CLACKAMAS
WATER ENVIRONMENT SERVICES

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

April 6, 2023 BCC Agenda Date/Item: _____

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

Approval of a Personal Services Contract with Jacobs Engineering Group, Inc. for telemetry integration consulting services. Contract value is $750,000. Funding through Water Environment Services Sanitary Sewer Operating Fund. No County General Funds are involved.

Previous Board Action/Review	Presented at Issues on April 4, 2023.		
Performance Clackamas	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	Yes	**Procurement Review**	Yes
Contact Person	Jeff Stallard	**Contact Phone**	503-742-4694

EXECUTIVE SUMMARY:
Water Environment Services (WES) has a need of a qualified consultant to serve as the WES' Telemetry System Integrator of Record to support the remote monitoring and control systems that operate process systems with coded signals over communication channels. The system is a Supervisory Control and Data Acquisition system referred to as (SCADA). WES' SCADA system consists of five (5) wastewater treatment facilities, twenty (20) Pump Stations, (25) Flow Monitoring Stations and one (1) Regional Detention Facility. The existing SCADA system includes operational control, monitoring and data logging, utilizing fiber optic communications for Remote Bases, Programmable Logic Controllers (PLCs) and Servers.

WES has historically utilized a single firm to provide the SCADA Integrator of record services. During this procurement, WES has selected two qualified proposers to provide Integrators of Record services (Jacobs Engineering Group, Inc. & OCD Automation Inc., each on a five-year contract). This will provide WES with more delivery flexibility and resiliency. Jacobs Engineering Group, Inc. was a selected proposer to provide WES with control system on-call services and project-specific services related to the design, installation and operation and maintenance of WES' instrumentation and SCADA systems. Jacobs Engineering Group, Inc. will

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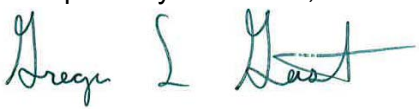
be required to negotiate individual scopes of work and budgets during the duration of the contract for the SCADA system services pertaining to specific projects. Jacobs will be available as an on-call service provider and work with future capital project designers and contractors for design, design assistance, programming, installation, implementation and startup of Instrumentation, SCADA and Telemetry control systems.

RECOMMENDATION: Staff recommends that the Board of County Commissioners of Clackamas County, acting as the governing body of Water Environment Services, approve Contract #7579 between Water Environment Services and Jacobs Engineering Group, Inc. for Personal Services (SCADA).

Respectfully submitted,



Greg Geist
Director, WES

Attachment: Contract #7579

WATER ENVIRONMENT SERVICES
PERSONAL SERVICES CONTRACT
Contract #7579

This Personal Services Contract (this "Contract") is entered into between Jacobs Engineering Group, Inc. ("Contractor"), and Water Environment Services, a political subdivision of the State of Oregon ("District").

ARTICLE I.

1. **Effective Date and Duration.** This Contract shall become effective upon signature of both parties. Unless earlier terminated or extended, this Contract shall expire on **February 1, 2028**.

2. **Scope of Work.** The Contractor shall provide the services as described in the Request for Proposals 2022-84 attached and incorporated by reference herein as **"Exhibit A"** and Contractor's Proposal attached and incorporated by reference herein as **"Exhibit B"** (collectively, the "Work"). This Contract is on an "on-call" or "as-needed basis" for Work. Upon notification from the District, a scope for specific work will be mutually developed with the Contractor for work to be delivered, an estimated time for delivery, fee basis (either fixed or time and material), and a not-to-exceed price. A task order to this Contract must be issued by the District before any such work may begin, which shall incorporate by reference all applicable provisions of this Contract. The Contractor shall meet the industry standards prevalent in the industry or business most closely involved in providing the appropriate goods or services.
   In order to initiate services under this Contract, the District will negotiate an official District Task Order form (found at: https://www.clackamas.us/finance/terms.html) detailing the scope of Work, the entity on whose behalf the Work will be performed, and the total compensation, pursuant to the fee schedule set forth in this Contract. Contractor may not perform Work until the District Task Order form has been executed by the parties. In the event a project authorized under the District Task Order extends beyond the expiration of this Contract, the District Task Order shall remain in effect under the terms of this Contract until the completion or expiration of the authorized task.
   No task order shall modify or amend the terms and conditions of this Contract.
   The District Contract administrator for this Contract is Jeff Stallard. For each authorized District Task Order, a project specific district representative shall be identified for coordination of the work.

3. **Consideration.** The District agrees to pay Contractor an amount not to exceed **Seven Hundred and Fifty Thousand Dollars ($750,000.00)**, for tasks performed pursuant to this Contract. Consideration rates shall be in accordance with the rates and costs specified in Exhibit B. If any interim payments to Contractor are made, such payments shall be made only in accordance with the schedule and requirements in Exhibit B.

4. **Invoices and Payments.** Unless otherwise specified, Contractor shall submit monthly invoices for Work performed. Invoices shall describe all Work performed with particularity, by whom it was performed, and shall itemize and explain all expenses for which reimbursement is claimed. The invoices shall include the total amount billed to date by Contractor prior to the current invoice. Contractor shall present invoices in proper form within sixty (60) calendar days after the end of the month in which the services were rendered, Payments to Contractor shall be made within thirty (30) days of invoice receipt and shall be made in accordance with ORS 293.462 to Contractor following the District's review and approval of invoices submitted by Contractor. Contractor shall not submit invoices for, and the District will not be obligated to pay, any amount in excess of the maximum compensation amount set forth above. If this maximum compensation amount is increased by

amendment of this Contract, the amendment must be fully effective before Contractor performs Work subject to the amendment.

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

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

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

7. **Contractor and District Contacts.**

Contractor	District
Administrator: R, Brady Fuller Phone: 541-318.4716 Email: brady.fuller@jacobs.com	Administrator: Jeff Stallard Phone: 503-742-4559 Email: JStallard@clackamas.us

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

ARTICLE II.

1. **ACCESS TO RECORDS.** Contractor shall maintain books, records, documents, and other evidence, in accordance with generally accepted accounting procedures and practices, sufficient to reflect properly all costs of whatever nature claimed to have been incurred and anticipated to be incurred in the performance of this Contract. District and their duly authorized representatives shall have access to the books, documents, papers, and records of Contractor, which are directly pertinent to this Contract for the purpose of making audit, examination, excerpts, and transcripts. Contractor shall maintain such books and records for a minimum of three (3) years, or such longer period as may be required by applicable law, following final payment and termination of this Contract, or until the conclusion of any audit, controversy or litigation arising out of or related to this Contract, whichever date is later.

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

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

4. **COMPLIANCE WITH APPLICABLE LAW.** Contractor shall comply with all applicable federal, state and local laws, regulations, executive orders, and ordinances, as such may be amended from time to time.

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

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

7. **INDEMNITY, RESPONSIBILITY FOR DAMAGES.** Contractor shall be responsible for all damage to property, injury to persons, and loss, expense, inconvenience, and delay which may be caused by, or result from, the conduct of work to the extent cause by any negligent act or omission of Contractor its subcontractors, agents, or employees. The Contractor agrees to indemnify and defend the District and Clackamas District, and their officers, elected officials, and employees from and against all claims, actions, losses, liabilities, including reasonable attorney and a ccounting fees, arising out of or based upon damage or injuries to persons or property caused by the errors, omissions, fault or negligence of the Contractor or the Contractor's employees, subcontractors, or agents.
However, neither Contractor nor any attorney engaged by Contractor shall defend the claim in the name of District or Clackamas District ("District"), purport to act as legal representative of District or District, or settle any claim on behalf of District or District, without the approval of the Clackamas District Counsel's Office. District or District may assume their own defense and settlement at their election and expense.

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

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

Required - Workers Compensation: Contractor shall comply with the statutory workers' compensation requirements in ORS 656.017, unless exempt under ORS 656.027 or 656.126.
☒ Required – Commercial General Liability: With limits of $1,000,000 per occurrence, with an annual aggregate limit of $2,000,000 for Bodily Injury and Property Damage.
☒ Required – Professional Liability: with limits of $1,000,000 per claim, with an annual aggregate limit of $2,000,000 for damages caused by error, omission or negligent acts.
☒ Required – Automobile Liability: combined single limit, or the equivalent, with limits of $1,000,000 per accident for Bodily Injury and Property Damage.
☒ Required - Cyber Liability: with a limit, of $1,000,000 per claim with an annual aggregate limit of $2,000,000 for network security (including data breach), privacy, interruption of business, media liability, and errors and omissions.

The policy(s) shall be primary insurance as respects to the District except for Workers Compensation, Cyber liability and Professional Liability. Any insurance or self-insurance maintained by the District shall be excess and shall not contribute to it, except for Workers Compensation, Cyber liability and Professional Liability. Any obligation that District agree to a waiver of subrogation is hereby stricken. Jacobs can offer a waiver of subrogation on all insurance policies except for Professional Liability and Cyber liability

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

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

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

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

14. **SURVIVAL.** All rights and obligations shall cease upon termination or expiration of this Contract, except for the rights and obligations set forth in Article II, Sections 1, 6, 7, 10, 12, 13, 14, 15, 17, 20, 21, 25, 27, and 29, and all other rights and obligations which by their context are intended to survive. However, such expiration shall not extinguish or prejudice the District's right to enforce this Contract with respect to: (a) any breach of a Contractor warranty; or (b) any default or defect in Contractor performance that has not been cured.

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

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

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

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

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

is declared insolvent, District may terminate after thirty (30) days written notice with an opportunity to cure.

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

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

21. **NO THIRD PARTY BENEFICIARIES.** District and Contractor are the only parties to this Contract and are the only parties entitled to enforce its terms. Nothing in this Contract gives, is intended to give, or shall be construed to give or provide any benefit or right, whether directly, indirectly or otherwise, to third persons unless such third persons are individually identified by name herein and expressly described as intended beneficiaries of the terms of this Contract.

22. **TIME IS OF THE ESSENCE.** Contractor agrees that time is of the essence in the performance this Contract.

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

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

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

26. **PUBLIC CONTRACTING REQUIREMENTS.** Pursuant to the public contracting requirements contained in Oregon Revised Statutes ("ORS") Chapter 279B.220 through 279B.235, Contractor shall:
    a. Make payments promptly, as due, to all persons supplying to Contractor labor or materials for the prosecution of the work provided for in the Contract.
    b. Pay all contributions or amounts due the Industrial Accident Fund from such Contractor or subcontractor incurred in the performance of the Contract.
    c. Not permit any lien or claim to be filed or prosecuted against District on account of any labor or material furnished.
    d. Pay the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.
    e. As applicable, the Contractor shall pay employees for work in accordance with ORS 279B.235, which is incorporated herein by this reference. The Contractor shall comply with the prohibitions set forth in ORS 652.220, compliance of which is a material

element of this Contract, and failure to comply is a breach entitling District to terminate this Contract for cause.

f. If the Work involves lawn and landscape maintenance, Contractor shall salvage, recycle, compost, or mulch yard waste material at an approved site, if feasible and cost effective.

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

28. KEY PERSONS. Contractor acknowledges and agrees that a significant reason the District is entering into this Contract is because of the special qualifications of certain Key Persons set forth in the contract. Under this Contract, the District is engaging the expertise, experience, judgment, and personal attention of such Key Persons. Neither Contractor nor any of the Key Persons shall delegate performance of the management powers and responsibilities each such Key Person is required to provide under this Contract to any other employee or agent of the Contractor unless the District provides prior written consent to such delegation. Contractor shall not reassign or transfer a Key Person to other duties or positions such that the Key Person is no longer available to provide the District with such Key Person's services unless the District provides prior written consent to such reassignment or transfer.

29. COOPERATIVE CONTRACTING. Pursuant to ORS 279A.200 to 279A.225, other public agencies may use this Contract resulting from a competitive procurement process unless the Contractor expressly noted in their proposal/quote that the prices and services are available to the District only. The condition of such use by other agencies is that any such agency must make and pursue contact, purchase order, delivery arrangements, and all contractual remedies directly with Contractor; the District accepts no responsibility for performance by either the Contractor or such other agency using this Contract. With such condition, the District consents to such use by any other public agency.

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

SIGNATURES FOLLOW

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

Jacobs Engineering Group, Inc	Water Environment Services
_____	_____
Authorized Signature Date	Chair Date
R. Brady Fuller	
_____	_____
Name / Title (Printed)	Recording Secretary Date
064469-83	Approved as to Form:
Oregon Business Registry #	
FBC/DE	
_____	_____
Entity Type / State of Formation	District Counsel Date

EXHIBIT A
REQUEST FOR PROPOSAL 2022-84

REQUEST FOR PROPOSALS #2022-84

FOR
Consultants to Qualify as
Districts Supervisory Control and Data Acquisition (SCADA) System Integrator of Record.

BOARD OF COUNTY COMMISSIONERS
TOOTIE SMITH, Chair
SONYA FISCHER, Commissioner
PAUL SAVAS, Commissioner
MARK SHULL, Commissioner
MARTHA SCHRADER, Commissioner

Gary Schmidt
County Administrator

Thomas Candelario
Contract Analyst

PROPOSAL CLOSING DATE, TIME AND LOCATION

DATE: **October 18, 2022**

TIME: **2:00 PM, Pacific Time**

PLACE: **Procurement@clackamas.us**

SCHEDULE

Request for Proposals Issued……..September 15, 2022

Protest of Specifications Deadline.....September 26, 2022, 5:00 PM, Pacific Time

Deadline to Submit Clarifying Questions.....October 11, 2022, 5:00 PM, Pacific Time

Request for Proposals Closing Date and Time…….....October 18, 2022, 2:00 PM, Pacific Time

Deadline to Submit Protest of Award.....Seven (7) days from the Intent to Award

Anticipated Contract Start Date……..... January 2023

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SECTION 1
NOTICE OF REQUEST FOR PROPOSALS

Notice is hereby given that Clackamas County through its Board of County Commissioners Water Environment Services ("WES"), will receive sealed Proposals per specifications until **2:00 PM, October 18, 2022** ("Closing"), to provide Consultants to Qualify as Districts Supervisory Control and Data Acquisition (SCADA) System Integrator of Record. No Proposals will be received or considered after that time.

RFP Documents can be downloaded from the state of Oregon procurement website ("OregonBuys") at the following address https://oregonbuys.gov/bso/view/login/login.xhtml, Document No. S-C01010-000004397 .

Prospective Proposers will need to sign in to download the information and that information will be accumulated for a Plan Holder's List. Prospective Proposers are responsible for obtaining any Addenda, clarifying questions, and Notices of Award from OregonBuys. Sealed Proposals are to be emailed to Clackamas County Procurement Services at procurement@clackamas.us.

Contact Information
Procurement Process and Technical Questions: Thomas Candelario, tcandelario@clackamas.us

The Board of County Commissioners reserves the right to reject any and all Proposals not in compliance with all prescribed public bidding procedures and requirements, and may reject for good cause any and all Proposals upon the finding that it is in the public interest to do so and to waive any and all informalities in the public interest. In the award of the contract, the Board of County Commissioners will consider the element of time, will accept the Proposal or Proposals which in their estimation will best serve the interests of Clackamas County and will reserve the right to award the contract to the contractor whose Proposal shall be best for the public good.

Clackamas County encourages proposals from Minority, Women, Veteran and Emerging Small Businesses.

SECTION 2
INSTRUCTIONS TO PROPOSERS

Clackamas County ("County") reserves the right to reject any and all Proposals received as a result of this RFP. County Local Contract Review Board Rules ("LCRB") govern the procurement process for the County.

2.1 Modification or Withdrawal of Proposal: Any Proposal may be modified or withdrawn at any time prior to the Closing deadline, provided that a written request is received by the County Procurement Division Director, prior to the Closing. The withdrawal of a Proposal will not prejudice the right of a Proposer to submit a new Proposal.

2.2 Requests for Clarification and Requests for Change: Proposers may submit questions regarding the specifications of the RFP. Questions must be received in writing on or before 5:00 p.m. (Pacific Time), on the date indicated in the Schedule, at the Procurement Division address as listed in Section 1 of this RFP. Requests for changes must include the reason for the change and any proposed changes to the requirements. The purpose of this requirement is to permit County to correct, prior to the opening of Proposals, RFP terms or technical requirements that may be unlawful, improvident or which unjustifiably restrict competition. County will consider all requested changes and, if appropriate, amend the RFP. No oral or written instructions or information concerning this RFP from County managers, employees or agents to prospective Proposers shall bind County unless included in an Addendum to the RFP.

2.3 Protests of the RFP/Specifications: Protests must be in accordance with LCRB C-047-0730. Protests of Specifications must be received in writing on or before 5:00 p.m. (Pacific Time), on the date indicated in the Schedule, or within three (3) business days of issuance of any addendum, at the Procurement Division address listed in Section 1 of this RFP. Protests may not be faxed. Protests of the RFP specifications must include the reason for the protest and any proposed changes to the requirements.

2.4 Addenda: If any part of this RFP is changed, an addendum will be provided to Proposers that have provided an address to the Procurement Division for this procurement. It shall be Proposers responsibility to regularly check OregonBuys for any notices, published addenda, or response to clarifying questions.

2.5 Submission of Proposals: Proposals must be submitted in accordance with Section 5. All Proposals shall be legibly written in ink or typed and comply in all regards with the requirements of this RFP. Proposals that include orders or qualifications may be rejected as irregular. All Proposals must include a signature that affirms the Proposer's intent to be bound by the Proposal (may be on cover letter, on the Proposal, or the Proposal Certification Form) shall be signed. If a Proposal is submitted by a firm or partnership, the name and address of the firm or partnership shall be shown, together with the names and addresses of the members. If the Proposal is submitted by a corporation, it shall be signed in the name of such corporation by an official who is authorized to bind the contractor. The Proposals will be considered by the County to be submitted in confidence and are not subject to public disclosure until the notice of intent to award has been issued.

No late Proposals will be accepted. Proposals submitted after the Closing will be considered late and will be returned unopened. Proposals may not be submitted by telephone or fax.

2.6 Post-Selection Review and Protest of Award: County will name the apparent successful Proposer in a Notice of Intent to Award published on OregonBuys. Identification of the apparent successful Proposer is procedural only and creates no right of the named Proposer to award of the contract. Competing Proposers shall be given seven (7) calendar days from the date on the Notice of Intent to Award to review the file at the Procurement Division office and file a written protest of award, pursuant to LCRB C-047-0740. Any award protest must be in writing and must be delivered by email, hand-delivery or mail to the address for the Procurement Division as listed in Section 1 of this RFP.

Only actual Proposers may protest if they believe they have been adversely affected because the Proposer would be eligible to be awarded the contract in the event the protest is successful. The basis of the written protest must

be in accordance with ORS 279B.410 and shall specify the grounds upon which the protest is based. In order to be an adversely affected Proposer with a right to submit a written protest, a Proposer must be next in line for award, i.e. the protester must claim that all higher rated Proposers are ineligible for award because they are non-responsive or non-responsible.

County will consider any protests received and:

a. reject all protests and proceed with final evaluation of, and any allowed contract language negotiation with, the apparent successful Proposer and, pending the satisfactory outcome of this final evaluation and negotiation, enter into a contract with the named Proposer; OR
b. sustain a meritorious protest(s) and reject the apparent successful Proposer as nonresponsive, if such Proposer is unable to demonstrate that its Proposal complied with all material requirements of the solicitation and Oregon public procurement law; thereafter, County may name a new apparent successful Proposer; OR
c. reject all Proposals and cancel the procurement.

2.7 Acceptance of Contractual Requirements: Failure of the selected Proposer to execute a contract and deliver required insurance certificates within ten (10) calendar days after notification of an award may result in cancellation of the award. This time period may be extended at the option of County.

2.8 Public Records: Proposals are deemed confidential until the "Notice of Intent to Award" letter is issued. This RFP and one copy of each original Proposal received in response to it, together with copies of all documents pertaining to the award of a contract, will be kept and made a part of a file or record which will be open to public inspection. If a Proposal contains any information that is considered a **TRADE SECRET** under ORS 192.345(2), **SUCH INFORMATION MUST BE LISTED ON A SEPARATE SHEET CAPABLE OF SEPARATION FROM THE REMAINING PROPOSAL AND MUST BE CLEARLY MARKED WITH THE FOLLOWING LEGEND:**

"This information constitutes a trade secret under ORS 192.345(2), and shall not be disclosed except in accordance with the Oregon Public Records Law, ORS Chapter 192."

The Oregon Public Records Law exempts from disclosure only bona fide trade secrets, and the exemption from disclosure applies only "unless the public interest requires disclosure in the particular instance" (ORS 192.345). Therefore, non-disclosure of documents, or any portion of a document submitted as part of a Proposal, may depend upon official or judicial determinations made pursuant to the Public Records Law.

2.9 Investigation of References: County reserves the right to investigate all references in addition to those supplied references and investigate past performance of any Proposer with respect to its successful performance of similar services, its compliance with specifications and contractual obligations, its completion or delivery of a project on schedule, its lawful payment of subcontractors and workers, and any other factor relevant to this RFP. County may postpone the award or the execution of the contract after the announcement of the apparent successful Proposer in order to complete its investigation.

2.10 RFP Proposal Preparation Costs and Other Costs: Proposer costs of developing the Proposal, cost of attendance at an interview (if requested by County), or any other costs are entirely the responsibility of the Proposer, and will not be reimbursed in any manner by County.

2.11 Clarification and Clarity: County reserves the right to seek clarification of each Proposal, or to make an award without further discussion of Proposals received. Therefore, it is important that each Proposal be submitted initially in the most complete, clear, and favorable manner possible.

2.12 Right to Reject Proposals: County reserves the right to reject any or all Proposals or to withdraw any item from the award, if such rejection or withdrawal would be in the public interest, as determined by County.

2.13 Cancellation: County reserves the right to cancel or postpone this RFP at any time or to award no contract.

2.14 Proposal Terms: All Proposals, including any price quotations, will be valid and firm through a period of one hundred and eighty (180) calendar days following the Closing date. County may require an extension of this firm offer period. Proposers will be required to agree to the longer time frame in order to be further considered in the procurement process.

2.15 Oral Presentations: At County's sole option, Proposers may be required to give an oral presentation of their Proposals to County, a process which would provide an opportunity for the Proposer to clarify or elaborate on the Proposal but will in no material way change Proposer's original Proposal. If the evaluating committee requests presentations, the Procurement Division will schedule the time and location for said presentation. Any costs of participating in such presentations will be borne solely by Proposer and will not be reimbursed by County. **Note:** Oral presentations are at the discretion of the evaluating committee and may not be conducted; therefore, **written Proposals should be complete.**

2.16 Usage: It is the intention of County to utilize the services of the successful Proposer(s) to provide services as outlined in the below Scope of Work.

2.17 Review for Responsiveness: Upon receipt of all Proposals, the Procurement Division or designee will determine the responsiveness of all Proposals before submitting them to the evaluation committee. If a Proposal is incomplete or non-responsive in significant part or in whole, it will be rejected and will not be submitted to the evaluation committee. County reserves the right to determine if an inadvertent error is solely clerical or is a minor informality which may be waived, and then to determine if an error is grounds for disqualifying a Proposal. The Proposer's contact person identified on the Proposal will be notified, identifying the reason(s) the Proposal is non-responsive. One copy of the Proposal will be archived and all others discarded.

2.18 RFP Incorporated into Contract: This RFP will become part of the Contract between County and the selected contractor(s). The contractor(s) will be bound to perform according to the terms of this RFP, their Proposal(s), and the terms of the Sample Contract.

2.19 Communication Blackout Period: Except as called for in this RFP, Proposers may not communicate with members of the Evaluation Committee or other County employees or representatives about the RFP during the procurement process until the apparent successful Proposer is selected, and all protests, if any, have been resolved. Communication in violation of this restriction may result in rejection of a Proposer.

2.20 Prohibition on Commissions and Subcontractors: County will contract directly with persons/entities capable of performing the requirements of this RFP. Contractors must be represented directly. Participation by brokers or commissioned agents will not be allowed during the Proposal process. Contractor shall not use subcontractors to perform the Work unless specifically pre-authorized in writing to do so by the County. Contractor represents that any employees assigned to perform the Work, and any authorized subcontractors performing the Work, are fully qualified to perform the tasks assigned to them, and shall perform the Work in a competent and professional manner. Contractor shall not be permitted to add on any fee or charge for subcontractor Work. Contractor shall provide, if requested, any documents relating to subcontractor's qualifications to perform required Work.

2.21 Ownership of Proposals: All Proposals in response to this RFP are the sole property of County, and subject to the provisions of ORS 192.410-192.505 (Public Records Act).

2.22 Clerical Errors in Awards: County reserves the right to correct inaccurate awards resulting from its clerical errors.

2.23 Rejection of Qualified Proposals: Proposals may be rejected in whole or in part if they attempt to limit or modify any of the terms, conditions, or specifications of the RFP or the Sample Contract.

2.24 Collusion: By responding, the Proposer states that the Proposal is not made in connection with any competing Proposer submitting a separate response to the RFP, and is in all aspects fair and without collusion or fraud. Proposer also certifies that no officer, agent, elected official, or employee of County has a pecuniary interest in this Proposal.

2.25 Evaluation Committee: Proposals will be evaluated by a committee consisting of representatives from County and potentially external representatives. County reserves the right to modify the Evaluation Committee make-up in its sole discretion.

2.26 Commencement of Work: The contractor shall commence no work until all insurance requirements have been met, the Protest of Awards deadline has been passed, any protest have been decided, a contract has been fully executed, and a Notice to Proceed has been issued by County.

2.27 Nondiscrimination: The successful Proposer agrees that, in performing the work called for by this RFP and in securing and supplying materials, contractor will not discriminate against any person on the basis of race, color, religious creed, political ideas, sex, age, marital status, sexual orientation, gender identity, veteran status, physical or mental handicap, national origin or ancestry, or any other class protected by applicable law.

SECTION 3
SCOPE OF WORK

3.1. INTRODUCTION

Clackamas County Water Environment Services (WES) referred to as "District", is seeking Proposals from consultants to qualify as system integrators for the District, The most qualified proposers will serve as the Districts Supervisory Control and Data Acquisition (SCADA) System Integrator of Record..

Please direct all Technical/Specifications or Procurement Process Questions to the indicated representative referenced in the Notice of Request for Proposals and note the communication restriction outlined in Section 2.19.

3.2 BACKGROUND

The Districts' SCADA system consists of five (5) wastewater treatment facilities, twenty (20) Pump Stations, (25) Flow Monitoring Stations and one (1) North Clackamas Park Regional Detention Facility.

The existing SCADA system includes operational control, monitoring and data logging for the Tri-City and Kellogg Creek Water Resource Recovery Facilities (WRRF) utilizing fiber optic communications for Remote Bases, PLCs and Servers.

In the future, it is the desire of the District to extend fiber optic communication to other assets, such as our more remote treatment facilities, pump stations, flow monitoring stations and a regional water detention facility. Currently, data at these assets is collected manually and is not stored in the SCADA system archives.

In addition to plant HMI and Historian, WES is currently in the process of implementing the data visualization software using eRIS.

Tri-City WRRF includes two different secondary processes, Conventional Activated Sludge (CAS) and Membrane Bioreactor (MBR). Both processes share a common SCADA system which consists of various types and ages of instrumentation, drives and PLCs.

The CAS side of the plant consists of Siemens S7-300, S7-400, S7-1200 and S7-1500 PLCs (one redundant S7-400) utilizing Siemens 505 series, Siemens S7-300, S7-1200 and S7-1500 style I/O. There are various manufacturer-supplied skids controlled by Allen Bradley PLCs and utilizing Allen Bradley I/O.

The MBR side of the plant consists of Siemens S7-200, S7-300, S7-400 and S7-1200 PLCs (three redundant S7-400s) utilizing Siemens S7-200, S7-300 and S7-1200 style I/O. There is a redundant Allen Bradley PLC, which runs the MBR process and utilizes Allen Bradley I/O. The Process and Air Scour Blowers are also controlled by Allen Bradley PLCs, utilizing Allen Bradley I/O.

The fiber optic system consists of running Profibus from Remote Bases to PLCs and from PLCs to Servers. There are also fiber optic cables connecting the Tri-City, Kellogg Creek and HoodlandWRRFs.

The SCADA communication system consists of Cat 5 Industrial Ethernet, Cat 5 Profinet Industrial Ethernet, Profibus DP, Profibus PA, Controlnet, Fiber Optic Single Mode and Fiber Optic Multi Mode.

The Servers located at the Tri-City WRRF consist of I/O, INSQL, Application, Auto Dialer and a PDC Server. The Plant is staffed ten (10) hours per day and seven (7) days per week and relies on two (2) auto dialers for notification of an alarm during off hours. The HMI application is Wonderware InTouch version 11.1. There are various Operator Work Stations and Development Work Stations located in the plant.

Kellogg Creek WRRF includes a Conventional Activated Sludge (CAS) secondary process and has a SCADA system, which consists of various types and ages of instrumentation and drives.

The PLCs consist of Siemens S7-300 and S7-400 PLCs utilizing Siemens 505 series and Siemens S7-300 and S7-400 style I/O.

The fiber optic system consists of running Profibus from Remote Bases to PLCs and Ethernet from PLCs to Servers. There are also fiber optic cables connecting the Tri-City, Kellogg Creek and Hoodland WRRFs.

The SCADA communication system consists of Cat 5 Industrial Ethernet, Profibus DP, Fiber Optic Single Mode and Fiber Optic Multi Mode.

The Servers located at the Kellogg Creek facility consist of I/O, INSQL, Application and Auto Dialer. The Plant is staffed eight (8) hours per day and seven (7) days per week and relies on two (2) auto dialers for notification of an alarm during the off hours. The HMI application is Wonderware InTouch version 11.1. There are various Operator Work Stations and Development Work Stations located in the plant.

Hoodland WRRF includes a small Rotating Biological Contactor ("RBC") process and has a SCADA system, which consists of various types and ages of instrumentation and drives.

The PLC consists of one (1) Siemens S7-1500 utilizing Siemens S7-1500 style I/O.

There are fiber optic cables connecting the Tri-City, Kellogg Creek and Hoodland Treatment Plants.

The SCADA communication system consists of Cat 5 Industrial Ethernet.

The Servers located at the Hoodland facility consist of I/O, INSQL, Application and Auto Dialer. The Plant is staffedeight (8) hours per day, five (5) days per week and relies on two (2) auto dialers for alarm notification of an alarm during the off hours The HMI application is Wonderware InTouch version 11.1. There is one (1) Operator Work Station located in the plant.

Boring WRRF is a small lagoon system. There is some automation but no SCADA system.

The PLC consists of one (1) Siemens S7-1200 PLC utilizing Siemens S7-1200 style I/O.

The plant is not staffed and is tested on a regular basis. Currently fiber optic cables are not available at the site. If they do become available, a decision will be made at that time whether or not to automate.

Fischer's Forest Park Water Pollution Control Facility consists of a recirculation structure and disposal lift station system. There is some automation but no SCADA system. The site consists of a PLC, radio modem and radio. Currently fiber optic cables are not available at the site. If they do become available, a decision will be made at that time whether or not to add SCADA.

Remote Pump Stations: Approximately half of the pump stations are controlled by PLCs (mostly Siemens); some pump stations also have HMI touch panels utilizing Wonderware InTouch and Siemens

software. The rest are controlled by float switches and bubbler systems. The telemetry system consists of one (1) master controller and twenty (20) remote sites. Each site consists of a PLC, radio modem and radio. The master provides information to the HMI workstation and alarms will be sent out by the means of an auto dialer. Currently fiber optic cables are not available at any sites (with the exception of Arrah Wanna, Willamette, Clackamas and Intertie 2 Pump Stations). If they do become available, a decision will be made at that time to automate or not.

Rain Gauge Stations

Flow Monitoring Stations monitor the sewage conveyance systems and stream flows. They consist of various types of instruments such as flow, temp and pH. Data is manually collected or collected via cellular technology at each station. There is no SCADA system or automation. Currently fiber optic cables are not available at any sites. If they do become available, a decision will be made at that time whether or not to automate.

North Clackamas Park Regional Detention Facility: The purpose of this facility is to reduce flooding to the area without causing negative impacts to upstream and downstream properties. The system is controlled with a PLC and has a float system for redundant backup. There is some automation but no SCADA system. Currently fiber optic cables are not available at this site. If they do become available, a decision will be made at that time whether or not to automate.

3.3. SCOPE OF WORK

3.3.1. Scope of Services:

The district plans to select at least two qualified proposers as the Districts Integrators of Record. These selected proposers will provide the District with control system on-call services and project-specific services related to the design, installation and operation and maintenance of the Districts' instrumentation and SCADA systems. The System Integrator will be required to negotiate individual scopes of work and budgets during the duration of the contract for operational support as needed for the SCADA system for services pertaining to specific projects.

The System Integrator of Record shall be available as an on-call service provider and work with future capital project designers and contractors for design, design assistance, programming, installation, implementation and startup of Instrumentation, SCADA and Telemetry control systems.

3.3.3. Term of Contract:

The term of the contract shall be a period of one (1) year with the mutual option to renew for four (4) additional one (1) year periods. The total term of the contract cannot exceed five (5) years.

3.3.4 Sample Contract: Submission of a Proposal in response to this RFP indicates Proposer's willingness to enter into a contract containing substantially the same terms (including insurance requirements) of the sample contract identified below. No action or response to the sample contract is required under this RFP. Any objections to the sample contract terms should be raised in accordance with Paragraphs 2.2 or 2.3 of this RFP, pertaining to requests for clarification or change or protest of the RFP/specifications, and as otherwise provided for in this RFP. This RFP and all supplemental information in response to this RFP will be a binding part of the final contract.

The applicable Sample Personal Services Contract, for this RFP can be found at https://www.clackamas.us/finance/terms.html.

Personal Services Contract (unless checked, item does not apply)

The following paragraphs of the Professional Services Contract will be applicable:

- ☒ Article I, Paragraph 5 – Travel and Other Expense is Authorized
- ☐ Article II, Paragraph 28 – Confidentiality
- ☐ Article II, Paragraph 29 – Criminal Background Check Requirements
- ☒ Article II, Paragraph 30 – Key Persons
- ☐ Article II, Paragraph 31 – Cooperative Contracting
- ☐ Article II, Paragraph 32 – Federal Contracting Requirements
- ☐ Exhibit A – On-Call Provision

The following insurance requirements will be applicable:

- ☒ Commercial General Liability: combined single limit, or the equivalent, of not less than $1,000,000 per occurrence, with an annual aggregate limit of $2,000,000 for Bodily Injury and Property Damage.
- ☒ Professional Liability: combined single limit, or the equivalent, of not less than $1,000,000 per occurrence, with an annual aggregate limit of $2,000,000 for damages caused by error, omission or negligent acts.
- ☒ Automobile Liability: combined single limit, or the equivalent, of not less than $1,000,000 per occurrence for Bodily Injury and Property Damage.

SECTION 4
EVALUATION PROCEDURE

4.1 An evaluation committee will review all Proposals that are initially deemed responsive and they shall rank the Proposals in accordance with the below criteria. The evaluation committee may recommend an award based solely on the written responses or may request Proposal interviews/presentations. Interviews/presentations, if deemed beneficial by the evaluation committee, will consist of the highest scoring Proposers. The invited Proposers will be notified of the time, place, and format of the interview/presentation. Based on the interview/presentation, the evaluation committee may revise their scoring.

Written Proposals must be complete and no additions, deletions, or substitutions will be permitted during the interview/presentation (if any). The evaluation committee will recommend award of a contract to the final County decision maker based on the highest scoring Proposal. The County decision maker reserves the right to accept the recommendation, award to a different Proposer, or reject all Proposals and cancel the RFP.

Proposers are not permitted to directly communicate with any member of the evaluation committee during the evaluation process. All communication will be facilitated through the Procurement representative.

4.2 Evaluation Criteria

Category	**Points available:**
Project Team	0-25
Firm Qualifications and Experience	0-25
Understanding and Approach	0-50
Available points	**0-100**

4.3 Once a selection has been made, the County will enter into contract negotiations. During negotiation, the County may require any additional information it deems necessary to clarify the approach and understanding of the requested services. Any changes agreed upon during contract negotiations will become part of the final contract. The negotiations will identify a level of work and associated fee that best represents the efforts required. If the County is unable to come to terms with the highest scoring Proposer, discussions shall be terminated and negotiations will begin with the next highest scoring Proposer. If the resulting contract contemplates multiple phases and the County deems it is in its interest to not authorize any particular phase, it reserves the right to return to this solicitation and commence negotiations with the next highest ranked Proposer to complete the remaining phases.

SECTION 5
PROPOSAL CONTENTS

5.1. Vendors must observe submission instructions and be advised as follows:

5.1.1. Complete Proposals must be mailed to the below address or emailed to Procurement@clackamas.us. The subject line of the email must identify the RFP title. Proposers are encouraged to contact Procurement to confirm receipt of the Proposal.

5.1.3. County reserves the right to solicit additional information or Proposal clarification from the vendors, or any one vendor, should the County deem such information necessary.

5.1.4. Proposal may not exceed a total of **20 pages** (single-sided), inclusive of all exhibits, attachments or other information.

Provide the following information in the order in which it appears below:

5.2 Cover Letter:

The cover letter should identify the proposing entity, the contact for the procurement and contract negotiation process, and be signed by an authorized representative or official.

5.3 Project Team:

Provide a description of the proposed project team. Proposer shall identify key team members, and include individual qualifications, capabilities, and experience. Provide a description of the following:

- Description of the firm and what distinguishes the firm from other firms performing similar services
- Provide a staffing plan to demonstrate the structure and responsibilities of your team to support the districts and the qualifications to provide support to the equipment identified in Section 3.2 Background.
- Provide description of previous experience of the key individuals working together as a team.
- Provide a description on how you plan to make your staff available and to be responsive support in support of the district's needs.

5.4 Firm Qualifications and Experience

Provide a brief history of the firm's, experience and capabilities. Highlight recent (within the last 5 years) and local project experience. Particular emphasis on projects that demonstrate the qualifications and specialized experience of the staff who will work directly with the District is preferred.

Provide project descriptions including scope, type of facility, year completed, project size and location, and proposed team members who were involved and their roles. Specific emphasis placed on prior projects dealing with WRRF telemetry and SCADA systems. For all projects listed, provide name of the owner, owner's contact person with their phone number and email address. Contact information must be current and accurate.

Provide any other information applicable to the evaluation of the firm's qualifications for providing the district with the services of integrator of record.

5.5 Understanding and Approach

This criterion relates to the Proposer's understanding of the Districts needs for an on-call Integrator of Record and the methodology and course of action used to meet the goals and objectives. The issue is whether the Proposer has a clear and concise understanding of the potential problems that arise with the telemetry and SCADA systems in an active treatment facility and define what constitutes an emergency. Provide a description of the following:

- Proposer's understanding of the Districts needs as demonstrated in the RFP.
- Proposer's awareness of key issues that may occur if facilities telemetry and SCADA system fails
- Provide a description of local support and how you will make your staff available to support our projects.
- Provide a copy of the QA/QC program.
- Provide verification of experience with fiber-optic cable and patch panel design and troubleshooting.
- Provide a description on your firm's capabilities with the eRIS data visualization platform.

5.6 Resumes

Provide a resume no longer than two pages for each key project team member, highlighting relevant experience and certifications. Resumes will not be included in page count.

5.7 References

Provide three (3) references from clients your firm has served similar to the County in the past three (3) years, including one client that has newly engaged the firm in the past thirty-six (36) months and one (1) long-term client. Provide the name, address, email, and phone number of the references.

5.8 Fees

Fees should be on a time and material with a not to exceed fee basis. Fees should be sufficiently descriptive to facilitate acceptance of a Proposal. List the not-to-exceed amount you propose for the service. If time and material basis – Fees and fee schedules should outline all estimated expenses, hourly rates for all assigned individuals, anticipated travel, other reimbursable expenses.

5.9 Completed Proposal Certification (see the below form)

PROPOSAL CERTIFICATION
RFP #2022-84

Submitted by:_____
(Must be entity's full legal name, and State of Formation)

Each Proposer must read, complete and submit a copy of this Proposal Certification with their Proposal. Failure to do so may result in rejection of the Proposal. By signature on this Proposal Certification, the undersigned certifies that they are authorized to act on behalf of the Proposer and that under penalty of perjury, the undersigned will comply with the following:

SECTION I. OREGON TAX LAWS: As required in ORS 279B.110(2)(e), the undersigned hereby certifies that, to the best of the undersigned's knowledge, the Proposer is not in violation of any Oregon Tax Laws. For purposes of this certification, "Oregon Tax Laws" means the tax laws of the state or a political subdivision of the state, including ORS 305.620 and ORS chapters 316, 317 and 318. If a contract is executed, this information will be reported to the Internal Revenue Service. Information not matching IRS records could subject Proposer to 24% backup withholding.

SECTION II. NON-DISCRIMINATION: That the Proposer has not and will not discriminate in its employment practices with regard to race, creed, age, religious affiliation, sex, disability, sexual orientation, gender identity, national origin, or any other protected class. Nor has Proposer or will Proposer discriminate against a subcontractor in the awarding of a subcontract because the subcontractor is a disadvantaged business enterprise, a minority-owned business, a woman-owned business, a business that a service-disabled veteran owns or an emerging small business that is certified under ORS 200.055.

SECTION III. CONFLICT OF INTEREST: The undersigned hereby certifies that no elected official, officer, agent or employee of Clackamas County is personally interested, directly or indirectly, in any resulting contract from this RFP, or the compensation to be paid under such contract, and that no representation, statements (oral or in writing), of the County, its elected officials, officers, agents, or employees had induced Proposer to submit this Proposal. In addition, the undersigned hereby certifies that this proposal is made without connection with any person, firm, or corporation submitting a proposal for the same material, and is in all respects fair and without collusion or fraud.

SECTION IV. COMPLIANCE WITH SOLICITATION: The undersigned further agrees and certifies that they:

1. Have read, understand and agree to be bound by and comply with all requirements, instructions, specifications, terms and conditions of the RFP (including any attachments); and
2. Are an authorized representative of the Proposer, that the information provided is true and accurate, and that providing incorrect or incomplete information may be cause for rejection of the Proposal or contract termination; and
3. Will furnish the designated item(s) and/or service(s) in accordance with the RFP and Proposal; and
4. Will use recyclable products to the maximum extend economically feasible in the performance of the contract work set forth in this RFP.

Name:_____ Date:_____

Signature:_____ Title:_____

Email:_____ Telephone:_____

Oregon Business Registry Number:_____ OR CCB # (if applicable):_____

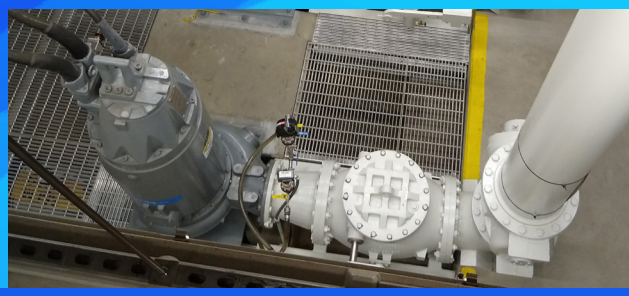
Business Designation (check one):
☐ Corporation ☐ Partnership ☐ Sole Proprietorship ☐ Non-Profit ☐ Limited Liability Company

☐ Resident Quoter, as defined in ORS 279A.120
☐ Non-Resident Quote. Resident State:_____

EXHIBIT B
CONTRACTOR'S PROPOSAL

VOLUME 1 | PROPOSAL CONTENTS

Proposal for CLACKAMAS WES



RFP #2022-84

Districts Supervisory Control and Data Acquisition (SCADA) System Integrator of Record

October 18, 2022

Jacobs

Challenging today.
Reinventing tomorrow.

Jacobs

Jacobs Engineering Group, Inc.
2020 SW Fourth Avenue
3rd Floor
Portland, OR 97201
T +1.503.235.5000
www.jacobs.com

October 18, 2022

Mr. Thomas Candelario
Contract Analyst
Clackamas Water Environment Services
150 Beavercreek Road
Oregon City, Oregon 97045

via email: procurement@clackamas.us

Subject: Request for Proposals #2022-84 – Districts Supervisory Control and Data Acquisition (SCADA) System Integrator of Record

Dear Mr. Candelario and Selection Committee,

Jacobs brings more than 40 years of continuous partnership in project delivery with Clackamas Water Environment Services (WES) (referred as "District" herein) and are thrilled to continue to apply our experience to help you build a resilient water future. Jacobs offers a full spectrum of services, including scientific, technical, professional, and construction and project management. As an Integrator of Record, we commit to support planning, design, construction, commissioning, operation, and maintenance of your facilities through responsive, efficient, and appropriate instrumentation, SCADA and integration services.

Our distinguishing qualifications include:

- Demonstrated ability to support wastewater utilities with control system maintenance, modifications, and upgrades.
- Comprehensive Programmable logic controller (PLC) programming and commissioning experience for both the Allen Bradley and Siemens PLC products used by the District.
- Knowledgeable human machine interface (HMI) development capability including a partner relationship with Wonderware that gives us preferred technical support and rapid response times. Our team includes Wonderware-certified developers and trainers.
- A long history, including current instrumentation and control design and software implementation projects with the District, providing deep knowledge of District plant processes, programming standards, and staff.
- Ability to perform work on live systems with minimal service interruption, allowing state-of-the-art systems to be deployed while maximizing value from legacy systems.
- A deep bench of automation resources and expertise in our Portland and Corvallis offices.
- Access to wastewater treatment process and operations experts within Jacobs who are available to assist our software automation team. This includes staff with current process experience at both Tri-City and Kellogg Creek WRRFs.
- Industry leading telemetry, networking, and operational technology capability with dedicated staff knowledgeable in radios, cellular telemetry, firewalls, automation networks, and cybersecurity.
- A strong resume of complete turnkey delivery for wastewater control projects, including equipment purchase, panel fabrication, and installation.

We enthusiastically commit to continuing our positive relationship with the District and assisting in SCADA projects as you request. We acknowledge receipt of Addendum One, dated September 28, 2022, Clarifying 1 dated September 27, 2022, and Clarifying 2 dated October 10, 2022. In response to the RFP guidance, on October 11, 2022, in an email to Thomas Candelario, via procurement@clackamas.us we submitted items for requested negotiation of terms if we should be selected for this important role. If you have any questions regarding our statement of interest, please contact Stephanie McGregor at 541.231.1779 (stephanie.mcgregor@jacobs.com) or Brady Fuller at 541.318.4716 (brady.fuller@jacobs.com) to further discuss our qualifications or opportunities to work together.

Sincerely,

Jacobs Engineering Group Inc.

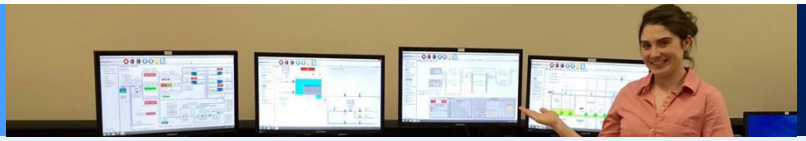
Stephanie McGregor, PE
Project Manager

Jacobs Engineering Group Inc.

R. Brady Fuller, PE
Client Account Manager

Contents

5.3 Project Team



Jacobs is a world-renowned designer, constructor, and operator of wastewater and water facilities across the globe. Our control system specialists deliver Instrumentation and control (I&C)/Supervisory control and data acquisition (SCADA) projects from cradle to grave, including master planning, concept development, detailed design, engineering services during construction, SCADA software programming and field-testing services, and long-term system maintenance; we understand every aspect of automation systems.

JACOBS' STAFF EXPERIENCE AND DISTINGUISHED QUALIFICATIONS

We have a deep bench of capable I&C/SCADA staff, with more than 100 members in the Western United States alone. The resumes in our proposal are for staff based primarily in our Portland office and Corvallis, Oregon design center, where we deliver projects yearly of varying size and scope – from small regional projects to our largest design-build-operate water facilities.

Our proposed project manager, **Stephanie McGregor**, is in Jacobs' Portland, Oregon office – 15 to 30 minutes away from most Clackamas WES facilities. She is closely connected with staffing managers across the firm and regularly works with them to find the best qualified staff to address a project's needs. Stephanie brings experience with successfully completing water and wastewater control system upgrades, while minimizing impacts to operations. She has experience leading instrumentation and controls planning, design, SCADA programming, and commissioning of water and wastewater infrastructure projects. Stephanie has specific experience working with the District at the Kellogg Creek Water Resource Recovery Facility and the Intertie 2 Pump Station and Force Main expansion.

We have also included the resume for our proposed senior consultant, **Jeff Kanyuch**, located in the Corvallis design center. Jeff has been delivering I&C/SCADA projects for 32 years at Jacobs. Jeff's role on this project would primarily be as a resource for consulting on special leading-edge technical concepts on an as-needed basis.

The quality of Jacobs' work is managed with a careful quality assurance program that includes reviews of every deliverable by experienced and qualified staff. We have included resumes for **Don Watson** and **Lionel Wood i**n this proposal as two staff members who regularly perform reviews of I&C/SCADA-related planning documents, technical memoranda, design drawings, specifications, submittals, SCADA software functional descriptions, programmable logic controller (PLC) software programming functions, human-machine interface (HMI) graphics, and field tests.

OUR EXPERIENCE

In addition to infrastructure engineering and design, our team provides On-call and Integrator of Record services for multiple clients – including City of The Dalles, Clark Regional Wastewater District, City of Dallas (OR), City of Coos Bay (OR), and multiple other Northwest clients.

Quality of Jacobs' work is managed with a quality assurance program that includes reviews of every deliverable by experienced and qualified staff. The resumes included in this proposal are some of the staff who regularly perform reviews of I&C/SCADA-related planning documents, technical memoranda, design drawings, specifications, submittals, SCADA software functional descriptions, programmable logic controller (PLC) software programming functions, human-machine interface (HMI) graphics, and field tests. Staff have an understanding of industry trends and leading-edge I&C/SCADA solutions.

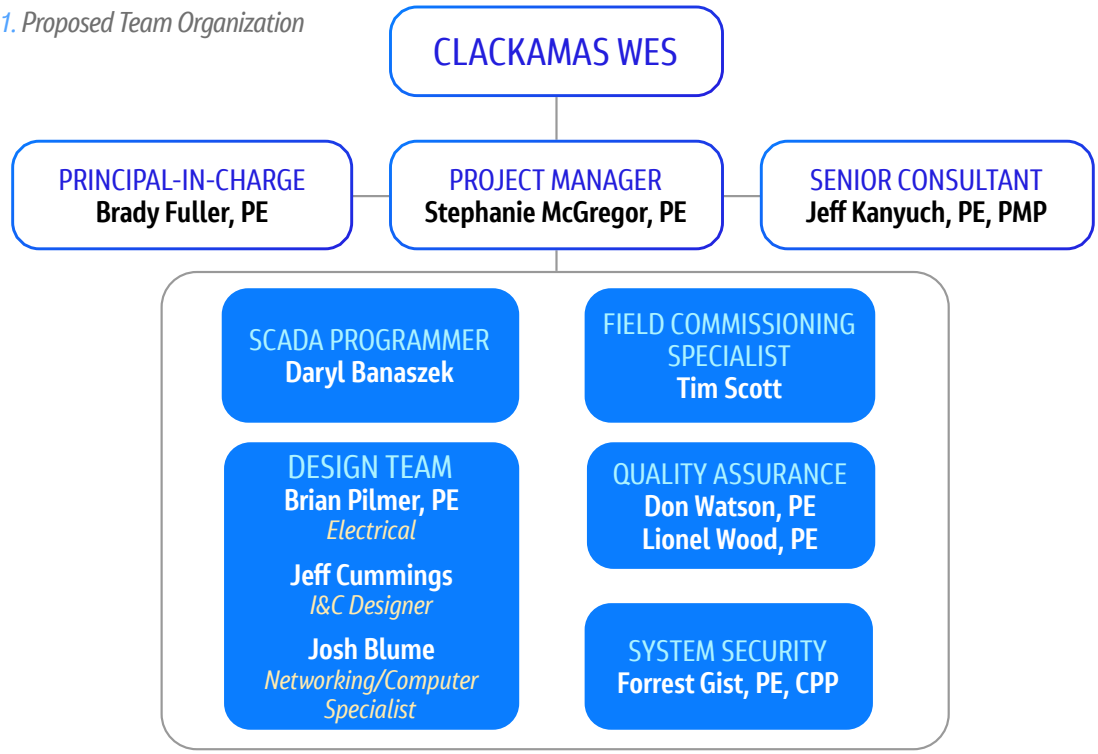
SERVICES CHECKLIST

- ✓ PLC and HMI Systems, including Siemens PLC, and Wonderware control system interface
- ✓ Reporting Software Implementation mirroring Suez-eRIS capabilities
- ✓ Plant Networks and Media, including single/multi-mode fiber and CAT5/CAT6 copper
- ✓ Operational Technology (OT) Systems including virtual servers, ring networks, and cybersecurity
- ✓ Radio Systems
- ✓ Material Procurement, including industry trends regarding lead times and price escalation issues. This includes Jacobs' procurement of materials for clients and passing along our volume discount.
- ✓ Detailed Design for I&C Systems, including control panels and network patching
- ✓ Dedicated Design and Construction including multi-discipline server and control room spaces
- ✓ Alternative Project Delivery, including design-build

STAFFING PLAN

The Jacobs' team fully understands wastewater treatment plant system controls installation and upgrades—particularly on operating facilities—are challenges that are best met by those with demonstrated performance on similar projects. Our systems integration team brings significant experience working in operating environments, with significant time at water resource recovery facilities (WRRFs). The following summarizes our key and lead personnel's relevant qualifications and experience.

Exhibit 1. Proposed Team Organization



- **Project Manager, Stephanie McGregor, PE**, has assembled a team (Exhibit 1) well-suited to capture the District's unique needs for this role. She is bringing a skilled team, with local knowledge and a track record of delivering similar services, to support clients throughout Oregon, Washington, and the Pacific Northwest on their immediate and long-term system integration needs. Stephanie has worked with a majority of the team on past projects as shown in *Table 1*.
- Focusing on **SCADA Programing is Daryl Banaszek, PE**. Daryl is experienced with Siemens and Allen Bradley PLC programming with many years of software development, programming, and commissioning experience. Daryl's experience includes work on upgrading the City of Vancouver Water department SCADA, which includes 40 Siemens PLCs paired with a Wonderware Archestra HMI system.
- **Field Commissioning Specialist – Tim Scott** brings a unique perspective from his 27 years of work at the Salmon Creek Wastewater Facility as the SCADA System Specialist. Tim is thoroughly familiar with all the technical aspects of a facility. Tim is a Software Development/Systems Integration Professional and is an integral part of our on-call professional services.
- Our Design team is comprised of three key team members. **Electrical – Brian Pilmer, PE** specializing in the design of electrical power distribution systems, standby generation facilities, and I&C systems. He has more than 18 years of experience in the electrical design of electrical building services and systems for water and wastewater treatment facilities, commercial, industrial, and healthcare facilities. **I&C Design – Jeff Cummings** brings a depth and breadth of design and project management experience of 15 years with control system and network design, and SCADA system programming. **Networking /Computer Specialist – Josh Blume** is part of our Operational Technology Group, with over 16 years of experience in operational network technologies, server infrastructure, and critical systems engineering. He brings a deep background in architecting and operating high quality, secure business, and production systems to architect secure, resilient networks for critical water and wastewater systems.
- **Quality Assurance** will be provided **by Don Watson, PE** and **Lionel Wood, PE**. Don brings over 34 years of experience in the design, construction, and startup of process instrumentation and control systems, PLCs (including Siemens), and computer-based control systems (including Wonderware InTouch). Don served as the project manager and lead I&C engineer for the Kellogg Creek WRRF's SCADA Upgrade in 2006. Lionel is a senior control system engineer with 37 years of experience in all phases of control system implementation including project management, design, software, and commissioning. Lionel is experienced with Allen-Bradley ControlLogix PLCs; and Rockwell Automation FactoryTalk View SE, Intellution iFix, and Wonderware InTouch HMI.
- **System Security – Forrest Gist, PE** has over 30 years of security expertise gained through design and construction management of over 250 security projects on a wide variety of critical infrastructure sectors including aviation, marine, high tech, data center, water/

wastewater, electrical and nuclear power, banking/finance, food, correctional, education, healthcare and military. He is specialized in security risk assessment services, identifying security threats, vulnerability assessments and developing mitigation plans and upgrade recommendations.

- **Senior Consultant – Jeff Kanyuch, PE** brings 32 years of engineering experience, he has been responsible for control system delivery from concept development through commissioning, including long-term support during operation. Jeff also has significant experience with management and execution of large and small design-build (DB) projects, including contracting, management of installation subcontractors, and material procurement. He has led SCADA system design, construction, and programming services for water treatment / distribution, wastewater collection/treatment, and industrial facilities. Jeff is also experienced in estimating instrumentation and control services from planning and concept development through full design-build implementation.
- **Principal-in-Charge, Brady Fuller** is a senior principal manager with expertise in performing project management, design, and construction management, for multidisciplinary utility and water resource projects. He takes ownership of the team's project delivery model and systems (procedures, standards, guidelines, tools and techniques); the management of managers, and engineers assigned to the projects; the promotion of safe and effective project delivery while meeting client satisfaction; and ultimately, the delivery of projects on time and within the budget.

WHERE THE TEAM HAS WORKED TOGETHER PREVIOUSLY

Our experience as the industry's largest SCADA integrator focused on water and wastewater systems, includes the completion of more than 250 SCADA and telemetry projects in the last 10 years alone. The Projects in this section are representative of the work performed by the proposed staff in our submitted resumes. As noted in the resume section, our staff deliver and perform reviews for multiple projects each year. Our I&C/SCADA staff are experienced in projects of all sizes and scope, from system replacements and upgrades at existing facilities to large design-build delivery of brand new (greenfield) facilities.

TABLE 1

Team Member	Clackamas WES (KCWRRF and TCWRRF)	Vancouver (WA), Westside	Clark Regional WW District; Salmon Creek WWTP	City of Eugene (OR), Biosolids Mgmt. Facility	City of Goodyear (AZ); Goodyear WTF	WDCWA; Davis Woodland Water Supply Project	County of Maui (HI); Lahaina WWRF
Stephanie McGregor	■				■	■	■
Jeff Kanyuch		■	■	■	■	■	■
Daryl Banaszek		■		■			
Tim Scott		■	■				
Brian Pilmer			■	■	■		
Jeff Cummings	■				■		
Josh Blume		■	■		■		■
Don Watson	■				■		
Lionel Wood	■		■			■	■
Forrest Gist		■	■		■	■	

COMMITMENT TO AVAILABILITY AND RESPONSIVENESS

We make a strong commitment to communication and collaboration with the District team to provide you the services that deliver cost-effective and appropriate solutions. One key element to a successful project involves creating a collaborative partnership with the stakeholders, which includes engineering, operations, maintenance, and information systems. We will build cohesion and trust by establishing clear goals, crafting well-designed tasks, fostering open communication, and developing transparent expectations.

COMMUNICATION AND AVAILABILITY

One of the critical success factors for any assignment is the availability of staff and their commitment to the projects that will be delivered as part of this assignment. The table below shows a percentage range of time each key staff member will be available for this assignment. These key individuals have no current commitments that would prevent them from fulfilling their roles as needed on District assignments.

TABLE 2

Key Staff | Office Location	Percent Contracting Availability for Assignment
Stephanie McGregor | Portland	25-50%
Jeff Kanyuch | Corvallis	10%
Daryl Banaszek | Portland	10-100%
Tim Scott | Portland	10-100%
Brian Pilmer | Corvallis	10-50%
Jeff Cummings | Corvallis	10-50%
Josh Blume | Tempe	10-25%
Don Watson | Corvallis	10-25%
Lionel Wood | Corvallis	10-25%
Forrest Gist | Portland	10-25%

5.4 Firm Qualifications & Experience

Jacobs is invested in making the world a better place—from addressing water scarcity and aging infrastructure to protecting against sophisticated cyberattacks—what we do is more than a job; it's an investment in the success of our clients, communities, and future generations. Therefore, we bring a thoughtful and collaborative approach to every one of our partnerships and help our clients make a positive impact on the world. We use best practices to provide a comprehensive and proactive approach to any project and deliver our clients' vision of success.

JACOBS' HISTORY

Jacobs' history in Oregon is tied to our legacy team of CH2M HILL professionals, many of whom have been working with WES throughout their careers at Jacobs. We bring staff with current WES project experience – as well as those that have supported WES since the 1990's. For over 70 years, our over 58,000 professionals around the world have provided a wide range of services, including scientific, technical, professional, and construction and project management for the business, industrial, commercial, government, and infrastructure sectors.

This includes the recent successful commissioning of the Tri-City WRRF Solids Handling Improvements where we provided oversight to other integrators to confirm appropriate commissioning and documentation of work. The ongoing construction of our design of Kellogg Creek WRRF Aeration Improvements includes design of instrument and PLC replacements and development of designs and control strategies to upgrade existing systems including temporary operating conditions during startup.

Jacobs is a national leader in delivering water and wastewater SCADA systems planning, design, construction, start-up and commissioning, trouble-shooting and ongoing support for municipalities. Our SCADA teams understanding of the design and commissioning phases is comprehensive from the instruments to the wiring details, to the software, and inclusive of the most complex and complicated networking and security details.

There is talent and strength throughout Jacobs, but the Pacific Northwest is a center of excellence for the controls portion of our business. Our full range of expertise and local capabilities will be available to the District through our local staff in Portland, Corvallis, Seattle and even our national team if required. The automation staff in these offices are responsible for the design and support of some of the firm's most ambitious recent projects.

We also have a strong history of providing controls system design and implementation directly to the District's Tri-City and Kellogg Creek WRRFs. Our control system services for the District has included:

- Tri-City and Kellogg SCADA system upgrade including HMI consolidation and replacement of Simatic PLCs with Siemens S7 PLCs
- Redesign of Profibus networks for improved reliability to package system controls at the Tri-City WRRF
- Tri-City WRRF influent pump station upgrade and primary clarifiers gate controls
- Control systems software standards development
- Tri-City Solids Handling Improvements control system design

RECENT AND LOCAL PROJECT EXPERIENCE

Our team has experience in successfully delivering on-call automation projects for large, comprehensive water and wastewater systems. These projects demonstrate the wide range of challenges we have accepted to help our clients deliver innovative, world-class solutions.

As requested in the RFP, select project experience, featuring elements and scope similar to the work identified by the District for these and other projects, is included in the table below. Projects that include experience in dealing with Water Resource Recovery Facilities telemetry and SCADA Systems are listed first and highlighted in orange. Table 3 provides a brief summary to the team's recent experience with project references following.

> "Jacobs did an outstanding job managing, planning, and executing the PLC upgrade project to provide tremendous value to our utility. Embedding our SCADA technician on the Jacobs team to participate in the project execution provided efficiencies that resulted in a project under-run of nearly 15%."
>
> *John Peterson, General Manager, Clark Regional Wastewater District, WA*

TABLE 3

Client	Project	Year	SCADA Scope of Services
City of Vancouver, WA	Wastewater SCADA Upgrade	2016 - Present	Upgrade of SCADA systems for 2 wastewater treatment plants and 6 remote stations. System includes 23 PLCs with over 2800 input/output (I/O) points. Rockwell Factory Talk, HMI, new OT systems at both plants, new server and control rooms at both plants, addition of Ethernet-connected field instruments, and replacement of large VFDs with new Ethernet-connected devices.Provided full design-build implementation. Commissioning and other maintenance support is ongoing. The work included major updates to the plant's existing SCADA-related documentation for record, including P&IDs, panel drawings, network block diagrams, and PLC I/O wiring drawings.
Clark Regional Wastewater District, WA	Salmon Creek WWTP Control System Upgrades	2014 - Present	Multiple projects to upgrade control system infrastructure, including: → (2014-2018) replacement of legacy Allen-Bradley PLC-5 processor systems with new Allen-Bradley ControlLogix PLCs → (2021-2022) major network improvements, including replacement of all plant fiber optic cable, construction of a new dedicated and secure server room, and implementation of new OT systems → (2022) replacement of the plant's existing Wonderware Intouch HMI system with Inductive Automation Ignition The work included major updates to the plant's existing SCADA-related documentation for record, including P&IDs, panel drawings, network block diagrams, and PLC I/O wiring drawings.
City of Washougal, WA	Wastewater System SCADA Upgrade	2015 - 2017	Replacement of WWTP SCADA during plant expansion with support and upgrades to various parts of the system.
Medford Water, OR	SCADA Upgrade	2022 - Present	Major project to evaluate and upgrade the utility's SCADA system for water supply, treatment, and distribution. The work includes the 60 MGD Duff WTP, a spring-fed water supply facility, more than 30 remote stations in the water distribution system, the distribution operations center, and the engineering offices. The upgrade will include system-wide standardization of Allen-Bradley PLC and Rockwell FactoryTalkView HMI platforms, replacement of aging multi-mode fiber optic star-configured networks with new single-mode ring-configured fiber networks, replacement with legacy point-to-point radio systems with a higher bandwidth mesh radio-based system, construction of new server and control rooms, and implementation of new virtualized OT systems. The improvements will increase system resiliency and cybersecurity.
Goodyear, AZ	Drinking Water Treatment Facility Design-Build / Construction	2018 - 2022	Jacobs was design-build contractor and self-performed the control system delivery for the City's new drinking water treatment plant. The system was based on Allen-Bradley ControlLogix PLCs, Rockwell FactoryTalkView HMI and included single-mode fiber optic ring networks, high-availability hyperconverged OT systems, and Ethernet-connected field instruments and VFDs. Jacobs scope included design, material procurement, panel design and fabrication, SCADA PLC/HMI programming, field construction supervision, commissioning, and training services.

TABLE 3

Client	Project	Year	SCADA Scope of Services
City of Dalles, OR	Water / Wastewater Control System Implementation	1998 - Present	Jacobs performed a multi-phase design-build control system delivery of a new SCADA system for the City's existing water treatment plant, distribution system and wastewater collection systems between 1998 and 2002. The system is based on Allen-Bradley PLCs, Wonderware InTouch HMI, and a new radio-based communication system for the distribution and collections SCADA. Jacobs has provided ongoing engineering and SCADA maintenance services since the original system implementation.
City of Eugene, OR	Biosolids Management Facility (BMF) PLC Replacement	2021 - Present	Replacement of the facility's legacy PLCs with new Allen-Bradley Logix family systems and complete re-build of the Rockwell FactoryTalkView HMI. Jacobs worked with City staff to provide selection of the installation contractor and early procurement of major project materials to avoid construction delays associated with long lead times.
City of Vancouver, WA	Water System SCADA Upgrade	2016 - 2020	Upgrade of Water department SCADA for a 40 MGD production and distribution system. System includes 40 Siemens PLCs, Wonderware Archestra HMI software and 3,000 IO points. Provided system design, programming, and commissioning.

PROJECT REFERENCES

Representative project references include:

SCADA MASTER PLAN AND RELATED UPGRADE | MEDFORD WATER (MEDFORD, OREGON)

Relevance: SCADA master planning including security upgrades, PLC replacement, system wide communication upgrades, startup and commissioning of new facilities. Jacobs is performing work to upgrade the SCADA systems associated with Medford Water Commission's water treatment and distribution systems to improve resiliency and cybersecurity and replace obsolete components with standard approaches to improve efficiency for long-term O&M. The major project improvements include:

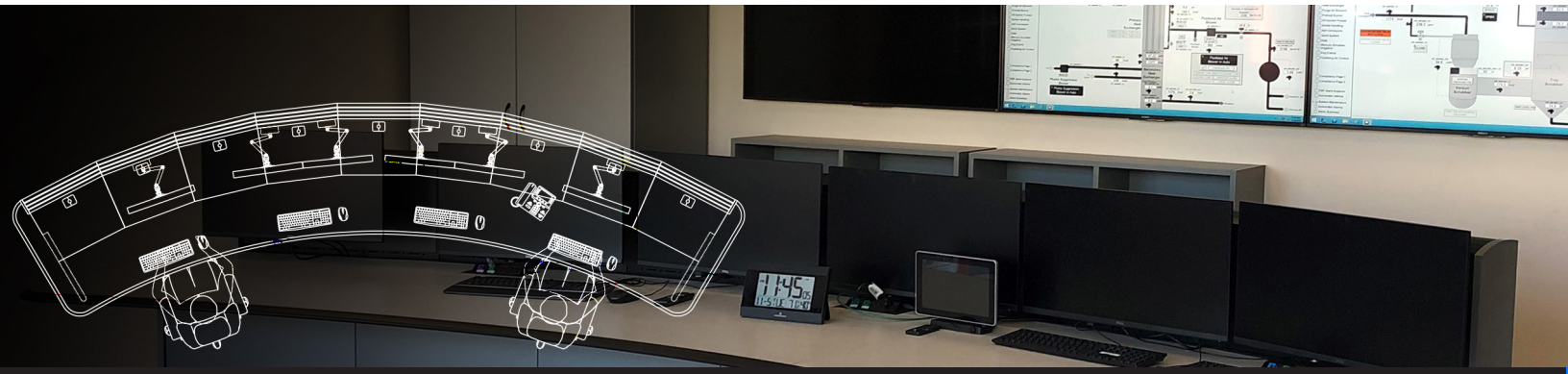
- Replacement of existing PLCs to standardize on the Allen-Bradley ControlLogix platform
- Replacement of the City's existing GE iFIX HMI with Rockwell FactoryTalkView HMI
- Replacement of existing Panelview panel-mounted operator interface terminals (OITs) limited to local monitoring and control interfaces with panel-mounted thin-clients providing access to plant wide monitoring and control
- Replacement of existing multi-mode fiber optic cable with new single-mode fiber optic cable, re-routed from a physical star configuration to ring
- Construction of new dedicated server and control room spaces
- Implementation of new OT systems based on virtual hyperconverged infrastructure and including provisions for disaster recovery. The new system will support segregated plant networks, automated backups, network monitoring, and secure remote access.
- Replacement of existing low-bandwidth point-to-point water distribution system remote station radio communication with mesh radio systems that will provide higher bandwidth to support new features and multiple connection paths to improve resiliency

Jacobs is nearly complete with the major system-wide master planning effort and is contracted to deliver improvements at the Duff WTP, including new Operational Technology system configuration and deployment, reprogramming of all the facility PLCs, and develop new Rockwell FactoryTalkView HMI graphics for all of the plant processes. Additional follow-on work will include final design and implementation of improvements in the water distribution system.

Jacobs staff performed the master planning effort and is contracted to provide SCADA software programming and field-testing services. Design of the major improvements is being delivered by Jacobs under separate contract associated with major plant capacity expansion.

During execution of the master planning effort, which was being conducted in parallel with design for a major capital improvement at the Duff WTP (also designed by Jacobs through separate procurement), Jacobs I&C staff was able to successfully influence the design to include master plan recommended improvements, which helped the utility avoid stranded investments that would have required modification in a separate future effort. Major examples include selection and application of standard PLC platforms, construction of a new dedicated server room, and renovations to an existing control room.

Key Staff:	**Scope:**
Jeff Kanyuch - Project Manager	Master Planning, Engineering Concept Definition, Engineering Design, SCADA Software Programming OT System Configuration and Development
Year:	**Jacobs SCADA Integration Value:**
2021	$3,300,000 (USD)



BIOSOLIDS MANAGEMENT FACILITY (BMF) PLC REPLACEMENT | CITY OF EUGENE, (OREGON)

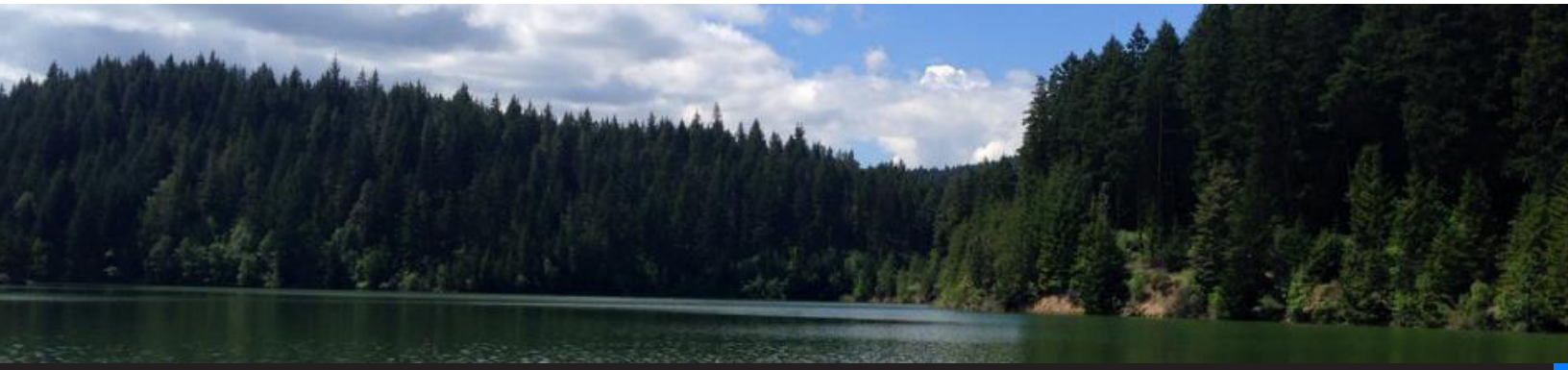
Relevance: Major SCADA work for a new local wastewater client in Oregon (this was our first time performing major SCADA programming work for City of Eugene facilities). Work included design and programming for implementation of new PLC, HMI, and SCADA servers.

Jacobs is performing a project to replace the existing legacy Allen-Bradley PLCs at the Eugene biosolids management facility, which processes the City's wastewater sludge. The major improvements include:

- Replacement of aging hardware for 6 existing PLCs with new Allen-Bradley ControlLogix PLCs (approximately 750 hardwired I/O points)
- Development of new Rockwell FactoryTalkView HMI graphics
- Replacement of existing network and computer equipment
- Elimination of existing legacy "blue hose" cabling, including replacement of existing VFDs

Jacobs staff performed engineering design, OT system configuration and deployment, SCADA PLC/HMI programming and field testing, training, and assisted with Owner procurement of major materials.

Key Staff:	**Scope:**
Jeff Kanyuch - Project Manager; Daryl Banaszek - SCADA Technician	Engineering Design, SCADA Software Services
Year:	**Jacobs I&C Value:**
2020 - Present	$1,200,000 (USD)



ON-CALL I&C AND SCADA SEVICES| CITY OF THE DALLES, (THE DALLES, OREGON)

Relevance: Long term success in on-call SCADA planning, design, commissioning, and maintenance. Jacobs has supported the City water treatment plant, water distribution system, sewer collection system, and wastewater treatment plant SCADA and control system.

Jacobs has provided a variety of services to the City including, maintenance and troubleshooting of PLC issues, Workstation Replacement, documentation updates following all upgrades, various minor system software improvements such as adding I/O points for new and modified equipment. Every water system capital project since 1998 has involved Jacobs providing integration services including panel designs, panel fabrication, programming, HMI development, functional and software performance testing. Jacobs has also performed design-build construction of hardware upgrades, operational technology services (firewalls, network, and computer replacements). Jeff Kanyuch also performed SCADA master planning to help the City plan and budget for system replacement. Jacobs has been a trusted on-call partner for the City's resilient water system for more than 24 years.

Key Staff:	Scope:
Jeff Kanyuch - Project Manager; Tim Scott- SCADA Technician Don Watson - I&C Designer; Lionel Wood - Senior Consultant; Daryl Banaszek SCADA technician	Engineering Design, SCADA Software Services
Year:	**Jacobs I&C Value:**
1998 - Present	greater than $1.5M since 1998. On-call average on order of $20K per year

One of the Industry's Largest SCADA Integrators

Since the 1950s, we have designed and delivered SCADA systems and have grown into a global automation business with design and integration personnel around the world. We are currently one of the largest systems integrators in the U.S. focused on the water and wastewater market.

Our controls systems staff have delivered a broad range of projects encompassing SCADA system design and application programming--and have completed more than 250 SCADA and telemetry projects in the last 10 years.

Digitalization is driving increased connectivity between SCADA, IT, and other networks, increasing the attack surface and risk of cyberattacks on SCADA systems. Our Operational Technology Services (OTS) Group offers a new breed of security practitioners to bolster cyber resiliency by implementing the latest technologies. We also address system reliability in our designs, adding redundancy in network/computer hardware components/cabling and disaster recovery plans/systems.

The strength of our OTS Group lies in its ability to draw upon a multi-disciplinary team of control systems (I&C) engineers, IT, and cybersecurity experts to understand what an engineered approach looks like.

Our breadth of experience enables clients to have high confidence in our ranking of potential cybersecurity threats and developing a plan forward.

As a top-ranked design-builder, we commonly develop seamless implementation plans for SCADA "cut-over" including detailed Maintenance of Plant Operations (MOPO) plans to keep the plants operational.

Jacobs self-performs controls system design, construction, and systems integration on our water design-build projects. This comprehensive expertise will also allow us to help you stay within budget by providing accurate cost-estimates throughout planning and design.

Our team integrates process knowledge and automation to design smarter systems that get better results at lower costs. The Jacobs team offers a full-service delivery organization for SCADA systems. Our staff skills include:

- Master planning
- Standards development
- SCADA network communications
- Radio system consulting and wireless communication detailed hardware design
- SCADA network and computer system design and implementation
- Instrumentation, cybersecurity, and operational experts
- Programmable logic controller (PLC)/human-machine interface (HMI) programmers and construction staff

Our highly specialized technology team stays up to date with the fast-paced virtual industry to develop comprehensive designs that protect our clients from potential security threats.

Jacobs' SCADA teams can offer services and review of a SCADA project including the design, software, or construction phases. Regardless of the SCADA project challenges encountered, in either design or construction, we believe our detailed experiences provide efficient and effective solutions. Jacobs' technology teams have achieved some of the most prominent certifications and qualifications in the industry. Our team includes I&C engineers who are certified Rockwell Automation integrators in control, process, and information software as well as Certified Information System Security professionals who confirm that our designs evolve to keep pace with the ever-changing threat landscape. As more utilities seek to implement virtual hardware to accomplish PLC and SCADA server functions, our highly specialized team of Operations Technology (OT) and cybersecurity experts have expertise in implementing hardware, while reducing costs for virtualized SCADA environments, including Hyper-V, VMWare, and VirtualBox. Our team has evaluated, tested, and troubleshot all types of control systems for projects involving the modernization, expansion, or rehabilitation of existing facilities. During the planning process, our teams have also participated with clients to evaluate and define project needs, analyze the cost-effectiveness of alternative systems and solutions, and assist in the preparation of facility plans to include approaches to energy conservation and operational efficiency.

CERTIFICATIONS

Our team of Certified Information System Security professionals help ensure that our designs evolve to keep pace with the ever-changing threat landscape. Our highly specialized team of OT and cybersecurity experts have expertise with virtualized SCADA environments, including HyperV, VMWare, and VirtualBox, as more utilities implement virtual hardware to accomplish PLC and SCADA server functions while reducing hardware cost.

In the last 10 years, Jacobs has completed more than 250 municipal wastewater and water SCADA projects, including full-service design-build projects. We have also designed plant control systems for facilities representing $1 billion in total constructed value. Our services for modernization, expansion, or rehabilitation of existing facilities include evaluation, testing, and troubleshooting of all types of control systems. Just as we do with our other infrastructure projects, we evaluate and define project needs, analyze cost-effectiveness of alternative systems and solutions, and assist in the preparation of facility plans. The planning process highlights the major advantages of effective systems: cost savings, energy conservation, and operational efficiency.

CERTIFIED SI PARTNER (MULTIPLE LEVELS)

CISSP® Certified Information Systems Security Professional

Microsoft CERTIFIED Technology Specialist

Microsoft CERTIFIED IT Professional

Ignition! v8.1

RA SILVER System Integrator A ROCKWELL AUTOMATION PARTNER

Wonderware by Schneider Electric CERTIFIED System Integrator Partner

vmware CERTIFIED PROFESSIONAL DATA CENTER VIRTUALIZATION

CISCO CERTIFIED CCNA

5.5 Understanding & Approach

Our long history of design and software implementation projects with the District, providing deep knowledge of District plant processes, programming standards, and staff, will help our team successfully manage the District's SCADA improvements project needs.

As stated in the RFP, the District's SCADA and control system consists of 5 WWTP facilities, 20 pumping stations, 25 flow monitoring stations, and the North Clackamas Park Regional Detention Facility. The existing SCADA system includes operational control, monitoring and data logging for the Tri-City and Kellogg Creek Plants using fiber optic communications for remote bases, PLCs, and servers.

In the future, it is the desire of the District to incorporate fiber optic communication to other assets, such as treatment facilities, pumping stations, flow monitoring stations and a regional water detention facility. The desire is to have a similar level of operational control, monitoring, and data logging at the two main plants. Currently, data are collected manually and are not stored in the SCADA system archives.

Within existing facilities (such as at Kellogg Creek), legacy Profibus communication networks may be at end of useful life, or not meeting current needs, so upgrade projects may replace existing communication cabling and networking just as Jacobs recently designed on the KCWRRF Aeration Upgrades project.

OUR PROJECT UNDERSTANDING AND MEETING DISTRICT NEEDS

The District maintains a wide variety of facilities many with unique and differing control system elements. Some facilities are fully automated but need upgrades. Others are automated but require additional sensors and modified programming for improved performance or monitoring. Still more are not automated at all or may not be connected to the District's SCADA systems. We anticipate projects identified in the SCADA/telemetry development plan and capital budget may be addressed as part of this work.

Jacobs is ready to address these facilities in the order and priority as defined by the District. If input is required on the recommended sequence or necessity of this work, we can provide it. In all cases, the skills and talent necessary to engineer and deliver a solution for these potential projects are at our disposal.

KEY ISSUES THAT MAY OCCUR IF FACILITIES TELEMETRY AND SCADA SYSTEM FAILS

SCADA failures can and do lead to damage to the environment, equipment and increase risks to personnel safety. Jacobs is very familiar with the critical role control systems play in the safe and reliable operation of plant equipment. Examples of Jacobs supporting clients in such recovery efforts includes our support to King County in recovering from a 2017 failure that spilled millions of gallons of raw sewage into Puget Sound and destroyed millions of dollars- worth of equipment. We are recently completing another recovery project here in the Portland metro area where we were brought in after a control system failure. In this case, plant staff modified a design and turned off systems without understanding the impact of control interlocks. The resulting cascade of failures flooded an electrical room and took over a year to bring the plant back to the original condition.

These anecdotes illustrate our experience in helping clients recover from control system failures and reinforces our commitment to preventing them from occurring in the first place. We understand the importance of simple and reliable design, consistent and understandable control programs and a process that ensures systems are fully tested and commissioned. Starting from this base, staff that are provided with appropriate training and complete project documentation are in the best position to operate their plants safely and without incident.

PROJECT REQUIREMENTS

On-call Support

We provide control system support for over 100 facilities in the U.S., in addition to the 200 facilities operated by our firm itself. Our size gives you access to experts in all technologies—whatever the problem, chances are we have seen it before.

Upgrades to Facilities in Operation

Control system upgrades require uninterrupted operation with no risk to performance. We team with your operations staff to plan and mitigate risk, communicating constantly on schedule and planned outages.

Combining new technology with legacy systems can bring unintended consequences—we understand how to integrate new and old, so you are not left with two separate systems that do not work together.

TIMELINESS OF DESIGN AND DELIVERABLES

Projects must meet cost, performance, and schedule goals to succeed. The first step in attaining success is defining the conditions of satisfaction for each of these goals. Our teams have developed project delivery methods that help define the goals and build workplans to meet them. The recent Tri-City Solids Handling Improvement Project is an example of how these methods can work. Even as obstacles were encountered and new information was discovered, the target date for design deliverables was met. This is more than a point of pride for our teams, this is a basic requirement for our project management. Projects for the District will receive this same attention to detail and comprehensive understanding of requirements.

PROJECT MANAGEMENT

Our project approach begins with an emphasis on planning to ensure the right mix of skills and expertise is applied on any project. Our team will use a standardized Project Delivery System (PDS) for managing the project. These are the same tools that were used on the Kellogg WRRF Aeration Improvements, Tri- City WRRF Solids Handling Improvements, and Tri-City WRRF Primary Clarifier Rehabilitation design. The PDS includes management tools for the following:

Project Financials: The project manager (PM) is responsible for meeting project budgets, providing timely and accurate billing instructions so that project charges can be invoiced promptly and accurately, and preparing an estimate of the project's direct costs (labor and expense) at the completion of the project (EAC). Monthly invoicing will include an EAC, along with a description of the work completed and any change management items.

Work Order management and Change Management: The PM is responsible for quickly developing and negotiating scopes, schedules, and budgets for discrete defined work identified by the District. Certain limited support activities are anticipated to be done on an "on-call" task. Where projects need change, the PM will communicate effectively with District PM and O&M staff, and identify changes to scope, schedule, and budget. The goal of our management is consistent, reliable project delivery that keeps your facilities operational and meeting performance requirements.

Health and Safety: The PM is responsible for ensuring that the appropriate processes and procedures are implemented. If the District has project-specific or facility-specific health and safety requirements, the PM is responsible for ensuring these are incorporated into our project management.

Project Tools: Our team uses multiple tools and processes to help the PM and project team deliver a successful project. The PM will select the appropriate tools such as project status meetings, review meetings, project execution checklists, action items and decision logs, and team-building tools to ensure a successful project delivery.

Communication: A regular communication plan will be developed with the District at the initiation of the project or specific task orders. Communication can include regular weekly or monthly project status meetings, e-mail updates, and informal meetings. These items are an integral part of the project management to ensure that all stakeholders and team members are informed and are aware of important decisions and status.

LOCAL SUPPORT

Staff members identified for this project are all locally based. With very short notice, almost any of the team members can be onsite, even that same day. This is an important feature as many projects require frequent visits to meet District staff or other contractors, confirm, or verify design issues. The team members home offices is as shown in Table 2, above.

QA/QC PROGRAM

Our facility automation team will apply a concept of continuous quality control through a detailed Quality Management System (QMS), a concept that is driven throughout our firm. A project QMS includes a quality covenant, quality manual, key requirements, standard procedures, and methods to monitor performance. The QMS exists so that we may maintain high quality standards and continue to improve the effectiveness and efficiency of our performance. The QMS begins as part of the project kickoff and continues through final delivery to the District.

Quality assurance rests on the concept that the team will implement the best design/implementation tools and provide expert-level review of all control system deliverables. The facility automation team will solicit quality reviews from multiple sources, including senior staff, District staff, and control system manufacturers. The control system implementation will have defined internal deliverable milestones that will be used to validate control system design and construction. At each milestone, District will review deliverables and provide input. The tools used by the facility automation team will function to eliminate errors and maintain consistency in project deliverables. Some of the quality management tools that will be applied to the work include:

Quality reviews by senior staff. Reviews will be budgeted under the individual tasks that define the deliverables and will include independent review of deliverables for technical accuracy, conformance with the project's design criteria, budget, completeness, constructability, and safety.

District Standards. Prior to beginning work, District standards such as instrumentation design, CAD methods, and PLC and HMI programming will be reviewed. We will provide additional input as needed to further improve District standards.

Commissioning Protocol. We have developed a commissioning database to manage control systems I/O check-out and to deliver consistent results. The database includes:

1. Process control narratives
2. Loop descriptions
3. Input/output lists
4. Testing documentation
5. Instrument calibration information

FIBER-OPTIC CABLE AND PATCH PANEL DESIGN AND TROUBLESHOOTING

As a general contractor and design-builder of WWTPs, our firm routinely assumes ultimate responsibility for the design, installation, and testing of fiber optic cable, patch panels, and terminations. Multi-building installations are common practice.

We also help our clients achieve reliable communications through radio path studies, high-reliability radio networks, licensed and un-licensed radio, cellular, satellite, leased line, and Internet-based secure data communications. These communication methods are potential solutions for the District, but each method requires specialized knowledge and experience to implement it safely and properly.

OPERATIONAL TECHNOLOGY AND CYBERSECURITY

We have a dedicated operational technology services team that specializes in the design and implementation of networks for automation systems. In addition to designing and building automation networks, these specialists provide cyber security assessments for organizations all over the world.

Water and wastewater controls systems have become a target for hackers and cyberattacks are on the rise across all sectors of the economy. Our certified information system security professionals help ensure that our designs evolve to keep pace with the ever-changing threat landscape. Our firm has completed more than $60 million of security and cybersecurity work for confidential clients and government agencies like the U.S. EPA and major utilities. This expertise is available to the District if it is requested.

OUR KNOWLEDGE OF eRIS AND HOW IT INTERACTS WITH YOUR DATA AND SYSTEMS

Jacobs has met with the Suez-eRIS team to develop an understanding of their platform and reporting capabilities and data connection requirements.

Suez-eRIS Understanding

Suez-eRIS is an on-demand application. It exists as data provider, it doesn't permanently copy data, or keep "shadow copies" which could cause version control issues, The software operates as a virtual server on WES's IT network to connect to "data at rest" to interpret a request via the eRIS interface, and then it replicate that query against the Wonderware historian database . The query results in a return of data, presented it in the format desired. The solution is highly customizable with reports capable of being displayed in any format such as raw data, chart or tabular presentation, or pulled into customized reports. The system also allows reports to be displayed on dashboards like on Power Business Intelligence (BI). We understand that WES is connecting eRIS to your laboratory information management system (Labworks™), and planning to connect to , HACH Claros™ which will allow improved reporting of lab, process, asset management. The current WES implementation has been deployed first at Kellogg Creek WRRF and will be rolled out across other faciliies. eRIS self-discovers tags, and efficiently stays up to date with active tags.

KELLOGG CREEK eRIS TAGS

- ✓ 23,718 Labworks™ tags
- ✓ 2,834 analog tags
- ✓ 1,871 discrete tags

Exhibit 2.Jacobs will work to carefully integrate new projects, tags, and systems to interact with Suez-eRIS for reliable process, laboratory, and operations data management.

How Can Potential System Integration Activities Impact District's Use of Suez-eRIS

A basic accountability of your integrator is to maintain continuous, reliable SCADA system operation, and to thoughtfully and carefully schedule outages and interruptions with your engineering, project management, O&M staff, and contractors.

We asked Suez "How can we break eRIS"? The eRIS solution is resilient, and our potential work as your Integrator of Record has only a few possible ways to disrupt eRIS. Upgrades to historian to new version, changing IP addresses of connected systems, and tag changes, are the most common ways that regular eRIS operation could be disrupted.

The District benefits because beyond the envisioned support of eRIS, the Jacobs Integration team has experience of pulling data from several different data sources into one singular information tool for reporting, trending and dashboarding purposes. Typically, the type of data we have pulled into tools such as these include but is not limited to:

- Live PLC Data
- Historical Data from SCADA Level Historian Archives
- Data from 3rd party databases (such as SQL / MS Access)
- Operator / Lab data taken live from the field from Laptops or Tablets

The informational tools we have experience with that pull data from disparate data sources into one centralized hub for reporting include but is not limited to:

- FactoryTalk VantagePoint
- Pi Asset Framework & Associated tools such as Pi Vision and Pi Datalink
- SyTech XLReporter
- Ignition Reporting Module
- SQL SSRS Reporting

Using these tools Jacobs has helped Clients produce reports such as:

- Discharge Monitoring Reports (DMRs)
- Complex Compliance Reports
- Daily / Weekly / Monthly Plant Performance Reports
- Alarm Rationalization Reports
- Power Utilization Reports

CONCLUSION

We look forward to the District's review of these qualifications. The Jacobs team has worked continually and closely with your staff on multiple projects at your diverse facilities for years. We are excited for the opportunities to step into this Integrator of Record role to continue and deepen our partnership with the District as you steward the water environment, reliably serve your ratepayers, and innovate in delivering projects.

STEPHANIE MCGREGOR, PE

PROJECT MANAGER

Stephanie brings nine years of experience with instrumentation and controls planning and design, dynamic simulation, programming, and commissioning of water and wastewater facilities. As a project manager she brings close connections with Jacobs staffing managers and will collaborate regularly to drawn on the best local resources to address your specific project needs. Stephanie brings local facility knowledge as well as a track record of successfully delivering control system services to support clients throughout Oregon, Washington, and the Pacific Northwest with their immediate and long-term system integration needs.

EDUCATION/QUALIFICATIONS

B.S., Bioprocess Engineering (Honors), Oregon State University

CERTIFICATIONS/TRAINING

- ✓ Profession Engineer: Oregon (No. 87419); Idaho (No. P-20672)

YEARS OF EXPERIENCE

9 years

DISTINGUISHING QUALIFICATIONS

- ✓ Strong communication skills, specifically communicating and soliciting project design information to and from operations, maintenance, and agency project management staff
- ✓ Successful completion of water and wastewater control system upgrades while minimizing impacts to operations
- ✓ Expertise in Rockwell PLC & SCADA programming, ExtendSim, and PIPE-FLO
- ✓ Specific experience with the District at the Kellogg Creek Water Resource Recovery Facility and Intertie 2 Pump Station and Force Main Expansion
- ✓ Authored publications and presented multiple industry presentations including:
  - Dynamic Simulation for Step Feed Aeration Flow Control. Pacific Water Conference 2020. Honolulu, Hawaii. February 4- 6, 2020. Stephanie McGregor, Lionel Wood, Tony Ali, Juan Rivera.
  - Simulating Advanced Controls using Integrated Modeling. Pacific Water Clean Water Association Conference. Portland, Oregon. September 8 – 11, 2019. Tom Johnson, Stephanie McGregor.
  - Complete Water Treatment Plant Simulation Prior to Startup: Control Logic Functional Acceptance Testing Using Dynamic Simulation. AWWA ACE 2019. Denver, Colorado. June 9-12, 2019. Matt Deavenport, Stephanie McGregor, Michelle Mayes, Jon Bates, John Sheils.
  - Effective Strategies for Navigating SCADA System Upgrades. Pacific Water Conference 2019. Honolulu, Hawaii. February 20, 2019. Joanie Gushiken, Isaac Blanchard, Stephanie McGregor, Lionel Wood.

RELEVANT PROJECT EXPERIENCE

Kellogg Creek Water Resource Recovery Facility Aeration Basin Improvements; Clackamas Water Environment Services; Milwaukie, OR. *Instrumentation and Controls Engineer.* Supported the I&C design for replacement of the aeration basin instrumentation and control panel upgrade. Currently providing services during construction, including submittal review.

Davis Woodland Water Supply Project; Woodland-Davis Clean Water Agency; Woodland, CA. *Instrumentation and Controls Engineer.* Involved in all aspects of design, programming, and commissioning of the new 30-mgd Davis Woodland water treatment plant. During the design phase, responsible for the creation of P&IDs, instrument lists and instrument data sheets. Programmed the PLC and HMI and performed onsite commissioning. Expedited commissioning using a Replica dynamic simulation model of the plant that was developed during design. Used the model to pre-tune and test the control logic prior to onsite start up. The project included pump station, chemical

dosing, and filtration controls with redundant Allen Bradley ControlLogix PLCs and FactoryTalk View HMI. Continues to provide ongoing control system support.

Intertie 2 Pump Station and Force Main Expansion; Clackamas Water Environment Services; Clackamas, OR. *Instrumentation and Controls Engineer.* Stephanie is leading the development of the Replica dynamic simulation model to evaluate alternative pump station diversion box configurations and pump station control strategies.

Goodyear Water Treatment Facility Upgrades; City of Goodyear; Goodyear, AZ. *Instrumentation and Controls Engineer.* Led the software integration team for the City's Water Treatment Facility. The project included PLC programming as well as the programing coordination with the vendors (ozone and sand ballasted clarification systems). The project included pump station, chemical dosing, and filtration controls with Allen Bradley ControlLogix PLCs and FactoryTalk View HMI.

Lahaina Wastewater Reclamation Facility Stage 1A Improvements; County of Maui; Lahaina, HI. *Instrumentation and Controls Engineer.* The project included aeration basin dissolved oxygen
(DO) control, aeration blower controls with redundant Allen Bradley ControlLogix PLCs and FactoryTalk View HMI. Programmed PLC and HMI to implement automated blower sequencing and control. Led the controls workshops with the client, developed the Rockwell code and FactoryTalk screens and commissioned the control system on site. Supported installation of aeration basin instrumentation and equipment (Hach dissolved oxygen and ammonia probes, Hach transmitters, FCI flow meters). Provided operator and technician training on the new control system.

3Kings Water Treatment Plant; Park City Municipal Corporation; Park City, UT. *Instrumentation and Controls Engineer.* Connected a plant wide dynamic simulation model with Allen Bradley ControlLogix PLCs to perform control system testing of the control logic prior to plant start up. The connected model will later be used as a flight simulator to train operation staff prior to the facility coming online.

Nampa Wastewater Treatment Plant Phase II Upgrades Project Group F; City of Nampa; Nampa, ID. *Instrumentation and Controls Engineer.* Led the design of the UV facility, including coordination with other engineering disciplines and pre-selected vendor Trojan Technologies. Currently providing services during construction, including submittal review. Developed a Replica dynamic simulation model of the plant, including three pump stations, to produce the hydraulic profile and provide control strategy recommendations.

San Jose-Santa Clara Regional Wastewater Facility; City of San Jose; San Jose, CA. *Instrumentation and Controls Engineer.* Developed a dynamic simulation model to optimize the City of San Jose Headworks pump station control strategy.

West Point Treatment Plant; King County; King County, WA. *Instrumentation and Controls Engineer.* Developed an operator training 'flight simulator' utilizing a Replica hydraulic model and the plant's Ovation control system. Trained operations staff on running the simulator.

Riverside Park Water Reclamation Facility; City of Spokane; Spokane, WA. *Instrumentation and Controls Engineer.* Developed a dynamic simulation model of the wastewater plant, including the membrane system. Used model to optimize the approach for handling wet weather events.

Stanislaus Surface Water Supply Project; Stanislaus Regional Water Authority; Stanislaus, CA. *Instrumentation and Controls Engineer.* Currently providing senior QC review for the Stanislaus PLC programming, as well as programming ozone dosage inactivation control logic. The project includes pump station, chemical dosing, filtration, and ozone controls with Allen Bradley ControlLogix PLCs and FactoryTalk View HMI.

Winneke Water Treatment Plant Improvements; Melbourne Water; Melbourne, Australia. *Instrumentation and Controls Engineer.* Developed a dynamic simulation model to test the new filter control strategy. Coordinated PLC logic changes with plant's integrator to stabilize filter flow. This project won an Environmental Business International award for technology merit.

Middle and North Oconee Water Reclamation Facilities; Athens-Clarke County; Athens, GA. *Instrumentation and Controls Engineer.* Evaluated several new control strategies using a Replica dynamic simulation model. Minimized start up time of the optimized pump station level control strategy by testing the PLC code in the dynamic simulation environment.

JEFF KANYUCH, PE, PMP

SENIOR CONSULTANT

Jeff is a senior project manager and engineer with extensive experience on projects involving instrumentation, automation, and electrical systems. With more than 32years of engineering experience, he has been responsible for control system delivery from concept development through commissioning. He also has significant experience with management and execution of design-build (DB) projects, including contracting and management of installation subcontractors and material procurement. He has been responsible for electrical system and instrumentation and control (I&C) system project delivery related to water and wastewater facility design, control system software configuration, power system analysis and coordination studies, and construction services. He has led SCADA system design and construction services, electrical design, and construction services for water system reservoirs, pump stations, wastewater treatment plants, and industrial facilities. He is also experienced in estimating instrumentation and control services related to system design and automation software implementation. For this project, Jeff will primarily be a resource for consulting on special leading-edge technical concepts on an as-needed basis.

EDUCATION/QUALIFICATIONS

M.B.A, Oregon State University
B.S., Electrical Engineering, University of Dayton, OH

CERTIFICATIONS/TRAINING

- ✓ Professional Engineer (Electrical):
  Oregon (No. 18543);
  Washington (No. 42501);
  California (No. 18270);
  Arizona (No. 53658);
  Idaho (No. P-15729);
  Hawaii (No. PE-15822);
  Oklahoma (No. 30218)

YEARS OF EXPERIENCE

32 years

DISTINGUISHING QUALIFICATIONS

- ✓ 32 years of experience in delivering control system software implementation projects
- ✓ Proven expertise with many of the major programmable logic controller (PLC) and personal computer (PC)-based human-machine interface (HMI) software solutions
- ✓ Led numerous SCADA system design and configuration projects and construction services, including complex water and wastewater projects
- ✓ Conducted several electrical short-circuit and coordination studies for industrial clients and wastewater treatment plants (WWTPs)
- ✓ Experienced in estimating costs for I&C design and automation software implementation services

RELEVANT PROJECT EXPERIENCE

SCADA Master Plan and Related Upgrades; Medford Water; Medford, OR. *Project Manager.*
Currently managing a project to upgrade SCADA and OT systems across the utility's entire system to improve resiliency, cybersecurity, and manageability. The project requires significant coordination with stakeholders across the utility's organization, including management, planning, engineering, operations, maintenance, and IT. Technical improvements include PLC and HMI replacements, fiber optic cable replacements, new high-speed and resilient inter-facility communication, and construction of new server and control rooms. The work is being conducted over multiple phases to accommodate implementation and available budgets. Jacobs provided significant assistance with financial and implementation planning, including assistance with acquisition of grant funding. Jacobs' scope includes master planning, concept and standards development, design, OT configuration and deployment, SCADA programming and field testing, and final documentation.

Biosolids Management Facility PLC Replacement; City of Eugene; Eugene, OR. *Project Manager.*
Currently managing a project to replace aging programmable logic controllers at the facility with new state-of-the-art hardware. The project includes concept development, design, OT system configuration and deployment, and SCADA PLC/HMI programming and field testing. The project is replacing the existing controllers with standardized Allen-Bradley Logix platform PLCs, providing new SCADA HMI graphics for the entire facility, and providing new servers, network switches, and firewalls.

Water Distribution SCADA System Master Plan and Implementation; City of The Dalles; The Dalles, OR. *Project Manager.* Managed a design-build project to completely replace the City's existing water distribution and sewer collection supervisory control and data acquisition (SCADA) system. The project included replacing the existing remote telemetry unit (RTU)-based SCADA system with a new programmable logic controller (PLC)-based system and replacing the existing SCADA telephone-based communication system with a radio-based communication system. It also provided a T1 link for high-speed data sharing between the new SCADA system based at the City's maintenance shops and the WTP control system located seven miles away. The new control system uses Allen-Bradley Micrologix 1200 PLCs at each of 23 remote stations and a redundant Allen-Bradley PLC-5 radio master PLC located at the city's maintenance shops. The radio system uses 900-megahertz (MHz) licensed frequencies to relay data from the remote sites through a repeater to the central master located at the city shops. Redundancy was incorporated into the master PLC, master radio, and repeater radio components for reliability.

Marine Park / Westside WWTP SCADA Upgrade Projects; City of Vancouver; Vancouver, WA. *Project Manager.* Currently managing design-build delivery of a large control system upgrade at two wastewater treatment plants and six associated remote stations. Major improvements include replacement of the obsolete PLC and HMI systems with state-of-the-art supported platforms, construction of secure server and control rooms, replacement of all computer and network equipment to increase redundancy and reliability, replacement of outdated telephone-based communication links between the facilities with new high-speed private Ethernet networks, replacement of VFDs for large motors with new "smart" Ethernet-connected drives, and implementation of a variety of process instrumentation and control improvements.

Salmon Creek WWTP PLC Upgrade Projects; Clark Regional Wastewater District; Clark County, WA. *Project Manager.* Managed 3 phases of work to provide major SCADA system improvements at the plant, including replacement of the existing obsolete PLCs with Allen-Bradley ControlLogix (approximately 1000 hardwired I/O points), replacement of the existing Wonderware Intouch HMI with Inductive Automation Ignition, installation of new single-mode fiber optic cable, construction of a new dedicated server room, and installation of new SCADA network and computer equipment to provide improved resiliency and cybersecurity. The project provided planning, design, construction, software programming / testing services, and record documentation.

Goodyear Water Treatment Facility Upgrades; City of Goodyear; Goodyear, AZ. *Control System Construction Project Manager.* Managed construction of the control system for the Jacobs-designed new WTF, which will also be operated by Jacobs. Responsibilities included completion of the detailed design for nearly 30 control panels; procurement of all control system related equipment including field instruments, control panels, PLCs, computers, servers, network equipment, control system software, and operator console furniture. Managed coordination with the electrical and mechanical installation subcontractors, field instrument calibration, configuration and testing of all control system software; commissioning; training; and final documentation. The system included six major Allen-Bradley ControlLogix and CompactLogix PLCs (approximately 1100 I/O points), four additional package-supplied PLC systems that communicate with the plant control system via Ethernet (ozone and sand ballasted clarification), and Rockwell Factory Talk HMI. Implementation of the project included management of approximately 15 engineers, CAD technicians, programmers, and field staff distributed in multiple locations across the country.

Davis Woodland Water Supply Project; Woodland-Davis Clean Water Agency; Woodland, CA. *Instrumentation and Controls Construction Project Manager.* Managed construction of the control system at the new 30-mgd water treatment plant. Responsibilities included completion of the detailed design for nearly 50 control panels, procurement of all control system related equipment, coordination with the electrical and mechanical installation subcontractors, field instrument calibration, configuration and testing of all control system software, commissioning, training, and final documentation. The system includes ten major Allen-Bradley ControlLogix and CompactLogix PLCs, eleven additional package-supplied PLC systems that communicate with the plant control system via Ethernet, and Rockwell FactoryTalk View HMI.

Lahaina Wastewater Reclamation Facility Stage 1A Improvements; County of Maui; Lahaina, HI. *Project Manager.* The controls project included aeration basin dissolved oxygen (DO) control, aeration blower controls with redundant Allen Bradley ControlLogix PLCs, and FactoryTalk View HMI. Led team to program PLC and HMI, and install aeration basin instrumentation and equipment (Hach dissolved oxygen and ammonia probes, Hach transmitters, FCI flow meters).

DARYL BANASZEK

SCADA PROGRAMMER

Daryl is a senior instrumentation and controls (I&C) specialist, design manager, and project manager with 22 years of controls and project management experience on a wide range or projects in the Pacific Northwest. He has successfully delivered design projects that have optimized operational functionality, including reliability, safety, and ease of maintenance. Project sizes have ranged from small program updates to large city or factory wide upgrades, with complete replacements of hardware and software in numerous programming languages, SCADA, and PLCs.

EDUCATION/QUALIFICATIONS

B.A., Central Washington University

CERTIFICATIONS/TRAINING

- ✓ Computer Training and Programing: Visual Basic, C++, RSLogix 5000, RS Logix 500, RS Logix 5, Siemens PLCs, GE Cimplicity, RS View, FactoryTalk, and Wonderware
- ✓ Network Training: EtherNet/IP, Data Highway Plus, ControlNet, DeviceNet, Profinet, Profibus, Modbus TCP/IP

YEARS OF EXPERIENCE

22 years

DISTINGUISHING QUALIFICATIONS

- ✓ Twenty-two years of cost-effective design management experience incorporating numerous programing languages, SCADA, and PLCs
- ✓ Siemens and Allen Bradley PLC programming expertise
- ✓ Significant expertise developing new code and databases
- ✓ Scheduling skills using Microsoft Project to develop construction sequencing plans to maximize productivity and minimize operational impacts
- ✓ Project management skills to foster successful team collaboration and efficient problem resolution

RELEVANT PROJECT EXPERIENCE

Biosolids Management Facility PLC Replacement; City of Eugene; Eugene, OR. *SCADA Technician.* Jacobs is performing a project to replace the existing legacy Allen-Bradley PLCs at the Eugene biosolids management facility, which processes the City's wastewater sludge. Jacobs staff performed engineering design, OT system configuration and deployment, SCADA PLC/HMI programming and field testing, training, and assisted with Owner procurement of major materials. Improvements include replacement of aging hardware for 6 existing PLCs with new Allen-Bradley ControlLogix PLCs (approximately 750 hardwired I/O points, development of new Rockwell FactoryTalkView HMI graphics, replacement of existing network and computer equipment, and elimination of existing legacy "blue hose" cabling, including replacement of existing VFDs.

Vancouver Water Treatment Plant Upgrades; City of Vancouver; Vancouver, WA. *Project Manager/ Instrumentation and Controls Lead.* Programmed and commissioned water treatment and distribution system PLCs for the City's 40 MGD system. Developed Funciton Blocks for Siemens PLCs based on company standards for control system functions. Provided startup and operator training.

On-Call I&C and SCADA Services; City of The Dalles; The Dalles, OR. *SCADA Technician.* Part of the Jacobs team providing long-term on-call services to the City including maintenance and troubleshooting of PLC issues, workstation replacement, documentation updates following all upgrades, and various minor system software improvements such as adding I/O points for new and modified equipment.

Water Treatment System Upgrades; City of Cornelius; Cornelius OR. *Instrumentation and Controls Lead.* Upgraded and programmed SCADA system for the City's water distribution system using GE Cimplicity software. Replaced obsolete equipment and integrated new aquifer storage well.

Wastewater Plant Upgrades; Joint Water Commission; Forest Grove, OR. *Instrumentation and Controls Lead.* Responsible for PLC programming and supervision of HMI upgrades to support facility expansion to 85 MGD. Provided programming and technical support of installation of new Rockwell Automation PLCs and HMIs. Upgrades had to be completed on operating system without causing unplanned service interruptions. Developed commissioning plans. Partnership for effective collaboration with the client during programming and implementation phases of project was key to successful project delivery.

UV Treatment Facility Upgrades; City of Sitka; Sitka, AK. *Lead PLC Programmer.* Led programming for UV treatment facility upgrades. Responsible for the development and implementation of PLC code to sequence UV reactors based on demand requirements. Additional programmed systems included fluoride dosing, intrusion protection, and emergency power generator monitoring. Developed commissioning plans. Remote project location required efficient use of time while on site to complete work successfully.

Water System Integration Services; General Electric Company; Hillsboro, OR. *System Integrator.* Provided system integration services for the GE ultrapure water systems in microelectronics facilities. Project required programming of multiple systems with a compressed schedule. Work was done on operating facility that allowed zero downtime.

SCADA System Upgrades; Confidential Client; Chandler, AZ. *Project Manager.* Responsible for staffing, budgeting, client interface, PLC programming, and SCADA development. Provided system integration design for instrumentation and controls for the Fab 22 conversion project. Design included development of the integration code into the existing FMS system by developing PLC software code, SCADA screen graphics, and database and online code implementation for a 300mm submicron microelectronics manufacturing facility involving over 225,000 SF of Classes 1, 10 and 100 cleanroom. Developed project close-out documentation and commissioning plans for the project.

System Integration Services; Confidential Client; Hillsboro, OR. *Instrumentation and Controls Lead.* Responsible for staffing, budgeting, client interface, PLC programming, and SCADA development. The project team provided systems integration services for the renovation of an existing factory. Project required programming of multiple systems within a compressed schedule. Work was successfully completed in an operating facility that allowed zero downtime. Replaced existing legacy communication network with Ethernet technology. Developed project close-out documentation and commissioning plans for the project.

System Integration Design; Confidential Client; Hillsboro, OR. *Project Manager.* Developed a multi-campus system integration design guide. Developed design documents, held client reviews, managed system integration implementation, provided weekly progress reports, conducted over-the-shoulder reviews, provided scheduling and coordination, managed design change notices, and managed budgeting. The project involved 300mm technology cleanroom facilities. Large project required coordination and collaboration with multiple teams. Developed project close-out documentation and commissioning plans for the project.

Facility Management System Support; Confidential Client; Hillsboro, OR. *Consultant.* Provided staff augmentation services for facility management system group at two campuses. Also performed numerous system startups and modifications for this client as a contractor. Hardware and software experience included Allen Bradley ControlLogix, PLC5, Panelview and GE Cimplicity.

Control System Integration and Maintenance; Confidential Client; Lehi, UT. *Lead Programmer.* Provided staff augmentation services for control system integration and maintenance at a large flash memory manufacturer. Was involved in initial startup and commissioning of facility equipment and toxic gas monitoring system. Developed PLC code using RSLogix5000 and developed HMI graphics using RSView SE. Large project scope required coordination and collaboration with multiple teams. Replaced existing legacy communication network with ethernet technology and developed Commissioning plans.

TIM SCOTT

FIELD COMMISSIONING SPECIALIST

Tim brings more than 38 years of expertise in water and wastewater system operation. He has a unique perspective on operations and maintenance, gained from 27 years of progressive experience as the SCADA System Specialist at the Salmon Creek Wastewater Treatment Plant (WWTP) in Vancouver, Washington. His expertise includes electrical and control system maintenance as well as instrumentation and control system programming, installation, testing, maintenance, and troubleshooting. PLC platform expertise includes Allen-Bradley PLC-5, SLC, CompactLogix, and ControlLogix. HMI platforms include Ignition (Inductive Automation) Wonderware Intouch, Rockwell FactoryTalk, Allen-Bradley Panelview, and Allen-Bradley DTAM. Tim is thoroughly familiar with all the technical aspects of wastewater facilities and is an integral part of Jacobs' on-call services as a Software Development/Systems Integration Professional.

EDUCATION/QUALIFICATIONS

38 years of progressive expertise in water/wastewater system operations and maintenance

Drinking Water Treatment System Operator - Level III Operator's License (7 years)

Wastewater Treatment System Operator – Level III Operator's License (15 years)

CERTIFICATIONS/TRAINING

- ✓ InTouch Graphics Advanced Training - Certificate
- ✓ Rockwell RSLogix5000 Advanced Programming - Certificate)
- ✓ Wonderware Industrial SQL Server Historian Training – Certificate

YEARS OF EXPERIENCE

38 years

DISTINGUISHING QUALIFICATIONS

- ✓ Keen ability to troubleshoot and solve complex system issues using strategic alternatives analysis to develop and implement optimal solutions
- ✓ Adept at bringing new technologies into SCADA systems, programming new devices and integrating them into PLC I/O, scaling data, making data available to Historian/HMI software, and programming reporting tools to automatically generate reports
- ✓ Successful delivery of PLC control upgrades to critical pump station infrastructure while maintaining uninterrupted automatic system operation throughout the hardware replacement
- ✓ PLC programming expertise including Rockwell Logix5, Logix500, Logix5000, and Studio5000
- ✓ HMI expertise including Ignition, Wonderware Intouch, Rockwell FactoryTalkView, and Panelview
- ✓ Configuration, troubleshooting, and maintenance of historian and automated reporting software, specifically focused on maintaining data integrity and resilience throughout the inter-connected systems
- ✓ Configuration and maintenance of software and hard-wired alarm dialers, including WIN911
- ✓ VFD experience including Allen-Bradley 1336 / Powerflex 750, Siemens, Cutler-Hammer, and Robicon
- ✓ Configuration, troubleshooting, and maintenance of Yokogawa single-loop automated reporting and information management including Hach WIMS, Operator 10 by Allmax
- ✓ Developed and implemented unique approach to reduce loading on the Salmon Creek WWTP primary treatment process using the gravity belt thickeners to remove additional solids from the belt press filtrate, which was presented at a PNCWA Conference and published in TPO Magazine

RELEVANT PROJECT EXPERIENCE

Vancouver Westside Wastewater SCADA Upgrade; City of Vancouver; Vancouver, WA. *Facility Liaison/Systems Integration Professional.* Currently leading a multi-year project to upgrade all the Vancouver wastewater plant and pump station facility PLCs from Allen-Bradley PLC-5 to ControlLogix (20 processors and 15 RIO). In conjunction with this project, new HMI software was added to provide better view of the processes to the Operations group. In-depth knowledge of the facilities' SCADA system has continued to facilitate successful upgrade efforts.

Salmon Creek WWTP Wastewater Process Analysis, Troubleshooting, and Operational Optimization; Clark Regional Wastewater District; Clark County, WA. *Facility Liaison/Systems Integration Professional.* Troubleshot multiple process issues using trending and historical data analysis to pinpoint root causes. Collaborated with plant staff who ran processes through a

maximum sustainable flow scenario, then assembled the data for the test and issued the data to engineering.

Salmon Creek WWTP Performance Testing and Documentation; Clark Regional Wastewater District; Clark County, WA. *Facility Liaison/Systems Integration Professional.* Assembled plant process data for the air quality testing of a digester gas boiler for permit compliance. Collaborated with testing contractor to communicate data for analysis and reporting.

Vancouver Wastewater Facilities System Integration and Related Projects; City of Vancouver; Vancouver, WA *Facility Liaison/Systems Integration Professional.* Currently working on several SCADA upgrade projects for the City. Leading the system integration work for the lagoon upgrade, replacement of variable frequency drives throughout the wastewater facilities, and Integration of the drives using Ethernet control. Also supporting industrial pump station upgrades and UV system upgrades at Marine Park.

Salmon Creek WWTP Staff Technical Training; Clark Regional Wastewater District; Clark County, WA. *Facility Liaison/Systems Integration Professional.* Trained staff in the use and operation of the WIN911 system, an after-hours alarm management and emergency call-out application.

Salmon Creek WWTP SCADA and PLC Programming Support; Clark Regional Wastewater District; Clark County, WA. *Facility Liaison/Systems Integration Professional.* Led Variable Frequency Drive programming troubleshooting; corrected an issue with a particular drive defaulting to its "out of box" program. Reprogrammed and saved. Oversaw PLC program modifications and troubleshooting to resolve issues.

Salmon Creek WWTP Network Infrastructure Replacement Project; Clark Regional Wastewater District; Clark County, WA. *Facility Liaison/Systems Integration Professional.* Oversaw the scoping for network infrastructure replacement, including operational business needs assessment with staffing studies.

Salmon Creek WWTP Condition Assessment; Clark Regional Wastewater District; Clark County, WA. *Facility Liaison/Systems Integration Professional.* Created the equipment replacement business case assessment, including a comprehensive 650-item report with condition ratings and replacement cost calculations for the I&C components at the facility.

Salmon Creek WWTP Operations and Maintenance (O&M) Manual and Standard Operating Procedures (SOP); Clark Regional Wastewater District; Clark County, WA. *Facility Liaison/Systems Integration Professional.* Assembled and prepared all existing SOP and electronic O&M documents for update during Phase 5A & 5B upgrade projects.

BRIAN PILMER, PE, CPP

DESIGN TEAM | ELECTRICAL

Brian is a professional electrical/instrumentation and controls (I&C) engineer specializing in the design of electrical power distribution systems, standby generation facilities, and I&C systems. He brings more than 18 years of experience in the electrical design of building services and systems for water and wastewater treatment facilities, commercial, industrial, and healthcare facilities. Throughout his career, Brian has gained valuable experience in all stages of project management, engineering design, and cost estimation, from proposal and initial planning to award and final construction. He has led small, medium, and large teams of resources to prepare and coordinate design and construction project delivery documents. As part of his project management experience, he has developed strong communication skills to collaborate with owners and key project staff to accurately assess client needs as well as prepare and manage cost-effective budgets for electrical and instrumentation staff.

EDUCATION/QUALIFICATIONS

B.S., Electrical Engineering, Oregon State University

CERTIFICATIONS/TRAINING

- ✓ Profession Engineer: Oregon (No. 77780); California (No. E20788); Arizona (No. 68745)
- ✓ Control System Training: Emerson Delta V (Maintenance and Troubleshooting and Implementation 1), Allen Bradley Control Logix (Maintenance and Troubleshooting and Intermediate 1), Siemens Step 7, Rosemont RS3 (Maintenance and Troubleshooting and Implementation 1), Allen Bradley Powerflex 755 configuration, Excel Reporter, various Emerson Exchange short courses, and various Automation fair short courses
- ✓ OSHA 30HR Training, Industrial Safety Training, and Lean Manufacturing Training

YEARS OF EXPERIENCE

18 years

DISTINGUISHING QUALIFICATIONS

- ✓ Eighteen years of electrical engineering experience delivering complex projects on schedule and within budget
- ✓ Expertise in controls design, startup, programming, and troubleshooting, with extensive control system training including Allen Bradley, Emerson, and Siemens
- ✓ Expertise in power design using Power Tools for Windows, Easy Power, AGI32, and other software applications
- ✓ Proven project management, scoping, procurement, and budgeting experience
- ✓ Experience delivering successful projects in both collaborative team and leadership roles

RELEVANT PROJECT EXPERIENCE

Salmon Creek WWTP PLC Upgrade Projects; Clark Regional Wastewater District; Clark County, WA. *Electrical Engineer.* Provided electrical design of projects to provide major SCADA system improvements at the plant, including replacement of the existing obsolete PLCs with Allen-Bradley ControlLogix (approximately 1000 hardwired I/O points), replacement of the existing Wonderware Intouch HMI with Inductive Automation Ignition, installation of new single-mode fiber optic cable, construction of a new dedicated server room, and installation of new SCADA network and computer equipment to provide improved resiliency and cybersecurity.

Biosolids Management Facility PLC Replacement; City of Eugene; Eugene, OR. *Electrical Engineer.* Providing electrical design for the project to replace aging programmable logic controllers at the facility with new state-of-the-art hardware. The project includes concept development, design, OT system configuration and deployment, and SCADA PLC/HMI programming and field testing. The project is replacing the existing controllers with standardized Allen-Bradley Logix platform PLCs, providing new SCADA HMI graphics for the entire facility, and providing new servers, network switches, and firewalls.

Goodyear Water Treatment Facility; City of Goodyear; Goodyear, AZ. *Lead Electrical Engineer.* Led electrical design of a design-build greenfield project for a new 8 MGD water treatment plant, with an estimated construction cost of $138 million. The greenfield pump station included an electrical building, vertical turbine pumps, wet well, emergency power generation, raw water screening and conveyance, and surge mitigation design.

Wastewater Treatment Facility Secondary Expansion; City of Bend; Bend, OR. *Lead Electrical Engineer.* Led electrical engineering activities on this $35 million retrofit and expansion of a system capable of processing 11.9 MGD operating as a Bardenpho integrated fixed-film activated sludge (IFAS) process and low-pressure ultraviolet disinfection system. Plant disinfection provides

Class A reuse water. The design included redesign of the plant's medium-voltage distribution system, installation of two new standby generators, and extensive low-voltage distribution design.

Wastewater Treatment Plant Upgrades and Natural Treatment Systems; City of Woodburn; Woodburn, OR. *Lead Electrical Engineer.* Lead electrical engineer on a $10 million improvements project for the city of Woodburn that includes improvements to and expansion of a Trojan 4,000-UV system and 23 acres of treatment wetlands for effluent temperature control. Design included adding generators to the distribution system that would be part of Portland General Electric's Dispatchable Standby Generation (DSG) program. Design also included replacing the treatment plant's medium voltage switchgear and medium voltage distribution system.

Denver Metro Northern Treatment Plant; Denver Metro Wastewater Reclamation District; Brighton, CO. *Electrical Engineer.* The control system was based upon a Rockwell Automation platform using fieldbus technology to communicate to electrical equipment and field instrumentation. The 4000 PLC (ControlLogix) input/output had seven redundant pairs and 20 non-redundant pairs. The project incorporated some unique features, including an audio-visual video wall in the plant control room and the use of Apple iPads for remote monitoring and control over a secure wireless system. Also included motor control centers (MCCs), variable frequency drives (VFDs), power monitors, valve actuators using Ethernet, DeviceNet, and Profibus networks. Supervisory control and data acquisition (SCADA) system (FactoryTalk View) hardware included two SE HMI servers, one thick client, and 10 think clients.

Robindale Wastewater Treatment Plant Design-Build; Brownsville Public Utilities Board; Brownsville, TX. *Electrical Engineer.* Assisted in the electrical design of a design-build project to retrofit an existing wastewater treatment plant in Brownsville.

Water Treatment Plant Design-Build; NAVFAC Southwest; Camp Pendleton, CA. *Electrical Engineer.* Assisted in the electrical design of this design-build project to build a new drinking water treatment plant for Camp Pendleton.

Columbia Boulevard Wastewater Treatment Plant (WWTP); City of Portland; Portland, OR. *Electrical Engineer.* Provided preliminary re-design of treatment plant's medium voltage distribution loop. The WWTP is part of a collection and treatment system that serves over 600,000 residential and commercial customers.

Riverside Park Water Reclamation Facility; City of Spokane; Spokane, WA. *Electrical Engineer.* The 100+ mgd facility involves the upgrade to the existing Rockwell Automation PLC control system, the upgrade and replacement of existing MCCs to "smart" MCCs over ethernet, and the conversion of the existing General Electric iFix HMI to the Rockwell Automation PlantPAx platform. The project involves a very detailed construction sequence to upgrade the facility without undo interference with plant operations.

Brightwater Wastewater Treatment Plant; King County Department of Natural Resources; King County, WA. *Electrical Designer.* This project is a new, green-field, 170-mgd peak flow wastewater treatment facility with a 38-mgd secondary treatment system. The facility's secondary treatment system is one of the largest membrane bioreactor systems in the world. Participated in the electrical design for this project, which included instrumentation and control wiring, power system modeling and analysis, and power distribution system design.

Walker Reservoir Pump Station Upgrades; Cherry Creek Project Water Authority; Franktown, CO. *Lead Electrical Designer.* Led the electrical design effort to retrofit an existing pump station at Walker Reservoir. Design included instrumentation, electrical, lighting, lightning protection, and security upgrades.

Oregon State Hospital; Oregon Department of Human Services; Salem, OR. *Electrical Commissioning Agent.* Provided commissioning for electrical systems including lighting control, grounding, emergency generator system, and power distribution equipment. Project also included emergency generator system connected to Portland General Electric's DSG program.

JEFF CUMMINGS

DESIGN TEAM | I&C DESIGNER

Jeff brings a 15-year depth and breadth of design delivery experience, specializing in control system and network design and SCADA system programming. He has a keen ability to prototype and deliver innovative electronics solutions, with proven success troubleshooting the challenges of complex system integration. His expertise also encompasses project management and quality assurance, with strong communication skills to move projects forward with the momentum of collaborative team productivity.

EDUCATION/QUALIFICATIONS

M.S., Project Management, Pennsylvania State University (in progress)

B.S., Electrical and Computer Engineering, Oregon State University

CERTIFICATIONS/TRAINING

- ✓ Non-Commissioned Officer Leadership School, Distinguished Graduate Award, 31st Fighter Wing, Aviano Air Base, Italy

YEARS OF EXPERIENCE

15 years

DISTINGUISHING QUALIFICATIONS

- ✓ Extensive experience in control system design, including design and design-build projects
- ✓ Expertise in network design, SCADA system programming, and system integration
- ✓ Expertise with water treatment plants, including greenfield water treatment plants and conventional filtration with ozone
- ✓ Proven success commissioning and troubleshooting complex systems
- ✓ Keen ability to prototype and deliver innovative electronics solutions
- ✓ Project management and quality assurance experience with strong technical and collaborative leadership skills

RELEVANT PROJECT EXPERIENCE

Tri-City WRRF Solids Handling Improvements; Clackamas Water Environment Services; Oregon City, OR. *Instrumentation and Controls Designer.* Provided I&C services during construction, including coordinating with contractors. Made multiple site visits to work directly with the project integrator to verify programming, instrumentation, and other integration standards.

Goodyear Water Treatment Facility; City of Goodyear; Goodyear, AZ. *Control System Programmer.* Provided control system programming and commissioning of a design-build greenfield project for a new 8 MGD water treatment plant, with an estimated construction cost of $138 million. The design included filtration, chemical injections, ozone treatment, and water delivery to the greater Phoenix area distribution system. The project entailed control system programming for multiple process areas including a complex filter rotation and backwash sequence. Provided commissioning and compliance reporting services to complete successful delivery of this milestone project.

Grants Pass Water Reclamation Facility Upgrade; City of Grants Pass; Grants Pass, OR. *Instrumentation and Controls Lead.* Served on the team responsible for commissioning of the Grants Pass WRF upgrade project. Supervised the commissioning and testing of multiple plant process areas. During commissioning, the team faced a compressed commissioning schedule for Aeration Basin 2. It was important that the basin be commissioned before the start of the summer regulatory standards. Led the team through multiple weekends and night shifts to meet the tight schedule. Ultimately, the basin was successfully commissioned on time without disruptions to plant operations. The project received awards for Excellence in Safety, Design-Build Construction Group, and the National Award of Merit, Design-Build Institute of America.

Dallas Water Reclamation Facility Upgrade; City of Dallas; Dallas, OR. *Lead Instrumentation and Control System Engineer.* Led the instrumentation and controls system design for the Dallas WRF recycled water upgrade. The design will produce 1.6 mgd of recycled wastewater for industries within the City. Responsibilities involved specifying instrumentation, ensuring network compatibility, integrating new equipment into existing infrastructure, and designing communications with offsite systems.

Stanislaus Water Treatment Plant; Stanislaus Regional Water Authority; Hughson, CA. *Control System Programmer and Commissioning Lead.* The Stanislaus WTP is a greenfield design-build project for a 30 mgd surface water treatment facility located in the city of Hughson, CA to diversify the regional water supply serving the greater Modesto area. The design includes filtration, chemical injections, ozone disinfection, and water delivery to multiple local municipalities. Leading the control system programming, HMI graphics, Historian set up, alarming, facility commissioning, and compliance reporting. Mentored and led a team of inexperienced programmers through the programming of the entire facility. The control system implementation is on time and on budget, and commissioning is scheduled for spring of 2023.

Plant 2 Water Treatment Plant; Camp Pendleton Marine Base; Camp Pendleton, CA. *Control System Programming Lead.* Led the PLC programming effort for the Camp Pendleton Marine Base Plant 2 water treatment plant. The plant was commissioned on schedule and now provides drinking water to the base residents. Completed all of the control system programming for the plant and supervised a local start up team during commissioning.

San Jose Cogeneration Project; City of San Jose; San Jose, CA. *Instrumentation and Controls Programmer.* Participated in the San Jose cogeneration system start up and commissioning, which required a continuous, no fault, 14-day acceptance test on four cogeneration engines. The project required night shift monitoring of the ongoing acceptance testing. The test was completed on the first attempt.

McCarrons WTP Improvements; City of St. Paul; St. Paul, MN. *Instrumentation and Controls Programmer.* The McCarrons WTP is an existing facility that produces 40 to 45 MGD of drinking water for the St Paul, MN metro area. The current design build project involves process improvements including ozone treatment, lime additions, and chemical systems. Additionally, a full control system replacement will be done. This will include new programmable logic controllers, new HMI touchscreens throughout the facility, and a new SCADA system. All system replacements will be completed with minimal facility outages.

JOSH BLUME

DESIGN TEAM | NETWORKING/COMPUTER SPECIALIST

Josh is an Information Technology/Operational Technology (OT) Infrastructure & Security leader with Jacobs, bringing more than 16 years of experience in operational network technologies, server infrastructure, and critical systems engineering. He has a deep background in designing and operating high quality, secure business and production systems. He has proven success working with clients, project managers, and process design-build teams to design secure, resilient networks for critical water and wastewater infrastructure. Josh has performed Cyber Security Risk Assessments to identify security risks and mitigations aligned to National Institute of Standards and Technology (NIST) and has led consulting teams working with governmental entities to achieve Federal Information Security Management (FISMA) compliance for critical infrastructure. He has developed SCADA Master plans focusing on NIST security control implementation and has proven success delivering complex secure remote access systems and Industrial Control Systems (ICS) "demilitarized zone" (DMZ) networks. Josh brings significant expertise integrating security monitoring and logging systems to provide insight and visibility for ICS networks and is an integral part of the Jacobs design team for delivering secure system integration.

EDUCATION/QUALIFICATIONS

A.A., Information Technology, University of Phoenix

CERTIFICATIONS/TRAINING

- ✓ Global Industrial Cyber Security Professional (GICSP)
- ✓ Cisco Certified Network Professional (CCNP)
- ✓ Cisco Certified Network Associate (CCNA)
- ✓ Cisco Certified Design Associate (CCDA)
- ✓ Cisco Certified Industrial Network Specialist
- ✓ Certified Wireless Network Administrator (CWNA)
- ✓ Certified Fiber Optics Technician (CFOT)

YEARS OF EXPERIENCE

16 years

DISTINGUISHING QUALIFICATIONS

- ✓ OT/IT infrastructure and systems design expert
- ✓ In-depth experience identifying security risks and mitigations aligned to NIST
- ✓ Efficient delivery of secure, resilient networks for critical water and wastewater infrastructure
- ✓ Expertise in OT/ICS cybersecurity, wireless systems, and highly available server infrastructure
- ✓ Significant expertise integrating security monitoring and logging systems to provide insight and visibility for ICS networks

RELEVANT PROJECT EXPERIENCE

Vancouver Westside WWTP SCADA Upgrade; City of Vancouver; Vancouver, WA. *ICS/Networking/Cybersecurity Specialist.* Led team in all aspects of ICS systems development, from design to implementation of network and server systems as well as cybersecurity solutions. Implemented highly redundant, highly available ICS architecture, secure DMZ, and ICS Network Behavior Anomaly Detection (NBAD) systems.

Salmon Creek Treatment Plant OT/ICS Systems Segmentation; Clark Regional Wastewater District; Vancouver, WA. *ICS Systems/Network/Cyber Lead.* Led design and implementation of complete ICS network, including field network infrastructure, highly available hyperconverged server infrastructure, and DMZ. Implemented secure remote access solutions along with ICS NBAD systems. Implemented infrastructure and security controls to align with NIST 800-82.

Goodyear Water Treatment Facility Upgrades; City of Goodyear; Goodyear, AZ. *ICS/Networking/Cybersecurity Specialist.* Led team in all aspects of ICS systems development, from design to implementation of network and server systems as well as cybersecurity solutions. Implemented highly redundant, highly available ICS architecture, secure DMZ, and ICS NBAD systems.

Lahaina Wastewater Reclamation Facility Stage 1A Improvements; County of Maui; Lahaina, HI. *ICS/Networking/Cybersecurity Specialist.* Project includes new secondary treatment facilities and modifications to existing secondary treatment facilities. Leading team in ICS systems development, from design to implementation of network and server systems as well as cybersecurity solutions to enhance operational reliability.

SCADA Master Plan; The Villages; The Villages, FL. *ICS Systems/Network/Cyber Lead.* Led ICS systems planning, provided high level design and recommendations to mitigate cybersecurity assessment findings for over 200 water/wastewater facility installation locations. Worked with the client to align critical system improvements with budgetary planning. Provided guidance on ICS system resiliency recommendations.

Scottsdale Water Department Cybersecurity Policies and Procedures; City of Scottsdale; Scottsdale, AZ. *ICS Security Lead.* Worked with client to define ICS-specific cybersecurity policies and procedures for critical systems with the City. Aligned policies and procedures to NIST 800-82 and NIST 800-53 security controls.

OT/ICS Systems Segmentation; City of Santa Monica; Santa Monica, CA. *ICS Systems/Network/Cyber Lead.* Led design and integration of ICS network on dedicated physical infrastructure. Design encompassed multiple technologies including wireless, fiber, and cellular backhaul. Implemented internal ICS network segmentation.

Control Center Design and Integration; DEPCOM Power; Scottsdale, AZ. *ICS Systems/Network/Cyber Lead.* Led design and integration of control center network, connecting 30+ solar power generation plants providing a centralized platform for operations and maintenance. Leveraged a hybrid of on-premise and cloud technologies to provide a highly available secure system.

Manufacturing Network Greenfield; Confidential Electric Vehicle Manufacturing Company; Casa Grande, AZ. *Senior ICS Systems/Network/ Cyber Engineer.* Lead the design and implementation of new greenfield network and cyber security infrastructure for a prominent electric vehicle manufacturing company, connecting over 150 time sensitive manufacturing robots, within four different facilities, including Body in White, Paint Shop, Powertrain, and General Assembly. Implemented secure DMZ allowing MES (Manufacturing Execution Systems) Data to securely traverse ICS network boundaries.

ICS Cybersecurity Program; Confidential Food Manufacturing Company; Milwaukee, WI. *Global ICS Technical Lead.* Led global team and resources to implement and maintain ICS systems within 40+ global food manufacturing sites. Liaised with client CISO and IT Security leadership to develop ICS Cybersecurity program. Implemented ICS cybersecurity solutions that aligned with the company's program and vision. Developed and implemented strategy-based ICS technical solutions.

ICS Network Design and Implementation; NXP Semiconductor; Chandler, AZ. *ICS Network Lead.* Led design and integration of highly available Ultra Purified Water (UPW) ICS network. Network included highly available, fully redundant infrastructure and control systems.

DON WATSON, PE

QUALITY ASSURANCE

Don is a Senior Technologist and Control Systems Engineer with Jacobs' Corvallis, Oregon office, bringing 34 years of expertise in process control. He has experience in the design, construction, and startup of process instrumentation and control (I&C) systems, including conventional controls, PLCs (Allen Bradley, Siemens, Modicon), and computer-based control systems (Wonderware InTouch, Wonderware Appserver, Wonderware Historian, and FactoryTalk View). Don will apply his deep bench of experience to quality control review of deliverables for this project.

EDUCATION/QUALIFICATIONS

B.S., Electrical and Electronic Engineering Technology, Montana State University

CERTIFICATIONS/TRAINING

- ✓ Professional Engineer: Oregon (No. 6563); North Carolina (No. 033034)

YEARS OF EXPERIENCE

34 years

DISTINGUISHING QUALIFICATIONS

- ✓ Wide base of control experience including water and wastewater treatment, hydropower, wood products, and paper mills
- ✓ Specialized programming training in Wonderware IAS, Siemens S7 PLC, Modicon Quantum PLC, Rockwell Software Advanced Programming, and Bonneville Power -Application of Variable Frequency Drives (VFDs)
- ✓ Specialized PLC experience including Allen Bradley, Siemens, and Modicon
- ✓ Expertise in computer-based control systems including Wonderware InTouch, Wondware Appserver, Wonderware Historian, and FactoryTalk View

RELEVANT PROJECT EXPERIENCE

Kellogg Creek WWRF SCADA Upgrade; Clackamas Water Environment Services; Milwaukie, OR. *Project Manager and Lead I&C Engineer.* Managed replacing TI PLC's with Siemens S7 PLC controls, upgrading the Wonderware SCADA application, and designing plant control system network improvements.

Water Treatment Facility Upgrades; City of Goodyear; Goodyear, AZ: *Instrumentation and Control Engineer.* Provided control system and instrumentation design for 8 MGD water treatment facility. The project included PLC programming as well as pump station, chemical dosing, and filtration controls with Allen Bradley ControlLogix PLCs and FactoryTalk View HMI.

Scott WTP Water System Improvements and Expansion; McMinnville Water & Light; McMinnville, OR: *Lead Instrumentation and Control Engineer.* Led the redesign of the entire plant control system including Allen Bradley PLCs, Wonderware Archestra SCADA system, instrumentation, and interface with the client WAN. Led the control system design for the automation improvements at the Intertie and Main Vaults associated with the raw water pipeline, and their operation in conjunction with the flow measurement and control at the WTP.

Water Treatment Facility Control Support; City of Sweet Home; Sweet Home, OR: *Instrumentation and Control Engineer.* Control system and instrumentation support on WesTech Trident water filtration plant, assisting operating staff with troubleshooting, control programming improvements and coordinated testing with WesTech control engineers.

Wastewater Treatment Plant Upgrade; City of Wilsonville; Wilsonville, OR: *Control System Integration Manager.* Involved in Wonderware Archestra/Allen Bradley PLC control system design and integration effort including management of control system purchasing, delivery, software developing testing and startup for a 6 MGD treatment plant.

Dallas Water Pollution Control SCADA System Upgrade Phase I; City of Dallas; Dallas, OR: *Project Manager and Senior Control System Design and Quality Review.* Senior overview and management of the design and software implementation for the Phase 1 upgrade.

Dallas Water Pollution Control Project; City of Dallas; Dallas, OR: *Instrumentation and Control Engineer, SCADA System Support.* Providing on-going site support for the instrumentation, control and SCADA system including the Trojan UV system controls upgrade. Providing general troubleshooting and package system support.

Hydropower Control System Upgrade; Portland General Electric; Portland, OR: *Senior Control System Design and Quality Review.* Assisted with developing bid specifications for upgrading the East Side Hydropower Control System. Provided quality control reviews of deliverables.

Water Distribution and Wastewater Collection Control System Upgrade; City of Corvallis; Corvallis, OR: *Lead Instrumentation and Control Engineer.* Led project to replace 19 pump station RTU controls with Siemens S7 PLC controls. Responsible for configuring and startup of Ethernet radio system, PLC and local HMI programming for each remote pump station.

Facility I&C Upgrades; EWEB; Eugene, OR: *Lead Instrumentation and Control Engineer.* Leading design of trap and haul facility instrumentation and control, video security system, and offsite communication systems.

Carmen-Smith Improvements Project; EWEB; Eugene, OR: *Lead Instrumentation and Control Engineer.* Led control system design as part of the Carmen hydropower plant upgrade and refurbishments, including Allen Bradley PLCs and Rockwell Factorytalk ViewSE system.

Hayden Bridge Filtration Plant Upgrades; EWEB; Eugene, OR: *Lead Instrumentation and Control Engineer.* Led instrumentation and control system design for onsite sodium hypochlorite generation system at the Hayden Bridge Filtration Plant.

West Boise Facility WWTP Expansions; City of Boise; Boise, ID: *Software Design Manager.* Led three programmers in developing, testing and startup of the Allen Bradley PLC and Wonderware Archestra SCADA system controls for various plant process expansions.

Wastewater Treatment Plant Expansions; City of Meridian; Meridian, ID: *Software Design Manager.* Led two programmers in developing, testing and startup of the Allen Bradley PLC and Wonderware Archestra SCADA system controls for various plant process expansions including aeration basin controls and blower controls optimization.

WWTP Expansion and Upgrade; City of Coos Bay; Coos Bay, OR: *Lead Instrumentation and Control Engineer and Software Design Manager.* Leading design and programming of the entire plant control system including Allen Bradley PLCs, Rockwell FactoryTalk SCADA system, instrumentation, and interface with the client WAN.

Opal Springs Hydropower Project; Deschutes Valley Irrigation District; Madras, OR: *Lead Instrumentation and Control Engineer.* Led design of fish passage control system including Allen Bradley PLC's and Rockwell Factorytalk ViewME system.

Beaver Creek Water Supply Project; Seal Rock Water District; Seal Rock, OR *Lead Instrumentation and Control Engineer.* Led I&C design of WesTech membrane water treatment plant. Leading control system programming including integration of WesTech package controls into the plantwide system.

Nampa Wastewater Treatment Plant Expansions; City of Nampa; Nampa, ID: *Software Design Manager.* Led three programmers in developing, testing and startup of the Allen Bradley PLC and Wonderware Archestra SCADA system controls for various plant process expansions.

Water Reclamation Facility; City of Henderson; Henderson, NV: *Software Design Manager.* Led two programmers in developing, testing and startup of the Modicon PLC and Wonderware Archestra SCADA system controls for a 15-MGD membrane bioreactor plant.

Duck River Reservoir Dam and Raw Water Intake; City of Cullman; Cullman, AL: *Lead Instrumentation and Control Engineer.* Led design of intake control system, dam instrumentation, video security system, and offsite communication systems.

Water Reclamation Facility; City of North Las Vegas; North Las Vegas, NV: *Software Design Manager.* Led four programmers in developing, testing and startup of the Allen Bradley PLC and Wonderware Archestra SCADA system controls for a 30-MGD membrane bioreactor plant.

LIONEL WOOD, PE

QUALITY ASSURANCE

Lionel is a senior control system project manager, senior control system lead engineer, and senior control system quality control (QC) engineer. Lionel has extensive experience in all phases of control systems project implementation, including project management, design, software, and commissioning. He brings expertise in Allen-Bradley ControLogix PLCs as well as Rockwell Automation FactoryTalk View SE, Intellution iFix, and Wonderware InTouch HMI. As a senior QC engineer, Lionel will apply his expertise to quality control review of deliverables for this project.

EDUCATION/QUALIFICATIONS

B.S., Chemical Engineering, Oregon State University

CERTIFICATIONS/TRAINING

- ✓ Profession Engineer: Oregon (No. 16112)

YEARS OF EXPERIENCE

37 years

DISTINGUISHING QUALIFICATIONS

- ✓ More than 37 years of experience in process control systems, specializing in project management, design, software development, and commissioning
- ✓ Extensive experience with PLC and HMI configuration, testing, and startup
- ✓ Extensive experience in designing control systems for municipal wastewater treatment plants, and specializes in instrument selection for wastewater treatment applications
- ✓ Experienced with Allen-Bradley ControLogix PLCs, and Rockwell Automation FactoryTalk View SE, Intellution iFix, and Wonderware InTouch HMI

RELEVANT PROJECT EXPERIENCE

Lahaina Wastewater Reclamation Facility Stage 1A Improvements; County of Maui; Lahaina, HI. *Lead Control System Discipline Engineer.* Project included preparing design plans, specifications, and cost estimate for new secondary treatment facilities for operational reliability, and modifications to existing secondary treatment facilities. Project responsibilities include leading design, construction support, PLC configuration, HMI configuration, testing ,and startup.

Davis Woodland Water Supply Project; Woodland-Davis Clean Water Agency; Woodland, CA. *Lead Control System Engineer.* Responsible for implementing control system for design-build-operate (DBO) water treatment plant project. Project included numerous state-of-the-art water treatment chemicals. Project incorporated redundant Allen-Bradley ControLogix PLCs and FactoryTalk View SE HMI. Design completed in October of 2014 with commissioning completed in 2016.

Salmon Creek WWTP Solids Processing; Clark County; Vancouver, WA. *Lead Engineer.* Led solids processing design and solids startup of the plant. Responsible for the software and startup for the Wonderware InTouch/Allen-Bradley PLC control system.

Tri-City WRRF Liquids Expansion Project; Clackamas County Water Environment Services (WES); Oregon City, OR. *Senior I&C/QC Engineer.* Responsible for control system QC for an expansion of the liquids treatment capacity of the Tri-City WRRF. This project design was deferred and an MBR process was built instead. The project design provided fully automated step-feed operation for existing and new aeration basins.

Water Reclamation Facility Phase 1A and Phase 1B Improvements (CM/GC); Oak Lodge Sanitary District; Oak Grove, OR. *Control System Project Manager.* Responsible for control system for CM/GC treatment plant project commissioned in 2012. Project responsibilities included SCADA project management, PLC configuration, HMI configuration, and commissioning. Project incorporated Allen-Bradley ControLogix PLCs and Wonderware InTouch HMI.

Brightwater Treatment Plant; King County/Department of Natural Resources; Seattle, WA. *Design Manager.* Responsible for managing Corvallis office of Jacobs design team in all aspects of engineering for aeration, MBR, odor control, and gallery facilities. Responsible for project-wide I&C quality control reviews throughout the design submittals.

Spokane County Regional Water Reclamation Facility (DBO); City of Spokane; Spokane, WA. *Senior Quality Control System Engineer.* Responsible for systems quality control for DBO wastewater treatment plant. Plant was placed into operation in 2011. Project included Rockwell Automation FactoryTalk View SE and Allen-Bradley ControLogix PLC systems.

Aquatic Management Plan (AMP) Project and Carmen Powerhouse Project; Eugene Water and Electric Board; Eugene, OR. *Lead Control System Engineer.* Responsible for design of AMP and project to add fish ladder and fish screen, and Carmen Powerhouse project to refurbish the 50 MW hydro turbine generators and balance of plant equipment. Project included Allen-Bradley ControLogix PLC's and owner-furnished Rockwell Automation RSView.

Rock Creek Advanced Wastewater Treatment Facility; Clean Water Services; Hillsboro, OR. *Lead Control System Engineer.* Led numerous control system upgrades and expansions for the plant. Project manager for project that replaced an existing control system. Responsibilities included procurement, installation, software development and startup of the new Intellution iFix system at two treatment plants, which have planned maximum capacities of 80 mgd each. Managed software development projects for expansion projects at the Rock Creek plant including programming of two existing and two new Siemens 555 PLC processors. Also at the Rock Creek plant, project manager responsible for turnkey design and installation of a fiber optic Ethernet local area network at the facility. The network links all of the buildings at the facility into one network. Previously was lead I&C engineer responsible for system design, software development, operator training, and startup of the Phase I (Aeration and Digestion), Phase II (Gravity Belt Thickening), and Phase III (Tertiary Clarification and Filtration) projects.

Pima County Regional WRF; Pima County Regional Wastewater Reclamation District; Tucson, AZ. *Lead Control System Engineer.* Project included DBO wastewater reclamation facility. Control system architecture includes Allen-Bradley PLCs and Wonderware System Platform SCADA software. Jacobs configured all of the PLC and SCADA software. The control system provides fully automated operation of the facility. SCADA terminals are located throughout the facility to allow operation of all processes from any plant location. The control system monitors and records critical operations contract operating requirements for compliance reports.

Fording River Operations Pilot Plant Project; Teck Coal; Elkford, British Columbia. *Lead Control System Engineer.* Responsible for the design of an industrial water treatment pilot plant project. Design was completed in the spring of 2013 and plant was commissioned in 2013. Project included redundant Allen-Bradley ControLogix PLC's, FactoryTalk View SE HMI.

Twin Oaks Valley Water Treatment Plant (DBO); San Diego County Water Authority; San Marcos, CA. *Lead Control System Engineer.* Responsible for control systems for DBO drinking water plant. Plant was placed into operation in 2008 as one of the largest membrane drinking water projects in the world, at 100 MGD capacity. Project responsibilities included leading design, construction support, testing, and startup. Project incorporated Wonderware Industrial Application Server HMI and Allen-Bradley ControLogix PLC systems.

Southeast WPCP Biosolids Digester Facilities Project; San Francisco Public Utilities Commission (SFPUC); San Francisco, CA. *Lead Control System Engineer.* Led the large multi-firm consulting control system engineering team. Project included design of Emerson Ovation Distributed Control System (DCS) control system to interface with the existing Southeast WPCP DCS, and in conjunction with an SFPUC DCS Upgrade Project that replaced the existing DCS with an Emerson Ovation DCS, PROFIBUS instrumentation, and Intelligent MCCs.

Oceanside Water Pollution Control Plant; SFPUC; San Francisco, CA. *Lead Software Engineer.* Led solids processing design of the plant. Responsible for the software for a Foxboro I/A distributed control system with more than 5,000 I/O points.

Hefner Water Treatment Plant Expansion; Oklahoma City Water Utility Trust; Oklahoma City, OK. *Lead Control System Engineer.* Led control system design and services during construction for water treatment plant expansion and retrofit project. Project included new Allen-Bradley ControLogix PLCs and expansion of the existing Wonderware InTouch HMI.

EDUCATION/QUALIFICATIONS

M.S., Computer Engineering, Portland State University (In progress)
B.S., Electrical Engineering, Oregon State University

CERTIFICATIONS/TRAINING

- ✓ Certified Protection Professional, American Society of Industrial Security (No. 634760)
- ✓ Profession Engineer: Oregon (No. 18517); California (No. 22337); Colorado (No. 32722); Arizona (No. 32064)
- ✓ American Water Works (AWWA) Utility Risk and Resilience Certification Program
- ✓ American National Standards Institute (ANSI)/AWWA J100-10 Risk Analysis and Management for Critical Asset Protection (RAMCAP®).
- ✓ Safeguards Information Qualified – United States Nuclear Regulatory Commission (NRC)

YEARS OF EXPERIENCE

30 years

FORREST GIST, PE, CPP

SYSTEM SECURITY

Forrest brings over 30 years of security expertise gained through design and construction management of over 250 security projects on a wide variety of critical infrastructure sectors including aviation, marine, high tech, data center, water/wastewater, electrical and nuclear power, banking/finance, food, correctional, education, healthcare, and military. Forrest is Jacob's subject matter expert in risk assessments and security planning. He is specialized in security risk assessment services, identifying security threats, vulnerability assessments, and developing mitigation plans and upgrade recommendations. Forrest is a Certified Protection Professional (CPP) through the American Society of Industrial Security, with a deep subject knowledge in video surveillance technology, particularly in planning large enterprise video management systems and in the areas of video analytics, video storage, and bandwidth.

DISTINGUISHING QUALIFICATIONS

- ✓ Expertise working with water and wastewater utilities to assess and mitigate security risks and to manage security implementation plans
- ✓ High level of expertise in security, surveillance, access control, closed-circuit television (CCTV), video motion detection, intrusion detection, SCADA, and cyber security systems
- ✓ Broad experience in security technology with expertise in video surveillance technology, security risk assessment, identifying security threats, and developing mitigation plans and upgrade recommendations
- ✓ ANSI/ASME-ITI/AWWA J100-10 Risk Analysis and Management for Critical Asset Protection (RAMCAP®) Certified and trained in Operational Risk Management (ORM)
- ✓ Authored elements of the Design Guide for Electronic Security for the U.S. Department of Defense (UFC 4-021-02NF)

RELEVANT PROJECT EXPERIENCE

Marine Park / Westside WWTP SCADA Upgrade Projects; City of Vancouver; Vancouver, WA. *Lead Security Engineer.* Provide security design and implementation services for design-build delivery of a large control system upgrade at two wastewater treatment plants and six associated remote stations.

Salmon Creek WWTP PLC Upgrade Projects; Clark Regional Wastewater District; Clark County, WA. *Lead Security Engineer.* Provided security engineering services for the design and implementation of security improvements at the wastewater treatment facility.

Goodyear Water Treatment Facility Upgrades; City of Goodyear; Goodyear, AZ. *Lead Security Engineer.* Provided security engineering services for the design and implementation of security improvements for the Jacobs-designed new water treatment facility, which will also be operated by Jacobs.

Davis Woodland Water Supply Project; Woodland-Davis Clean Water Agency; Woodland, CA. *System Security Senior Advisor.* Provided security advisory services for the design and implementation of security improvements at the new 30-mgd water treatment plant.

Critical Infrastructure Protection Plan, City of Portland, Portland, OR. *Project Manager*. Led the identification of critical public and private infrastructure, their crucial interdependencies, and methods for protecting critical infrastructure using best practices, and industry and national standards. Included the development of a ranking scheme for prioritizing more than 300 critical infrastructure assets within the five-county region serving 1.5 million residents.

Security Improvements Design; Joint Water Commission; Hillsboro, OR. *Project Manager/Lead Security Engineer.* Provided project management and security engineering services for the design and implementation of security improvements at a water treatment facility and associated storage facilities. Design elements included the addition of hardened physical barriers, Doppler microwave intrusion detection sensors, balanced magnetic contact sensors, and CCTV video camera units.

Vulnerability Assessment; Joint Water Commission; Beaverton, OR. *Lead Physical Security Engineer.* Performed physical and cyber security vulnerability assessment following the Sandia Laboratories RAM-WSM methodology. Established threat identification and system vulnerabilities. Identified and prioritized cost-effective security improvement measures and system upgrades. Sandia Laboratory risk assessment methodology for water systems (RAM-W) process was used.

Vulnerability Assessment; Eugene Water and Electric Board (EWEB); Eugene, OR. *Cyber Security Engineer.* Compiled, analyzed, tracked and protected vulnerability assessment information and data. Evaluated existing levels of security protection (or proposed security systems in a new design) and, in some cases, recommended and designed specific security systems (alarms, detection, cameras, etc.). Used Sandia Laboratory risk assessment methodology for water systems (RAM-W) process.

Tigard Water System Vulnerability Assessment; City of Tigard; Tigard, OR. *Lead Physical Security and Cyber Engineer.* Performed utility-wide physical and cyber security vulnerability assessment using Sandia Laboratory risk assessment methodology for water systems (RAM-W). Responsible for conducting the assessment, performing site visits, determining vulnerabilities, evaluating risk and determining risk mitigation recommendations.

Gresham Water System Vulnerability Assessment; City of Gresham; Gresham, OR. *Lead Physical Security and Cyber Engineer.* Performed physical and cyber security vulnerability assessment using Sandia Laboratory risk assessment methodology for water systems (RAM-W). Responsible for conducting the assessment, performing site visits, determining vulnerabilities, evaluating risk and determining risk mitigation recommendations.

Security Improvement Planning and Design (Multiple Projects and Task Orders); San Francisco Public Utility Commission (SFPUC); San Francisco, CA. *Project Manager and Security Lead.* Responsible for all project communication, planning, organization, quality, schedule and budget performance and client satisfaction. Security lead for over 20 separate task orders and projects. Work included a comprehensive evaluation of existing security policies and procedures and recommendations for improvement. Work also included development of an agency-wide security design criteria, an update of the technical specification sections for security hardware and software, development of a specification for ensuring security during construction, the upgrade and design for electronic security turnstiles at the corporate facility lobby, and several security upgrades at various facilities. Developed master security specifications, security design guidance documents, and standard security details.

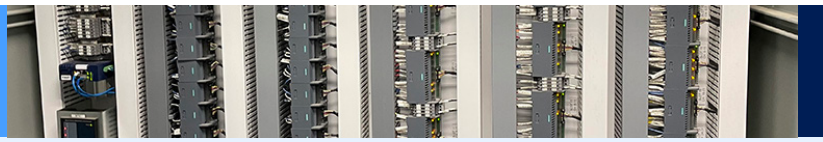
Enhanced Security Monitoring, Dallas Water Utilities Contamination Warning System, Dallas, TX. *Task Lead.* Led the enhanced security monitoring task element planning, design, implementation, startup, and operations of the $9.5 million Dallas Water Utilities Contamination Warning System Pilot Project. This was one of four EPA Water Security Initiative Grant projects.

Risk and Resilience Assessment; City of Escondido Water; Escondido, CA. *Primary Physical Security Lead.* Responsible for determining security vulnerabilities, risk evaluation, risk mitigation recommendations. Jacobs conducted a America's Water Infrastructure Act – Risk and Resilience Assessment. This was a comprehensive all-hazards risk and resilience assessment for water utility serving over 100,000 people. It included the review of malevolent hazards, natural hazards, dependency threats, and proximity threats. Developed cost: benefit analyses for security mitigation recommendations.

Utility Security Vulnerability Assessment and Security Upgrade; City of North Miami Beach; North Miami Beach, FL: *Security Task Lead and Primary Security Technologist.* The project included a comprehensive risk and security vulnerability assessment. A subsequent security planning and design phase of work then commenced, with construction specifications and detail design drawings produced. Follow-on work included developing an all-hazards risk and resilience assessment in compliance with the America's Water Infrastructure Act. Upgrades included security video improvements, new video cameras, new digital video recording system, video servers, remote operated electric gate control, door access control system, card readers, intercom system, and integration of security system across a multi-facility campus and remote locations.

Integrated Water and Wastewater Security Master Plan and Implementation; City of Glendale; Glendale, AZ. *Task Lead.* Planning, design and implementation of a comprehensive security master plan and subsequent comprehensive security system for a multi-purpose, multi-building water and wastewater utility. Required conceptual planning and design for utility-wide Security Command Center serving all parts of the utility. The Security Command Center serves as the emergency communications hub for all utility security staff, guard staff, and is the central control for all security systems, including intruder detection, access control, and CCTV video surveillance system.

5.7 References



The following three references are from our clients for similar project work done in the past 3-years for local organizations. Medford Water, is a client that we have engaged in the past 36-months, and both the City of The Dalles and Clark Regional Wastewater District are considered long-term clients:

Medford Water (Oregon)	City of The Dalles (Oregon)	Clark Regional Wastewater District / Discovery Clean Water Alliance (Washington)
Andy Huffman, Capital and Special Projects Coordinator 200 S Ivy St., Rm 177 Medford, OR 97501 andy.huffman@cityofmedford.org (541) 774 - 2455	Dave Anderson, Public Works Director 1215 West First Street The Dalles, OR 97058 danderson@ci.the-dalles.or.us (541) 506 - 2008	John Peterson, General Manager 8000 NE 52nd Ct. Vancouver, WA 98665 JPeterson@crwwd.com (360) 993 - 8819
Length of Service: Since 2021 (in SCADA specific services) *Scope of Work: SCADA Master Planning and Implementation*	*Length of Service: Since 1998* *Scope of Work: On-call SCADA integration services*	*Length of Service: Since 1998* *Scope of Work: Salmon Creek WWTP Phase 5 Program; Salmon Creek WWTP Phase 3 & 4. Alliance Capital Project Support (various projects)*

Additionally, we provide the following reference regarding our proposed project manager, Stephanie McGregor, to highlight her skills, knowledge, and collaboration with clients to deliver SCADA projects:

County of Maui (Hawaii)	
Juan Rivera, PE, CE-VI Capital Improvements Program Manager Wastewater Reclamation Division 2200 Main Street, Suite 610 Wailuku, Maui, HI 96793 Ofc: (808) 270 – 7268 Cell: (808) 757 - 4281	Deborah Aweau CIP Coordinator Wastewater Reclamation Division 2200 Main Street, Suite 610 Wailuku, Maui, HI 96793 Ofc.: (808) 876 – 4524 Cell: (808) 757 - 4285
Reference Scope: Overall project management and delivery of services.	*Reference Scope: Directly reviewed PLC and HMI scope delivery provided by Stephanie.*

5.8 Fees

Depending on the given task or project assignment, and per the information we provided in the Fee Schedule –provided under separate cover in Volume 2, our team can negotiate a Times & Material or Lump Sum fee for our services.

PROPOSAL CERTIFICATION
RFP #2022-84

Submitted by: Jacobs Engineering Group Inc. (Jacobs); Incorporated in Delaware
(Must be entity's full legal name, and State of Formation)

Each Proposer must read, complete and submit a copy of this Proposal Certification with their Proposal. Failure to do so may result in rejection of the Proposal. By signature on this Proposal Certification, the undersigned certifies that they are authorized to act on behalf of the Proposer and that under penalty of perjury, the undersigned will comply with the following:

SECTION I. OREGON TAX LAWS: As required in ORS 279B.110(2)(e), the undersigned hereby certifies that, to the best of the undersigned's knowledge, the Proposer is not in violation of any Oregon Tax Laws. For purposes of this certification, "Oregon Tax Laws" means the tax laws of the state or a political subdivision of the state, including ORS 305.620 and ORS chapters 316, 317 and 318. If a contract is executed, this information will be reported to the Internal Revenue Service. Information not matching IRS records could subject Proposer to 24% backup withholding.

SECTION II. NON-DISCRIMINATION: That the Proposer has not and will not discriminate in its employment practices with regard to race, creed, age, religious affiliation, sex, disability, sexual orientation, gender identity, national origin, or any other protected class. Nor has Proposer or will Proposer discriminate against a subcontractor in the awarding of a subcontract because the subcontractor is a disadvantaged business enterprise, a minority-owned business, a woman-owned business, a business that a service-disabled veteran owns or an emerging small business that is certified under ORS 200.055.

SECTION III. CONFLICT OF INTEREST: The undersigned hereby certifies that no elected official, officer, agent or employee of Clackamas County is personally interested, directly or indirectly, in any resulting contract from this RFP, or the compensation to be paid under such contract, and that no representation, statements (oral or in writing), of the County, its elected officials, officers, agents, or employees had induced Proposer to submit this Proposal. In addition, the undersigned hereby certifies that this proposal is made without connection with any person, firm, or corporation submitting a proposal for the same material, and is in all respects fair and without collusion or fraud.

SECTION IV. COMPLIANCE WITH SOLICITATION: The undersigned further agrees and certifies that they:

1. Have read, understand and agree to be bound by and comply with all requirements, instructions, specifications, terms and conditions of the RFP (including any attachments); and
2. Are an authorized representative of the Proposer, that the information provided is true and accurate, and that providing incorrect or incomplete information may be cause for rejection of the Proposal or contract termination; and
3. Will furnish the designated item(s) and/or service(s) in accordance with the RFP and Proposal; and
4. Will use recyclable products to the maximum extend economically feasible in the performance of the contract work set forth in this RFP.

Name: R. Brady Fuller Date: September 30, 2022

Signature: R Brady Fuller Title: Client Account Manager

Email: brady.fuller@jacobs.com Telephone: 541.318.4716 Oregon

Business Registry Number: 064469-83 OR CCB # (if applicable): _____

Business Designation (check one):

☒ Corporation ☐ Partnership ☐ Sole Proprietorship ☐ Non-Profit ☐ Limited Liability Company

☒ Resident Quoter, as defined in ORS 279A.120

☐ Non-Resident Quote. Resident State: _____

Jacobs

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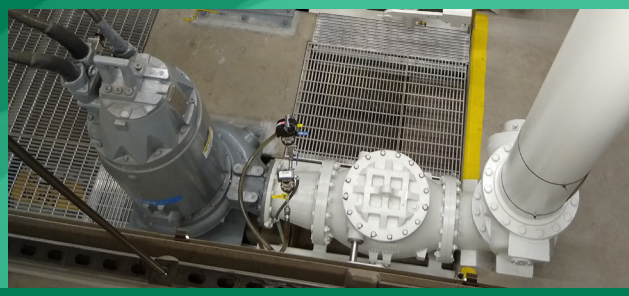
Reinventing tomorrow.

CONTACT

Stephanie McGregor, PE
Project Manager
2020 SW Fourth Avenue
3rd Floor
Portland, OR 97201
M: +1.541.231.1779

VOLUME 2 | SECTION 5.8 FEES

Proposal for CLACKAMAS WES



RFP #2022-84

Districts Supervisory Control and Data Acquisition (SCADA) System Integrator of Record

October 18, 2022

Jacobs

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5.8 Fees

PERSONNEL

Labor will be invoiced by staff classification at the following hourly rates for 2023. Prior to the beginning of each contract year, Jacobs will meet with the District to review potential escalation in hourly rates, if warranted. Typically, hourly rates are adjusted anywhere from 3% to 5% annually.

Staff Category Billing Rate Hourly (hourly)	2023
Senior Advisor	$303
Senior Project Manager	$277
Project Manager/Sr. Engineer	$263
Mid-Level Engineer/Sr. Technical Staff	$251
Senior Project Engineer	$228
Project Engineer	$218
Technical Staff	$208
Senior Technician	$195
Engineer/Editor	$182
Staff Engineer 2	$168
Technician 2	$156
Staff Engineer 1/Scientist	$142
Technician 1	$128
Project Assistant/Project Accountant	$115
Office	$103
Intern	$88

PROJECT EXPENSES

Expenses incurred in-house that are directly attributable to the project will be invoiced at actual cost. These expenses include the following:

Mileage	Current IRS Rate
Postage and Delivery Services	At Cost
Printing and Reproduction	At Cost
Travel, Lodging and Subsistence	At Cost

OUTSIDE SERVICES

Outside technical, professional, and other services will be invoiced at actual cost plus 5%.

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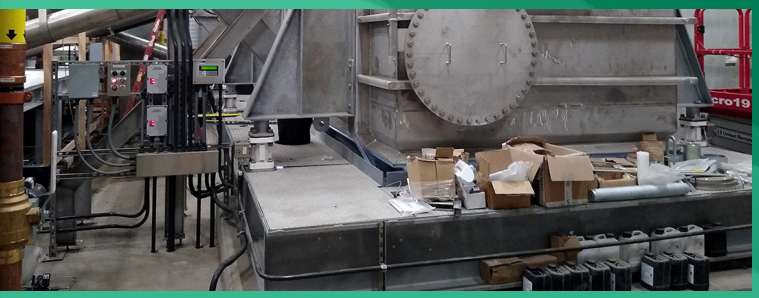

CONTACT

Stephanie McGregor, PE
Project Manager
2020 SW Fourth Avenue
3rd Floor
Portland, OR 97201
M: +1.541.231.1779

Candelario, Thomas

From: Procurement
Sent: Tuesday, October 11, 2022 4:59 PM
To: Candelario, Thomas
Cc: Rice, Ryan
Subject: FW: Contract edit requests - REQUEST FOR PROPOSALS #2022-84 Districts Supervisory Control and Data Acquisition (SCADA) System Integrator of Record.

From: Fuller, Brady <Brady.Fuller@jacobs.com>
Sent: Tuesday, October 11, 2022 11:16 AM
To: Procurement <Procurement@clackamas.us>
Cc: Hulegaard-Ready, Sheralyn <Sheralyn.Hulegaard-Ready@jacobs.com>; Cervantes, Elsa <Elsa.Cervantes@jacobs.com>; McGregor, Stephanie <Stephanie.McGregor@jacobs.com>
Subject: Contract edit requests - REQUEST FOR PROPOSALS #2022-84 Districts Supervisory Control and Data Acquisition (SCADA) System Integrator of Record.

Good morning Thomas,

Jacobs intends to request negotiation of terms for the subject contract, should we be selected.

We respectfully request the following edits. Thank you

Sample Contract: we are currently under contract with Clackamas WES and have history of obtaining revised terms. Key areas of concern/proposed changes are noted below

Art I.4. Invoices and Payments:

Revise following sentence: ~~If~~ Contractor ~~fails to present~~ *shall submit* invoices in proper form within sixty (60) calendar days after the end of the month in which the services were rendered~~, Contractor waives any rights to present such invoice thereafter and to receive payment therefor~~.

Add following language: "*Payments to Contractor shall be made within thirty (30) days of invoice receipt.*"
Rationale: Clarifies invoicing obligation and payment responsibilities for each party.

Art II.1 ACCESS TO RECORDS. request that it be modified from (6) years to (3) years
Rationale: 3 years is a reasonable duration.

Art II.7. RESPONSIBILITY FOR DAMAGES; INDEMNITY. Revise following sentence: "Contractor shall be responsible for all damage to property, injury to persons, and loss, expense, inconvenience, and delay which may be caused by, or result from, the conduct of Work~~, or from any act, omission, or neglect~~ *to the extent caused by any negligent act or omission* of Contractor, its subcontractors, agents, or employees."

Rationale: Aligns contractor responsibility to the indemnity, hold harmless and defend requirement in following sentence in Art II.7.

Art II.9 INSURANCE. Propose following changes:

Revise following sentence: "Contractor shall provide proof of said insurance and name the County as an additional insured on all required liability policies *except for Workers Compensation and Professional Liability."*

Commercial General Liability: ~~combined single limit, or the equivalent, of not less than~~ *with limits of* $1,000,000 per occurrence, with an annual aggregate limit of $2,000,000 for Bodily Injury and Property Damage.

Required – Professional Liability: ~~combined single limit, or the equivalent, of not less than~~ *with limits of* $1,000,000 per ~~occurrence~~ *claim*, with an annual aggregate limit of $2,000,000 for damages caused by error, omission or negligent acts.

Required – Automobile Liability: combined single limit, or the equivalent, ~~of not less than~~ *with limits of* $1,000,000 per occurrence for Bodily Injury and Property Damage.

The policy(s) shall be primary insurance as respects to the County *except for Workers Compensation and Professional Liability.* Any insurance or self-insurance maintained by the County shall be excess and shall not contribute to it, *except for Workers Compensation and Professional Liability*. Any obligation that County agree to a waiver of subrogation is hereby stricken. *Jacobs can offer a waiver of subrogation on all insurance policies except for Professional Liability.*
Rationale: Clarifying coverage terminology per review by our insurance group.

Art II.13 REPRESENTATIONS AND WARRANTIES. Revise sentence as follows: "(3) the Work under this Contract shall be performed in a good and workmanlike manner and in accordance with the ~~highest~~ *same* professional standards *at the time said services are performed*."
Rationale: Use of word "highest" is problematic from both a legal and insurance coverage standpoint for consulting professionals and not in line with standard of care wording used in these types of agreements.

Brady Fuller, PE
Jacobs
Principal Project Manager | People & Places Solutions
541.318.4716
541.647.0598 mobile
Brady.Fuller@jacobs.com

PO Box 936
Bend, Oregon 97709
www.jacobs.com
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