

January 5, 2026

Attention:
Glen Sturdevant
Plant Manager
Sewerage Commission-Oroville Region WWTP

Project Name: Ruddy Creek Pump Station
Project No. D3538600

Recommendation of Contract Award

Dear Mr. Sturdevant,

We have completed evaluation of the Successful Bidder's bid documents and conclude that the bid is responsive.

Bidder-provided reference contacts, for their completed similar projects, gave positive feedback with no mention of performance problems, safety or legal violations. In fact, all the people we spoke with had nothing but positive things to say about the bidder and the way they do business. This was both from a workmanship standpoint and a project management standpoint.

For these reasons, we recommend SC-OR award the subject contract to Lorang Brothers Construction, Inc.

Sincerely,

Steve Parker

Steve Parker, PE
Project Manager
steve.parker@jacobs.com

**Scope of Work for
Construction Management /
Services During Construction
for the
Ruddy Creek Lift Station
Construction Project**

Prepared for
Sewerage Commission - Oroville Region

December 2025

Jacobs
2525 Airpark Dr.
Redding, CA 96001

Task Order No. 41 – Ruddy Creek Lift Station Rehabilitation Engineering Services During Construction and Construction Management Services

General

This Task Order authorizes Jacobs (Consultant) to perform the services described in the Scope of Work below in accordance with the terms and conditions of our agreement dated July 27, 1998, as amended June 2, 2006. This task order is for construction management services and engineering services during construction for the new lift station adjacent to the existing Ruddy Creek Lift Station.

Background

The Sewerage Commission – Oroville Region (SC-OR) owns and operates a wastewater treatment plant (WWTP) that serves the three member agencies (Thermalito Water and Sewer District, Lake Oroville Area Public Utilities District and the City of Oroville). SC-OR also owns and operates a small portion of the collection system that conveys the wastewater from the member agencies to the WWTP. SC-OR has contracted with Jacobs to produce a design of the Ruddy Creek Pump Station Rehabilitation (Project). This task order is to provide engineering services during construction (SDC) and construction management services (CM).

Scope of Services

Jacobs' services described in this task order are intended to assist SC-OR with the administration of the contract for construction, verify that the work of the Construction Contractor is in substantial compliance with the Contract Documents, assist SC-OR in responding to events that occur during construction and to provide construction management and engineering services during construction. Jacobs' services are based upon the understanding that SC-OR will contract directly with the Construction Contractor and will be actively involved in the construction process to manage construction activities, make decisions, provide approvals, coordinate existing plant shutdowns, and perform other actions necessary for the completion of construction.

Jacobs will not be responsible for the means, methods, techniques, sequences, or procedures of the Construction Contractor, or for the Construction Contractor's failure to perform in accordance with the Contract Documents.

The services to be provided are categorized into the following tasks and subtasks.

Task 1 – Project Management Services

Subtask 1.1 – Project Management

Jacobs will furnish project management services for the Project, as follows:

- **Status Reporting**—Monitor budget, progress, and schedule. Monitor work efforts and evaluate actual versus planned progress. Supervise the Project team and identify actions needed to execute the Project. Provide verbal progress reports to SC-OR's project manager as necessary or when requested. Meet with SC-OR's project manager during planned visits to SC-OR.
- **Administration**—Maintain Project records, manage and process Project communications, coordinate Project administrative matters, and prepare monthly progress report letter and invoice.
- **Coordination**—Coordinate tasks/subtasks and staff to complete authorized work on schedule and within budget. Coordinate staff site visits.
- **Staff Management**—Supervise and control activities of staff assigned to the Project. Coordinate and schedule appropriate staffing to meet Project requirements.

Task 2 – Engineering Services During Construction

Subtask 2.1 – Document Management System and Procedures

Jacobs will provide Office Services During Construction (SDC) in support of SC-OR during the construction of the Project. As described below, the office SDC will generally include providing engineering support required to administer the Construction Contract (Contract) between SC-OR and the Contractor.

Coordination services for construction shop drawings, samples, and submittals, including preparation of a tracking system which cross-references submittal status to the Contract Document requirements, shall be performed by the Contractor. Jacobs will establish a separate internal system and set of procedures for managing, tracking status, and storing all submittals transmitted by Contractor.

Subtask 2.2 – Pre-Construction Conference

Three representatives from Jacobs' project management, services during construction, and construction management staff will attend one preconstruction conference with SC-OR and Contractor to review the Project communications, coordination and other procedures; discuss the Contractor's work plan and requirements of the Contract Documents; and discuss the Contractor's schedule. It is assumed that the preconstruction conference will be attended within one 8-hour work period and will be attended onsite.

Subtask 2.3 – Technical Site Visits

Jacobs engineering staff will participate in five (5) technical site visits with SC-OR and the Construction Contractor, at dates as determined by SC-OR. During the visits, Jacobs engineering staff will observe the general quality of the work at the time of the visit and review any specific items of work that are brought to their attention by the Jacobs Construction Manager or SC-OR. For each site visit involving structural observation of the work, Jacobs will prepare a brief report documenting the site visit and any discrepancies found that require attention. Structural observation reports will be sent to SC-OR and to the Construction Contractor. It is assumed that one site visit will be performed by a lead mechanical, structural, and electrical engineer from Jacobs' staff.

Deliverables: Jacobs' Project Lead Engineer will document reports of onsite field observations as required.

Subtask 2.4 - Progress Meetings

Jacobs' Project Manager and Design Manager will virtually participate in weekly construction progress meetings to provide technical input and support related to construction activities. Twenty (20) weekly project meetings are assumed for the project duration.

Deliverables: None.

Subtask 2.5 – Change Requests

Change Orders

When requested by SC-OR, Jacobs will review and evaluate Contractor-requested changes to the contract documents. Jacobs will make recommendations to SC-OR regarding the acceptability of the Contractor's request. Upon agreement and approval, Jacobs will prepare final change order documents. The budgetary amount established for evaluating these requests assumes 3 requests with 20 hours of evaluation time per request.

Deliverables: Jacobs will prepare up to 3 change order document sets, delivered electronically in PDF format.

Subsurface and Physical Conditions

When requested by SC-OR, Jacobs will advise SC-OR as to the appropriate action(s) to take in responding to the Construction Contractor's notification of differing subsurface or physical conditions at the site. Field visits that are required to investigate the subsurface or physical conditions will be considered technical site visits, as described above.

Subtask 2.6 – Interpretations of Contract Documents

Jacobs will review Contractor's requests for information (RFIs) or clarification of technical requirements of the Contract Documents. Jacobs will log and track RFIs received from the Contractor. Jacobs will coordinate such review with design team and with SC-OR, as appropriate, and prepare and issue responses to the requests for information or clarification. It is assumed that a maximum of 45 requests will be received from the Construction Contractor, with review and written response provided for each request. Engineer budget is based on average of 4 hours of review and processing time per request.

Deliverables: Up to 45 RFI responses, submitted electronically in PDF format.

Subtask 2.7 – Shop Drawing, Samples, and Submittals

Jacobs will review all shop drawings, samples and submittals for conformance with the contract documents and acceptance. Construction Manager will log and track all shop drawings, samples, and submittals. It is assumed that a maximum of 50 submittals and 20 re-submittals will be reviewed (includes shop drawings, O&M submittals, and samples) totaling 70 submittal review periods. Engineering budget is based on average of 6 hours of review per submittal.

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

Deliverables: Up to 50 submittal and 20 re-submittal responses, submitted electronically in PDF format.

Subtask 2.8 –Startup Support

Startup Observation

Facility startup will require the operation of equipment through extended periods and over a range of switching and operating conditions to demonstrate that the equipment is free of all defects and is completely ready for operation by the Owner. Jacobs will review the test plan submitted by the contractor. In the event, any test is not completed to the satisfaction of Jacobs or the subject equipment does not pass the prescribed criteria, the construction contractor shall be required to correct the situation and retest until the test is completed and the criteria met.

Jacobs assumes the following onsite services to support startup activities:

- Two (2) days of onsite startup support by resident engineering staff

Subtask 2.9 – Record Drawings

Jacobs will prepare Record Drawings for the Project based on neatly marked up set of full-size Contract Drawings received from the Construction Contractor. Two hard copy half-size set of Record Drawings, and a copy delivered electronically in PDF form will be furnished to SC-OR.

Record drawings will be prepared, in part, on the basis of information compiled and furnished by Construction Contractor, and may not represent the exact location, type of various components, or exact manner in which the Project is finally constructed. Jacobs is not responsible for errors or omissions in the information provided by Construction Contractor, which errors or omissions are incorporated into the Record Drawings, except to the extent that such errors or omissions would have been ascertainable to an engineering professional exercising a reasonable degree of care under similar circumstances. Such duty of care in no way obligates Jacobs to perform field verifications not otherwise required under this Task Order. The budgetary estimate for this task includes 165 hours of engineering and CAD time to complete the Record Drawing deliverable.

Deliverables: Two (2) sets of Conformed specifications, two (2) sets of 1/2- size Conformed drawings, two (2) sets of Conformed standard details, and two (2) sets of full-size Conformed drawings will be printed and sent to SC-OR. Conformed Documents will also be delivered electronically in PDF format and distributed for use during construction.

Task 3 – Construction Management

Jacobs will provide onsite Construction Management (CM) Services in support of SC-OR during the construction phase of the Project. As described below, these services generally include providing a Construction Manager (CM) to monitor the work activities and progress of

Contractor, verify that the Contractor's work is in compliance with the Contract Documents, as defined in the Contract, and to assist in responding to events that occur during construction. These assumptions are in addition to the scope and additional services set forth in the following scope of services:

- Jacobs CM will be onsite up to an average of twenty hours per week, including 4 hours of travel time each day. Onsite activities will include performing CM construction observation activities. If additional CM onsite construction observation are required to accommodate extended work hours, such as evening or weekend work, the scope of these services will be affected and may require an adjustment to Jacobs's budget.
- Jacobs assumes an additional eight (8) hours per week to perform office administration activities including preparing agendas for construction meetings and reviewing relevant construction documents.
- Jacobs assumes twenty-eight (20) hours including travel time of onsite Punchlist attendance by the CM to support Project completion – reviewing contractor as-builts and construction completion.
- Subcontractor(s) are required to complete the onsite construction materials testing and special inspection services. An assumption of 18 days of soils compaction tests and inspection, 10 days of structural concrete tests and inspection, and 2 days of structural steel tests and inspection are suggested for budgetary purposes.

Subtask 3.1 – Construction Contract Administration

Construction Observation: Jacobs shall act as the onsite representative of SC-OR during the construction phase of the Project, will monitor the progress and quality of the work, and will determine if the work is proceeding in accordance with the Contract Documents. Jacobs shall provide a dedicated onsite Construction Manager to administer the Construction Contract, to conduct periodic onsite observations to determine if the work conforms to the Contract Documents, and to confirm that the integrity of the design concept as reflected in the Contract Documents has been implemented and preserved. Jacobs at all times, shall advise SC-OR of potential construction work that will not function as anticipated and may require re-work.

Jacobs shall observe the construction of the work, including but not limited to Contractor mobilization and demobilization activities, material quality control checks, environmental controls monitoring, temporary traffic control monitoring, temporary sediment and erosion control mitigation measures, field testing and other quality control measures, and compliance with the plans and specifications for the Project. Jacobs's CM services shall be performed to assist SC-OR to be in compliance with the latest RWQCB Best Management Practices, other applicable standards and applicable laws. Budgetary assumptions assume one Jacobs construction management staff representative will be present onsite for construction observation for an average of two and a half 8-hour days per week, including travel time.

Jacobs's CM shall have authority to order minor changes in the work that will not require an adjustment to the Contract sum or an extension of the Contract time.

Review of Contractor's Work: Jacobs shall keep SC-OR informed of the progress and quality of the work and shall inform SC-OR of defects and deficiencies in the work of the Contractor. Should Jacobs discover or believe that any work by the Contractor is not in accordance with the

Contract Documents or is otherwise defective or not conforming to requirements of the Contract Documents or applicable rules, regulations, or environmental permits, Jacobs will notify the Contractor and SC-OR in writing. Jacobs CM will also issue written correction notices to Contractor for safety violations, erosion control, and other matters not in conformance with the Contract Documents. Jacobs will monitor Contractor's corrective actions and advise SC-OR as to the acceptability of the corrective actions.

Substitution Requests & Contract Change Orders: Jacobs shall review Contractor requested substitutions and proposed change orders, make recommendations to SC-OR regarding the acceptability of the Contractor's request, and upon approval of SC-OR, assist SC-OR in negotiations of the requested substitution or change. As necessary, and upon agreement and approval, Jacobs shall assist SC-OR with preparation of final change order documents.

Field Instructions and Orders: Jacobs CM, in collaboration with SC-OR, shall issue field instructions and orders to the Contractor, as required during construction in support of administering the Contract Documents.

Construction Status Reporting: Jacobs's CM will provide SC-OR with daily construction inspection reports, including photographs, when Jacobs CM staff is present onsite. The daily reports prepared by the Jacobs's CM shall include, at a minimum, the following information: general observations, description of work being performed, corrective actions taken, observed deviations from, violations of, or inconsistencies with the Contract Documents, observed safety violations and traffic control deficiencies, work accepted, approved or rejected-specific items, and summaries of conversations with representatives of the Contractor, subcontractors and SC-OR, which include directions given or received. Reports for the previous week will be electronically available to SC-OR on the proceeding Tuesday.

Payments to Contractor: Jacobs shall review the Contractor's monthly progress payment estimate (PPE) and final payment request, to determine whether the amount requested reflects the progress of the Contractor's work, reflects the approved schedule of values, is in accordance with the Contract Documents, and will provide recommendation to SC-OR as to the acceptability of the request. Recommendations by CM to SC-OR for payment will be based on CM inspection of the work to determine that the work has progressed to the extent indicated.

The issuance of recommendations for payment shall constitute a representation by Jacobs to SC-OR, based on Jacobs' observations at the site and on the data comprising the Contractor's application for payment, that the work has progressed to the point indicated; that, to the best of the Jacobs' knowledge, information and belief, the quality of the work is in accordance with the Contract Documents (subject to an evaluation of the work for conformance with the Contract Documents upon completion, to the results of any subsequent tests required by or performed under the Contract Documents, to minor deviations from the Contract Documents correctable prior to completion, and to any specific qualifications stated in the certificate for payment); and that the Contractor is entitled to payment in the amount recommended. However, the issuance of a recommendation for payment shall not be a representation that the Jacobs has made any examination to ascertain how and for what purpose the Contractor has used the monies paid on account of the Contract sum.

Subtask 3.2 – Construction Coordination

Preconstruction Conference: CM, in collaboration with SC-OR, will coordinate, conduct, and attend a preconstruction conference with SC-OR and Contractor to review the Project communication, coordination and other procedures; discuss the Contractor's work plan and requirements for the Contract Documents, plans and specifications; and examine the Contractor's schedule. Jacobs will record and distribute meeting summary notes for this conference. Budgetary assumptions assume one Jacobs construction management staff representative will be present onsite for the preconstruction conference.

Correspondence and Communications: Jacobs shall implement and maintain regular communications with the Contractor and SC-OR during construction. Jacobs shall receive and log communications from the Contractor and shall coordinate communications between SC-OR and Contractor. SC-OR's instructions to the Contractor shall be forwarded to the Contractor through the Jacobs. Jacobs will not communicate directly with the Contractor's subcontractors or vendors. Budgetary assumptions assume six (6) hours per week will be dedicated by Jacobs construction management staff to this task.

Construction Coordination Meetings: CM shall conduct weekly construction coordination meetings with Contractor and SCOR. The CM will prepare an agenda, prepare meeting summaries, and distribute copies of the meeting summaries to SC-OR and Contractor. Budgetary assumptions assume one Jacobs construction management staff representative will be present onsite for construction meetings.

Subtask 3.3 – Project Safety

Compliance: Jacobs will manage the health, safety, and environmental activities of its staff and the staff of its subcontractors to achieve compliance with applicable health and safety laws and regulations.

Coordination: Jacobs will coordinate its health, safety, and environmental program with the responsibilities for health, safety, and environmental compliance specified in the Contract Documents. Jacobs will coordinate with responsible parties to correct conditions that do not meet applicable federal, state, and local occupational safety and health laws and regulations when such conditions expose Jacobs staff or staff of Jacobs's subcontractors to unsafe conditions.

Responsibility: Jacobs will notify affected personnel of site conditions posing an imminent danger to them that Jacobs observes. Jacobs's CM will be trained as a Safety Coordinator - Construction (SC-C). Jacobs is not responsible for the health or safety precautions of SC-OR or Contractor staff or any third party. Jacobs is not responsible for the Contractor's or other third party's compliance with the health and safety requirements of the Contract Documents or with federal, state, and local occupational health and safety laws and regulations.

The budgetary assumption for this task is for 8 hours to be dedicated to construction safety compliance by Jacobs construction management staff for the duration of the project.

Subtask 3.4 – Project Closeout

Substantial Completion: Jacobs shall perform an onsite inspection with the Contractor and SC-OR to determine outstanding construction punch list items. Budgetary assumptions assume one Jacobs construction management staff will be present onsite for twenty (20) hours

including travel time to conduct punch list activities. An additional eight (8) hours of senior review time is allocated to support the punch list effort. Jacobs shall document and transmit construction punch list items to Contractor and SC-OR, with Contractor's proposed schedule for Substantial Completion, as defined in the Contract Documents. Jacobs shall provide SC-OR with a Notice of Contractors' Substantial Completion and shall assist SC-OR in issuing documents to the Construction Contractor for Substantial Completion, acceptance of work, and final payment to the Contractor. Jacobs shall assist SC-OR in issuing a Notice of Completion.

Closeout File and Records: Jacobs shall provide SC-OR an organized electronic PDF set of construction Project documents.

Record Drawings: Jacobs's Construction Manager shall periodically review Contractor's record drawings for general accuracy and compliance with the Contract Document requirements. Jacobs's Construction Manager shall review Contractor's final record drawings and shall direct the Contractor to make corrections, as necessary. However, Jacobs shall not be responsible for errors or omissions in the record drawings.

Task 3 Deliverables

- Delivered Electronically, in PDF Format:
 - Agenda and minutes of Preconstruction Conference
 - Agenda for Weekly Construction Coordination Meetings with SC-OR and Contractor
 - Change Order Documents
 - Construction Inspection Reports
 - Notices of deficient or non-conforming work
 - Notice of Substantial Completion
 - Project Construction Records

Assumptions

The scope and fee for the above-described Jacobs' services include the following assumptions:

1. The Project will be constructed under a single construction contract.
2. SC-OR will furnish to Jacobs all data in SC-OR's possession relating to Jacobs' services on the Project. Jacobs will reasonably rely upon the accuracy, timeliness, and completeness of the information provided by SC-OR.
3. SC-OR will make its facilities accessible to Jacobs, as required for Jacobs's performance of its services. SC-OR will perform, at no cost to Jacobs, such tests and inspections of equipment, machinery, pipelines, construction materials, welding, material installations, and other components of SC-OR's new and existing facilities as may be required in connection with Jacobs's services. SC-OR will be the sole judge of whether such tests are required.
4. SC-OR will give prompt notice to Jacobs when SC-OR observes or becomes aware of any development that affects the scope or timing of Jacobs's services.
5. SC-OR will examine information submitted by Jacobs and render in writing or otherwise provide decisions in a timely manner.

6. SC-OR will furnish required information comments on submittals, and approvals in a timely manner.
7. All construction inspectors will be paid the Prevailing Wage as determined by the State of California.
8. The duration of Jacobs services described herein is anticipated to be approximately 9 months, starting with the authorization to proceed through construction final completion. This duration includes Project construction activities through Substantial Completion, and approximately one (1) month subsequent for Project closeout activities, starting immediately after Project Substantial Completion.
9. Except as described in this document, SC-OR will review and process all change orders. SC-OR will prepare documentation for minor change orders and negotiate the cost of all change orders with the Construction Contractor.
10. Jacobs is not responsible in any way for any health or safety precautions of the Construction Contractor, SC-OR, or any other personnel working at the Project sites. Jacobs is also not responsible for the Construction Contractor's, or SC-OR's compliance with the health and safety requirements in the contract for construction, or with federal, state, and local occupational health and safety laws and regulations.
11. Jacobs' services for this project will not be required after the Project closeout activities, including transmittal of deliverables to SC-OR. SC-OR will coordinate, manage and administer all activities associated with execution of the Construction Contract as such are set forth in the General Conditions of the Contract Documents, and during the post construction warranty and guarantee period, as described in the Contract Documents. Deviations from the anticipated schedule or duration of construction will materially affect the scope of these services and Jacobs' compensation for these services and may require an adjustment to Jacobs' budget.
12. Services are based upon the understanding that SC-OR shall contract directly with the Contractor and SC-OR shall proceed consistent with the Contract Documents during construction.
13. Jacobs does not guarantee the performance of the Contractor, and these services described herein do not relieve the Contractor from responsibility for performing the work in accordance with the Contract Documents.
14. Jacobs shall not be responsible for the means, methods, techniques, sequences or procedures of the Contractor, nor shall Jacobs be responsible for safety precautions and programs in connection with the work, except as provided herein.
15. It is assumed that the pre-construction conference will be held at the SC-OR office located in Oroville, California.

Additional Services

The services described below are not included in this Task Order but can be performed if requested and approved by SC-OR and Jacobs. Time, scope, and fee have not been budgeted for the tasks listed hereunder. Authorization to proceed shall be in the form of an amendment to this Task Order specifying the work to be performed and the additional payment for such

services rendered. The amendment, after execution by both parties, shall become a supplement to and a part of this Task Order.

Additional services are as follows:

- Disputes related to the contract for construction.
- Permitting services.
- Development, coordination, or participation in partnering programs.
- Value engineering or similar value analysis studies.
- Reviewing, monitoring, and managing Construction Contractor's progress schedule.
- Materials testing, specialty inspection, testing, and surveying services.
- PLC software programming and HMI software configuration services, including software testing, coordination, field startup, and warranty support.
- RTU programming modifications and remote telemetry services associated with any proposed or necessary upgrades to SC-OR's existing radio-based SCADA system.
- Functional and witness testing, other than specifically provided in the above scope of engineering services.
- Preparation of operations and maintenance manuals. If agreed to with SC-OR, Jacobs will prepare an operations and maintenance manual in conjunction with Phase 2 of the Upgrade Project when the full facility is constructed.
- Formal training of SC-OR's personnel.
- Services necessary due to the default of the Construction Contractor.
- Warranty claims, enforcement, and inspection.
- Preparation for and serving as a witness in connection with any public or private hearing or other forum related to the Project.
- Project closeout, other than as specifically provided in the above scope of services.
- Malfunction, failure, or accident investigations.
- Additional items noted to be excluded within the scope of services.

Schedule

The schedule assumes a contract start date in February 2026. All work under this Task Order is expected to be completed by December 31st, 2026. If the work is delayed beyond the reasonable control of Jacobs, Jacobs reserves the right to request a scope and fee modification for additional administrative and support time.

Compensation

Compensation for services described herein will be on a time and materials basis for a total not-to-exceed budget of **\$600,000**. Compensation is based on Salary Costs, times a multiplier of 3.3, plus direct expenses. A minimum bill rate of \$110 per hour will be used on this project. This total fee will not be exceeded without prior authorization from SC-OR. A breakdown of the estimated fee is summarized in Table 1. SC-OR understands and agrees that individual tasks may be completed either under or over budget and that Jacobs can reallocate budgets within and across tasks provided the total authorized estimated fee is not exceeded. SC-OR is not obligated to compensate Jacobs for work beyond the authorized budgets nor is the Jacobs obligated to incur costs that exceed the authorized budgets. Costs for sub-consultants are rough order or magnitude estimates based upon the anticipated work.

Table 1 – Estimated Fee Breakdown

Task	Budget
Task 1 – Project Management	\$40,000
Task 2 – Engineering Services During Construction	\$330,000
Task 3 – Construction Management	\$230,000
	\$600,000

This Task Order No. 41 is effective as of the date noted below and will become part of the referenced agreement when executed by both parties.

Effective date: DATED this _____ day of _____, 2026.

IN WITNESS WHEREOF, the parties execute below:

For CLIENT, SEWERAGE SC-OR – OROVILLE REGION

By: _____

Name & Title: Glen Sturdevant/Manager

For Jacobs, CH2M HILL, INC.

By: _____

Name & Title: Matthew Franck/Manager of Projects

Scope of Work for Ruddy Creek Lift Station SCADA Integration and Programming

Prepared for
Sewerage Commission - Oroville Region

December 2025

Jacobs
2525 Airpark Dr.
Redding, CA 96001

Task Order No. 42 – SC-OR Ruddy Creek Lift Station

SCADA Integration and Programming

Introduction

SCADA improvements will be implemented at Sewerage Commission – Oroville Region’s (SC-OR’s) Ruddy Creek Lift Station. This Scope includes design, programming, testing, and commissioning of field control, human-machine interface, telemetry, and integration with SC-OR’s Ignition SCADA System at the WWTP.

Major Work Items

Includes but is not limited to engineering, installation, calibration, documentation, testing, startup, and training for complete and functional Instrumentation and Control System (PICS) at Ruddy Creek Lift Station.

SCADA system components include the following:

1. SCADA network hardware and software design, documentation, and configuration.
 - a. Programmable Logic Controller (PLC).
 - b. Operator Interface Terminal (OIT).
 - c. Cellular Radio.
 - d. Managed Ethernet Switch.
2. Applications Software design, documentation, programming, and configuration.
 - a. PLC software development.
 - b. OIT software development.
 - i. Graphic interface.
 - ii. Alarm notification.
 - iii. Data logging and reporting.
 - c. SC-OR WWTP Ignition human-machine interface (HMI) programming.

Out of Scope Items

Work by others includes but is not limited to procurement, fabrication, installation, and configuration of the items listed below.

- SCADA network hardware and software procurement.
- Local control panels and appurtenances.
- Field instrumentation.
- Handholes/manholes, raceway, and cables.

Approach

Consultant will develop SCADA software using Loop Specifications developed under Task 2 of this scope and SCADA software design standards presented to SC-OR at Workshop #1 on July 22, 2020. SCADA software standards will conform with and expand upon existing programming framework developed for SC-OR WWTP Influent Pump Station No. 2 (IPS2). Ruddy Creek Lift Station cellular radio remote site telemetry will be connected to the new SCADA network at SC-OR WWTP and new Ignition HMI graphics will be developed for status and control of Ruddy Creek Lift Station.

Consultant's Scope of Work

Consultant will perform as the owner's Application Software Programming Engineer (ASPE). While coordinating with the construction team during the project, Consultant proposes the Tasks below to implement the SC-OR master plan recommendations listed above.

Task 1 – Project Management Services

Task 1.1 – Project Management

Jacobs will furnish project management services for the Project, as follows:

- **Status Reporting**—Monitor budget, progress, and schedule. Monitor work efforts and evaluate actual versus planned progress. Supervise the Project team and identify actions needed to execute the Project. Provide verbal progress reports to SC-OR's project manager as necessary or when requested. Meet with SC-OR's project manager during planned visits to SC-OR.
- **Administration**—Maintain Project records, manage and process Project communications, coordinate Project administrative matters, and prepare monthly progress report letter and invoice.
- **Coordination**—Coordinate tasks/subtasks and staff to complete authorized work on schedule and within budget. Coordinate staff site visits.
- **Staff Management**—Supervise and control activities of staff assigned to the Project. Coordinate and schedule appropriate staffing to meet Project requirements.

Task 2 – Design Development

Task 2.1 – Application Software Design Manual Development

The Consultant will include Ruddy Creek Lift Station improvements in existing SC-OR WWTP Application Software Design Manual documentation for field control hardware standards and PLC, HMI, and communications software standards. Consultant will provide detailed Add-On Instruction (AOI) information for each new template provided to enhance alarm and equipment control and diagnostics.

Task 2.2 – Loop Specifications Development

Consultant's scope include development of loop specifications broken out by major lift station process areas. Consultant will present overview of unit process control to SC-OR

staff from Loop Specifications. Loop specifications review meeting will be of up to two hours in length attended by up to three members of Consultant's team.

Consultant's scope includes 16 hours of Loop Specifications fixup to address SC-OR comments.

Task 2.3 – Commissioning Database Development

Consultant will develop a commissioning database in Microsoft Access and provide Access database and field signal, software tag, and loop reports at the completion of the database. The commissioning database would serve as a living document that would provide a common platform for incorporating Ruddy Creek Lift Station field control network testing and O&M documentation.

Task 2.4 – SCADA Network Design Development

Consultant will update existing SC-OR control system network documentation including network patching drawings and IP address list.

Task 2 Deliverables:

- Draft application software design manual for SC-OR comment/approval.
- Draft loop specifications for SC-OR comment/approval.
- Draft network patching drawings.
- Draft network address list.
- Draft field signal, software tag, and loop reports and system test plan.
- Final application software design manual for programming and commissioning.
- Final process control narratives for programming and commissioning.

Task 3 – Lab Configuration

Task 3.1 Field Controller Lab Configuration

Software Configuration

Consultant will program PLC logic for Ruddy Creek Lift Station unit processes using loop specifications and commissioning database developed in Task 3.

Consultant will perform PLC and OIT programming using current AOI templates for common equipment types and functions. Consultant will connect field signal inputs and outputs to AOI blocks where possible to increase programming efficiency and reduce troubleshooting and maintenance effort. Consultant will structure PLC programs and routines to match loop specifications format.

Hardware Configuration

Contractor will ship PLC controller, operator interface terminal, and communications components to Consultant's System Integration Lab for configuration where Consultant will install and configure Ruddy Creek Lift Station SCADA system in a test environment. Consultant will label and inventory equipment. Consultant will configure equipment in lab environment to match final installation conditions as closely as possible.

Task 3.2 – HMI Lab Configuration

Consultant will configure new Inductive Automation Ignition HMI template and instance objects and graphics for import into existing Ignition project for each field device to Ruddy

Creek Lift Station's PLC and configure the process window allowing for direct remote operator interaction with the new PLC.

Consultant will configure historization for process variable and setpoint parameters within template and instance objects and provide access to instance specific trend from each equipment control popup. Consultant will configure historical database and archive storage location without setting a data logging date or size limit so all previously recorded data points are available for query.

Consultant will configure alarm notification for parameters within template and instance objects and provide an alarm history database and tables for current alarm summary and alarm history. Consultant will configure alarm logging without setting date or size limit so all previously recorded alarms are available for query. Consultant will configure alarm notification gateways, contacts, and schedules.

Task 3 Assumptions:

- Contactor will purchase SCADA network field switches, Ethernet Radio, and PLC/OIT components and ship to Consultant for configuration.

Task 3 Deliverables:

- Draft PLC program printouts for SC-OR comment.
- Draft HMI screenshots for SC-OR comment.
- Final bench testing network patching drawings.
- Final bench testing network address list.
- Final bench testing field signal, software tag, and loop reports and system test plan.
- Final bench testing PLC program printouts.
- Final bench testing HMI screenshots.
- Final bench testing network patching drawings.
- Final bench testing network address list.

Task 4 – Bench Testing

Consultant will connect SCADA network, PLC, and HMI systems in test environment at Consultant's Redding, California office using SCADA network IP addressing and network layering defined in final bench testing network address list.

Consultant will use system test reports developed in Task 3 to verify correct operation of Ruddy Creek Lift Station unit processes. Consultant will perform PLC commands and setpoint changes at the HMI in the test environment whenever possible to assure HMI controls and graphics are configured correctly. Consultant will simulate each PLC field input and output to verify statuses at the PLC and HMI.

Consultant will confirm trending and alarming for each historized data or alarm parameter.

Consultant will provide bench testing local and remote witnessing capability for SC-OR staff and advise SC-OR on schedule at least three weeks prior to bench testing.

Consultant's scope includes 2 days of bench test facilitation and 1 day of programming fixup and documentation updates by two members of the Consultant's team.

Task 4 Deliverables:

- Bench test schedule (task breakout in hourly increments).

-
- Final commissioning field signal, software tag, and loop reports and system test plan with signed and completed bench test checkout.
 - Final commissioning PLC program printouts.
 - Final commissioning HMI screenshots.
 - Final commissioning network patching drawings.
 - Final commissioning network address list.

Task 5 – Onsite Integration

Consultant's scope includes virtual and/or in-person attendance of bi-weekly 1-hour startup coordination meetings with up to three members of the Consultant's team over two months during onsite commissioning activities.

Task 5.1 – SCADA Network Integration

Consultant will deliver new control system components to Ruddy Creek Lift Station and perform onsite installation and commissioning of the new control system. Contractor will mount SCADA network equipment in the lift station control panel. Contractor will provide patch cables and route power between control panel mounted components.

Consultant will test SCADA network functionality to confirm proper operation of all hardware and software components.

Consultant will connect Ruddy Creek Lift Station cellular radio to SC-OR WWTP SCADA network to facilitate data polling from SC-OR's Ignition SCADA data servers.

Task 5.2 – Field Commissioning

Consultant will follow startup test plan during participation in execution of Ruddy Creek Lift Station Functional Test 2, Facility Startup, and Performance testing. The Ruddy Creek Lift Station OIT and SC-OR WWTP Ignition HMI will run concurrently during commissioning of Ruddy Creek Lift Station and Consultant will test status and control from both systems during testing. Consultant will note any discrepancies during testing and provide signed and completed forms for SC-OR record.

Field commissioning scope includes travel and 1 week of labor by two members of the Consultant's team.

Consultant will update SCADA network documentation to reflect as-built conditions and provide up to a total of 1 day of onsite training for SC-OR staff covering access and control of new control system PLC, HMI, and SCADA network components.

Task 5 Assumptions:

- PIC System integrator has successfully completed Functional Test Part 1 as defined in conformed specifications prior to Consultant involvement in Functional Test Part 2, Facility Startup, and Performance Test.
- Contractor and PIC system integrator provide dedicated representatives to help facilitate Functional Test Part 2, Facility Startup, and Performance Test.

Task 5 Deliverables:

- As-built field signal, software tag, and loop reports and signed and completed system test plans.
- As-built PLC program printouts.
- As-built HMI screenshots.
- As-built network patching drawings.
- As-built network address list.
- As-built process control narratives.
- As-built application software design manual.

Schedule

A preliminary milestone schedule for each Task is as follows:

Milestone	Target Start	Target Finish
Task 1 - Project Management Services	3/1/2026	12/31/2026
Task 2 - Design Development	3/1/2026	6/30/2026
Task 3 - Lab Configuration	7/1/2026	8/31/2026
Task 4 - Bench Testing	9/1/2026	9/30/2026
Task 5 - Onsite Commissioning	10/1/2026	12/31/2026

All work under this Task Order is expected to be completed by December 31st, 2026. The Consultant reserves the right to request a scope and fee modification for additional administrative and support time and updated billing rates if the work is delayed beyond the reasonable control of the Consultant.

Compensation

Compensation for services described herein will be on a time and materials basis for a total not-to-exceed budget of **\$236,000**. Compensation is based on hourly bill rates included in the contract. This total fee will not be exceeded without prior authorization from SC-OR.

SC-OR is not obligated to compensate the Consultant for work beyond the authorized budget nor is the Consultant obligated to incur costs that exceed the authorized budget.

Table 1 – Estimated Fee Breakdown

Task	Budget
Task 1 – Project Management Services	\$14,000
Task 2 – Design Development	\$44,000
Task 3 – Lab Configuration	\$107,000
Task 4 – Bench Testing	\$14,000
Task 5 - Onsite Commissioning	\$57,000
	\$236,000

This Task Order No. 42 is effective as of the date noted below and will become part of the referenced agreement when executed by both parties.

Effective date: DATED this _____ day of _____, 2026.

IN WITNESS WHEREOF, the parties execute below:

For CLIENT, SEWERAGE SC-OR - OROVILLE REGION

By:

Name & Title: Glen Sturdevant/Manager

For Jacobs, CH2M HILL, INC.

By:

Name & Title: Matthew Franck/Manager of Projects