



**City of Tukwila
Transportation and
Infrastructure Services
Committee**

- ❖ Tosh Sharp, Chair
- ❖ Kate Kruller
- ❖ Mohamed Abdi

<p>Distribution: K. Kruller C. Hougardy T. Sharp H. Ponnekanti S. Kim (email) G. Lerner (email)</p>	<p>City Attorney (email) Clerk File Copy</p> <p>Share pkt pdf on SharePoint to A. Le, C. O'Flaherty, A. Youn</p> <p>Email cover to: F. Ayala, A. Le, C. O'Flaherty, A. Youn, L. Humphrey</p>
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AGENDA


**MONDAY, JULY 17, 2023 – 5:30 PM
HYBRID MEETING – ONSITE AND VIRTUAL
DUWAMISH CONFERENCE ROOM, 6300 BUILDING, 2ND FLR**

MS Teams: [Click here to join the meeting](#)

Virtual Meeting - Members of the public may listen by dialing 1-253-292-9750 and entering conference ID 478777930#

Item	Recommended Action	Page
1. PRESENTATIONS		
2. BUSINESS AGENDA		
a) Public Works Shops Decant Facility Project Dept of Ecology Grant Acceptance (S. Edquid)	a) Forward to the 7/24/23 Special Consent Agenda	Pg. 1
b) Water Reservoir Site Feasibility Study Consultant Selection and Agreement (A. Altallal)	b) Forward to the 7/24/23 Special Consent Agenda	Pg. 37
3. MISCELLANEOUS		

Next Scheduled Meeting: August 7, 2023


*The City of Tukwila strives to accommodate individuals with disabilities.
Please contact the Public Works Department at **206-433-0179** for assistance.*



INFORMATIONAL MEMORANDUM

TO: **Transportation and Infrastructure Services Committee**
 FROM: **Hari Ponnekanti, Public Works Director/ City Engineer**
 BY: **Sherry Edquid, Project Manager**
 CC: **Mayor Ekberg**
 DATE: **July 14, 2023**
 SUBJECT: **Public Works Shops Decant Facility Project**
Department of Ecology Grant Acceptance

ISSUE

Accept a Department of Ecology (DOE) Water Quality Combined Funding Program grant award for the Enhanced Maintenance and Source Control Plan (EMP) and the design for a decant facility located at the combined Public Works Shops site.

BACKGROUND

As part of the 2016 plan developed for the Public Works Shops projects, a decant facility was identified as a potential improvement to the future site. A decant facility is an area where stormwater, gathered by vactor trucks from catch basins and other stormwater catchment areas, can be properly disposed of. Stormwater typically contains high concentrations of contaminants.

Currently, the City relies solely on a King County (KC) decant facility to dispose of their vactor waste from catch basin cleaning. The KC decant facility is located in Renton, WA which is approximately 18 miles roundtrip during peak traffic. Furthermore, since the pandemic KC has reduced their hours of operation to just three days from previously five days. Also, with the reduced hours it is often busier and there is often a line. Their hours of operation and driving distance severely limit the City on the frequency and number of catch basins they can clean along with additional costs.

DISCUSSION

In October 2022, Council approved staff to apply for this Water Quality Combined Funding Program grant which funds projects that improve and protect water quality throughout the state.

A new requirement to receive DOE funding for maintenance projects, which includes decant facilities, is the development of an EMP. An EMP is a tool that provides information on total stormwater quality infrastructure and performance costs, and helps local governments prioritize resources based on areas that pose the biggest potential risk to water quality.

Recently, the City recently received notification that it was awarded a grant for the design of a decant facility and an EMP.

FINANCIAL IMPACT

This grant would fund the development of an EMP and the design of a decant facility. It is estimated that an EMP will cost approximately \$100,580 and that the design for the decant facility will cost \$443,000; totaling \$543,580. This grant requires a 15% match, which is \$81,537 for this project and would come from the PW Shops M&E Building design budget.

	<u>Project Cost Estimate</u>	<u>Fund Source</u>	<u>Project Budget</u>
Grant Request	\$462,043.00	PW Shops Phase II	\$81,537.00
City Match	<u>81,537.00</u>		
Total	\$543,580.00		

RECOMMENDATION

Council is being asked to formally accept the Department of Ecology (DOE) Water Quality Combined Funding Program grant award in the amount of \$462,043 to fund an EMP and the design of a decant facility located at the combined Public Works Shops site and consider this item on the Consent Agenda at the July 24, 2023 Special Meeting.

Attachments: CIP Page 92
Grant Application
Grant Award

CITY OF TUKWILA CAPITAL PROJECT SUMMARY

2023 to 2028

PROJECT: Soils Reclamation/Decant Facility

Project No. 92341201

DESCRIPTION: Construct soils reclamation facility to handle, treat, dispose and/or reuse non-hazardous street sweepings and catch basin cleanings, etc. (formerly named Drainage/Vactor Waste Facility).

JUSTIFICATION: To meet State NPDES regulations, the City needs facilities to treat & dispose of waste materials resulting from cleaning/maintenance activities, including street sweepings and Vactor truck wastes.

STATUS:

MAINT. IMPACT: Expected to decrease maintenance.

COMMENT: Will be combined with Public Works Shops. Grants may be available

(in \$000's)	2021	2022	2023	2024	2025	2026	2027	2028	BEYOND	TOTAL
EXPENSES										
Design	49		551			1,300			175	2,075
Land (R/W)	561								600	1,161
Const. Mgmt. Construction						250			100	350
									500	500
TOTAL EXPENSES	610	0	551	0	0	1,550	0	0	1,375	4,086
FUND SOURCES										
Proposed Grant			468			1,000				1,468
Bond										0
Mitigation Actual										0
Mitigation Expected										0
Utility Revenue	610	0	83		0	550	0	0	1,375	2,618
TOTAL SOURCES	610	0	551	0	0	1,550	0	0	1,375	4,086

* Note: Site Location is still under consideration.

General Information

Project Title	Enhanced Maintenance and Source Control Plan and Decant Facility Design
Project Short Description	<p>The goal of the project is to design and construct a decant facility and pump station to improve water quality by reducing sediments and pollutant from entering the city's waterbodies including the Green/Duwamish River. An Enhanced Maintenance and Source Control Plan (EMP) will also be completed to evaluate current practices and water quality improvements that would come from structures, equipment, or maintenance practices associated with the decant facility.</p>
Project Long Description	<p>The project will design and construct a decant facility and pump station to improve water quality by reducing sediments and pollutant from entering the city's waterbodies including the Green /Duwamish River, which has known impairments. In 2019, as part of a master plan for a new, consolidated Public Works project site (located at 11210 Tukwila International Blvd and 11231 E Marginal Way S, Tukwila, WA 98168), a decant facility was identified as an important improvement to improve operational efficiencies and water quality through increased vector waste disposal.</p> <p>An EMP will be completed to evaluate current practices and evaluates the water quality improvements that would come from any associated structural improvements, maintenance practices, or improved equipment. Tukwila anticipates that the EMP will identify that a decant facility at an existing public works facility may provide increased water quality benefits, but other maintenance improvements may also be identified through the evaluation and analysis process.</p> <p>The City of Tukwila (the City) anticipates that the decant facility will be approximately 2,800 square feet, with space for decanting vector trucks including four settling tanks and pump room, and capacity to dispose of 200 tons of sludge, street waste, vector waste and hydrovac waste annually. The facility will also be hooked up to sanitary sewer. Currently, the City relies solely on a King County decant facility to dispose of their vector waste from catch basin cleaning. The King County decant facility is located in Renton, Washington which is approximately 18 miles roundtrip from Tukwila. Furthermore, since the pandemic King County has reduced their hours of operation to just three days from previously five days. With the reduced hours, it is often busier and there is often a line. Their hours of operation and driving distance severely limit the City on the frequency and number of catch basins they can clean, and significantly increases costs of disposal.</p> <p>If received, the Combined Water Quality grant would be used to fund the EMP , and subsequent design</p>

WATER QUALITY COMBINED FINANCIAL ASSISTANCE

Organization: Tukwila city of - Public Works

WQC-2024-Tukwil-00085

General Information

of the decant facility.

Total Cost \$543,580.00 **Total Eligible Cost** \$543,580.00

Effective Date 7/1/2023 **Expiration Date** 12/30/2026

Project Category
Nonpoint Source Activity
Onsite Sewage System
Stormwater Activity
✓ Stormwater Facility
Wastewater Facility

Will Environmental Monitoring Data be collected? No

Ecology Program Water Quality

Overall Goal
The overall goals of the project are to increase disposal capacity from 90 tons to 200 tons of sludge, street waste, vector waste and hydrovac waste annually; reduce carbon emissions by eliminating vector truck travel to the nearest King County decant facility, which is 18 miles roundtrip from the City of Tukwila; reduce staff hours and costs, and increase waste elimination efficiencies; and increase stormwater disposal to reduce contamination of local water systems.

WATER QUALITY COMBINED FINANCIAL ASSISTANCE

Organization: Tukwila city of - Public Works

WQC-2024-Tukwil-00085

Project Characterization

Project Themes

Select a primary and secondary theme that best describes the work to be achieved during this project.

Primary Theme: Stormwater Facility
Secondary Theme(s): Vactor Waste Facility

Project Website

If your project has a website, please enter the web address below. After entering a website and saving, another blank row will appear. Up to three websites may be provided.

Website Title/Name	Web Address
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Recipient Contacts

Project Manager

Sherry Edquid

Contact Information

Sherry Edquid
Project Manager
6300 Southcenter Blvd, Suite 100
Tukwila, Washington 98188
(206) 431-2456
(206) 433-0179
sherry.edquid@tukwilawa.gov

Authorized Signatory

Allan Ekberg

Contact Information

Allan Ekberg
Mayor
6200 Southcenter Blvd
Tukwila, Washington 98188
(206) 433-1850

allan.ekberg@tukwilawa.gov

Billing Contact

Brittany Robinson

Contact Information

Brittany Robinson
Public Works Grant Analyst
6300 Southcenter Blvd, Suite 100
Tukwila, Washington 98188
(206) 431-2456

Recipient Contacts

(206) 433-0179
brittany.robinson@tukwilawa.gov

Other recipient signatures on printed agreement

Name	Title
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WATER QUALITY COMBINED FINANCIAL ASSISTANCE

Organization: Tukwila city of - Public Works

WQC-2024-Tukwil-00085

Funding Request- Stormwater Facility Project

Total Eligible Cost: \$543,580

Grant Request: \$462,043

Match Required: \$81,537

IMPORTANT NOTICE. Ecology has reduced the standard match requirement for stormwater grants to 15% in response to current economic conditions. The calculated Grant Request and Match Required are based on a standard 85% grant/15% match. However, Ecology may further reduce match requirements for communities meeting the SFAP hardship criteria. Ecology will determine eligibility for special funding when developing funding packages.

Are you requesting or will you accept loan funds for part or all of the eligible project costs or to meet your match requirement? Yes No

IMPORTANT NOTICE. Ecology may provide special loan funding for stormwater projects in the following cases: (1) projects that meet the criteria for "green project reserve" may receive up to 25% forgivable loan; and (2) preconstruction projects in hardship communities may receive up to 50% forgivable loan. Ecology will determine eligibility for special funding when developing funding packages.

Do you want your project to be considered for GPR subsidy under the CWSRF program? Yes No

NOTE: Projects are only eligible if they meet EPA's GPR criteria, and applicants accept a CWSRF loan.

Do you have any secured funds committed to this project? Yes No

If Yes, complete the Secured Funds Table, and include any secured matching funds if known.

Source Type Amount Committed

State/Federal agency:

State/Federal agency:

State/Federal agency:

Interlocal contributions:

Interlocal contributions:

Interlocal contributions:

WATER QUALITY COMBINED FINANCIAL ASSISTANCE

Organization: Tukwila city of - Public Works

WQC-2024-Tukwil-00085

Funding Request- Stormwater Facility Project

Local agency: City of Tukwila (match for EMP & design)	Cash	\$81,537.00
Local agency:		
Local agency:		
In-kind contributions:		
In-kind contributions:		
In-kind contributions:		
Other		
Other		
Other		

Project Step

Prerequisites and Description

Activity Projects:

EMP Development

No Prerequisites. Includes collection of data, internal coordination efforts, plan development and adoption.

Implementation of EMP

Upload Ecology EMP approval letter with application. Includes purchase of equipment and design and construction of decant facilities listed in an approved EMP. Also includes pilot EMP implementation work and data collection for adaptive management.

Other Activity

No Prerequisites. Includes all other source control activities, including inspection program development.

Facility Projects:

Planning (Step 1)

No Prerequisites. Includes SMAP development, other stormwater project prioritization efforts.

✓ Design (Step 2)

No Prerequisites. Includes development of construction documents to 90%

Construction (Step 3)

Upload Ecology 90% design acceptance letter with application. Includes final plans, bid documents, project construction.

Design and Construction (Step 4)

Limited to projects with a total eligible cost of \$300,000. Small projects that can be completed within an abbreviated timeline.

For Planning and Design only (Step 1 or 2) proposals: What is your estimated cost to construct this project? \$2,600,000.00

Scope of Work - Task 1 Grant and Loan Administration: 1

Task Number 1

Task Title Grant and Loan Administration

Task Cost \$45,000.00

IMPORTANT NOTICE. The cost of this task should not exceed 15% of the Total Eligible Costs you entered on the General Information form.

Task Description

A. The RECIPIENT shall carry out all work necessary to meet ECOLOGY grant or loan administration requirements. Responsibilities include, but are not limited to: Maintenance of project records; submittal of requests for reimbursement and corresponding backup documentation; progress reports; and the EAGL (Ecology Administration of Grants and Loans) recipient closeout report (including photos, if applicable). In the event that the RECIPIENT elects to use a contractor to complete project elements, the RECIPIENT shall retain responsibility for the oversight and management of this funding agreement.

B. The RECIPIENT shall keep documentation that demonstrates the project is in compliance with applicable procurement, contracting, and interlocal agreement requirements; permitting requirements, including application for, receipt of, and compliance with all required permits, licenses, easements, or property rights necessary for the project; and submittal of required performance items. This documentation shall be available upon request.

C. The RECIPIENT shall maintain effective communication with ECOLOGY and maintain up-to-date staff contact information in the EAGL system. The RECIPIENT shall carry out this project in accordance with any completion dates outlined in this agreement.

Task Goal Statement Properly managed and fully documented project that meets ECOLOGY’s grant or loan administrative requirements.

Task Expected Outcomes

- * Timely and complete submittal of requests for reimbursement, quarterly progress reports, Recipient Closeout Report, and two-page outcome summary report.
- * Properly maintained project documentation.

Recipient Task Coordinator Sherry Edquid

WATER QUALITY COMBINED FINANCIAL ASSISTANCE

Organization: Tukwila city of - Public Works

WQC-2024-Tukwil-00085

Scope of Work - Task 1 Grant and Loan Administration: 1

Deliverable #	Description	Due Date	Received? (ECY Use Only)	EIM Study ID	Latitude (expressed in decimals)	Longitude (expressed in decimals)	Location Address
1.1	Progress Reports that include descriptions of work accomplished, project challenges or changes in the project schedule. Submitted at least quarterly.	3/31/2026			47.4628980523251	-122.254661303465	6300 Southcenter Boulevard, Tukwila WA 98166
1.2	Recipient Closeout Report (EAGL Form)	3/31/2026			47.4628980523251	-122.254661303465	6300 Southcenter Boulevard, Tukwila WA 98166

WATER QUALITY COMBINED FINANCIAL ASSISTANCE

Organization: Tukwila city of - Public Works

WQC-2024-Tukwil-00085

Scope of Work - FOR APPLICATION

Task Number	Task Cost	Task Title
Task #1	\$45,000.00	Grant and Loan Administration
Task #2	\$93,580.00	Enhanced Maintenance and Source Control Plan (EMP)
Task #3	\$405,000.00	Decant Facility Design
Task #4	\$0	
Task #5	\$0	
Task #6	\$0	
Task #7	\$0	
Task #8	\$0	
Task #9	\$0	
Task Total	\$543,580.00	

Task #: 2

Task Title: Enhanced Maintenance and Source Control Plan (EMP)

Task Cost: \$93,580.00

Expected Start Date: 7/1/2023

Expected Finish Date: 7/31/2024

Describe the work that will be billed to this task. (char 3,500)

The EMP will evaluate current practices and evaluates the water quality improvements that would come from any associated structural improvements, maintenance practices, or improved equipment. Tukwila anticipates that the EMP will identify that a decant facility at an existing public works facility may provide increased water quality benefits, but other maintenance improvements may also be identified through the evaluation and analysis process.

Deliverables

To Add a Row

Enter a deliverable

To Delete a Row

In the row you want to delete, remove the information in all of the textboxes

Scope of Work - FOR APPLICATION

When done, click the **SAVE** button
After SAVE a new row will appear
Repeat these steps for each deliverable

When done, click the **SAVE** button
After SAVE the row will be deleted

Deliverables Table (Deliverables are documents that can be uploaded into EAGL to show that work was completed; deliverables should align with the detailed budget provided on the Task Costs and Budget Form and the project schedule uploaded on the Project Planning and Schedule Form.)

Deliverables Description	Deliverable Date	Deliverable Budget
Contract Management and Administration	7/26/2024	\$9,298.00
Develop Baseline Information	11/1/2023	\$8,729.00
Develop Water Quality Benefit Methodology	1/5/2024	\$19,755.00
Alternative Evaluation	3/22/2024	\$15,274.00
Develop Draft EMP	6/1/2024	\$29,704.00
Develop Final EMP	7/19/2024	\$10,820.00
		Total Deliverable Budget: \$93,580.00
		Total Task Costs:

Task #: 3

Task Title: Decant Facility Design

Task Cost: \$405,000.00

Expected Start Date: 8/1/2024

Expected Finish Date: 12/31/2025

Describe the work that will be billed to this task. (char 3,500)

The task will complete full design and bid ready documents for the decant facility. The City anticipates that the decant facility will be approximately 2,800 square feet, with space for decanting vactor trucks including four settling tanks and pump room, and capacity to dispose of 200 tons of

Scope of Work - FOR APPLICATION

sludge, street waste, vector waste and hydrovac waste annually. The facility will also be hooked up to sanitary sewer.

Deliverables

To Add a Row

Enter a deliverable
When done, click the **SAVE** button
After SAVE a new row will appear
Repeat these steps for each deliverable

To Delete a Row

In the row you want to delete, remove the information in all of the textboxes
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After SAVE the row will be deleted

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Deliverables Description	Deliverable Date	Deliverable Budget
Ecology Coordination	3/31/2026	\$20,000.00
Data Collection	12/31/2024	\$55,000.00
Cultural Resources	12/31/2024	\$30,000.00
Preliminary Design	3/31/2025	\$90,000.00
Detailed Design	12/31/2025	\$200,000.00
Bid Period Services	2/28/2026	\$10,000.00
		Total Deliverable Budget: \$405,000.00

Task #: 4

Task Title:

Task Cost:

Expected Start Date:

Expected Finish Date:

Describe the work that will be billed to this task. (char 3,500)

Scope of Work - FOR APPLICATION

Deliverables

To Add a Row

Enter a deliverable

When done, click the **SAVE** button

After SAVE a new row will appear

Repeat these steps for each deliverable

To Delete a Row

In the row you want to delete, remove the information in all of the textboxes

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Deliverables Table (Deliverables are documents that can be uploaded into EAGL to show that work was completed; deliverables should align with the detailed budget provided on the Task Costs and Budget Form and the project schedule uploaded on the Project Planning and Schedule Form.)

Deliverables Description

Deliverable Date

Deliverable Budget

Total Deliverable Budget: \$0

Task #: 5

Task Title:

Task Cost:

Expected Start Date:

Expected Finish Date:

Describe the work that will be billed to this task. (char 3,500)

Deliverables

To Add a Row

Enter a deliverable

To Delete a Row

In the row you want to delete, remove the information in all of the textboxes

Scope of Work - FOR APPLICATION

When done, click the **SAVE** button
After SAVE a new row will appear
Repeat these steps for each deliverable

When done, click the **SAVE** button
After SAVE the row will be deleted

Deliverables Table (Deliverables are documents that can be uploaded into EAGL to show that work was completed; deliverables should align with the detailed budget provided on the Task Costs and Budget Form and the project schedule uploaded on the Project Planning and Schedule Form.)

Deliverables Description

Deliverable Date

Deliverable Budget

Total Deliverable Budget: \$0

Task #: 6

Task Title:

Task Cost:

Expected Start Date:

Expected Finish Date:

Describe the work that will be billed to this task. (char 3,500)

Deliverables

To Add a Row

Enter a deliverable
When done, click the **SAVE** button
After SAVE a new row will appear
Repeat these steps for each deliverable

To Delete a Row

In the row you want to delete, remove the information in all of the textboxes
When done, click the **SAVE** button
After SAVE the row will be deleted

Deliverables Table (Deliverables are documents that can be uploaded into EAGL to show that work was completed; deliverables

Scope of Work - FOR APPLICATION

should align with the detailed budget provided on the Task Costs and Budget Form and the project schedule uploaded on the Project Planning and Schedule Form.)

Deliverables Description	Deliverable Date	Deliverable Budget
		Total Deliverable Budget: \$0

Task #: 7

Task Title:

Task Cost:

Expected Start Date:

Expected Finish Date:

Describe the work that will be billed to this task. (char 3,500)

Deliverables

To Add a Row

Enter a deliverable
When done, click the **SAVE** button
After SAVE a new row will appear
Repeat these steps for each deliverable

To Delete a Row

In the row you want to delete, remove the information in all of the textboxes
When done, click the **SAVE** button
After SAVE the row will be deleted

Deliverables Table (Deliverables are documents that can be uploaded into EAGL to show that work was completed; deliverables should align with the detailed budget provided on the Task Costs and Budget Form and the project schedule uploaded on the Project Planning and Schedule Form.)

Deliverables Description	Deliverable Date	Deliverable Budget
		Total Deliverable Budget: \$0

Scope of Work - FOR APPLICATION

Task #: 8

Task Title:

Task Cost:

Expected Start Date:

Expected Finish Date:

Describe the work that will be billed to this task. (char 3,500)

Deliverables

To Add a Row

Enter a deliverable
When done, click the **SAVE** button
After SAVE a new row will appear
Repeat these steps for each deliverable

To Delete a Row

In the row you want to delete, remove the information in all of the textboxes
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Deliverables Table (Deliverables are documents that can be uploaded into EAGL to show that work was completed; deliverables should align with the detailed budget provided on the Task Costs and Budget Form and the project schedule uploaded on the Project Planning and Schedule Form.)

Deliverables Description	Deliverable Date	Deliverable Budget
		Total Deliverable Budget: \$0

Task #: 9

Task Title:

Scope of Work - FOR APPLICATION

Task Cost:

Expected Start Date:

Expected Finish Date:

Describe the work that will be billed to this task. (char 3,500)

Deliverables

To Add a Row

Enter a deliverable

When done, click the **SAVE** button

After SAVE a new row will appear

Repeat these steps for each deliverable

To Delete a Row

In the row you want to delete, remove the information in all of the textboxes

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Deliverables Table (Deliverables are documents that can be uploaded into EAGL to show that work was completed; deliverables should align with the detailed budget provided on the Task Costs and Budget Form and the project schedule uploaded on the Project Planning and Schedule Form.)

Deliverables Description

Deliverable Date

Deliverable Budget

Total Deliverable Budget: \$0

Total Task Costs: \$543,580.00

WATER QUALITY COMBINED FINANCIAL ASSISTANCE

Organization: Tukwila city of - Public Works

WQC-2024-Tukwil-00085

Scope of Work Summary

Task Title	Task Cost
Grant and Loan Administration	\$45,000.00
Total	

Total Eligible Costs
(from the General Information Form)

Task Costs and Budget

Describe the process used to estimate the cost of the project. If your process included reviewing similar projects, describe how this review affected your estimate.

Tukwila discussed potential design and construction costs for a decant facility with three different consultants who had recent experience providing design on local decant facilities. The final planning level estimate was based on decant facilities of similar size and function. It also took inflation into consideration.

Has the proposed project been demonstrated to be the lowest cost solution to the problem?

If the proposed project is not the lowest cost, describe the other benefits or considerations such as feasibility, community acceptance, or coordination with other projects that influenced the decision making process.

The design of the project will evaluate the lowest cost options for the decant facility. The existing alternative is to continue to dispose of vector waste at the Renton decant facility. The existing method of disposal has increased green house gas emissions, staffing costs, and reduced efficiencies compared to a new facility within Tukwila.

Upload a detailed budget for the project and any supporting documentation, including engineers estimates, cost analysis, etc.**Upload Documents**

Click the Browse button

Select your file

Click Save, your file will appear in the List of uploaded documents

Repeat for each file

To Delete a file, select the Delete checkbox next to the file and click SAVE

EMP Fee Estimate

https://ecyeagl/IntelliGrants_BASE/_Upload/218445_949949-33383.100TukwilaDecantEMPFeeEstimate.pdf

Decant Facility Design Estimate

https://ecyeagl/IntelliGrants_BASE/_Upload/218445_949949_2-TukwilaDecantFacility-PlanningDesignEstimate.pdf

WATER QUALITY COMBINED FINANCIAL ASSISTANCE

Organization: Tukwila city of - Public Works

WQC-2024-Tukwil-00085

Project Team

Fill out the following table to describe your Project Team, including staff, contractors, and partner agencies:

Team Member Name/and or Title	Agency/ Company Name	Key Responsibilities	Qualifications/ Experience	Estimated Total Hours Devoted to the Project	Who will take over the person's responsibilities if they are unable to work on the project?
Mike Ronda	City of Tukwila	Project Manager - Manage consultant, contracts and project budget; perform quality control review of submittals.	Professional Engineer with over 25 years guiding a variety of projects through all stages, including feasibility, design, and construction. Experience managing projects with complex environmental permitting related to surface water, flood protection, and water quality	300.0 0	Sherry Edquid
Brittany Robinson	City of Tukwila	Manage project cost controls, as well as grant and contract administration, compliance, and billing. Coordinate with Ecology on grant submittals and requirements.	Brittany is the Public Works Grant Analyst for the City of Tukwila. She currently oversees complex budgets and cost controls for the City of Tukwila's Capital Improvement Program. She has over eight years experience with grant administration and project management. s.	50.00	Griffin Lerner
Seong Kim	City of Tukwila	Supervise the Project Manager and assist with project development and budgeting, including	Professional Engineer with over 25 years guiding a variety of projects through all stages, including	80.00	Seong Kim

WATER QUALITY COMBINED FINANCIAL ASSISTANCE

Organization: Tukwila city of - Public Works

WQC-2024-Tukwil-00085

Project Team

		internal project submittal review.	feasibility, design, and construction. Experience managing projects with complex environmental permitting related to surface water, flood protection, and water quality.		
Sherry Edquid	City of Tukwila	Assist Project Manager with consultant communications, contracts, and quality control review.	Professional Project Manager with over 15 years of working on a variety of Northwest capital projects from project initiation to completion. She has managed several stormwater projects and has ensured environmental compliance while delivering the project on time and within budget.	50.00	Mike Perfetti

Describe similar projects that your project team or organization has completed. Note any deviations from the original proposal in scope, budget, or schedule and briefly describe project success and lessons learned. If the project was funded by Ecology, include the Ecology grant or loan number.

The City owns and maintains over 100 water quality structures, including the annual inspection and replacement of hundreds of water quality filters. The inclusion of water quality improvements is based on goals developed in the City's Stormwater Comprehensive Plan to provide treatment prior to any outfall that discharges to the Green and Duwamish Rivers.

The City recently completed the East Marginal Way South Stormwater Outfalls Project, partially funded by Department of Ecology Grant Agreement No. WQC-2016-Tukwil-00132. This project accomplished the identified goal of efficiently treating roadway runoff from a highly-used arterial roadway that connects the City of Tukwila and the City of Seattle through their industrial cores. The design consisted of a stormwater pump station, permeable pavement, bioretention, Modular Wetland vault, and cast-in-place pipe (CIPP) lining of the existing outfall. Project challenges occurred during construction when two, unidentified utility lines were found during the excavation of the 8' x 12' Modular Wetland

Project Team

underground vault. The result was relocating the vault within the traveled lane. Another deviation was the restoration of the existing sidewalk adjacent to the proposed bioretention cells. The existing asphalt path was in poor shape which made the installation of the cell walls difficult to install. Both elements required change orders that were mostly absorbed by bid items that were included in the bid documents e.g. Resolution of Utility Conflicts or Unexpected Site Changes. Additional funds were provided by the City. Although these changes were done within the Grant Agreement deadline, an extension was requested since Seattle City Light was not able to install service to power the pumps. The biggest takeaway from the project was to communicate with Ecology when changes occur and a coordinated CQAP between the City and Construction Team.

The design will provide sufficient base mapping and utility coordination to prevent cost overages .

Project Planning and Schedule

Project Start Date 7/1/2023

The date the actual work will start, or if interim refinance, the date the work started.

List and describe the criteria you used to determine the value and feasibility of the project.

Examples: useful life, installation cost, site suitability, and environmental justice.

The EMP and the design will further evaluate the project feasibility.

Briefly describe all project alternatives (including the preferred alternative) considered, and explain how each alternative met or failed to meet the criteria listed above.

Use one line for each alternative and click “save” to enter additional alternatives.

Description of Alternative

Criteria

The project alternative is to continue with the existing process for disposing of vactor waste, which is to dispose of it at the King County decant facility in Renton. The EMP and the design will evaluate the project and determine if there are other potential alternatives.

Status quo, does not improve water quality

List project stakeholders and provide documentation showing key stakeholders have been identified and will support the project.

The City of Tukwila does not have existing stakeholders supporting this project. However, King County has expressed interest in partnering on this project moving forward. The site may also serve other jurisdictions, which could provide regional benefits.

Describe the steps you have taken to be ready to start the project by May 1, 2024. Provide detailed information and documentation on project elements such as status of designs, permits, interlocal agreements, landowner agreements, easements, other secured funding, staff, or agency approvals.

The concept of a Tukwila decant facility began in 2019. It was developed as a part of the Public Works Shops Master Plan, and identified as an important element of the site development. The City has project management and architect consultants already contracted, as they will be working on other elements of the Public Works site. If funding from the Department of Ecology is approved, we can amend the existing contracts to being design of the decant facility.

The City also has been in communication with a consultant regarding the EMP, and they are available to begin design as soon as funds are received.

Project Planning and Schedule

Finally, the City has budgeted the necessary grant matching funds in its upcoming 2023-2024 Biennial Budget.

For stormwater facility and wastewater facility projects: Do you own or have clear control over the entire project area?

Yes No Not Applicable

For stormwater facility and wastewater facility projects requiring road cuts: When was the last time the road was resurfaced or reconstructed? This is for informational purposes; no points are associated with this question.

Date:

Have you reviewed the area of potential effect (APE) in the Washington Information System for Architectural and Archaeological Records Data (WISARRD) database? This is for informational purposes; no points are associated with this question

Yes No Not Applicable

Upload a project schedule that includes all tasks necessary to complete the project, including tasks that are not part of the funding request.

Please ensure your project schedule aligns with the funding cycle schedule found at our website:

<https://ecology.wa.gov/About-us/How-we-operate/Grants-loans/Find-a-grant-or-loan/Water-Quality-Combined-Funding-Program>

Upload any other supporting documentation.

Upload Documents

https://ecyeadg/IntelliGrants_BASE/_Upload/216201_949954-33383.100DecantEMPSchedule.pdf

EMP Schedule

https://ecyeadg/IntelliGrants_BASE/_Upload/216201_949954_2-TukwilaDecantFacility-PlanningDesignSchedule.pdf

Decant Facility Design Schedule

Water Quality and Public Health Improvements

To go to the Water Quality Atlas, follow this link: <https://fortress.wa.gov/ecy/waterqualityatlas/StartPage.aspx>.

Name the specific water body(ies) this project will improve or protect and the parameters it will address.

This project will improve or protect the City's receiving waters discharging into the Green /Duwamish River. The city contains several creeks (e.g. Riverton, Southgate, Gilliam, Johnson) which all dump into the Green/Duwamish River basin which flows through the city before discharging into the Puget Sound.

Is the project planning, implementation, or a combination? (For facility projects: check "Planning" for planning and design projects; check "Implementation" for construction projects; check "Planning/Implementation" for combined design/construction projects.)

Planning

Implementation

Planning/Implementation

What type of plan or regulatory requirement does this project address?

TMDL/TMDL Alternative (approved or in development)/Straight to Implementation

Wastewater Engineering Report/Sewer Plan

Permit

Salmon Recovery Plan

Watershed Plan

Shoreline Master Plan

Administrative Order or Other Legal Action

Capital Improvement Plan

Puget Sound Action Plan

Mitigation

Other

Not Applicable

Enter the implementation action and plan reference in the Action Table. If this is a planning-only project, you may enter, "Not applicable, planning-only".

Water Quality and Public Health Improvements

To add multiple implementation actions:
Enter the implementation action and plan reference.
When done, click the **SAVE** button.
After SAVE a new row will appear.
Repeat these steps for each implementation action.

Action Table

Action	Reference the document that describe the action, including page numbers and where a copy can be obtained.
Not applicable, planning-only	Not applicable, planning-only

Did you discuss this project with Ecology staff? If yes, provide the name of the staff and the last date of contact.

Yes, the project was discussed with both Karen Izumoto and Heather Bearnes-Loza on August 25, 2022 via a Microsoft Teams meeting and over the course of several emails.

Describe how the project drainage area connects to the water body.

Examples: surface flow, ditch, pipe, groundwater, infiltration, and path/distance to outfall/discharge.
The concept is for the facility to be constructed within an existing City owned paved parking lot. The decant facility will separate the solids from the liquids. Liquids will be discharged to the sanitary sewer via a piped connection. This concept will be further developed during design along with a Maintenance and Operations Manual.

Describe the measure and method that will be used to determine the water quality benefit and overall success of the project.

If you need help determining a water quality metric, please refer to the Funding Guidelines for suggested metrics by project type.
The Puget Sound Action Agenda (PSAA) outlines that stormwater runoff effects chemical, hydrological and biological processes of receiving waters. Stormwater runoff from stream that drain into the Puget Sound cause pollution, habitat degradation and alter flow regimes, thus degrading both the quality and quantity of water and threatening biological species.

In 2011, the Washington Department of Ecology, in coordination with the Puget Sound Partnership and other organizations completed a multi-year study of toxic chemicals in Puget Sound. They selected 17 chemicals to evaluate in the study which were selected based on the threat or known harm to biota, the broad range of conveyance pathways and the availability of monitoring data. The assessment found that vehicle-related releases from wear of vehicle components, combustion of fuel and leaks of motor oil and fuel-contribute large amounts of a variety of contaminants (e.g. copper, zinc, PAHs, dioxins and furans) and stormwater was the primary way that many of these contaminants enter Puget Sound.

 Water Quality and Public Health Improvements

The report concluded that high priority should be given first to methods that prevent initial release of contaminants and second to reducing/treating stormwater inputs. This proposed decant facility will allow the City of Tukwila to be more effective and efficient at removing contaminants prior to them entering water bodies.

The Enhanced Maintenance Plan (EMP) which is part of this grant and Ecology will review will develop a metric to measure water quality benefits and what success looks like. This grant entails design funding only and water quality benefits cannot be measured until after the facility is built. A possible metric is the disposal volume from stormwater catch basins cleaning pre and post operation of decant facility.

Using the method described above, estimate the water quality and public health benefits that will be achieved by the project.

The measure of success will be through implementation of the BMP actions detailed in the EMP and the construction of the future decant facility . These benefits entail reducing sediment loading to receiving waters which will result in improving habitat for salmonids, meeting dissolved oxygen (DO) and bacteria. It will also allow for increased efficiency of street sweeping and stormwater/wastewater maintenance activities. It will also reduce greenhouse gas emission by greatly reducing travel distance by large vector vehicles.

How long will the project provide benefits after the funding assistance ends? Who will be responsible for maintaining the benefits during its useful life?

The EMP will be used as a roadmap as to ways the City's maintenance activities can improve water quality . The Decant Facility will be maintained and owned by the City of Tukwila as part of their Operations and Maintenance Program . In addition to the design of the facility an Operations and Maintenance Manual will be developed. This project will continue to provide water quality benefits for decades after construction.

How will greenhouse gas emissions be reduced or mitigated under this project? And what policies or measures has your organization put in place to reduce greenhouse gas emissions apart from this project?

This project will directly reduce greenhouse gasses by reducing vehicle travel and idle time. Current operation requires the City's vector trucks to dewater storm sewer waste at the County facility in Renton.

Are you aware of any Category I or Category II wetlands on the site or downstream from the site? This is for informational purposes; no points are associated with this question.

Yes ✓ No Not Applicable

Upload a map that shows an aerial view of the project area, an estimated direction of flow for the project area, potential locations for

Water Quality and Public Health Improvements

the proposed facility or activity, and how the project connects to the water body named above.

The map does not need to be precise, but it should help reviewers with a general understanding of the area. If access to GIS software is not available, screen shots or snips from Google Maps with arrows and text added using a paint program may be used.

Upload Documents

Click the Browse button

Select your file

Click Save, your file will appear in the List of uploaded documents

Repeat for each file

To Delete a file, select the Delete checkbox next to the file and click SAVE

https://ecyeagl/IntelliGrants_BASE/_Upload/216202_9 Vicinity Map
49953-CityofTukwilaVicinityMap.pdf

WATER QUALITY COMBINED FINANCIAL ASSISTANCE

Organization: Tukwila city of - Public Works

WQC-2024-Tukwil-00085

Uploads

Description

EMP scope of work

Decant facility cross section and scope

SFY24 FINAL LIST LETTER

Upload

https://ecyeagl/IntelliGrants_BASE/_Upload/218454_884773-33383.100TukwilaEMPDecantFacilityScopeofWork.pdf

https://ecyeagl/IntelliGrants_BASE/_Upload/218454_884825-DecantFacilityCrossSectionScope.pdf

https://ecyeagl/IntelliGrants_BASE/_Upload/218454_884823-FundewQC-2024-Tukwil-00085-FinalListSPLIT-merge_Part107.pdf



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600, Olympia, WA 98504-7600 • 360-407-6000

June 22, 2023

Allan Ekberg, Mayor
City of Tukwila - Public Works
6200 Southcenter Blvd
Tukwila, Washington 98188
allan.ekberg@tukwilawa.gov

Sherry Edquid, Project Manager
City of Tukwila - Public Works
6300 Southcenter Blvd, Suite 100
Tukwila, Washington 98188
sherry.edquid@tukwilawa.gov

**Re: Enhanced Maintenance and Source Control Plan and Decant Facility Design,
WQC-2024-Tukwil-00085
*State Fiscal Year 2024 Final Water Quality Funding Offer List and Intended Use Plan***

Thank you for your time and effort in applying to Ecology for funding for your water quality project in the State Fiscal Year 2024 (SFY24) Funding Cycle. I am pleased to inform you that your project has been identified for funding. Please review the following information closely for more details.

On June 22, 2023, Ecology published the [SFY24 Final Water Quality Funding Offer List and Intended Use Plan²¹³ \(Final List\)](#). The Final List describes the projects and funding for the SFY24 Funding Cycle from the Centennial Clean Water Program (Centennial), the Clean Water Act Section 319 Nonpoint Source Fund (Section 319), the Stormwater Financial Assistance Program (SFAP), the Clean Water State Revolving Fund (CWSRF), and new federal funding provided to the CWSRF through the Bipartisan Infrastructure Law (BIL).

On November 15, 2021, President Joe Biden signed the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL), which Ecology estimates could provide nearly \$200 million in new funding to Washington's CWSRF over the next five years. For this SFY 2024 Final List, Washington's CWSRF has been allocated a total of \$36 million in BIL funds, awarded as part of the CWSRF, and focused on supporting small financially disadvantaged community projects.

²¹³ <https://apps.ecology.wa.gov/publications/documents/2310018.pdf>

Ecology evaluated 151 applications from local governments, tribes, conservation districts, other public entities, and qualified not-for-profit organizations. Funding requests totaled approximately \$331 million. To ensure funds are committed to the highest priority projects, Ecology water quality specialists evaluated and scored all eligible project proposals. Scores were compiled, and a statewide priority list was developed. Projects proposed for funding are based upon the priority list, the type of project, and the funding source.

After rating and ranking all eligible proposed projects and providing support for three additional small financially disadvantaged community phased projects, Ecology offered approximately \$313 million to 126 projects. Detailed information on all proposals received and offered funding can be found in Appendix 1 in the Final List.

A record of scores and evaluator comments are provided in the Evaluation Scorecard Report available through Ecology's Administration of Grants and Loans (EAGL) system. Applicants are strongly encouraged to review the report, as it will help applicants understand the strengths and weaknesses of their application. In addition, reviewing the report will help applicants become aware of any concerns about unclear costs or tasks and/or possible ineligible components; unclear costs or tasks and/or ineligible components may significantly delay the development of a funding agreement. To obtain the Evaluation Scorecard Report, follow these steps.

- Go into your application in EAGL.
- While in the Application Menu, click "View Forms" in the "View, Edit and Complete Forms" section.
- Scroll down the list of forms to near the bottom.
- Click on "Evaluation Scorecard (External)" in the "Screening/Evaluation/Offer" section.
- Follow the prompts for opening or saving a PDF copy of the report.

I am pleased to inform you that your project is being offered funding of up to \$462,043 including:

- A \$0 from CWSRF for a term of 0 years at a 0 percent interest rate.
- A \$0 Forgivable Principal loan from CWSRF that will not be required to be repaid.
- A \$462,043 grant from SFAP.
- A \$0 grant from Centennial.
- A \$0 grant from Section 319.

The final funding amount awarded for your project will be based on negotiations between you and Ecology regarding the project scope of work, budget, technical considerations, reasonableness of cost, and eligibility determinations.

Based on your application, project type, and fund source, various conditions of funding will apply; these will be addressed during the agreement negotiation process. For information on

conditions that may apply, please see Ecology’s [SFY24 Funding Guidelines](#)²¹⁴ and the footnotes assigned to your project in Appendix 1 in the Final List.

All projects require cultural resources review, and most projects require environmental review. Please be aware of the requirements for your project and implement the project schedule accordingly. If you have specific questions, please contact Environmental and Cultural Resource Coordinator, Liz Ellis, at liz.ellis@ecy.wa.gov or (360) 628-4410 for CWSRF funded projects, Melissa Conger at melissa.conger@ecy.wa.gov or (360) 706-4202 for SFAP funded projects, or Seth Elsen, at seth.elsen@ecy.wa.gov, (564) 999-1177 for Centennial funded projects.

Ecology is committed to negotiating and signing a funding agreement no later than January 31, 2024. To meet this timeline and ensure timely use of limited state and federal funds, it is essential that negotiations and funding agreement development begin as soon as possible. Please see the typical negotiation timeline on the last page of this letter.

Ecology assigned the following Grant and Loan Project Management Team for your project:

Marra Tripodi	NWRO	Ecology Project Manager	(509) 490-0687
Karen Izumoto	Headquarters Office, Lacey	Ecology Financial Manager	(360) 870-7524

Ecology’s Project Manager or Financial Manager will contact you soon to schedule agreement negotiations.

Ecology appreciates your commitment to improving Washington’s water quality and looks forward to working with you to complete this high priority project.

If you have any questions or concerns regarding the water quality funding programs, please contact Jeff Nejedly, Water Quality Financial Management Section Manager, at jeffrey.nejedly@ecy.wa.gov or (360) 878-4913.

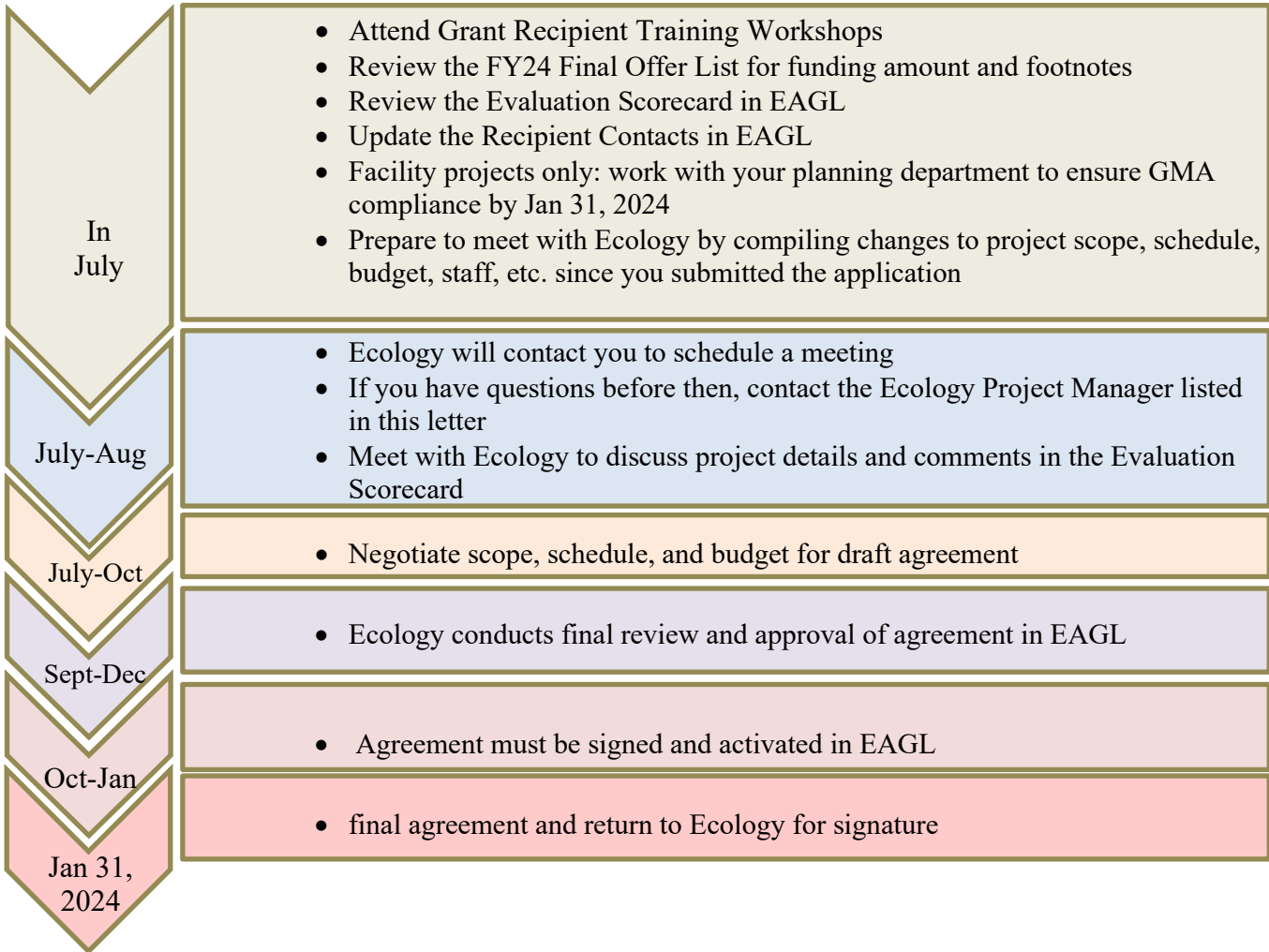
Sincerely,



Vincent McGowan, P.E.
Water Quality
Program Manager

²¹⁴ <https://apps.ecology.wa.gov/publications/documents/2210016.pdf>

My project has been offered funds. What are my next steps?



Simpler projects may be through the process faster and more complex projects may take until

Jan 2024.



INFORMATIONAL MEMORANDUM

TO: **Transportation Infrastructure Committee**
 FROM: **Hari Ponnekanti, Public Works Director/City Engineer**
 BY: **Adib Altallal, Utilities Engineer**
 CC: **Mayor Allan Ekberg**
 DATE: **July 14, 2023**
 SUBJECT: **Water Fund – Water Reservoir Site Feasibility Study**
Project No. 91240102
Consultant Selection and Agreement

ISSUE

Approve the consultant selection and agreement with Carollo Engineers for the feasibility study of the Water Reservoir Site Feasibility Study Project.

BACKGROUND

During the City of Tukwila's 2015 Water Comprehensive Plan, the consultant identified that the continued growth within the City no longer meets the Department of Health's water storage requirements. As a result, the Water Reservoir and Pump Station was included in the Capital Improvement Program. During the most recent Water Comprehensive Plan update, the City's water storage deficiencies were highlighted again. Further development throughout the City and especially in the Ryan Hill and Tukwila South areas are likely to be hindered or completely halted due to these water storage deficiencies.

Old Fire Station 52 has been identified as a possible future site of the reservoir. The construction of a new reservoir at the site would save the City's General Fund money by taking over the responsibilities of the demolition and mitigation of the building. Further, the project would greatly improve the condition of Hazelnut Park by expanding the area and adding recreational items for the residents' use. Staff most recently discussed this option with Council at the April 17th Transportation and Infrastructure Services Committee meeting and the subsequent April 24th Committee of the Whole.

ANALYSIS

At the April 24th Committee of the Whole meeting, Council gave consensus to move forward with the feasibility study. Three consultants were contacted and all three submitted proposals to do the feasibility study. Carollo was selected due to their familiarity with the City's system and previous work on the Comprehensive Plan.

FINANCIAL IMPACT

The contract is for \$153,190.00. The project costs are within budget and are 100% funded by the water enterprise fund.

	<u>Cost Estimate</u>	<u>2023-2024 Budget</u>
Carollo Feasibility Contract	\$153,190.00	\$750,000.00

RECOMMENDATION

Council is being asked to approve the feasibility contract with Carollo Engineers in the amount of \$153,190.00 for the Water Reservoir Site Feasibility Study Project and consider this item on the Consent Agenda at the July 24, 2023, Special Meeting.

Attachments: 2023 CIP, Page 56
Draft Contract & Scope

CITY OF TUKWILA CAPITAL PROJECT SUMMARY

2023 to 2028

PROJECT: Water Reservoir and Pump Station

Project No. 91240102

DESCRIPTION: Design and construct a new 2.5 MG water reservoir with a pump station.

JUSTIFICATION: The Department of Health is requiring the City provide additional water storage. A pump station is needed for fire flow.

STATUS: Design funds will be used to update and expand the siting study Carollo completed in 2014 and updated in 2021.

MAINT. IMPACT: Additional staff will be needed to provide maintenance for the new reservoir and pumps.

COMMENT:

FINANCIAL (in \$000's)	Through		Estimated								TOTAL
	2021	2022	2023	2024	2025	2026	2027	2028	BEYOND		
EXPENSES											
Design	7					500	500			1,007	
Land (R/W)				750	1,000					1,750	
Const. Mgmt.						500	500			1,000	
Construction						2,000	3,600		7,000	12,600	
TOTAL EXPENSES	7	0	0	750	1,000	3,000	4,600	0	7,000	16,357	
FUND SOURCES											
Awarded Grant										0	
Proposed Grant							1,000			1,000	
Bond				750	1,000	3,000	3,600			8,350	
Mitigation Expected										0	
Utility Revenue	7	0	0	0	0	0	0	0	7,000	7,007	
TOTAL SOURCES	7	0	0	750	1,000	3,000	4,600	0	7,000	16,357	

Location to be determined.



PROFESSIONAL SERVICES AGREEMENT

(Includes consultants, architects, engineers, accountants, and other professional services)

THIS AGREEMENT is entered into between the City of Tukwila, Washington, hereinafter referred to as “the City”, and Carollo Engineers, hereinafter referred to as “the Consultant”, in consideration of the mutual benefits, terms, and conditions hereinafter specified.

1. **Project Designation.** The Consultant is retained by the City to perform feasibility and design services in connection with the project titled Tukwila Reservoir Feasibility Study.
2. **Scope of Services.** The Consultant agrees to perform the services, identified on Exhibit “A” attached hereto, including the provision of all labor, materials, equipment and supplies.
3. **Duration of Agreement; Time for Performance.** This Agreement shall be in full force and effect for a period commencing upon execution and ending December 31, 2024, unless sooner terminated under the provisions hereinafter specified. Work under this Agreement shall commence upon written notice by the City to the Consultant to proceed. The Consultant shall perform all services and provide all work product required pursuant to this Agreement no later than December 31, 2024 unless an extension of such time is granted in writing by the City.
4. **Payment.** The Consultant shall be paid by the City for completed work and for services rendered under this Agreement as follows:
 - A. Payment for the work provided by the Consultant shall be made as provided on Exhibit “B” attached hereto, provided that the total amount of payment to the Consultant shall not exceed \$153,190.00 without express written modification of the Agreement signed by the City.
 - B. The Consultant may submit vouchers to the City once per month during the progress of the work for partial payment for that portion of the project completed to date. Such vouchers will be checked by the City and, upon approval thereof, payment shall be made to the Consultant in the amount approved.
 - C. Final payment of any balance due the Consultant of the total contract price earned will be made promptly upon its ascertainment and verification by the City after the completion of the work under this Agreement and its acceptance by the City.
 - D. Payment as provided in this section shall be full compensation for work performed, services rendered, and for all materials, supplies, equipment and incidentals necessary to complete the work.
 - E. The Consultant’s records and accounts pertaining to this Agreement are to be kept available for inspection by representatives of the City and the state of Washington for a period of three (3) years after final payments. Copies shall be made available upon request.

5. **Ownership and Use of Documents.** All documents, drawings, specifications and other materials produced by the Consultant in connection with the services rendered under this Agreement shall be the property of the City whether the project for which they are made is executed or not. The Consultant shall be permitted to retain copies, including reproducible copies, of drawings and specifications for information, reference and use in connection with the Consultant's endeavors. The Consultant shall not be responsible for any use of the said documents, drawings, specifications or other materials by the City on any project other than the project specified in this Agreement.
6. **Compliance with Laws.** The Consultant shall, in performing the services contemplated by this Agreement, faithfully observe and comply with all federal, state, and local laws, ordinances and regulations, applicable to the services rendered under this Agreement.
7. **Indemnification.** The Consultant shall defend, indemnify and hold the City, its officers, officials, employees and volunteers harmless from any and all claims, injuries, damages, losses or suits including attorney fees, arising out of or resulting from the acts, errors or omissions of the Consultant in performance of this Agreement, except for injuries and damages caused by the sole negligence of the City.

Should a court of competent jurisdiction determine that this Agreement is subject to RCW 4.24.115, then, in the event of liability for damages arising out of bodily injury to persons or damages to property caused by or resulting from the concurrent negligence of the Consultant and the City, its officers, officials, employees, and volunteers, the Consultant's liability hereunder shall be only to the extent of the Consultant's negligence. It is further specifically and expressly understood that the indemnification provided herein constitutes the Consultant's waiver of immunity under Industrial Insurance, Title 51 RCW, solely for the purposes of this indemnification. This waiver has been mutually negotiated by the parties. The provisions of this section shall survive the expiration or termination of this Agreement.

8. **Insurance.** The Consultant shall procure and maintain for the duration of the Agreement, insurance against claims for injuries to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Consultant, its agents, representatives, or employees. Consultant's maintenance of insurance as required by the agreement shall not be construed to limit the liability of the Consultant to the coverage provided by such insurance, or otherwise limit the City's recourse to any remedy available at law or in equity.

A. **Minimum Amounts and Scope of Insurance.** Consultant shall obtain insurance of the types and with the limits described below:

1. **Automobile Liability** insurance with a minimum combined single limit for bodily injury and property damage of \$1,000,000 per accident. Automobile Liability insurance shall cover all owned, non-owned, hired and leased vehicles. Coverage shall be written on Insurance Services Office (ISO) form CA 00 01 or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage.
2. **Commercial General Liability** insurance with limits no less than \$2,000,000 each occurrence, \$2,000,000 general aggregate. Commercial General Liability insurance shall be at least as broad as ISO occurrence form CG 00 01 and shall cover liability arising from premises, operations, stop-gap independent contractors and personal injury and advertising injury. The City shall be named as an additional insured under the Consultant's Commercial General Liability insurance policy with respect to the work performed for the City using an additional insured endorsement at least as broad as ISO endorsement form CG 20 26.
3. **Workers' Compensation** coverage as required by the Industrial Insurance laws of the State of Washington.

4. Professional Liability with limits no less than \$2,000,000 per claim and \$2,000,000 policy aggregate limit. Professional Liability insurance shall be appropriate to the Consultant's profession.
- B. **Public Entity Full Availability of Contractor Limits.** If the Contractor maintains higher insurance limits than the minimums shown above, the Public Entity shall be insured for the full available limits of Commercial General and Excess or Umbrella liability maintained by the Contractor, irrespective of whether such limits maintained by the Contractor are greater than those required by this Contract or whether any certificate of insurance furnished to the Public Entity evidences limits of liability lower than those maintained by the Contractor.
- C. **Other Insurance Provision.** The Consultant's Automobile Liability and Commercial General Liability insurance policies are to contain, or be endorsed to contain that they shall be primary insurance with respect to the City. Any Insurance, self-insurance, or insurance pool coverage maintained by the City shall be excess of the Consultant's insurance and shall not be contributed or combined with it.
- D. **Acceptability of Insurers.** Insurance is to be placed with insurers with a current A.M. Best rating of not less than A:VII.
- E. **Verification of Coverage.** Consultant shall furnish the City with original certificates and a copy of the amendatory endorsements, including but not necessarily limited to the additional insured endorsement, evidencing the insurance requirements of the Contractor before commencement of the work. Upon request by the City, the Consultant shall furnish certified copies of all required insurance policies, including endorsements, required in this Agreement and evidence of all subcontractors' coverage.
- F. **Notice of Cancellation.** The Consultant shall provide the City with written notice of any policy cancellation, within two business days of their receipt of such notice.
- G. **Failure to Maintain Insurance.** Failure on the part of the Consultant to maintain the insurance as required shall constitute a material breach of contract, upon which the City may, after giving five business days notice to the Consultant to correct the breach, immediately terminate the contract or, at its discretion, procure or renew such insurance and pay any and all premiums in connection therewith, with any sums so expended to be repaid to the City on demand, or at the sole discretion of the City, offset against funds due the Consultant from the City.
9. **Independent Contractor.** The Consultant and the City agree that the Consultant is an independent contractor with respect to the services provided pursuant to this Agreement. Nothing in this Agreement shall be considered to create the relationship of employer and employee between the parties hereto. Neither the Consultant nor any employee of the Consultant shall be entitled to any benefits accorded City employees by virtue of the services provided under this Agreement. The City shall not be responsible for withholding or otherwise deducting federal income tax or social security or for contributing to the state industrial insurance program, otherwise assuming the duties of an employer with respect to the Consultant, or any employee of the Consultant.
10. **Covenant Against Contingent Fees.** The Consultant warrants that he has not employed or retained any company or person, other than a bonafide employee working solely for the Consultant, to solicit or secure this contract, and that he has not paid or agreed to pay any company or person, other than a bonafide employee working solely for the Consultant, any fee, commission, percentage, brokerage fee, gifts, or any other consideration contingent upon or resulting from the award or making of this contract. For breach or violation of this warrant, the City shall have the right to annul this contract without liability, or in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.

11. **Discrimination Prohibited.** Contractor, with regard to the work performed by it under this Agreement, will not discriminate on the grounds of race, religion, creed, color, national origin, age, veteran status, sex, sexual orientation, gender identity, marital status, political affiliation, the presence of any disability, or any other protected class status under state or federal law, in the selection and retention of employees or procurement of materials or supplies.
12. **Assignment.** The Consultant shall not sublet or assign any of the services covered by this Agreement without the express written consent of the City.
13. **Non-Waiver.** Waiver by the City of any provision of this Agreement or any time limitation provided for in this Agreement shall not constitute a waiver of any other provision.
14. **Termination.**
 - A. The City reserves the right to terminate this Agreement at any time by giving ten (10) days written notice to the Consultant.
 - B. In the event of the death of a member, partner or officer of the Consultant, or any of its supervisory personnel assigned to the project, the surviving members of the Consultant hereby agree to complete the work under the terms of this Agreement, if requested to do so by the City. This section shall not be a bar to renegotiations of this Agreement between surviving members of the Consultant and the City, if the City so chooses.
15. **Applicable Law; Venue; Attorney's Fees.** This Agreement shall be subject to, and the Consultant shall at all times comply with, all applicable federal, state and local laws, regulations, and rules, including the provisions of the City of Tukwila Municipal Code and ordinances of the City of Tukwila. In the event any suit, arbitration, or other proceeding is instituted to enforce any term of this Agreement, the parties specifically understand and agree that venue shall be properly laid in King County, Washington. The prevailing party in any such action shall be entitled to its attorney's fees and costs of suit. Venue for any action arising from or related to this Agreement shall be exclusively in King County Superior Court.
16. **Severability and Survival.** If any term, condition or provision of this Agreement is declared void or unenforceable or limited in its application or effect, such event shall not affect any other provisions hereof and all other provisions shall remain fully enforceable. The provisions of this Agreement, which by their sense and context are reasonably intended to survive the completion, expiration or cancellation of this Agreement, shall survive termination of this Agreement.
17. **Notices.** Notices to the City of Tukwila shall be sent to the following address:

City Clerk
City of Tukwila
6200 Southcenter Boulevard
Tukwila, WA 98188

Notices to Consultant shall be sent to the following address:

Carollo Engineers
1200 Fifth Avenue #900
Seattle, WA 98101
18. **Entire Agreement; Modification.** This Agreement, together with attachments or addenda, represents the entire and integrated Agreement between the City and the Consultant and supersedes all prior negotiations, representations, or agreements written or oral. No amendment or modification of this Agreement shall be of any force or effect unless it is in writing and signed by the parties.

DATED this _____ day of _____, 20_____.

CITY OF TUKWILA

CAROLLO ENGINEERS:

Allan Ekberg, Mayor

By: _____

Printed Name: _____

ATTEST/AUTHENTICATED:

Title: _____

Christy O'Flaherty, City Clerk

APPROVED AS TO FORM:

Office of the City Attorney



June 13, 2023

Mr. Adib Altallal
City of Tukwila
6300 Southcenter Boulevard, #200
Tukwila, WA 98188

Subject: Proposal for Professional Engineering Services for the
City of Tukwila Hazelnut Park Reservoir Feasibility Project

Dear Mr. Altallal:

Carollo Engineers Inc. (Consultant) is pleased to submit this proposal to provide Professional Engineering Services for the feasibility study of a new reservoir to potentially be located at 14475 59th Avenue South, Tukwila, WA 98168 (site). The City of Tukwila (City) is considering a proposed 2.5 million-gallon storage reservoir and an accompanying pump station at the site. The proposed reservoir design will evaluate both a partially above ground and a fully below ground design options.

In March 2023, Consultant provided a high-level siting study, which showed this site could be a potential location. This feasibility study will take a closer look into the site and provide recommendations before the City moves forward with this location for the new reservoir and pump station. The scope of work will also include a summarized report designed to communicate to City Management the alternatives considered and the recommendations for moving forward with the project.

SCOPE OF WORK

TASK 1 – PROJECT MANAGEMENT

1.1 – Project Kick-Off Meeting

Prior to beginning work, Consultant will coordinate and participate in a project kick-off meeting with the City to discuss the finalized scope of work, the schedule, the roles and responsibilities, communication protocol, coordination activities between City staff, and other related items.

1.2 – Progress Meetings

Consultant will attend monthly progress meetings with the City. We anticipate attending a total of three (3) coordination review and progress meetings during this project.

Consultant will prepare and distribute meeting agendas prior to each meeting. Consultant will also prepare and distribute meeting minutes within five (5) days after each meeting.

All monthly progress meetings will be held remotely on Microsoft Teams.

1.3 – Project Management

This task includes the management responsibilities associated with proper scheduling, budget control, invoice preparation and coordination with the City. Consultant's project manager will review the status of budget, schedule and relevant project issues on a monthly basis. Monthly status updates will be used to confirm work

progress, identify critical information needs, and where appropriate alert the City to any potential issues which may impact the project scope, schedule or budget. Critical needs can also be discussed through a telephone conference call. These monthly project status updates will be supplemented on an as needed basis with monthly project status reports that will be prepared and distributed along with Consultant's invoices.

1.4 – Technical Review and QA/QC

Consultant will provide quality assurance and quality control (QA/QC) reviews through the course of the project consistent with City's expectations. Consultant and its quality management procedures establish and maintain a structure for providing reviews of all work products and adherence to industry design standards.

All work product deliverables, including detailed checking of work by in-house staff, will be reviewed prior to submittal to the City. Technical reviews will include reviews for code compliance, safety, operability, constructability, and clarity.

- The Consultant will develop and maintain:
 - Develop and maintain a Decision Log to record key decisions made by the City and others during the project to document the evolution of the design.
- Develop and maintain an Action Log to record action items required by the City and Consultant.
- Manage Record of Comments to track City review comments and Consultant's responses for all project deliverables.
- Deliverables:
- Deliverables for Task 1 will include:
 1. Action and Decision Log.
 2. Record of Comments Log.

TASK 2 – FIELD INVESTIGATIONS

2.1 – Boundary and Topographic Survey

Consultant will conduct a boundary and topographic survey of the site and provide a base map to the extent required for the design of the new facilities and interconnections with the existing facilities. The survey limits will cover the project site and street frontage out to the centerline. Mapping will include 1-foot contours and will reference NAD 83 for horizontal control and NAVD 88 for vertical datum. All surface features will be shown and identified, including trees, fences, above-ground piping, and structures. Utility locating will be completed by a private locate firm contracted directly with the surveying subconsultant. Where vaults, manholes, or valve cans can be accessed, the survey will include depths of existing underground utilities. Property boundaries will be determined from existing street monuments, found property corners and recorded plats and surveys.

2.2 – Geotechnical Investigations

Consultant will conduct a desktop-level characterization of the subsurface conditions of the site. A geotechnical engineering feasibility memorandum shall include the following findings and recommendations.

- Review of available geologic maps, reports, and other relevant data sources to identify potential geotechnical constraints such as groundwater, loose/soft surface soil, existing fill, compressible soil, expansive soil, liquefiable soil, and lateral spreading.
- Desktop review of geological and seismic hazards in the general project area, including the potential for liquefaction, lateral spreading, and qualitative estimated seismically induced settlement.
- Develop initial conceptual model of geotechnical constraints, geological hazards and approximate depth to groundwater.
- Suitability of site for the proposed improvements.

Consultant will also plan and conduct a subsurface exploration program consisting of one (1) drilled soil boring within subject property. The geotechnical boring will be drilled using a limited access track-mounted drilling rig equipped with hollow stem augur drilling equipment to a maximum depth of 35 feet below ground surface or practical refusal, whichever reached earlier. This task will include marking the boring location, submitting public one-call utility notifications, and subcontracting with a private locating service to clear the explorations prior to drilling.

Consultant will prepare a Geotechnical Work Plan Memoranda for the proposed fieldwork. The work plan will be submitted to the City for review and approval. The work plan will detail the type, location, and extent of proposed field exploration along with logistics necessary to perform the work. Consultant assumes the required permits or rights of entries will be provided at no cost.

- Consultant will observe drilling, log soils, and collect samples. Samples collected will be submitted for laboratory testing.
- Consultant will perform engineering analyses to develop conclusions and recommendations for temporary excavation support, construction dewatering, and trenching and backfilling.
- Consultant will summarize the results of the studies, explorations, analyses, conclusions, and recommendations in a draft geotechnical engineering feasibility memorandum. The memorandum will include the results of the desktop study and subsurface explorations, exploration logs, figures showing the exploration locations, laboratory results, and geotechnical engineering conclusions and recommendations.
- Consultant will provide written responses to all review comments. The written responses will be provided in the form of emails to the design team. Consultant will prepare a final geotechnical engineering feasibility memorandum once review comments are provided.
- Deliverables:
 - Deliverables for Task 2 will include:
 1. Topographic survey base maps in CAD.
 2. Draft and Final Geotechnical Engineering Feasibility Memorandum.
 3. Geotechnical Work Plan Memoranda.

TASK 3 – PREPARE ALTERNATIVES AND SITE LAYOUTS

3.1 – Attend Site Visits

Consultant will conduct site visits to gather information that may be required. For fee estimating purposes, we have assumed two (2) half-day site visits will be performed.

3.2 – Identify Feasibility Criteria

Consultant will identify feasibility parameters and provide discussion and recommendations to inform the development of the site layouts in Task 3.2. These parameters may include:

- Shoring
- Constructability
- Hydraulics
- Reservoir depth
- Code change
- Noise limit
- Construction costs

3.3 – Prepare Preliminary Site Layouts

Consultant will use the survey information prepared under Task 2 – Surveying to develop site layouts. A list of unconfirmed utilities and those not found on the plans will be created. This list could later be utilized for potential potholing locations during the design phase.

Consultant will prepare three (3) separate site layouts for three proposed reservoir types. These will include layouts for a rectangular cast-in-place reservoir, a circular pre-stressed concrete reservoir, and a steel tank reservoir. Each site layout will also include the building size and location of the proposed pump station. The features from the topographic survey will be included in the layouts. The site layouts will be submitted to the City for review.

3.4 – Planning-level Cost Assumptions

Carollo will develop preliminary opinions of probable construction cost for all (3) separate site layouts. Association for the Advancement of Cost Engineering) AACE Level 4 will be developed.

3.5 – Hydraulic Verification

Consultant will use the City's hydraulic model developed as part of the latest Water System Plan to confirm hydraulics for all three (3) separate site layouts. Pressures, velocities, fire flows, and tank turnaround will be checked with the hydraulic model. This may help optimize the size of the reservoir pump stations.

3.6– Comparison and Ranking of Alternatives

Consultant will compare and rank the reservoir alternatives including the feasibility of rectangular cast-in-place reservoir, circular pre-stressed concrete reservoir, and steel tank reservoir options. The ranking will also consider

the feasibility of construction within the available area, and construction duration. Consultant will submit the comparison and ranking of alternatives to the City for review in the Feasibility Study Report.

Deliverables:

Deliverables for Task 3 will include:

1. Preliminary Site Layouts

TASK 4 – FEASIBILITY STUDY REPORT

4.1 – Prepare Draft and Final Feasibility Study Report

Consultant will prepare a Feasibility Study for the Reservoir Facility. Consultant will present the three reservoir layout options and make a recommendation for the most appropriate options based on input from the City on their goals, objectives, and budgetary restraints. The new reservoir will require optimizing storage volume, hydraulic operability, the existing surface area, and capital expenditures. As a minimum, the Feasibility Study Report will cover the following sections:

- Section 1: Introduction / Project Overview.
- Section 2: Field Investigations / Utility Research.
- Section 3: Design Criteria.
- Section 4: Reservoir Sizing, Layouts, and Piping.
- Section 5: Pump Station Criteria.
- Section 6: Planning Level Environmental Permitting Assessment.
- Section 7: Construction Cost Estimates.
- Section 8: Design and Construction Schedules.
- Section 9: Conclusions and Recommendations.

4.2 – Comments Review Meeting

Consultant will attend virtual meeting(s) with City staff to discuss and review comments on the draft Feasibility Study Report.

Deliverables:

Deliverables for Task 4 will include:

1. No hardcopies of the report.
2. One electronic copy of the draft and final report in original Microsoft Word format.
3. One electronic copy of the draft and final report in PDF format.
4. Original copy of all calculations, cost estimates and other documents.
5. Electronic copy of the site preliminary layouts in PDF format.

BUDGET ESTIMATE

Consultant's estimated budget is presented in Attachment A in the following pages. Consultant proposes to perform the above-described scope of services on a time and material and *Not-To-Exceed Fee of XXXXX*.

ASSUMPTIONS

Consultant has identified the following items as a basis in preparing this amendment and fee estimate.

- Carollo Engineers and its subconsultants will be referred to as "Consultant" in this document.
- The City of Tukwila, Washington and its staff will be referred to as "City" in this document.
- All deliverables are provided in electronic PDF format, unless otherwise indicated. Final deliverables will be "wet" signed and/or digitally signed in accordance with the Washington Administrative Code (WAC).
- Consultant shall complete the services required hereunder in accordance with the prevailing engineering standard of care by exercising the skill and ability ordinarily required of engineers performing the same or similar services, under the same or similar circumstances, in the State of Washington.
- The City shall furnish the Consultant available studies, reports and other data pertinent to the Consultant's services; obtain or authorize the Consultant to obtain or provide additional reports and data as required; furnish to the Consultant services of others required for the performance of the Consultant's services hereunder, and the Consultant shall be entitled to use and rely upon all such information and services provided by the City or others in performing the Consultant's services under this Agreement.
- Opinions of probable costs will be based on the level of project definition and expected accuracy range as defined by the American Association of Cost Engineers (AACE) International.
- In providing opinions of cost, financial analyses, economic feasibility projections, and schedules for potential projects, the Consultant has no control over cost or price of labor and material; unknown or latent conditions of existing equipment or structures that may affect operation and maintenance costs; competitive bidding procedures and market conditions; time or quality of performance of third parties; quality, type, management, or direction of operating personnel; and other economic and operational factors that may materially affect the ultimate project cost or schedule. Therefore, the Consultant makes no warranty that the City's actual project costs, financial aspects, economic feasibility, or schedules will not vary from the Consultant's opinions, analyses, projections, or estimates.
- The City shall arrange for access to and make all provisions for the Consultant to enter upon public and private property as required for the Consultant to perform services hereunder.
- City review comments for deliverables will be received and noted in the original file (e.g., Bluebeam, Word, etc.). Consultant will respond to City review comments in same original file. The original file including City comments and Consultant responses will serve as the Record of Comment for each deliverable.
- Hour durations for meetings, workshops, and site visits in this Scope of Services are based on estimated time on-site. Allowances for travel time, as appropriate, are accounted for in the budget in Exhibit B.
- All meetings and workshops will be held remotely through Microsoft Teams or a similar video-conferencing platform, unless specifically specified.
- The City will provide the Consultant with all available past geotechnical reports in the vicinity of the Project.

- The Consultant shall not be responsible for warranties, guarantees, fitness for a particular purpose, breach of fiduciary duty, loss of anticipated profits or for economic, incidental or consequential damages to the City or any third party arising out of breach of contract, termination, or for any other reason whatsoever. Additionally, the Consultant shall not be responsible for acts and decisions of third parties, including governmental agencies, other than the Consultant's subconsultants, that impact project completion and/or success.
- The services to be performed by the Consultant are intended solely for the benefit of the City. No person or entity not a signatory to this Agreement shall be entitled to rely on the Consultant's performance of its services hereunder, and no right to assert a claim against the Consultant by assignment of indemnity rights or otherwise shall accrue to a third party as a result of this Agreement or the performance of the Consultant's services hereunder.
- No potholing is anticipated for this project.
- Geotechnical boring conducted through pavement will be patched with rapid-setting concrete. No saw cuts and hot mix asphalt patches will be required.
- All required rights of entry or permits will be provided by the others at no cost to the Consultant.
- Soil samples will be collected from the borings using the Standard Penetration Test at intervals of 2.5 feet.
- All non-contaminated drilling spoils and related debris will be drummed on-site and transported off-site for disposal by the drilling subcontractor, unless otherwise mutually agreed upon. If suspected contaminated soils are encountered, the Consultant design team and the County will be notified, and the suspect contaminated soils and decon water will be properly contained on-site (i.e., drummed) for disposal pending laboratory analytical results. The on-site location for storage of suspect materials will be provided by the City. Waste profile paperwork for disposal of suspect soils and/or decon water will be signed by a representative of the City. Estimated Subcontractor effort and IDW disposal costs are for non-hazardous wastes. If analytical results indicate hazardous wastes are present, IDW disposal may incur additional labor and subcontracting costs.
- All soil samples will be disposed after 6 months of being collected. Long-term storage of soil samples by the Subcontractor is not included.
- Drilling will be accomplished during normal daylight workdays and hours, with at least a minimum 8 hours available per day.

SCHEDULE

The schedule for performing the above tasks will take approximately eight (8) months to complete. See below for the approximate proposed schedule.

- Notice to Proceed: July 2023
- Kick off Meeting: August 2023
- Start Work: August 2023
- Finish Work: March 2024

Mr. Adib Altallal
City of Tukwila
June 13, 2023

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Sincerely,
CAROLLO ENGINEERS

Aurelie Nabonnand
Senior Planning Engineer/Associate

AN:rg



CITY OF TUKWILA
Hazelnut Park Reservoir Feasibility Project
PROJECT BUDGET

TASK / DESCRIPTION	PM	APM	QM	PE	Staff Engineer	Planning Eng.	CAD/Graphics	DP	Total Hours	Carollo Labor Cost	HWA	KPG Psomas	Sub 5% Profit	Total Sub Cost	OTHER DIRECT COSTS			TOTAL COST
	Nabonnand	Waligorski	Taylor	Thompson	Bullough	Reilly	Varies	Varies							Travel, Shipping and Printing	PECE	Total ODC	
Total Labor Rate	\$220.00	\$280.00	\$300.00	\$220.00	\$175.00	\$175.00	\$150.00	\$120.00								\$ 14.00		
Task 100 - Project Management and Quality Management	20	18	16	10	4	-	-	8	60	\$ 18,100	-	-	-	-	\$ 100	\$ 840	\$ 940	\$ 19,040
110 Kick-off Meeting	2	4		4	4				14	\$ 3,140			\$ -	\$ -	\$ 100	\$ 196	\$ 296	\$ 3,436
120 Progress Meetings	2	6		6					14	\$ 3,440			\$ -	\$ -	\$ -	\$ 196	\$ 196	\$ 3,636
130 Project Management	16	8						8	32	\$ 6,720			\$ -	\$ -	\$ -	\$ 448	\$ 448	\$ 7,168
140 Technical Review and QA/QC			16							\$ 4,800			\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,800
Task 200 - Field Investigations	-	4	-	12	4	-	-	-	20	\$ 4,460	\$ 42,080	\$ 12,808	\$ 2,744	\$ 57,632	-	\$ 280	\$ 280	\$ 62,372
210 Topographic Aerial and Field Survey		2		4					6	\$ 1,440		\$ 12,808	\$ 640	\$ 13,448	\$ -	\$ 84	\$ 84	\$ 14,972
220 Geotechnical Investigations		2		8	4				14	\$ 3,020	\$ 42,080		\$ 2,104	\$ 44,184	\$ -	\$ 196	\$ 196	\$ 47,400
Task 300 - Prepare Alternatives and Site Layouts	7	22	-	48	90	16	44	-	227	\$ 43,410	\$ -	\$ -	\$ -	\$ -	\$ 300	\$ 3,178	\$ 3,478	\$ 46,888
310 Attend Site Visits		10		10	10				30	\$ 6,750			\$ -	\$ -	\$ 300	\$ 420	\$ 720	\$ 7,470
320 Identify Feasibility Criteria	2	2		6	8				18	\$ 3,720			\$ -	\$ -	\$ -	\$ 252	\$ 252	\$ 3,972
330 Prepare Preliminary Site Layouts	1	4		12	24		40		81	\$ 14,180			\$ -	\$ -	\$ -	\$ 1,134	\$ 1,134	\$ 15,314
340 Planning-level Cost Assumptions	1	2		8	24				35	\$ 6,740			\$ -	\$ -	\$ -	\$ 490	\$ 490	\$ 7,230
350 Hydraulic Verification	2					16	4		22	\$ 3,840			\$ -	\$ -	\$ -	\$ 308	\$ 308	\$ 4,148
360 Comparison and Ranking of Alternatives	1	4		12	24				41	\$ 8,180			\$ -	\$ -	\$ -	\$ 574	\$ 574	\$ 8,754
Task 400 - Feasibility Study Report	6	8	-	44	46	-	-	16	120	\$ 23,210	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,680	\$ 1,680	\$ 24,890
410 Prepare Draft and Final Feasibility Study Report	4	4		40	40			16	104	\$ 19,720	\$ -		\$ -	\$ -	\$ -	\$ 1,456	\$ 1,456	\$ 21,176
420 Comments Review Meeting	2	4		4	6				16	\$ 3,490			\$ -	\$ -	\$ -	\$ 224	\$ 224	\$ 3,714
TOTAL	33	52	16	114	144	16	44	24	427	\$ 89,180	\$ 42,080	\$ 12,808	\$ 2,744	\$ 57,632	\$ 400	\$ 5,978	\$ 6,378	\$ 153,190