Oregon
Tina Kotek, Governor

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MEMORANDUM

TO: Water Resources Commission

FROM: Douglas E. Woodcock, Acting Director

SUBJECT: Agenda Item B, March 21, 2024
Water Resources Commission

Feasibility Study Grants Funding Recommendations

I. Introduction

This report describes the multi-agency review process, public comment notice, and the Department's funding recommendations for the 2023-2024 Feasibility Study Grant funding cycle. The Commission will be asked to award funding.

II. Integrated Water Resources Strategy Recommended Action

- 13.D - Invest in Feasibility Studies for Water Resources Projects

III. Background

Feasibility Study Grants (Water Conservation, Reuse, and Storage Grant Program), established by Senate Bill 1069 in 2008, supports studies to evaluate the feasibility of water conservation, reuse, and storage projects. Grants require a dollar-for-dollar match. A feasibility study evaluates a proposed project to determine if and how the project should proceed to implementation. These studies typically take one to three years to complete. Since adoption of rules in 2008, the Commission has awarded grants each biennium (see Table 1).

Table 1 – Number of Grants and Total Funds Awarded to Date

Biennium Awarded	Number of Grants	Total Awarded
2009-2011	21	$1,312,611
2011-2013	18	$1,099,690
2013-2015	14	$714,762
2015-2017	29	$2,154,354
2017-2019	7	$446,773
2019-2021	15	$1,967,321
2021-2023	11	$1,455,805
Total	**115**	**$9,151,316**

IV. 2023-2024 Funding Cycle

Applications for the 2023-2024 cycle were due on October 18, 2023. The Department received four complete applications. A total of $285,179 in grant funds was requested. Individual grant requests ranged from $52,500 to $75,000. Per statute, awards are capped at $500,000.

There is currently $750,000 in unobligated funds available for the Commission to award. All funded studies must be completed by June 30, 2025, because the source of funding is General Fund. The Department communicated this information with applicants during grant solicitation so they could plan their studies accordingly.

V. Grant Application Review Process

Applications were reviewed by a multi-agency Application Review Team (ART) to evaluate the applications and provide funding recommendations to the Department. The ART convened in January 2024 and consisted of representatives from the Oregon Departments of Agriculture, Environmental Quality, Fish and Wildlife, and State Lands, as well as Oregon Health Authority, Business Oregon, and the Water Resources Department. See Attachment 1 for evaluations of each application. Based on the ART evaluations, three of the four applications are recommended for funding.

The Department contacted Tribes directly to solicit comments on complete applications. Tribes were invited to submit comments for consideration by the Application Review Team or submit comments for consideration by the Department and Commission. The Department received no comments from Tribes on the applications.

The funding recommendations were posted on the agency website for a 30-day public comment period that closed on March 7, 2024. Tribes were notified of the funding recommendation and given the opportunity to provide comments for Commission consideration. The Department received no comments from Tribes on the funding recommendation.

The Department received one public comment from the Morrow and Gilliam Soil and Water Conservation Districts regarding their application for the Lower Willow Creek Managed Aquifer Recharge Feasibility Study, which was not recommended for funding by the ART (Attachment 2). The comment letter addressed the reasons that the application was not recommended for funding, which were: 1) the disconnect between the goal and tasks of the study and the water need the applicants seek to address, and 2) the study does not meet the Storage Specific Study Requirements (SSSR). Specifically, the applicant clarified that the use of “Managed Aquifer Recharge” in the application encompasses aquifer recharge and recovery and not just recharge. Regarding the SSSR, the applicant clarified that the study would result in a ranking of sites that pass initial screening. The Department does not require the SSSR for broad desktop studies that identify several sites. Department staff reviewed the comments, determined that the applicant addressed concerns raised in the ART evaluation, and recommend the study be awarded funding.

VI. 2023-2024 Funding Award Recommendations

Based on the ART recommendations, public comments received, and Department review, the Department recommends four applications for grant funding. If approved by the Commission, Department staff will work with the grant recipients to develop grant agreements. Table 2 lists the funding recommendations for the proposed studies.

Table 2. Funding Recommendation

Study Name / Applicant Name	*Project Type*	*Funding Requested*	*Total Cost of Study*	*Funding Recommendation*
Brophy Ditch Big Butte Creek Water Conservation Project/Trout Unlimited	Conservation	$82,679	$166,585	$82,679
Clackamas Water Environment Services MBR Water Reuse Feasibility Study/Clackamas Water Environment Services	Reuse	$75,000	$150,000	$75,000
Lower Willow Creek Managed Aquifer Recharge Feasibility Study/Morrow and Gilliam Soil and Water Conservation Districts	Below ground storage	$52,500	$105,000	$52,500
Tickle Creek, Tributary of Clackamas River - Reuse Study/City of Sandy	Reuse	$75,000	$150,000	$75,000
	Total Requested	**$285,179**	**$571,585**	**$285,179**

VII. Summary

As recommended, this would result in four grant awards totaling $285,179.

VIII. Alternatives

The Commission may consider the following alternatives:

1. Adopt the staff funding recommendations contained in Table 2 of this report to fund four applications for a total award of $285,179.
2. Adopt modified funding recommendations.
3. Direct the Department to further evaluate the applications and return with a revised funding proposal.

IX. Recommendation

The Acting Director recommends Alternative 1, to adopt the staff funding recommendations contained in Table 2 of this report to fund four applications for a total award of $285,179.

Attachments:

1. Study Evaluation Summaries
2. Public Comments

Kim Fritz-Ogren
503-509-7980

Adair Muth
971-301-0718

Feasibility Grant Applications

2023-2024 Cycle Evaluation Summaries and Review Team Funding Recommendations

February 6, 2024
Revised February 16, 2024

Background

Feasibility Study Grants provide funding for project planning studies that evaluate the feasibility of developing a water conservation, reuse, or storage project. A feasibility study is an evaluation of a proposed project or plan and can be used to determine *if* and *how* a project should proceed to the implementation phase. This funding opportunity covers up to 50% of the study cost.

Document Description

The following are evaluation summaries for grant applications received by October 18, 2023 for the current funding cycle. The evaluation summaries include a project summary, feedback from the Application Review Team (ART), and the ART's funding recommendation. The application summaries are listed below in alphabetical order.

Next Steps

Applications and the ART recommendations will be posted on the Oregon Water Resource Department's (OWRD) website for a 30-day public comment period from February 6, 2024 to March 7, 2024. OWRD will present funding recommendations and the comments received to the Water Resources Commission at its meeting tentatively scheduled for March 21-22, 2024. The funding recommendations will be based on the ART recommendations and public comments received. The Commission will make the final funding decisions.

More Information

Additional information about this funding opportunity is available on the program website. If you have questions please contact Grant Coordinator, Adair Muth, at 971-301-0718 or OWRD.Grants@water.oregon.gov.

List of Applications Received

Study Name	Project Type	County	Funding Requested	Total Cost of Study[1]
Brophy Ditch Big Butte Creek Water Conservation Project	Conservation	Jackson	$82,679	$166,585
Clackamas Water Environment Services MBR Water Reuse Feasibility Study	Reuse	Clackamas	$75,000	$150,000
Lower Willow Creek Managed Aquifer Recharge Feasibility Study	Below ground storage	Morrow and Gilliam	$52,500	$105,000
Tickle Creek, Tributary of Clackamas River - Reuse Study	Reuse	Clackamas	$75,000	$150,000
		Total	**$285,179**	**$571,585**

[1]Studies require at least a dollar-for-dollar cost match.

2023-2024 Applications

Brophy Ditch Big Butte Creek Water Conservation Project

Recommended for Funding

Study Information (adapted from application)

Applicant Name: Trout Unlimited

County: Jackson

Funding Requested: $82,679

Total Project Cost: $166,585

Study Summary:

The proposed study would evaluate current conditions and water use of Brophy Ditch on the North Fork Big Butte Creek in Jackson County. The goal of the study is to identify opportunities to conserve water instream and provide efficient water delivery through conveyance efficiencies to benefit the irrigators as well as ESA-listed threatened Coho salmon, state-listed Spring Chinook, summer and winter steelhead, Pacific Lamprey, and cutthroat trout. Brophy Ditch has high transmission losses. The ditch would be surveyed and the amount of conserved water evaluated through a seepage study, water rights assessment, and crop water requirement evaluation. The proposed study would identify and quantify opportunities to permanently dedicate conserved water from this senior water right instream for the benefit of fish, wildlife, and the public.

Evaluation Summary

The proposed study seeks to address both instream and out-of-stream needs in a highly productive stream with quantified water quality and quantity challenges. The study goals are well-defined, and the application clearly described how the study would accomplish the goals.

The review team appreciated the application cited multiple plans that identify low streamflow as a limiting factor for species recovery, as well as identifying improved flows as a recovery action. The proposed study site was compared with other representative ditches to quantify potential benefit and the potential for a beneficial project is high if deemed feasible. The application was strengthened with numerous letters of support.

The review recommends funding the application as proposed and offers the following feedback for the applicant to consider if the Commission awards funds and the applicant proceeds with its investigation and potential implementation if the project is feasible. The application would have been improved by including more details in specific tasks. Additional information on the potential portion of water and desired method for protecting water instream would have improved the application.

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Clackamas Water Environment Services MBR Water Reuse Feasibility Study

Recommended for Funding

Study Information (adapted from application)

Applicant Name: Clackamas Water Environment Services

County: Clackamas

Funding Requested: $75,000

Total Project Cost: $150,000

Study Summary:

The proposed study would determine the feasibility of reusing water from the Tri-City Water Resource Recovery Facility (WRRF). The study would 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 the effluent quality and National Pollutant Discharge Elimination System (NPDES) discharge permit. The Tri-City Plant treats municipal wastewater providing retail sanitary sewer services to the communities of Gladstone, Happy Valley, Milwaukie, Oregon City, West Linn and unincorporated Clackamas County. The effluent is treated and currently discharged to the Willamette River in compliance with Tri-City's NPDES permit. The goal is to reuse some or all of this effluent for beneficial reuse.

Evaluation Summary

The proposed study structure and tasks are appropriate to accomplish the study goal, which is focused solely on determining the quantity of water that can be made available for reuse. The review team appreciated the linkage between the study goal and Oregon's Integrated Water Resource Strategy to promote water reuse and the two letters of support provided with the application.

The review recommends funding the application as proposed and offers the following feedback for the applicant to consider if the Commission awards funds and the applicant proceeds with its investigation and potential implementation if the project is feasible. The application would have been improved by increased detail. For example, the application would have been strengthened by identifying the source water rights that will be investigated for reuse. The cities have water rights, but if the purpose is to explore the quantity of water that could be reused, that source water is a critical component to that calculation and should be identified in the study work.

The application would have been improved by noting what other work has been undertaken or explored to meet those future growth needs or better documenting the need for additional water. For example, it would improve the application to note what (if any) efficiency/conservation work has been completed to help meet water needs or to explain how the current discharge of effluent impacts water quality in the Willamette River. The review team appreciated the note that the applicant is looking to move its outfall, so the timing of this investigation could help that decision as well.

The proposed study would be improved by considering the potential benefits and impacts to the environment, economy, and community. This is not a required part of a study but is critical information for pursuing implementation. For example, reducing discharge of water to the Willamette River may have negative impacts to the river due to the decrease in return flows.

Lower Willow Creek Managed Aquifer Recharge Feasibility Study

Not Recommended for Funding at This Time

Study Information (adapted from application)

Applicant Name: Morrow Soil and Water Conservation District, Gilliam Soil and Water Conservation District

County: Morrow and Gilliam

Funding Requested: $52,500

Total Project Cost: $105,000

Study Summary:

The proposed study would assess the feasibility of developing a managed aquifer recharge (MAR) project in the Lower Willow Creek Basin area to improve the reliability of groundwater supplies for irrigation which is anticipated to provide economic and environmental benefits for both instream and out-of-stream water uses. Morrow Soil and Water Conservation District and Gilliam Soil and Water Conservation District have identified twenty landowners interested in MAR who are willing to investigate the feasibility of constructing MAR facilities on their properties along Willow Creek. The study would develop the aquifer recharge concept for the Lower Willow Creek area by evaluating the water needs, available lands, hydrogeology, water availability, permitting pathway and developing the general concept for treatment and infrastructure applicable to interested landowner parcels. The outcome of the study would be a set of prioritized site(s)/property(s) for developing MAR project(s), and a preliminary work plan for conducting the field investigation for the next phase of feasibility study.

Evaluation Summary

This application is not recommended for funding due to concerns about technical preparedness associated with the disconnect between the goal and tasks of the study and the water need the applicant seeks to address. The study proposes to explore managed aquifer recharge, which solely recharges groundwater. However, other parts of the application describe a need for out of stream water use for irrigation, or extraction of water stored in the aquifer. The goal and tasks of the study are focused on managed aquifer recharge; however other parts of the application describe pumping recharged water out of the aquifer, which is aquifer storage and recovery. Different work is needed to explore the feasibility of aquifer recharge versus aquifer storage and recovery, particularly in identifying potential sites.

Additional agency coordination would improve the technical preparedness of the application and increase confidence in study success. For example, the applicant notes that there are no sensitive, threatened, or endangered fish species present in Lower Willow Creek. However, the Oregon Department of Fish and Wildlife noted that there have been documented steelhead in Willow Creek as high as Heppner and a resident population of native Redband trout is present.

The review team recommends a Kaizen meeting with the Department of Environmental Quality (DEQ) as a potential helpful resource for the applicants to get more information about the permitting required and feasibility of that permitting. The review team noted there is a Total Maximum Daily Load (TMDL) in Willow Creek and therefore the timing of water withdrawals would be an important item considered in DEQ's contribution to any public interest review.

Text added February 16, 2024:

The study as proposed does not meet the Storage Specific Study Requirements (SSSR) as required by statute. Specifically, the application does not adequately address the required: 1) Estimation of ecological triggering flows, 2) Analysis of Environmental Harm or Impact (impacts to Sensitive, Threatened, and Endangered Species and impacts on Limiting Ecological Factors), and 3) Evaluation of the need and ability to augment instream flows based on ecological flows (i.e., triggering flows). The applicant's claim about the lack of sensitive, threatened, or endangered (STE) species in Lower Willow Creek is unsupported. STE species are present and the flows from Willow Creek support STE species in the Columbia River as well.

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Tickle Creek, Tributary of Clackamas River - Reuse Study

Recommended for Funding

Study Information (adapted from application)

Applicant Name: City of Sandy

County: Clackamas

Funding Requested: $75,000

Total Project Cost: $150,000

Study Summary:

The proposed study would assess the feasibility of utilizing Class A recycled water as year-round flow augmentation to Tickle Creek, a tributary to the Clackamas River. The first goal of the study would be to assess and document the current water quality of Tickle Creek and establish the baseline of both flow and quality. The second goal would be to establish the quality and quantity of reclaimed water from the City of Sandy Wastewater Plant and characterize its positive impacts on both water quality and instream flow of Tickle Creek. The third goal would be to document the positive and negative impacts on fisheries, habitat and reliable instream flow augmentation for downstream water users on the Clackamas River through a series of workshops and summits.

Evaluation Summary

The application describes a proposal to establish the baseline water quality and quantity of Tickle Creek, baseline water quality and quantity of the effluent from the City of Sandy Wastewater Plant, and document potential positive and negative impacts of flow augmentation in Tickle Creek. The review team appreciated the clear and defined need for the study.

The review recommends funding the application as proposed and offers the following feedback for the applicant to consider if the Commission awards funds and the applicant proceeds with its investigation and potential implementation if the project is feasible. The application acknowledges Tickle Creek is subject to DEQ's Three Basin Rule (OAR 340-041-0350), which prohibits the addition of any additional pollutants via discharge of effluent water to the Clackamas River basin. Consultation with DEQ is identified as an early task in the study, which the review team appreciated. The review team agreed consultation and close coordination with DEQ will be critical to the study's success to determine if a permitting path is possible.

The application would have been improved with additional detail on how many measurements would be taken to create a baseline of streamflow for evaluating water quantity impacts. The review team agreed that additional monitoring would be beneficial to support study success though acknowledged the short timeline for data collection due to the fact that grant dollars are only available for work through the end of the 2023-25 biennium.

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MORROW
Soil & Water Conservation District

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www.morrowswcd.org

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March 4, 2024

Oregon Water Resources Department
725 Summer Street NE, Suite A,
Salem, Oregon 97301

Attention: Adair Muth, OWRD Grant Program Coordinator

We are respectfully submitting comments to the Oregon Water Resources Department (OWRD) grant program during this public comment period for feasibility grant applications in support of the application for the Lower Willow Creek Managed Aquifer Recharge Feasibility Study. We represent the Morrow and Gillam Soil and Water Conservation Districts'(SWCDs), special districts in Oregon whose mission is to conserve, protect, and develop soil, water and other natural resources for the economic and environmental benefit of the residents of our respective counties. This proposed study is aligned with our mission and is consistent with the priorities of the OWRD feasibility study grant program. With consideration of these comments, we are asking you to please fund this project on its merits.

During our review of the comments from the Application Review Team (ART), we noted some inconsistencies between the ART's interpretation of goals/scope in the application and the actual intent of the project, which we subsequently discussed and verified in conversation with OWRD grant program staff. We are taking this opportunity to clarify portions of application to provide the ART with the context to evaluate the application on the merits of the project as envisioned.

We are providing comments to address three issues raised by the ART and OWRD staff in their review of the application:

1. Clarification regarding the terminology used in the project description and overall project concept in Section III, Number 1 (Feasibility Study Summary) and Section V, Number 8 (Study Goal) to provide a framework for assessing the connection between the goals and tasks of the study.
2. Additional coordination with stakeholder agencies.
3. The need to complete the statutorily required Storage Specific Study Requirements (SSSRs) as part of this study.

Each specific comment by the ART or OWRD staff is noted below in italics, followed by our comments and/or clarifying statement.

1. Clarification of Terminology and Project Concept

This application is not recommended for funding due to concerns about technical preparedness associated with the disconnect between the goal and tasks of the study and the water need the applicant seeks to address. The study proposes to explore managed aquifer recharge, which solely recharges groundwater. However, other parts of the application describe a need for out of stream water use for irrigation, or extraction of water stored in the aquifer. The goal and tasks of the study are focused on managed aquifer recharge; however other parts of the

application describe pumping recharged water out of the aquifer, which is aquifer storage and recovery. Different work is needed to explore the feasibility of aquifer recharge versus aquifer storage and recovery, particularly in identifying potential sites.

We believe that the ART may have interpreted the use of the term Managed Aquifer Recharge (MAR) to refer solely to surface recharge (e.g., spreading basin) and not recharge and recovery (i.e., a well), which in turn may have contributed to its conclusion that there is a disconnect between the goal and tasks of the study. MAR is a blanket term that encompasses several categories of aquifer recharge (and recovery) techniques, including ASR. We used the term MAR in the application instead of AR/ASR to avoid confusion between technologies and the rule sets in Oregon, since the project envisioned would use wells for injection and recovery (commonly referred to as ASR), but a project would be permitted under the AR rules in Oregon.

This study is an initial screening evaluation of whether it may be possible implement the following project concept at one or more locations within the study area. The project concept is to divert water from Willow Creek and treat it using riverbank filtration methods or spreading basins (with underdrain capture), inject the treated water into the Columbia River Basalt aquifer system using existing irrigation wells or possibly a purpose-built well(s), and recover stored water during the irrigation season. As noted above, the project would be permitted under the AR rules, but water would be stored in a confined basalt aquifer and recovered using wells. Surface recharge would only be contemplated if diversion from the creek using riverbank filtration wells is not feasible and it would be possible to use an infiltration treatment basin instead; however, the diverted and infiltrated water would be recovered and injected into the basalt aquifer for later recovery using wells.

The project concept is very similar to a few other projects in Oregon which seek to capture winter surface water by riverbank filtration or use of infiltration basins to filter the water and then store it in the basalt aquifer for withdrawal in the summer. The Madison Farms and McCarty Ranches ASR projects are two examples of operational systems. Unlike the Madison and McCarty ASR projects, which operate using injection source water authorized under existing alluvial groundwater rights, a project(s) here likely would be permitted under the AR rules to maximize water availability for storage.

2. Recommendation for Additional Agency Coordination

Additional agency coordination would improve the technical preparedness of the application and increase confidence in study success. For example, the applicant notes that there are no sensitive, threatened, or endangered fish species present in Lower Willow Creek. However, the Oregon Department of Fish and Wildlife noted that there have been documented steelhead in Willow Creek as high as Heppner and a resident population of native Redband trout is present.

The review team recommends a Kaizen meeting with the Department of Environmental Quality (DEQ) as a potential helpful resource for the applicants to get more information about the permitting required and feasibility of that permitting. The review team noted there is a Total Maximum Daily Load (TMDL) in Willow Creek and therefore the timing of water withdrawals would be an important item considered in DEQ's contribution to any public interest review.

We are planning additional coordination with stakeholder agencies to ensure study success. The SWCDs have been communicating with ODFW staff regarding the reported presence of steelhead in the creek near Heppner and additional

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correspondence and/or meetings are anticipated to be scheduled with OWRD, ODFW and DEQ as part of the screening study and fatal flaw analysis, particularly for evaluating permit requirements.

3. Section VIII, Number 24

OWRD staff have indicated that the study needs to include provision to complete the storage specific study requirements (SSSRs) because a project would seek to store in excess of 500 acre-feet (AF) and sensitive, threatened, or endangered fish species have been observed in Willow Creek.

We agree that the SSSRs apply to a project, if deemed feasible and one or more sites have been identified for further evaluation. This concept could be implemented at many sites where suitable; as noted in the application, at least 20 irrigators are interested in evaluating the feasibility of such a system on their land. This study is envisioned as an initial screening level assessment to identify potentially multiple locations where the combination of necessary attributes is potentially favorable for this concept to be feasible (fatal flaw assessment), such as:

(1) Suitable confined basalt storage aquifer (adequate storage volume and injection/recovery rates)
(2) Potentially suitable conditions for diverting and treating water from the creek using riverbank filtration/infiltration basin methods (sufficient thickness of permeable alluvial sediments in connection with creek)
(3) Need for water (inadequate summer supply for irrigation)
(4) Adequate infrastructure such as power

We intend to identify as many areas with suitable attributes as possible to accommodate multiple irrigators. These potentially favorable areas would be ranked on the basis of the attributes. The attribute-based ranking, financial and other considerations would be used by stakeholders to identify the initial candidate sites for the next phase of feasibility study. At that point, completion of the SSSRs would be warranted and necessary to fulfill the requirements and inform the priority for implementation of projects.

In the proposal subsection (Section V, Number 9) titled “Prioritization and Development of Phase 2 Workplan includes a misleading statement: “A (single site) location will be selected through this process, and a workplan will be developed for the second phase of feasibility evaluation.” This statement is incorrect, and this comment is intended to clarify the intent of the study. In addition, the first bullet of Task 5 in the proposal subsection (Section V, Number 15) should read “the outcoming will be a ranking of the sites based on the attributes considered in the study where a project may be feasible.” The second bullet should read “Develop a workplan for the next phase of evaluations for sites that have passed the initial screening.”

As indicated above, this study will hopefully result in the identification of several sites experiencing irrigation water shortages. The prioritization and identification of sites for the next phase of implementation will in part depend on other factors outside of the scope of this study, including landowner readiness and financial considerations. It is our opinion that application of the SSSRs during this phase is not necessary or appropriate until it is known whether any sites may be suitable for additional evaluation and further prioritization should a several sites be identified.

With consideration of these comments, we believe that the goals of this study align well with the scope and encourage you to fund this important work on the merits. We appreciate the opportunity to provide comments.

Sincerely,

Kevin Payne
District Manager, Morrow SWCD

Herb Winters
District Manager, Gillam SWCD