



July 21, 2022

Board of County Commissioners
 Clackamas County

Approval of Amendment #2 to the Personal Services Contract #4040 between Water Environment Services and Jacobs Engineering Group, Inc. for the Kellogg Creek Water Resource Recovery Facility Aeration Improvements. The amendment value is \$771,960.00. Funding through WES Capital Improvement Funds. County General Funds are not involved. - *Procurement*

Purpose/Outcome	Approval of Amendment #2 to the Personal Services Contract #4040 between Water Environment Services and Jacobs Engineering Group, Inc. for the Kellogg Creek Water Resource Recovery Facility Aeration Improvements. The amendment value is \$771,960.00. Funding through WES Capital Improvement Funds. County General Funds are not involved. – <i>Procurement</i> .
Dollar Amount and Fiscal Impact	Amendment #2 Value is \$771,960.00 for a Total Contract Value of \$1,038,642.00.
Funding Source	WES Capital Funds, County General Funds are not involved.
Duration	Contract until December 31, 2023.
Previous Board Action/Review	Contract approved at Business Meeting on June 10, 2021. Approval of Amendment #2 sent to issues on July 19, 2022.
Strategic Plan Alignment	<ol style="list-style-type: none"> 1. This project supports the County’s Strategic Plan of building a strong infrastructure that delivers services to customers and honors, utilizes, promotes and invests in our natural resources. 2. This project supports the WES Strategic Plan goal to provide properly functioning infrastructure that supports healthy streams and reduces flooding.
Counsel Review	<p>Date of Counsel review: July 6, 2022.</p> <p>Name of County Counsel performing review: Amanda Keller.</p>
Procurement Review	Was this project processed through Procurement? Yes.
Contact Person	Steven Rice, Civil Engineer, 971-284-3710
Contract No.	#4040

BACKGROUND:

WES selected Jacobs Engineering Group to provide engineering services for design of the Kellogg Creek Water Resource Recovery Facility (KC WRRF) Aeration Improvements Project. The designed improvements include new air supply control valves, air flow metering, dissolved oxygen monitoring, Programmable Logic Controller and related control strategy, as well as basin concrete rehabilitation. This amendment authorizes an increase to the Scope of Work to provide an on-site Resident Project Representative Services, control system software services, and engineering services during construction of the Kellogg Creek WRRF Aeration Basin Improvements Project, as originally contemplated in the Request for Proposal 2021-02.

The revised Scope of Work also includes onsite Resident Project Representative Services for the Influent Pump Station Pump 2 and 4 Replacement and Secondary Clarifier Rehabilitation, which will be under construction concurrently with the Aeration Basin Improvements Project. WES is realizing cost and project efficiencies by using the same Resident Project Representative for this concurrent construction work occurring at the Kellogg Creek WRRF. The additional Scope of Work is included as **Exhibit "D"** and hereby attached and included by reference.

PROCUREMENT PROCESS:

This project was advertised in accordance with ORS and LCRB Rules on January 6, 2021. Proposals were opened on February 4, 2021. The District received two (2) proposals: Jacobs Engineering Group, Inc. and HDR Engineering, Inc. The Evaluation Committee selected Jacobs Engineering Group, Inc. as the highest ranking proposer and recommended a contract be awarded. Following award, the Project Manager entered into negotiations with Jacobs Engineering Group, Inc. and developed a final statement of work, along with final billing rates and contract value.

RECOMMENDATION:

Staff recommends that the Board of County Commissioners of Clackamas County, acting as the governing body of Water Environment Services, approve the Amendment #2 to the Personal Services Contract between Water Environment Services and Jacobs Engineering Group, Inc., for the Kellogg Creek Water Resource Recovery Facility Aeration Improvements.

Respectfully submitted,



Ron Wierenga
Assistant Director
Water Environment Services

Attachments: Contract #4040

PROCUREMENT

AMENDMENT #2

**TO THE CONTRACT DOCUMENTS WITH JACOBS ENGINEERING GROUP, INC. FOR
KELLOGG CREEK WRRF AERATION SYSTEM IMPROVEMENT DESIGN RFP 2021-02
Contract #4040**

This Amendment #2 is entered into between Jacobs Engineering Group, Inc. (“Contractor”) and Water Environment Services (“District”) and it shall become part of the Contract documents entered into between both parties on June 3, 2021 (“Contract”).

The Purpose of the Amendment #2 is to make the following changes to the Contract:

1. **ARTICLE I – Section 1. Effective Date and Duration** is hereby changed as follows: Contract expiration date is changed from December 31, 2022 to **December 31, 2023**.

2. **ARTICLE I - Section 2. Scope of Work** is hereby changed as follows:
District has authorized an increase to the Scope of Work to provide an on-site Resident Project Representative Services, control system software services, and engineering services during construction of the Kellogg Creek WRRF Aeration Basin Improvements Project, as originally contemplated in the Request for Proposal 2021-02. The revised Scope of Work also includes on-site Resident Project Representative Services for the Influent Pump Station Pump 2 and 4 Replacement and Secondary Clarifier Rehabilitation, which will be under construction concurrently with the Aeration Basin Improvements Project. The District is realizing cost and project efficiencies by using the same Resident Project Representative for this concurrent construction work occurring at the Kellogg Creek WRRF. The additional Scope of Work is included as **Exhibit “D”** and hereby attached and included by reference.

3. **ARTICLE I – Section 3. Consideration** is hereby changed as follows:
In consideration for Contractor performing the additional work identified above, District will pay Contractor an amount not to exceed \$771,960.00. The total Contract compensation shall not exceed \$1,038,642.00

Original Contract	\$239,947.00
Amendment #1	\$26,735.00 and Time
<u>Amendment #2</u>	<u>\$771,960.00</u>
Total Amended Contract	\$1,038,642.00

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 #2, effective upon the date of the last signature below.

Signature Page to Follow

Jacobs Engineering Group, Inc.
1999 Bryan Street, Suite #1200
Dallas, TX 75201



Digitally signed by
Robert Brady Fuller
Date: 2022.06.30
10:52:49-07'00'

Authorized Signature

June 30, 2022

Date

Water Environment Services

Chair

Recording Secretary

Date

Approved as to Form:



County Counsel

7/6/22

Date

EXHIBIT D – SCOPE OF WORK

Water Environment Services of Clackamas County Kellogg Creek WRRF Aeration Basin Improvements Project – Contract #4040; WES Project P632314 Services During Construction and Resident Project Representative Services for KCWRRF Influent Pump Station Upgrade, and KCWRRF Secondary Clarifier Rehabilitation

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Background

Consultant shall provide Services During Construction (SDC) as defined below. These SDC are intended to assist the District to administer the contract for construction, monitor the performance of the construction contractor, verify that the contractor’s work is in substantial compliance with the Contract Documents, and assist the District in responding to events that occur during the construction. These SDC are based upon the understanding that the District will contract directly with the General Contractor and will be actively involved in the construction process to make decisions, provide approvals, and perform other actions necessary for the completion of the construction.

Water Environment Services of Clackamas County (District) and Jacobs (Consultant) recently completed design of the KCWRRF Aeration Improvements at the Kellogg Creek Water Resource Recovery Facility (TCWRRF). The design includes replacement air flow meters, control valves, dissolved oxygen probes in each aerobic zone, along with rehabilitation of primary influent channel, replacement of failing slide gates, replacement of a PLC, and related improvements.

Additionally, District has assigned Consultant responsibility for performing Task 6 services related to the KCWRRF Influent Pump 2 and 4 Replacement (Designed by Stantec), and a KCWRRF Secondary Clarifier Rehabilitation project (Designed by District)

Assumptions – General

1. Procore software will be used as the means of all project documentation including submittals, RFI’s, pay requests, and change orders.

2. Where deliverable documents are identified, unless noted otherwise, five (5) hard copies of the deliverable will be provided in addition to electronic version in .PDF and original .DOC format.
3. Submittals will be provided via an electronic document management system (e.g. Procore). Materials samples and O&M submittals are the only physical submittals anticipated.
4. Consultant's services during construction are based upon the schedule or duration of construction of 570 calendar days from Construction Notice to Proceed to Final Completion
5. Consultant will not be responsible for the means, methods, techniques, sequences or procedures of the Contractor, nor will Consultant be responsible for the Contractor's failure to perform in accordance with the Contract Documents.
6. The Influent Pump 2 and 4 Replacement Project, and Secondary Clarifier Rehabilitation Project will be managed with separate Procore project records, and will have separate daily reports prepared for each.

District-provided Services

1. District will make its facilities accessible to Consultant as required for Consultant's performance of its services.
2. District will give prompt notice to Consultant when District observes or becomes aware of developments that affect the scope or timing of Consultant's services, or of defects in the work of Consultant.
3. The District will participate in regularly scheduled project status meetings.
4. District will procure and provide access for Consultant to Procore software.
5. Access to office space for Consultant staff use of Consultant laptop computer, photocopy equipment, potable water, restroom and internet access for Consultant staff.
6. Monthly utility, internet and cleaning charges will be paid by the District.
7. Independent Testing, Inspection and Survey Services.
8. The District will examine information submitted by Consultant and render in writing or otherwise provide decisions in a timely manner.
9. The District will furnish required information and approvals in a timely manner.
10. The District will cause agreements with the contractor to be consistent with Consultant's Agreement.
11. The District will participate in partnering workshops and meetings and provide a meeting space.

New scope for Services During Construction

Task 1 Project Management

1.1 Progress Meetings and Updates

Consultant's project manager shall meet with District's project manager periodically throughout the construction phases of the project to review project progress and discuss upcoming work activities.

1.2 Project Work Plan

Consultant shall prepare a general work plan that defines Consultant's delivery approach, staffing, responsibilities and project deliverables.

The following subtasks are provided under this task:

- Update and maintain a work plan to include organization, roles, responsibilities, schedule, budget, and staff plan for execution of services during construction or the Project. The work plan and project instructions will include an update to the quality assurance/quality control (QA/QC) plan.
- Work with Consultant's Project Representative to develop a Construction Management Manual and Construction Quality Assurance Plan.
- Consultant project manager may also participate in weekly Contractor coordination meetings.

1.3 Prepare and Submit Monthly Narrative Report and Invoice

Consultant shall submit a monthly invoice with a report regarding progress of construction.

Task 1 Deliverables: Monthly progress reports, invoices and project work plan.

Task 2 Partnering Workshops – not used

Task 3 Engineering Services During Construction

Consultant shall provide services to assist in coordinating the site activities, administering the contract for construction, monitoring the contractor's performance, responding to design and technical submittals and closing out the contract for construction.

3.1 Conformed Documents – already authorized in Design Phase contract

3.2 Document Management System and Procedures

Consultant shall work with District to establish a system and set of procedures for managing, logging, tracking and storing all relevant correspondence between the contractor, Consultant and District and documents produced during the project. The Consultant shall, in coordination with the District, maintain hard copy records, suitably organized, of relevant documentation.

Consultant shall assist the District in monitoring all outstanding decisions, approvals or responses required from the District.

Deliverables: Document management instructions.

3.3 Site Coordination

3.3.1 Preconstruction Meeting

Consultant's project manager and lead engineer will attend a preconstruction meeting with the Contractor and District at the Project site prior to the commencement of construction.

3.3.2 Mobilize On-Site Team

Consultant shall mobilize a team on-site during periods of on-site construction (Assume June 1 through October 31 in 2022 and 2023) to provide site coordination, contract administration and monitor the performance of the contractor. Consultant on-site team shall mobilize in the field offices to be provided by the District.

3.3.3 Project Site Meetings

Consultant shall conduct weekly construction coordination meeting with the contractor and prepare and distribute minutes of these meetings. Project engineer shall participate in meetings up to the limit of the budget shown.

3.3.4 Site Communications

Consultant shall issue other communications during construction as provided in the Contract Documents.

Deliverables: Preconstruction meeting agenda and notes; weekly construction meeting agenda and notes.

3.4 Construction Contract Administration

3.4.1 Correspondence and Communication

Consultant shall coordinate all written communication among the contractor, Consultant and District during the construction phase. Consultant shall prepare written communication to the contractor and provide recommendations to the District for written communication between the District and contractor.

3.4.2 Payments to Contractor

Consultant shall receive and review the contractor's monthly requests for payment. Consultant shall determine whether the amount requested reflects the progress of the contractor's work and is in accordance with the contract for construction.

Consultant shall provide recommendations to the District as to the acceptability of the requests. Consultant shall advise the District as to the status of the total amounts requested, paid and remaining to be paid under the terms of the contract for construction. Consultant's knowledge, information and belief from its observations of the work on site and selected sampling that the work has progressed to the point indicated. Such recommendations do not represent that continuous or detailed examinations have been made by Consultant to ascertain that the contractor has completed the work in exact accordance with the contract for construction; that Consultant has made an examination to ascertain how or for what purpose the contractor has used the moneys paid; that title to any of the work, materials or equipment has passed to the District free and clear of liens, claims, security interests or encumbrances.

Deliverables: Payment recommendation, written communication to contractor.

3.5 Contract Changes

Consultant will assist the District with the issuance of changes to the contract for construction.

3.5.1 Defective Work

Consultant shall disapprove or reject work which Consultant believes to be defective, or that Consultant believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

3.5.2 Minor Variations in Work

Consultant may authorize minor variations in the work from the requirements of the Contract Documents which do not involve an adjustment in the contract price or the contract times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

3.5.3 Coordinate Issuances of Changes

Consultant shall assist the District with the issuance of changes to the contract for construction. Consultant shall receive and review the contractor's response to the request for change including cost, construction schedule, duration and completion date and will obtain such further information as is necessary to evaluate the basis for the contractor's proposal. Consultant shall assist the District with negotiations of the proposal and, upon approval by the District, prepare final change order documents for execution by the District and contractor.

Consultant shall review all contractor-related changes to the contract for construction including impact on cost, construction schedule, duration and completion date. Consultant shall make recommendations to the District regarding the acceptability of the contractor's request and, upon agreement and approval, Consultant shall prepare change order documents.

Deliverables: Defective work notices; field orders; work change directives; and change order documents.

3.6 Project Controls

3.6.1 Contractor's Schedule Submittal

Consultant shall review the contractor's initial construction schedule and verify that it is consistent with the requirements of the contract for construction. Consultant shall advise contractor of any areas where the schedule is not in compliance with the contract for construction. Consultant shall provide comments to the District to assist with District in approving, accepting or taking other action on the contractor's schedule, in accordance with the contract for construction.

3.6.2 Contractor's Schedule Updates

Consultant shall review the contractor's periodic schedule updates or other schedule submissions. Consultant shall advise the contractor if the updates or other submissions are not in accordance with the contract for construction. Consultant shall provide comments to the District regarding the updates or other submissions.

3.7 Claims and Disputes

Consultant shall receive, log, and notify the District about all letters and notices from the contractor concerning claims or disputes between the contractor and District pertaining to the acceptability of the work or the interpretation of the requirements of the contract for construction. Consultant shall review all such letters and notices and will discuss them with the contractor as necessary to understand each such claim or dispute.

Consultant shall advise the District regarding the contractor's compliance with the contract requirements for such claims and disputes. Consultant will assist the District in discussions with the contractor to resolve claims and disputes.

Consultant shall issue recommendations on contractor claims or disputes. Consultant will not, except as part of Additional Services, participate in judicial or alternative dispute resolution procedures for the claims or disputes.

The level of effort includes an allowance of 16 hours for this subtask.

Deliverables: Written documentation related to claims and disputes.

3.8 Interpretation of Contract Documents (RFIs)

Consultant shall issue written clarifications or interpretations of the requirements of the Contract Documents as necessary. Per common construction language, these are called “Requests for Information (RFIs)”. Consultant will coordinate such review with District.

Assumptions: Assume 30 RFIs will be reviewed at 4.8 hours per RFI.

3.9 Submittals/Shop Drawing Reviews

Consultant shall obtain from the contractor a proposed show drawing and submittal schedule, which will identify all show drawings, samples and submittals required by the contract for construction with the anticipated dates for submission.

Consultant shall review and approve shop drawings and samples required by the Contract Documents. Consultant shall log and track all shop drawings, samples and submittals. Consultant’s review of all shop drawings, samples and submittals shall be for general conformance with the design concept and general compliance with the requirements of the contract for construction. Such review shall not relieve the contractor from its responsibility for performance in accordance with the contract for construction, nor is such review a guarantee that the work covered by the shop drawings, samples and submittals is free of errors, inconsistencies or omissions.

Consultant’s scope shall be based upon the scope of work in the contract for construction and shall include a maximum of three submissions by the contractor for each shop drawing, sample or submission.

Assumptions: Assume 45 submittals plus 50% resubmittals will be reviewed under this task at 4 hours per submittal.

Deliverables: Submittal log, submittal review comments.

3.10 Proposed Substitutions

Consultant shall assist the District in reviewing and responding to the contractor’s request for substitution of materials and equipment. Consultant shall review such requests and advise the District as to the acceptability of such substitutions.

Deliverables: Documentation of reviews and recommendations for substitution.

3.11 Design Team Visits

Consultant shall coordinate visits to the site by the design team members to review progress and quality of the work. The visits shall observe the general quality of the work at the time of the visit and review any specific items of work that are brought to the attention of the design team members by the Contractor or the District. Consultant shall provide District 48-hour notice of design team member visit.

Assumptions: Assume two design team visits per month on average for the duration of the project.

3.12 Testing, Inspection and Survey Services - NOT USED

Task 4 Public Outreach Support – Not used.

Task 5 Control System Software Services

Consultant shall provide control system software services. The services include planning, programming, testing, and startup for the plant control system PLC and HMI system components to provide the functions described in the process control narratives developed during the design phase.

Assumptions:

- The following tasks are not included in this subtask because they will be included elsewhere in the construction services scope of work:
 - Submittal review
 - Preparation of design clarifications and change orders
- Up to three weeks of effort will be included for developing software loop descriptions. Jacobs as Prime consultant will prepare loop descriptions and OCD as integration subconsultant will review.
- Programs in the S7-400 and S7-1500 processors will be developed in phases as the control elements are transferred.
- HMI and PLC software will be configured to District software standards.
- Consultant (OCD as subconsultant) will configure new Wonderware Intouch tags and graphics for processes monitored and controlled by new PLC. The scope and fee are based on HMI quantities as listed below:
- New replacement screens to mirror existing screens but pointed to the new PLC system.
- New Wonderware HMI process graphics popups that will mimic existing popups but pointed to the new PLC system.
- Where possible, existing Intouch graphics and tags will be re-used for processes that are monitored and controlled by existing PLCs.
- OCD will write programs in new files so all work can be done offsite at their office and only brought online at site as systems and components are commissioned.
- OCD will use the district's existing programming licenses for all software, including Wonderware Intouch HMI, Wonderware Intouch development, Allen-Bradley PLCs, Siemens TIA, Siemens Step 7, and WIN-911 alarm dialer. Consultant will use in house software as needed when District software not available.
- The scope assumes up to two SI workshops (draft and final).
- Up to a maximum of 20 new WIN-911 tags will be added. The programming will be executed using the existing onsite system.
- Configurations of historian will consist of addresses changes to the existing tags as devices and processes are transferred.
- Additional historian tags will be added as needed, up to 50 new historian tags.
- Total onsite effort includes up to 240 hours at the site.
- Operations training will include up to 4 days of onsite training for District operations staff.

- Site final software acceptance testing will include five days of formal testing, signoff, and documentation of software functionality with District.
- District staff will participate in software factory testing and final site software testing.
- No factory testing of equipment (drives or package systems) will be provided.
- Software O&M documentation is limited to printouts and electronic copies of the final HMI and PLC programs.

5.1 Control Systems Software Services PM

Consultant shall provide Task 3 project management, billing, and coordination.

Deliverables: Monthly invoices including summary of services provided and budget status summary by task.

5.2 Project Meetings

Consultant shall plan and participate in project meetings related to Task 5 activities including attending construction meetings and coordinating with vendors.

Deliverables: Meeting notes

5.3 Software Planning – Software Loop Descriptions

Consultant shall review project design control narratives, develop detailed control strategies, incorporate actual IO points and create alarm list identify HMI displays elements.

Consultant shall develop final software loop descriptions based on the control narratives contained in the Contract Documents as updated during the Process O&M Manual developed under Task 7.1. Software loop descriptions shall define the automated monitoring and control functions to be provided by the PLC and HMI software.

Deliverables: Final software loop descriptions

5.4 Software Programming

Consultant shall perform the following activities:

- PLC programming for each new process systems according to control strategies.
- PLC programming for modifying existing systems.
- HMI programming for new process systems according to the control strategies.
- HMI programming for modifying existing systems.

Consultant shall provide control system software programming services based on the final software loop descriptions defined in Task 5.3. The purpose of this task is to configure the PLC and HMI software to perform the functions identified in the process control narratives. The major task items of software configuration shall include:

- PLC programming for new automated monitoring and control functions at the following PLCs:
 - Aeration S7-400 (Existing)
 - Programming will be modified as equipment is moved to the new system.
 - Aeration S7-1500 (New)

- A new control strategy and logic structure will be implemented for Aeration Basin DO/Flow/Blower control.
- Wonderware Intouch HMI graphics for the facility improvements. Includes the following major approaches:
 - Draft graphics that will mirror but be an improvement upon what is existing. Tag names will be duplicated with a marker to indicate that their data is source from the S7-1500.
- Add new critical alarms to the existing WIN-911 alarm dialer software

Deliverables:

- Draft Graphics Review Submittal
- Final Graphics Review Submittal

5.5 Factory software acceptance testing:

Consultant shall perform offline software testing in OCD's Portland, Oregon, office. Two days will be coordinated with District staff to demonstrate, via Teams, the proper function of the PLC-HMI links with simulated I/O before the software is taken to the field for final site acceptance testing with actual I/O. The testing will be executed with the final PLC and HMI software configurations developed in OCD's office.

Perform the following activities:

- Bench testing and coordination for all new PLC and HMI code.
- Write simulation logic to the extent possible to test control functions, feedback loops and HMI graphics.
- Coordinate with PIC contractor for control panel checkout, testing and configuration.

5.6 Site Acceptance Testing

Consultant shall perform the following activities:

- Onsite verification of field instrument operation, IO function and wiring.
- Onsite setup and testing of control network hardware and networked field devices.
- Onsite integration and testing of vendor system integration including PLC data and control wiring.
- Create and maintain startup testing documentation.
- Performance testing of each subsystem.
- Coordination with plant staff for final commissioning.

Consultant shall provide control system software site acceptance testing services to confirm that the configured control system software provides the automated monitoring and control functions identified in the final loop descriptions. Major tasks include:

- Functional Test Part 1 (FT1): This effort is entirely the responsibility of the contractor. The tests and documentation are requirements of the contractor as specified in the Contract Documents.
- Functional Test Part (FT2): Repeat the Contractor's unwitnessed Functional Test Part 1 (FT1) to confirm that the wiring systems and field equipment are ready for software functional testing. This testing requires support by the contractor for simulating field I/O and troubleshooting wiring.

- Software Functional Acceptance Testing: Test the software functions identified in the final loop descriptions on a loop-by-loop basis using actual I/O from field devices. This testing will require multiple testing phases, dictated by the Contractor's schedule.
- Software Training:
 - Train District operations staff to use the new control system software
- Site Software Acceptance Test Completion Documentation
 - Site software acceptance testing: Software testing at project site with District staff to demonstrate the proper function of the PLC-HMI links with actual I/O after functional testing with the contractor has been completed. The testing will be executed with the final PLC and HMI software configurations started up at the project site.

Deliverables: Final site software acceptance test documentation consisting of formal signoff of software functions.

5.7 HMI/SCADA Staff Training

Consultant shall perform the following activities:

- Onsite training with plant staff on how new system operate and how to use the HMI.
- Review all HMI graphics and the functions of each screen element
- Provide on the job assistance to operators as they begin using the new systems.
- Review alarm list and appropriate responses to alarms.
- Review basic troubleshooting for control system equipment.

5.8 HMI O&M Manual and Final Control System Software Documentation

Consultant shall perform the following activities:

- Provide written user manual for HMI system that includes process graphic screen captures and detailed description of associated functions.
- Incorporate as build control functionality description into HMI user manual to provide user with practical description of how the system operates.
- Include alarm list with descriptions and appropriate responses

OCD will provide deliverables to document the final PLC and HMI software configurations.

- Final Software O&M Files

Deliverables:

- Written HMI user manual (draft and final)
- DVDs containing the following (three copied):
 - Final HMI Graphics application
 - Final PLC files
- Electronic files for each of the following software O&M documents:
 - Three 3-ring binders containing the final software O&M document
 - Final software loop descriptions
 - Final software tag list
 - Printed color copies of the HMI main process graphics

Task 6 Construction Management/Field Services

Consultant shall provide one on-site full time Resident Project Representative/Field Inspector for duration of each of three projects

1. KCWRRF Aeration Improvements
2. KCWRRF Influent Pump 2 and 4 Replacement
3. KCWRRF Secondary Clarifier Rehabilitation

The Resident Project Representative will provide for construction management of the General Contractor's work. These construction contract management services are based upon the responsibilities, authority and limitations of authority set forth in the Contract Documents for the Resident Project Representative and are further described and limited as follows:

6.1 Responsibilities and Authority of Resident Project Representative

The Resident Project Representative is expected to follow the responsibilities and exercise authority as designated by the Contract Documents.

- 6.1.1 Schedules: Review and monitor Progress Schedule, Schedule of Submittals, and Schedule of Values prepared by contractor and consult with Engineer concerning acceptability.
- 6.1.2 Conferences and Meetings: Conduct or attend meetings with contractor, such as preconstruction conferences, progress meetings, Work conferences and other Project related meetings.
- 6.1.3 Liaison: (i) Serve as Engineer's liaison with contractor, working principally through Contractor's authorized representative, and assist in understanding the intent of the Contract Documents; (ii) assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's onsite operations; (iii) assist in obtaining from Owner additional details or information when required for proper execution of the Work.
- 6.1.4 Interpretation of Contract Documents: Inform Engineer and Owner when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor technical clarifications and interpretations as issued by Engineer, or non-technical clarifications and interpretations of the Contract Documents issued by Owner.
- 6.1.5 Submittals: Receive submittals that are furnished at the Site by Contractor, and notify Engineer of availability for examination. Advise Engineer and Contractor of the commencement of any Work or arrival of materials and equipment at Site, when recognized, requiring a Shop Drawing or Sample if the submittal has not been approved by Engineer.
- 6.1.6 Modifications: Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and provide recommendations to Engineer; transmit to Contractor, in writing decisions as issued by Engineer.
- 6.1.7 Review of Work and Rejection of Defective Work: (i) Conduct onsite observations of the Work in progress to assist Engineer in determining if the Work is, in general, proceeding in accordance with the Contract Documents; (ii) inform Engineer and Contractor whenever RPR believes that any Work is defective; (iii) advise Engineer whenever RPR believes that any Work will not produce a completed Project that conforms generally to the Contract Documents or will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, whenever RPR believes Work

- should be uncovered for observation, or requires special testing, inspection, or approval; (iv) monitor to ensure that tests, equipment and systems startups and operating and maintenance training are conducted in the presence of appropriate personnel, and that Contractor maintains adequate records thereof; (v) observe, record and report to Engineer appropriate details relative to the test procedures and startups; and (vi) accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections and report to the Engineer.
- 6.1.8 Inspections, Tests, and System Startups: (i) Verify tests, equipment and systems startups and operating and maintenance training are conducted in the presence of appropriate personnel, and that Contractor maintains adequate records thereof; (ii) observe, record, and report to Engineer appropriate details relative to the test procedures and system startups; and (iii) accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections, and report to Engineer.
- 6.1.9 Records: (i) Maintain at the Site files for correspondence, conference records, Submittals including Shop Drawings and Samples, reproductions of original Contract Documents including all Addenda, the signed Agreement, Written Amendments, Work Change Directives, Change Orders, Field Orders, additional Drawings issued after the Effective Date of the Agreement, Engineer's written clarifications and interpretations, progress reports, and other Project related documents; (ii) keep a record of pertinent Site conditions, activities, decisions and events.
- 6.1.10 Reports: (i) Furnish Engineer periodic reports of progress of the Work and of Contractor's compliance with the Progress Schedule and Schedule of Submittals; (ii) consult with Engineer in advance of scheduled major tests, inspections or start of important phases of the Work; and (iii) assist in drafting proposed Change Orders, Work Change Directives, and Field Orders, and obtain backup material from Contractor as appropriate.
- 6.1.11 Payment Requests: Review Applications for Payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the Schedule of Values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.
- 6.1.12 Certificates, Operation and Maintenance Manuals: During the course of the Work, verify materials and equipment certificates and operation and maintenance manuals and other data required by Specifications to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and ensure these documents have been delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.
- 6.1.13 Substantial Completion: (i) Conduct an inspection in the company of Engineer, Owner, and contractor and prepare a list of items to be completed or corrected; (ii) submit to Engineer a list of observed items requiring completion or correction.
- 6.1.14 Final Completion: (i) Conduct final inspection in the company of Engineer, Owner, and contractor; and (ii) notify Contractor and Engineer in writing of all particulars in which this inspection reveals that the Work is incomplete or defective; and (iii) observe that all items on final list have been completed, corrected, or accepted by Owner and make recommendations to Engineer concerning acceptance. Consultant shall support Owner for submission of letters from structural engineer of record (for Aeration Improvements and IPS project), and Third Party Special Inspector that work is complete.

6.2 Limitations of Authority

Resident Project Representative will not:

- 6.2.1 Have authority to authorize a deviation from Contract Documents or substitution of materials or equipment, unless authorized by Owner; or
- 6.2.2 Exceed the limitations of Engineer's authority as set forth in Contract Documents; or
- 6.2.3 Undertake any of the responsibilities of contractor, subcontractors, suppliers, or contractor's authorized representative; or
- 6.2.4 Advise on, issue directions relative to, or assume control over an aspect of the means, methods, techniques, sequences, or procedures of contractor's work unless such advice or directions are specifically required by the Contract Documents; or
- 6.2.5 Advise on, issue directions regarding, or assume control over safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor; or
- 6.2.6 Participate in specialized field or laboratory tests or inspections conducted offsite by others, except as specifically authorized by District; or
- 6.2.7 Accept Shop Drawings or Samples from anyone other than contractor; or
- 6.2.8 Authorize Owner to occupy the Project in whole or in part; or
- 6.2.9 Take an action that would affect Owner's obligations related to scope or schedule of the Work.

Assumptions:

- Assume the RPR will review approximately 20% submittals. Assume the RPR will process approximately 20 % of RFIs.
- Assume that the RPR will work 9 hours per day for the duration of the active construction contract, (June 2022 to September 2022, and June 2023 through September 2023, which is 8 months, 23 work days per month) with 16 hours per month for 8 months over winter and 40 hour allowance for contract closeout.
- The off-site Construction Manager is budgeted to support the on-site RPR for an allowance of 60 hours.
- This task includes \$50,000 allowance for hiring a AMPP (Association for Materials Protection and Performance - formerly known as NACE) certified coatings inspector as mutually agreed with District PM.

Task 7 O&M Manual and Startup Support

7.1 Operations and Maintenance Manual

This task performed by District.

7.2 Startup Process Support and Training

Consultant will provide engineering and operations and maintenance support during startup. This task includes an allowance for process training regarding contact stabilization operations mode. The training will include review of design criteria and process control decisions during wet weather.

Within this task, Consultant will support District to confirm that the new process systems are operating as they were designed. This assistance includes:

- Review Contractor's startup plan
- Troubleshoot operational and process issues during and after startup of each Unit Process

Task 8 Post Construction, Construction Closeout and Documentation

8.1 Construction Document Closeout

Consultant shall finalize all documentation and project notebooks associated with Consultant support during the design and construction phase, providing any critical information and documentation to the District, and archiving critical backup files and documents.

Consultant shall provide to the District an organized set of hard copy project documents and records only for those items that were submitted in hard copy format. Procore electronic project records are expected to be the primary source of project documents.

Consultant shall coordinate with the Contractor for the submission of required warranties, guarantees, lien releases and other similar documents as required by the contract for construction. Consultant will advise the District as to the acceptability and compliance of these documents with the contract for construction.

8.2 Substantial and Final Completion

Consultant shall assist the District in issuing documents for substantial and final completion and acceptance of the work. Consultant will advise the District on payment, and partial release of retention, final payment, release of retention, and release of insurance and bonds.

8.3 Occupancy and Start-Up Permits

None required.

8.4 Warranty Period Services

None required.

8.5 Record Drawings

During the course of construction, drawing will be updated as part of record drawings to reflect changes to structural and mechanical features.

On a monthly basis, as part of the ongoing construction effort, Consultant will update 2-dimensional record drawings on the basis of information furnished by the contractor and field staff. Following substantial completion, these updates will be checked by Consultant field staff against all RFI's and any

changes to design. Field staff shall inspect the contractor redlines monthly, prior to approving contractor pay request.

- No formal updates to specifications will be prepared or performed as part of this work. The field team is anticipated to keep an updated set of specifications in the field office noting changes authorized by the Contract.

Deliverables: 1 electronic copy of half and full-size drawings in PDF and AutoCad formats; 3 hard copies of half-size drawings on bond paper; Updated set of specifications noting authorized changes.

Task 9 Safety

Consultant shall manage the health, safety and environmental activities of its staff and the staff of its subcontractors to achieve compliance with applicable State and Federal health and safety laws and regulations. Consultant will prepare a Health Safety and Environment (HS&E) Plan covering its staff activities. It is assumed that confined space entry is not required by Consultant employees.

Consultant shall coordinate its health, safety and environmental program with the responsibilities for health, safety and environmental compliance specified in the contract for construction. Consultant shall coordinate with responsible parties to correct conditions that do not meet applicable federal, state and local occupational safety and health laws and regulations, when such conditions expose Consultant staff, or staff of Consultant subcontractors, to unsafe conditions.

Consultant shall notify affected personnel of any site conditions posing an imminent danger to them which Consultant observes.

Consultant is not responsible for health or safety precautions of construction workers. Consultant is not responsible for the contractor's compliance with the health and safety requirements in the contract for construction, or with federal, state, and local occupational safety and health laws and regulations.

Additional Services

The following services shall be considered as Additional Services. No budget has been included for Consultant to support the following:

- Services necessary due to the default of the Contractor.
- Services for the investigation and analysis of contractor claims or preparation of reports on contractor claims except as specifically described in above scope of work. Provision of professional claims analysis services; participation in litigation or alternative dispute resolution of claims.
- Preparation for and serving as a witness in connection with any public or private hearing or other forum related to the project.
- Services to support, prepare, document, bring, defend, or assist in litigation undertaken or defended by the District.

Project Schedule – Amendment No. 1

The services during construction services described and required herein shall be completed in a timely manner based on the District's intent to receive bids in April 2022, Contractor Notice to Proceed in May 2022 and the completion of construction in over the course of 2 construction seasons, with active construction June 2022 through September 2022, and June 2023 through September 2023.

Budget – Amendment No. 1

Staff will bill at a raw labor multiplier of 3.15. Construction Manager/Inspector will bill at 2.7 Raw Labor Multiplier.

Labor billing rates are current at the time of the execution of the agreement and will be adjusted annually (January 1) per the Bureau of Labor and Statistics Consumer Price Index – Seattle Area CPI-All Urban Consumers.

The current authorized compensation limit for services performed under this scope of work shall not exceed the amount shown in Exhibit B. Exhibit B also shows the basis for labor and expenses used to develop the fee.

Attachment B

Item	Project Manager	Office Sr. Construction Manager	Construction Inspector	Liquids Process Lead	Mechanical Engineer	Structural Engineer	Electrical Engineer	Lead I&C Engineer	Staff I&C Engineer	Schedule Consultant	Lead CAD Technician	Staff CAD Technicians	Project Assistant	Project Controls	Labor Hours	Labor Dollars	OCD	Costing Inspector	Expenses	TOTAL LABOR & EXPENSES
Services During Construction																				
1.0 Project Management	120																			
1.1 Project Work Plan	6																			
1.2 Monthly Narrative Report and Invoice	27																			
2.0 Permitting	0																			
2.1 Permitting Services During Construction																				
3.1 Confirmed Documents	16																			
3.2 Document Management System and Procedures																				
3.3 Construction Contract Administration	60																			
3.4 Contract Changes	12																			
3.5 Change Orders	16																			
3.6 Change and Disputes	16																			
3.7 Claims and Disputes	16																			
3.8 Interpretation of Contract Documents (RFIs)	16																			
3.9 Submittal Shop Drawing Reviews	28																			
3.10 Submittal Review	28																			
3.11 Design Team Visits																				
3.12 Testing, Inspection and Survey Services																				
4.0 Construction Management Services																				
5.0 Control System Software Services																				
5.1 Control Systems Software Services PM																				
5.2 HMI O&M Manual/Final Control System Software Documentation																				
5.3 Software Programming - Software Loop Descriptions																				
5.4 Software Programming																				
5.5 Safety Software Acceptance Testing																				
5.6 Safety Software Acceptance Testing																				
5.7 HMI O&M Manual/Final Control System Software Documentation																				
5.8 HMI O&M Manual/Final Control System Software Documentation																				
5.9 O&M Manual and Startup Report																				
6.0 Plant Construction, Construction Closeout and Documentation																				
7.0 Operations and Maintenance Manual																				
7.1 Operations and Maintenance Manual																				
7.2 Construction Document Closeout																				
7.3 Construction Document Closeout																				
7.4 Operational and Safety Commissioning																				
7.5 Operational and Safety Commissioning																				
7.6 Warranty Period Services (not authorized)																				
7.7 Record Drawings																				
Total Hours	247	60	1,832	66	237	62	72	162	8	186	8	24	186	4	36	3,072	\$568,575	\$0	\$0	\$781,850
	\$ 61,750	\$ 15,000	\$ 344,028	\$ 11,432	\$ 33,824	\$ 15,500	\$ 12,445	\$ 1,823	\$ 312,716	\$ 1,787	\$ 795	\$ 2,734	\$ 18,888	\$ 318	\$ 5,106	\$ 152,209	\$ 50,000	\$ 3,075	\$ 0	\$ 3,075
All staff billed at 3.15 raw labor multiplier, except Construction Manager/Field Inspector billed at 2.7 raw labor multiplier																				
Total Labor Expenses																				
5% markup on Subcontractors																				
Total Labor Expenses																				
\$ 771,925																				

COVER SHEET

- New Agreement/Contract
- Amendment/Change/Extension to _____
- Other _____

Originating County Department: _____

Other party to contract/agreement: _____

Description:

After recording please return to: _____

County Admin

Procurement

If applicable, complete the following:

Board Agenda Date/Item Number: _____