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CLACKAMAS

WATER ENVIRONMENT SERVICES

GREGORY L. GEIST | DIRECTOR

Water Quality Protection
Surface Water Management
Wastewater Collection & Treatment

September 17, 2026

BCC Agenda Item: _____

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

Approval of Amendment #1 to Contract #1120 with Parametrix, Inc for engineering services and design of Phase 2 of the Kellogg Creek Water Resource Recovery Facility Disinfection Project. The amended value is \$998,923.35, increasing the total contract value to \$1,469,625.35. Funding is through WES Sanitary Sewer Construction Funds. No County General Funds are involved.

Previous Board Action/Review: Original contract #1120 approved February 6, 2025.

Performance Clackamas: 1. This project supports WES' strategic plan to upgrade WES' infrastructure to ensure the sustainable delivery of reliable, high-quality, and climate-resilient clean water services that support the growth and vitality of our communities, natural environment, and economy.

2. This project supports the County's Strategic Priorities of Strong Infrastructure, Vibrant Economy, and Safe, Secure and Livable Communities.

Counsel Review: Yes

Procurement Review: Yes

Contact Person: Jeff Stallard

Contact Phone: 503-278-2311

EXECUTIVE SUMMARY: The Disinfection Facility at the Kellogg Creek Water Resource Recovery Facility inactivates waterborne pathogens in a final phase of treatment, before releasing fully treated wastewater to the river. Most wastewater is disinfected with ultraviolet light (UV) using an existing antiquated UV system that has reached the end of its service life and will be replaced as part of this project. Phase 1 of this project was for preliminary design and UV equipment selection. This amendment authorizes Phase 2 engineering services of the project which include development of a complete final design, bidding support and engineering services during construction.

Both the Willamette Facilities Plan and the WES Capital Improvement Plan identify the need for this project. This project is included in our approved budget.

RECOMMENDATION: Staff recommends that the Board of County Commissioners of Clackamas County, acting as the governing body of Water Environment Services, approve Amendment #1 to Contract #1120 with Parametrix, Inc for engineering services and design of Phase 2 of the Kellogg Creek Water Resource Recovery Facility Disinfection Project.

Respectfully submitted,

Ron Wierenga
Assistant Director, WES

Attachment: Amendment #1, Contract #1120 Parametrix, Inc.

For Filing Use Only

AMENDMENT #1
TO THE CONTRACT DOCUMENTS WITH PARAMETRIX, INC. FOR THE KELLOGG
CREEK WATER RESOURCE RECOVERY FACILITY DISINFECTION PROJECT
Contract #0000001120

This Amendment #1 is entered into between **Parametrix, Inc.**, (“Contractor”) and Water Environment Services (“District”) and shall become part of the Contract documents entered into between both parties on **February 6, 2025** (“Contract”).

The Purpose of this Amendment #1 is to make the following changes to the Contract:

1. ARTICLE I, Section 1. **Effective Date and Duration** is hereby amended as follows:
The Contract termination date is hereby changed from June 30, 2027 to **June 30, 2028**.
2. ARTICLE I, Section 2. **Scope of Work** is hereby amended as follows:
The Amendment #1 authorizes Contactor to begin Work on Phase 2 of the Kellogg Creek Water Resource Recovery Facility Disinfection Project as contemplated in the RFP. Phase 2 will advance the design through final contract documents, support the project through bidding, provide engineering services during construction, and assist with startup, commissioning, and project closeout. Phase 2 is further described in Exhibit “A” to this Amendment #1 and hereby incorporated by reference.
3. ARTICLE I, Section 3. **Consideration** is hereby amended as follows:
District is authorizing an additional \$998,923.35 for Contractor’s performance of Phase 2 Work. Contractor’s Fee Schedule is hereby attached and incorporated by reference as Exhibit “B” to this Amendment #1. The total Contract Compensation shall not exceed \$1,469,625.35.

ORIGINAL CONTRACT	\$ 470,702.00
AMENDMENT #1	\$ 998,923.35
TOTAL AMENDED CONTRACT	\$ 1,469,625.35

Except as expressly amended above, all other terms and conditions of the Contract shall remain in full force and effect. By signature below, the parties agree to this Amendment #1, effective upon the date of the last signature below.

Parametrix, Inc.

 09/03/2026
Authorized Signature Date

Austin Fisher, VP

Printed Name

Water Environment Services

Chair Date

Approved for Legal Sufficiency:

 9/9/2026
County Counsel Date

Exhibit A
Scope of Work for Phase 2

Clackamas Water Environment Services (WES) Kellogg Creek WRRF Disinfection Project Phase 2 – Design, Bid, Construction, and Closeout Services

Introduction

Phase 1 of the Kellogg Creek Water Resource Recovery Facility (KCWRRF) Disinfection Project has been completed, resulting in a Preliminary Design Report, 30% design drawings, equipment pre-procurement package, and selection of a preferred UV disinfection arrangement. Phase 1 established the design basis, confirmed existing conditions through structural, mechanical, electrical, and I&C assessments, developed and evaluated disinfection alternatives through stakeholder workshops, and advanced the design to a 30% level of detail.

Phase 2 will advance the design through final contract documents, support the project through bidding, provide engineering services during construction, and assist with startup, commissioning, and project closeout. The scope encompasses the following major phases of work:

- Coordination Drawings – A focused set of drawings to coordinate with the preselected UV equipment manufacturer, incorporating manufacturer-specific equipment data into the design.
- 90% Design – Full design package across all disciplines including drawings, specifications, and an AACE Class 1 opinion of probable construction cost.
- 100% / Bid Design – Final contract documents incorporating WES review comments, updated cost estimate, and permit-ready package.
- Bid Phase Services – Pre-bid meeting support, bidder question responses, addenda preparation, and bid evaluation assistance.
- Services During Construction (SDC) – Submittal review, RFI responses, construction observation, change order assistance, and systems integration coordination.
- Startup and Closeout – Commissioning support, performance testing review, O&M manual review, record drawings, and warranty-period assistance.

The complete list of drawings and specifications to be produced under this scope is provided in the attached **Drawing List** and **Specification List**. These lists identify the drawing number, title, lead firm, and applicable design submittal for each sheet and specification section, respectively. Sheet counts and specification sections referenced in the task descriptions below are approximate and may vary as the design develops; the attached lists shall govern.

The UV equipment manufacturer will have been preselected through the procurement process completed in Phase 1. The Phase 2 design will be coordinated with the manufacturer's shop drawings and technical submittals to produce a fully integrated, constructible set of contract documents.

"Contractor" refers to the selected general contractor that performs the construction, installation, and commissioning of the UV disinfection system.

General Project Assumptions

The following assumptions apply to all tasks within this scope of work:

- Design will be based on the selected alternative and design criteria established in the Phase 1 Preliminary Design Report. Effort for significant changes to the selected alternative or design basis is not included within this scope of work.
- Phase 1 deliverables, including the point cloud, Revit model, hydraulic model, condition assessment findings, and sampling and testing data, are accurate and sufficient for final design. Additional field scanning, surveying, or subsurface investigation is not included within this scope of work.
- The 12-month sampling and testing program established during Phase 1 is complete, and the resulting data is sufficient for final UV system sizing and the manufacturer's Certification of Compliance.
- Design standards and codes in effect at the time of design initiation will govern. Effort for redesign required by code changes enacted after design initiation is not included within this scope of work.
- No environmental review, cultural resources investigation, or land use permitting is required for this project.
- No geotechnical investigation beyond the Phase 1 work is anticipated. Foundation design for the flow meter vault, UV canopy, and electrical shelter will be based on the geotechnical data referenced in the Phase 1 structural design notes.
- Based on the Phase 1 electrical load analysis, the existing 1,500 kW standby generator is assumed to have sufficient capacity for the new UV system. Final confirmation will occur upon receipt of the selected manufacturer's electrical data. Generator capacity upgrades are not included within this scope of work.
- The dedicated 208V generator serving the existing UV system will be retired under this project. Remaining Chemical Building Electrical Room loads will be transferred to a new 480V panelboard, provided with a new 480V/208V transformer feeding a new 208V panel for the remaining loads.
- Construction duration is estimated at approximately twenty (20) months. An extended construction period may require additional project management and construction-phase support effort.
- The project schedule anticipates advertisement for construction bids in the first quarter of 2027, with construction beginning in the 2027 dry season.
- Effort for redesign due to differing site conditions or unforeseen conditions encountered during construction is not included within this scope of work.
- Submittal and RFI quantities included in this scope are estimated based on projects of similar scope and complexity. Actual quantities exceeding the budgeted allowance will be tracked and may require a contract amendment.
- The UV equipment manufacturer will provide complete and timely shop drawings, installation manuals, performance testing protocol and testing results confirmation/certification, and O&M documentation as required by the equipment specification.

Project Team and Billing Rates

The staff rates have been established and will be billed per the requirements stipulated within the original contract for this project. Key staff for Phase 2 include:

- **Jen Murphy** – Project Manager / Principal Consultant
- **Brandon Moss** – Deputy PM / Design Manager
- **Randy Arizmendiz** – Process / Mechanical Lead
- **Emma Sheets** – Mechanical Engineer / Project Engineer / Field Engineer
- **Marvin Casanova** – Senior Electrical / I&C Engineer
- **Russ Wells** – Electrical / I&C Staff Engineer
- **Steve Wagner** – Structural Lead
- **Andrew Peterson** – BIM / Modeling Lead

Kennedy Jenks will continue as a subconsultant providing process and UV technical expertise.

Task 01 – Project Management

Objectives

Provide overall project management of the consultant contract with WES for the duration of Phase 2 services, from design through construction closeout. 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 and update the Project Management Plan, Health and Safety Plan, and Risk Register from Phase 1.

Deliverables

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

Assumptions

- Progress reports and invoices submitted via email.

- Project duration for design and bid phases is approximately ten (10) months from Notice to Proceed, with construction, startup, and closeout duration of approximately fourteen (14) months.
- Task 01 Project Management covers the full duration of Phase 2.

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

Approach

The consultant team will participate in regular progress meetings with the WES project team throughout the duration of Phase 2.

Deliverables

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

Assumptions

- Up to 40 progress meetings during the design and construction phases (approximately biweekly over 20 months). Meetings will generally be one hour in duration and have up to 2 consultant staff (typically PM and DM, but when needed and appropriate, additional team members will attend).
- Meetings will be held via Teams or hybrid Teams and in-person, depending on attendees' location.

Subtask 01-03 – Internal Team Coordination

This task includes management and coordination functions across all Phase 2 tasks 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 meetings, and provide direction to the project team.

Assumptions

- Budget assumes up to 40 coordination meetings during design (9 months of weekly meetings, approx. 40 weeks [July – March]) with an average of 6 consultant staff. Regular internal coordination meetings not included or anticipated for construction.
- 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 – Coordination Drawings

Objectives

Coordinate with the preselected UV equipment manufacturer to incorporate manufacturer-specific equipment data into the design. The Coordination Drawings submittal will focus on drawings and design elements that require direct manufacturer input. This submittal is not a full-discipline package; it is targeted at resolving manufacturer-dependent design elements to enable the full 90% design.

Subtask 02-01 – UV Manufacturer and Electrical Service Coordination

Approach

The consultant team will coordinate directly with the preselected UV manufacturer to obtain and incorporate the following into the design:

- Confirmed UV bank dimensions, weights, and anchoring requirements.
- Electrical load data including power panel sizing, cable requirements, and control interface specifications and panel layouts.
- PROFINET data mapping and communication protocol details for integration with the existing plant SCADA system (PLC-4).
- UV transmittance analyzer specifications and sampling requirements.
- Level control requirements and final coordination of level control equipment.
- Cleaning system configuration (self-cleaning mechanism details).
- Manufacturer's Certification of Compliance parameters based on sampling and testing data collected during Phase 1.

The consultant team will review the UV prepurchase proposals received in July 2026, evaluate conformance with the pre-procurement specification and design criteria, prepare clarification questions to suppliers as needed, and provide WES a selection recommendation.

The consultant team will also investigate the electrical service tie-in and Chemical Building load transfer, including:

- Verification of the available breaker space in Section 7 of the existing paralleling switchgear, selection of a compatible breaker coordinated with the switchgear manufacturer, and confirmation of a conduit path out of the switchgear, tracing the three existing spare conduits or designing a sidewall exit through Section 8.
- Inventory of the remaining non-UV loads in the Chemical Building Electrical Room and load calculations supporting transfer of those loads to the existing 480V panelboard, allowing WES to retire the dedicated 208V UV backup generator.
- Up to two (2) electrical field investigation site visits and review of WES-provided switchgear and generator records.

Deliverables

- Technical coordination log documenting manufacturer submittals received and design decisions made.

- Electrical service tie-in and load transfer findings memorandum.
- UV prepurchase proposal review comments and selection recommendation.
- Updated design, testing, and commissioning criteria reflecting manufacturer-confirmed parameters.

Assumptions

- The UV manufacturer has been preselected and is under contract with WES prior to the start of this task.
- The manufacturer will provide shop drawings and technical submittals within 8 weeks of contract execution.
- Up to 6 coordination meetings with the UV manufacturer are included.
- Addition of a circuit breaker in the available Section 7 space is assumed to be compatible with the existing switchgear lineup. Switchgear replacement and utility service upgrades are not included.
- Remaining Chemical Building loads are assumed to be within the capacity of the existing 480V panelboard. WES will provide escorted or de-energized access to the switchgear and available equipment records.
- Up to three (3) prepurchase proposals will be reviewed, with one round of clarification questions to suppliers.

Subtask 02-02 – Coordination Drawings

Approach

The consultant team will produce a focused set of drawings for coordination with the UV manufacturer and WES review. The Coordination Drawings set will include drawings identified in the Coordination Drawings column of the attached **Drawing List**. These drawings are limited to disciplines and content that require manufacturer input, including updated P&IDs, hydraulic profile, mechanical layouts and sections, structural modifications for UV bank anchoring, and electrical panel, and cable and conduit routing confirmation. Additional civil, erosion control, and several general, mechanical, and electrical detail sheets will be introduced at the 90% submittal.

Deliverables

- Coordination Drawings per the attached **Drawing List**.
- AutoCAD and Revit design files.

Assumptions

- Sheet counts are identified in the attached **Drawing List** and may vary slightly based on design development.
- Civil, erosion control, and remaining detail sheets are not included in the Coordination Drawings and will be introduced at 90%.

Subtask 02-03 – Coordination Drawings Review Workshop

Approach

The consultant team will facilitate a review workshop with WES to present the Coordination Drawings, discuss manufacturer coordination outcomes, and gather feedback for incorporation into the 90% submittal.

Deliverables

- Workshop presentation materials including updated 3D Revit model views with manufacturer equipment.
- Workshop summary memo documenting WES feedback and action items.

Assumptions

- One workshop of approximately 2 hours, held in-person at KCWRRF or a WES facility with up to 4 consultant staff.
- WES will provide a single, consolidated set of review comments within three calendar weeks of the Coordination Drawings submittal.

Task 03 – 90% Design

Objectives

Advance the design to a 90% level of completion across all disciplines, producing a full design package including drawings, technical specifications, and an updated opinion of probable construction cost. The 90% submittal represents the first complete, multi-discipline design package and will be submitted to WES for comprehensive review.

Work on many of the 90% drawings will commence in parallel with Task 2 for those items where the UV manufacturer is irrelevant. This includes:

- Design of the revised Secondary Effluent pipe and flowmeter
- Influent connection consisting of a tap on the secondary effluent piping with a new concrete channel division structure and new gates upstream of the existing UV channels
- UV deck canopy and ingress/egress changes
- Sitework
- Gate modifications
- Electrical building design
 - Standing seam metal roof selected for longevity
 - Plumbing and HVAC serving the electrical room and the control room with its sink and effluent composite sampler
 - Electrical feed to the UV electrical building as well as the re-feed of the chemical storage building electrical. The electrical feed design includes the paralleling switchgear breaker addition, conduit routing from the switchgear to the UV area, transfer of remaining Chemical Building loads to the existing 480V panelboard, and demolition of the 208V UV backup generator and associated transfer equipment.

Subtask 03-01 – 90% Design Drawings

Approach

Building on the Coordination Drawings and incorporating WES review comments and final manufacturer coordination, the consultant team will produce a complete set of design drawings across all disciplines as identified in the attached **Drawing List**. The 90% set expands the Coordination Drawings package to include all remaining sheets including general notes and cover, demolition sections, civil site plan and details, erosion and sediment control, chemical disinfection backup P&ID, canopy and electrical shelter structural details, remaining mechanical details and equipment schedules, electrical elementary diagrams and conduit schedules, lighting and grounding plans, and I&C control panel layouts and loop diagrams.

Deliverables

- 90% design drawings per the attached **Drawing List**.
- AutoCAD and Revit design files.

Assumptions

- Drawing set provided in PDF format.
- Sheet counts are identified in the attached **Drawing List** and may vary based on design development.
- Drawings will be produced in Revit and AutoCAD using the point cloud and Revit model developed during Phase 1.

Subtask 03-02 – 90% Specifications

Approach

The consultant team will prepare technical specifications for the project. Specifications will follow CSI MasterFormat and will include all divisions required for the project as identified in the attached **Specification List**. The Specification List identifies the section number, title, lead firm, and responsible engineer for each section.

WES will provide Division 00 (Procurement and Contracting Requirements) and selected Division 01 (General Requirements) sections as identified in the **Specification List**. Parametrix will prepare all technical specifications. The UV disinfection equipment specification (Section 46 43 00) will incorporate the pre-procurement specification from Phase 1, updated to reflect manufacturer-specific requirements and basis-of-bid language. A Division 01 section will assign the pre-purchased UV disinfection equipment agreement between WES and the manufacturer to the Contractor.

Deliverables

- 90% technical specifications per the attached **Specification List**.

Assumptions

- Specifications will be delivered as a single combined PDF for WES review and comment.

Subtask 03-03 – Opinion of Probable Construction Cost (AACE Class 1)

Approach

The team will prepare an AACE Class 2 OPCC based on the 90% design documents.

Deliverables

- AACE Class 2 engineer's opinion of probable construction costs.
- Basis of estimate document.

Subtask 03-04 – 90% Design Review Workshop

Approach

The consultant team will facilitate a review workshop with WES to present the 90% design, walk through key design decisions, and gather feedback for incorporation into the 100% / Bid documents.

Deliverables

- Workshop presentation materials.
- Workshop summary memo documenting WES feedback and action items.

Assumptions

- One workshop of approximately 2 hours, held in-person at KCWRRF or a WES facility with up to 4 consultant staff.
- WES will provide a single, consolidated set of review comments within four calendar weeks of the 90% submittal.

Task 04 – 100% / Bid Design

Objectives

Finalize the contract documents incorporating WES review comments from the 90% submittal. Produce a complete, permit-ready, bid-ready set of contract documents including final drawings, specifications, and updated opinion of probable construction cost.

Subtask 04-01 – 100% / Bid Drawings and Specifications

Approach

The consultant team will incorporate WES review comments and finalize all drawings and specifications for the bid package. The final set will include the same sheets and specification sections as the 90% submittal, per the attached **Drawing List** and **Specification List**, with all review comments addressed.

Deliverables

- 100% / Bid drawings per the attached **Drawing List**.
- 100% / Bid technical specifications per the attached **Specification List**.

- Final specifications delivered in PDF format.
- AutoCAD and Revit design files, and PDF drawing set suitable for advertisement.

Subtask 04-02 – Opinion of Probable Construction Cost Update

Approach

The team will update the OPCC to AACE Class 1 estimate based on the final 100% design documents.

Deliverables

- Updated AACE Class 1 engineer's opinion of probable construction costs.
- Updated basis of estimate document.

Subtask 04-03 – Permitting Support

Approach

The consultant team will support WES with required permits for the construction work, including coordination with Clackamas County and Oregon DEQ as needed.

Deliverables

- Permit application support documentation.
- Technical responses to permit review comments.

Assumptions

- WES will lead the permitting process, submit for permit application(s), and provide all application fees.
- Permitting will be performed following submission and acceptance of 90% and prior to issuance of 100% bid documents.
- Permits are anticipated to include erosion control/grading, electrical, mechanical, plumbing, and building/structural permits.
- An allowance of hours for permitting support has been included. Significant permitting efforts beyond what is included are not included within this scope of work.
- Oregon DEQ permitting assistance is not included in the scope.

Task 05 – Bid Phase Services

Objectives

Provide engineering support during the bidding and advertisement period to ensure that prospective contractors have the information needed to submit competitive, responsive bids.

Subtask 05-01 – Bidding Support

Approach

The consultant team will provide the following services during the bidding period:

- Attend one pre-bid meeting and one site walk with prospective bidders with up to two consultant staff.
- Respond to bidder questions and requests for information during the bid period.
- Prepare and issue addenda as needed to clarify or modify the contract documents.
- Review contractor bids and provide a recommendation to WES, if requested.

Deliverables

- Pre-bid meeting attendance and minutes.
- Responses to bidder questions.
- Up to two (2) addenda.
- Bid review summary and recommendation (if requested).

Assumptions

- The bidding period will be approximately 4 to 6 weeks.
- WES will manage and pay expenses associated with the advertisement, bid receipt, and award process.
- Up to two addenda are included, anticipated to be short text-only addenda modifying drawings and specifications language. Significant changes to drawings and specifications or provision of additional addenda are not included within this scope of work.
- Written deliverables will be PDF documents for electronic delivery.

Task 06 – Services During Construction

Objectives

Provide engineering support during the construction phase to assist WES and the Contractor in implementing the design as intended, resolving field issues, and ensuring the completed work meets the contract requirements.

Subtask 06-01 – Conformed Documents

Approach

Following contract award, the consultant team will prepare a conformed set of contract documents incorporating all addenda issued during the bid phase.

Deliverables

- One set of conformed contract documents (drawings and specifications) in PDF format.
- The Revit model and AutoCAD files will be updated and archived as the conformed files.

Subtask 06-02 – Submittal Review

Approach

The consultant team will review Contractor submittals including shop drawings, material data, and product data. Submittals will be reviewed for conformance with the design intent and contract requirements.

Assumptions

- An allowance for submittal review has been included based on the anticipated number and complexity of submittals for this project.
- Submittals will be distributed electronically.
- Re-submittals beyond the first resubmission for each item are not included and will be tracked separately.
- Up to 50 submittals and 20 resubmittals are estimated to be required for this project.

Subtask 06-03 – Request for Information (RFI) Assistance**Approach**

The consultant team will review and respond to RFIs from the Contractor. Responses will be coordinated across disciplines as needed.

Assumptions

- An allowance for RFI responses has been included based on the anticipated scope and complexity of the project.
- RFIs requiring significant redesign effort are not included within this scope of work.
- Up to 20 RFIs are estimated to be required for this project.

Subtask 06-04 – Construction Observation (Optional)**Approach**

The consultant team will provide part-time on-site construction observation during the critical construction period to verify that the work is being constructed in general accordance with the contract documents. Observation will focus on key activities including concrete placement, structural steel erection, UV equipment installation, electrical tie-in, piping and valve installation, and system testing.

WES may have internal resources available to dedicate to construction observation, as such this subtask is optional and will only be provided in part or in whole with written permission from WES to proceed.

Deliverables

- Field observation reports following each site visit.
- Weekly observation summaries during the on-site observation period.

Assumptions

- Approximately 50 on-site construction observation site visits is included, timed to coincide with the critical construction activities within the UV disinfection area.
- Observation schedule will be coordinated with the Contractor's construction schedule and WES staff availability and may be adjusted to align with critical path activities.
- The consultant team is providing construction observation, not full-time construction inspection or construction management. The observer will document progress and conformance with the contract documents but does not direct the Contractor's work.
- Special inspections are not included.

- Concrete materials property and strength testing is not included.
- Consultant staff will follow Parametrix and WES site safety protocols, including confined space entry procedures, unless consultant's procedures are more stringent. Egress and access for observation will be provided by WES or Contractor.
- Travel and lodging expenses are not required. Observer(s) will travel from within 30 miles of site for day trips only.

Subtask 06-05 – Change Order and Field Design Assistance

Approach

The consultant team will provide technical support for evaluating Contractor change order requests, including review of scope, cost, and schedule impacts.

Assumptions

- An allowance for change order assistance has been included. Effort beyond that included within this budget item are not included within this scope of work.

Subtask 06-06 – Systems Integration Coordination

Approach

The consultant team will coordinate with the UV manufacturer, the Contractor, and WES to ensure proper integration of the UV system with the existing plant SCADA system, including PROFINET communication testing, PLC programming coordination, and factory acceptance testing support.

Deliverables

- Systems integration coordination documentation.
- Factory acceptance test (FAT) witness report, if applicable.

Assumptions

- One trip to the UV manufacturer's facility for factory acceptance testing is included if required.
- PLC programming will be performed by WES or the Contractor. The consultant team will provide programming support.

Task 07 – Startup, Commissioning, and Closeout

Objectives

Provide engineering support during startup, commissioning, and project closeout to ensure the UV system is properly installed, tested, and operational, and that project documentation is complete.

Subtask 07-01 – Startup and Commissioning Support

Approach

The consultant team will support WES and the Contractor during functional testing and commissioning of the UV system, including:

- Review of Contractor's startup and commissioning plan.
- On-site support during initial UV system energization and functional testing.
- Support during performance acceptance testing in coordination with the UV manufacturer.
- Review and approval of test results and commissioning documentation.

Assumptions

- Up to 3 site visits during the startup and commissioning period are included.
- The UV manufacturer will provide on-site startup support as part of their equipment contract.

Subtask 07-02 – O&M Manual Review

Approach

The consultant team will review the Contractor's O&M manual submittals for completeness and technical accuracy.

Deliverables

- Review comments on O&M manual submittals.

Assumptions

- One review cycle of the O&M manual is included.

Subtask 07-03 – Record Drawings

Approach

The consultant team will prepare record drawings based on the Contractor's redline markups of the construction documents.

Deliverables

- Record drawings in AutoCAD/Revit and PDF format.
- Revit model and AutoCAD files frozen and archived for Record Drawing set.

Assumptions

- The contractor will provide organized, legible redline markups in a timely manner.
- One round of record drawing preparation is included.

Subtask 07-04 – Project Closeout

Approach

The consultant team will support WES with project closeout activities including:

- Final walk-through and punch list support.
- Review of warranty documentation.
- Preparation of project closeout summary.

Assumptions

- One final site visit for walk-through and punch list review is included.
- An allowance for warranty-period support (up to 12 months after substantial completion) has been included for responding to technical questions related to the design.

Task 08 – 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 08-01: QA/QC for Coordination Drawings
 - Subtask 08-02: QA/QC for 90% Design (Drawings and Specifications)
 - Subtask 08-03: QA/QC for 100% / Bid Design (Drawings and Specifications)
 - Subtask 08-04: QA/QC for Opinion of Probable Construction Cost
 - Subtask 08-05: QA/QC for Construction Phase Deliverables

Exhibit B
Fee Schedule for Phase 2

Date: 8/27/2026			Responsibility	Project Manager	Deputy PM / Design Manager	Mech/Process Lead	Staff Engineer	Designer / BIM	Structural Lead	Structural Engineer	Structural QC	Designer
Clackamas Water Environment Services			Staff Name	J. Murphy	B. Moss	R. Arizmendiz	E. Sheets	A. Peterson	S. Wagner	S. Zychla	M. Pyszka	M. Mollnow
Kellogg Creek WRRF UV Upgrades - Phase 2			Title/Category	Sr Consultant	Sr Engineer	Sr Engineer	Engineer II	Designer III	Sr Engineer	Engineer III	Sr Engineer	Designer III
			Is Capped	Yes	Yes	SME	Yes	Yes	Yes	Yes	Yes	Yes
Parametrix Proj. # 216-1751-035			Billing Rate	\$ 260.00	\$ 254.33	\$ 304.42	\$ 133.79	\$ 171.02	\$ 260.00	\$ 147.39	\$ 260.00	\$ 165.66
TASK NO.	SUBTASK NO.	DESCRIPTION		\$ 32,045.00	\$ 53,409.30	\$ 88,510.12	\$ 95,393.97	\$ 51,689.50	\$ 35,035.00	\$ 36,957.15	\$ 19,500.00	\$ 63,903.35
1		Project Management		58.00	75.00	51.00	80.00		5.00	25.00		
	01-01	Setup, Invoices, and Status Reports		28.00	30.00	6.00						
	01-02	Coordination with Owner (PM Meetings)		20.00	25.00	25.00	40.00		5.00	5.00		
	01-03	Internal Team Coordination		10.00	20.00	20.00	40.00			20.00		
2		Coordination Drawings		12.00	23.25	35.25	70.00	29.25	6.50	22.25		45.50
	02-01	UV Manufacturer and Electrical Service Coordination		8.00	19.00	19.00	38.00					
	02-02	Coordination Drawings			1.25	10.25	32.00	19.25	6.50	22.25		45.50
	02-03	Coordination Drawings Review Workshop		4.00	3.00	6.00		10.00				
3		90% Design		5.00	16.00	73.25	136.25	148.75	42.00	142.25		240.50
	03-01	90% Design Drawings			7.00	38.25	97.25	148.75	29.00	105.25		240.50
	03-02	90% Specifications				19.00	39.00		11.00	37.00		
	03-03	Opinion of Probable Construction Cost (AACE Class 1)		2.00	2.00	6.00						
	03-04	90% Design Review Workshop		3.00	7.00	10.00			2.00			
4		100% / Bid Design		1.00	20.50	52.25	54.75	60.25	29.25	57.25		99.75
	04-01	100% / Bid Drawings and Specifications			3.50	32.25	54.75	60.25	21.25	57.25		99.75
	04-02	Opinion of Probable Construction Cost Update		1.00	1.00	4.00						
	04-03	Permitting Support			16.00	16.00			8.00			
5		Bid Phase Services		6.00	2.00	24.00	4.00		4.00	4.00		
	05-01	Bidding Support		6.00	2.00	24.00	4.00		4.00	4.00		
6		Services During Construction			36.00	36.00	312.00	24.00	42.00			
	06-01	Conformed Documents			4.00	4.00	8.00	24.00				
	06-02	Submittal Review			10.00	10.00	40.00		20.00			
	06-03	Request for Information (RFI) Assistance			10.00	10.00	20.00		10.00			
	06-04	Construction Observation (Optional)					224.00					
	06-05	Change Order and Field Design Assistance			12.00	12.00	12.00		12.00			
	06-06	Systems Integration Coordination					8.00					
7		Startup, Commissioning, and Closeout			11.00	19.00	56.00	40.00	6.00			
	07-01	Startup and Commissioning Support			4.00	4.00	24.00					
	07-02	O&M Manual Review			4.00	4.00	12.00					
	07-03	Record Drawings			3.00	3.00	12.00	40.00	6.00			
	07-04	Project Closeout				8.00	8.00					
8		Quality Assurance and Quality Control (QA/QC)		41.25	26.25						75.00	
	08-01	QA/QC for Coordination Drawings		3.75	1.75						3.50	
	08-02	QA/QC for 90% Design (Drawings and Specifications)		21.25	13.75						27.75	
	08-03	QA/QC for 100% / Bid Design (Drawings and Specifications)		16.25	10.75						19.75	
	08-04	QA/QC for Opinion of Probable Construction Cost										
	08-05	QA/QC for Construction Phase Deliverables									24.00	
Total Hours				123.25	210.00	290.75	713.00	302.25	134.75	250.75	75.00	385.75
TOTALS				\$ 32,045.00	\$ 53,409.30	\$ 88,510.12	\$ 95,393.97	\$ 51,689.50	\$ 35,035.00	\$ 36,957.15	\$ 19,500.00	\$ 63,903.35

Date: 8/27/2026			Responsibility	Electrical/I&C Engineer	Electrical/I&C Lead	QA/QC Lead	Electrical/I&C Designer	Estimator	QC Estimator	Electrical Investigator	Word Processing	Project Controls	Finance
Clackamas Water Environment Services			Staff Name	R. Wells Jr	M. Casanova	C. Wittman	K. Miles	L. McMullan	A. Mannion	J. Reinmuth	A. Lucas	S. Cosgrove	J. Lebow
Kellogg Creek WRRF UV Upgrades - Phase 2			Title/Category	Electrical Engineer II	Sr Electrical Engineer	Sr Consultant	Electrical Designer IV	Estimator	QC Estimator	Sr Electrical Designer	Publications Supervisor	Sr Project Control Specialist	Project Accountant
			Is Capped	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Parametrix Proj. # 216-1751-035			Billing Rate	\$ 144.89	\$ 260.00	\$ 260.00	\$ 199.26	\$ 216.48	\$ 260.00	\$ 217.18	\$ 155.75	\$ 158.93	\$ 105.55
TASK NO.	SUBTASK NO.	DESCRIPTION		\$ 78,600.46	\$ 99,515.00	\$ 25,090.00	\$ 92,407.68	\$ 21,647.88	\$ 6,240.00	\$ 27,365.21	\$ 8,410.74	\$ 4,450.00	\$ 2,955.30
1		Project Management		30.00	5.00							28.00	28.00
	01-01	Setup, Invoices, and Status Reports										28.00	28.00
	01-02	Coordination with Owner (PM Meetings)			5.00								
	01-03	Internal Team Coordination		30.00									
2		Coordination Drawings		60.00	54.50		50.50			28.00			
	02-01	UV Manufacturer and Electrical Service Coordination		12.00	38.00					28.00			
	02-02	Coordination Drawings		48.00	14.50		50.50						
	02-03	Coordination Drawings Review Workshop			2.00								
3		90% Design		251.25	74.25		262.00	60.00			21.00		
	03-01	90% Design Drawings		204.25	53.75		262.00						
	03-02	90% Specifications		47.00	14.50						21.00		
	03-03	Opinion of Probable Construction Cost (AACE Class 1)						60.00					
	03-04	90% Design Review Workshop			6.00								
4		100% / Bid Design		94.25	44.00		119.25	40.00			21.00		
	04-01	100% / Bid Drawings and Specifications		94.25	36.00		119.25				21.00		
	04-02	Opinion of Probable Construction Cost Update						40.00					
	04-03	Permitting Support			8.00								
5		Bid Phase Services			4.00						4.00		
	05-01	Bidding Support			4.00						4.00		
6		Services During Construction		91.00	145.00		20.00			62.00	8.00		
	06-01	Conformed Documents		4.00	8.00		8.00				8.00		
	06-02	Submittal Review		40.00			12.00			20.00			
	06-03	Request for Information (RFI) Assistance		15.00	25.00					10.00			
	06-04	Construction Observation (Optional)			40.00								
	06-05	Change Order and Field Design Assistance		8.00	16.00					8.00			
	06-06	Systems Integration Coordination		24.00	56.00					24.00			
7		Startup, Commissioning, and Closeout		16.00	56.00		12.00			36.00			
	07-01	Startup and Commissioning Support			24.00					24.00			
	07-02	O&M Manual Review		8.00	12.00								
	07-03	Record Drawings		8.00	12.00		12.00			4.00			
	07-04	Project Closeout			8.00					8.00			
8		Quality Assurance and Quality Control (QA/QC)				96.50			24.00				
	08-01	QA/QC for Coordination Drawings				8.00							
	08-02	QA/QC for 90% Design (Drawings and Specifications)				37.25							
	08-03	QA/QC for 100% / Bid Design (Drawings and Specifications)				27.25							
	08-04	QA/QC for Opinion of Probable Construction Cost							24.00				
	08-05	QA/QC for Construction Phase Deliverables				24.00							
Total Hours				542.50	382.75	96.50	463.75	100.00	24.00	126.00	54.00	28.00	28.00
TOTALS				\$ 78,600.46	\$ 99,515.00	\$ 25,090.00	\$ 92,407.68	\$ 21,647.88	\$ 6,240.00	\$ 27,365.21	\$ 8,410.74	\$ 4,450.00	\$ 2,955.30

Date: 8/27/2026			Responsibility							
Clackamas Water Environment Services Kellogg Creek WRRF UV Upgrades - Phase 2 Parametrix Proj. # 216-1751-035			Staff Name	Subconsultant Labor		Subconsultant Expenses	Subconsultant Labor Total	Subconsultant Markup (5%) (Labor Only)	Subconsultant Total	
			Title/Category	Kenney Jenks						
			Is Capped							
			Billing Rate							
TASK NO.	SUBTASK NO.	DESCRIPTION	\$ 141,958.75	\$ -	\$ -	\$ 141,958.75	\$ 7,097.94	\$ 141,958.75		
1		Project Management	\$ 13,680.00	\$ -	\$ -	\$ 13,680.00	\$ 684.00	\$ 13,680.00		
	01-01	Setup, Invoices, and Status Reports	\$ -		\$ -	\$ -	\$ -	\$ -		
	01-02	Coordination with Owner (PM Meetings)	\$ 2,000.00		\$ -	\$ 2,000.00	\$ 100.00	\$ 2,000.00		
	01-03	Internal Team Coordination	\$ 11,680.00		\$ -	\$ 11,680.00	\$ 584.00	\$ 11,680.00		
2		Coordination Drawings	\$ 20,220.00	\$ -	\$ -	\$ 20,220.00	\$ 1,011.00	\$ 20,220.00		
	02-01	UV Manufacturer and Electrical Service Coordination	\$ 16,840.00		\$ -	\$ 16,840.00	\$ 842.00	\$ 16,840.00		
	02-02	Coordination Drawings	\$ 1,700.00		\$ -	\$ 1,700.00	\$ 85.00	\$ 1,700.00		
	02-03	Coordination Drawings Review Workshop	\$ 1,680.00		\$ -	\$ 1,680.00	\$ 84.00	\$ 1,680.00		
3		90% Design	\$ 33,911.25	\$ -	\$ -	\$ 33,911.25	\$ 1,695.56	\$ 33,911.25		
	03-01	90% Design Drawings	\$ 25,131.25		\$ -	\$ 25,131.25	\$ 1,256.56	\$ 25,131.25		
	03-02	90% Specifications	\$ 7,100.00		\$ -	\$ 7,100.00	\$ 355.00	\$ 7,100.00		
	03-03	Opinion of Probable Construction Cost (AACE Class 1)	\$ -		\$ -	\$ -	\$ -	\$ -		
	03-04	90% Design Review Workshop	\$ 1,680.00		\$ -	\$ 1,680.00	\$ 84.00	\$ 1,680.00		
4		100% / Bid Design	\$ 13,687.50	\$ -	\$ -	\$ 13,687.50	\$ 684.38	\$ 13,687.50		
	04-01	100% / Bid Drawings and Specifications	\$ 13,687.50		\$ -	\$ 13,687.50	\$ 684.38	\$ 13,687.50		
	04-02	Opinion of Probable Construction Cost Update	\$ -		\$ -	\$ -	\$ -	\$ -		
	04-03	Permitting Support	\$ -		\$ -	\$ -	\$ -	\$ -		
5		Bid Phase Services	\$ 1,800.00	\$ -	\$ -	\$ 1,800.00	\$ 90.00	\$ 1,800.00		
	05-01	Bidding Support	\$ 1,800.00		\$ -	\$ 1,800.00	\$ 90.00	\$ 1,800.00		
6		Services During Construction	\$ 42,640.00	\$ -	\$ -	\$ 42,640.00	\$ 2,132.00	\$ 42,640.00		
	06-01	Conformed Documents	\$ -		\$ -	\$ -	\$ -	\$ -		
	06-02	Submittal Review	\$ 6,240.00		\$ -	\$ 6,240.00	\$ 312.00	\$ 6,240.00		
	06-03	Request for Information (RFI) Assistance	\$ 4,160.00		\$ -	\$ 4,160.00	\$ 208.00	\$ 4,160.00		
	06-04	Construction Observation (Optional)	\$ 27,200.00		\$ -	\$ 27,200.00	\$ 1,360.00	\$ 27,200.00		
	06-05	Change Order and Field Design Assistance	\$ -		\$ -	\$ -	\$ -	\$ -		
	06-06	Systems Integration Coordination	\$ 5,040.00		\$ -	\$ 5,040.00	\$ 252.00	\$ 5,040.00		
7		Startup, Commissioning, and Closeout	\$ 5,040.00	\$ -	\$ -	\$ 5,040.00	\$ 252.00	\$ 5,040.00		
	07-01	Startup and Commissioning Support	\$ 5,040.00		\$ -	\$ 5,040.00	\$ 252.00	\$ 5,040.00		
	07-02	O&M Manual Review	\$ -		\$ -	\$ -	\$ -	\$ -		
	07-03	Record Drawings	\$ -		\$ -	\$ -	\$ -	\$ -		
	07-04	Project Closeout	\$ -		\$ -	\$ -	\$ -	\$ -		
8		Quality Assurance and Quality Control (QA/QC)	\$ 10,980.00	\$ -	\$ -	\$ 10,980.00	\$ 549.00	\$ 10,980.00		
	08-01	QA/QC for Coordination Drawings	\$ 960.00		\$ -	\$ 960.00	\$ 48.00	\$ 960.00		
	08-02	QA/QC for 90% Design (Drawings and Specifications)	\$ 5,730.00		\$ -	\$ 5,730.00	\$ 286.50	\$ 5,730.00		
	08-03	QA/QC for 100% / Bid Design (Drawings and Specifications)	\$ 4,290.00		\$ -	\$ 4,290.00	\$ 214.50	\$ 4,290.00		
	08-04	QA/QC for Opinion of Probable Construction Cost	\$ -		\$ -	\$ -	\$ -	\$ -		
	08-05	QA/QC for Construction Phase Deliverables	\$ -		\$ -	\$ -	\$ -	\$ -		
Total Hours										
TOTALS			\$ 141,958.75	\$ -	\$ -	\$ 141,958.75	\$ 7,097.94	\$ 141,958.75		
			14.21%							

Date: 8/27/2026		Responsibility			
Clackamas Water Environment Services		Staff Name	Internal Reserve and Indeterminants	WES Authorized Contingency	TOTAL
Kellogg Creek WRRF UV Upgrades - Phase 2		Title/Category			
Parametrix Proj. # 216-1751-035		Is Capped			
		Billing Rate			
TASK NO.	SUBTASK NO.	DESCRIPTION	\$ -	\$ -	\$ 998,923.35
1		Project Management	\$ -	\$ -	\$ 92,784.09
	01-01	Setup, Invoices, and Status Reports			\$ 24,141.71
	01-02	Coordination with Owner (PM Meetings)			\$ 29,957.38
	01-03	Internal Team Coordination			\$ 38,684.99
2		Coordination Drawings	\$ -	\$ -	\$ 109,070.55
	02-01	UV Manufacturer and Electrical Service Coordination			\$ 54,332.15
	02-02	Coordination Drawings			\$ 46,090.74
	02-03	Coordination Drawings Review Workshop			\$ 8,647.67
3		90% Design	\$ -	\$ -	\$ 303,867.31
	03-01	90% Design Drawings			\$ 236,930.23
	03-02	90% Specifications			\$ 40,620.65
	03-03	Opinion of Probable Construction Cost (AACE Class 1)			\$ 15,843.91
	03-04	90% Design Review Workshop			\$ 10,472.51
4		100% / Bid Design	\$ -	\$ -	\$ 146,735.32
	04-01	100% / Bid Drawings and Specifications			\$ 123,244.16
	04-02	Opinion of Probable Construction Cost Update			\$ 10,391.16
	04-03	Permitting Support			\$ 13,100.00
5		Bid Phase Services	\$ -	\$ -	\$ 15,092.47
	05-01	Bidding Support			\$ 15,092.47
6		Services During Construction	\$ -	\$ -	\$ 193,003.89
	06-01	Conformed Documents			\$ 12,909.39
	06-02	Submittal Review			\$ 35,221.45
	06-03	Request for Information (RFI) Assistance			\$ 26,076.47
	06-04	Construction Observation (Optional)			\$ 68,929.50
	06-05	Change Order and Field Design Assistance			\$ 18,487.07
	06-06	Systems Integration Coordination			\$ 31,380.02
7		Startup, Commissioning, and Closeout	\$ -	\$ -	\$ 58,609.56
	07-01	Startup and Commissioning Support			\$ 23,945.44
	07-02	O&M Manual Review			\$ 8,119.59
	07-03	Record Drawings			\$ 19,221.35
	07-04	Project Closeout			\$ 7,323.17
8		Quality Assurance and Quality Control (QA/QC)	\$ -	\$ -	\$ 79,760.16
	08-01	QA/QC for Coordination Drawings			\$ 5,418.08
	08-02	QA/QC for 90% Design (Drawings and Specifications)			\$ 31,938.54
	08-03	QA/QC for 100% / Bid Design (Drawings and Specifications)			\$ 23,683.55
	08-04	QA/QC for Opinion of Probable Construction Cost			\$ 6,240.00
	08-05	QA/QC for Construction Phase Deliverables			\$ 12,480.00
Total Hours					
TOTALS			\$ -	\$ -	\$ 998,923.35

			Kennedy Jenks				
Clackamas Water Environment Services Kellogg Creek WRRF UV Upgrades - Phase 2			Responsibility	Project Manager	UV SME	Mechanical/UV Staff	Field/Civil Staff
			Staff Name	T. Stevens	D. Seymour	E. Wirski	L. Tetzloff
			Title/Category	Project Manager	UV SME	Mechanical / UV Staff	On-site Mtgs / Constr. Field Support / Civil Staff
			Billing Rate	\$ 260.00	\$ 320.00	\$ 200.00	\$ 200.00
TASK NO.	SUBTASK NO.	DESCRIPTION	\$ 5,980	\$ 36,160	\$ 51,700	\$ 36,150	
1		Project Management	8.00		50.00	4.00	
	01-01	Setup, Invoices, and Status Reports					
	01-02	Coordination with Owner (PM Meetings)			10.00		
	01-03	Internal Team Coordination	8.00		40.00	4.00	
2		Coordination Drawings	6.00	38.00	32.50		
	02-01	UV Manufacturer and Electrical Service Coordination	6.00	34.00	22.00		
	02-02	Coordination Drawings			8.50		
	02-03	Coordination Drawings Review Workshop		4.00	2.00		
3		90% Design		4.00	99.75	26.50	
	03-01	90% Design Drawings			72.75	18.50	
	03-02	90% Specifications			25.00	8.00	
	03-03	Opinion of Probable Construction Cost (AACE Class 1)					
	03-04	90% Design Review Workshop		4.00	2.00		
4		100% / Bid Design			39.25	10.25	
	04-01	100% / Bid Drawings and Specifications			39.25	10.25	
	04-02	Opinion of Probable Construction Cost Update					
	04-03	Permitting Support					
5		Bid Phase Services			5.00	4.00	
	05-01	Bidding Support			5.00	4.00	
6		Services During Construction		32.00	26.00	136.00	
	06-01	Conformed Documents					
	06-02	Submittal Review		12.00	12.00		
	06-03	Request for Information (RFI) Assistance		8.00	8.00		
	06-04	Construction Observation (Optional)				136.00	
	06-05	Change Order and Field Design Assistance					
	06-06	Systems Integration Coordination		12.00	6.00		
7		Startup, Commissioning, and Closeout		12.00	6.00		
	07-01	Startup and Commissioning Support		12.00	6.00		
	07-02	O&M Manual Review					
	07-03	Record Drawings					
	07-04	Project Closeout					
8		Quality Assurance and Quality Control (QA/QC)	9.00	27.00			
	08-01	QA/QC for Coordination Drawings		3.00			
	08-02	QA/QC for 90% Design (Drawings and Specifications)	4.50	14.25			
	08-03	QA/QC for 100% / Bid Design (Drawings and Specifications)	4.50	9.75			
	08-04	QA/QC for Opinion of Probable Construction Cost					
	08-05	QA/QC for Construction Phase Deliverables					
Total Hours			23.00	113.00	258.50	180.75	
TOTALS			\$ 5,980.00	\$ 36,160.00	\$ 51,700.00	\$ 36,150.00	

Civil Lead	Civil Designer	Labor Summary			Expenses	Expense Total	Expense Markup	TOTAL
KJ Civil Lead	KJ Civil Designer							
Civil Lead	Civil Designer	Hours	Dollars	Escalation				
\$ 200.00	\$ 175.00							
\$ 3,350	\$ 8,619	641	\$ 141,958.75	\$ -	\$ -	\$ -	\$ -	\$ 141,958.75
4.00		66.00	\$ 13,680.00	\$ -	\$ -	\$ -	\$ -	\$ 13,680.00
		0.00	\$ -	\$ -				\$ -
		10.00	\$ 2,000.00	\$ -				\$ 2,000.00
4.00		56.00	\$ 11,680.00	\$ -				\$ 11,680.00
		76.50	\$ 20,220.00	\$ -	\$ -	\$ -	\$ -	\$ 20,220.00
		62.00	\$ 16,840.00000	\$ -				\$ 16,840.00
		8.50	\$ 1,700.00000	\$ -				\$ 1,700.00
		6.00	\$ 1,680.00	\$ -				\$ 1,680.00
8.25	32.75	171.25	\$ 33,911.25	\$ -	\$ -	\$ -	\$ -	\$ 33,911.25
5.75	32.75	129.75	\$ 25,131.25	\$ -				\$ 25,131.25
2.50		35.50	\$ 7,100.00	\$ -				\$ 7,100.00
		0.00	\$ -	\$ -				\$ -
		6.00	\$ 1,680.00	\$ -				\$ 1,680.00
4.50	16.50	70.50	\$ 13,687.50	\$ -	\$ -	\$ -	\$ -	\$ 13,687.50
4.50	16.50	70.50	\$ 13,687.50	\$ -				\$ 13,687.50
		0.00	\$ -	\$ -				\$ -
		0.00	\$ -	\$ -				\$ -
		9.00	\$ 1,800.00	\$ -	\$ -	\$ -	\$ -	\$ 1,800.00
		9.00	\$ 1,800.00	\$ -				\$ 1,800.00
		194.00	\$ 42,640.00	\$ -	\$ -	\$ -	\$ -	\$ 42,640.00
		0.00	\$ -	\$ -				\$ -
		24.00	\$ 6,240.00	\$ -				\$ 6,240.00
		16.00	\$ 4,160.00	\$ -				\$ 4,160.00
		136.00	\$ 27,200.00	\$ -				\$ 27,200.00
		0.00	\$ -	\$ -				\$ -
		18.00	\$ 5,040.00	\$ -				\$ 5,040.00
		18.00	\$ 5,040.00	\$ -	\$ -	\$ -	\$ -	\$ 5,040.00
		18.00	\$ 5,040.00	\$ -				\$ 5,040.00
		0.00	\$ -	\$ -				\$ -
		0.00	\$ -	\$ -				\$ -
		0.00	\$ -	\$ -				\$ -
		36.00	\$ 10,980.00	\$ -	\$ -	\$ -	\$ -	\$ 10,980.00
		3.00	\$ 960.00	\$ -				\$ 960.00
		18.75	\$ 5,730.00	\$ -				\$ 5,730.00
		14.25	\$ 4,290.00	\$ -				\$ 4,290.00
		0.00	\$ -	\$ -				\$ -
		0.00	\$ -	\$ -				\$ -
		0.00	\$ -	\$ -				\$ -
		0.00	\$ -	\$ -				\$ -
16.75	49.25	641.25						
\$ 3,350.00	\$ 8,618.75	641.25	\$ 141,958.75	\$ -	\$ -	\$ -	\$ -	\$ 141,958.75

PRELIMINARY DRAWINGS LIST																						
Client: Clackamas Water Environment Services																						
Project: Kellogg Creek WRRF UV Upgrades - Phase 2																						
			Roles and Responsibilities					Coord.			Coord Submission				90% Submission				100% Submission			
								Coord.	90%	100%	EOR /				EOR /				EOR /			
Sheet No.	Drawing	Discription	Lead Firm	EOR / AOR	Staff	QC	Dsgnr	32	75	75	EOR / AOR	Staff	QC	Dsgnr	EOR / AOR	Staff	QC	Dsgnr	EOR / AOR	Staff	QC	Dsgnr
GENERAL								3	10	10												
1	G-01	COVER SHEET, VICINITY AND LOCATION MAPS	PMX	B. Moss	E. Sheets	D. Seymour	M. Mollnow		X	X					0.25	0.5	0.25	1	0.25	0.25	0.25	1
2	G-02	INDEX OF DRAWINGS	PMX	B. Moss	E. Sheets	D. Seymour	M. Mollnow		X	X					0.25	0.5	0.25	2	0.25	0.5	0.25	1.5
3	G-03	GENERAL NOTES AND LEGEND	PMX	B. Moss	E. Sheets	D. Seymour	M. Mollnow		X	X					0.5	1.5	0.25	1.5	0.25	0.5	0.25	1
4	G-04	OVERALL SITE PLAN	PMX	B. Moss	E. Sheets	D. Seymour	M. Mollnow		X	X					0.5	2	0.5	4	0.25	0.5	0.25	1.5
5	G-05	UV PERSPECTIVE VIEW - NEW CONDITIONS	PMX	B. Moss	E. Sheets	D. Seymour	M. Mollnow		X	X					0.5	1	0.25	3.5	0.25	0.5	0.25	2
6	G-06	DESIGN CRITERIA AND PROCESS FLOW DIAGRAM	PMX	B. Moss	E. Sheets	D. Seymour	M. Mollnow		X	X					1	4	1	3	0.5	1	0.5	1.5
7	G-07	HYDRAULIC PROFILE	PMX	B. Moss	E. Sheets	D. Seymour	M. Mollnow	X	X	X	0.75	2.5	0.5	2	1.5	4	1	3.5	0.5	1	0.5	1.5
8	G-08	CONSTRUCTION SEQUENCING PLAN 1	PMX	B. Moss	E. Sheets	D. Seymour	M. Mollnow	X	X	X	0.25	1.5	0.25	1	1	3	1	3	0.5	1	0.5	1.5
9	G-09	CONSTRUCTION SEQUENCING PLAN 2	PMX	B. Moss	E. Sheets	D. Seymour	M. Mollnow	X	X	X	0.25	1.5	0.25	1	1	3	1	3	0.5	1	0.5	1.5
10	G-10	CONSTRUCTION SEQUENCING DETAILS	PMX	B. Moss	E. Sheets	D. Seymour	M. Mollnow		X	X					0.5	2.25	0.5	3.5	0.25	0.5	0.5	1.75
DEMOLITION								4	5	5												
11	D-01	DEMOLITION NOTES	PMX	R. Arizmendiz	E. Sheets	C. Wittman	M. Mollnow	X	X	X	0.25	1	0.25	1.5	0.5	1.5	0.25	2	0.25	0.5	0.25	1
12	D-02	DEMOLITION CHEMICAL BUILDING	PMX	R. Arizmendiz	E. Sheets	C. Wittman	M. Mollnow	X	X	X	1	4	0.5	6	1	5	1	8.25	0.5	2	0.5	3
13	D-03	DEMOLITION LOWER PLAN	PMX	R. Arizmendiz	E. Sheets	C. Wittman	M. Mollnow	X	X	X	0.5	2.25	0.5	2.75	1	4.5	1	7.25	0.5	1.75	0.5	2.75
14	D-04	DEMOLITION UPPER PLAN	PMX	R. Arizmendiz	E. Sheets	C. Wittman	M. Mollnow	X	X	X	0.5	2.25	0.5	2.75	1	4.5	1	7.25	0.5	1.75	0.5	2.75
15	D-05	DEMOLITION SECTIONS	PMX	R. Arizmendiz	E. Sheets	C. Wittman	M. Mollnow		X	X					1.75	7.25	1	14.3	1	1.75	1	5.5
CIVIL								0	2	2												
16	C-01	CIVIL NOTES AND DETAILS	KJ	KJ Civil Lead	L. Tetzloff	T. Stevens	KJ Civil Designer		X	X					2.25	7	1.25	11.8	1.25	2.25	1.25	6
17	C-02	CIVIL SITE PLAN	KJ	KJ Civil Lead	L. Tetzloff	T. Stevens	KJ Civil Designer		X	X					2.5	7	0.75	12	1.25	2.5	0.75	6
EROSION AND SEDIMENT CONTROL								0	2	2												
18	EC-01	EROSION CONTROL NOTES AND DETAILS	KJ	KJ Civil Lead	L. Tetzloff	T. Stevens	KJ Civil Designer		X	X					0.5	2	0.25	4	0.25	0.5	0.25	2
19	EC-02	EROSION AND SEDIMENT CONTROL PLAN	KJ	KJ Civil Lead	L. Tetzloff	T. Stevens	KJ Civil Designer		X	X					0.5	2.5	0.25	5	0.25	1	0.25	2.5
PROCESS / P&ID								3	4	4												
20	P-01	P&ID PROCESS LEGEND AND ABBREVIATIONS	PMX	R. Arizmendiz	E. Sheets	J. Murphy	K. Miles	X	X	X	0.5	1	0.25	2	0.25	1	0.25	1.5	0.25	0.5	0.25	1
21	P-02	P&ID - UV DISINFECTION CHANNELS 1	PMX	R. Arizmendiz	E. Sheets	J. Murphy	K. Miles	X	X	X	1.25	3.75	0.75	2	2.5	6.25	1.25	5	1.25	2.5	0.75	2.5
22	P-03	P&ID - UV DISINFECTION CHANNELS 2	PMX	R. Arizmendiz	E. Sheets	J. Murphy	K. Miles	X	X	X	1.25	3.75	0.75	2	2.5	6.25	1.25	5	1.25	2.5	0.75	2.5
23	P-04	P&ID - CHEMICAL DISINFECTION (BACKUP)	PMX	R. Arizmendiz	E. Sheets	J. Murphy	K. Miles		X	X					4.25	11.3	2	9.75	2	4.25	1.5	4.25

PRELIMINARY DRAWINGS LIST																												
			Client: Clackamas Water Environment Services Project: Kellogg Creek WRRF UV Upgrades - Phase 2																									
			Roles and Responsibilities					Coord.			90%			100%			Coord Submission				90% Submission				100% Submission			
Sheet No.	Drawing	Discription	Lead Firm	EOR / AOR	Staff	QC	Dsgnr	32	75	75	EOR / AOR	Staff	QC	Dsgnr	EOR / AOR	Staff	QC	Dsgnr	EOR / AOR	Staff	QC	Dsgnr						
STRUCTURAL								6	16	16																		
24	S-01	STRUCTURAL NOTES	PMX	S. Wagner	S. Zychla	M. Pyszka	M. Mollnow		X	X						0.5	1.5	0.25	2	0.25	0.5	0.25	1					
25	S-02	STRUCTURAL SPECIAL INSPECTIONS	PMX	S. Wagner	S. Zychla	M. Pyszka	M. Mollnow		X	X						0.25	1	0.25	1	0.25	0.5	0.25	0.5					
26	S-03	STRUCTURAL UV CHANNELS OVERALL PLAN	PMX	S. Wagner	S. Zychla	M. Pyszka	M. Mollnow	X	X	X	0.75	2.25	0.5	2.25	1.75	5.75	1.25	8	0.75	2.25	0.5	3.5						
27	S-04	STRUCTURAL SECTIONS	PMX	S. Wagner	S. Zychla	M. Pyszka	M. Mollnow	X	X	X	1.25	3.75	0.75	5	2	6.25	1.25	10.3	1	2.5	0.75	4.5						
28	S-05	UV CANOPY PLAN	PMX	S. Wagner	S. Zychla	M. Pyszka	M. Mollnow		X	X					1.75	6.5	1.5	11	1	2.75	1	4.5						
29	S-06	UV CANOPY SECTIONS AND ELEVATIONS	PMX	S. Wagner	S. Zychla	M. Pyszka	M. Mollnow		X	X					2.5	8.5	1.75	14.5	1.25	3.5	1.25	6						
30	S-07	UV CANOPY CONNECTION DETAILS	PMX	S. Wagner	S. Zychla	M. Pyszka	M. Mollnow		X	X					2.25	8.5	1.5	15	1	3.25	1	6.5						
31	S-08	ELECTRICAL SHELTER PLAN AND SECTIONS	PMX	S. Wagner	S. Zychla	M. Pyszka	M. Mollnow		X	X					2.25	7	1	11.5	1	2.75	0.5	4.5						
32	S-09	ELECTRICAL SHELTER DETAILS	PMX	S. Wagner	S. Zychla	M. Pyszka	M. Mollnow		X	X					2.5	8.75	1.25	16.3	1.25	2.5	0.5	6.25						
33	S-10	INFLUENT TAP, CHANNEL DIVISION, AND GATES - PLAN AND SECTIONS	PMX	S. Wagner	S. Zychla	M. Pyszka	M. Mollnow	X	X	X	1.25	3.5	0.5	3.5	1.5	5.25	0.75	8	0.5	1.75	0.5	3						
34	S-11	INFLUENT TAP AND CHANNEL DIVISION DETAILS	PMX	S. Wagner	S. Zychla	M. Pyszka	M. Mollnow		X	X					2.5	8.5	1.25	16.8	1.25	2.5	0.5	6						
35	S-12	MONORAIL SUPPORT DETAILS	PMX	S. Wagner	S. Zychla	M. Pyszka	M. Mollnow		X	X					2.75	9	1.75	14.5	1	3.75	1	5.5						
36	S-13	EXISTING STRUCTURE MODIFICATIONS	PMX	S. Wagner	S. Zychla	M. Pyszka	M. Mollnow	X	X	X	1.25	4.25	0.75	5.25	1.75	7	1.25	8.75	0.75	2.5	0.75	4.25						
37	S-14	CONCRETE REPAIR AND COATING DETAILS	PMX	S. Wagner	S. Zychla	M. Pyszka	M. Mollnow		X	X					1.75	9.25	1.75	15	1	3.75	1	5.5						
38	S-15	MISCELLANEOUS STRUCTURAL DETAILS 1	PMX	S. Wagner	S. Zychla	M. Pyszka	M. Mollnow	X	X	X	1	4.25	0.5	6.25	1.5	6.25	1	10.5	1	2	0.5	4.25						
39	S-16	MISCELLANEOUS STRUCTURAL DETAILS 2	PMX	S. Wagner	S. Zychla	M. Pyszka	M. Mollnow	X	X	X	1	4.25	0.5	6.25	1.5	6.25	1	10.5	1	2	0.5	4.25						
MECHANICAL								5	12	12																		
40	M-01	MECHANICAL LEGEND AND ABBREVIATIONS	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Peterson		X	X					0.25	0.75	0.25	1	0.25	0.5	0.25	1						
41	M-02	MECHANICAL NOTES AND PIPE SCHEDULE	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Peterson		X	X					2.75	11.3	3	17	1.5	2.75	1.5	5.75						
42	M-03	MECHANICAL LOWER PLAN	PMX	R. Arizmendiz	E. Wirski	B. Moss	A. Peterson		X	X					2.25	8	1.5	13.3	1	3.5	1	5.25						
43	M-04	MECHANICAL UPPER PLAN	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Peterson	X	X	X	0.75	3	0.75	3	1.5	8	1.5	10.3	0.75	3.5	1	4.5						
44	M-05	UV EQUIPMENT LAYOUT PLAN	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Peterson	X	X	X	2	5.5	1	6.75	2	8	1.5	10.8	1	3.5	1	4.75						
45	M-06	MECHANICAL SECTIONS 1	PMX	R. Arizmendiz	E. Wirski	D. Seymour	A. Peterson	X	X	X	0.75	3	0.75	3	1.5	6	1	10.3	0.75	2.25	0.75	4.5						
46	M-07	MECHANICAL SECTIONS 2	PMX	R. Arizmendiz	E. Wirski	D. Seymour	A. Peterson	X	X	X	0.75	3	0.75	3	1.5	6	1	10.3	0.75	2.25	0.75	4.5						
47	M-08	MECHANICAL SECTIONS 3	PMX	R. Arizmendiz	E. Wirski	D. Seymour	A. Peterson		X	X					2.5	10.3	1.5	16.5	1.5	4.25	1	7.25						
48	M-09	MECHANICAL DETAILS 1	PMX	R. Arizmendiz	E. Wirski	D. Seymour	A. Peterson	X	X	X	0.75	2.5	0.5	3.5	1.25	6	0.75	10.5	0.75	2.5	0.5	4.25						
49	M-10	MECHANICAL DETAILS 2	PMX	R. Arizmendiz	E. Wirski	D. Seymour	A. Peterson		X	X					2.5	11.5	1.25	17.8	1.25	3.75	0.75	6.25						
50	M-11	MECHANICAL DETAILS 3	PMX	R. Arizmendiz	E. Wirski	D. Seymour	A. Peterson		X	X					2.5	11.5	1.25	17.8	1.25	3.75	0.75	6.25						
51	M-12	EQUIPMENT SCHEDULES	PMX	R. Arizmendiz	E. Wirski	D. Seymour	A. Peterson		X	X					3	13.5	1.5	13.5	1.5	4.5	1.5	6						

PRELIMINARY DRAWINGS LIST																							
Client: Clackamas Water Environment Services																							
Project: Kellogg Creek WRRF UV Upgrades - Phase 2																							
								Coord Submission				90% Submission				100% Submission							
			Roles and Responsibilities					Coord.	90%	100%													
Sheet No.	Drawing	Discription	Lead Firm	EOR / AOR	Staff	QC	Dsgnr	32	75	75	EOR / AOR	Staff	QC	Dsgnr	EOR / AOR	Staff	QC	Dsgnr	EOR / AOR	Staff	QC	Dsgnr	
ELECTRICAL								9	18	18													
52	E-01	ELECTRICAL LEGEND AND ABBREVIATIONS	PMX	M. Casanova	R. Wells Jr	C. Wittman	K. Miles		X	X					0.25	0.75	0.25	1	0.25	0.5	0.25	1	
53	E-02	ELECTRICAL NOTES	PMX	M. Casanova	R. Wells Jr	C. Wittman	K. Miles		X	X					3.25	9.75	1.5	13	1.5	3.25	1.5	6.5	
54	E-03	DEMO ELECTRICAL ONE-LINE DIAGRAM	PMX	M. Casanova	R. Wells Jr	C. Wittman	K. Miles	X	X	X		1	4	1	4	3	8.25	1	8.25	1.5	3	1	4
55	E-04	ELECTRICAL ONE-LINE DIAGRAM	PMX	M. Casanova	R. Wells Jr	C. Wittman	K. Miles	X	X	X	1.25	3.5	0.5	1.75	2.75	6.75	1.25	5.75	1.5	2.75	0.5	2.75	
56	E-05	CHEM BLDG ELECTRICAL PANEL AND LOAD SCHEDULES	PMX	M. Casanova	R. Wells Jr	C. Wittman	K. Miles	X	X	X	1.25	3.5	0.5	2.25	2.25	7	1.25	5.75	1.25	2.25	0.5	3	
57	E-06	UV ELECTRICAL PANEL AND LOAD SCHEDULES	PMX	M. Casanova	R. Wells Jr	C. Wittman	K. Miles	X	X	X	1.5	4.75	1	3.75	2.75	8.5	1.5	7.5	1.5	2.75	1	3.75	
58	E-07	ELECTRICAL SITE PLAN	PMX	M. Casanova	R. Wells Jr	C. Wittman	K. Miles	X	X	X	1	3	0.5	3	1.75	6	1	8.25	0.5	1.75	0.5	3.5	
59	E-08	ELECTRICAL SITE PROFILES	PMX	M. Casanova	R. Wells Jr	C. Wittman	K. Miles		X	X					2.75	10	1.5	15.5	1.5	2.75	0.75	5.75	
60	E-09	ELECTRICAL SHELTER PLAN AND EQUIPMENT LAYOUT	PMX	M. Casanova	R. Wells Jr	C. Wittman	K. Miles	X	X	X	1	4.25	0.75	5.75	1.75	7.25	1	10.3	0.75	2.25	0.75	4.25	
61	E-10	ELECTRICAL SHELTER ELEVATIONS	PMX	M. Casanova	R. Wells Jr	C. Wittman	K. Miles		X	X					2.5	10	1.75	14.8	0.75	3.25	0.75	6.5	
62	E-11	CHEMICAL BUILDING AREA POWER PLAN	PMX	M. Casanova	R. Wells Jr	C. Wittman	K. Miles	X	X	X	1	4.25	0.75	5.5	1.75	7	1	9.75	1	2.75	0.75	4.75	
63	E-12	UV AREA POWER PLAN	PMX	M. Casanova	R. Wells Jr	C. Wittman	K. Miles	X	X	X	1.5	5	0.75	5.75	2.25	6.5	1	9.25	1	2.25	0.75	4.25	
64	E-13	LIGHTING AND RECEPTACLE PLAN	PMX	M. Casanova	R. Wells Jr	C. Wittman	K. Miles		X	X					2.25	10.3	1.5	16.3	0.75	3	0.75	5.75	
65	E-14	GROUNDING PLAN	PMX	M. Casanova	R. Wells Jr	C. Wittman	K. Miles		X	X					1.75	9.25	1.75	14.8	1	3.75	1	7.25	
66	E-15	ELEMENTARY DIAGRAMS 1	PMX	M. Casanova	R. Wells Jr	C. Wittman	K. Miles		X	X					2.5	12.8	1.25	12.8	1.25	3.75	0.75	5.25	
67	E-16	ELEMENTARY DIAGRAMS 2	PMX	M. Casanova	R. Wells Jr	C. Wittman	K. Miles		X	X					2.5	12.8	1.25	12.8	1.25	3.75	0.75	5.25	
68	E-17	ELECTRICAL DETAILS	PMX	M. Casanova	R. Wells Jr	C. Wittman	K. Miles		X	X					2.5	12.8	1.25	12.8	1.25	3.75	0.75	5.25	
69	E-19	CONDUIT AND CABLE SCHEDULE	PMX	M. Casanova	R. Wells Jr	C. Wittman	K. Miles	X	X	X	1	4.25	0.5	4.25	2	8.5	1	9.5	1	3.25	0.5	4.25	
INSTRUMENTATION AND CONTROL								2	6	6													
70	I-01	I&C NOTES AND LEGEND	PMX	M. Casanova	R. Wells Jr	J. Murphy	K. Miles		X	X					0.5	1.5	0.25	2	0.25	0.5	0.25	1	
71	I-02	NETWORK ARCHITECTURE DIAGRAM	PMX	M. Casanova	R. Wells Jr	J. Murphy	K. Miles	X	X	X	2	5.75	1	4.75	3	7.75	1.5	6.75	1.5	3	1	3	
72	I-03	I/O LIST AND INSTRUMENT SCHEDULE	PMX	M. Casanova	R. Wells Jr	J. Murphy	K. Miles	X	X	X	2	5.75	1	3.75	2.75	9.5	1.5	5.75	1.5	3.75	1	2.75	
73	I-04	CONTROL PANEL LAYOUT - PNL-UV-1	PMX	M. Casanova	R. Wells Jr	J. Murphy	K. Miles		X	X					2.5	10	1.75	13.5	1.75	3.25	0.75	6.75	
74	I-05	LOOP DIAGRAMS 1	PMX	M. Casanova	R. Wells Jr	J. Murphy	K. Miles		X	X					2.25	10.8	1.5	12.5	1.5	4.75	0.75	6.25	
75	I-06	LOOP DIAGRAMS 2	PMX	M. Casanova	R. Wells Jr	J. Murphy	K. Miles		X	X					2.25	10.8	1.5	12.5	1.5	4.75	0.75	6.25	

PRELIMINARY SPECIFICATIONS LIST (one set inclusive of all PS site requirements)						Word Proc Hrs. Per 90% Spec				0.25	100% Percent Effort in Relation to 90%							
Client: Clackamas Water Environment Services											Round to nearest		0.25					
Project: Kellogg Creek WRRF UV Upgrades - Phase 2											50%	50%	75%	50%				
						Roles and Responsibilities					90% Submission				100% Submission			
SECTION NO.	TITLE	Lead Firm	EOR / AOR	Staff	QC	Word Processing	Lead	Staff	Disc QC	Word Proc	Lead	Sr Eng	Disc QC	Word Proc				
DIVISION 00																		
00 40 00	BID FORM	WES	WES	WES	WES	WES					0	0	0	0				
00 72 00	GENERAL CONDITIONS	WES	WES	WES	WES	WES					0	0	0	0				
00 73 00	SUPPLEMENTARY CONDITIONS	WES	WES	WES	WES	WES					0	0	0	0				
											0	0	0	0				
DIVISION 01																		
01 10 00	SUMMARY	WES	WES	WES	WES	WES					0	0	0	0				
01 11 13	WORK COVERED BY CONTRACT DOCUMENTS	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	0.50	1.5	0.25	0.25	0.25	0.75	0.25	0.25				
01 12 16	WORK SEQUENCE	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	0.50	1.5	0.25	0.25	0.25	0.75	0.25	0.25				
01 14 13	ACCESS TO SITE	WES	WES	WES	WES	WES					0	0	0	0				
01 29 11	PROJECT MOBILIZATION AND DEMOBILIZATION	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	0.25	1	0.25	0.25	0.25	0.5	0.25	0.25				
01 31 19	PROJECT MEETINGS	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	0.25	0.75	0.25	0.25	0.25	0.5	0.25	0.25				
01 32 00	CONSTRUCTION PROGRESS DOCUMENTATION	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	0.25	0.75	0.25	0.25	0.25	0.5	0.25	0.25				
01 33 00	SUBMITTAL PROCEDURES	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	0.25	0.75	0.25	0.25	0.25	0.5	0.25	0.25				
01 35 43	ENVIRONMENTAL PROCEDURES	WES	WES	WES	WES	WES					0	0	0	0				
01 41 26	PERMIT REQUIREMENTS	WES	WES	WES	WES	WES					0	0	0	0				
01 42 13	ABBREVIATIONS AND ACRONYMS	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	0.25	0.5	0.25	0.25	0.25	0.25	0.25	0.25				
01 42 16	DEFINITIONS	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	0.25	0.5	0.25	0.25	0.25	0.25	0.25	0.25				
01 45 00	QUALITY CONTROL	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	0.25	1	0.25	0.25	0.25	0.5	0.25	0.25				
01 45 23	TESTING AND INSPECTION SERVICES	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	0.25	1	0.25	0.25	0.25	0.5	0.25	0.25				
01 45 33	CODE-REQUIRED SPECIAL INSPECTIONS	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	0.50	1.5	0.25	0.25	0.25	0.75	0.25	0.25				
01 50 00	TEMPORARY FACILITIES AND CONTROLS	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	0.25	1	0.25	0.25	0.25	0.5	0.25	0.25				
01 57 13	TEMPORARY EROSION AND SEDIMENT CONTROL	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	0.25	1	0.25	0.25	0.25	0.5	0.25	0.25				
01 64 00	PRE-PURCHASED UV DISINFECTION EQUIPMENT	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	1.00	2.5	0.5	0.25	0.5	1.25	0.5	0.25				
01 74 19	CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	0.25	0.75	0.25	0.25	0.25	0.5	0.25	0.25				
01 74 23	FINAL CLEANING	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	0.25	0.5	0.25	0.25	0.25	0.25	0.25	0.25				
01 75 00	STARTUP AND ADJUSTING	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	0.75	2	0.25	0.25	0.5	1	0.25	0.25				
01 76 00	PROTECTING INSTALLED CONSTRUCTION	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	0.25	0.5	0.25	0.25	0.25	0.25	0.25	0.25				
01 77 00	CLOSEOUT PROCEDURES	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	0.25	0.75	0.25	0.25	0.25	0.5	0.25	0.25				
01 78 23	OPERATION AND MAINTENANCE DATA	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	0.25	0.5	0.25	0.25	0.25	0.25	0.25	0.25				
01 78 39	PROJECT RECORD DOCUMENTS	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	0.25	0.75	0.25	0.25	0.25	0.5	0.25	0.25				
DIVISION 02																		
02 41 00	DEMOLITION	PMX	R. Arizmendiz	E. Sheets	B. Moss	A. Lucas	0.50	2	0.5	0.25	0.25	1	0.5	0.25				
DIVISION 03																		
03 01 30	CONCRETE REHABILITATION	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.75	2.5	0.5	0.25	0.5	1.25	0.5	0.25				
03 15 19	ANCHORS, INSERTS, AND EMBEDDED PRODUCTS	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.50	1.5	0.5	0.25	0.25	0.75	0.5	0.25				
03 20 00	CONCRETE REINFORCING	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.50	1.5	0.5	0.25	0.25	0.75	0.5	0.25				
03 30 00	CAST-IN-PLACE CONCRETE	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.75	2.5	0.5	0.25	0.5	1.25	0.5	0.25				
03 60 00	GROUTING	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.50	1	0.25	0.25	0.25	0.5	0.25	0.25				
DIVISION 04																		
04 22 00	CONCRETE UNIT MASONRY	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.50	1.5	0.5	0.25	0.25	0.75	0.5	0.25				

PRELIMINARY SPECIFICATIONS LIST (one set inclusive of all PS site requirements)												100% Percent Effort in Relation to 90%						
Client: Clackamas Water Environment Services												Word Proc Hrs. Per 90% Spec		0.25	Round to nearest		0.25	
Project: Kellogg Creek WRRF UV Upgrades - Phase 2												50%		50%	75%	50%		
		Roles and Responsibilities					90% Submission				100% Submission							
SECTION NO.	TITLE	Lead Firm	EOR / AOR	Staff	QC	Word Processing	Lead	Staff	Disc QC	Word Proc	Lead	Sr Eng	Disc QC	Word Proc				
DIVISION 05																		
05 05 13	SHOP-APPLIED COATINGS FOR METAL	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.50	1.5	0.5	0.25	0.25	0.75	0.5	0.25				
05 12 20	STRUCTURAL STEEL	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.75	2.5	0.5	0.25	0.5	1.25	0.5	0.25				
05 31 00	STEEL DECKING	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.50	1.5	0.25	0.25	0.25	0.75	0.25	0.25				
05 40 00	COLD FORMED METAL FRAMING	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.50	1.5	0.25	0.25	0.25	0.75	0.25	0.25				
05 50 00	METAL FABRICATIONS	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.50	2	0.5	0.25	0.25	1	0.5	0.25				
05 58 00	MONORAIL HOIST SYSTEM	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.75	2.5	0.5	0.25	0.5	1.25	0.5	0.25				
DIVISION 07																		
07 19 00	WATER REPELLENTS	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.25	1	0.25	0.25	0.25	0.5	0.25	0.25				
07 61 13	STANDING SEAM METAL ROOF PANELS	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.75	2.5	0.5	0.25	0.5	1.25	0.5	0.25				
07 62 00	SHEET METAL FLASHING AND TRIM	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.25	1	0.25	0.25	0.25	0.5	0.25	0.25				
07 92 00	JOINT SEALANTS	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.25	1	0.25	0.25	0.25	0.5	0.25	0.25				
DIVISION 08																		
08 30 00	ACCESS HATCHES	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.50	1.5	0.5	0.25	0.25	0.75	0.5	0.25				
08 31 13	ACCESS DOORS AND FRAMES	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.25	1	0.25	0.25	0.25	0.5	0.25	0.25				
08 50 00	WINDOWS	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.25	1	0.25	0.25	0.25	0.5	0.25	0.25				
DIVISION 09																		
09 29 00	CYPSUM BOARD ASSEMBLIES	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.25	1	0.25	0.25	0.25	0.5	0.25	0.25				
09 90 00	PAINTING AND COATINGS	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.50	2	0.5	0.25	0.25	1	0.5	0.25				
09 96 00	HIGH-PERFORMANCE COATINGS	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.50	2	0.5	0.25	0.25	1	0.5	0.25				
DIVISION 13																		
13 05 41	SEISMIC RESTRAINT REQUIREMENTS	PMX	S. Wagner	S. Zychla	M. Pyszka	A. Lucas	0.25	1	0.25	0.25	0.25	0.5	0.25	0.25				
DIVISION 22																		
22 06 00	PLUMBING PIPING AND FIXTURES	PMX	R. Arizmendiz	E. Wirski	J. Murphy	A. Lucas	0.75	2.5	0.5	0.25	0.5	1.25	0.5	0.25				
DIVISION 23																		
23 34 23	HVAC POWER VENTILATORS	PMX	R. Arizmendiz	E. Wirski	J. Murphy	A. Lucas	0.50	2	0.5	0.25	0.25	1	0.5	0.25				
23 81 26	SPLIT-SYSTEM AIR-CONDITIONING UNITS	PMX	R. Arizmendiz	E. Wirski	J. Murphy	A. Lucas	0.50	2	0.5	0.25	0.25	1	0.5	0.25				

PRELIMINARY SPECIFICATIONS LIST (one set inclusive of all PS site requirements)						Word Proc Hrs. Per 90% Spec				100% Percent Effort in Relation to 90%				
Client: Clackamas Water Environment Services						0.25				Round to nearest		0.25		
Project: Kellogg Creek WRRF UV Upgrades - Phase 2										50%		50%		
						90% Submission				100% Submission				
SECTION NO.	TITLE	Lead Firm	EOR / AOR	Staff	QC	Word Processing	Lead	Staff	Disc QC	Word Proc	Lead	Sr Eng	Disc QC	Word Proc
DIVISION 26														
26 05 00	ELECTRICAL GENERAL REQUIREMENTS	PMX	M. Casanova	R. Wells Jr	C. Wittman	A. Lucas	0.75	2.5	0.5	0.25	0.5	1.25	0.5	0.25
26 05 19	CONDUCTORS	PMX	M. Casanova	R. Wells Jr	C. Wittman	A. Lucas	0.50	1	0.5	0.25	0.25	0.5	0.5	0.25
26 05 26	GROUNDING	PMX	M. Casanova	R. Wells Jr	C. Wittman	A. Lucas	0.50	1	0.5	0.25	0.25	0.5	0.5	0.25
26 05 29	HANGERS AND SUPPORTS FOR PROCESS ELECTRICAL	PMX	M. Casanova	R. Wells Jr	C. Wittman	A. Lucas	0.50	1	0.5	0.25	0.25	0.5	0.5	0.25
26 05 33	RACEWAYS AND FITTINGS	PMX	M. Casanova	R. Wells Jr	C. Wittman	A. Lucas	0.50	1	0.5	0.25	0.25	0.5	0.5	0.25
26 05 53	IDENTIFICATION FOR ELECTRICAL SYSTEMS	PMX	M. Casanova	R. Wells Jr	C. Wittman	A. Lucas	1.00	3.5	0.5	0.25	0.5	1.75	0.5	0.25
26 05 73	ARC FLASH AND SHORT CIRCUIT STUDIES	PMX	M. Casanova	R. Wells Jr	C. Wittman	A. Lucas	1.00	3.5	0.5	0.25	0.5	1.75	0.5	0.25
26 09 00	CONTROL AND INDICATING DEVICES	PMX	M. Casanova	R. Wells Jr	C. Wittman	A. Lucas	0.50	2	0.5	0.25	0.25	1	0.5	0.25
26 22 13	DISTRIBUTION TRANSFORMERS	PMX	M. Casanova	R. Wells Jr	C. Wittman	A. Lucas	0.50	1	0.5	0.25	0.25	0.5	0.5	0.25
26 24 16	PANELBOARDS	PMX	M. Casanova	R. Wells Jr	C. Wittman	A. Lucas	1.25	4	0.75	0.25	0.75	2	0.75	0.25
26 27 00	SERVICE AND DISTRIBUTION	PMX	M. Casanova	R. Wells Jr	C. Wittman	A. Lucas	1.25	4	0.75	0.25	0.75	2	0.75	0.25
26 27 26	WIRING DEVICES	PMX	M. Casanova	R. Wells Jr	C. Wittman	A. Lucas	0.25	1.5	0.25	0.25	0.25	0.75	0.25	0.25
26 28 00	LOW VOLTAGE CIRCUIT PROTECTIVE DEVICES AND SWITCHES	PMX	M. Casanova	R. Wells Jr	C. Wittman	A. Lucas	0.75	2	0.75	0.25	0.5	1	0.75	0.25
26 29 23	VARIABLE FREQUENCY DRIVES	PMX	M. Casanova	R. Wells Jr	C. Wittman	A. Lucas	0.75	3	0.75	0.25	0.5	1.5	0.75	0.25
26 50 00	LIGHTING	PMX	M. Casanova	R. Wells Jr	C. Wittman	A. Lucas	0.50	2	0.5	0.25	0.25	1	0.5	0.25
26 90 00	ELECTRICAL TESTING	PMX	M. Casanova	R. Wells Jr	C. Wittman	A. Lucas	0.75	2.5	0.5	0.25	0.5	1.25	0.5	0.25
DIVISION 31														
31 00 00	EARTHWORK	KJ	KJ Civil Lead	L. Tetzloff	T. Stevens	A. Lucas	1.00	3	0.5	0.25	0.75	1.5	0.5	0.25
31 23 00	EXCAVATING, BACKFILLING, AND COMPACTING	KJ	KJ Civil Lead	L. Tetzloff	T. Stevens	A. Lucas	0.50	2	0.5	0.25	0.25	1	0.5	0.25
DIVISION 32														
32 12 16	ASPHALT PAVING	KJ	KJ Civil Lead	L. Tetzloff	T. Stevens	A. Lucas	0.50	1.5	0.5	0.25	0.25	0.75	0.5	0.25
32 13 13	CONCRETE PAVING	KJ	KJ Civil Lead	L. Tetzloff	T. Stevens	A. Lucas	0.50	1.5	0.5	0.25	0.25	0.75	0.5	0.25
DIVISION 40														
40 05 00	PROCESS PIPING	PMX	R. Arizmendiz	E. Sheets	J. Murphy	A. Lucas	1.00	3.5	0.75	0.25	0.5	1.75	0.75	0.25
40 05 06	COUPLINGS AND SPECIALS FOR PROCESS PIPING	PMX	R. Arizmendiz	E. Sheets	J. Murphy	A. Lucas	0.50	2	0.5	0.25	0.25	1	0.5	0.25
40 05 07	HANGERS AND SUPPORTS FOR PROCESS PIPING	PMX	R. Arizmendiz	E. Wirski	J. Murphy	A. Lucas	0.50	2	0.5	0.25	0.25	1	0.5	0.25
40 05 16	DUCTILE IRON PROCESS PIPE	PMX	R. Arizmendiz	E. Wirski	J. Murphy	A. Lucas	0.75	2.5	0.5	0.25	0.5	1.25	0.5	0.25
40 05 31	THERMOPLASTIC PROCESS PIPE	PMX	R. Arizmendiz	E. Wirski	J. Murphy	A. Lucas	0.75	2.5	0.5	0.25	0.5	1.25	0.5	0.25
40 05 51	COMMON REQUIREMENTS FOR PROCESS VALVES	PMX	R. Arizmendiz	E. Wirski	J. Murphy	A. Lucas	0.75	2.5	0.5	0.25	0.5	1.25	0.5	0.25
40 05 57	SLIDE GATES	PMX	R. Arizmendiz	E. Sheets	J. Murphy	A. Lucas	1.00	4	0.75	0.25	0.5	2	0.75	0.25
40 05 61	VALVES	PMX	R. Arizmendiz	E. Wirski	J. Murphy	A. Lucas	0.75	3	0.5	0.25	0.5	1.5	0.5	0.25
40 05 64	GATE ACTUATORS	PMX	R. Arizmendiz	E. Wirski	J. Murphy	A. Lucas	1.00	3	0.5	0.25	0.5	1.5	0.5	0.25
40 70 00	I&C GENERAL REQUIREMENTS	PMX	M. Casanova	R. Wells Jr	C. Wittman	A. Lucas	0.75	2.5	0.5	0.25	0.5	1.25	0.5	0.25
40 71 13	MAGNETIC FLOW METERS	PMX	M. Casanova	R. Wells Jr	C. Wittman	A. Lucas	0.75	2.5	0.5	0.25	0.5	1.25	0.5	0.25
40 91 23.66	LEVEL PROCESS MEASUREMENT DEVICES	PMX	M. Casanova	R. Wells Jr	C. Wittman	A. Lucas	0.75	2.5	0.5	0.25	0.5	1.25	0.5	0.25
40 95 13	PROCESS CONTROL PANELS AND HARDWARE	PMX	M. Casanova	R. Wells Jr	C. Wittman	A. Lucas	1.00	4	0.75	0.25	0.5	2	0.75	0.25
DIVISION 46														
46 43 00	UV DISINFECTION EQUIPMENT	PMX	R. Arizmendiz	E. Sheets	J. Murphy	A. Lucas	1.00	3.5	0.75	0.25	0.5	1.75	0.75	0.25
46 43 01	UV TRANSMITTANCE ANALYZERS	PMX	R. Arizmendiz	E. Wirski	J. Murphy	A. Lucas	0.75	3	0.75	0.25	0.5	1.5	0.75	0.25
46 73 00	COMPOSITE SAMPLERS	PMX	R. Arizmendiz	E. Sheets	J. Murphy	A. Lucas	0.75	3	0.5	0.25	0.5	1.5	0.5	0.25

PROJECT MANAGEMENT & MEETINGS (Tasks 01, 02-01, 05-01)

PROJECT MANAGEMENT & MEETINGS (Tasks 01, 02-01, 05-01)		Parametrix																		Kennedy Jenks						
		J. Murphy	B. Moss	R. Arizmendiz	E. Sheets	A. Peterson	S. Wagner	S. Zycha	M. Pyska	M. Molinow	R. Wells Jr	M. Casanova	C. Wittman	K. Miles	L. McMullan	A. Manning	J. Reinmuth	A. Lucas	S. Cogrove	J. Lebow	T. Stevens	D. Seymour	E. Wirski	L. Tetzloff	K/J Civil Lead	K/J Civil Designer
01-01	Setup, Invoices, and Status Reports																									
	Project setup; PM Plan, H&S Plan, Risk Register (from Ph1)	4	6	6															4	4						
	Monthly invoicing and progress reports (~24 months)	24	24																24	24						
	Total	28	30	6															28	28						
01-02	Coordination with Owner (PM Meetings)																									
	40 progress meetings @ 075' hr - attend (biweekly / 20 mo assuming we skip some meetings)	20	20	20	20																					
	Meeting prep, minutes, decision/change log			5	5	20																				
	Occasional team attendance as needed						5	5				5											10			
	Total	20	25	25	40		5	5				5											10			
01-03	Internal Team Coordination																									
	40 internal coordination meetings @ 1 hr	10	20	20	40			20		30												8		40	4	4
	Total	10	20	20	40			20		30												8		40	4	4
02-01	UV Manufacturer and Electrical Service Coordination																									
	6 UV manufacturer coordination meetings @ 2 hr		6	6	12						12												16	6		
	Incorporate mfr data; technical coordination log		8	8	12						16															
	Electrical service tie-in investigation: 2 site visits, switchgear records review, findings memo				6					8	4						24									
	Review UV prepurchase proposals (received July 2026); selection recommendation to WES	8	5	5	8					4	6						4					6	18	16		
	Total	8	19	19	38					12	38						28					6	34	22		
05-01	Bidding Support																									
	Pre-bid meeting + site walk (2 staff)	4		4																				1	4	
	Respond to bidder questions			8			4	4			4												2			
	Prepare up to 2 addenda			8	4													4					2			

OPINION OF PROBABLE CONSTRUCTION COST & BASIS OF ESTIMATE (03-03, 04-02, 08-04)

OPINION OF PROBABLE CONSTRUCTION COST & BASIS OF ESTIMATE (03-03, 04-02, 08-04)		Parametrix															Kennedy Jenks						
		J. Murphy	B. Moss	R. Arizmendiz	E. Sheets	A. Peterson	S. Wagner	M. Pyszka	M. Mollnow	R. Wells Jr	M. Casanova	C. Wittman	K. Miles	L. McMullan	A. Mannion	J. Reinmuth	A. Lucas	T. Stevens	D. Seymour	E. Wirski	L. Tetzloff	KJ Civil Lead	KJ Civil Designer
03-03	90% OPCC (AACE Class 2) and Basis of Estimate																						
	90% AACE Class 2 estimate and BOE document													60									
	Quantity takeoffs and design input			6																			
	Estimate review	2	2																				
	Total	2	2	6										60									
04-02	100% / Bid OPCC Update (AACE Class 1)																						
	100% AACE Class 1 estimate update and BOE													40									
	Quantity updates			4																			
	Estimate review	1	1																				
	Total	1	1	4										40									
08-04	QA/QC of OPCC (QC Estimator)																						
	QC review of 90% OPCC													16									
	QC review of 100% OPCC														8								
	Total													24									

QUALITY ASSURANCE / QUALITY CONTROL (Task 08)

QUALITY ASSURANCE / QUALITY CONTROL (Task 08)		Parametrix														Kennedy Jenks							
		J. Murphy	B. Moss	R. Arizmendiz	E. Sheets	A. Peterson	S. Wagner	M. Pyszka	M. Molinow	R. Wells Jr	M. Casanova	C. Wittman	K. Miles	L. McMullan	A. Mannion	J. Reinmuth	A. Lucas	T. Stevens	D. Seymour	E. Wierski	L. Tetzioff	KJ Civil Lead	KJ Civil Designer
08-01	QA/QC for Coordination Drawings	4	2					4				8							6				
08-02	QA/QC for 90% Design (Drawings and Specifications)	21	14					28				37						6	14				
08-03	QA/QC for 100% / Bid Design (Drawings and Specifications)	16	11					20				27						6	10				
08-04	QA/QC for Opinion of Probable Construction Cost														24								
08-05	QA/QC for Construction Phase Deliverables							24				24											

FOCUS GROUPS & WORKSHOPS (02-03, 03-04)

FOCUS GROUPS & WORKSHOPS (02-03, 03-04)		Parametrix														Kennedy Jenks							
		J. Murphy	B. Moss	R. Arizmendiz	E. Sheets	A. Peterson	S. Wagner	M. Pyska	M. Molinow	R. Wells Jr	M. Casanova	C. Wittman	K. Miles	L. McMullan	A. Mannion	J. Reinmuth	A. Lucas	T. Stevens	D. Seymour	E. Wirski	L. Tetzloff	KJ Civil Lead	KJ Civil Designer
02-03	Coordination Drawings Review Workshop																						
	Workshop prep incl updated 3D Revit model views	2	2	4		8													4	2			
	Attend workshop (~2 hr, up to 4 staff)	1	1	2		2					2												
	Workshop summary memo	1																					
	Total	4	3	6		10					2								4	2			
03-04	90% Design Review Workshop																						
	Workshop prep; presentation materials	2	4	8							4								4	2			
	Attend workshop (~2 hr, up to 4 staff)	1	1	2			2				2												
	Workshop summary memo		2																				
	Total	3	7	10			2				6								4	2			

SERVICES DURING CONSTRUCTION (Task 06, Task 07, 08-05)

SERVICES DURING CONSTRUCTION (Task 06, Task 07, 08-05)		Parametrix															Kennedy Jenks						
		J. Murphy	B. Moss	R. Arizmendiz	E. Sheets	A. Peterson	S. Wagner	M. Pyszka	M. Mollnow	R. Wells Jr	M. Casanova	C. Wittman	K. Miles	L. McMullan	A. Mannion	J. Reinmuth	A. Lucas	T. Stevens	D. Seymour	E. Wirski	L. Tetzloff	KJ Civil Lead	KJ Civil Designer
06-01	Conformed Documents																						
	Incorporate addenda; produce conformed PDF set		4	4	8	24				4	8		8				8						
	Total		4	4	8	24				4	8		8				8						
06-02	Submittal Review																						
	Review up to 50 submittals + 20 resubmittals		10	10	40		20			40			12			20			12	12			
	Total		10	10	40		20			40			12			20			12	12			
06-03	Request for Information (RFI) Assistance																						
	Review and respond to up to 20 RFIs		10	10	20		10			15	25					10			8	8			
	Total		10	10	20		10			15	25					10			8	8			
06-04	Construction Observation (Optional)																						
	On-site observation (~50 visits @ 8 hr)				224						40										136		
	Total				224						40										136		
06-05	Change Order and Field Design Assistance																						
	Evaluate change order requests (allowance)		12	12	12		12			8	16					8							
	Total		12	12	12		12			8	16					8							
06-06	Systems Integration Coordination																						
	SCADA/PROFINET integration coordination + 1 FAT trip				8					24	56					24			12	6			
	Total				8					24	56					24			12	6			
07-01	Startup and Commissioning Support																						
	Up to 3 startup/commissioning site visits + plan/test review		4	4	24						24					24			12	6			
	Total		4	4	24						24					24			12	6			
07-02	O&M Manual Review																						
	One O&M manual review cycle		4	4	12					8	12												
	Total		4	4	12					8	12												
07-03	Record Drawings																						
	One round of record drawings from contractor redlines		3	3	12	40	6			8	12		12			4							
	Total		3	3	12	40	6			8	12		12			4							
07-04	Project Closeout																						
	Final walk-through, punch list, warranty allowance (12 mo)			8	8						8					8							
	Total			8	8						8					8							
08-05	QA/QC of Construction Phase Deliverables																						
	QC review of submittals, RFIs, conformed and record documents							24				24											
	Total							24				24											

Parametric Expenses								Subtotal
Task No.	Expense	# of tickets	price					
06-06	Airfare Factory Accept Test	2	\$500.00	round trip		\$1,000.00		\$1,000.00
02-03 03-04 06-06	Lodging Workshop 1 Workshop 2 Factory Accept Test	# of nights 2 2 2	GSA rate/night \$155.00 \$155.00 \$155.00			\$310.00 \$310.00 \$310.00		\$930.00
02-01 02-01 02-03 03-04 06-06 07-01 07-01 07-01	Per Diem Elect Site Visit 1 Elect Site Visit 2 Workshop 1 Workshop 2 Factory Accept Test Start Up & Comm. 1 Start Up & Comm. 2 Start Up & Comm. 3	1st & last days \$64.50 \$64.50 \$64.50 \$64.50 \$64.50 \$64.50 \$64.50 \$64.50	# of 1st & last days 2 2 4 4 4 2 2 2	full days \$86.00 \$86.00 \$86.00 \$86.00 \$86.00 \$86.00 \$86.00 \$86.00	# of full days	\$129.00 \$129.00 \$258.00 \$258.00 \$258.00 \$129.00 \$129.00 \$129.00		\$1,419.00
02-01 02-01 02-03 03-04 07-01 07-01	Mileage (if personal or PMX vehicle) Elect Site Visit 1 Elect Site Visit 2 Workshop 1 Workshop 2 Start Up & Comm. 1 Start Up & Comm. 2 Start Up & Comm. 3	# of miles 600 600 600 600 600 600 600	GSA rate/mile \$0.760 \$0.760 \$0.760 \$0.760 \$0.760 \$0.760 \$0.760			\$456.00 \$456.00 \$456.00 \$456.00 \$456.00 \$456.00 \$456.00		\$3,192.00
06-06	Rental Car Factory Accept Test	unit days	price/unit 100	quantity 2		\$200.00		\$200.00
						Sub Totals 02-01 02-03 03-04 06-06 07-01 Total	\$1,170.00 \$1,024.00 \$1,024.00 \$1,768.00 \$1,755.00 \$6,741.00	

PRELIMINARY DRAWINGS LIST

Client: Clackamas Water Environment Services
Project: Kellogg Creek WRRF UV Upgrades - Phase 2

Sheet No.	Drawing	Discription
GENERAL		
1	G-01	COVER SHEET, VICINITY AND LOCATION MAPS
2	G-02	INDEX OF DRAWINGS
3	G-03	GENERAL NOTES AND LEGEND
4	G-04	OVERALL SITE PLAN
5	G-05	UV PERSPECTIVE VIEW - NEW CONDITIONS
6	G-06	DESIGN CRITERIA AND PROCESS FLOW DIAGRAM
7	G-07	HYDRAULIC PROFILE
8	G-08	CONSTRUCTION SEQUENCING PLAN 1
9	G-09	CONSTRUCTION SEQUENCING PLAN 2
10	G-10	CONSTRUCTION SEQUENCING DETAILS
DEMOLITION		
11	D-01	DEMOLITION NOTES
12	D-02	DEMOLITION CHEMICAL BUILDING
13	D-03	DEMOLITION LOWER PLAN
14	D-04	DEMOLITION UPPER PLAN
15	D-05	DEMOLITION SECTIONS
CIVIL		
16	C-01	CIVIL NOTES AND DETAILS
17	C-02	CIVIL SITE PLAN
EROSION AND SEDIMENT CONTROL		
18	EC-01	EROSION CONTROL NOTES AND DETAILS
19	EC-02	EROSION AND SEDIMENT CONTROL PLAN
PROCESS / P&ID		
20	P-01	P&ID PROCESS LEGEND AND ABBREVIATIONS
21	P-02	P&ID - UV DISINFECTION CHANNELS 1
22	P-03	P&ID - UV DISINFECTION CHANNELS 2
23	P-04	P&ID - CHEMICAL DISINFECTION (BACKUP)

PRELIMINARY DRAWINGS LIST

Client: Clackamas Water Environment Services
Project: Kellogg Creek WRRF UV Upgrades - Phase 2

Sheet No.	Drawing	Discription
STRUCTURAL		
24	S-01	STRUCTURAL NOTES
25	S-02	STRUCTURAL SPECIAL INSPECTIONS
26	S-03	STRUCTURAL UV CHANNELS OVERALL PLAN
27	S-04	STRUCTURAL SECTIONS
28	S-05	UV CANOPY PLAN
29	S-06	UV CANOPY SECTIONS AND ELEVATIONS
30	S-07	UV CANOPY CONNECTION DETAILS
31	S-08	ELECTRICAL SHELTER PLAN AND SECTIONS
32	S-09	ELECTRICAL SHELTER DETAILS
33	S-10	INFLUENT TAP, CHANNEL DIVISION, AND GATES - PLAN AND SECTIONS
34	S-11	INFLUENT TAP AND CHANNEL DIVISION DETAILS
35	S-12	MONORAIL SUPPORT DETAILS
36	S-13	EXISTING STRUCTURE MODIFICATIONS
37	S-14	CONCRETE REPAIR AND COATING DETAILS
38	S-15	MISCELLANEOUS STRUCTURAL DETAILS 1
39	S-16	MISCELLANEOUS STRUCTURAL DETAILS 2
MECHANICAL		
40	M-01	MECHANICAL LEGEND AND ABBREVIATIONS
41	M-02	MECHANICAL NOTES AND PIPE SCHEDULE
42	M-03	MECHANICAL LOWER PLAN
43	M-04	MECHANICAL UPPER PLAN
44	M-05	UV EQUIPMENT LAYOUT PLAN
45	M-06	MECHANICAL SECTIONS 1
46	M-07	MECHANICAL SECTIONS 2
47	M-08	MECHANICAL SECTIONS 3
48	M-09	MECHANICAL DETAILS 1
49	M-10	MECHANICAL DETAILS 2
50	M-11	MECHANICAL DETAILS 3
51	M-12	EQUIPMENT SCHEDULES

PRELIMINARY DRAWINGS LIST

Client: Clackamas Water Environment Services
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Sheet No.	Drawing	Discription
ELECTRICAL		
52	E-01	ELECTRICAL LEGEND AND ABBREVIATIONS
53	E-02	ELECTRICAL NOTES
54	E-03	DEMO ELECTRICAL ONE-LINE DIAGRAM
55	E-04	ELECTRICAL ONE-LINE DIAGRAM
56	E-05	CHEM BLDG ELECTRICAL PANEL AND LOAD SCHEDULES
57	E-06	UV ELECTRICAL PANEL AND LOAD SCHEDULES
58	E-07	ELECTRICAL SITE PLAN
59	E-08	ELECTRICAL SITE PROFILES
60	E-09	ELECTRICAL SHELTER PLAN AND EQUIPMENT LAYOUT
61	E-10	ELECTRICAL SHELTER ELEVATIONS
62	E-11	CHEMICAL BUILDING AREA POWER PLAN
63	E-12	UV AREA POWER PLAN
64	E-13	LIGHTING AND RECEPTACLE PLAN
65	E-14	GROUNDING PLAN
66	E-15	ELEMENTARY DIAGRAMS 1
67	E-16	ELEMENTARY DIAGRAMS 2
68	E-17	ELECTRICAL DETAILS
69	E-19	CONDUIT AND CABLE SCHEDULE
INSTRUMENTATION AND CONTROL		
70	I-01	I&C NOTES AND LEGEND
71	I-02	NETWORK ARCHITECTURE DIAGRAM
72	I-03	I/O LIST AND INSTRUMENT SCHEDULE
73	I-04	CONTROL PANEL LAYOUT - PNL-UV-1
74	I-05	LOOP DIAGRAMS 1
75	I-06	LOOP DIAGRAMS 2

PRELIMINARY SPECIFICATIONS LIST

Client: Clackamas Water Environment Services
Project: Kellogg Creek WRRF UV Upgrades - Phase 2

SECTION NO.	TITLE
DIVISION 00	
00 40 00	BID FORM
00 72 00	GENERAL CONDITIONS
00 73 00	SUPPLEMENTARY CONDITIONS
DIVISION 01	
01 10 00	SUMMARY
01 11 13	WORK COVERED BY CONTRACT DOCUMENTS
01 12 16	WORK SEQUENCE
01 14 13	ACCESS TO SITE
01 29 11	PROJECT MOBILIZATION AND DEMOBILIZATION
01 31 19	PROJECT MEETINGS
01 32 00	CONSTRUCTION PROGRESS DOCUMENTATION
01 33 00	SUBMITTAL PROCEDURES
01 35 43	ENVIRONMENTAL PROCEDURES
01 41 26	PERMIT REQUIREMENTS
01 42 13	ABBREVIATIONS AND ACRONYMS
01 42 16	DEFINITIONS
01 45 00	QUALITY CONTROL
01 45 23	TESTING AND INSPECTION SERVICES
01 45 33	CODE-REQUIRED SPECIAL INSPECTIONS
01 50 00	TEMPORARY FACILITIES AND CONTROLS
01 57 13	TEMPORARY EROSION AND SEDIMENT CONTROL
01 64 00	PRE-PURCHASED UV DISINFECTION EQUIPMENT
01 74 19	CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL
01 74 23	FINAL CLEANING
01 75 00	STARTUP AND ADJUSTING
01 76 00	PROTECTING INSTALLED CONSTRUCTION
01 77 00	CLOSEOUT PROCEDURES
01 78 23	OPERATION AND MAINTENANCE DATA
01 78 39	PROJECT RECORD DOCUMENTS
DIVISION 02	
02 41 00	DEMOLITION

PRELIMINARY SPECIFICATIONS LIST

Client: Clackamas Water Environment Services
Project: Kellogg Creek WRRF UV Upgrades - Phase 2

SECTION NO.	TITLE
DIVISION 03	
03 01 30	CONCRETE REHABILITATION
03 15 19	ANCHORS, INSERTS, AND EMBEDDED PRODUCTS
03 20 00	CONCRETE REINFORCING
03 30 00	CAST-IN-PLACE CONCRETE
03 60 00	GROUTING
DIVISION 04	
04 22 00	CONCRETE UNIT MASONRY
DIVISION 05	
05 05 13	SHOP-APPLIED COATINGS FOR METAL
05 12 20	STRUCTURAL STEEL
05 31 00	STEEL DECKING
05 40 00	COLD FORMED METAL FRAMING
05 50 00	METAL FABRICATIONS
05 58 00	MONORAIL HOIST SYSTEM
DIVISION 07	
07 19 00	WATER REPELLENTS
07 61 13	STANDING SEAM METAL ROOF PANELS
07 62 00	SHEET METAL FLASHING AND TRIM
07 92 00	JOINT SEALANTS
DIVISION 08	
08 30 00	ACCESS HATCHES
08 31 13	ACCESS DOORS AND FRAMES
08 50 00	WINDOWS
DIVISION 09	
09 29 00	CYPSUM BOARD ASSEMBLIES
09 90 00	PAINTING AND COATINGS
09 96 00	HIGH-PERFORMANCE COATINGS
DIVISION 13	
13 05 41	SEISMIC RESTRAINT REQUIREMENTS

PRELIMINARY SPECIFICATIONS LIST

Client: Clackamas Water Environment Services
Project: Kellogg Creek WRRF UV Upgrades - Phase 2

SECTION NO.	TITLE
DIVISION 22	
22 06 00	PLUMBING PIPING AND FIXTURES
DIVISION 23	
23 34 23	HVAC POWER VENTILATORS
23 81 26	SPLIT-SYSTEM AIR-CONDITIONING UNITS
DIVISION 26	
26 05 00	ELECTRICAL GENERAL REQUIREMENTS
26 05 19	CONDUCTORS
26 05 26	GROUNDING
26 05 29	HANGERS AND SUPPORTS FOR PROCESS ELECTRICAL
26 05 33	RACEWAYS AND FITTINGS
26 05 53	IDENTIFICATION FOR ELECTRICAL SYSTEMS
26 05 73	ARC FLASH AND SHORT CIRCUIT STUDIES
26 09 00	CONTROL AND INDICATING DEVICES
26 22 13	DISTRIBUTION TRANSFORMERS
26 24 16	PANELBOARDS
26 27 00	SERVICE AND DISTRIBUTION
26 27 26	WIRING DEVICES
26 28 00	LOW VOLTAGE CIRCUIT PROTECTIVE DEVICES AND SWITCHES
26 29 23	VARIABLE FREQUENCY DRIVES
26 50 00	LIGHTING
26 90 00	ELECTRICAL TESTING
DIVISION 31	
31 00 00	EARTHWORK
31 23 00	EXCAVATING, BACKFILLING, AND COMPACTING
DIVISION 32	
32 12 16	ASPHALT PAVING
32 13 13	CONCRETE PAVING

PRELIMINARY SPECIFICATIONS LIST

Client: Clackamas Water Environment Services

Project: Kellogg Creek WRRF UV Upgrades - Phase 2

SECTION NO.	TITLE
<u>DIVISION 40</u>	
40 05 00	PROCESS PIPING
40 05 06	COUPLINGS AND SPECIALS FOR PROCESS PIPING
40 05 07	HANGERS AND SUPPORTS FOR PROCESS PIPING
40 05 16	DUCTILE IRON PROCESS PIPE
40 05 31	THERMOPLASTIC PROCESS PIPE
40 05 51	COMMON REQUIREMENTS FOR PROCESS VALVES
40 05 57	SLIDE GATES
40 05 61	VALVES
40 05 64	GATE ACTUATORS
40 70 00	I&C GENERAL REQUIREMENTS
40 71 13	MAGNETIC FLOW METERS
40 91 23.66	LEVEL PROCESS MEASUREMENT DEVICES
40 95 13	PROCESS CONTROL PANELS AND HARDWARE
<u>DIVISION 46</u>	
46 43 00	UV DISINFECTION EQUIPMENT
46 43 01	UV TRANSMITTANCE ANALYZERS
46 73 00	COMPOSITE SAMPLERS