CLACKAMAS
WATER ENVIRONMENT SERVICES

GREGORY L. GEIST | DIRECTOR
Water Quality Protection
Surface Water Management
Wastewater Collection & Treatment

February 6, 2025 BCC Agenda Date/Item: _____

Board of County Commissioners
Acting as the governing body of Water Environment Services
Clackamas County

Approval of a Contract with Parametrix, Inc. for engineering services for the Kellogg Creek Water Resource Recovery Facility Disinfection Project. Total Contract Value is $470,702. Funding through WES Sanitary Sewer Construction Fund. No County General Funds are involved.

Previous Board Action/Review	N/A		
Performance Clackamas	1. This project supports the WES Strategic Plan to provide Enterprise Resiliency, infrastructure Strategy and Performance and Operational Optimization. 2. This project supports the County's Strategic Plan of building a strong infrastructure that delivers services to customers and honors, utilizes, promotes and invest in our natural resources.		
Counsel Review	Yes	**Procurement Review**	Yes
Contact Person	Jeff Stallard	**Contact Phone**	503-278-2311

EXECUTIVE SUMMARY: The Disinfection Facility at Kellogg Creek WRRF inactivates waterborne pathogens in a final phase of treatment, before releasing fully treated wastewater to the river. Disinfection is achieved using powerful ultraviolet (UV) light, industrial strength bleach, or a combination of both. The facility was built in the 1970's and received its last major overhaul in the 1990's when the UV system, at the time a novel technology, was added to the facility. Three decades later, this UV system is now beyond its service life and needs to be replaced. This Disinfection Improvements Project will assess the state of the facility, propose engineered improvements, and replace the antiquated UV system with a modern one.

Both the Kellogg Creek WRRF Willamette Facilities Plan and the WES Capital Improvement Plan identify the need for this project.

This contract is for engineering services to conduct analysis and develop a 30% design. A future amendment to detail this design and provide engineering services during construction is anticipated.

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RECOMMENDATION: Staff recommends that the Board of County Commissioners of Clackamas County, acting as the

governing body of Water Environment Services, approve Contract #1120 with Parametrix, Inc. for engineering services for the Kellogg Creek WRRF Disinfection Project.

Respectfully submitted,

Greg Geist
WES Director

Attachment: Parametrix, Inc. Contract #1120

WATER ENVIRONMENT SERVICES
PERSONAL SERVICES CONTRACT
Contract #1120

This Personal Services Contract (this "Contract") is entered into between **Parametrix, Inc.**, ("Contractor"), and Water Environment Services, an intergovernmental entity formed pursuant to ORS Chapter 190 ("District").

ARTICLE I.

1. **Effective Date and Duration.** This Contract shall become effective upon signature of both parties. Unless earlier terminated or extended, this Contract shall expire on **June 30, 2027**.

2. **Scope of Work.** Contractor shall provide the following personal services for the **Kellogg Creek Water Resource Recovery Facility Disinfection Project** ("Work"), further described in **Exhibit A.**

3. **Consideration.** The District agrees to pay Contractor, from available and authorized funds, a sum not to exceed **Four Hundred Seventy Thousand Seven Hundred Two Dollars ($470,702.00)**, for accomplishing the Work required by this Contract. Consideration rates are on a fixed fee basis in accordance with the rates and costs specified in Exhibit B. If any interim payments to Contractor are made, such payments shall be made only in accordance with the schedule and requirements in Exhibit B.

4. **Invoices and Payments.** Unless otherwise specified, Contractor shall submit monthly invoices for Work performed. Invoices shall describe all Work performed with particularity, by whom it was performed, and shall itemize and explain all expenses for which reimbursement is claimed. The invoices shall include the total amount billed to date by Contractor prior to the current invoice. If Contractor fails to present invoices in proper form within sixty (60) calendar days after the end of the month in which the services were rendered, Contractor waives any rights to present such invoice thereafter and to receive payment therefor. Payments shall be made in accordance with ORS 293.462 to Contractor following the District's review and approval of invoices submitted by Contractor. Contractor shall not submit invoices for, and the District will not be obligated to pay, any amount in excess of the maximum compensation amount set forth above. If this maximum compensation amount is increased by amendment of this Contract, the amendment must be fully effective before Contractor performs Work subject to the amendment.

   Invoices shall reference the above Contract Number and be submitted to: HOgbeide@clackamas.us

5. **Travel and Other Expense.** Authorized: ☒ Yes ☐ No
   If travel expense reimbursement is authorized in this Contract, such expense shall only be reimbursed at the rates in the Clackamas County Contractor Travel Reimbursement Policy, hereby incorporated by reference and found at: https://www.clackamas.us/finance/terms.html. Travel expense reimbursement is not in excess of the not to exceed consideration.

6. **Contract Documents.** This Contract consists of the following documents, which are listed in descending order of precedence and are attached and incorporated by reference, this Contract, Exhibit A, and Exhibit B.

7. Contractor and District Contacts.

Contractor	District
Administrator: Roger Flint Phone: 509-994-2833 Email: Rflint@parametrix.com	Administrator: Haakon Ogbeide Phone: 503-742-4567 Email: HOgbeide@clackamas.us

Payment information will be reported to the Internal Revenue Service ("IRS") under the name and taxpayer ID number submitted. (See I.R.S. 1099 for additional instructions regarding taxpayer ID numbers.) Information not matching IRS records will subject Contractor payments to backup withholding.

ARTICLE II.

1. **Access to Records.** Contractor shall maintain books, records, documents, and other evidence, in accordance with generally accepted accounting procedures and practices, sufficient to reflect properly all costs of whatever nature claimed to have been incurred and anticipated to be incurred in the performance of this Contract. District and their duly authorized representatives shall have access to the books, documents, papers, and records of Contractor, which are directly pertinent to this Contract for the purpose of making audit, examination, excerpts, and transcripts. Contractor shall maintain such books and records for a minimum of six (6) years, or such longer period as may be required by applicable law, following final payment and termination of this Contract, or until the conclusion of any audit, controversy or litigation arising out of or related to this Contract, whichever date is later.

2. **Availability of Future Funds.** Any continuation or extension of this Contract after the end of the fiscal period in which it is written is contingent on a new appropriation for each succeeding fiscal period sufficient to continue to make payments under this Contract, as determined by the District in its sole administrative discretion.

3. **Captions.** The captions or headings in this Contract are for convenience only and in no way define, limit, or describe the scope or intent of any provisions of this Contract.

4. **Compliance with Applicable Law.** Contractor shall comply with all applicable federal, state and local laws, regulations, executive orders, and ordinances, as such may be amended from time to time.

5. **Counterparts.** This Contract may be executed in several counterparts (electronic or otherwise), each of which shall be an original, all of which shall constitute the same instrument.

6. **Governing Law.** This Contract, and all rights, obligations, and disputes arising out of it, shall be governed and construed in accordance with the laws of the State of Oregon and the ordinances of Clackamas County without regard to principles of conflicts of law. Any claim, action, or suit between District and Contractor that arises out of or relates to the performance of this Contract shall be brought and conducted solely and exclusively within the Circuit Court for Clackamas County, for the State of Oregon. Provided, however, that if any such claim, action, or suit may be brought in a federal forum, it shall be brought and conducted solely and exclusively within the United States District Court for the District of Oregon. In no event shall this section be construed as a waiver by the District of any form of defense or immunity, whether sovereign immunity, governmental immunity, immunity based on the Eleventh Amendment to the Constitution of the United States or otherwise, from any claim or from the jurisdiction of any court. Contractor, by execution of this Contract, hereby consents to the personal jurisdiction of the courts referenced in this section.

7. **Indemnity, Responsibility for Damages.** Contractor shall be responsible for all damage to property, injury to persons, and loss, expense, inconvenience, and delay which may be caused by, or result from, any negligent act or omission of Contractor, its subcontractors, agents, or employees. The Contractor agrees to indemnify and defend the District and Clackamas County, and their officers, elected officials, agents and employees from and against all claims, actions, losses, liabilities, including reasonable attorney and accounting fees, and all expenses incidental to the investigation and defense thereof, arising out of or based upon Contractor's negligent acts or omissions in performing under this Contract. Provided, however, that pursuant to ORS 30.140(4), Contractor's duty to defend obligations arising from or related to Contractor's professional negligence, or related to professional services provided by Contractor, are limited to reimbursement of reasonable defense costs (including reasonable attorney fees) of District and Clackamas County in an amount not to exceed the proportionate fault of Contractor, as determined by adjudication, alternative dispute resolution, or otherwise resolved by settlement agreement.

   However, neither Contractor nor any attorney engaged by Contractor shall defend the claim in the name of District or Clackamas County ("County"), purport to act as legal representative of District or County, or settle any claim on behalf of District or County, without the approval of the Clackamas County Counsel's Office. District or County may assume their own defense and settlement at their election and expense.

8. **Independent Contractor Status.** The service(s) to be rendered under this Contract are those of an independent contractor. Although the District reserves the right to determine (and modify) the delivery schedule for the Work to be performed and to evaluate the quality of the completed performance, District cannot and will not control the means or manner of Contractor's performance. Contractor is responsible for determining the appropriate means and manner of performing the Work. Contractor is not to be considered an agent or employee of District for any purpose, including, but not limited to: (A) The Contractor will be solely responsible for payment of any Federal or State taxes required as a result of this Contract; and (B) This Contract is not intended to entitle the Contractor to any benefits generally granted to District employees, including, but not limited to, vacation, holiday and sick leave, other leaves with pay, tenure, medical and dental coverage, life and disability insurance, overtime, Social Security, Workers' Compensation, unemployment compensation, or retirement benefits.

9. **Insurance.** Contractor shall secure at its own expense and keep in effect during the term of the performance under this Contract the insurance required and minimum coverage indicated below. The insurance requirements outlined below do not in any limit the amount of scope of liability of Contractor under this Contract. Contractor shall provide proof of said insurance and name the District and Clackamas County as an additional insureds on all required liability policies. Proof of insurance and notice of any material change should be submitted to the following address: Clackamas County Procurement Division, 2051 Kaen Road, Oregon City, OR 97045 or the County Contract Analyst.

Required - Workers Compensation: Contractor shall comply with the statutory workers' compensation requirements in ORS 656.017, unless exempt under ORS 656.027 or 656.126.
☒ Required – Commercial General Liability: combined single limit, or the equivalent, of not less than $1,000,000 per claim, with an annual aggregate limit of $2,000,000 for Bodily Injury and Property Damage.
☒ Required – Professional Liability: combined single limit, or the equivalent, of not less than $1,000,000 per occurrence, with an annual aggregate limit of $2,000,000 for damages caused by error, omission or negligent acts.
☒ Required – Automobile Liability: combined single limit, or the equivalent, of not less than $1,000,000 per accident for Bodily Injury and Property Damage.

The policy(s) shall be primary insurance as respects to the District. Any insurance or self-insurance maintained by the District shall be excess and shall not contribute to it. Any obligation that District agree to a waiver of subrogation is hereby stricken.

10. **Limitation of Liabilities.** This Contract is expressly subject to the debt limitation of Oregon counties set forth in Article XI, Section 10, of the Oregon Constitution, and is contingent upon funds being appropriated therefore. Any provisions herein which would conflict with law are deemed inoperative to that extent. Except for liability arising under or related to Article II, Section 13 or Section 20 neither party shall be liable for (i) any indirect, incidental, consequential or special damages under this Contract or (ii) any damages of any sort arising solely from the termination of this Contact in accordance with its terms.

11. **Notices.** Except as otherwise provided in this Contract, any required notices between the parties shall be given in writing by personal delivery, email, or mailing the same, to the Contract Administrators identified in Article 1, Section 6. If notice is sent to District, a copy shall also be sent to: Clackamas County Procurement, 2051 Kaen Road, Oregon City, OR 97045. Any communication or notice so addressed and mailed shall be deemed to be given five (5) days after mailing, and immediately upon personal delivery, or within 2 hours after the email is sent during District's normal business hours (Monday – Thursday, 7:00 a.m. to 6:00 p.m.) (as recorded on the device from which the sender sent the email), unless the sender receives an automated message or other indication that the email has not been delivered.

12. **Ownership of Work Product.** All work product of Contractor that results from this Contract (the "Work Product") is the exclusive property of District. District and Contractor intend that such Work Product be deemed "work made for hire" of which District shall be deemed the author. If for any reason the Work Product is not deemed "work made for hire," Contractor hereby irrevocably assigns to District all of its right, title, and interest in and to any and all of the Work Product, whether arising from copyright, patent, trademark or trade secret, or any other state or federal intellectual property law or doctrine. Contractor shall execute such further documents and instruments as District may reasonably request in order to fully vest such rights in District. Contractor forever waives any and all rights relating to the Work Product, including without limitation, any and all rights arising under 17 USC § 106A or any other rights of identification of authorship or rights of approval, restriction or limitation on use or subsequent modifications. Notwithstanding the above, District shall have no rights in any pre-existing Contractor intellectual property provided to District by Contractor in the performance of this Contract except to copy, use and re-use any such Contractor intellectual property for District use only.

13. **Representations and Warranties.** Contractor represents and warrants to District that (A) Contractor has the power and authority to enter into and perform this Contract; (B) this Contract, when executed and delivered, shall be a valid and binding obligation of Contractor enforceable in accordance with its terms; (C) Contractor shall at all times during the term of this Contract, be qualified, professionally competent, and duly licensed to perform the Work; (D) Contractor is an independent contractor as defined in ORS 670.600; and (E) the Work under this Contract shall be performed in accordance with the standard of professional skill and care required for a project of similar size, location, scope, and complexity, during the time in which the Work is being performed. The warranties set forth in this section are in addition to, and not in lieu of, any other warranties provided. The Contractor shall be responsible for the technical accuracy of its services and documents resulting therefrom, and District shall not be responsible for discovering deficiencies therein. The Contractor shall correct such deficiencies without additional compensation except to the extent such action is directly attributable to deficiencies in information furnished by the District.

14. **Survival.** All rights and obligations shall cease upon termination or expiration of this Contract, except for the rights and obligations set forth in Article II, Sections 1, 6, 7, 10, 12, 13, 14, 15, 17, 20,

21, 25, 27, 28 and 32, and all other rights and obligations which by their context are intended to survive. However, such expiration shall not extinguish or prejudice the District's right to enforce this Contract with respect to: (a) any breach of a Contractor warranty; or (b) any default or defect in Contractor performance that has not been cured.

15. **Severability.** If any term or provision of this Contract is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Contract did not contain the particular term or provision held to be invalid.

16. **Subcontracts and Assignments.** Contractor shall not enter into any subcontracts for any of the Work required by this Contract, or assign or transfer any of its interest in this Contract by operation of law or otherwise, without obtaining prior written approval from the District, which shall be granted or denied in the District's sole discretion. In addition to any provisions the District may require, Contractor shall include in any permitted subcontract under this Contract a requirement that the subcontractor be bound by this Article II, Sections 1, 7, 8, 13, 16, and 27 as if the subcontractor were the Contractor. District's consent to any subcontract shall not relieve Contractor of any of its duties or obligations under this Contract.

17. **Successors in Interest.** The provisions of this Contract shall be binding upon and shall inure to the benefit of the parties hereto, and their respective authorized successors and assigns.

18. **Tax Compliance Certification.** The Contractor shall comply with all federal, state and local laws, regulation, executive orders and ordinances applicable to this Contract. Contractor represents and warrants that it has complied, and will continue to comply throughout the duration of this Contract and any extensions, with all tax laws of this state or any political subdivision of this state, including but not limited to ORS 305.620 and ORS chapters 316, 317, and 318. Any violation of this section shall constitute a material breach of this Contract and shall entitle District to terminate this Contract, to pursue and recover any and all damages that arise from the breach and the termination of this Contract, and to pursue any or all of the remedies available under this Contract or applicable law.

19. **Termination.** This Contract may be terminated for the following reasons: (A) by mutual agreement of the parties or by the District (i) for convenience upon thirty (30) days written notice to Contractor, or (ii) at any time the District fails to receive funding, appropriations, or other expenditure authority as solely determined by the District; or (B) if Contractor breaches any Contract provision or is declared insolvent, District may terminate after thirty (30) days written notice with an opportunity to cure.

    Upon receipt of written notice of termination from the District, Contractor shall immediately stop performance of the Work. Upon termination of this Contract, Contractor shall deliver to District all documents, Work Product, information, works-in-progress and other property that are or would be deliverables had the Contract Work been completed. Upon District's request, Contractor shall surrender to anyone District designates, all documents, research, objects or other tangible things needed to complete the Work.

20. **Remedies.** If terminated by the District due to a breach by the Contractor, then the District shall have any remedy available to it in law or equity. If this Contract is terminated for any other reason, Contractor's sole remedy is payment for the goods and services delivered and accepted by the District, less any setoff to which the District is entitled.

21. **No Third Party Beneficiaries.** District and Contractor are the only parties to this Contract and are the only parties entitled to enforce its terms. Nothing in this Contract gives, is intended to give, or shall be construed to give or provide any benefit or right, whether directly, indirectly or otherwise, to

third persons unless such third persons are individually identified by name herein and expressly described as intended beneficiaries of the terms of this Contract.

22. **Time is of the Essence.** Contractor agrees that time is of the essence in the performance this Contract.

23. **Foreign Contractor.** If the Contractor is not domiciled in or registered to do business in the State of Oregon, Contractor shall promptly provide to the Oregon Department of Revenue and the Secretary of State, Corporate Division, all information required by those agencies relative to this Contract. The Contractor shall demonstrate its legal capacity to perform these services in the State of Oregon prior to entering into this Contract.

24. **Force Majeure.** Neither District nor Contractor shall be held responsible for delay or default caused by events outside the District or Contractor's reasonable control including, but not limited to, fire, terrorism, riot, acts of God, or war. However, Contractor shall make all reasonable efforts to remove or eliminate such a cause of delay or default and shall upon the cessation of the cause, diligently pursue performance of its obligations under this Contract.

25. **Waiver.** The failure of District to enforce any provision of this Contract shall not constitute a waiver by District of that or any other provision.

26. **Public Contracting Requirements.** Pursuant to the public contracting requirements contained in Oregon Revised Statutes ("ORS") Chapter 279B.220 through 279B.235, Contractor shall:
    a. Make payments promptly, as due, to all persons supplying to Contractor labor or materials for the prosecution of the work provided for in the Contract.
    b. Pay all contributions or amounts due the Industrial Accident Fund from such Contractor or subcontractor incurred in the performance of the Contract.
    c. Not permit any lien or claim to be filed or prosecuted against District on account of any labor or material furnished.
    d. Pay the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.
    e. As applicable, the Contractor shall pay employees for work in accordance with ORS 279B.235, which is incorporated herein by this reference. The Contractor shall comply with the prohibitions set forth in ORS 652.220, compliance of which is a material element of this Contract, and failure to comply is a breach entitling District to terminate this Contract for cause.
    f. If the Work involves lawn and landscape maintenance, Contractor shall salvage, recycle, compost, or mulch yard waste material at an approved site, if feasible and cost effective.

27. **No Attorney Fees**. In the event any arbitration, action or proceeding, including any bankruptcy proceeding, is instituted to enforce any term of this Contract, each party shall be responsible for its own attorneys' fees and expenses.

28. **Reserved.**

29. **Reserved**.

30. **Key Persons.** Contractor acknowledges and agrees that a significant reason the District is entering into this Contract is because of the special qualifications of certain Key Persons set forth in the contract. Under this Contract, the District is engaging the expertise, experience, judgment, and personal attention of such Key Persons. Neither Contractor nor any of the Key Persons shall delegate performance of the management powers and responsibilities each such Key Person is required to provide under this Contract to any other employee or agent of the Contractor unless the District

provides prior written consent to such delegation. Contractor shall not reassign or transfer a Key Person to other duties or positions such that the Key Person is no longer available to provide the District with such Key Person's services unless the District provides prior written consent to such reassignment or transfer.

31. Reserved.

32. Merger. THIS CONTRACT CONSTITUTES THE ENTIRE AGREEMENT BETWEEN THE PARTIES WITH RESPECT TO THE SUBJECT MATTER REFERENCED THEREIN. THERE ARE NO UNDERSTANDINGS, AGREEMENTS, OR REPRESENTATIONS, ORAL OR WRITTEN, NOT SPECIFIED HEREIN REGARDING THIS CONTRACT. NO AMENDMENT, CONSENT, OR WAIVER OF TERMS OF THIS CONTRACT SHALL BIND EITHER PARTY UNLESS IN WRITING AND SIGNED BY ALL PARTIES. ANY SUCH AMENDMENT, CONSENT, OR WAIVER SHALL BE EFFECTIVE ONLY IN THE SPECIFIC INSTANCE AND FOR THE SPECIFIC PURPOSE GIVEN. CONTRACTOR, BY THE SIGNATURE HERETO OF ITS AUTHORIZED REPRESENTATIVE, IS AN INDEPENDENT CONTRACTOR, ACKNOWLEDGES HAVING READ AND UNDERSTOOD THIS CONTRACT, AND CONTRACTOR AGREES TO BE BOUND BY ITS TERMS AND CONDITIONS.

By their signatures below, the parties to this Contract agree to the terms, conditions, and content expressed herein.

Parametrix, Inc.

1/9/2025
Authorized Signature Date

Roger W. Flint, Chief Operating Officer
Name / Title (Printed)

Oregon Business Registry #

Entity Type / State of Formation

Water Environment Services

Chair Date

Recording Secretary

APPROVED AS TO FORM

1/15/2025
County Counsel Date

EXHIBIT A
PERSONAL SERVICES CONTRACT
SCOPE OF WORK

Clackamas Water Environment Services
Kellogg Creek WRRF Disinfection Project
Phase 1 - Concept Development

Introduction

The existing UV disinfection system at the Kellogg Creek Water Resource Recovery Facility (KCWRRF) was installed in 1994 as a retrofit to chlorine contact tanks constructed in 1972. While the transition from gaseous chlorine reduced occupational and community risk, these early UV systems are energy intensive and require significant maintenance for bulb cleaning, bulb replacement, and transmissivity monitoring. As the system has aged, it has required more O&M attention.

The 1994 disinfection system improvements eliminated gaseous chlorine, but liquid chlorine is still used for disinfection during high flow events or if a portion of the UV system is inoperable, including blending events where a portion of primary effluent flow is chemically disinfected and then blended with UV-disinfected secondary effluent before discharge to the Willamette River.

As the existing UV equipment is nearing end of life, Clackamas Water Environment Services (WES) has engaged the services of Parametrix and its partners Kennedy Jenks, Shannon & Wilson, and NW Corrosion to assist WES in identifying and implementing the best replacement for the existing disinfection system. This includes evaluating current UV disinfection technologies and equipment as well as investigating two disinfection schemes: UV alone and hybrid schemes using both UV and chemical disinfection.

In addition to the evaluation and selection of the overall disinfection scheme and particular equipment, the consultant team will create a hydraulic model that encompasses the plant's liquid stream tankage and conveyance structures starting downstream of the headworks facility through the plant discharge via the Willamette River outfall. This will allow WES and the team to evaluate all flow scenarios, identify hydraulic bottlenecks that might be eliminated or modified as part of the disinfection upgrade project, and appropriately size the UV Disinfection system. These modifications could impact the point at which blending is required as well as the overall operations and raw sewage flow split between KCWRRF and the Tri-Cities plant.

Impacts to the plant's hydraulic capacity, the flow blend point, and other operating strategies will inform NPDES permitting and other DEQ regulations. WES will engage and provide the services of another consultant (West Yost) who are working on regulatory matters across WES.

As the existing chlorine contact / UV tankage is now more than 50 years old, an assessment of the structural, mechanical, and electrical infrastructure will be included as part of the initial work. This will also include full digital scanning by Parametrix' design crew to create as-built point clouds are used to verify and validate 3D models built in Revit. This will provide WES with the basis for modeling the entire facility in 3D in future projects. This also includes recommended concrete cores and chemical testing to estimate the condition and remaining useful life of the concrete structure.

Project Team and Billing Rates

The staff rates have been established and will be billed per the requirements stipulated within the Request for Proposal (RFP) for this project The below consultant staff are serving as "technical experts" on this project (as identified within the RFP) and their roles, names, and rates have been

bolded on the attached Level of Effort and have billing rates between $280 and $340 per hour. Hours for technical experts represent ~15% of the project hours. The remaining staff are below or have been capped at $250 per hour and all staff will be billed at no more than a 3.15 multiplier.

- Layne McWilliams– UV Operational Strategies and Energy
  - Note, this is for tasks not related to design management.
- Allan Maas – UV and Mechanical
- Gary White - Electrical
- Mike Pyszka - Structural
- David Seymour – Process and UV

Estimated effort for architectural services has been included in the attached Level of Effort to allow for architectural input and a 30% drawing for a canopy over the existing chlorine contact / UV basins. As a canopy may not be desired, the need for these services will be determined during alternative analysis, prior to creation of the 30% drawings. These funds will only be used by the Consultant upon written authorization from the WES project manager.

Task 01 – Project Management

Objectives

The objective of this task is to provide overall project management of the consultant contract with Clackamas WES. The goal is to maintain open and regular communication between the consultant team and WES, including project work progress against the schedule, financial status against budget, and clear documentation of decisions made, decisions to be made, and the impacts of both.

Subtask 01-01 – Setup, Invoices, and Status Reports

Approach

This task includes general management functions that include the following:

- Budget and Schedule Tracking – Track the project budget using Parametrix in-house tools to verify that progress is keeping pace with spending. Prepare and update cost loaded schedule.
- Monthly Progress Reports – Prepare a monthly invoice for services performed by Parametrix, providing a summary of work completed during the invoice period, work planned for the coming months, and any issues or potential out of scope work identified or being tracked.
- Maintain a Project Management Plan, Health and Safety Plan, and Risk Register using standard templates and/or past project examples.

Deliverables

- Project Management Plan, including schedule and projected financials.
- Project contact list.
- Monthly Progress Report and Invoice.

Assumptions

- Progress reports and invoices submitted via email
- Project duration is eight (8) months, with an assumed start in January 2025.
  - Task 1 Project Management covers all 8 months of this phase.
  - Task 2 Baseline Conditions duration is 2 months.
  - Task 3 Alternatives Analysis and Predesign is 6 months.

Subtask 01-02 – Coordination with Owner (PM Meetings)

Deliverables

- Issues list maintained to document project team decisions.
- Decision/Change Log.
- Project meeting minutes.

Assumptions

- Up to 18 progress meetings of one hour duration. Meetings will generally be biweekly with selected additional ad-hoc meetings scheduled where more frequent discussions with the owner are advantageous.
- Meetings will be attended by the Project Manager. When needed and appropriate, additional team members (e.g. Alternative Analysis Lead, Process and Mechanical Lead, and specific subject matter experts) will attend. Hours for additional team members are limited to those included in the attached level of effort.
- Meetings will be held typically via Teams or hybrid Teams and in-person, depending on attendees' location. When possible, consultant staff meeting in person will be coordinated with other work occurring on-site at KCWRRF.

Subtask 01-03 – Internal Team Coordination

This task includes the management and coordination functions associated with Tasks 2 and 3 including:

- Project Planning - Document and communicate the scope of work, budget, and schedule as a road map for the project team. Coordinate project team and issues throughout the project.
- Correspondence – Prepare written correspondence as needed to document project management issues and/or concerns. Consult with project Principal and Senior Advisor.
- Coordination of Deliverables – Ensure all subconsultant deliverables are in accordance with project standards and style, including written documentation and plans/specifications.
- Conduct weekly coordination meetings with the consultant team to inform the project design, project management meeting, and provide direction to the project team.

Assumptions

- Budget assumes 35 weekly coordination meetings.

- Parametrix will consolidate issues from the full team to streamline communications with WES.
- Issues list and Decisions/Change Log will be consistent between WES meetings and internal consultant team meetings.

Task 02 – Baseline Conditions

Objective

This task will provide WES and the consultant team with an assessment of the physical conditions of existing structural and mechanical components, as well as limitations and capacity of existing electrical and I&C systems. This task includes completion of the Revit model for the existing structures and a hydraulic model, as well as the testing and sampling protocols for developing the water quality data necessary for ultimately sizing the disinfection system.

Subtask 02-01 – Project Kickoff Meeting with WES Project Team

Approach

- Working with WES project leadership, the consultant team will prepare and facilitate a 3-hour kick-off workshop for WES project stakeholders.
- Content will be provided and feedback will be gathered on at least the following:
  - Project scope and schedule.
  - On-site activities of the consultant team and required coordination.
  - Definition of “successful Phase 1” according to WES leadership and staff.
  - Known information gaps or discrepancies.
  - Major points of risk and mitigation or avoidance strategies.

Deliverables

- In-person kick-off meeting with materials for presentation prepared for WES prior review including model views of the existing facility.
- Meeting summary memo.

Assumptions

- Kickoff meeting to be scheduled upon approval of scope, schedule and budget.
- WES project leadership to identify meeting attendees that should include people who can speak to process, operations, maintenance, electrical and I&C, as well as WES procurement or procedural issues.
- Meeting to be held in-person at KCWRRF if possible.

Subtask 02-02 – Sampling and Data Collection Protocol and Analysis

Objective/Goal

Provide WES staff with sampling and testing protocol to be gathered over an approximately twelve-month period.

Approach

The Consultant Team will develop a testing protocol working in conjunction with WES for data to be gathered over the course of approximately 12 months.

The protocol will include:

- Location and frequency of grab sampling.
- Location and frequency of sampling for collimated beam tests.
- Location and triggers of testing for key design parameters at "opportune moments" (e.g. location of monitoring during storm peak or near peak events).
- Initial test data (3 months) and existing UVT and flow data will be utilized for preliminary sizing of disinfection alternatives. Final data will be used to confirm sizing and for incorporating into a Manufacturer's Certification of Compliance provided prior to a fully executed purchase order.
- Flow and UVT data from WES' existing SCADA system and online UVT meter.

Deliverables

- Initial test data (3 months) and existing UVT and flow data will be utilized for preliminary sizing of disinfection alternatives for the alternatives analysis.
- Long term sampling and testing (12 months) will be utilized to capture seasonal high and low flows as well as blended flow events. Long term data will be utilized for final design and specifications of disinfection system.
- As part of the Predesign Report (subtask 03-03), Consultant team will provide an analysis of the data showing design UV dosage and percentile analysis. This will be presented in a brief technical memorandum of approximately two pages.

Assumptions

- WES will gather and test samples, or send samples to outside laboratory, at WES' cost. Location of testing at opportune moments (e.g. storm peak or near peak events) will be completed when possible.
- WES will provide consultant team with test results in PDF or similar form as they are delivered.
- WES to provide data from SCADA or data historian in electronic (excel) format.

Subtask 02-03 – Digital Scanning and Condition Assessment of Existing Facility

Objective

Obtain information sufficient to complete Revit model of existing UV/Chlorine Contact structure, Chemical Storage Facilities, Emergency Power Systems, and associated upstream facilities such that the design and hydraulic analysis can be completed. Digital scans of a facility have substantially reduced the number of field trips needed during design development. With two full scanning set-ups in use, the crew can leapfrog scan locations and maximize on-site productivity.

Approach

Parametrix design group will complete facility scanning (onsite) and updating the Revit model.

The onsite digital scanning work will include the following structures over two days of work:

- Existing UV channels and chlorine contact channels, with inlet and outlet structures.
- Existing chemical building, interior and exterior.
- Liquid and solid stream process tanks, structures, and mechanical (exterior, dry areas).
- Process building interiors (all levels) and exterior at grade.
- Location(s) of existing electrical distribution equipment and emergency generators.
- Admin building and parking / vehicle access, at grade exterior only.
- Civil elements (curb & gutter, storm drains, valve boxes, etc.) for plan and elevation locations.
- Lighting, handrails, stairs and other features located in yard area that could be impacted by this project.

The Process assessment will include:

- Up to four hours of discussions with operations staff to discuss current standard operating procedures as well as anecdotal and informal operating scenarios and parameters.
- Simplistic process flow diagrams detailing standard and emergency operational scenarios and flow ranges.
- Summary of anecdotal and discretionary operational decisions that impact the overall process and decisions regarding disinfection system operation.

The structural assessment will include:

- One day on-site, to occur during the summer months after the chlorine contact basins have been dewatered.
- Visual inspection of existing disinfection basin in as many representative locations as can be reasonably accessed.
- Conditions and thickness of coatings will be noted and measured in representative locations by NW Corrosion.
- Concrete core collection with chemical and pH analysis if warranted by visual inspection.

The mechanical assessment will include:

- One day on-site.
- Gates, valves, actuators, and piping where accessible will be visually inspected for signs of wear, corrosion, erosion, and functionality.
- Pipe will be inspected at entrance/exit locations to tanks as accessible.

The electrical/I&C assessment will include:

- Two days on-site.
- Field verify locations and sizes of major electrical and I&C equipment, gear, and connection points, including the 1500 kW, plant-wide emergency generator.
- Identify equipment and materials that should be replaced/refurbished due to wear, age, or code-related issues.
- Identify and assess I&C cabinets, I/O space (cards or points), and available space in cabinets for additional modules / controllers.
- Identify issues specifically related to expected voltage and power requirements for modern, updated UV equipment.

Deliverables

- Point cloud and Revit model for incorporation into design. WES will receive files of the scans (point cloud) and the model for future use and reference.
- Technical memo summarizing findings and recommendations for structural, mechanical, electrical and I&C.

Assumptions

- WES will provide O&M staff assistance to coordinate with operations as well as provide background information and maintenance history (as applicable).
- Inlet and outlet structures on UV/CL2 basin can be drained sufficiently to allow scanning of the rectangular gates. (Scanner is lowered from above using a guide rail that is set onto the floor of the structure.)
- Onsite personnel will follow Parametrix safety plans and protocols as well as WES site-specific PPE policies and all safety procedures. WES policies will be provided in advance for review. WES will assist with staff, gas monitors, access and retrieval, and forms if confined space access is required.
- Process inspection will be based on Operational documents provided by WES and augmented and updated based on discussions with operations staff.
- Mechanical inspection will be based on the pervious condition assessment performed as part of the plant master planning efforts. Valves, gates, gauges, etc. will be noted as operational or not operational based on O&M staff feedback or operational check by O&M. A detailed on-site inspection will not be performed.
- Structural inspection will consist of visual and some light work with bushing or ball peen hammer to identify delamination or subsurface conditions. Additionally, up to 4 cores will be collected and analyzed within the chlorine contact basins to identify the current Stage of Concrete Degradation (I through IV) and anticipated remaining useful life.

- Electrical / I&C inspection will consist of a desktop analysis of the existing one-line electrical diagrams and input/output lists, PLC card summaries, and applicable pictures, all provided by the owner, A point-by-point analysis and detailed inspection of the PLC cabinet will not be performed. Infield confirmation of breaker sizes and panel board configurations (spares, spaces, breakers) will be conducted to the extent possible without opening the cabinets; existing conductor sizes will not be confirmed at this stage of design. A detailed on-site inspection will not be performed.
- Elevation datum is NAVD 88. Survey data from previous projects (admin building and maintenance parking lot) will be sufficient for geolocating the point cloud and Revit model.

Subtask 02-04 – Hydraulic Analysis

Objective

Develop hydraulic model of existing facilities to assess water levels, identify bottlenecks, and develop capacity curves for various flow scenarios, including blending events to ensure that the implemented alternative does not impose undue hydraulic restriction or limit future operational capacity.

Approach

Based on the scanning of as-built facilities and as-built drawing information, Parametrix will develop a hydraulic model to evaluate the plant capacity and water levels at various flow rates and scenarios. These will be used to inform the alternatives analysis.

- Using as-built drawings, WES' previous internal analysis, and scanned information, construct hydraulic model.
- Identify bottlenecks and opportunities for improvement.
- Provide runs for multiple scenarios, including wet-weather mixing of flows.
- Consider impact of river water levels, including latest climate model predictions for high and low water levels in the Willamette valley.
- The hydraulic model will incorporate the full liquid stream from the discharge of the influent pump station through the plant outfall, including the Select Treat secondary bypass process for high flows.

Deliverables

- Brief technical memo, approximately four pages in length, describing model and providing a presentation of findings, including results reported graphically for ease of use. Baseline modeling assumptions will be noted within the technical memo and more detailed assumptions will be included within the model (likely via spreadsheet analysis). A detailed summary of all hydraulic modeling assumptions will not be included.
- Incorporation of model results into alternatives analysis and selection process.
- Electronic copy of the model for WES use and future reference.

Assumptions

- WES will provide maintenance staff assistance to coordinate with operations as well as provide background information and maintenance history (as applicable).

- Inlet and outlet structures on UV/CL2 basin can be drained sufficiently to allow scanning (with vertical travel from the top of the structure) of the rectangular gates.
- Any level data collected by the SCADA system will be available for hydraulic model calibration.
- Existing, up-to-date, drawings, organized by process area will be provided for model verification.

Task 03 – Alternatives Analysis

Measurable Task Objective

This task will utilize the water quality data, as-built conditions, and hydraulic analysis work completed in Task 2 to determine the disinfection scheme and associated equipment that provides the best value for WES using parameters and scoring methodology developed in conjunction with WES. The final deliverable from this task will be a Predesign Report and a Pre-Design package (10 – 30% design level) utilizing the selected disinfection technology.

Subtask 03-01 – Disinfection Alternatives Analysis

Objective

Determine the disinfection scheme that provides the best value for WES from an operational, technical, and life-cycle cost perspective. The selected alternative must be chosen based on both the data and information gathered in Task 2 and on WES selected stakeholders' input that will be collected through facilitated, regular discussion and workshops.

Approach

The alternatives analysis will include qualitative and quantitative factors used to compare the alternatives. At a high level, these factors include the following:

- Major Quantifiable Factors:
  - Capital cost, including upgrades required to existing electrical infrastructure and I&C systems.
  - Lifecycle cost (chemical, O&M, and energy).
- Major Qualitative Factors:
  - Operability (complexity, risk, and FTE requirements)
  - Maintainability (complexity, risk, and FTE requirements)
  - Space and volume requirements and impact on future improvements
- Balancing / Minor Factors:
  - Energy and Chemical Usage.
  - System Resiliency.
  - Carbon and Climate (alignment with Clackamas and Regional Climate Goals).

As currently envisioned, the following schemes will be evaluated:

- Combination of UV and chemical disinfection, likely based on flow.

- All UV, with chemical for backup (UV failure) only.
- Only UV, no chemical backup.
- For chemical alternatives, assume chlorine disinfection, but include qualitative and rough quantitative Peracetic Acid comparison.
- For UV disinfection, the alternatives will include four representative manufacturers and products utilizing open-channel inclined bulb and open-channel horizontal bulb technology.
- Hydraulic improvements
  - Impact on capacity of treatment plant and disinfection system sizing.
  - Influent gates on existing UV structure.
  - Influent pipeline on the capacity of the existing secondary to disinfection pipeline.
  - Effluent water level control options.

In addition to the technical analysis, the consultant team will coordinate with WES's engagement of West Yost to discuss with the regulators as part of the initial due diligence and fatal flaw check on the disinfection schemes.

- Suggestion for WES to budget for up to up to 24 hours with Oregon DEQ regarding permitting issues associated with the Disinfection Project. Topics include at least the disinfection schemes under consideration and DEQ's evaluation procedure.

To support WES in its evaluation of different technologies and manufacturers, an allowance of 72 manhours plus $5,000 in expenses has been included to visit operational installations at facilities operated by other municipalities or agencies.

- Engagement allowance of up to 72 hours for travel and on-site evaluations / interviews.
- $5,000 allowance for travel expenses.

Deliverables

- Written description of each alternative.
- Illustrations (3D model views) of each alternative, at 10% level of design, showing location of major elements on site plan and in model of UV/Cl2 basin suitable for use in workshops.
- Alternatives selection and scoring criteria (developed in conjunction with WES through Subtask 03-02 below).
- Summary and recommendation for engagement with DEQ on this project. (This content will be provided mainly by West Yost.)

Assumptions

- The deliverables of this subtask will be incorporated into the Predesign Report.
- Level of effort is based on investigating three UV technologies, chlorine disinfection in detail and peracetic acid at a high level, and two hybrid scenarios.
- Up to fourteen illustrations/renderings will be produced to help visualize the alternatives and facilitate discussions with WES staff. These will be created using screenshots / exports from the Autodesk Construction Cloud (ACC) Revit Model viewer.

- Initial cost estimates for the alternatives will be AACE Class 10, for up to three shortlisted alternatives.

Subtask 03-02 – Staff Workshops

Approach

As part of this task, the consultant team will facilitate and lead two workshops to solicit and gather input from each department / discipline, including operations, maintenance, I&C, management, and other stakeholders selected by the WES project team.

Workshop 3.1: Focus Group

The first workshop will take place before the alternatives analysis is complete. This two-hour workshop will:

- Identify any alternatives which have been or should be removed due to fatal flaws or lack of alignment with WES staff needs and goals.
- Identify and describe the remaining alternatives to be evaluated and scored.
- Solicit and record the selection factors and relative weights that each factor should be given. This will be done via a pairwise comparison or other multi-participant, multi-factor decision weighting process.
- Describe the analysis to be completed prior to the selection workshop (Workshop 3.2)

Workshop 3.2: Alternatives Review and Preliminary Selection

The second workshop will be focused on gathering input and scoring the alternatives utilizing the selection factors and weighting developed during the first workshop.

- Review each alternative at a high level, utilizing 3-D illustrations/renderings where appropriate, to present an overall portfolio of options.
- Utilize a scoring sheet for each alternative, individually, to solicit feedback and initial scores.
- Present the rating approach and initial ratings for each criteria for each alternative which were used to calculate average scores for each alternative and a ranking of alternative alignment with WES needs and goals.
- Review initial results and allow the group to explore impacts of modifying weights and ratings for each criteria and alternative to identify any unintentional biases (for example, bias caused by the order that alternatives were discussed).

Deliverables

- Two workshops, including posters for discussion and capturing feedback, digital graphics/models/illustrations to share by projection or large video screen, and scoring sheets or spreadsheets, depending on venue and capabilities.
- The results of the workshops will be incorporated into the Predesign Report.

Assumptions

- 3-D illustrations / models will be available via cloud/remote networking on large screen or projector for manipulation and “virtual walk-throughs” in real time.

- Selection factors and weighting gathered during the first workshop will be utilized in the second; WES project leadership will provide any comments and edits to criteria prior to the second workshop.
- Workshops to be held at KCWRRF if possible, or alternative WES facility with appropriate presentation technology.

Subtask 03-03 – Predesign Report

Approach

The condition assessments, hydraulic analysis, and alternatives analysis will be gathered and organized into a single Predesign Report.

Identified chapters / sections of Predesign Report are as follows:

- Executive Summary
- Introduction and Scope of Analysis
- Existing Conditions Assessment
  - Process
  - Structural
  - Mechanical
  - Electrical / I&C
- Hydraulic Analysis
  - Operational scenarios and hydraulic profiles
  - Notable hydraulic restrictions
  - Possible modifications to address restrictions and their impact on the process flow.
- Alternatives Analysis
  - Portfolio of alternatives
  - Selection criteria and weighting
  - Results of analysis
- Summary of Sampling and Testing Results
- Selected Alternative and Design Criteria
- Suggested Schedule and Sequence for Procurement and Final Design
- Appendices for data, workshop summaries, DEQ engagement

Deliverables

- Draft Predesign Report, approximately 15 pages in length not including attachments.
- Final Predesign Report for submission to DEQ
- Response to DEQ comments

Assumptions

- Draft report will be delivered to WES in MS Word format, opened for comments and track changes from WES.
- WES will provide a single, consolidated set of review comments on the Draft report within four calendar weeks of delivery from consultant team.
- Consultant team will provide Final Report within four calendar weeks of receiving comments on Draft report.
- Delivery of Final Report will be PDF format, bookmarked for ease of navigation.
- Significant edits to the Report based on DEQ comments are not anticipated. If edits are required they will be addressed as part of the next Phase of work.

Subtask 03-04 – Procurement Support

Objectives

This task provides time for the consultant team to assist WES in evaluating and selecting the procurement strategy for the disinfection upgrade equipment. This includes providing technical background information that will allow WES to conduct a Request for Information (RFI) style procurement and preselect a vendor of UV equipment.

Approach

WES project staff will identify what strategies are allowed under the current County policies. The consultant team will identify the pros and cons of the allowed alternatives and assist WES staff in identifying any changes or allowances needed.

Peer agencies that have used alternative procurement strategies will be identified and facilitated discussions will be used to share their experience and learnings.

Based on the Predesign Report and the work generated for the Design Development task, the consultant team will provide the technical documents related to the disinfection equipment to support the procurement strategy.

Deliverables

- Identification and recommendation for policy changes or allowances needed to move forward with alternative procurement.
- Recommendation for procurement strategy and associated project impacts.
- Technical documentation to support one (1) pre-selection of disinfection equipment.
- Final solicitation package will be assembled by the owner team from documents provided by consultant and by WES (see assumptions, below.)

Assumptions

- WES staff will provide information as to what procurement strategies are allowed.
- An allowance of up to 16 hours of senior consultant time has been included to support WES staff with procurement strategy and peer discussions.

- Peer discussions will take place via remote conferencing unless they are in the Portland metro area. Opportunities to facilitate meetings at conferences or other industry gatherings will be utilized as well.
- Technical documentation includes the technical specification for the disinfection equipment. Specifications related to construction project procedures (e.g. submittals, project schedule, O&M manuals, etc.) will be provided by WES.
- WES will provide all solicitation and procurement language (for example, contractual requirements, financial requirements, equipment warranty, contract & fulfillment guarantees, etc.)

Task 04 – 30% Design

Subtask 04-01 –Design Development

Approach

Utilizing the selected alternative, the consultant team will proceed to an approximately 30% design level of detail of the proposed improvements. The design will include the following disciplines and scopes of work:

- General - 4 sheets
  - Process Design Parameters.
  - Initial construction sequencing plan.
  - Process Flow Diagram.
  - Hydraulic profile.
- Civil - 4 sheets
  - Initial grading plan.
  - Yard piping plan showing major piping changes.
  - Site utilities including stormwater.
- Process & Mechanical - 6 sheets
  - P&ID of major equipment, control points, and instrumentation.
  - Mechanical layout plans and sections for UV and/or chemical systems.
  - Mechanical layout of any hydraulic improvements or modifications.
  - Revit 3-D illustrations where helpful or needed for clarity.
- Electrical - 4 sheets
  - One-line drawing for major disinfection equipment showing tie-in to existing electrical system.
  - Additions or modifications required to the back-up power system.

- Initial load calculations for major equipment.
- Schematic routing of required conduit / duct banks for WES input and feedback.

- Instrumentation - 2 sheets
  - Listing of major process instrumentation.
  - Topology and interconnection diagram to tie new equipment into existing control system.
  - Initial I/O counts and requirements for connection to existing systems.
- Structural - 4 sheets
  - Plans and sections showing modifications to existing structures.
  - Canopy or building structures over UV system, including hoisting equipment as needed.
  - Structural modifications associated with hydraulic improvements.
  - Locations of refurbishment or new coatings for existing concrete and metallic structures.
- Architectural (or Architectural elements addressed within the Structural design) - 1 sheet
  - Architectural treatments and exterior design features for any new structures included in the selected alternative.
  - Building elevations of new building and/or weather covers/enclosures associated with the selected alternative.

A listing of specification sections identified as necessary for the final design will be included.

Specifications as required to preselect or pre-procure the UV equipment (this is budgeted under subtask 03-04).

Deliverables

- 10-30% drawings (25 sheets).
- AutoCAD and Revit design files.

Assumptions

- See sheet count above.

Subtask 04-02 – Estimate of Probable Construction Costs

Approach

The team will prepare an AACE Class 5 estimate based on the plans developed in task 03-03.

Deliverables

- AACE Class 5 engineer's opinion of probable construction costs.
- Basis of estimate document.

Task 05 – Quality Assurance and Quality Control (QA/QC)

The project includes a full QA/QC process as follows:

- Parametrix and Kennedy Jenks will provide peer review and quality review on all deliverables.
- QA/QC documentation in accordance with Parametrix policy is maintained and will be available to WES upon request.
- For the purposes of tracking QA/QC effort, the following subtasks will be utilized:
  - Subtask 05-01: QA/QC for Project Management
    - 05-01.1: QA/QC Meeting and File Setup
  - Subtask 05-02: QA/QC for Task 2 Items
    - 05-02.1 Sampling and Data Collection
    - 05-02.2 Condition Assessment
    - 05-2.3 Hydraulic Analysis
  - Subtask 05-03: QA/QC for Alternatives Analysis
    - 05-03.1 Predesign Report
    - 05-03.2 Procurement Support
  - Subtask 05-04: QA/QC for 30% Design
    - 05-04.1 Design Plans and Specifications
    - 05-04.2 Estimate of Probable Construction Cost

EXHIBIT B
FEE SCHEDULE

Clackamas WES	Role	PM / Tech Expert	DM	**Tech Expert**	Proc/Mech Eng / Disinfection SME	Elec. Lead	I&C Lead	Elec. / I&C Staff Eng.	Struc. Lead	Hydr. Lead	Mech / Hydr. Staff Eng.	Cost Est.	Climate / River Lvl Projections	Storm Water	Land Use	QA	**QC / Tech Expert**	**QC / Tech Expert**	**QC / Tech Expert**	BIM / Modeling Lead	Staff Designer	Staff Designer	Proj. Controls	Word Proc. Lead	Word Proc. Staff	Labor Summary	
	Staff Name	J. Murphy	L. McWilliams	**L. McWilliams**	S. Weirich	R. Rohler	M. Casanova	R. Wells Jr	S. Wagner	B. Moss	E. Sheets	A. Mannion	T. Lunsford	C. Olson	J. Hughes	D. Berschauer	**A. Maas**	**G. White**	**M. Pyszka**	C. West	M. Mollnow	A. Peterson	H. Still	A. Lucas	B. Taylor		
Kellogg Cr. UV Disinfection Upgrade Ph. 1	**Title**	Sr Consultant	Principal Consultant	**Principal Consultant**	Engineer IV	Sr Electrical Engineer	Sr Electrical Engineer	Electrical Engineer I	Sr Engineer	Sr Engineer	Engineer I	Owner's Representative	Sr Planner	Engineer III	Sr Planner	Director of Project Delivery	**Sr Consultant**	**Sr Electrical Engineer**	**Sr Engineer**	Sr Designer	Electrical Designer II	Designer III	Sr Project Control Specialist	Publications Supervisor	Sr Publications Specialist	**Hours**	**Dollars**
Project # 217-1751-871	**Billing Rate**	260.00	260.00	**340.00**	190.00	260.00	250.00	130.00	260.00	230.00	120.00	260.00	190.00	160.00	230.00	260.00	**290.00**	**310.00**	**280.00**	230.00	160.00	170.00	180.00	150.00	130.00		
1.0	**Project Management**	**34**	**40**		**27**	**6**	**6**	**18**	**4**		**69**									**13**			**20**			**235**	**$ 45,330**
1.1	**Setup, Invoices, and Status Reports**	**12**	**16**																				**20**			**48**	**$ 10,880**
1.1.1	Setup	4	8																				8			20	$ 4,560
1.1.2	Invoices & EVR (8 months)	8	8																				12			28	$ 6,320
																											$ -
1.2	**Coordination with WES**	**18**	**6**		**9**																					**33**	**$ 7,950**
1.2.1	Progress Meetings (18)	18	6		9																					33	$ 7,950
																											$ -
																											$ -
1.3	**Internal Team Coordination**	**4**	**18**		**18**	**6**	**6**	**18**	**4**		**69**									**13**						**154**	**$ 26,500**
1.3.1	Project coordination meetings - biweekly (18)	4	18		18	6	6	18	4		18									13						103	$ 20,380
1.3.2	Deliverable coordination (Predesign Report and 30% P&S)										24															24	$ 2,880
1.3.3	Manage Decisions Log & Risk Register (35 weeks)										27															27	$ 3,240
																											$ -
2.0	**Baseline Conditions**	**29**	**2**	**20**	**30**	**8**	**8**	**14**	**16**	**24**	**136**		**2**							**52**	**20**	**60**		**4**	**8**	**433**	**$ 79,840**
2.1	**Kickoff Meeting with WES Project Team**	**10**	**2**	**12**	**16**	**2**					**18**									**8**						**68**	**$ 14,760**
2.1.1	Prep	4	2	2	4	2					8									8						30	$ 6,320
2.1.2	Deliver	6		10	12						10															38	$ 8,440
																											$ -
2.2	**Sampling and Data Collection Protocol and Analysis**	**1**		**4**	**8**																					**13**	**$ 3,140**
2.2.1	Sampling Plan	1		4	4																					9	$ 2,380
2.2.2	Results / Analysis				4																					4	$ 760
																											$ -
2.3	**Scanning and Condition Assessment of Existing Facility**	**10**		**4**	**6**	**6**	**8**	**14**	**16**		**22**									**44**	**20**	**60**		**2**	**8**	**220**	**$ 42,140**
2.3.1	On-site Scanning (2 day)	2									18									20	20					60	$ 10,480
2.3.2	Structural, Mechanical, Electrical, Process Assessment	2			4	4		8	8		4															30	$ 5,920
2.3.3	I&C Assessment	4					2																			6	$ 1,540
2.3.4	Corrosion / Coatings Assessment								2																	2	$ 520
2.3.5	Technical Memo	2		4	2	2	6	6	6															2	8	38	$ 7,960
2.3.6	Update Base Revit Model																			24		60				84	$ 15,720
																											$ -
2.4	**Hydraulic Analysis**	**8**								**24**	**96**		**2**											**2**		**132**	**$ 19,800**
2.4.1	Build Model & Scenarios	4								12	72		2													90	$ 12,820
2.4.2	ID Structural & Mechanical Bottlenecks and Potential Solutions	2								8	16															26	$ 4,280
2.4.3	Technical Memo	2								4	8													2		16	$ 2,700
																											$ -
3.0	**Alternatives Analysis**	**34**	**22**	**58**	**126**	**24**	**13**	**20**	**9**	**5**	**200**	**36**	**5**	**5**	**5**					**44**	**8**	**24**	**2**	**4**	**12**	**656**	**$ 128,060**
3.1	**Disinfection Alternatives Analysis**	**12**	**12**	**22**	**62**	**4**	**1**	**20**	**9**	**5**	**100**	**36**	**4**	**4**	**4**					**40**		**24**				**359**	**$ 69,840**
3.1.1	UV manufacturers / product research / initial quotes (3)			8	12	4	1	12	3	3	40															83	$ 14,120
3.1.2	Hybrid scenarios (2)			8	16				2	2			4													32	$ 7,500
3.1.3	Layouts / Illustrations for communications (10% level) (6 or 7 model views)			4	6			8	4		40			4	4					40		24				134	$ 24,220
3.1.4	Develop Initial Screening Criteria and Scoring			2	4						20															26	$ 3,840
3.1.5	Initial Alternatives Cost Estimates (AACE Class 10, up to 3)											36														36	$ 9,360
3.1.6	Site Visit Allowance (3 trips)	12	12		24																					48	$ 10,800
3.2	**Staff Workshops**	**12**	**4**	**24**	**36**						**40**															**116**	**$ 23,960**
3.2.1	Workshop 1 Focus Group - Prep	2	2	2	6						12															24	$ 4,300
3.2.2	Workshop 1 Focus Group - Deliver and Followup	4		10	12						8															34	$ 7,680
3.2.3	Workshop 2 Alternatives Review & Prelim Selection - Prep	2	2	2	6						12															24	$ 4,300
3.2.4	Workshop 2 Alternatives Review & Prelim Selection - Deliver & Followup	4		10	12						8															34	$ 7,680
																											$ -
3.3	**Predesign Report**	**6**	**6**		**20**						**60**		**1**	**1**	**1**					**4**	**8**					**107**	**$ 16,900**
3.3.1	Draft Predesign Report - narrative	2	4		8						40		1	1	1											57	$ 8,460
3.3.2	Draft Predesign Report - illustrations	2			4						4															10	$ 1,760
3.3.3	Final Predesign Report	2	2		8						16									4	8					40	$ 6,680
																											$ -
3.4	**Procurement Support**	**4**		**12**	**8**	**20**	**12**																**2**	**4**	**12**	**74**	**$ 17,360**
3.4.1	Review Policy	2		4																						6	$ 1,880
3.4.2	Technical Documentation (UV Spec)	2		8	8	20	12																2	4	12	68	$ 15,480
																											$ -
4.0	**30% Design**	**6**	**8**		**24**	**24**	**16**		**20**		**68**	**48**								**50**	**40**	**64**				**368**	**$ 73,060**
4.1	**Design Developmnet**	**6**	**8**		**24**	**24**	**16**		**20**		**68**									**50**	**40**	**64**				**320**	**$ 60,580**
4.1.1	General/Civil/Arch: 4/4/1 sheets		4		8				6		16									2	12	16				64	$ 11,140
4.1.2	M/P/S: 4/2/4 sheets	2	4		16				14		40									40	20	24				160	$ 29,520
4.1.3	Elec/I&C: 4/2 sheets	4				24	16				12									8	8	24				96	$ 19,920
																											$ -
4.2	**Estimate of Probable Construction Costs (Class 5, with Basis of Estimate Doc)**											**48**														**48**	**$ 12,480**
																						48														48	$ 12,480

Clackamas WES	Role	PM / Tech Expert	DM	Tech Expert	Proc/Mech Eng / Disinfection SME	Elec. Lead	I&C Lead	Elec. / I&C Staff Eng.	Struc. Lead	Hydr. Lead	Mech / Hydr. Staff Eng.	Cost Est.	Climate / River Lvl Projections	Storm Water	Land Use	QA	QC / Tech Expert	QC / Tech Expert	QC / Tech Expert	BIM / Modeling Lead	Staff Designer	Staff Designer	Proj. Controls	Word Proc. Lead	Word Proc. Staff	Labor Summary	
	Staff Name	J. Murphy	L. McWilliams	**L. McWilliams**	S. Weirich	R. Rohler	M. Casanova	R. Wells Jr	S. Wagner	B. Moss	E. Sheets	A. Mannion	T. Lunsford	C. Olson	J. Hughes	D. Berschauer	**A. Maas**	**G. White**	**M. Pyszka**	C. West	M. Mollnow	A. Peterson	H. Still	A. Lucas	B. Taylor		
Kellogg Cr. UV Disinfection Upgrade Ph. 1	Title	Sr Consultant	Principal Consultant	**Principal Consultant**	Engineer IV	Sr Electrical Engineer	Sr Electrical Engineer	Electrical Engineer I	Sr Engineer	Sr Engineer	Engineer I	Owner's Representative	Sr Planner	Engineer III	Sr Planner	Director of Project Delivery	**Sr Consultant**	**Sr Electrical Engineer**	**Sr Engineer**	Sr Designer	Electrical Designer II	Designer III	Sr Project Control Specialist	Publications Supervisor	Sr Publications Specialist	**Hours**	**Dollars**
Project # 217-1751-871	**Billing Rate**	260.00	260.00	**340.00**	190.00	260.00	250.00	130.00	260.00	230.00	120.00	260.00	190.00	160.00	230.00	260.00	**290.00**	**310.00**	**280.00**	230.00	160.00	170.00	180.00	150.00	130.00		
5.0	**Quality Assurance and Quality Control**	**7**	**8**	**2**	**4**											**11**	**15**	**13**	**7**							**67**	**$ 18,540**
5.1	**QA/QC for Project Management**	**2**	**4**																							**6**	**$ 1,560**
5.1.1	QA/QC Meeting Minutes	2	4																							6	$ 1,560
																											$ -
5.2	**QA/QC for Baseline Conditions**				**4**											**1**	**5**	**1**	**1**							**12**	**$ 3,060**
5.2.1	Sampling and Data Collection				4																					4	$ 760
5.2.2	Condition Assessment															1	1	1	1							4	$ 1,140
5.2.3	Hydraulic Analysis																4									4	$ 1,160
																											$ -
5.3	**QA/QC for Alternatives Analysis**	**1**		**2**												**4**	**6**	**6**	**2**							**21**	**$ 6,140**
5.3.1	Predesign Report	1		2												2	6	6	2							19	$ 5,620
5.3.2	Procurement Support															2										2	$ 520
																											$ -
5.4	**QA/QC for 30% Design**	**4**	**4**													**6**	**4**	**6**	**4**							**28**	**$ 7,780**
5.4.1	Design Plans	2	2													6	4	6	4							24	$ 6,740
5.4.2	Estimate of Probable Construction Cost	2	2																							4	$ 1,040
																											$ -
	Total Hours	110	80	80	211	62	43	52	49	29	473	84	7	5	5	11	15	13	7	159	68	148	22	8	20	1759	
TOTALS		$ 28,600	$ 20,670	$ 27,200	$ 39,995	$ 16,120	$ 10,750	$ 6,695	$ 12,740	$ 6,670	$ 56,700	$ 21,840	$ 1,330	$ 800	$ 1,150	$ 2,860	$ 4,350	$ 4,030	$ 1,960	$ 36,570	$ 10,880	$ 25,160	$ 3,960	$ 1,200	$ 2,600	**1759**	**$ 344,830**

Clackamas WES Kellogg Cr. UV Disinfection Upgrade Ph. 1 Project # 217-1751-871		Expenses		Expense Total	Expense Markup	Subconsultants			Subconsultant Total	Subconsultant Markup	TOTAL
		Travel	Materials		0%	Kennedy Jenks	NW Corrosion	OPTIONAL Architecture		5%	
1.0	**Project Management**	-	-	$ -	$ -	$ 17,950	$ -	$ 2,500	$ 20,450	$ 1,023	$ 66,803
1.1	**Setup, Invoices, and Status Reports**	$ -	$ -	$ -	$ -	$ 5,000	$ -	$ 1,000	$ 6,000	$ 300	$ 17,180
1.1.1	Setup			$ -	$ -	$ 2,000	$ -	$ -	$ 2,000	$ 100	$ 6,660
1.1.2	Invoices & EVR (8 months)			$ -	$ -	$ 3,000	$ -	$ 1,000	$ 4,000	$ 200	$ 10,520
				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
1.2	**Coordination with WES**	$ -	$ -	$ -	$ -	$ 3,000	$ -	$ 500	$ 3,500	$ 175	$ 11,625
1.2.1	Progress Meetings (18)			$ -	$ -	$ 1,000	$ -	$ -	$ 1,000	$ 50	$ 9,000
				$ -	$ -	$ 2,000	$ -	$ 500	$ 2,500	$ 125	$ 2,625
				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
1.3	**Internal Team Coordination**	$ -	$ -	$ -	$ -	$ 9,950	$ -	$ 1,000	$ 10,950	$ 548	$ 37,998
1.3.1	Project coordination meetings - biweekly (18)			$ -	$ -	$ 5,700	$ -	$ 1,000	$ 6,700	$ 335	$ 27,415
1.3.2	Deliverable coordination (Predesign Report and 30% P&S)			$ -	$ -	$ 1,000	$ -	$ -	$ 1,000	$ 50	$ 3,930
1.3.3	Manage Decisions Log & Risk Register (35 weeks)			$ -	$ -	$ 3,250	$ -	$ -	$ 3,250	$ 163	$ 6,653
				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2.0	**Baseline Conditions**	1,302	250	1,552	-	16,620	11,515	-	28,135	1,407	110,934
2.1	**Kickoff Meeting with WES Project Team**	$ 700	$ 250	$ 950	$ -	$ 6,480	$ -	$ -	$ 6,480	$ 324	$ 22,514
2.1.1	Prep			$ -	$ -	$ 2,160	$ -	$ -	$ 2,160	$ 108	$ 8,588
2.1.2	Deliver	$ 700	$ 250	$ 950	$ -	$ 4,320	$ -	$ -	$ 4,320	$ 216	$ 13,926
				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2.2	**Sampling and Data Collection Protocol and Analysis**	$ -	$ -	$ -	$ -	$ 6,640	$ -	$ -	$ 6,640	$ 332	$ 10,112
2.2.1	Sampling Plan			$ -	$ -	$ 3,320	$ -	$ -	$ 3,320	$ 166	$ 5,866
2.2.2	Results / Analysis			$ -	$ -	$ 3,320	$ -	$ -	$ 3,320	$ 166	$ 4,246
				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2.3	**Scanning and Condition Assessment of Existing Facility**	$ 602	$ -	$ 602	$ -	$ 3,500	$ 11,515	$ -	$ 15,015	$ 751	$ 58,508
2.3.1	On-site Scanning (2 day)	$ 387		$ 387	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,867
2.3.2	Structural, Mechanical, Electrical, Process Assessment	$ 214		$ 214	$ -	$ 3,000	$ -	$ -	$ 3,000	$ 150	$ 9,284
2.3.3	I&C Assessment			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,540
2.3.4	Corrosion / Coatings Assessment			$ -	$ -	$ -	$ 11,515	$ -	$ 11,515	$ 576	$ 12,611
2.3.5	Technical Memo			$ -	$ -	$ 500	$ -	$ -	$ 500	$ 25	$ 8,485
2.3.6	Update Base Revit Model			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 15,720
				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2.4	**Hydraulic Analysis**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 19,800
2.4.1	Build Model & Scenarios			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,820
2.4.2	ID Structural & Mechanical Bottlenecks and Potential Solutions			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,280
2.4.3	Technical Memo			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,700
				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3.0	**Alternatives Analysis**	2,099	500	$ 2,599	$ -	$ 43,000	$ -	$ 3,000	$ 46,000	$ 2,300	$ 178,959
3.1	**Disinfection Alternatives Analysis**	$ 699	$ -	$ 699	$ -	$ 25,240	$ -	$ -	$ 25,240	$ 1,262	$ 97,041
3.1.1	UV manufacturers / product research / initial quotes (3)			$ -	$ -	$ 6,480	$ -	$ -	$ 6,480	$ 324	$ 20,924
3.1.2	Hybrid scenarios (2)			$ -	$ -	$ 6,480	$ -	$ -	$ 6,480	$ 324	$ 14,304
3.1.3	Layouts / Illustrations for communications (10% level) (6 or 7 mode			$ -	$ -	$ 2,960	$ -	$ -	$ 2,960	$ 148	$ 27,328
3.1.4	Develop Initial Screening Criteria and Scoring			$ -	$ -	$ 2,000	$ -	$ -	$ 2,000	$ 100	$ 5,940
3.1.5	Initial Alternatives Cost Estimates (AACE Class 10, up to 3)			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,360
3.1.6	Site Visit Allowance (3 trips)	$ 699		$ 699	$ -	$ 7,320	$ -	$ -	$ 7,320	$ 366	$ 19,185
3.2	**Staff Workshops**	$ 1,400	$ 500	$ 1,900	$ -	$ 8,320	$ -	$ -	$ 8,320	$ 416	$ 34,596
3.2.1	Workshop 1 Focus Group - Prep			$ -	$ -	$ 2,160	$ -	$ -	$ 2,160	$ 108	$ 6,568
3.2.2	Workshop 1 Focus Group - Deliver and Followup	$ 700	$ 250	$ 950	$ -	$ 2,000	$ -	$ -	$ 2,000	$ 100	$ 10,730
3.2.3	Workshop 2 Alternatives Review & Prelim Selection - Prep			$ -	$ -	$ 2,160	$ -	$ -	$ 2,160	$ 108	$ 6,568
3.2.4	Workshop 2 Alternatives Review & Prelim Selection - Deliver & Foll	$ 700	$ 250	$ 950	$ -	$ 2,000	$ -	$ -	$ 2,000	$ 100	$ 10,730
				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3.3	**Predesign Report**	$ -	$ -	$ -	$ -	$ 7,280	$ -	$ 3,000	$ 10,280	$ 514	$ 27,694
3.3.1	Draft Predesign Report - narrative			$ -	$ -	$ 3,320	$ -	$ -	$ 3,320	$ 166	$ 11,946
3.3.2	Draft Predesign Report - illustrations			$ -	$ -	$ 1,800	$ -	$ 3,000	$ 4,800	$ 240	$ 6,800
3.3.3	Final Predesign Report			$ -	$ -	$ 2,160	$ -	$ -	$ 2,160	$ 108	$ 8,948
				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3.4	**Procurement Support**	$ -	$ -	$ -	$ -	$ 2,160	$ -	$ -	$ 2,160	$ 108	$ 19,628
3.4.1	Review Policy			$ -	$ -	$ 1,080	$ -	$ -	$ 1,080	$ 54	$ 3,014
3.4.2	Technical Documentation (UV Spec)			$ -	$ -	$ 1,080	$ -	$ -	$ 1,080	$ 54	$ 16,614
				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
4.0	**30% Design**	-	-	$ -	$ -	$ 6,440	$ -	$ 8,000	$ 14,440	$ 722	$ 88,222
4.1	**Design Developmnet**	$ -	$ -	$ -	$ -	$ 6,440	$ -	$ 8,000	$ 14,440	$ 722	$ 75,742
4.1.1	General/Civil/Arch: 4/4/1 sheets			$ -	$ -	$ 3,200	$ -	$ 8,000	$ 11,200	$ 560	$ 22,900
4.1.2	M/P/S: 4/2/4 sheets			$ -	$ -	$ 2,160	$ -	$ -	$ 2,160	$ 108	$ 31,788
4.1.3	Elec/I&C: 4/2 sheets			$ -	$ -	$ 1,080	$ -	$ -	$ 1,080	$ 54	$ 21,054
				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
4.2	**Estimate of Probable Construction Costs (Class 5, with Basis of Estim**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,480
				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,480

Clackamas WES Kellogg Cr. UV Disinfection Upgrade Ph. 1 Project # 217-1751-871		Expenses		Expense Total	Expense Markup	Subconsultants			Subconsultant Total	Subconsultant Markup	TOTAL
		Travel	Materials		0%	Kennedy Jenks	NW Corrosion	OPTIONAL Architecture		5%	
5.0	**Quality Assurance and Quality Control**	-	-	$ -	$ -	$ 6,900	$ -	$ -	$ 6,900	$ 345	$ 25,785
5.1	**QA/QC for Project Management**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,560
5.1.1	QA/QC Meeting Minutes			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,560
				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5.2	**QA/QC for Baseline Conditions**	$ -	$ -	$ -	$ -	$ 1,250	$ -	$ -	$ 1,250	$ 63	$ 4,373
5.2.1	Sampling and Data Collection			$ -	$ -	$ 500	$ -	$ -	$ 500	$ 25	$ 1,285
5.2.2	Condition Assessment			$ -	$ -	$ 500	$ -	$ -	$ 500	$ 25	$ 1,665
5.2.3	Hydraulic Analysis			$ -	$ -	$ 250	$ -	$ -	$ 250	$ 13	$ 1,423
				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5.3	**QA/QC for Alternatives Analysis**	$ -	$ -	$ -	$ -	$ 1,910	$ -	$ -	$ 1,910	$ 96	$ 8,146
5.3.1	Predesign Report			$ -	$ -	$ 1,660	$ -	$ -	$ 1,660	$ 83	$ 7,363
5.3.2	Procurement Support			$ -	$ -	$ 250	$ -	$ -	$ 250	$ 13	$ 783
				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5.4	**QA/QC for 30% Design**	$ -	$ -	$ -	$ -	$ 3,740	$ -	$ -	$ 3,740	$ 187	$ 11,707
5.4.1	Design Plans			$ -	$ -	$ 3,240	$ -	$ -	$ 3,240	$ 162	$ 10,142
5.4.2	Estimate of Probable Construction Cost			$ -	$ -	$ 500	$ -	$ -	$ 500	$ 25	$ 1,565
				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTALS		**$ 3,401**	**$ 750**	**$ 4,151**	**$ -**	**$ 90,910**	**$ 11,515**	**$ 13,500**	**$ 115,925**	**$ 5,796**	**$ 470,702**

Parametrix Expenses							
Task No.	**Expense**						Subtotal
	Airfare	**# of tickets**	**price**				
2.1	GEG-PDX	2	$350.00			$700.00	
3.1	GEG-PDX	2	$350.00			$700.00	
3.2	GEG-PDX	2	$350.00			$700.00	
							$2,100.00
	Lodging	**# of nights**	**GSA rate/night**				
2.3	Clackamas (2 crew)	2	$156.00			$312.00	
							$312.00
	Per Diem	**1st & last days**	**# of 1st & last days**	**full days**	**# of full days**		
2.3	Clackamas (cliff/mark)	$60.00	4			$240.00	
							$240.00
	Mileage (if personal or PMX vehicle)		**# of miles**	**GSA rate/mile**			
2.3	Puy-Milwaukie		220	$0.670		$147.40	
2.3	Puy-Milwaukie		320	$0.670		$214.40	
							$361.80
						Total	**$3,013.80**

Clackamas WES / Kellogg Cr. UV Disinfection Upgrade Ph. 1	Staff Role	PM / Lead	Tech Expert	Civil	Labor Summary		Expenses	Expense Total	TOTAL
	Title/Category	N. Bell	D. Seymour	M. Humm	Hours	Dollars			
Kennedy Jenks	Billing Rate	250.00	290.00	200.00					
TOTAL FEE ESTIMATE		$ 53,750	$ 30,160	$ 6,000	**349**	**$ 89,910**	$ 1,000	$ 1,000	$ 90,910
1.0	**Project Management**	**67**		**6**	**73**	**$ 17,950**	-	**$ -**	**$ 17,950**
1.1	**Setup, Invoices, and Status Reports**					$ -		$ -	$ -
1.1.1	Setup	8			8	$ 2,000		$ -	$ 2,000
1.1.2	Invoices & EVR (8 months)	12			12	$ 3,000		$ -	$ 3,000
						$ -		$ -	$ -
1.2	**Coordination with WES**					$ -		$ -	$ -
1.2.1	Progress Meetings (18)	4			4	$ 1,000		$ -	$ 1,000
		8			8	$ 2,000		$ -	$ 2,000
						$ -		$ -	$ -
1.3	**Internal Team Coordination**					$ -		$ -	$ -
1.3.1	Project coordination meetings - biweekly (18)	18		6	24	$ 5,700		$ -	$ 5,700
1.3.2	Deliverable coordination (Predesign Report and 30% P&S)	4			4	$ 1,000		$ -	$ 1,000
1.3.3	Manage Decisions Log & Risk Register (35 weeks)	13			13	$ 3,250		$ -	$ 3,250
						$ -		$ -	$ -
2.0	**Baseline Conditions**	**22**	**16**		**38**	**$ 16,620**	-	**$ -**	**$ 10,140**
2.1	**Kickoff Meeting with WES Project Team**					$ -		$ -	$ -
2.1.1	Prep	4	4		8	$ 2,160		$ -	$ 2,160
2.1.2	Deliver	8	8		16	$ 4,320		$ -	$ 4,320
						$ -		$ -	$ -
2.2	**Sampling and Data Collection Protocol and Analysis**					$ -		$ -	$ -
2.2.1	Sampling Plan	4	8		12	$ 3,320		$ -	$ 3,320
2.2.2	Results / Analysis	4	8		12	$ 3,320		$ -	$ 3,320
						$ -		$ -	$ -
2.3	**Scanning and Condition Assessment of Existing Facility**					$ -		$ -	$ -
2.3.1	On-site Scanning (2 day)					$ -		$ -	$ -
2.3.2	Structural, Mechanical, Electrical, Process Assessment	12			12	$ 3,000		$ -	$ 3,000
2.3.3	I&C Assessment					$ -		$ -	$ -
2.3.4	Corrosion / Coatings Assessment					$ -		$ -	$ -
2.3.5	Technical Memo	2			2	$ 500		$ -	$ 500
2.3.6	Update Base Revit Model					$ -		$ -	$ -
						$ -		$ -	$ -
2.4	**Hydraulic Analysis**					$ -		$ -	$ -
2.4.1	Build Model & Scenarios					$ -		$ -	$ -
2.4.2	ID Structural & Mechanical Bottlenecks and Potential Solutions					$ -		$ -	$ -
2.4.3	Technical Memo					$ -		$ -	$ -
						$ -		$ -	$ -
3.0	**Alternatives Analysis**	**92**	**60**	**8**	**160**	**$ 42,000**	1,000	**$ 1,000**	**$ 43,000**
3.1	**Disinfection Alternatives Analysis**					$ -		$ -	$ -
3.1.1	UV manufacturers / product research / initial quotes (3)	12	12		24	$ 6,480		$ -	$ 6,480
3.1.2	Hybrid scenarios (2)	12	12		24	$ 6,480		$ -	$ 6,480
3.1.3	Layouts / Illustrations for communications (10% level) (6 or 7 model views)	4	4	4	12	$ 2,960		$ -	$ 2,960
3.1.4	Develop Initial Screening Criteria and Scoring	8			8	$ 2,000		$ -	$ 2,000
3.1.5	Initial Alternatives Cost Estimates (AACE Class 10, up to 3)					$ -		$ -	$ -
3.1.6	Site Visit Allowance (3 trips)	16	8		24	$ 6,320	1,000	$ 1,000	$ 7,320
						$ -		$ -	$ -
3.2	**Staff Workshops**					$ -		$ -	$ -
3.2.1	Workshop 1 Focus Group - Prep	4	4		8	$ 2,160		$ -	$ 2,160
3.2.2	Workshop 1 Focus Group - Deliver and Followup	8			8	$ 2,000		$ -	$ 2,000
3.2.3	Workshop 2 Alternatives Review & Prelim Selection - Prep	4	4		8	$ 2,160		$ -	$ 2,160
3.2.4	Workshop 2 Alternatives Review & Prelim Selection - Deliver & Followup	8			8	$ 2,000		$ -	$ 2,000
						$ -		$ -	$ -
3.3	**Predesign Report**					$ -		$ -	$ -
3.3.1	Draft Predesign Report - narrative	4	8		12	$ 3,320		$ -	$ 3,320
3.3.2	Draft Predesign Report - illustrations	4		4	8	$ 1,800		$ -	$ 1,800
3.3.3	Final Predesign Report	4	4		8	$ 2,160		$ -	$ 2,160
3.4	**Procurement Support**					$ -		$ -	$ -
3.4.1	Review Policy	2	2		4	$ 1,080		$ -	$ 1,080
3.4.2	Technical Documentation (UV Spec)	2	2		4	$ 1,080		$ -	$ 1,080
						$ -		$ -	$ -
4.0	**30% Design**	**6**	**6**	**16**	**28**	**$ 6,440**	-	**$ -**	**$ 6,440**
4.1	**Design Developmnet**					$ -		$ -	$ -
4.1.1	General/Civil/Arch: 4/4/1 sheets			16	16	$ 3,200		$ -	$ 3,200
4.1.2	M/P/S: 4/2/4 sheets	4	4		8	$ 2,160		$ -	$ 2,160
4.1.3	Elec/I&C: 4/2 sheets	2	2		4	$ 1,080		$ -	$ 1,080
						$ -		$ -	$ -
4.2	**Estimate of Probable Construction Costs (Class 5, with Basis of Estimate Doc)**					$ -		$ -	$ -
						$ -		$ -	$ -
5.0	**Quality Assurance and Quality Control**	**16**	**10**		**26**	**$ 6,900**	-	**$ -**	**$ 6,900**
5.1	**QA/QC for Project Management**					$ -		$ -	$ -
5.1.1	QA/QC Meeting Minutes					$ -		$ -	$ -
						$ -		$ -	$ -
5.2	**QA/QC for Baseline Conditions**					$ -		$ -	$ -
5.2.1	Sampling and Data Collection	2			2	$ 500		$ -	$ 500
5.2.2	Condition Assessment	2			2	$ 500		$ -	$ 500
5.2.3	Hydraulic Analysis	1			1	$ 250		$ -	$ 250
						$ -		$ -	$ -
5.3	**QA/QC for Alternatives Analysis**					$ -		$ -	$ -
5.3.1	Predesign Report	2	4		6	$ 1,660		$ -	$ 1,660
5.3.2	Procurement Support	1			1	$ 250		$ -	$ 250
						$ -		$ -	$ -
5.4	**QA/QC for 30% Design**					$ -		$ -	$ -
5.4.1	Design Plans	6	6		12	$ 3,240		$ -	$ 3,240
5.4.2	Estimate of Probable Construction Cost	2			2	$ 500		$ -	$ 500
						$ -		$ -	$ -
	Total Hours	215	104	30	349				
TOTALS		$ 53,750	$ 30,160	$ 6,000	**349**	**$ 89,910**	$ 1,000	$ 1,000	$ 90,910

Clackamas WES	Staff Name	J Hailey		Labor Summary		Expenses		Expense Total	TOTAL
Kellogg Cr. UV Disinfection Upgrade Ph. 1	Title/Category	Principal	Admin	Hours	Dollars	Mileage	Core Drilling		
NW Corrosion	Billing Rate	250.00	90.00						
TOTAL FEE ESTIMATE		$ 6,000	$ 180	26	$ 6,180	$ 335	$ 5,000	$ 5,335	$ 11,515
1.0	Project Management				$ -	-	-	$ -	$ -
1.1	Setup, Invoices, and Status Reports				$ -			$ -	$ -
1.1.1	Setup				$ -			$ -	$ -
1.1.2	Invoices & EVR (8 months)				$ -			$ -	$ -
					$ -			$ -	$ -
1.2	Coordination with WES				$ -			$ -	$ -
1.2.1	Progress Meetings (18)				$ -			$ -	$ -
					$ -			$ -	$ -
					$ -			$ -	$ -
1.3	Internal Team Coordination				$ -			$ -	$ -
1.3.1	Project coordination meetings - biweekly (18)				$ -			$ -	$ -
1.3.2	Deliverable coordination (Predesign Report and 30% P&S)				$ -			$ -	$ -
1.3.3	Manage Decisions Log & Risk Register (35 weeks)				$ -			$ -	$ -
					$ -			$ -	$ -
2.0	Baseline Conditions	24	2	26	$ 6,180	335	5,000	$ 5,335	$ 11,515
2.1	Kickoff Meeting with WES Project Team				$ -			$ -	$ -
2.1.1	Prep				$ -			$ -	$ -
2.1.2	Deliver				$ -			$ -	$ -
					$ -			$ -	$ -
2.2	Sampling and Data Collection Protocol and Analysis				$ -			$ -	$ -
2.2.1	Sampling Plan				$ -			$ -	$ -
2.2.2	Results / Analysis				$ -			$ -	$ -
					$ -			$ -	$ -
2.3	Scanning and Condition Assessment of Existing Facility				$ -			$ -	$ -
2.3.1	On-site Scanning (2 day)				$ -			$ -	$ -
					$ -			$ -	$ -
2.3.2	Structural, Mechanical, Electrical, Process Assessment				$ -			$ -	$ -
2.3.3	I&C Assessment				$ -			$ -	$ -
2.3.4	Corrosion / Coatings Assessment	24	2	26	$ 6,180	335	5,000	$ 5,335	$ 11,515
2.3.5	Technical Memo				$ -			$ -	$ -
2.3.6	Update Base Revit Model				$ -			$ -	$ -
					$ -			$ -	$ -
2.4	Hydraulic Analysis				$ -			$ -	$ -
2.4.1	Build Model & Scenarios				$ -			$ -	$ -
2.4.2	ID Structural & Mechanical Bottlenecks and Potential Solutions				$ -			$ -	$ -
2.4.3	Technical Memo				$ -			$ -	$ -
					$ -			$ -	$ -
3.0	Alternatives Analysis				$ -	-	-	$ -	$ -
3.1	Disinfection Alternatives Analysis				$ -			$ -	$ -
3.1.1	UV manufacturers / product research / initial quotes (3)				$ -			$ -	$ -
					$ -			$ -	$ -
3.1.2	Hybrid scenarios (2)				$ -			$ -	$ -
3.1.3	Layouts / Illustrations for communications (10% level) (6 or 7 model views)				$ -			$ -	$ -
3.1.4	Develop Initial Screening Criteria and Scoring				$ -			$ -	$ -
3.1.5	Initial Alternatives Cost Estimates (AACE Class 10, up to 3)				$ -			$ -	$ -
					$ -			$ -	$ -
3.1.6	Site Visit Allowance (3 trips)				$ -			$ -	$ -
3.2	Staff Workshops				$ -			$ -	$ -
3.2.1	Workshop 1 Focus Group - Prep				$ -			$ -	$ -
3.2.2	Workshop 1 Focus Group - Deliver and Followup				$ -			$ -	$ -
3.2.3	Workshop 2 Alternatives Review & Prelim Selection - Prep				$ -			$ -	$ -
3.2.4	Workshop 2 Alternatives Review & Prelim Selection - Deliver & Followup				$ -			$ -	$ -
					$ -			$ -	$ -
3.3	Predesign Report				$ -			$ -	$ -
3.3.1	Draft Predesign Report - narrative				$ -			$ -	$ -
3.3.2	Draft Predesign Report - illustrations				$ -			$ -	$ -
					$ -			$ -	$ -
3.3.3	Final Predesign Report				$ -			$ -	$ -
					$ -			$ -	$ -
3.4	Procurement Support				$ -			$ -	$ -
3.4.1	Review Policy				$ -			$ -	$ -
3.4.2	Technical Documentation (UV Spec)				$ -			$ -	$ -
3.4.3	Assemble Solicitation Package				$ -			$ -	$ -
					$ -			$ -	$ -
4.0	30% Design				$ -	-	-	$ -	$ -
4.1	Design Developmnet				$ -			$ -	$ -
4.1.1	General/Civil/Arch: 4/4/1 sheets				$ -			$ -	$ -
4.1.2	M/P/S: 4/2/4 sheets				$ -			$ -	$ -
4.1.3	Elec/I&C: 4/2 sheets				$ -			$ -	$ -
					$ -			$ -	$ -
4.2	Estimate of Probable Construction Costs (Class 5, with Basis of Estimate Doc)				$ -			$ -	$ -
					$ -			$ -	$ -
5.0	Quality Assurance and Quality Control				$ -	-	-	$ -	$ -
5.1	QA/QC for Project Management				$ -			$ -	$ -
5.1.1	QA/QC Meeting Minutes				$ -			$ -	$ -
					$ -			$ -	$ -
5.2	QA/QC for Baseline Conditions				$ -			$ -	$ -
5.2.1	Sampling and Data Collection				$ -			$ -	$ -
5.2.2	Condition Assessment				$ -			$ -	$ -
5.2.3	Hydraulic Analysis				$ -			$ -	$ -
					$ -			$ -	$ -
5.3	QA/QC for Alternatives Analysis				$ -			$ -	$ -
5.3.1	Predesign Report				$ -			$ -	$ -
5.3.2	Procurement Support				$ -			$ -	$ -
					$ -			$ -	$ -
5.4	QA/QC for 30% Design				$ -			$ -	$ -
5.4.1	Design Plans				$ -			$ -	$ -
5.4.2	Estimate of Probable Construction Cost				$ -			$ -	$ -
					$ -			$ -	$ -
	Total Hours	24	2	26					
TOTALS		$ 6,000	$ 180	26	$ 6,180	$ 335	$ 5,000	$ 5,335	$ 11,515

Clackamas WES	Staff Name	Arch	Labor Summary		Expenses	Expense Total	TOTAL
Kellogg Cr. UV Disinfection Upgrade Ph. 1	Title/Category	Principal	Hours	Dollars			
OPTIONAL Architecture	Billing Rate	250.00					
TOTAL FEE ESTIMATE		$ 13,500	54	$ 13,500	$ -	$ -	$ 13,500
1.0	Project Management	10	10	$ 2,500	-	$ -	$ 2,500
1.1	Setup, Invoices, and Status Reports			$ -		$ -	$ -
1.1.1	Setup			$ -		$ -	$ -
1.1.2	Invoices & EVR (8 months)	4	4	$ 1,000		$ -	$ 1,000
				$ -		$ -	$ -
1.2	Coordination with WES			$ -		$ -	$ -
1.2.1	Progress Meetings (18)			$ -		$ -	$ -
		2	2	$ 500		$ -	$ 500
				$ -		$ -	$ -
1.3	Internal Team Coordination			$ -		$ -	$ -
1.3.1	Project coordination meetings - biweekly (18)	4	4	$ 1,000		$ -	$ 1,000
1.3.2	Deliverable coordination (Predesign Report and 30% P&S)			$ -		$ -	$ -
1.3.3	Manage Decisions Log & Risk Register (35 weeks)			$ -		$ -	$ -
				$ -		$ -	$ -
2.0	Baseline Conditions			$ -	-	$ -	$ -
2.1	Kickoff Meeting with WES Project Team			$ -		$ -	$ -
2.1.1	Prep			$ -		$ -	$ -
2.1.2	Deliver			$ -		$ -	$ -
				$ -		$ -	$ -
2.2	Sampling and Data Collection Protocol and Analysis			$ -		$ -	$ -
2.2.1	Sampling Plan			$ -		$ -	$ -
2.2.2	Results / Analysis			$ -		$ -	$ -
				$ -		$ -	$ -
2.3	Scanning and Condition Assessment of Existing Facility			$ -		$ -	$ -
2.3.1	On-site Scanning (2 day)			$ -		$ -	$ -
				$ -		$ -	$ -
2.3.2	Structural, Mechanical, Electrical, Process Assessment			$ -		$ -	$ -
2.3.3	I&C Assessment			$ -		$ -	$ -
2.3.4	Corrosion / Coatings Assessment			$ -		$ -	$ -
2.3.5	Technical Memo			$ -		$ -	$ -
2.3.6	Update Base Revit Model			$ -		$ -	$ -
				$ -		$ -	$ -
2.4	Hydraulic Analysis			$ -		$ -	$ -
2.4.1	Build Model & Scenarios			$ -		$ -	$ -
2.4.2	ID Structural & Mechanical Bottlenecks and Potential Solutions			$ -		$ -	$ -
2.4.3	Technical Memo			$ -		$ -	$ -
				$ -		$ -	$ -
3.0	Alternatives Analysis	12	12	$ 3,000	-	$ -	$ 3,000
3.1	Disinfection Alternatives Analysis			$ -		$ -	$ -
3.1.1	UV manufacturers / product research / initial quotes (3)			$ -		$ -	$ -
				$ -		$ -	$ -
3.1.2	Hybrid scenarios (2)			$ -		$ -	$ -
3.1.3	Layouts / Illustrations for communications (10% level) (6 or 7 model views)			$ -		$ -	$ -
3.1.4	Develop Initial Screening Criteria and Scoring			$ -		$ -	$ -
3.1.5	Initial Alternatives Cost Estimates (AACE Class 10, up to 3)			$ -		$ -	$ -
				$ -		$ -	$ -
3.1.6	Site Visit Allowance (3 trips)			$ -		$ -	$ -
				$ -		$ -	$ -
3.2	Staff Workshops			$ -		$ -	$ -
3.2.1	Workshop 1 Focus Group - Prep			$ -		$ -	$ -
3.2.2	Workshop 1 Focus Group - Deliver and Followup			$ -		$ -	$ -
3.2.3	Workshop 2 Alternatives Review & Prelim Selection - Prep			$ -		$ -	$ -
3.2.4	Workshop 2 Alternatives Review & Prelim Selection - Deliver & Followup			$ -		$ -	$ -
				$ -		$ -	$ -
3.3	Predesign Report			$ -		$ -	$ -
3.3.1	Draft Predesign Report - narrative			$ -		$ -	$ -
3.3.2	Draft Predesign Report - illustrations	12	12	$ 3,000		$ -	$ 3,000
				$ -		$ -	$ -
3.3.3	Final Predesign Report			$ -		$ -	$ -
				$ -		$ -	$ -
3.4	Procurement Support			$ -		$ -	$ -
3.4.1	Review Policy			$ -		$ -	$ -
3.4.2	Technical Documentation (UV Spec)			$ -		$ -	$ -
3.4.3	Assemble Solicitation Package			$ -		$ -	$ -
				$ -		$ -	$ -
4.0	30% Design	32	32	$ 8,000	-	$ -	$ 8,000
4.1	Design Developmnet			$ -		$ -	$ -
4.1.1	General/Civil/Arch: 4/4/1 sheets	32	32	$ 8,000		$ -	$ 8,000
4.1.2	M/P/S: 4/2/4 sheets			$ -		$ -	$ -
4.1.3	Elec/I&C: 4/2 sheets			$ -		$ -	$ -
4.2	Estimate of Probable Construction Costs (Class 5, with Basis of Estimate Doc)			$ -		$ -	$ -
				$ -		$ -	$ -
5.0	Quality Assurance and Quality Control			$ -	-	$ -	$ -
5.1	QA/QC for Project Management			$ -		$ -	$ -
5.1.1	QA/QC Meeting Minutes			$ -		$ -	$ -
				$ -		$ -	$ -
5.2	QA/QC for Baseline Conditions			$ -		$ -	$ -
5.2.1	Sampling and Data Collection			$ -		$ -	$ -
5.2.2	Condition Assessment			$ -		$ -	$ -
5.2.3	Hydraulic Analysis			$ -		$ -	$ -
				$ -		$ -	$ -
5.3	QA/QC for Alternatives Analysis			$ -		$ -	$ -
5.3.1	Predesign Report			$ -		$ -	$ -
5.3.2	Procurement Support			$ -		$ -	$ -
				$ -		$ -	$ -
5.4	QA/QC for 30% Design			$ -		$ -	$ -
5.4.1	Design Plans			$ -		$ -	$ -
5.4.2	Estimate of Probable Construction Cost			$ -		$ -	$ -
				$ -		$ -	$ -
	Total Hours	54	54				
TOTALS		$ 13,500	54	$ 13,500	$ -	$ -	$ 13,500