Budget by Category.** Please provide a budget by category for the proposed feasibility study. Please note that indirect costs **are not** an allowable grant expense. See OWRD's Budget Procedures and Allowable Costs for further guidance.

OVERALL STUDY BUDGET Categories	In-Kind Match	Cash Match Funds	OWRD Grant Funds	Total Cost
Staff Salary/Benefits		2,500	2,500	5,000
Contractual/Consulting		72,500	72,500	145,000
Supplies		0		
Materials		0		
Travel		0		
Other:		0		
Equipment (must be approved)		0		
Administrative Costs*		0		
Total				150,000

** Administrative Costs may not exceed 10% of the total funding requested from OWRD*

22. **Budget by Task.** Identify the budget for each task below. Tasks identified below should be the same as the tasks identified in Questions 15 and 16. Budget totals should match throughout the document.

Feasibility Study Tasks (Add additional rows as needed)	In-Kind Match	Cash Match Funds	OWRD Grant Funds	Total Cost
Task 1: Consultant selection		2,500	2,500	5,000
Task 2: Data collection, analysis and model development (50% Completion)		36,250	36,250	72,500
Task 3: Prepare final report and deliver modeling tool (100% Completion)		36,250	36,250	72,500
Total				150,000

VII. Match Funding

Instructions: Please answer the following question regarding matching funds.

23. **Match Funding Table and Documentation.** Please fill out the table below and attach the appropriate documentation for both the secured and pending match (add rows as needed). Keep in mind that applicants must demonstrate a minimum **dollar-for-dollar match** or 50% of the Total Cost of the Feasibility Study. Please note that a failure to meet this requirement or to attach documentation will result in an incomplete application that will not be considered for funding.

    For secured funding, you must *attach a letter of support or award* from the match funding source (even if it is match from your own organization) that:

    - Specifies the dollar amount identified for this study,
    - Equals the dollar amount shown in the "Amount/Dollar Value" column in the table below,
    - Describes the work to be accomplished through the match.

For pending resources, you must attach *other written documentation showing a request* for the match funding. Documentation must:

- Include the amount of match funding requested or anticipated,
- Identify the date on which a future funding application was or will be submitted,
- Identify the funding program, and
- Provide evidence that the project is eligible for the funding program identified.

Note: if awarded funds, pending commitments of the funding ***must be secured within 12 months*** *from the date of the award.*

The total match funds listed in the table below should match Questions 21 and 22.

Match Funding Source (if in-kind, briefly describe the nature of the contribution)	**Type (✓ Only One)**	**Status (✓ Only One)**	**Amount/ Dollar Value**	**Date Match Funds Available** *(Month/Year)*
Grantee Contribution from Sanitary Sewer Fund	☑ cash ☐ in-kind	☑ secured ☐ pending	$75,000	July 2024
	☐ cash ☐ in-kind	☐ secured ☐ pending		
	☐ cash ☐ in-kind	☐ secured ☐ pending		
	☐ cash ☐ in-kind	☐ secured ☐ pending		
	☐ cash ☐ in-kind	☐ secured ☐ pending		
Total of Match Funds			= $75,000	

VIII. Storage-Specific Questions

Instructions: If you indicated that your study is for a storage project, answer question 24 in this section. If your study is for above-ground storage, also answer question 25. Please refer to the document on Storage-Specific Study Requirements for guidance and information on completing this section, available on the Feasibility Study Grants Applications, Forms, and Guidance webpage. **If your study is for a water conservation or reuse project, skip this section.**

24. All Storage Projects. Answer the following "Yes/No" questions about the storage project to be evaluated in the proposed study.

A. Will the project divert more than 500 acre-feet of surface water annually? Yes ☐ No ☐

B. Will the project impound surface water on a perennial stream? Yes ☐ No ☐

C. Will the project divert water from a stream that supports sensitive, threatened or endangered species? Yes ☐ No ☐

If you answered "yes" to any of the questions above, you are required to address the following analyses in your feasibility study. By signing this application, you are committing to include these required elements in your feasibility study.

If you answered "Yes" to (A), (B), or (C) above, attach a description of how you intend to address the following required elements in your feasibility study (please refer to the document on Storage-Specific Study Requirements for guidance and a description of the minimum acceptable standards regarding these study requirements).

You must include a Task in Question #15 for this work unless the work was previously conducted. If you are attaching results of previously conducted work, you must cite the relevant sections or pages.

i. 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.

ii. 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.

iii. Analyses of environmental harm or impacts from the proposed storage project.

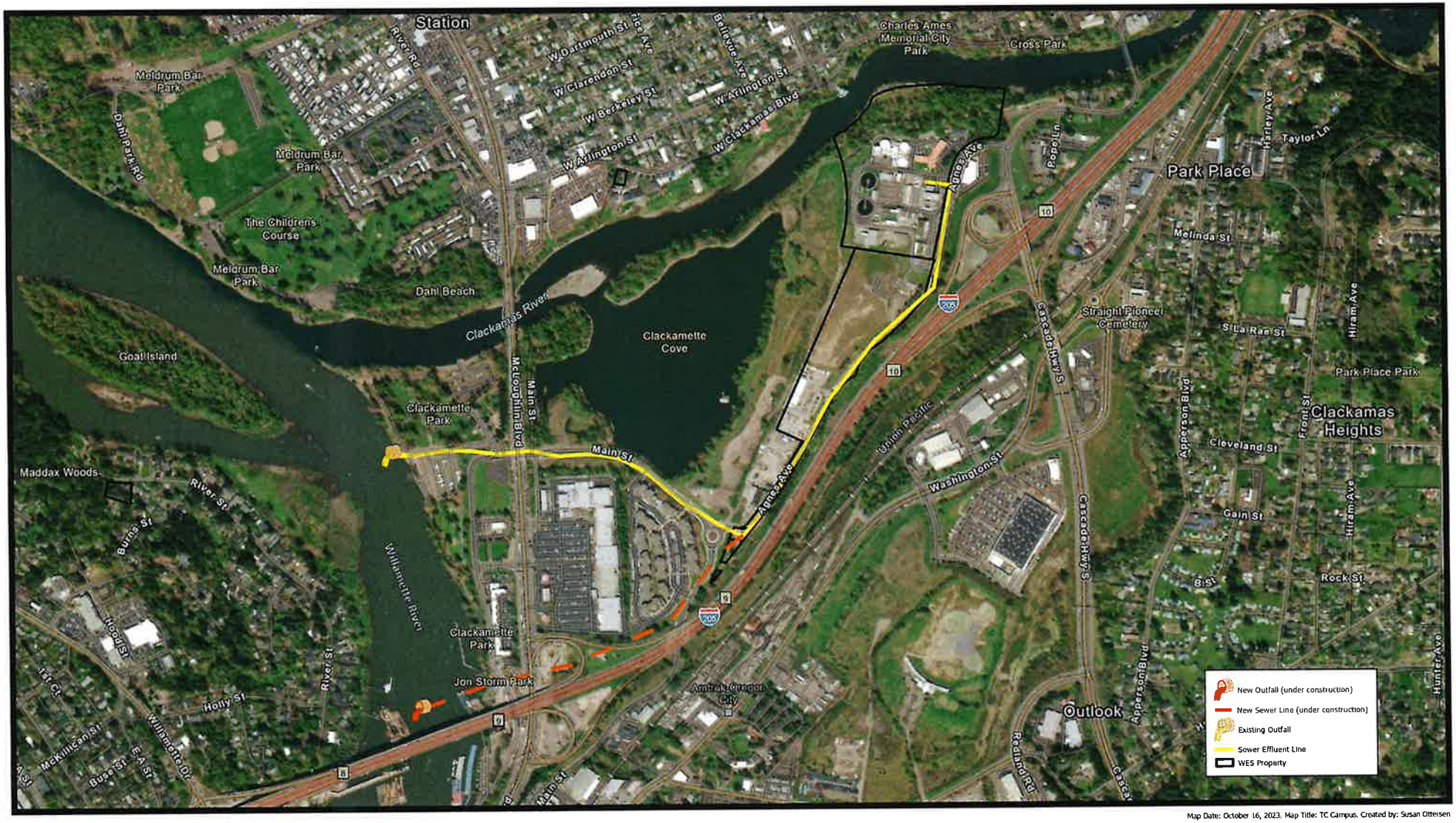
iv. Evaluation of the need for and feasibility of using stored water to augment instream flows to conserve, maintain and enhance aquatic life, fish life and any other ecological values.

v. *For proposed storage projects for municipal use only* – 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.

25. For Above-Ground Storage Only. Describe whether or not the storage project would include provisions for using stored water to augment instream flows to conserve, maintain and enhance aquatic life, fish life or other ecological values. As per statute and rule, above-ground storage projects that include these provisions receive preference for funding over other storage projects.

Attachment 1: Tri-City Wastewater Treatment Plant

Oregon City
122.5906078°W, 45.375920°N



Map Date: October 16, 2023. Map Title: TC Campus. Created by: Susan Ottersen

ATTACHMENT 3

MATCH DOCUMENTATION

CLACKAMAS
WATER ENVIRONMENT SERVICES

GREGORY L. GEIST | DIRECTOR

Water Quality Protection
Surface Water Management
Wastewater Collection & Treatment

October 16, 2023

Oregon Water Resources Department (ORWD)
Attention: Grant Program Coordinator
725 Summer Street NE, Suite A
Salem, OR 97301

Re: Match WES MBR OWRD Feasibility Study Grant

Dear Grant Program Coordinator:

Clackamas Water Environment Services (WES) is committed to providing $75,000 in match funds, towards total project costs of $150,000, to support our Membrane Bioreactor (MBR) Water Reuse Study application to the Oregon Water Resources Department (OWRD). WES will provide a secured cash match to support all key tasks outlined in our grant application from our Sanitary Sewer Operating Fund that supports our Resource Recovery programs for Clackamas County.

This study will provide WES the data needed to explore potential water reuse projects that can utilize the high quality effluent produced by the Membrane Bioreactor located at our Tri-City Water Resource Recovery Facility in Oregon City.

Sincerely,

Greg Geist
Director, WES

ATTACHMENT 5

LETTERS OF SUPPORT

OREGON CITY

Economic Development Department

625 Center Street | Oregon City OR 97045
Ph (503) 657-0891 | Fax (503) 657-7026

October 16, 2023

Oregon Water Resources Department (ORWD)
725 Summer Street NE, Suite A
Salem, OR 97301

Re: Support for WES's MBR Beneficial Reuse Feasibility Study

To Whom It May Concern:

On behalf of the Oregon City Department of Economic Development, I am writing to express support for the Clackamas Water Environment Services' (WES) Water Recycling Program and their grant application for the Oregon Water Resources Department's (OWRD) Feasibility Study Grant to fund a Beneficial Reuse Feasibility Study.

The goal is to evaluate the feasibility of providing high quality effluent produced at the Tri-City Water Resource Recovery Facility to a potential project in the region. The State of Oregon allows use of Class A water, like that produced by a membrane bioreactor (MBR) for a multitude of beneficial uses.

The implementation of a beneficial reuse program provides a multitude of benefits to both the WES and potentially Oregon City if the study proves it to be feasible for WES. We look forward to the results of the analysis performed.

Sincerely,

James N Graham, CEcD
Economic Development Manager

Cc: Terrance Romaine, Interim Environmental Services Manager
Clackamas Water Environment Services

SUNRISE WATER
AUTHORITY

10602 S.E. 129th Avenue, Happy Valley, OR 97086-6218
tel: 503.761.0220 • fax: 503.761.7406
www.sunrisewater.com

Oregon Water Resources Department (ORWD)
725 Summer Street NE, Suite A
Salem, OR 97301

Re: Support for WES's MBR Beneficial Reuse Feasibility Study

To Whom It May Concern:

On behalf of the Sunrise Water Authority (Sunrise), I am writing to express support for the Clackamas Water Environment Services' (WES) Water Recycling Program and their application to the Oregon Water Resources Department's (OWRD) Feasibility Study Grant program for a Beneficial Reuse Feasibility Study.

Climate change is dramatically affecting the volume and timing of natural water supplies throughout the State of Oregon, requiring drinking water providers to seek and develop alternate sources of supply. Those of us who rely on Clackamas River are facing similar issues as the demand for water in the region increases. One of the most effective means for potentially managing this issue is to bring water reuse into the source arena. Some of the principal challenges include storage and delivery of reuse water. For many years now, Sunrise has been requiring new developments to install a parallel non-potable delivery system within its distribution network. In addition, Sunrise has been looking to expand its storage options through aquifer storage and recovery (ASR). Hence, the desire to work with WES to find a means for effective reuse of their wastewater effluent and source our non-potable system.

The goal is to evaluate the feasibility of providing high quality effluent produced at the Tri-City Water Resource Recovery Facility to a potential project in the region. The State of Oregon allows use of Class A water, like that produced by a membrane bioreactor (MBR) for a multitude of beneficial reuses. Therefore, we are in support of WES' work to identify a quantity of available water for a potential beneficial reuse project such as a source for development of an aquifer storage and recovery (ASR) well.

The implementation of a beneficial reuse program provides a multitude of benefits to both the WES and potentially Sunrise Water Authority if the study proves it to be feasible for WES. We look forward to the results of the analysis performed.

Sincerely,

Wade E. Hathhorn

Dr. Wade Hathhorn, Ph.D.
General Manager, Sunrise Water Authority
whathhorn@sunrisewater.com