CITY OF Grand Junction COLORADO
PURCHASING DIVISION

CONTRACT RENEWAL

#5362-24-DH

Date: January 3, 2024

Firm: Carollo Engineers, Inc.

Description: 3rd and FINAL Year Contract Renewal for Professional Electrical Engineering Services

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Congratulations, Carollo Engineers, Inc. has been awarded the third (3rd) and final year renewal option for contract #5362-24-DH, **Professional Electrical Engineering Services**.

Carollo Engineers, Inc. shall provide to the City of Grand Junction (City) the services outlined in the Contract Documents dated September 3, 2020, for Solicitation RFP-4809-20-DH, Contract for Professional Electrical Engineering Services as the **Secondary** awarded firm, as per the original contract documents. This renewal shall cover services from September 1, 2023, through August 31, 2024.

Please send the current ACORD Insurance Certificate to the Purchasing Division.

CITY OF GRAND JUNCTION, COLORADO

DocuSigned by:
Duane Hoff Jr.
9F789E7D50F14BC...

Duane Hoff, Jr., Contract Administrator

ACKNOWLEDGEMENT

Receipt of this Contract Renewal is hereby acknowledged:

Firm: Carollo Engineers, Inc.

By: DocuSigned by: David Pier F49306141E39462... David Pier

Title: Vice President

Email: dpier@carollo.com

Date: 1/3/2024

CITY OF Grand Junction COLORADO

CONTRACT RENEWAL

#5238-23-DH

Date: April 13, 2023

Firm: Carollo Engineers, Inc.

Description: 2nd Year Contract Renewal for Professional Electrical Engineering Services 5238-23-DH

Congratulations, you have been awarded the second (2nd) year renewal option for contract #5238-23-DH **Professional Electrical Engineering Services**, dated April 13, 2023, 2023.

The Firm shall provide to City of Grand Junction the products and/or services set forth in the Contract Documents dated September 3, 2020, for Solicitation RFP-4809-20-DH, Contract for Professional Electrical Engineering Services, as the **Secondary awarded firm,** in accordance with the original contract documents. This renewal shall cover from September 1, 2022, through August 31, 2023.

Please notify Kenneth Haley, City of Grand Junction Public Works Engineering Manager at (970) 244-1543, or via e-mail kennethh@gjcity.org for scheduling.

Please send your current Certificate of Insurance to the Purchasing Division.

CITY OF GRAND JUNCTION, COLORADO

DocuSigned by:
Duane Hoff Jr.
9F789E7D50F145C...
Duane Hoff Jr., Contract Administrator

ACKNOWLEDGEMENT
Receipt of this Contract Renewal is hereby acknowledged:

Firm: Carollo Engineers, Inc.

By: DocuSigned by: David Pier F49306141E39462... David Pier

Title: Vice President

Date: 4/17/2023

CITY OF Grand Junction COLORADO

CONTRACT RENEWAL

#4961-21-DH

Date: November 1, 2021

Supplier: Carollo Engineers, Inc.

Project: 1st Year Contract Renewal for Professional Electrical Engineering Services

Congratulations, you have been awarded the 1st year renewal option for contract #4961-21-DH Professional Electrical Engineering Services, dated November 1, 2021.

The Contractor shall provide to City of Grand Junction the products and services set forth in the Contract Documents dated September 3, 2020 for Solicitation No. RFP-4809-20-DH for Contract for Professional Electrical Engineering Services as the **Secondary awarded firm.** This renewal shall cover from September 1, 2021 through August 31, 2022.

Please notify Kenneth Haley, City of Grand Junction Public Works Engineering Manager at (970)-244-1543, or via E-mail kennethh@gjcity.org for scheduling and **return to the Purchasing Division an acknowledged copy of this Contract Renewal and current Proof of Insurance Certificate.**

CITY OF GRAND JUNCTION, COLORADO

DocuSigned by:
Duane Hoff Jr., Senior Buyer- City of Grand Junction
9F789E7D50F14BC...
Duane Hoff Jr., Senior Buyer

SUPPLIER ACKNOWLEDGEMENT

Receipt of this Contract Renewal is hereby acknowledged:

Contractor: Carollo Engineers, Inc.

By: DocuSigned by: David Pier — David Pier

Title: Associate Vice President

Date: 11/5/2021

CITY OF GRAND JUNCTION, COLORADO

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CONTRACT

This CONTRACT made and entered into this 3rd day of September, 2020 by and between the **City of Grand Junction, Colorado,** a government entity in the County of Mesa, State of Colorado, hereinafter in the Contract Documents referred to as the "Owner" and **Carollo Engineers, Inc.** hereinafter in the Contract Documents referred to as the "Firm."

WITNESSETH:

WHEREAS, the Owner advertised that sealed Responses would be received for furnishing all labor, tools, supplies, equipment, materials, and everything necessary and required for the Project described by the Contract Documents and known as **Contract for Professional Electrical Engineering Services RFP-4809-20-DH**.

WHEREAS, the Contract has been awarded to the above named Firm by the Owner, and said Firm is now ready, willing and able to perform the Services specified in the Notice of Award, in accordance with the Contract Documents;

The Owner reserves the right to make multiple awards to firms that are responsive and responsible to this solicitation process. The Owner shall utilize the **Primary** awarded Firm **(Magna IV Engineering, Inc.)** whenever possible. However, through this method, should the Primary awarded Firm be unable to fulfill their contract at any given time, it shall allow the Owner to utilize the **Secondary** awarded Firm **(Carollo Engineers, Inc.)** to fulfill the Owner's needs. All Firms understand and agree that they shall hold their pricing for the entire contract period. It is further understood that awarded Firms shall, and are obligated to, inform the Owner if they cannot fulfill any given request received in accordance with the Contract Documents.;

NOW, THEREFORE, in consideration of the compensation to be paid the Firm, the mutual covenants hereinafter set forth and subject to the terms hereinafter stated, it is mutually covenanted and agreed as follows:

ARTICLE 1

Contract Documents: It is agreed by the parties hereto that the following list of instruments and documents which are attached hereto, bound herewith, or incorporated herein by reference constitute and shall be referred to either as the "Contract Documents" or the "Contract", and all of said instruments and documents taken together as a whole constitute

the Contract between the parties hereto, and they are fully a part of this agreement as if they were set out verbatim and in full herein:

The order of contract document governance shall be as follows:

a. The body of this contract agreement;
b. Solicitation Documents for the Project; **Contract for Professional Electrical Engineering Services;**
c. Firms Response to the Solicitation;
d. Services Change Requests (directing that changed Services be performed);
e. Amendments.

ARTICLE 2

Definitions: The clauses provided in the Solicitation apply to the terms used in the Contract and all the Contract Documents.

ARTICLE 3

Contract Services: The Firm agrees to furnish all labor, tools, supplies, equipment, materials, and all that is necessary and required to complete the tasks associated with the Services described, set forth, shown, and included in the Contract Documents as indicated in the Solicitation Document.

ARTICLE 4

Contract Price and Payment Procedures: The Firm shall accept as full and complete compensation for the performance and completion of all of the Services specified in the Contract Documents, the rate amounts as stated in the Firm's submitted proposal response. If this Contract contains unit price pay items, the Contract Price shall be adjusted in accordance with the actual quantities of items completed and accepted by the Owner at the unit prices quoted in the Solicitation Response. The amount of the Contract Price is and has heretofore been appropriated by the Grand Junction City Council for the use and benefit of this Project. The Contract Price shall not be modified except by Amendment or other written directive of the Owner. The Owner shall not issue a Amendment or other written directive which requires additional Services to be performed, which Services causes the aggregate amount payable under this Contract to exceed the amount appropriated for this Project, unless and until the Owner provides Firm written assurance that lawful appropriations to cover the costs of the additional Services have been made.

Unless otherwise provided in the Solicitation, monthly partial payments shall be made as the Services progresses. Applications for partial and Final Payment shall be prepared by the Firm and approved by the Owner in accordance with the Solicitation.

ARTICLE 5

Contract Binding: The Owner and the Firm each binds itself, its partners, successors, assigns and legal representatives to the other party hereto in respect to all covenants,

agreements and obligations contained in the Contract Documents. The Contract Documents constitute the entire agreement between the Owner and Firm and may only be altered, amended or repealed by a duly executed written instrument. Neither the Owner nor the Firm shall, without the prior written consent of the other, assign or sublet in whole or in part its interest under any of the Contract Documents and specifically, the Firm shall not assign any moneys due or to become due without the prior written consent of the Owner.

ARTICLE 6

Severability: If any part, portion or provision of the Contract shall be found or declared null, void or unenforceable for any reason whatsoever by any court of competent jurisdiction or any governmental agency having the authority thereover, only such part, portion or provision shall be effected thereby and all other parts, portions and provisions of the Contract shall remain in full force and effect.

IN WITNESS WHEREOF, City of Grand Junction, Colorado, has caused this Contract to be subscribed and sealed and attested in its behalf; and the Firm has signed this Contract the day and the year first mentioned herein.

The Contract is executed in two counterparts.

CITY OF GRAND JUNCTION, COLORADO

DocuSigned by:
By: Duane Hoff Jr., Senior Buyer – City of Grand Junction 9/8/2020 | 15:22 MDT
9E789E7D50F14BC...
Duane Hoff Jr., Senior Buyer Date

Carollo Engineers, Inc.

DocuSigned by:
By: David Pier 9/8/2020 | 15:21 MDT
F49386141E39462...
David Pier Associate Vice President Date

Request for Proposal
RFP-4809-20-DH

Contract for Professional Electrical Engineering Services

RESPONSES DUE:
July 27, 2020 prior to 3:30 PM MDT
Accepting Electronic Responses Only
Responses Only Submitted Through the Rocky Mountain E-Purchasing System (RMEPS)
https://www.rockymountainbidsystem.com/default.asp
(Purchasing Representative does not have access or control of the vendor side of RMEPS. If website or other problems arise during response submission, vendor MUST contact RMEPS to resolve issue prior to the response deadline. 800-835-4603)

PURCHASING REPRESENTATIVE:
Duane Hoff Jr., Senior Buyer
duaneh@gjcity.org
(970) 244-1545

This solicitation has been developed specifically for a Request for Proposal intended to solicit competitive responses for this solicitation, and may not be the same as previous City of Grand Junction solicitations. All offerors are urged to thoroughly review this solicitation prior to submitting. Submittal by **FAX, EMAIL or HARD COPY IS NOT ACCEPTABLE** for this solicitation.

REQUEST FOR PROPOSAL

TABLE OF CONTENTS

Section

REQUEST FOR PROPOSAL

SECTION 1.0: ADMINISTRATIVE INFORMATION & CONDITIONS FOR SUBMITTAL

1.1 Issuing Office: This Request for Proposal (RFP) is issued by the City of Grand Junction. All contact regarding this RFP is directed to:

RFP QUESTIONS:
Duane Hoff Jr., Senior Buyer
duaneh@gjcity.org

1.2 Purpose: The purpose of this RFP is to obtain proposals from qualified professional firms to provide electrical engineering and design services to the City of Grand Junction on an "as needed" basis.

1.3 The Owner: The Owner is the City of Grand Junction, Colorado and is referred to throughout this Solicitation. The term Owner means the Owner or his authorized representative.

1.4 Compliance: All participating Offerors, by their signature hereunder, shall agree to comply with all conditions, requirements, and instructions of this RFP as stated or implied herein. Should the Owner omit anything from this packet which is necessary to the clear understanding of the requirements, or should it appear that various instructions are in conflict, the Offeror(s) shall secure instructions from the Purchasing Division prior to the date and time of the submittal deadline shown in this RFP.

1.5 Procurement Process: Procurement processes shall be governed by the most current version of the City of Grand Junction Purchasing Policy and Procedure Manual.

1.6 Submission: Please refer to section 5.0 for what is to be included. ***Each proposal shall be submitted in electronic format only, and only through the Rocky Mountain E-Purchasing website (https://www.rockymountainbidsystem.com/default.asp).*** *This site offers both "free" and "paying" registration options that allow for full access of the Owner's documents and for electronic submission of proposals. (Note: "free" registration may take up to 24 hours to process. Please Plan accordingly.)* Please view our "**Electronic Vendor Registration Guide"** at http://www.gjcity.org/business-and-economic-development/bids/ for details. For proper comparison and evaluation, the City requests that proposals be formatted as directed in Section 5.0 "Preparation and Submittal of Proposals." Submittals received that fail to follow this format may be ruled non-responsive. (Purchasing Representative does not have access or control of the vendor side of RMEPS. If website or other problems arise during response submission, vendor **MUST** contact RMEPS to resolve issue prior to the response deadline. **800-835-4603**).

1.7 Altering Proposals: Any alterations made prior to opening date and time must be initialed by the signer of the proposal, guaranteeing authenticity. Proposals cannot be altered or amended after submission deadline.

1.8 Withdrawal of Proposal: A proposal must be firm and valid for award and may not be withdrawn or canceled by the Offeror for sixty (60) days following the submittal deadline

date, and only prior to award. The Offeror so agrees upon submittal of their proposal. After award this statement is not applicable.

1.9 Acceptance of Proposal Content: The contents of the proposal of the successful Offeror shall become contractual obligations if acquisition action ensues. Failure of the successful Offeror to accept these obligations in a contract shall result in cancellation of the award and such vendor shall be removed from future solicitations.

1.10 Addenda: All questions shall be submitted in writing to the appropriate person as shown in Section 1.1. Any interpretations, corrections and changes to this RFP or extensions to the opening/receipt date shall be made by a written Addendum to the RFP by the City Purchasing Division. Sole authority to authorize addenda shall be vested in the City of Grand Junction Purchasing Representative. Addenda will be issued electronically through the Rocky Mountain E-Purchasing website at www.rockymountainbidsystem.com. Offerors shall acknowledge receipt of all addenda in their proposal.

1.11 Exceptions and Substitutions: All proposals meeting the intent of this RFP shall be considered for award. Offerors taking exception to the specifications shall do so at their own risk. The Owner reserves the right to accept or reject any or all substitutions or alternatives. When offering substitutions and/or alternatives, Offeror must state these exceptions in the section pertaining to that area. Exception/substitution, if accepted, must meet or exceed the stated intent and/or specifications. The absence of such a list shall indicate that the Offeror has not taken exceptions, and if awarded a contract, shall hold the Offeror responsible to perform in strict accordance with the specifications or scope of Services contained herein.

1.12 Confidential Material: All materials submitted in response to this RFP shall ultimately become public record and shall be subject to inspection after contract award. **"Proprietary or Confidential Information"** is defined as any information that is not generally known to competitors and which provides a competitive advantage. Unrestricted disclosure of proprietary information places it in the public domain. Only submittal information clearly identified with the words "***Confidential Disclosure***" and uploaded as a separate document shall establish a confidential, proprietary relationship. Any material to be treated as confidential or proprietary in nature must include a justification for the request. The request shall be reviewed and either approved or denied by the Owner. If denied, the proposer shall have the opportunity to withdraw its entire proposal, or to remove the confidential or proprietary restrictions. Neither cost nor pricing information nor the total proposal shall be considered confidential or proprietary.

1.13 Response Material Ownership: All proposals become the property of the Owner upon receipt and shall only be returned to the proposer at the Owner's option. Selection or rejection of the proposal shall not affect this right. The Owner shall have the right to use all ideas or adaptations of the ideas contained in any proposal received in response to this RFP, subject to limitations outlined in the entitled "Confidential Material". Disqualification of a proposal does not eliminate this right.

1.14 Minimal Standards for Responsible Prospective Offerors: A prospective Offeror must affirmably demonstrate their responsibility. A prospective Offeror must meet the following requirements.

- Have adequate financial resources, or the ability to obtain such resources as required.
- Be able to comply with the required or proposed completion schedule.
- Have a satisfactory record of performance.
- Have a satisfactory record of integrity and ethics.
- Be otherwise qualified and eligible to receive an award and enter into a contract with the Owner.

1.15 Open Records: Proposals shall be received and publicly acknowledged at the location, date, and time stated herein. Offerors, their representatives and interested persons may be present. Proposals shall be received and acknowledged only so as to avoid disclosure of process. However, all proposals shall be open for public inspection after the contract is awarded. Trade secrets and confidential information contained in the proposal so identified by offer as such shall be treated as confidential by the Owner to the extent allowable in the Open Records Act.

1.16 Sales Tax: The Owner is, by statute, exempt from the State Sales Tax and Federal Excise Tax; therefore, all fees shall not include taxes.

1.17 Public Opening: Proposals shall be opened in the City Hall Auditorium, 250 North 5th Street, Grand Junction, CO, 81501, immediately following the proposal deadline. Offerors, their representatives and interested persons may be present. Only the names and locations on the proposing firms will be disclosed.

SECTION 2.0: GENERAL CONTRACT TERMS AND CONDITIONS

2.1. Acceptance of RFP Terms: A proposal submitted in response to this RFP shall constitute a binding offer. Acknowledgment of this condition shall be indicated on the Letter of Interest or Cover Letter by the autographic signature of the Offeror or an officer of the Offeror legally authorized to execute contractual obligations. A submission in response to the RFP acknowledges acceptance by the Offeror of all terms and conditions including compensation, as set forth herein. An Offeror shall identify clearly and thoroughly any variations between its proposal and the Owner's RFP requirements. Failure to do so shall be deemed a waiver of any rights to subsequently modify the terms of performance, except as outlined or specified in the RFP.

2.2. Execution, Correlation, Intent, and Interpretations: The Contract Documents shall be signed by the Owner and Firm. By executing the contract, the Firm represents that they have familiarized themselves with the local conditions under which the Services are to be performed, and correlated their observations with the requirements of the Contract Documents. The Contract Documents are complementary, and what is required by any one, shall be as binding as if required by all. The intention of the documents is to include all labor, materials, equipment, services and other items necessary for the proper execution and completion of the scope of Services as defined in the technical specifications and drawings contained herein. All drawings, specifications and copies furnished by the Owner are, and shall remain, Owner property. They are not to be used on any other project.

2.3. Permits, Fees, & Notices: The Firm shall secure and pay for all permits, governmental fees and licenses necessary for the proper execution and completion of the Services. The

Firm shall give all notices and comply with all laws, ordinances, rules, regulations and orders of any public authority bearing on the performance of the Services. If the Firm observes that any of the Contract Documents are at variance in any respect, he shall promptly notify the Owner in writing, and any necessary changes shall be adjusted by approximate modification. If the Firm performs any Services knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Owner, he shall assume full responsibility and shall bear all costs attributable.

2.4. Responsibility for those Performing the Services: The Firm shall be responsible to the Owner for the acts and omissions of all his employees and all other persons performing any of the Services under a contract with the Firm.

2.5. Changes in the Services: The Owner, without invalidating the contract, may order changes in the Services within the general scope of the contract consisting of additions, deletions or other revisions. All such changes in the Services shall be authorized by Change Order/Amendment and shall be executed under the applicable conditions of the contract documents. A Change Order/Amendment is a written order to the Firm signed by the Owner issued after the execution of the contract, authorizing a change in the Services or an adjustment in the contract sum or the contract time.

2.6. Minor Changes in the Services: The Owner shall have authority to order minor changes in the Services not involving an adjustment in the contract sum or an extension of the contract time and not inconsistent with the intent of the contract documents.

2.7. Uncovering & Correction of Services: The Firm shall promptly correct all Services found by the Owner as defective or as failing to conform to the contract documents. The Firm shall bear all costs of correcting such rejected Services, including the cost of the Owner's additional services thereby made necessary. The Owner shall give such notice promptly after discover of condition. All such defective or non-conforming Services under the above paragraphs shall be removed from the site where necessary and the Services shall be corrected to comply with the contract documents without cost to the Owner.

2.8. Acceptance Not Waiver: The Owner's acceptance or approval of any Services furnished hereunder shall not in any way relieve the proposer of their present responsibility to maintain the high quality, integrity and timeliness of his Services. The Owner's approval or acceptance of, or payment for, any services shall not be construed as a future waiver of any rights under this Contract, or of any cause of action arising out of performance under this Contract.

2.9. Change Order/Amendment: No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. All amendments to the contract shall be made in writing by the Owner.

2.10. Assignment: The Offeror shall not sell, assign, transfer or convey any contract resulting from this RFP, in whole or in part, without the prior written approval from the Owner.

2.11. Compliance with Laws: Proposals must comply with all Federal, State, County and local laws governing or covering this type of service and the fulfillment of all ADA (Americans with Disabilities Act) requirements. Firm hereby warrants that it is qualified to assume the

responsibilities and render the services described herein and has all requisite corporate authority and professional licenses in good standing, required by law.

2.12. Debarment/Suspension: The Firm herby certifies that the Firm is not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Governmental department or agency.

2.13. Confidentiality: All information disclosed by the Owner to the Offeror for the purpose of the Services to be done or information that comes to the attention of the Offeror during the course of performing such Services is to be kept strictly confidential.

2.14. Conflict of Interest: No public official and/or Owner employee shall have interest in any contract resulting from this RFP.

2.15. Contract: This Request for Proposal, submitted documents, and any negotiations, when properly accepted by the Owner, shall constitute a contract equally binding between the Owner and Offeror. The contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral, including the Proposal documents. The contract may be amended or modified with Change Orders, Field Orders, or Amendment.

2.16. Contract Termination: This contract shall remain in effect until any of the following occurs: (1) contract expires; (2) completion of services; (3) acceptance of services or, (4) for convenience terminated by either party with a written *Notice of Cancellation* stating therein the reasons for such cancellation and the effective date of cancellation at least thirty days past notification.

2.17. Employment Discrimination: During the performance of any services per agreement with the Owner, the Offeror, by submitting a Proposal, agrees to the following conditions:

2.17.1. The Offeror shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age, disability, citizenship status, marital status, veteran status, sexual orientation, national origin, or any legally protected status except when such condition is a legitimate occupational qualification reasonably necessary for the normal operations of the Offeror. The Offeror agrees to post in conspicuous places, visible to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

2.17.2. The Offeror, in all solicitations or advertisements for employees placed by or on behalf of the Offeror, shall state that such Offeror is an Equal Opportunity Employer.

2.17.3. Notices, advertisements, and solicitations placed in accordance with federal law, rule, or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.

2.18. Immigration Reform and Control Act of 1986 and Immigration Compliance: The Offeror certifies that it does not and will not during the performance of the contract employ illegal alien workers or otherwise violate the provisions of the Federal Immigration Reform and Control Act of 1986 and/or the immigration compliance requirements of State of Colorado C.R.S. § 8-17.5-101, *et.seq.* (House Bill 06-1343).

2.19. Ethics: The Offeror shall not accept or offer gifts or anything of value nor enter into any business arrangement with any employee, official, or agent of the Owner.

2.20. Failure to Deliver: In the event of failure of the Offeror to deliver services in accordance with the contract terms and conditions, the Owner, after due oral or written notice, may procure the services from other sources and hold the Offeror responsible for any costs resulting in additional purchase and administrative services. This remedy shall be in addition to any other remedies that the Owner may have.

2.21. Failure to Enforce: Failure by the Owner at any time to enforce the provisions of the contract shall not be construed as a waiver of any such provisions. Such failure to enforce shall not affect the validity of the contract or any part thereof or the right of the Owner to enforce any provision at any time in accordance with its terms.

2.22. Force Majeure: The Offeror shall not be held responsible for failure to perform the duties and responsibilities imposed by the contract due to legal strikes, fires, riots, rebellions, and acts of God beyond the control of the Offeror, unless otherwise specified in the contract.

2.23. Indemnification: Offeror shall defend, indemnify and save harmless the Owner and all its officers, employees, insurers, and self-insurance pool, from and against all liability, suits, actions, or other claims of any character, name and description brought for or on account of any injuries or damages received or sustained by any person, persons, or property on account of any negligent act or fault of the Offeror, or of any Offeror's agent, employee, subFirm or supplier in the execution of, or performance under, any contract which may result from proposal award. Offeror shall pay any judgment with cost which may be obtained against the Owner growing out of such injury or damages.

2.24. Independent Firm: The Offeror shall be legally considered an Independent Firm and neither the Firm nor its employees shall, under any circumstances, be considered servants or agents of the Owner. The Owner shall be at no time legally responsible for any negligence or other wrongdoing by the Firm, its servants, or agents. The Owner shall not withhold from the contract payments to the Firm any federal or state unemployment taxes, federal or state income taxes, Social Security Tax or any other amounts for benefits to the Firm. Further, the Owner shall not provide to the Firm any insurance coverage or other benefits, including Servicesers' Compensation, normally provided by the Owner for its employees.

2.25. Nonconforming Terms and Conditions: A proposal that includes terms and conditions that do not conform to the terms and conditions of this Request for Proposal is subject to rejection as non-responsive. The Owner reserves the right to permit the Offeror to withdraw nonconforming terms and conditions from its proposal prior to a determination by the Owner of non-responsiveness based on the submission of nonconforming terms and conditions.

2.26. Ownership: All plans, prints, designs, concepts, etc., shall become the property of the Owner.

2.27. Oral Statements: No oral statement of any person shall modify or otherwise affect the terms, conditions, or specifications stated in this document and/or resulting agreement. All modifications to this request and any agreement must be made in writing by the Owner.

2.28. Patents/Copyrights: The Offeror agrees to protect the Owner from any claims involving infringements of patents and/or copyrights. In no event shall the Owner be liable to the Offeror for any/all suits arising on the grounds of patent(s)/copyright(s) infringement. Patent/copyright infringement shall null and void any agreement resulting from response to this RFP.

2.29. Venue: Any agreement as a result of responding to this RFP shall be deemed to have been made in, and shall be construed and interpreted in accordance with, the laws of the City of Grand Junction, Mesa County, Colorado.

2.30. Expenses: Expenses incurred in preparation, submission and presentation of this RFP are the responsibility of the company and cannot be charged to the Owner.

2.31. Sovereign Immunity: The Owner specifically reserves its right to sovereign immunity pursuant to Colorado State Law as a defense to any action arising in conjunction to this agreement.

2.32. Public Funds/Non-Appropriation of Funds: Funds for payment have been provided through the Owner's budget approved by the City Council/Board of County Commissioners for the stated fiscal year only. State of Colorado statutes prohibit the obligation and expenditure of public funds beyond the fiscal year for which a budget has been approved. Therefore, anticipated orders or other obligations that may arise past the end of the stated Owner's fiscal year shall be subject to budget approval. Any contract will be subject to and must contain a governmental non-appropriation of funds clause.

2.33. Collusion Clause: Each Offeror by submitting a proposal certifies that it is not party to any collusive action or any action that may be in violation of the Sherman Antitrust Act. Any and all proposals shall be rejected if there is evidence or reason for believing that collusion exists among the proposers. The Owner may or may not, at the discretion of the Owner Purchasing Representative, accept future proposals for the same service or commodities for participants in such collusion.

2.34. Gratuities: The Firm certifies and agrees that no gratuities or kickbacks were paid in connection with this contract, nor were any fees, commissions, gifts or other considerations made contingent upon the award of this contract. If the Firm breaches or violates this warranty, the Owner may, at their discretion, terminate this contract without liability to the Owner.

2.35. Performance of the Contract: The Owner reserves the right to enforce the performance of the contract in any manner prescribed by law or deemed to be in the best interest of the Owner in the event of breach or default of resulting contract award.

2.36. Benefit Claims: The Owner shall not provide to the Offeror any insurance coverage or other benefits, including Worker's Compensation, normally provided by the Owner for its employees.

2.37. Default: The Owner reserves the right to terminate the contract in the event the Firm fails to meet delivery or completion schedules, or otherwise perform in accordance with the accepted proposal. Breach of contract or default authorizes the Owner to purchase like services elsewhere and charge the full increase in cost to the defaulting Offeror.

2.38. Multiple Offers: If said proposer chooses to submit more than one offer, THE ALTERNATE OFFER must be clearly marked "Alternate Proposal". The Owner reserves the right to make award in the best interest of the Owner.

2.39. Cooperative Purchasing: Purchases as a result of this solicitation are primarily for the Owner. Other governmental entities may be extended the opportunity to utilize the resultant contract award with the agreement of the successful provider and the participating agencies. All participating entities will be required to abide by the specifications, terms, conditions and pricings established in this Proposal. The quantities furnished in this proposal document are for only the Owner. It does not include quantities for any other jurisdiction. The Owner will be responsible only for the award for our jurisdiction. Other participating entities will place their own awards on their respective Purchase Orders through their purchasing office or use their purchasing card for purchase/payment as authorized or agreed upon between the provider and the individual entity. The Owner accepts no liability for payment of orders placed by other participating jurisdictions that choose to piggy-back on our solicitation. Orders placed by participating jurisdictions under the terms of this solicitation will indicate their specific delivery and invoicing instructions.

2.40. Definitions:

2.40.1. "Offeror" and/or "Proposer" refers to the person or persons legally authorized by the Consultant to make an offer and/or submit a response (fee) proposal in response to the Owner's RFP.

2.40.2. The term "Services" includes all labor, materials, equipment, and/or services necessary to produce the requirements of the Contract Documents.

2.40.3. "Firm" is the person, organization, firm or consultant identified as such in the Agreement and is referred to throughout the Contract Documents. The term Firm means the Firm or his authorized representative. The Firm shall carefully study and compare the General Contract Conditions of the Contract, Specification and Drawings, Scope of Services, Addenda and Modifications and shall at once report to the Owner any error, inconsistency or omission he may discover. Firm shall not be liable to the Owner for any damage resulting from such errors, inconsistencies or omissions. The Firm shall not commence Services without clarifying Drawings, Specifications, or Interpretations.

2.40.4. "Sub-Contractor is a person or organization who has a direct contract with the Firm to perform any of the Services at the site. The term sub-contractor is referred to throughout the contract documents and means a sub-contractor or his authorized representative.

2.41. Public Disclosure Record: If the Proposer has knowledge of their employee(s) or sub-proposers having an immediate family relationship with an Owner employee or elected official, the proposer must provide the Purchasing Representative with the name(s) of these individuals. These individuals are required to file an acceptable "Public Disclosure Record", a statement of financial interest, before conducting business with the Owner.

SECTION 3.0: INSURANCE REQUIREMENTS

3.1 Insurance Requirements: The selected Firm agrees to procure and maintain, at its own cost, policy(s) of insurance sufficient to insure against all liability, claims, demands, and other obligations assumed by the Firm pursuant to this Section. Such insurance shall be in addition to any other insurance requirements imposed by this Contract or by law. The Firm

shall not be relieved of any liability, claims, demands, or other obligations assumed pursuant to this Section by reason of its failure to procure or maintain insurance in sufficient amounts, durations, or types.
Firm shall procure and maintain and, if applicable, shall cause any Sub-Contractor of the Firm to procure and maintain insurance coverage listed below. Such coverage shall be procured and maintained with forms and insurers acceptable to The Owner. All coverage shall be continuously maintained to cover all liability, claims, demands, and other obligations assumed by the Firm pursuant to this Section. In the case of any claims-made policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage. Minimum coverage limits shall be as indicated below unless specified otherwise in the Special Conditions:

(a) Worker Compensation: Contractor shall comply with all State of Colorado Regulations concerning Workers' Compensation insurance coverage.

(b) General Liability insurance with minimum combined single limits of:

ONE MILLION DOLLARS ($1,000,000) each occurrence and
ONE MILLION DOLLARS ($1,000,000) per job aggregate.

The policy shall be applicable to all premises, products and completed operations. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employee acts), blanket contractual, products, and completed operations. The policy shall include coverage for explosion, collapse, and underground (XCU) hazards. The policy shall contain a severability of interests provision.

(c) Comprehensive Automobile Liability insurance with minimum combined single limits for bodily injury and property damage of not less than:

ONE MILLION DOLLARS ($1,000,000) each occurrence and
ONE MILLION DOLLARS ($1,000,000) aggregate

d) Professional Liability & Errors and Omissions Insurance policy with a minimum of:

ONE MILLION DOLLARS ($1,000,000) per claim

This policy shall provide coverage to protect the Firm against liability incurred as a result of the professional services performed as a result of responding to this Solicitation.

With respect to each of Consultant's owned, hired, or non-owned vehicles assigned to be used in performance of the Services. The policy shall contain a severability of interests provision.

3.2 Additional Insured Endorsement: The policies required by paragraph (b) above shall be endorsed to include the Owner and the Owner's officers and employees as additional insureds. Every policy required above shall be primary insurance, and any insurance carried by the Owner, its officers, or its employees, or carried by or provided through any insurance pool of the Owner, shall be excess and not contributory insurance to that provided by Firm. The Firm shall be solely responsible for any deductible losses under any policy required above.

SECTION 4.0: SPECIFICATIONS/SCOPE OF SERVICES

4.1. General: The City of Grand Junction desires to enter into an annual contract with a professional electrical engineering firm to provide all related services as required, on an "as needed" basis.

4.2. Special Conditions/Provisions:

4.2.1 Price/Fees: Services pricing shall be all inclusive, to include, but not be limited to: labor, materials, equipment, travel, drawings, engineering work, shipping/freight, licenses, permits, fees, etc.

Provide a complete list of all potential costs with associated services, as may be related to electrical engineering and design services. The list should be broken down into both hourly rates, and flat rate fees, as may apply. All fees will be considered by the Owner to be negotiable.

4.3. Specifications/Scope of Services: Firm shall provide all services related to electrical engineering, on an "as needed" basis, to include, but not be limited to: project coordination and status reports, initial design, final design, construction documents, phasing of projects, construction observation, etc.

Organization, familiarity with individual projects, preparedness, communication, report timeliness, design submittal timeliness, invoicing accuracy (both in description and fee rates) are all critical traits that are desired under this contract. The Firm shall have on-staff an Electrical Engineer with a professional engineering license in the State of Colorado. The City would prefer that the licensed Electrical Engineer be the Lead Engineer.

The City may, at its discretion, make a single award, or make awards for a primary and secondary service provider.

The Firm will be experienced in providing a full range of services from the evaluation of existing electrical systems through the design phase for electrical replacements of existing equipment. The Firm will have expertise in the following areas:

- Motor Control Center (MCC) design, siting, and work sequencing
- Electrical load analysis (low voltage distribution)
- Emergency Generator design to support MCC capacity

The consultant may provide engineering design assistance for the following:

- Review of electrical loading and revised electrical & construction drawings.
- Evaluation of existing electrical systems, including studies to develop repair priorities.
- Equipment specifications and design plans.
- Review equipment changes with appropriate State Authorities. Any process system changes or upgrade needs to be submitted to CDPHE for approval and documentation. The responsible engineer shall confirm permitting requirements.
- Proposed construction schedule to minimize equipment downtime during installation and replacement.
- Assemble a construction bid package.

- Assist the city in the electrical review, qualifications and recommendation for the installation contractor after construction bid submittals are received. Advice may be requested on bidder's understanding of project, qualification for work elements, project expertise, resources and work experience.
  - *During the contractor solicitation phase the consultant will review proposals, participate in a pre-bid meeting, respond to solicitation technical inquiries and provide written responses as addendum to the City Project Manager. Construction cost analysis is not to be included in the consultant's responsibilities.*
- The City Project Manager oversees construction administration and project management. As Engineer of Record and SME, the electrical consultant shall be available on a request basis from the City Project Manager to assist as needed in electrical inspections and clarifications. Possible items the consultant may be requested to assist include review of project progress, respond to requests for information, inspect quality of workmanship, use of correct materials as per the design requirements. Participate in final inspection after completion of work.

The City of Grand Junction Utilities Division has several upcoming electrical upgrades planned for their existing equipment. The City may utilize the Firm for the following potential capital projects (Note: Project specific information, documents, specifications, etc. will be provided to the awarded Firm, as projects are developed):

- Grand Junction Water Treatment Plant equipment upgrades
- Ridges Irrigation System repairs
- Persigo Wastewater Treatment Plant equipment upgrades
- Replacement Motor Control Centers and new Backup Generator
- Lift Station upgrades

4.4. RFP Tentative Time Schedule:

• Request for Proposal available	July 9, 2020
• Inquiry deadline, no questions after this date	July 21, 2020
• Addendum Posted	July 22, 2020
• Submittal deadline for proposals	July 27, 2020
• Owner evaluation of proposals	July 28 – August 4, 2020
• Interviews (if required)	August 11, 2020
• Final Selection	August 12, 2020
• Contract execution	August 19, 2020

4.5. Questions Regarding Scope of Services:
Duane Hoff Jr., Senior Buyer
duaneh@gjcity.org

4.6. Contract: Contract shall commence upon award and will run through August 31, 2021. The awarded Firm and the Owner agree that this Proposal or subsequent contract may, upon mutual agreement of the Firm and the Owner, be extended under the terms and conditions of the contract for three (3) additional one (1) year contract periods, contingent upon the applicable fiscal year funding.

SECTION 5.0: PREPARATION AND SUBMITTAL OF PROPOSALS

Submission: ***Each proposal shall be submitted in electronic format only, and only through the Rocky Mountain E-Purchasing website (https://www.rockymountainbidsystem.com/default.asp).*** *This site offers both "free" and "paying" registration options that allow for full access of the Owner's documents and for electronic submission of proposals. (Note: "free" registration may take up to 24 hours to process. Please Plan accordingly.)* Please view our "**Electronic Vendor Registration Guide"** at http://www.gjcity.org/BidOpenings.aspx for details. (Purchasing Representative does not have access or control of the vendor side of RMEPS. If website or other problems arise during response submission, vendor **MUST** contact RMEPS to resolve issue prior to the response deadline **800-835-4603**). For proper comparison and evaluation, the City requests that proposals be formatted as directed in Section 5.0 "Preparation and Submittal of Proposals." Offerors are required to indicate their interest in this Project, show their specific experience and address their capability to perform the Scope of Services in the Time Schedule as set forth herein. For proper comparison and evaluation, the Owner requires that proposals be formatted **A** to **G**:

A. **Cover Letter:** Cover letter shall be provided which explains the Firm's interest in the project. The letter shall contain the name/address/phone number/email of the person who will serve as the firm's principal contact person with Owner's Contract Administrator and shall identify individual(s) who will be authorized to make presentations on behalf of the firm. The statement shall bear the signature of the person having proper authority to make formal commitments on behalf of the firm. By submitting a response to this solicitation the Firm agrees to all requirements herein.

B. **Qualifications/Experience/Credentials:** Proposers shall provide their qualifications for consideration as a contract provider to the City of Grand Junction/Mesa County and include prior experience in similar projects.

C. **Strategy and Implementation Plan:** Describe your (the firm's) interpretation of the Owner's objectives with regard to this RFP. Describe the proposed strategy and/or plan for achieving the objectives of this RFP. The Firm may utilize a written narrative or any other printed technique to demonstrate their ability to satisfy the Scope of Services. The narrative should describe a logical progression of tasks and efforts starting with the initial steps or tasks to be accomplished and continuing until all proposed tasks are fully described and the RFP objectives are accomplished, including typical delivery time for day-to-day testing results.

D. **References:** A minimum of three (3) **references** with name, address, telephone number, and email address that can attest to your experience in projects of similar scope and size.

E. **Fee Proposal:** Provide a complete list of all potential costs with associated services, as may be related to geotechnical engineering, and materials testing services. The list should be broken down into both hourly rates, and flat rate fees, as may apply.

F. **Legal Proceedings/Lawsuits:** State any and all legal proceedings, and or lawsuits you firm has been involved with in the last 3 years, is currently involved with, and/or has pending. Describe the reason for each instance, and the outcome.

G. **Additional Data (optional):** Provide any additional information that will aid in evaluation of your qualifications with respect to this project.

SECTION 6.0: EVALUATION CRITERIA AND FACTORS

6.1 Evaluation: An evaluation team shall review all responses and select the proposal or proposals that best demonstrate the capability in all aspects to perform the scope of services and possess the integrity and reliability that will ensure good faith performance.

6.2 Intent: Only respondents who meet the qualification criteria will be considered. Therefore, it is imperative that the submitted proposal clearly indicate the firm's ability to provide the services described herein.

Submittal evaluations will be done in accordance with the criteria and procedure defined herein. The Owner reserves the right to reject any and all portions of proposals and take into consideration past performance. The following parameters will be used to evaluate the submittals (in no particular order of priority):

- Responsiveness of Submittal to the RFP
  (Firm has submitted a proposal that is fully comprehensive, inclusive, and conforms in all respects to the Request for Proposals (RFP) and all of its requirements, including all forms and substance.)
- Understanding of the Project and Objectives
  (Firm's ability to demonstrate a thorough understanding of the City's goals pertaining to this specific project.)
- Experience
  (Firm's proven proficiency in the successful completion of similar projects.)
- Necessary Resources/Capability
  (Firm has provided sufficient information proving their available means to perform the required scope of work/service; to include appropriate bonding, insurance an all other requirements necessary to complete the project.)
- Strategy & Implementation Plan
  (Firm has provided a clear interpretation of the City's objectives in regard to the project, and a fully comprehensive plan to achieve successful completion. See Section 5.0 Item C. – Strategy and Implementation Plan for details.)
- Fees
  (All fees associated with the project are provided complete, comprehensive and within industry standards.)

Owner also reserves the right to take into consideration past performance of previous awards/contracts with the Owner of any vendor, Firm, supplier, or service provider in determining final award(s).

The Owner will undertake negotiations with the top rated firm and will not negotiate with lower rated firms unless negotiations with higher rated firms have been unsuccessful and terminated.

6.3 Oral Interviews: The Owner may invite the most qualified rated proposers to participate in oral interviews.

6.4 Award: Firms shall be ranked or disqualified based on the criteria listed in Section 6.2. The Owner reserves the right to consider all of the information submitted and/or oral presentations, if required, in selecting the project Firm.

SECTION 7.0: SOLICITATION RESPONSE FORM

RFP-4809-20-DH Contract for Professional Electrical Engineering Services

Offeror must submit entire Form completed, dated and signed.

The Owner reserves the right to accept any portion of the services to be performed at its discretion

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The undersigned has thoroughly examined the entire Request for Proposals and therefore submits the proposal and schedule of fees and services attached hereto.

This offer is firm and irrevocable for sixty (60) days after the time and date set for receipt of proposals.

The undersigned Offeror agrees to provide services and products in accordance with the terms and conditions contained in this Request for Proposal and as described in the Offeror's proposal attached hereto; as accepted by the Owner.

Prices in the proposal have not knowingly been disclosed with another provider and will not be prior to award.

- Prices in this proposal have been arrived at independently, without consultation, communication or agreement for the purpose of restricting competition.
- No attempt has been made nor will be to induce any other person or firm to submit a proposal for the purpose of restricting competition.
- The individual signing this proposal certifies they are a legal agent of the offeror, authorized to represent the offeror and is legally responsible for the offer with regard to supporting documentation and prices provided.
- Direct purchases by the City of Grand Junction are tax exempt from Colorado Sales or Use Tax. Tax exempt No. 98-903544. The undersigned certifies that no Federal, State, County or Municipal tax will be added to the above quoted prices.
- City of Grand Junction payment terms shall be Net 30 days.
- Prompt payment discount of _____ percent of the net dollar will be offered to the Owner if the invoice is paid within _____ days after the receipt of the invoice.

RECEIPT OF ADDENDA: the undersigned Contractor acknowledges receipt of Addenda to the Solicitation, Specifications, and other Contract Documents. State number of Addenda received: _____

It is the responsibility of the Proposer to ensure all Addenda have been received and acknowledged.

_____	_____
Company Name – (Typed or Printed)	Authorized Agent – (Typed or Printed)
_____	_____
Authorized Agent Signature	Phone Number
_____	_____
Address of Offeror	E-mail Address of Agent
_____	_____
City, State, and Zip Code	Date

CITY OF Grand Junction COLORADO

Purchasing Division

ADDENDUM NO. 1

DATE: **July 23, 2020**
FROM: **City of Grand Junction Purchasing Division**
TO: **All Offerors**
RE: **Contract for Professional Electrical Engineering Services RFP-4809-20-DH**

Offerors responding to the above referenced solicitation are hereby instructed that the requirements have been clarified, modified, superseded and supplemented as to this date as hereinafter described.

Please make note of the following clarifications:

1. Q. Electrical Engineering vs Other disciplines:
This is described as a request for an electrical engineering firm. Some tasks in section 4.3 have the potential for needing multiple engineering discipline capabilities. Please explain the extent to which the selected firm will be assisting in, or performing full design in regards to other disciplines outside of Electrical Engineering.

A. The City of Grand Junction has a staff of multi-disciple engineers and project managers. We do not have electrical engineering and electrical design assistance on staff for the City or the Utilities department. The City desires to gain the assistance of a professional Electrical Engineer and associated firm with electrical design and drawing support to assist the city engineers, managers and maintenance electrical technicians fill the gap in our expertise and resource load. Requirements for other engineering disciples will be addressed by management on an as needed basis during each project. Those resources could be internal or awarded to additional external sources.

2. Q. Owners Engineer and small project engineer, vs full project design firm:
The scope appears mainly aimed at assistance on projects, or performing as the design firm on smaller tasks, implying a smaller electrical engineering design firm can bid. However, there are elements in section 4.3 that lead to needing the assistance of a larger multidisciplinary engineering team. Please describe the depth of resources that will be needed to be a successful bidder.

A. See Above. The awarded contract does not require a full design firm although that may be an advantage.

3. Q. Interpretation of 5.C, Strategy and Implementation Plan:
Section 5.C, at the end of the section, says, "… , including typical delivery time for day-to-day testing results." The words "testing results" does not seem to not apply to the specifications listed in section 4.3. Is that an accurate interpretation? Could "testing results" be replaced with "assigned tasks" in this section?

A. Yes, We are looking for your input or interpretation of how you understand the project goals and would be able to assist the City of Grand Junction, the Utilities Department and the engineering staff fulfill the need of "Electrical" project elements associated to items listed in Section 4.3.

4. Q. Can a timeline be provide for on-call services requests? In other words, how much advanced notice will be given by the Client for a specific engineering and design task? This will be needed for staffing plans and forecasts.

A. There is no specific schedule. The City Managers and Project engineers will review and discuss projects and develop a project schedule based on the availability of resources including that of the "Electrical" firm selected. Most of these projects are small capital projects and it would desired that the firm selected would have the bandwidth to fit the projects into their schedule. However, larger projects would need additional lead time to develop scope, time line, resource and budget.

5. Q. Is there an anticipated schedule for the upcoming projects mentioned in Section 4.3 of the RFP?

A. No, there is no timeline or prioritization for projects at this time. A project scope and prioritization would need to be developed between the City Project team and with the assistance of the "Electrical" firm selected. However, there is concern regarding the state of several of our MCCs. We have funds budgeted for upgrades and replacements. It would be hoped some of the simpler, easy & least time consuming projects could be completed in short order. There are several projects that need engineering design and technical assistance that only can be completed in the winter months (low water flow and irrigation related).

6. Q. Are there any specific software requirements (e.g. ETAP)?

A. The only software requirement we have internally is AutoCAD and Civil3D for drafting.

7. Q. Do you anticipate execution of the planned upgrades to occur simultaneously within the initial contract year (e.g. a desire for multiple engineer and/or project teams)?

A. Not necessarily, one team/engineer may be able to handle the workload. This needs to be determined by the selected firm. This contract may be multiyear extending into 2021.

8. Q. Will you desire electrical system studies (coordination, arc flash, etc.) be done for the new equipment?

A. Potentially yes, depending on the project.

Q. Do you have a preference for modeling software if so (SKM, ETAP)?

A. No, we do not have a preference for modeling software.

Q. Do you have an existing facility electrical safe work program we would be working within, or would you be interested in the development of a standard and employee training?

A. We do have an electrical safety program however, we would be interested in a review of our existing electrical safety program and if needed, development of a standard and employee training.

9. Q. Are there generally accurate and updated electrical drawings for the project locations, or do you anticipate the need for site research to confirm existing loads?

A. Generally, the existing electrical drawings should not be considered complete and up to date. Site visits and research may be needed. The drawings will need to be reviewed, updated and put into a digital format. All drawings are original and on paper. Most facilities are 40-50 years old.

10. Q. Are you interested in having the bidding contractor also provide instrumentation and control system engineering/design services, or onsite control system commissioning/start-up support?

A. Potentially yes but this would be a secondary goal. Present control system modifications are handled by present city technical staff and contractor.

11. Q. Will the City of GJ provide all engineered equipment procurement services, or are you interested in support from the engineering contractor (e.g. quote, bid tab, and PO/invoice support, expediting, field material coordination, etc.)?

A. Generally yes, the City provides all bid process services, however depending on City resources and project size it is possible the electrical contractor will be asked for support.

12. Q. Does the City of GJ have electrical design and/or construction standards (e.g. grounding, raceway design, lighting, area classification, etc.), or will the engineering contractor be permitted to propose use of their own existing standards?

A. Many facilities were built ~50 years ago. The electrical system has been maintained routinely by on-site staff with replacements mostly like and kind. Any City or Utility standards if they exist should be reviewed and updated to the latest requirements. We do have preferences for suppliers and manufacturers.

13. Q. Do you anticipate wanting periodic onsite field engineering support during construction?

A. Yes.

Q. Would you be interested in full-time onsite electrical construction management and/or inspection resources to assist with project execution?

A. Our staff should be able to handle most of the day to day management of projects. Periodic and final construction reviews will be required to ensure design & quality standards are met.

14. Q. Is it safe to assume the electrical engineering work will NOT need submitted to CDPHE for approval as it will not be changing/upgrading the process systems?

A. Projects are on diverse systems including raw water, finished water distribution, irrigation water and wastewater. So CDPHE requirements will differ. If there are CDPHE requirements, that will normally be part of the Electrical Engineering SME/firms responsibility.

15. Q. Do you have a specific drawing file type requirement for project documentation (e.g. AutoCAD DWG format)?

A. We would prefer AutoCAD DWG file format.

16. Q. Can we get a 3 week extension on bid due date for RFP-4809-20-DH.

    A. No. There will be no extension to the bid due date.

The original solicitation for the project noted above is amended as noted.

All other conditions of subject remain the same.

Respectfully,

Duane Hoff Jr., Senior Buyer
City of Grand Junction, Colorado

CITY OF Grand Junction COLORADO

Purchasing Division

ADDENDUM NO. 2

DATE: **July 23, 2020**
FROM: **City of Grand Junction Purchasing Division**
TO: **All Offerors**
RE: **Contract for Professional Electrical Engineering Services RFP-4809-20-DH**

Offerors responding to the above referenced solicitation are hereby instructed that the requirements have been clarified, modified, superseded and supplemented as to this date as hereinafter described.

Please make note of the following clarifications:

1. Q. Does City of Grand Junction plan on selecting multiple organizations to provide professional electrical engineering services?

A. As stated in Section 4.3 Specifications/Scope of Services, Paragraph 3: The City may, at its discretion, make a single award, or make awards for a primary and secondary service provider.

2. Q. Will the award of professional services guarantee certain number of project awards per year?

A. No.

3. Q. Within the RFP Section 5 Item E Under Fee proposal, rates related to geotechnical engineering and materials testing are requested. Are these services required as part of the electrical engineering services?

A. No. This is an error. Section 5, Item E Fee Proposal shall read as follows: Provide a complete list of all potential costs with associated services, as may be related to electrical engineering and design services. The list should be broken down into both hourly rates, and flat rate fees, as may apply.

4. Q. Is the City responsible for all permitting? If not, what is the support that will be provided by the City?

A. Reference Section 2.3 Permits, Fees, & Notices, and Section 4.3 Specifications/Scope of Services, Paragraph 5, Item 4.

5. Q. What documentation is the City able to provide? Load list, etc.

A. Existing drawings (old), Load list from MCC and motor data, Access to inspect MCC, Access to Electrical tech and Maintenance Supervisor for questions, past MCC upgrade documents.

6. Q. How accurate are the existing design drawings? Are we expected to do "As Builts" as part of the Scope?

A. See previous answers (they are 40-50 years old). Yes, "as-builts" are required to upgrade documents from paper to CAD.

7. Q. What is the City's' preferred electronic and document control/management platform?

A. Previously answered; No electrical software. The only software requirement we have internally is AutoCAD and Civil3D for drafting.

8. Q. Is AUTOCAD acceptable?

A. See answer #7.

The original solicitation for the project noted above is amended as noted.

All other conditions of subject remain the same.

Respectfully,

Duane Hoff Jr., Senior Buyer
City of Grand Junction, Colorado

Prepared for the
City of Grand Junction

Professional Electrical Engineering Services

carollo
Engineers...Working Wonders With Water®

TABLE OF CONTENTS

Section A

Cover Letter

carollo
Engineers...Working Wonders With Water®

390 Interlocken Crescent, Suite 800, Broomfield, Colorado 80021
P. 303.635.1220 F. 303.635.1373

July 27, 2020

Mr. Duane Hoff, Jr., Senior Buyer
City of Grand Junction
250 North 5th Street
Grand Junction, Colorado 81501

Subject: Professional Electrical Engineering Services Project | RFP-4809-20-DH

Dear Mr. Hoff and Members of the Selection Committee:

Project success is not strictly about the firm you choose; it is also about building a relationship that yields a collaborative environment for shared success. We understand that the ultimate success of these as-needed electrical engineering and design services lies in the satisfaction of your operations and maintenance staff, therefore, our approach is tailored to provide a safe and high-performing electrical system with their vision at the forefront. To deliver on this promise, we have assembled a completely local team, specifically selected to meet the unique requirements of this solicitation. Selecting our team will provide the City with the following key benefits:

- **A collaborative approach that considers your needs to create solutions tailored for you.** Our local, engineer-led team will focus on communication and interaction with plant staff to develop electrical system solutions uniquely customized to meet the needs of the end users, within the constraints of the City's budget. To accomplish this goal, we will listen; no one knows your systems better than your staff. Our approach is built on a collaborative relationship with frequent communication to ensure the improvement projects are developed with your staff's vision in mind.
- **A team built to easily integrate with your staff.** As project manager, I assembled this team based on how they will interface with your team. While our team is small in number, its individual members are experienced Carollo veterans, dedicated to project success and fostering a lasting relationship with Grand Junction.
- **Creative solutions that lead to innovative designs.** Among our project team are engineers who have spent their careers analyzing, designing, optimizing, constructing, and programming water and wastewater treatment facilities. This team is not only experienced, but is also uniquely creative and innovative. We will use this creativity and innovation to collaborate with the City in developing project approaches that provide optimal benefit for the City's investment.
- **A passion that motivates everyone on the team.** Our proposed team brings more than experience and technical expertise; they bring an enthusiasm that is infectious. We look forward to the opportunity to grow relationships and build trust while delivering a successful project.

Personally, I have managed more than 30 projects in my 23 years of experience from both the consultant and Owner's lens. On these projects, I've gained a keen understanding of the balance between meeting O&M staff needs and adhering to management's CIP planning objectives. Not only will I bring this expertise to the project, but I will also commit the necessary staff resources to meet your on-call needs. Please contact me directly at 303.551.2532 or via email to DPier@Carollo.com if you have any questions or require additional information about our attached proposal.

Sincerely,

CAROLLO ENGINEERS, INC.

Dave Pier, PE, PMP
Project Manager/Associate Vice President

SECTION 7.0: SOLICITATION RESPONSE FORM

RFP-4809-20-DH Contract for Professional Electrical Engineering Services

Offeror must submit entire Form completed, dated and signed.

The Owner reserves the right to accept any portion of the services to be performed at its discretion

---

The undersigned has thoroughly examined the entire Request for Proposals and therefore submits the proposal and schedule of fees and services attached hereto.

This offer is firm and irrevocable for sixty (60) days after the time and date set for receipt of proposals.

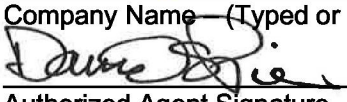
The undersigned Offeror agrees to provide services and products in accordance with the terms and conditions contained in this Request for Proposal and as described in the Offeror's proposal attached hereto; as accepted by the Owner.

Prices in the proposal have not knowingly been disclosed with another provider and will not be prior to award.

- Prices in this proposal have been arrived at independently, without consultation, communication or agreement for the purpose of restricting competition.
- No attempt has been made nor will be to induce any other person or firm to submit a proposal for the purpose of restricting competition.
- The individual signing this proposal certifies they are a legal agent of the offeror, authorized to represent the offeror and is legally responsible for the offer with regard to supporting documentation and prices provided.
- Direct purchases by the City of Grand Junction are tax exempt from Colorado Sales or Use Tax. Tax exempt No. 98-903544. The undersigned certifies that no Federal, State, County or Municipal tax will be added to the above quoted prices.
- City of Grand Junction payment terms shall be Net 30 days.
- Prompt payment discount of 0 percent of the net dollar will be offered to the Owner if the invoice is paid within 30 days after the receipt of the invoice.

RECEIPT OF ADDENDA: the undersigned Contractor acknowledges receipt of Addenda to the Solicitation, Specifications, and other Contract Documents. State number of Addenda received: 2

It is the responsibility of the Proposer to ensure all Addenda have been received and acknowledged.

Carollo Engineers, Inc.	David Pier, PE
Company Name – (Typed or Printed)	Authorized Agent – (Typed or Printed)
	303.551.2532
Authorized Agent Signature	Phone Number
390 Interlocken Crescent, Suite 800	DPier@Carollo.com
Address of Offeror	E-mail Address of Agent
Broomfield, Colorado 80021	July 23, 2020
City, State, and Zip Code	Date

Section B

Qualifications/Experience/ Credentials

Section B

Qualifications/Experience/Credentials

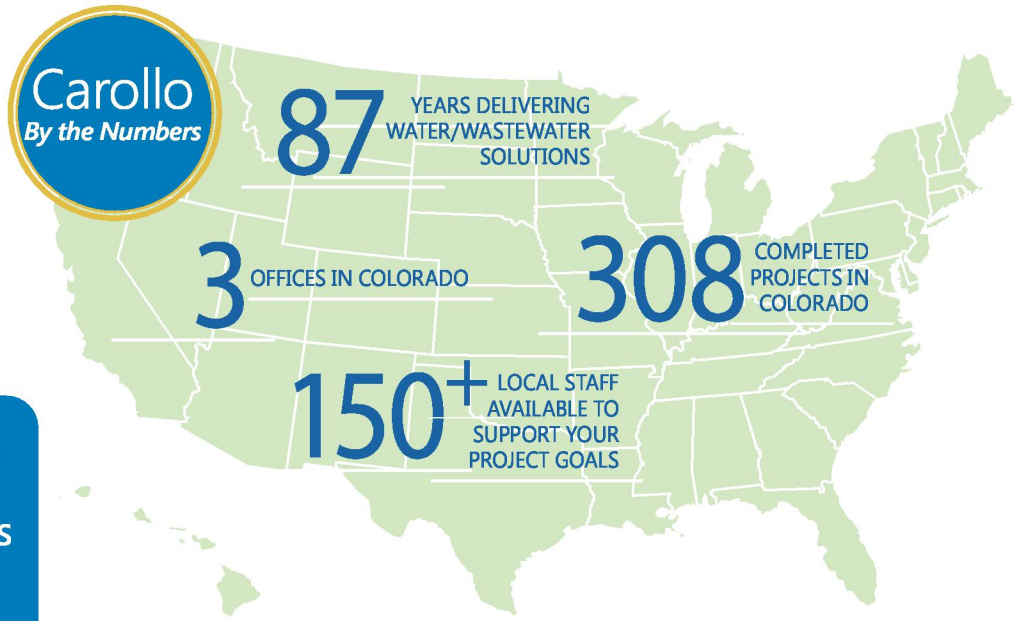
For 87 years, Carollo Engineers has specialized exclusively in the planning, design, and construction management of municipal water, wastewater, and reclaimed water facilities. Today we are the nation's largest engineering firm focusing solely on water. With 47 offices throughout the United States, Carollo maintains a staff of more than 1,200 employees and more than 500 registered engineers. Our singular focus helps us attract and retain professionals with a passion for solving the toughest water-related challenges across the country.

WATER
OUR FOCUS
OUR BUSINESS
OUR PASSION

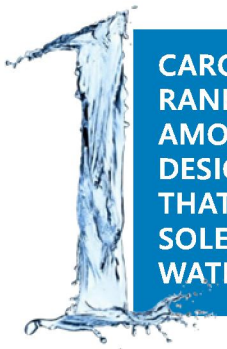
Founded in 1933, Carollo Engineers, Inc., is the largest engineering firm in the United States dedicated solely to wastewater and water engineering – it's all we do. This targeted expertise allows us to focus on developing best value, and innovative, reliable solutions to help our clients protect public health and achieve their service goals. It also results in the recruitment of the brightest minds in the industry, a staff trained on the issues impacting water and wastewater infrastructure, and innovative ideas tailored to the specific needs of each client and project. Our dedicated team of scientists and engineers from across the country, have been responsible for discovering new treatment technologies, improving operational practices, and expanding the science of water, wastewater, and reuse. Because of this, agencies across the U.S. repeatedly look to Carollo to help them find the best solutions to their most complex challenges.

Carollo is guided by a culture of teamwork and integrity. Embracing the firm's rich history and solid reputation for offering professional excellence, our employees have a shared mission to provide exceptional service to our clients. We are dedicated to overcoming challenges, seizing opportunities, and **Working Wonders With Water®**.

We have a staff of approximately 1,200, including more than 500 civil, sanitary, environmental, electrical, mechanical, chemical, structural, control system, and corrosion control engineers, as well as architects, planners, and specialists in other areas.



GUESS WHERE WE RANK AMONG **ALL FIRMS** SPECIALIZING IN WATER?



CAROLLO RANKS FIRST AMONG ALL DESIGN FIRMS THAT WORK SOLEY IN WATER

LOCAL ELECTRICAL INSTRUMENTATION AND CONTROL EXPERTS

At Carollo, we have a dedicated electrical, programming, instrumentation and control (EPIC®) design center, which is headquartered in Littleton. Our EPIC® group, consisting of engineers and technicians, is one of the largest in the water and wastewater industry. Additionally, more than 70 members of our EPIC® staff are housed right here in Colorado.

This group of dedicated electrical and instrumentation engineers and technicians supports the full array of electrical services required by Grand Junction designs, including:

- Electrical Design Services.
- PLC Design and Programming.
- Arc Flash Studies.
- Programming Expertise.
- Comprehensive Electrical System Studies.
- Harmonic Mitigation Analysis and Design.
- Networks.
- Intelligent MCCs, Switchgear, VFDs, and Power Monitoring.
- Intelligent P&IDs.
- Control Panel Layouts and BOM.

#8 CAROLLO RANKING

EC&M

2019 TOP 40 ELECTRICAL DESIGN FIRMS
ELECTRICAL CONSTRUCTION MAINTENANCE MAGAZINE

PLANNING, DESIGN, PROGRAMMING, AND INTEGRATION LEADERS

Carollo Engineers is an industry leader in planning, design, and implementation of electrical, instrumentation and controls, and SCADA/telemetry systems for water and wastewater agencies. We have successfully completed more than 100 water and wastewater electrical planning and design projects in the last five years alone.

100% COMMITTED

A STRONG LOCAL PRESENCE

Nationwide, our EI&C group consists of more than 100 engineers and technicians, making this group one of the largest in the water industry. This group of dedicated electrical and instrumentation engineers and technicians is exceptionally qualified to provide the wide variety of technical skills required to plan, design, and implement your electrical systems upgrade.

The Right Team for Grand Junction

Our team is built around your need for electrical engineering and design services. Many of our core team members are already familiar with Grand Junction because of their direct experience working with you, and their industry contributions to challenges that you share with other utilities, such as optimizing operational reliability and infrastructure robustness. We have visited the Persigo WWTP site and inspected your remote lift stations, understand the existing conditions, and are developing your electrical systems study. More important to you, each team member has demonstrated experience that comes only from years of excellence in their respective disciplines. Our team's organization corresponds to our project approach and the following pages detail each team member's qualifications.

Unparalleled Colorado Experience

Our strong, local team brings expertise in treatment and collection, enabling a smooth and coordinated project where you have accessibility to our project personnel. We have provided planning, design, and implementation services for electrical, instrumentation and controls, and SCADA/telemetry systems for water and wastewater agencies throughout the Western Slope, including, Clifton Water District, Eagle River Water and Sanitation District, City of Aspen, and Steamboat Springs.

Because of our unwavering commitment to the water/wastewater industry, we have locally become known for our in-depth knowledge and expertise relative to Colorado regulatory requirements. We are focused on client service and value the interactive and collaborative relationships with the municipalities with which we work.

This project will largely be performed in our Denver offices where we have more than 150 professionals dedicated to solving water and wastewater challenges for clients. We have provided engineering services for dozens of wastewater planning efforts throughout Colorado.

CITY OF Grand Junction COLORADO

Project Manager
- Dave Pier, PE

Quality Control
- Chris Carvalho, PE

Lead I&C Engineer
- David Southern, PE

Lead Electrical Engineer
- Chris Heger, PE

Lead Programmer
- Seger Petersen

Inspections and Construction Services Manager
- Brian Ream, Master Electrician

Support

Electrical Cost Estimating - Adam Munoz
Electrical System Modeler - Kush Agarwal
Safety - Greg Parana
Electrical Engineer - Tamara Heger

- Denver Littleton
- Denver Broomfield
- Fort Collins

SUMMARY OF KEY STAFF

DAVE PIER, PE

Project Manager

With Dave, you not only have a project manager who is well-versed in managing large, complex projects—more importantly, he understands Grand Junction and how to deliver a successful project that is in line with your standards and processes. He brings more than 23 years of experience in project management as both a consultant and utility owner.

Given this experience, Dave brings an invaluable perspective to clients by understanding and relating to the challenges and decisions that utilities have to make pertaining to overall project execution

CHRIS CARVALHO, PE

Quality Control Manager

Chris brings 27 years of experience in design and construction administration of electrical and control systems for water and wastewater facilities. As Carollo's EPIC manager, he brings expertise in medium- and low-voltage power distribution, lighting, grounding, and electrical control.

Chris will perform quality control duties including detailed electrical checks of construction documents to ensure they meet the quality demanded by Carollo and expected by Grand Junction.

BRIAN REAM, MASTER ELECTRICIAN

Inspector and Construction Services Manager

Brian is a master electrician who brings more than 25 years of experience working on electrical systems exclusively for water and wastewater facilities. His recent experience includes engineer cost estimates, project site inspections, constructability review and electrical, instrumentation and control designs. Prior to joining Carollo, Brian managed the field operations for an electrical contractor. His experience includes business design reviews, estimating, contracts, budgeting, schedules, electrical/instrumentation, SCADA procurement and installations, commissioning, and start-ups.

Brian will perform electrical and control system inspections, perform constructability reviews as required, as will lead the effort during construction services including submittal reviews.

CHRIS HEGER, PE

Lead Electrical Engineer

Chris has 11 years of experience in electrical and instrumentation design and construction management for both water and wastewater treatment facilities. As Carollo's Chief electrical engineer, Chris brings expertise in all aspects of electrical system planning, design, and construction services. Chris is the Lead Electrical Engineer on the Persigo WWTP Master Plan and will be leading the electrical systems study.

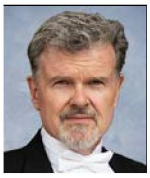
Chris will lead the technical efforts related to the electrical as-needed services working hand in hand with Dave to meet project timelines and budgets.

SEGER PETERSEN, PE

Lead Programmer

Seger is a Colorado-based control and instrumentation engineer in the water and wastewater industry with expertise in PLC programming, SCADA development, and system networking.

Seger will work with the project team to ensure that programming and HMI development are considered throughout the phases of each project. Seger will be available to assist with programming efforts as required.



DAVID SOUTHERN, PE

Lead I&C Engineer

David has a 27 year background in industrial instrumentation and controls automation on projects throughout the world. His past automation projects include developing several Superfund remediation systems throughout the US, and cleanup systems for Operation Desert Storm.

David is currently assisting the Persigo Master Plan with documenting instrumentation and controls improvements.

David will work closely with your control staff, Chris and Tamara to maintain coordination the instrumentation and control efforts with the electrical design.

SUMMARY OF KEY STAFF

ADAM MUNOZ

Electrical Cost Estimating

Adam brings more than 19 years of experience as a journeyman electrician and estimator in the industrial and commercial electrical industries for water and wastewater facilities. His recent experience includes cost estimates, constructability review and as-built and equipment design drafting.

Adam's expertise will help our team develop accurate, defensible construction cost estimates and life-cycle analyses. He is experienced in all aspects of electrical and mechanical projects for water and wastewater facilities including complex equipment, process improvements construction, and in-depth knowledge of electrical codes.

KUSH AGARWAL

Electrical System Modeler

Kush has more than 8 years of industry experience in Electrical system studies in several different software suites such as ETAP, SKM and Easy Power. Some of the key projects that that he's worked on include Project Engineer on Denver Water Marston WTP Electrical upgrades, Electrical Engineer on Denver Water Lamar Pump Station and Electrical Engineer on Intel Ocotillio Campus.

Kush will maintain all electrical system models and studies as required through design and construction. Kush will work with Chris and Tamara to ensure that any electrical upgrades are not only coordinated but consider arc flash safety.

GREG PARANA

Safety

Greg has been providing safety solutions to clients for more than 19 years. He has proven strategies for communicating risk and controlling hazards and will provide critical insight into safety considerations for Grand Junction.

TAMARA HEGER

Electrical Engineer

With nine years of experience as an electrical engineer, Tamara will serve as electrical engineering support for the as-needed program. Tamara has considerable knowledge of state standards and regulations through her work on previous projects for the Metro Wastewater Reclamation District: PAR 1247, PAR 1259, PAR 1225, and PAR 1085. Her electrical experience includes power distribution, lighting, motor controls, and grounding.

Tamara will work with Chris to develop electrical solutions for planning, design, review, and construction related tasks.

RESUMES FOR ALL OF OUR TEAM MEMBERS, INCLUDING SUPPORTING ROLES ARE LOCATED IN THE APPENDIX (RESUMES) SECTION OF THIS PROPOSAL.

Section C

Strategy and Implementation Plan

Strategy and Implementation Plan

PROJECT UNDERSTANDING

The City of Grand Junction (City) is looking to retain a qualified and experienced engineering firm to provide electrical engineering services, on an as-needed basis for project coordination and reporting, design, as well as construction support and observation. Given the ever-evolving industry we work in, on-call agreements provide a means for utilities to quickly mobilize teams as project needs arise. The Carollo team has the expertise necessary to satisfy all of your scope of service areas and will work closely with the City's engineering, operations, and maintenance team to perform the assigned tasks. Carollo is well qualified to support you on your on-call projects and is committed to providing best value and quality at the highest level.

MANAGEMENT APPROACH

There are no shortcuts to successful project management. A good project manager must be organized, proactive, have good communication skills, be a problem solver, and extract the best performance out of the project team.

Defining and Planning the Work

Dave Pier, our project manager, has gained these skills over his 23 years of experience and will work with Chris and his electrical experts to mobilize a team that suits your project needs on time and within budget. He will be responsible for working with you to develop the appropriate scope, schedule, and budget for all assigned tasks.

Tracking Work Progress

Our approach for tracking the progress of each project will continue with bi-weekly calls with your project manager and assigned staff, and face-to-face meetings, as appropriate between our teams to confirm the project is on track and that we have your buy-in at every phase.

Work Progress Reporting

Our monthly invoice and progress reports will include the up-to-date status on the project health. We use these monthly reports as an opportunity to provide you with a status update on the financial and schedule health, completed and upcoming activities, and to inform your team about action items and potential scope or schedule concerns.

Completing Projects

Near the end of completing each task, Dave will issue a task close-out letter. He will review the overall scope in a meeting with the City project manager to confirm your project objectives and goals were addressed and that Carollo successfully delivered.

Carollo's Electrical, Programming, Instrumentation, and Control (EPIC) team is headquartered in Littleton, Colorado housing more than 60 engineers and support staff locally to support Grand Junction's on-call needs.

Electrical

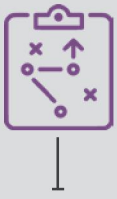
Power system designs focus on energy reliability, power savings, and sustainability. Our approach incorporates "safety by design", to minimize electric hazards through planning.

Instrumentation and Control

From the simplistic to the cutting edge, our I&C designs are customized to provide reliable, optimized process control.

Programming

Whether working on programming standards, remote operation, or high-performance interface, we personalize all of our programming implementation.



Strategic Services

From SCADA and electrical master planning to cybersecurity, our industry leaders develop comprehensive programs to prepare our clients for the future.

Approach to On-Call Assignments

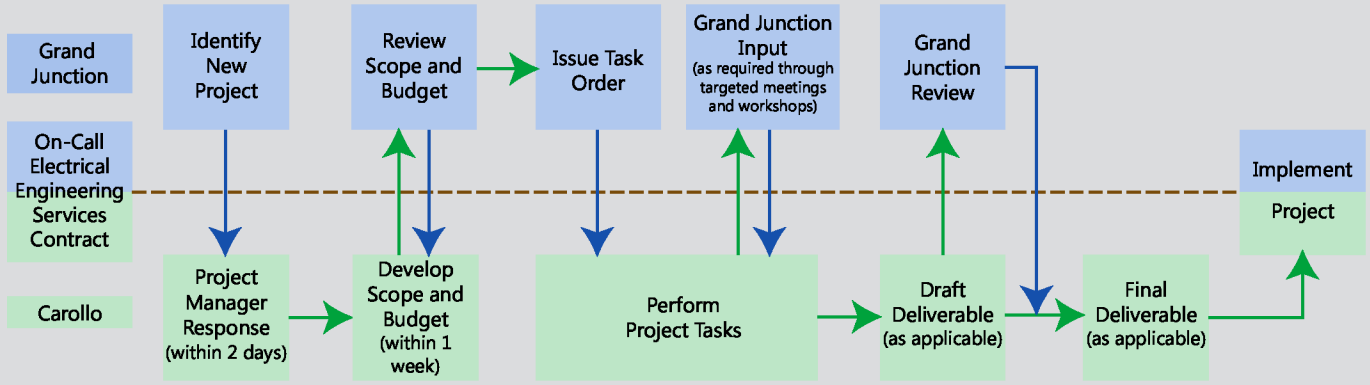
Our overall approach for on-call electrical engineering services projects is to provide a team of electrical engineers and specialists to work with the City as an extension of your staff on an as-needed basis to plan, evaluate, design, deliver, and/or support projects on time and within City budgets. Our team will devote the required resources to complete task orders, while providing the flexibility to handle a workload that will vary month to month.

For this as-needed assignment, we propose to use a streamlined scheduling/contracting process as shown in the figure below to better respond to your immediate project needs. When The City identifies a project that calls for Carollo's support, our project manager, Dave Pier will respond back to the City's project manager within two working days to provide Carollo's proposed approach to performing the assignment.

to combine our systems and approaches to deliver the various tasks under this project. We not only value your input, we believe it is paramount to the overall success of the on-call program.

Importance of Workshops

At the start of the Task Order, for a design-type project, a kick-off meeting will be held. At this meeting project goals, schedule and budget will be discussed. Dave and the Lead Electrical Engineer assigned to the task, typically Chris Heger, will facilitate the virtual kick-off meeting. Together, they will explore options to increase overall design efficiencies and scheduling before we get started. With our development of the Electrical Systems Study to be completed as part of the Persigo WWTP Master Plan, our team will be prepared to present efficient design and construction projects.



Carollo understands that simplifying the scheduling/contracting process is key to the success of services stemming from this contract. With a robust scheduling/contracting process defined, our project/task manager will immediately apply the appropriate resources and staff to complete each as-needed project task.

Upon approval of the initial proposed approach, Dave will work with applicable team members to review the project requirements with the City and direct it to the appropriate task leads and support personnel. Within one week, this team will prepare and deliver a detailed scope of work, including deliverables, schedule, and budget to the City for review. Upon execution of a task order, the team is already mobilized to begin working right away.

At important decision points, we will conduct meetings to present critical information regarding the project to the City's applicable staff to reach a consensus. Our experience shows that building consensus with City staff is integral to any successful project. Collaboration and integration with City staff will be key to every aspect, as we work together

Subsequent workshops will revolve around deliverables issued by Carollo to the City. These workshops serve as opportunities for Carollo to provide and update on the current project status and most importantly to coordinate and receive input from the City staff. It is always preferred to get feedback from a client rather than make an educated guess, as guessing can lead to re-work and overall inefficiencies in regards to the schedule and budget.

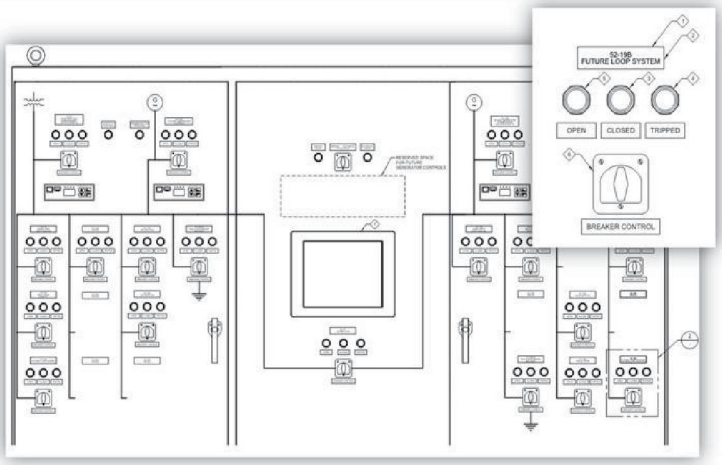
Due to site restrictions with COVID-19, we will scope a mixture of on-site and virtual workshops to review deliverables and get your input. Dave and Chris will provide deliverables ahead of workshops and meeting summaries following. These documents will be maintained on a TEAMS document sharing site to maximize collaboration between the City and the Carollo project team.

SAFETY BY DESIGN

Our team's innovative approach to safety by design will include evaluating and designing the electrical distribution system to manage the risk to plant O&M personnel posed by electrical hazards, including shock and arc flash. Carollo will maintain the software model of the existing electrical distribution system to establish a baseline model that can be modified to test the effectiveness of implementation of potential safety-by-design concepts. We worked with **Greg Parana, our corporate safety manager** located in Broomfield, to establish several safety-by-design concepts and alternatives that will be further developed and evaluated, including:

- Physical separation of electrical equipment from process equipment and areas and low voltage controls.
- Advanced protection relaying schemes including zone-selective interlocking and bus differential relays to reduce fault clearing times and hence lower the available energy during an arc flash event.
- Remote circuit breaker controls and racking to allow operators to work outside of the arc flash boundary when performing breaker maintenance.
- Implementation of "maintenance mode" protection relay settings to lower arc flash incident energy during maintenance operations.
- Reduction in transformer sizes based on actual demand history to minimize the arc flash energy available.
- Main-Tie-Main switchgear and MCC configurations to allow complete de-energization of portions of the distribution system before performing maintenance.

As a standard design practice, Carollo specifies remote racking devices for all medium and low voltage switchgear lineups to allow operators to rack circuit breakers in and out without being directly in front of the equipment. This team implemented this approach at the Kern County WTF along with a CCTV camera to allow maintenance staff to rack in and out breakers in a completely separate room.



One of Carollo's proven safety-by-design methods, remote circuit breaker control panels, allows O&M personnel to open and close breakers from a safe distance outside of the arc flash approach boundary.

SAFETY First.

It may be a cliche, but safety is the first consideration of every EI&C evaluation, study, or design at Carollo. Our safety-by-design approach enhances electrical safety for O&M personnel by:

→ Estimating arc flash incident energy levels during design.

→ Keeping O&M personnel out of the arc flash approach boundary.

→ Reducing arcing fault clearing times with fast-acting protection relaying.

City Involvement

We will work with you to define your expected role and level of participation during each project or task, to determine how decisions will be made, and when and how we will meet with you. Above all else, we want to make sure we keep you informed and gather your input in a way that's appropriate for each project.

Discussion of these and other issues should begin during task order development and be finalized at follow-up project meetings. This final list of expectations should be reviewed regularly and modified if necessary. The most direct way we have to communicate with you will be through periodic meetings, teleconferences, or emails. As previously mentioned, we will schedule progress meetings as required by the project to obtain stakeholder input.

We provide all meeting agendas in advance so that your staff is made aware of the issues to be discussed and to make sure the necessary attendees are present and prepared. We will develop notes for each meeting to document the discussion including decisions made. We also anticipate meeting more frequently and informally with project team members, as required. We will schedule informal meetings through your project manager to maintain proper communication channels.

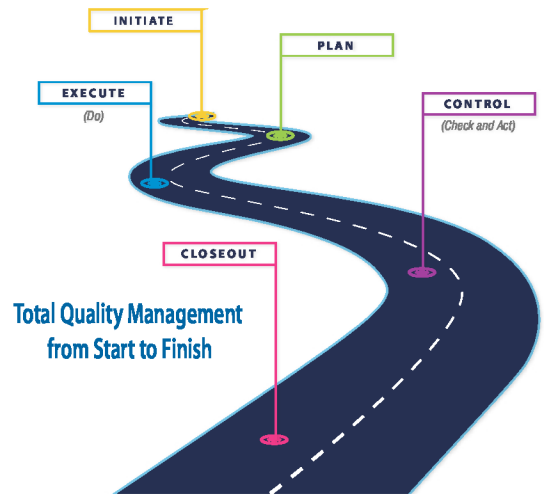
QUALITY MANAGEMENT

Our Quality Management Program is based on the concept of continually improving quality by identifying and correcting problems so that they do not reoccur, identifying and eliminating inefficiency and waste, reducing variability, and increasing performance. The Quality Management Program is overseen by our team's quality manager, Chris Carvalho. All project deliverables will be reviewed by Chris prior to delivery to optimize quality and your staff's time. By providing high quality and coordinated deliverables, your staff can focus their efforts on critical concepts and not be bogged down with trivial errors.

Procedures

Before a project begins, the project manager is responsible for preparing a Project Checklist. This form lists various project steps from pre-contract planning through post-project history.

It is a proven tool and guide to assist the project team in identifying the quality management steps and documenting their completion. The checklist helps



Our approach will focus on quality throughout all phases to deliver a project that is correct, on time, on budget, achieves the scope, and meets or exceeds your expectations.

confirm that the project follows Quality Management procedures, since our experience indicates that when procedures are followed, quality improves. Some of the areas we include in our quality management checklist are:

- **Pre-Contract Planning.** Before a proposal is submitted or a contract is signed, we plan how we will complete the work. This includes understanding the project goals, selecting the project team, developing or refining the project scope, and establishing a budget that adequately reflects the level of service requested and expected by the client.
- **Special Requirements.** Special requirements that can impact the project are identified. This can include special permits and regulatory approvals that could affect schedule, teaming arrangements, project delivery issues, or any other issue that is not normally part of our project procedures.
- **Work Plan.** A work plan is developed for each project. The work plan establishes the sequence of the work effort, when work needs to occur within the project schedule, meeting times, topics of discussion at the meetings, key decisions to be made, and the project deliverables.
- **Risk Identification and Mitigation.** Potential risk is identified and a mitigation plan will be developed. The checklist will link to a project specific risk register that will be continuously updated throughout the project.

Section D

References

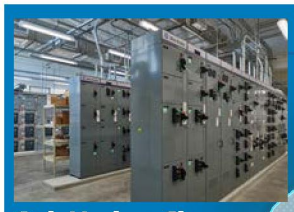
References

The Carollo Team has consistently demonstrated our quality of service by working with clients throughout Colorado (and the country) to address various water challenges. Our firm combines decades of wastewater and water planning and design experience with a proven track record of managing a variety of technical, economic, regulatory, environmental, and political issues to develop optimal solutions for our clients.

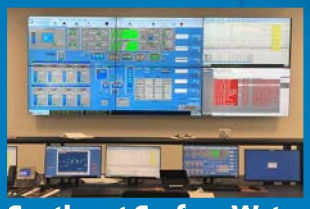
> *"Carollo's ability to listen to and collaborate with the Owner on innovative design solutions is unmatched by anyone in the industry. Their attention to detail and thorough design development translates into a quality work product in the field, one that the entire project team can be proud of."*
>
> — Sherman Papke,
> Treatment Plant Division Head
> Metro Wastewater Reclamation District, CO

JUST ASK OUR CLIENTS

Just as important as technical expertise, is our ability to communicate effectively and foster a collaborative and productive working environment with the agencies we serve. We are proud of the continuing relationships we have developed with our clients and invite you to contact the references associated with the projects on the following pages.

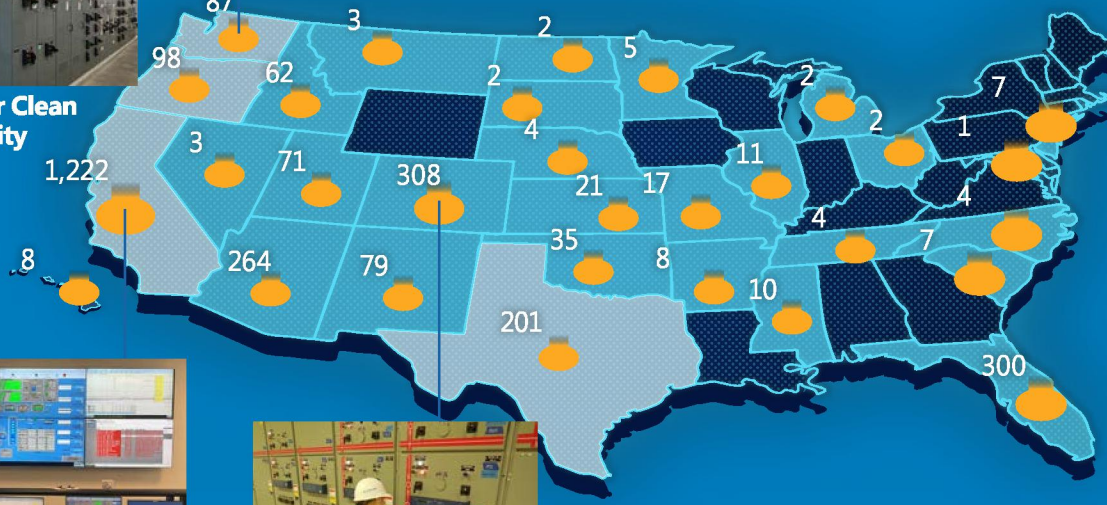


Oak Harbor Clean Water Facility
Oak Harbor, Washington



Southeast Surface Water Treatment Facility Design
Fresno, California

South Secondary Improvements Design and CM Services
Metro Wastewater Reclamation District, Denver, Colorado



2,878 EI&C PROJECTS COAST-TO-COAST

Used alternative procurement to gain construction insight to optimize construction delivery and operationally shut-down sequencing.

Biogas Use Applications and Pipeline Injection
South Platte Water Renewal Partners, Englewood, Colorado

This project includes construction of a biogas treatment system to convert digester gas into renewable natural gas for injection into Xcel Energy's (Xcel) natural gas pipeline. The biogas treatment system connects to SPWRP's existing biogas system and is powered from the existing digester complex switchgear. The biogas treatment system includes a vessel filled with iron hydroxide media for hydrogen sulfide (H2S) removal, an equipment skid with a 250 horsepower compressor system and associated chiller, multiple vessels filled with granular activated carbon for siloxane removal, and a set of membranes used to remove carbon dioxide (CO2). Compression equipment and the treatment system control panel utilize Ethernet and Profibus networking for equipment monitoring and control from the plant's SCADA system.

Electrical Improvements Project

Completed miscellaneous electrical improvements using a construction manager at risk procurement approach. The scope of improvements include developing design and bidding documents for the following scope:

- Replaced 10 Rockwell/Allen Bradley variable frequency drives
- Replaced two switchgears using main-tie-tie-main configuration with prefabricated switchgear building.
- Replaced two MCC's for existing Headworks Facility.

Provided energy monitoring and controls connected to the plant's SCADA system.

REFERENCE INFORMATION

Chong Woo, Deputy Director
Engineering
2900 South Platte River Drive
Englewood, Colorado 80110
T: 303.762.2655
E: cwoo@englewoodgov.org

TEAM INVOLVEMENT

Dave Pier, Chris Heger

ENGINEERING COSTS

$690K (Design/ESDC)

DATES

2016-Present

Relevance to Grand Junction:

- Coordination of new processes with existing electrical gear and controls.
- Installation of biogas cleaning and recovery system.
- Construction sequencing to maintain operational and regulatory compliance.

"The DB approach ensured the success of the project. Our project came in 12% ($1.8M) under our original estimates, took 14 months from 40% design to completion."

- Dale Tooker, Manager, Clifton Water District

MF/UF Improvements
Clifton Water District, Colorado

This project consisted of a renovation of the existing water treatment plant (WTP) to provide 12 million gallons per day (mgd) of increased capacity. The Carollo Design-Build Group utilized 3D design and collaboration with the District to maximize the benefits of the progressive design-build process.

The team optimized the connection between the existing and new treatment processes to **simplify operations and maintenance**, while meeting the District's high standards for plant reliability and performance.

We also identified a decommissioned pretreatment facility as the ideal location for the UF treatment process. Not only was the pretreatment facility hydraulically viable, it would also allow construction of the train without disrupting current operations.

The team held a weekly project safety meeting to provide training and discuss specific hazards that might be encountered that week. Monthly project committee safety meetings were held to discuss the results of safety inspections and identify ways to eliminate any potential safety violations that may have been discovered in any of the month's formal inspections.

Motor Control Replacement Project

As the on-site design engineer, Carollo was asked to develop design documents for MCC replacements and completed their load study.

The project was the recipient of the 2016 National DBIA Water/Wastewater Award of Merit, as well as the 2016 ENR Mountain States Best Projects Award of Merit.

REFERENCE INFORMATION

Dale Tooker, Manager
Clifton Water District
510 34 Road, Clifton, CO 81502
T: 970.434.7328
E: dtooker@cliftonwaterdistrict.org

TEAM INVOLVEMENT

Tamara Heger

ENGINEERING COSTS

$1.7M (Study/Design)

DATES

2013-2017

Relevance to Grand Junction:

- Fast track project completed ahead of schedule at $1.8 Million under budget.
- Focus on safety and implementation of electrical 'safety by design'.
- Electrical system and arc flash studies.
- MCC Replacements and generator rehabilitation improvements.
- Overall system integration with process and electrical controls.

Motor Control Center and Switchgear Replacement
City of Fort Collins, Colorado

Carollo performed the electrical design for several electrical equipment replacement projects at three Fort Collins Utilities Facilities:

Mulberry Water Reclamation Facility (MWRF):

- Replacement of four motor control centers (MCCs).
- Service entrance automatic transfer switchgear.
- Complete Electrical System study including arc flash study.

Drake Water Reclamation Facility (DWRF):

- Replacement of five motor control centers.
- Complete Electrical System study including arc flash study.

At DWRF the MCC upgrade projects required complete replacement of the MCCs while keeping critical portions of the facility in operation. The project included developing detailed sequencing plans to coordinate the replacement procedures with operations staff, contractor, and public safety. For replacement of one of the MCCs, power to both the new and old MCC was maintained concurrently during the transition, allowing loads to be moved one by one from the existing MCC to the new MCC, preventing an entire process shutdown.

Laporte Water Treatment Facility (WTF):

- Automatic transfer switchgear.
- Three standby generators.
- Complete Electrical System study including arc flash study.

At the Laporte WTF the automatic transfer switchgear and generator replacement included transitioning from the existing switchgear to the new switchgear with minimal power disruption. A sequencing plan was developed that allowed the existing switchgear to be powered from an alternate source during construction of the new automatic switchgear. The project only required a single momentary power outage.

REFERENCE INFORMATION

Link Mueller, Special Projects Manager
3036 Environmental Drive
Fort Collins, Colorado 80525
T: 7970-222-0465
E: lmueller@fcgov.com

TEAM INVOLVEMENT

Chris Heger, Brian Ream,
Tamara Heger, Chris Carvalho

ENGINEERING COSTS

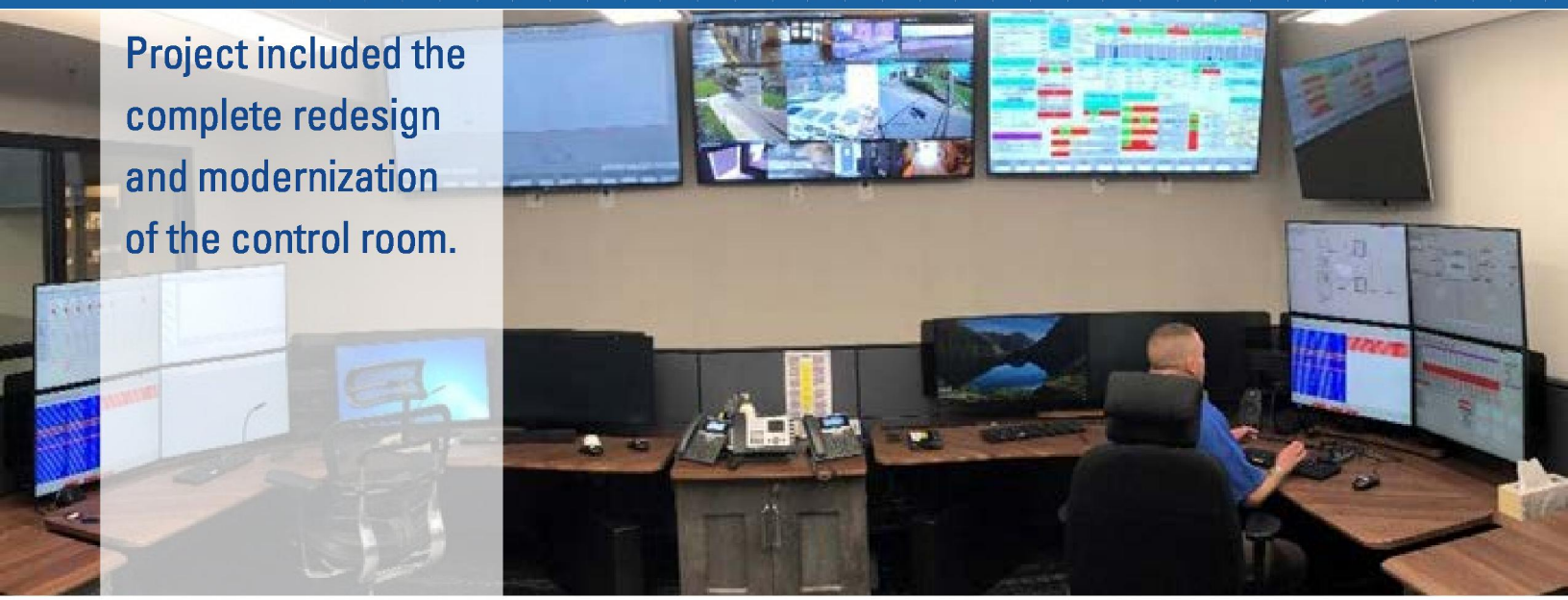
$50K-$800K (Range)

DATES

2015-2020

Relevance to Grand Junction:

- Demo of existing 480V MCC's.
- Construction sequencing and power cut-over planning.
- Complete Electrical System study including arc flash study.
- Performed milestone constructability reviews throughout design in coordination with contractor.



PLC Upgrades for Wemlinger and Griswold Treatment Facilities

Aurora, Colorado

For the City of Aurora's Wemlinger Water Purification Facility and Griswold Water Treatment Plant, Carollo performed design, procurement, programming, and construction services to replace the existing PLCs with new Allen Bradley ControlLogix PLCs.

Our team provided the design for modernization of the existing control room, a new wireless network for PLC/SCADA, and configuration of a new gigabit PLC/SCADA and security network. Several process upgrades were provided simply by making modifications to the PLC program without the need for infrastructure upgrades.

Carollo is also performing the design, procurement, programming, and construction services to replace Griswold's existing PLCs and programming with new Allen Bradley ControlLogix PLCs. The project includes the development of contract documents, process control narratives, panel design and procurement, PLC programming, and HMI screen development. The project includes intensive workshops with the City to develop new PLC and HMI standards.

REFERENCE INFORMATION

Dean Bedford
15151 E. Alameda Ave., Suite 3600
Aurora, Colorado 80012
T: 303.326.8816
E: dbedford@auroragov.org

TEAM INVOLVEMENT

Brian Ream, Seger Petersen, Chris Heger

ENGINEERING COSTS

$1.1M (Study/Design)

DATES

July 2019 (Wemlinger)

Ongoing (Griswold)

Relevance to Grand Junction:

- Planning, design, programming, and equipment procurement of electrical and SCADA improvements.
- Developed detailed cutover and startup plan closely coordinated with operations and maintenance staff.
- Coordinated effort between engineering, programming, and operations to develop and test control narratives for generator transfer.

Extensive additions to the power infrastructure including 15kV, 5kV, and 480V SWGR, and 480V MCC's, all featuring a digital bus for communications.

PAR 1085 South Secondary Improvements Design and CM Services

Metro Wastewater Reclamation District, Denver, Colorado

The goal of this project was to convert the South Secondary Complex from high purity oxygen to a biological nutrient removal, air activated sludge process to meet discharge permit limits and increase overall capacity to 100 mgd. The following are key design elements:

- Detailed bus networks, including more than 9,000 I/O points, Profibus DP/PA and DeviceNet nodes, and multiple MODBUS RTU, Ethernet/IP, and Ethernet TCP/IP connected devices over a secure fiber optic backbone.
- Network junction boxes placed throughout the facility allowing easy access to MODBUS TCP, Profibus PA, and Profibus DP.
- Instrumentation components supported by FDT DTMS, allowing for remote access and monitoring for instrumentation and equipment health.

The project was the recipient of the 2017 Grand Prize for Design awarded by the American Academy of Environmental Engineers, as well as the 2012 Bentley Be Inspired Award for the Innovation in Water and Wastewater Treatment Plants.

REFERENCE INFORMATION

Sherman Papke, Treatment Plant Division Head
6450 York Street
Denver, Colorado
T: 303.286.3390
E: spapke@mwrd.dst.co.us

TEAM INVOLVEMENT

Chris Carvalho, Chris Heger

ENGINEERING COSTS

$44.7M (Design/ESDC)

DATES

2008-2015

Relevance to Grand Junction:

- 3D CAD/BIM technology aided in visualization, clash detection, and production efficiency.
- Design of electrical, instrumentation, and control elements for successful SCADA integration.
- Evaluation and design of blowers and air delivery systems.
- Hydraulic system evaluation for 100-mgd secondary treatment facility.

Designed the electrical and control systems for a greenfield 75-mgd water treatment plant, which included 15kV, 5kV, and 480V SWGR, and 480V MCC's, all featuring a digital bus for communications.

Northwater Treatment Plant EI&C Design
Denver Water, Colorado

Carollo serves as the EI&C design engineer for the new 150-mgd Northwater Treatment Plant and the modifications at Moffat Water Treatment Plant as part of Denver Water's North System Renewal Program. The improvements at Moffat WTP and at Ralston Reservoir are using updated CPCS design standards including CAD, specifications, and standard details. The improvements at the Northwater Treatment Plant are integrating innovative electrical and controls systems to reduce capital and long-term operating costs. In addition, our design provides database driven information to improve level of quality control and simplicity to integrate design information into Denver Waters' asset management system. Key features include:

- Designed modularity in electrical and controls systems to simplify maintenance periods.
- Designed 13.2kV distribution loop with new switchgear, transformers and intelligent motor control centers and premium efficiency motors.
- Leveraged both Allen Bradley ControlLogix PLCs and Bristol Myers PLCs for process control at Northwater Treatment Plant and Moffat WTP; respectively.
- Performed same planning, management and coordination elements between design teams, Denver Water engineering and operations staff to meet schedule and scope demands.

Carollo led an evaluation of various energy storage systems to decrease energy reliance on the local electric utility, including developing an energy balance and energy user profiles for the Northwater Treatment Plant.

REFERENCE INFORMATION

Casey Clark, Project Engineer
1600 West 12th Avenue
Denver, Colorado 80204
T: 303.628.6240
E: casey.clark@denverwater.org

TEAM INVOLVEMENT

Dave Pier, Chris Heger, Brian Ream, Kush Agarwal

ENGINEERING COSTS

$12.6M (Design/ESDC)

DATES

2016-Present

Relevance to Grand Junction:

- Designed new 480V switchgear and variable frequency drives.
- Collaborated with Denver Water staff to develop and modify design standards.
- Digital bus instrumentation and intelligent MCCs and VFDs.
- Used Safety-by-Design approach.
- Coordinated cathodic protection design with electrical design.

Section E

Fee Proposal

PROJECT BILLING RATES AND FEES FOR ELECTRICAL ENGINEERING SERVICES

Carollo's billing rates for August 2020 until July 2021 are presented below. These billing rates will be adjusted annually for the duration of the project.

Carollo Engineers, Inc. Fee Schedule For City of Grand Junction, Colorado Professional Electrical Engineering Services As of August 1, 2020	
Engineers/Scientists	
Project Manager	$230
Senior Professional / Senior Technical Engineer, Quality Control	$250
Lead Project Professional (Discipline Engineers – Electrical, Structural, Process Mechanical)	$210
Project Engineer	$185
Assistant Project Engineer	$175
Assistant Project Professional II	$150
Technicians	
Senior CADD Technician	$180
AutoCAD Drafter, Technician	$120
Support Staff	
Administrative Support	$110
Other Direct Expenses	
Travel and Subsistence	at cost
Mileage	IRS Rate
Subconsultant	7.5%
Project Equipment Communication Expense (PECE) per Carollo labor hour	$12
Other Direct Cost	at cost

Section F

Legal Proceedings/Lawsuits

Legal Proceedings/Lawsuits

Carollo is currently involved with and/or has pending the following legal proceedings and/or lawsuits with in the last three (3) years:

- In 2017, Carollo was brought into a lawsuit between a client and the construction contractor claiming project delays related to the construction of a new wastewater treatment plant. Carollo denies responsibility for any of the claims. The lawsuit is in progress.
- In 2018, Carollo, the construction contractor, and the client were the subject of a lawsuit filed by property owners along a sewer interceptor realignment project where construction operations extended beyond the originally projected construction completion date. The matter was submitted to mediation and thereafter settled with no admission of fault by Carollo.
- In 2019, Carollo and several other large water engineering firms doing business in Florida were sued by a private citizen who has a history of suing governmental entities (i.e., his most recent lawsuit was against the Federal Reserve). The overall allegations of the citizen center around claims that Carollo was working with the other noted water firms to hide an alleged underground water source on the plaintiff's/citizen's property from our Florida clients. The lawsuit was dismissed.
- In 2020, Carollo and their joint venture partner were the subject of a lawsuit filed by a client related to tank corrosion as part of a design-build project completed in 2005. Carollo denies responsibility for any of the claims. The lawsuit is in progress.

Section G

Additional Data

Additional Data

We leverage innovative tools such as Reservoir®, an information management system, to efficiently coordinate cross-discipline efforts, document assets, and minimize risk through database management. We base our selection of which tools are right for your project on the project's unique challenges and needs. We do not specialize in "cookie cutter" designs. The purpose of our tools is to automate the nuance so we can focus our time on our client's specific needs.

When we provide information to the City, we want to be confident that there are minimal coordination errors, such as tagging discrepancies and mismatches between the various discipline drawings, and inconsistencies in equipment sizes and types between specifications and drawings. These types of errors waste the City's time and distract from the bigger picture ideas that are most critical during review.

Close coordination between technical disciplines and accuracy of shared process information have become a cornerstone of Carollo's design philosophy. For that reason, we created an information management tool called Reservoir® that was specifically developed to organize and manage the process equipment information used across disciplines during the design process. Reservoir® acts as a centralized repository for process equipment information, such as equipment name, tag number, physical location, and horsepower. Carollo will use this information to populate and update the database, as well as provide several summary reports that are useful for Owners. Managing this information in Reservoir's® centralized database ensures that all disciplines are working with consistent and current process equipment information.

In addition to housing all process equipment information, Reservoir® is also used to organize electrical loads into discrete load centers (e.g., switchgear, motor control centers, distribution panelboards) and perform electrical load calculations that serve as the basis for the selection of electrical equipment ratings.

Using the process equipment information stored in its database and the electrical load center organization, Reservoir® automatically generates electrical single-line drawings and electrical load studies. Additionally, by using Carollo's database driven design tools such as Reservoir® and Coade to produce electrical system analysis, Carollo's electrical one-lines and process and instrumentation diagrams ensure our designs are properly coordinated and checked with the other disciplines. **Our design standards include the "safety by design" philosophy to provide a safe working environment for Grand Junction's O&M staff.**

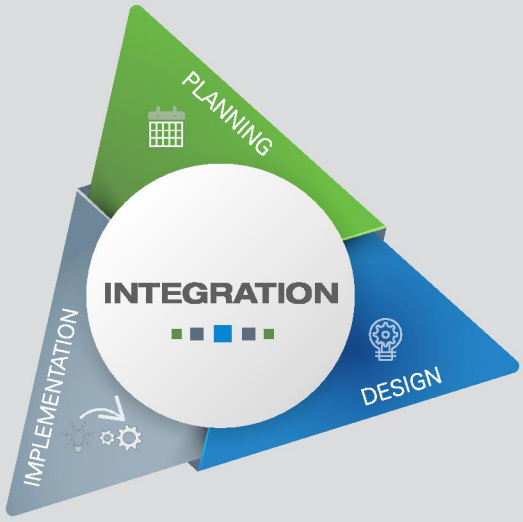
RESERVOIR®

Carollo's Reservoir® tool will be used to organize and manage the process equipment information relevant to all disciplines during the design process.

Focus on the critical design details, not the minutiae.

Carollo's Reservoir database tool is an innovative approach to managing and organizing process equipment information that offers many benefits:

- Efficient management of process equipment information across disciplines reduces re-work, which facilitates on-time completion of design deliverables.
- Automatic generation of single-line drawings reduces design time and effort.
- Better cross-discipline coordination enhances quality of design documents so City staff can focus on reviewing the technical content without getting sidetracked by coordination errors.



EPIC® INTEGRATION

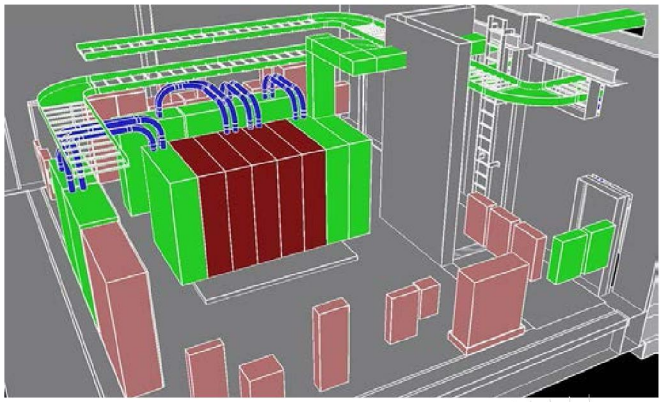
EPIC® provides a one-stop shop for an array of electrical, programming, instrumentation, and control services from the planning phases to design and through implementation. These services include master plans; electrical systems and arc flash studies; full-service electrical and I&C design; control and business systems network design; electrical safety programs; cybersecurity program development; HMI and PLC migration; programming standards development; and PLC, DCS, and HMI programming. Our engineers and programmers use a unique collection of tools and methodologies to get stakeholder input and generate ideas that gain support and are financially defensible. With these plans, we help our clients manage their assets, migrate to new systems, and update their critical infrastructure so they can face the challenges that lie ahead.

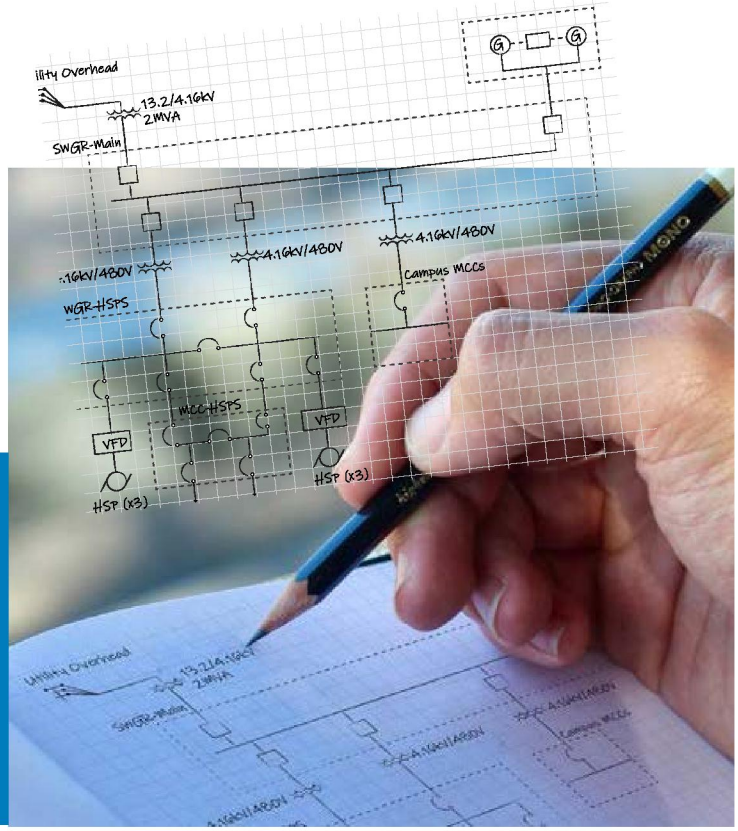
OUR APPROACH TO MCC REPLACEMENTS

We will develop a coordinated approach to minimize downtime during MCC replacements including:

- Step-by-step cut-over plan detailing timing and duration of any required downtime. The cut-over will be designed and planned by the project team and not left up to the contractor.
- Workshop with both electrical and operations staff to ensure key stakeholders are involved and agree to the procedure.
- Development of a job specific risk management plan that will include contingency and safety planning.

We will use 3D modeling to layout electrical upgrade options. We will present the 3D model during workshops and make adjustments in real time so that the O&M staff and design team can visualize and optimize layouts as a collaborative team. We use this approach extensively on the Denver Water Northwater Treatment Facility design, and it was proven to be a very effective tool in quickly reaching consensus and buy-in on electrical layouts.





From Plans to Reality.

Our team will take a "whiteboarding" approach during workshops to sketch out several concepts with your staff that reduce process downtime, improve reliability, establish modularity, and improve redundancy, while taking the existing infrastructure into consideration.

Resumes

David S. Pier, P.E.

David Pier is a professional engineer with over 23 years of water related project management experience as a consultant and utility owner. Mr. Pier has managed a $1.4 billion capital expenditure schedule program, developed project-level and program controls documents focused on cost control, estimating, and scheduling. Additionally, Mr. Pier has managed over $500 million in design and construction improvements for various municipalities and utilities.

Education

MBA Business Administration, University of Colorado, Denver, 2004

MS Civil Engineering, Colorado State University, 2000

BSCE Civil Engineering, University of Colorado, Boulder, 1994

Licenses

Professional Engineer, Colorado

Certification

Project Management Professional, Project Management Institute, 2016

Professional Affiliations

American Water Works Association

Water Environment Association

Relevant Experience

→ Financial feasibility for the Pipeline Injection Project, South Platte Water Renewal Partners, Englewood, Colorado. This project included design and construction of a gas conditioning system to clean digester gas for injection into an Xcel natural gas pipeline. In addition to design and construction services, this project included analysis of financing options, procurement of a CMAR contractor, and procurement of a carbon broker to manage the sale of brown gas and Renewable Identification Number (RIN) credits.

→ Project manager for Denver Water's Northwater Treatment Plant, Denver, Colorado. Managed the preliminary design development for the electrical and instrumentation design of a greenfield 150-mgd advanced water filtration plant. The design included integration of new technologies and design approaches to streamline future design projects for Denver Water.

→ Engineering design lead for the Marston Filtration Plant Improvements, Denver Water, Colorado. Managed the technical design and construction services. The 140-mgd filtration system improvements increased the treatment capacity and decreased water usage by implementing air-scour backwash systems. The project delivery used a Construction Manager at Risk (CMAR) model for the $35 million project.

→ Lead design engineer for the Ulrich Water Treatment Plant Improvements, City of Austin, Texas. The 160-mgd filtration system improvements included conventional granular media filtration system, backwash pumping, and the addition of an air-scour system. The project delivery model used a conventional design bid build approach for the $70 million project.

→ Technical Specialist for the Metro Wastewater Reclamation District's Greenhouse Gas Evaluation Tool Project, PAR 1281. Served as technical expert on greenhouse gas (GHG) emissions calculations and process impacts on the 220-mgd biological nutrient removal treatment plant.

→ Managed the development of planning criteria for the Metro Wastewater Reclamation District's 2008 Facility Plan. The planning criteria included current and future population, employment and wastewater flow and loading projections for the next 30 years. Evaluation assessed current and future flow and loading trends impacting the metropolitan Denver area. Managed the development of a geographic information system (GIS)-based demographics model used to develop multiple planning scenarios based on changes in water uses and land-use development. Used hydraulic and process modeling software to determine impacts to the 200-mgd biological nutrient removal wastewater treatment plant.

→ Project manager for the City of Westminster's Big Dry Creek Wastewater Treatment Plant Expansion Project, Westminster, Colorado. Managed a Construction Management at Risk project for a $38 million biological nutrient removal wastewater treatment plant expansion. Coordinated project quality, client and regulatory communications, change order approvals, project deliverables, schedules, and budgets. Ensured collaborative effort occurred between the operations staff and the design engineers.

→ Project manager and technical expert for the Sustainable Return on Investment Projects, Metro Wastewater Reclamation District, Denver, Colorado. Managed sustainability studies evaluating the financial, social, and economic costs and benefits for various infrastructure and administrative approach-

es. This information facilitated decision making and consensus building with multiple stakeholders and management of large amounts of literature data. The evaluations conducted included co-digestion process, fermentation process, conventional nutrient removal technologies, and effluent heat extraction facilities.

→ Project manager for the Metro Wastewater Reclamation District 2013 Facility Plan Project. Managed the 2-year planning process and developed an integrated planning document detailing conceptual solutions, creating costs and implementation schedules focused on regulatory drivers, planning and staffing projections. Assessed the current and future staffing projections for all business units over a 20 year period. Conducted one-on-one interviews and focus group discussions with managers from each business unit. Interviews were used to identify infrastructure improvements and develop plans for accommodating future staffing levels. The Plan developed conceptual layouts and building programming to develop sufficient information for cost estimating purposes. Evaluate current and future infrastructure trends and processes to determine impact of operations and maintenance staffing associated with meeting the CDPHE Regulation 85 and 31 and with commissioning the new Northern Treatment Plant.

→ Project Management Plan development lead. For the City of Sacramento, Water Meter Installation Project, served as the development lead and coordinator for the Project Management Plan for the $230 million water meter installation program. The Program Plan included overall vision and goals, staffing projections, workflow processes for managing multiple contractors, establishing project and program level controls, and reporting approaches, procurement and delivery plans including financial projections, and integration of business processes with existing City systems and approaches. The staffing forecasts evaluated current and future workload requirements required to meet the overall Program objectives and workload.

→ Project manager for the Biosolids Optimization and Diversification Study at the Metro Wastewater Reclamation District, Denver, Colorado. Managed the integrated biosolids master plan which used a trip bottom line alternative assessment approach evaluating impacts to solids processing, disposal, and beneficial reuse of biosolids based on changes in water quantities and implementation on of innovative treatment technologies for a 220-mgd biological nutrient removal wastewater treatment plant.

→ Planning officer for the Capital Expenditure Management and Forecasting program, Metro Wastewater Reclamation District, Denver, Colorado. Managed updates to the District's capital expenditure schedule which includes over 300 projects and $1.4 billion dollars of improvements over the next 10 years. Responsible for monthly updates and validating capital expenditure information to maintain accurate cash-flow forecasts as annual expenditures increased from $20 million to over $180 million. Reviewed, validated, and performed sensitivity analysis on cost estimates provided by District staff, consultants, and contractors to ensure high-level accuracy to meet annual budgeting goals and project schedules.

→ Programmatic support for the Wastewater Treatment Plant Consolidation Projects, Hillsborough County, Florida. Developed a qualitative and quantitative risk register to assess procurement and project risks associated with the four design-build projects to consolidate three wastewater treatment plants into one. The risk register will be used to support and identify contingency measures to address schedule and budget compliance challenges for the over $200 million consolidation program.

→ Planning officer for the Capital Planning Division, Metro Wastewater Reclamation District, Denver, Colorado. Developed cost controls, cost estimating, and forecasting guidance documents as part of the District's Capital Project Management Program. Reviewed and developed project specific preliminary-design level cost estimates for the $280 million Secondary Improvements projects at the Metro District.

Christopher A. Carvalho, P.E.

Chris Carvalho, a senior vice president with Carollo Engineers, has 27years of experience in design and construction administration of electrical and control systems for water and wastewater facilities. During his career, Chris has gained experience in medium- and low-voltage power distribution, lighting, grounding, and electrical control. His instrumentation experience includes development of process and instrumentation diagrams (P&IDs) and control strategies, supervisory control and data acquisition (SCADA), and programmable logic controller (PLC) and distributed control system (DCS) applications, including networking and communications. As EPIC division manager at Carollo, in addition to project design work, he is responsible for mentoring and training junior engineers, quality reviews, value engineering reviews, and maintenance of standard specifications and typical details.

Education

MS Electrical Engineering, Ohio University, 1993

BS Electrical Engineering, Ohio University, 1991

Licenses

Professional Engineer, Colorado, Washington, Utah, Oregon

Electrical Engineer, California, Idaho

Professional Affiliations

Institute of Electrical and Electronics Engineers

Relevant Experience

→ Lead electrical engineer for the Metro Wastewater Reclamation District, Colorado, PAR 1085 South Secondary Treatment Improvements. The electrical work on this $134 million rehabilitation and expansion included two new 12-MVA utility feeds, 15-kV switchgear with automatic transfer functionality, medium-and low-voltage power distribution, 4,160-volt power system with switchgear and reduced voltage solid state starters to support five 2,000-horsepower blowers, seven low-voltage switchgear units, 14 motor control centers, and various panelboards. Other design elements included extensive use of cable tray, lighting, grounding, and coordination with the electric utility. Process networks included DeviceNet for motor control, Profibus PA and Profibus DP for valve and instrumentation control and monitoring, and fiber optics to support various control and enterprise networks.

→ Instrumentation lead for the Metro Wastewater Reclamation District, Denver, Colorado, PAR 1088 Northern Treatment Plant Owner's Advisor. Provided electrical and instrumentation support in the development of a "greenfield" 24-mgd advanced wastewater treatment facility, with a $280 million design-build budget allocated to the project.

→ Technical advisor for the Metro Wastewater Reclamation District, Denver, Colorado, PAR 1247 Electrical Transformer Replacement Project. Assisted in developing the construction sequencing and performed the electrical quality review of the project.

→ Lead electrical engineer for the Upper Blue Sanitation District North Plant in Breckenridge, Colorado. The project consisted of a new treatment train addition at the existing Farmers Korner Wastewater Treatment Plant. Electrical design included upgrades to the two existing electrical services and installation of a new service entrance low voltage switchgear and interface to the existing electrical system while maintaining plant operations. The new electrical system included motor control centers and variable frequency drives equipped with DeviceNet for control and status and DeviceNet smart valve actuator networks. The design included high-speed aeration blowers, chemical feed units, and tertiary filters.

→ Lead electrical engineer and project manager for the South Valley Water Reclamation Facility Phase 4D Expansion in West Jordan, Utah. The electrical design included replacement of three deteriorating low voltage switchgear units with new switchgear while maintaining complete plant functionality, as well as installation of three new 900-horsepower, 4,160-volt aeration blowers, rehabilitation of four existing oxidation ditches, and various other process facility upgrades.

→ Lead electrical engineer for the Metro Wastewater Reclamation District, Colorado, PAR 942 North Secondary Treatment Improvements. The pre-design phase of the project included a detailed field assessment of the existing electrical equipment and electrical infrastructure. Final electrical design elements included installation of a new low-voltage substation to support the new CaRRB (centrate and RAS reaeration basins) process and expansion of two control building electrical rooms to accommodate new

motor control centers and panelboards while maintaining full plant operation. Overall, the electrical design included two low-voltage substations housed in prefabricated enclosures, twelve new motor control centers, various other electrical components, new fire alarm system, modifications of two medium-voltage switchgears, and expansion of four control building electrical rooms. The design included both new cable tray and reuse of existing cable tray, grounding, and modifications to the existing paging system.

→ Lead electrical and instrumentation engineer for the Colorado Springs Utilities' Cheyenne and Pando Lift Stations Rehabilitation.

→ Lead electrical engineer and project manager for the South Valley Water Reclamation Facility Phase 4C Expansion in West Jordan, Utah. The electrical design included a new electric utility feed, service entrance 15-kV switchgear, 5-kV switchgear, and reduced voltage solid state starters for two 900-horsepower blowers including provisions for future blowers and a new bioreactor.

→ Electrical and instrumentation engineer for the King County, Washington, Carnation Treatment Plant. The electrical design incorporated a DeviceNet network for motor control and Foundation Fieldbus for instrumentation. A standby diesel generator was also included. The instrumentation design included coordination and incorporation of the membrane reactor manufacturer's control system and the UV system manufacturer's control system into the plant SCADA system. The design also included a LEED-certified administration building.

→ Electrical project manager for the City of South San Francisco, California, Switchgear and Cogeneration Controls Evaluation. This project evaluated various electrical systems at the Water Quality Control Plant that needed replacement and/or improvements, including switchboards, transformers, motor control centers, existing main service, and Emergency Generator No. 1. Responsibilities included evaluation and preparation of 6 technical memorandums to identify system efficiency and replacement/repair alternatives to address the deficiencies.

→ Lead electrical engineer for the San Francisco Public Utilities Commission, California, Southeast Plant's new 250-mgd Headworks Project. This project includes design of a new headwork to replace two existing headworks. The new headworks includes screens, screenings conveyor, screenings washer/compactors, grit removal basins, grit dewatering system, and odor control facilities. Responsibilities included design of a new Electrical Building, power distribution network, equipment controls, grounding, and lighting to support the new headworks.

→ Recently completed EI&C evaluation of pump stations for Central Contra Costa Sanitary District's Collection System Master Plan, and EI&C design for the Cogeneration Controls Upgrade project.

→ Electrical and instrumentation design engineer for the Breckenridge Sanitation District, Colorado, Iowa Hill Water Reclamation Facility. Assisted with design and construction of the electrical and instrumentation systems. Responsible for preparing control schematics, electrical plans, and conduit schedules and providing coordination with other disciplines such as mechanical; heating, ventilation, and air conditioning; and architectural. Reviewed the advanced treatment process equipment and resolved electrical and instrumentation interface issues. During construction of the plant, reviewed shop drawings, responded to field questions, and prepared change orders.

→ Lead electrical and instrumentation engineer for the Colorado Springs Utilities' Sand Creek Lift Station Automation, which consisted of evaluating the existing hard-wired control system and replacing the system with a new PLC-based control system and human-machine interface.

→ Electrical design engineer for Colorado Springs Utilities' Northern Water Reclamation Facility. Work included medium voltage power distribution, as well as site and building lighting.

Christopher A. Heger, P.E.

Chris Heger joined Carollo in 2008, gaining experience in construction management and electrical and instrumentation design for both water and wastewater treatment facilities. He also has in-depth knowledge of a variety of software packages including Word, ETap, AmpCalc and Excel. Common tasks with automated sequences include conduit schedules, voltage drop worksheets, and load studies.

Education

MS Electrical Engineering, Colorado School of Mines, 2012

BS Electrical Engineering, Colorado School of Mines, 2008

Licenses

Professional Engineer, Colorado, Oklahoma

Professional Affiliations

Institute of Electrical and Electronics Engineers

Lightning Protection Institute

Relevant Experience

→ Electrical lead for the Pipeline Injection Project, South Platte Water Renewal Partners, Englewood, Colorado. This project included design and construction of a gas conditioning system to clean digester gas for injection into an Xcel natural gas pipeline. In addition to design and construction services, this project included analysis of financing options, procurement of a CMAR contractor, and procurement of a carbon broker to manage the sale of brown gas and Renewable Identification Number (RIN) credits.

→ Electrical design for the Drake Water Reclamation Facility motor control center (MCC) replacement project for the City of Fort Collins, Colorado. The project includes replacement the Sludge Thickening Building MCC as well as the North Plant Lift Station MCC. As part of the replacement of both MCCs, the existing controls and power cables were re-used, which required significant coordination between Carollo, the contractor, and the manufacturer of the MCCs. Replacement of the Sludge Thickening Building MCC also incorporated a Profibus network to provide additional control and diagnostic features for the plant staff.

→ Electrical, instrumentation, and control design of Mulberry Water Reclamation Facility for City of Fort Collins, Colorado. The project included addition of an aeration basin, blowers, odor control, and sludge pumping and renovation of the final clarifier and headworks facility. Design included one-lines, motor control center and switchgear elevations, conduit and duct bank routing, switchgear, process P&IDs, Profibus network, and process control descriptions.

→ Electrical, instrumentation, and control design of Drake Water Reclamation Facility for City of Fort Collins, Colorado. The project consisted of renovating the aeration basin, and blowers of their South Train. Design included one-lines, conduit and duct bank routing, process P&IDs, Profibus network, and process control descriptions.

→ Electrical and instrumentation design for the Wastewater Treatment Facility UV disinfection project for the City of Belton, Missouri. The project included addition of a UV disinfection system and replacement of the facility's non-potable water pumps. Design included one-lines, standby power generation studies, conduit routing, switchgear, automatic transfer gear, schematics, and process P&IDs.

→ Electrical design for the Colorado Springs Utilities, Colorado, Southern Delivery Project. The design project for the new 50-mgd Water Treatment Facility included a medium voltage loop feed distribution system, with two standby generators, and a finished water pump station containing four 700-hp pumps, two 400-hp pumps, and two 150-hp pumps. Three low voltage, arc flash rated switchgears were utilized for distribution and all circuit breakers, power monitoring, and motor starters were networked using Devicenet and Ethernet TCP/IP. The processes utilized in the treatment facility include flocculation, sedimentation, filters, chemical addition, and ozone injection. The design documents included one-lines, elevations, conduit development plans, cable tray routing plans, security and fire alarm plans, and site duct bank routing.

→ Electrical design for Pump Stations 1 and 2 for the City of San Diego, California. The project included replacing the service entrance switchgear and distribution equipment for the six 600-hp pumps at Pump Station 1 and for the six 2250-hp pumps at Pump Station 2. Design included switchgear and relaying design, one-lines, elevations, conduit and duct bank routing, and P&IDs.

→ Electrical design for the Wastewater Treatment Facility Improvements project for

the City of Belton, Missouri. The project included an expansion of the existing influent lift station that doubled the pumping capacity and added a standby diesel generator, and a new headworks facility also with its own standby diesel generator. Design included one-lines, standby power generation studies, conduit routing, switchgear, automatic transfer gear, and schematics.

→ Electrical, instrumentation, and control design of the City of Loveland's Water Reclamation Facility in Colorado. The project consisted of renovating the aeration basins, headworks facility, and various pump stations on the site. Electrical design included replacement motor control centers, construction sequencing, vendor equipment, and load diversity. Design documents included one-lines, conduit diagrams, and ductbanks.

→ Electrical, instrumentation, and control design of Drake Water Reclamation Facility for City of Fort Collins, Colorado. The project consisted of renovating the aeration basin and blowers of their South Train and North Train. Electrical design included replacement motor control centers and switchboards. Design documents included one-lines, conduit and duct bank routing, process P&IDs, Profibus network, and process control descriptions.

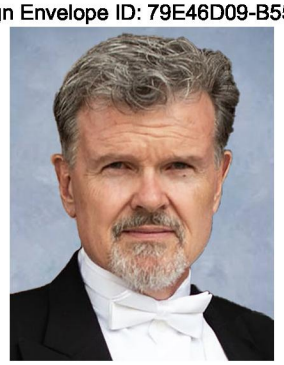
→ Electrical and instrumentation design for the Drake Wastewater Reclamation Facility Digester Cogeneration Project for the City of Fort Collins, Colorado. The project included addition four 275 kVA generator units, digester gas conditioning system, and 480 VAC paralleling switchgear. Design included one-lines, standby power generation studies, conduit routing, automatic transfer gear, network diagrams, and process P&IDs.

→ Lead electrical, instrumentation, and controls engineer for master planning services for the City of Fort Collins, Colorado, Drake Water Reclamation Facility. The master planning effort included field investigation and condition assessment of the existing electrical and controls infrastructure. Staff surveys were conducted to understand the needs and desires of management, information technology, operations, and maintenance. Based on findings from the field investigation and staff surveys, recommended projects were scoped, prioritized, and budgeted for integration into the facilities short and long-term Capital Improvements Project schedule.

→ Electrical and instrumentation design for the Drake Wastewater Reclamation Facility Dewatering Project for the City of Fort Collins, Colorado. The project included adding two centrifuge units in place of their existing belt filter presses, adding a strain press at their existing Headworks Facility, and replacing the associated electrical equipment to serve the new load of approximately 300 HP. Design included one-lines, standby power generation studies, conduit routing, automatic transfer gear, network diagrams, and process P&IDs.

→ Electrical and instrumentation design for a new pump station at a new augmentation reservoir for the City of Fort Collins, Colorado. The project included a 215-hp submersible pump, a 25-hp submersible pump with network communication. Design documents included one-lines, elevations, detailed conduit and duct bank routing, P&IDs, and a network drawing.

→ Electrical and instrumentation design for a loop power distribution system for the Oklahoma City Draper Water Treatment Plant. The existing plant distribution was designed around a radial feed. The project replaced the existing electrical system with a loop feed that is capable of supporting future processes and plant capacity expansions in the future. The design documents included, one-lines, elevations, detailed conduit plans, P&IDs, network drawings, and site duct bank routing with profiles.



David J. Southern, P.E.

David's solid professional engineering background and more than 25 years in progressive application and process controls experience has built him a solid reputation as a leader in industrial instrumentation and controls (I&C) applied technologies. His experience includes I&C engineering for water/wastewater projects for the cities of Salem, OR, Fargo, ND, Lake Havasu, and Phoenix, AZ.

Education

BS Engineering Science, Montana School of Mines, 1982

Licenses

Professional Engineer, Colorado

Professional Engineer, Colorado

Professional Engineer, Montana

Relevant Experience

→ Instrumentation and Control engineer for the Geren Island Water Treatment Plant (GIWTP) Improvements for the City of Salem, Oregon. Project includes process Pump Station improvements to increase overall roughing filter firm capacity, intermediate ozonation facilities to remove algal toxins from the surface water source, and integration of new and enhancements to existing operations control systems and equipment.

→ Instrumentation and Control engineer for the Digesters Rehab and Inspection Services contract for the City of Porterville, CA. Project included consulting assistance to provide cost effective solutions and ensure that the City of Porterville's solids processing operations are restored to full capacity with minimal operations impact.

→ Instrumentation and Control engineer for the Town of Marana, Arizona – Airline/Lambert and Picture Rocks Water Treatment Campuses. Project includes preliminary design, detailed design, resident engineering, construction administration, startup/operations assistance, and regulatory/permitting support for two separate groundwater treatment facilities to remove 1,4-dioxane and PFAS in excess of U.S. EPA Drinking Water Health Advisories from drinking water supplies. Both facilities include UV/hydrogen peroxide AOP to destroy 1,4-dioxane followed by GAC for excess peroxide quenching and PFAS adsorption.

→ Lead Instrumentation and Control engineer for the Polk Regional Water Cooperative, Florida – Water Supply Improvements. Conceptual and preliminary design of two RO Water Treatment Plants (15 mgd and 30 mgd), routing studies and conceptual design of 120 miles of pipelines, completion of an integrated water supply study of the Peace Creek Watershed.

→ Instrumentation and Control engineer for the City of Phoenix, Arizona – Lift Station 51 (LS 51) Refurbishment Design. While LS 51 was out of service a small waterline broke on-site and went unnoticed. In order to put LS 51 back into service, civil, mechanical, electrical, and instrumentation improvements were ad-dressed, including the dry pit include pumps, valves, bridge crane hoist, sump pumps, evaporative cooler, ductwork and supports, electrical wiring, switches, outlets, cables, conduits, and lighting.

→ Instrumentation and Control engineer for the Orlando/Woodard and Curran Water Conserv II FY 2020 Services project. Scope included Water resources, operations and maintenance, and engineering support for the Water Conserv II (WCII) reclaimed water (RW) irrigation and aquifer recharge facilities. Services may include: asneeded services (project-related coordination, coordination for Independence Way planning, maintenance/support of the RW Operations Database system); monitoring services (groundwater quality, lake water surface survey); conservation area support services (gopher tortoise conservation area, sand skink habitat conservation plan); and capital improvement services (assess and convert former irrigation wells, FDEP operational permit renewal, update WCII GIS, update WCII distribution hydraulic model, design connection of supplemental wells to distribution network, design/permit WCII RW Reservoir, construction phase support for realignment of the TM).

→ Instrumentation and Control engineer for the City of Ukiah, CA Recycled Water Pipeline Final Design and Construction Management Phases 1-3. Final design and construction of a 66-MG, three-cell, lined, open recycled water storage pond (both excavation and berm construction); about 7 miles of 12- and 16-inch-diameter PVC

pressure pipeline-in-trench (most at cover < 5 feet) in public roads and across agricultural land; some creek and road jack-and-bore crossings; and a 3,000-gpm vertical turbine recycled water pump station.

→ Lead Instrumentation and Control engineer for the Rock Creek Advanced Wastewater Facility (AWWTF) Dewatering Centrifuge Installation Project, Clean Water Services Hillsboro, OR. This project finalizes the design and provides bidding and permitting services for the installation of the two new centrifuges as well as improvements to the odor control system.

→ Instrumentation and Control engineer for the American Valley Communities Services District's Quincy-East Quincy WWTP Improvements project. Project included includes headworks upgrades, secondary treatment system upgrades (nitrification-denitrification), tertiary upgrades (disc filtration), ultraviolet disinfection, new effluent pipeline to an existing outfall, return pump stations, solids dewatering facilities, new electrical service and backup power provisions, new motor control centers, SCADA improvements to accommodate new facilities, and ancillary items.

→ Instrumentation and Control engineer for Lake Havasu City Public Works' Island WWTP Flow Equalization Basin project. Project included modifications to a 350,000-gallon reuse reservoir, pipeline and reuse pump.

Brian Ream

Brian Ream has more than 25 years of experience in the electrical industry for water and wastewater facilities. His recent experience includes engineer cost estimates, project site inspections, constructability review and electrical, instrumentation and control designs.

Prior to joining Carollo, Mr. Ream managed the field operations for an electrical contractor. His experience includes business planning, staff development, master planning, design reviews, estimating, proposals, contracts, budgeting, schedules, electrical/ instrumentation, SCADA procurement and installations, commissioning, start-ups and client trainings.

Education

IECRM Electrical Trade Career College, 1998

Trimble Accubid Estimating Software Training

Licenses

Master Electrician, Colorado

Professional Affiliations

International Association of Electrical Inspectors (IAEI)

IECRM

Relevant Experience

→ Electrical, instrumentation and controls inspector for Metro Wastewater Reclamation District's PAR 1085 South Secondary Improvements Construction Services, Denver, Colorado. Project included modifying and upgrading the South Secondary Treatment Facilities to treat 114 million gallons of wastewater per day. Project included design of electrical, instrumentation, and control elements for successful integration into facility SCADA system.

→ Electrical constructability review and electrical cost estimator Denver Water's North System Renewal WTP Design Package 3, Denver, Colorado. The project entailed preliminary design development for the electrical and instrumentation design of a greenfield 150-mgd advanced water filtration plant. The design included integration of new technologies and design approaches to streamline future design projects for Denver Water.

→ Electrical, instrumentation, and controls auditor for the Metro Wastewater Reclamation District's Owner's Advisor PAR 1088 Northern Treatment Plant Program Construction Services, Denver, Colorado. The Owner's Advisor assisted the District in the management of the 7-year Program for all planning, procurement, construction, and start-up services for the implementation of a 24-mgd advanced treatment facility, a 7-mile interceptor, and the 11-mile effluent pump back system. The Owner's Advisor was co-located with District staff for the delivery of the $475-million Program. The Program includes the largest, constructed PDB project to date in the U.S. water/wastewater industry, and has been referenced by the Water Design-Build Council and Design-Build Institute of America as an example for best value, qualifications-based procurement.

→ Electrical, instrumentation and controls inspector for the Metro Wastewater Reclamation District, Colorado, PAR 1247 Electrical Transformer Replacement Project and PAR 1259 Digester Complex Rehabilitation Project. Project included replacement of two 4.16 kV to 13.2 kV substation transformers with low resistance and zig-zag transformer grounding, two 13.2 kV to 480 V substation transformers with high resistance grounding, and a 480 V load center.

→ Electrical constructability reviewer for the City of Bend's Solids Handling Improvements Dewatering Project.

→ Electrical, instrumentation and controls inspector for the City of Aurora's Wemlinger Water Purification Facility (WPF) CT Chamber. The project consists of construction of a new buried concrete water disinfection contact chamber.

→ I&C quality management reviewer for the City of Omaha's Riverview Lift Station Final Design, Omaha, Nebraska.

→ Electrical, instrumentation and controls construction coordinator for the City of Aurora's Cherry Creek Well Field Controls Rehab project, Aurora, Colorado.

→ Electrical, instrumentation and controls inspector for the City of Longmont's Gravity Thickening & Digester Gas Modifications Construction Services, Longmont, Colorado. Project included preliminary and final design documents for replacement of two thickened sludge pump stations and siting of a new waste gas burner.

Brian Ream

→ Field testing and commissioning for Colorado Springs Utilities conveyance as part of the SDS Water Treatment Plant and Finished Water Pump Station, Colorado Springs, Colorado. Significant pieces of the project included 3,100 feet of 36-inch high pressure and 42-inch water transmission main, 3,700 feet of 36-inch to 84-inch water transmission main, three large diameter and 3 small diameter trenchless crossings, and over 4 total miles of plant process and yard piping ranging in size from 4-inch to 72-inch.

→ Electrical designer, cost estimator, and engineer field inspector for the City of Aurora's Griswold Flow Control Center, Aurora, Colorado. Provided design assistance for work stations and a SCADA event monitoring center.

→ Electrical constructability review for the Albuquerque Bernalillo County Water Utility's Southwest Water Reclamation Plant (SWRP) Electrical System Priority Planning, Albuquerque, New Mexico.

→ Electrical designer for the City of Aurora's Arc Flash Reduction Design, Aurora, Colorado. Project included electrical system study and design of new service entrance equipment at eleven remote sites.

→ Electrical engineer cost estimator for the City of Tacoma's Owner's Representative Treatment Plant System Upgrade, Tacoma, Washington. Services included upgrade/replacement of control system for the City's Central Treatment Plant (CTP) and North End Treatment Plant (NETP). The core of the existing control system comprises an ABB System Six distributed control system (DCS) with six Distributed Control Units (DCUs) located at the CTP and a single DCU located at the NETP. Auxiliary control systems included twelve PLCs that are interconnected to the DCUs, eleven PLC's that are standalone systems, and approximately nineteen remote IO cabinets.

→ Electrical designer for the City of Aurora's System Wide UPS Replacement project, Aurora, Colorado. Tasks included field investigations, workshops with client, and design of 43 remote pump station site UPS systems.

→ Electrical designer for the City of Oceanside's Major Plant Automation Upgrades, Oceanside, California. Provided design assistance, software standards template development, control strategy review, and cost estimating assistance.

→ Electrical designer for the City of Aurora's Sand Creek Water Reclamation Facility (WRF) Arc Flash Design, Aurora, Colorado. Project included electrical system study and design of new electrical distribution equipment at four locations at the Sand Creek WRF.

→ Instrumentation and controls designer for the Metro Wastewater Reclamation District's PAR 1225 South Headworks and Grease Process Improvements, Denver, Colorado. This work involved extensive modifications to the existing screening, grit removal, and grease processing facilities for the 100-mgd South plant.

→ Instrumentation designer for the City of Aurora's Second Creek Interceptor Segment 1E Design, Denver, Colorado. Project included a new waste water vault with flow metering and communication equipment.

→ Electrical engineer cost estimator for the City of Fort Collins Electrical Master Plan, Fort Collins, Colorado.

→ Electrical engineer cost estimator for the City of Fresno's Water Treatment Design, Fresno, California.

→ Electrical engineer cost estimator for the City of San Mateo's Wastewater Treatment Plant PCS Design, San Mateo, California.

→ Electrical engineer cost estimator for the City of Salem's Willow Lake Water Pollution Control Facility Gravity Thickeners/Sludge Degritting Improvements, Salem, Oregon.

→ Electrical engineer cost estimator for the City of Longmont's Sludge Control Building Modifications, Longmont, Colorado.

→ Electrical engineer cost estimator for the Albuquerque Bernalillo County Water Utility's SWRP MCC and Switchgear Replacement, Albuquerque, New Mexico.

Seger Petersen

Seger Peterson has 4 years of experience in the electrical and controls field, including PLC and HMI programming. His project experience includes assisting with estimating software and hardware requirements, along with controls systems upgrades and startups. He also has experience with multiple PLC, HMI, and SCADA platforms.

Education

AS Electrical Engineering, Madison Area Technical College, 2016

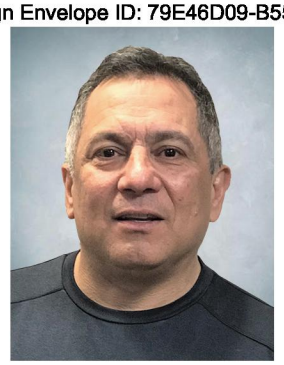
Relevant Experience

→ Supporting controls engineer for the City of Beaver Dam Main Water Treatment Plant Improvements, Wisconsin. Project involved instrumentation and controls design of plant upgrades. This included multiple computer upgrades, SCADA software upgrades and modifications, and replacing the existing SLC 500s with new Allen Bradley CompactLogix PLCs. Additional project elements included redesigning SCADA configuration and database management.

→ Lead controls engineer for the City of New Albin Water System Upgrades, Iowa. Project involved designing a new water system, including three lift stations, a tower, and a reservoir. Responsibilities included designing and implementing control designs with Allen Bradley MicroLogix 1400s. Other responsibilities included setting up a new SCADA system, developing a new database with a reporting software per customer's requests, and assisting the project manager with specifications for the new water system's hardware and software requirements.

→ Supporting controls engineer for the City of Bloomer Water and Wastewater Plant Upgrades, Wisconsin. Project involved consolidating the master SLC 500 PLCs for the water and wastewater systems into a single ControlLogix master PLC. Other project elements included upgrading the SCADA system and all remote PLCs. Responsibilities included upgrading all PLCs in the water system from SLC 500s to MicroLogix 1400s or CompactLogix and assisting the lead controls engineer in designing controls strategies for the new master PLC.

→ Lead controls engineer for the Town of Kegonsa SCADA Upgrade, Wisconsin. Project included reviewing current SCADA system and network configuration to help optimize the new SCADA system's performance. Responsibilities included setting up a new SonicWall router, SCADA software upgrades, and mapping SCADA computer to existing office desktops.



Adam Munoz

Adam Munoz has over 18 years of experience as a journeyman electrician and estimator in the industrial and commercial electrical industries for water and wastewater facilities. His recent experience includes cost estimates, constructability review and as-built and equipment design drafting.

Prior to joining Carollo, Mr. Munoz managed the field operations for an electrical contractor. His experience includes project management, team coordination, estimating, constructability review, procurement, and installations.

Mr. Munoz is experienced in all aspects of electrical and mechanical projects for water and wastewater facilities including complex equipment, process improvements construction, and in-depth knowledge of electrical codes.

Education

Electrical Apprentice Program, Independent Electrical Contractors, Rocky Mountain Chapter

Coursework, Graphic and Industrial Design, University of Kansas

Coursework, Civil Technology including Drafting and Surveying, Kaw Area Vo Tech

Licenses

Journeyman Electrician, Colordao

Relevant Experience

→ EI&C estimator for the City of Tacoma, Washington, Electrical Distribution System Replacement Project. The project consists of construction of new medium voltage underground ductbank electrical distribution infrastructure at the City of Tacoma Central Treatment Plant (CTP); a new switchgear building and replacement of CTP's main 15 kilovolt service entrance switchgear; replacement of other aging electrical assets and temporary facility power.

→ Electrical cost estimator for the Owner's Representative Greenfield Water Reclamation Plant Phase III Expansion located in Gilbert, Arizona. Rated at 16 million gallons a day (mgd), renovations aimed to add an additional 14 mgd. The new process control network fiber optic ring topology for the new programmable logic controllers was installed versus the existing star topology. Headworks included a new pad mounted switch with two transformers for full electrical redundancy, new switchgear, a generator, and a new Motor Control Center. The generator was added to handle new loads from aeration Basins, blowers, and clarifiers. New gear was not upgraded due to redistribution of loads.

→ Developed cost estimates and constructability review for the City of Daly City, California, Bar Screen Replacement Evaluation and Air Flotation Thickening Electrical Building Improvements Project.

→ Developed cost estimates and constructability review for the Albuquerque, New Mexico, Bernalillo City Water Utility Authority Southside Wastewater Reclamation Plant Lightning Protection System Improvements and Dissolved Air Flotation Thickener Rehabilitation Project.

→ Assistant project manager for the City of Westminster, Colorado, Big Dry Creek Wastewater Treatment Facility Upgrade. Upgrades included replacement of pad mount transformer, complete facility fiber optic replacement, and influent lift station upgrades. New headworks, aeration, ultraviolet, and administration buildings were completed.

→ Electrical project manager for the Denver Water Vault Modification Project in Denver, Colorado. Project included PLC, valve operators, environmental controls, instrumentation, flow meters, pressure transmitters, and networking SCADA.

→ Assistant project manager for the award winning $11 million complete remodel of the City of Thornton, Colorado, Wes Brown Water Treatment Plant. System rehabilitation included the removal and relocation of the existing ultraviolet disinfection system to include installation of the new microfiltration and ultrafiltration treatment processes. Complete rehabilitation included all plant systems such as ancillary electrical and hydraulic systems, flocculation blending, disinfection, solids processing, caustic chemical storage and feed systems, and ultraviolet systems, as well as engine generator modifications and new passenger and maintenance elevators.

Electrical wiring installation for commercial construction projects at Choice City Electric Company, Fort Collins, Colorado.

Kush Agarwal

Kush Agarwal joined Carollo in 2016 as an Electrical engineer and has experience with water, and wastewater projects, as well as projects related to Electrical System Studies. He also has knowledge of short circuit studies, protective device coordination and arc flash studies and can perform electrical system studies in the following software packages: ETAP, SKM, and EasyPower. Project experience includes:

Education

MS Electrical Engineering, Colorado School of Mines, 2012

BS Engineering, Colorado School of Mines, 2011

Relevant Experience

→ Electrical Engineer for Denver Water. Design of a new 300 MGD water plant.

→ Arc flash study for Denver Water - Lamar Pump Station Facility. Tasks included system modeling, calculations, written report, and arc flash label production.

→ Electrical and Instrumentation design for Rock River Water Reclamation District. The project included adding a separated new building sized to house two gravity belt thickeners, thickening sludge pumps and a rapid polymer mixing system to the facility. Other responsibilities included replacement of the existing polymer blender system.

→ Electrical Engineer for Pima County Regional Wastewater Reclamation Department. This project included removal of abandoned oxidation ditch, secondary clarifiers, headworks, and equalization basin at the Avra Valley WRF and using the available land to expand the existing emergency overflow basin (EOB) to a volume of 4 million gallons. The expanded basin shall be made deeper and include construction of a new duplex lift station, automated lift gate, and flow metering station.

→ Electrical Engineer for the City of Loveland. Project included removal of existing electrical equipment and doing electrical enhancements. Electrical enhancements included replacing instrumentation and electrical equipment at the Aeration basins, secondary clarifiers, UV area and alterations to the Electrical Room and provided construction support.

→ Electrical Engineer for Albuquerque Bernalillo County Water Utility Authority. The purpose of this project is to provide design for a new RDT facility that will replace the existing DAF facility.

→ Electrical Engineer for City of North Las Vegas. The project includes design of a new well site and site improvements for an existing Well site.

→ Electrical Engineer for City of Edmond, Oklahoma. Design of a new water plant.

→ Arc flash study for Intel. Tasks included system modeling and calculations.

→ Designed medium and high voltage substations for Xcel Energy.

→ Protection Engineer and SCADA networking experience.

Gregory P. Parana, C.S.P.

Gregory Parana, a vice president and Carollo's Corporate Health and Safety (H&S) Manager, has 19 years of health, safety, environmental, and industrial hygiene expertise managing infrastructure projects related to water and wastewater treatment. Greg's experience includes management of safety programs from early design through final construction. He is an excellent communicator of risk, controlling hazards, managing programs and strategy development.

Education

BS Safety Sciences, Indiana University of Pennsylvania, 1998

Certification

Board Certified Safety Professional, #20346

OSHA

- 30-hour OSHA Construction
- 10-hour OSHA Construction
- Authorized Construction Outreach Trainer

40-hour Hazardous Waste Operations and Emergency Response Certification

8-hour Hazardous Waste Operations and Emergency Response Supervisor

Instructor

- Scaffolding Competent Person
- Confined Space Competent Person
- Excavation Competent Person
- Fall Protection Competent Person (EM-385)
- SafeStart
- NSC First Aid/CPR/ AED Adult and Child
- MSHA Part 48

FEMA IS-100

FEMA IS-200

Designing for Construction and Operational Safety

Relevant Experience

→ Health and safety director for Denver Water, Colorado, Hillcrest Reservoir and Pump Station. Development and oversite of the CMAR project H&S program for the water storage and pump station construction project.

→ Health and safety director for Metro Water Reclamation District, Colorado, PAR 1225 South Headworks. Development and oversight of the H&S program for the south headworks hard bid construction project. This project included demolition and construction of new headworks structure while maintaining treatment of influent waste stream.

→ Health and safety director for Metro Wastewater Reclamation District, Colorado, PAR 1244 Solids Processing Building Improvements. Development and oversight of the H&S program for the hard-bid construction of the new solids processing buildings. This project also required MOPO for existing solids processing.

→ Health and safety director for the Town of Eagle, Colorado, Lower Basin Water Treatment Plant. Development and oversite of the CMAR project H&S program for the raw water pump station and water treatment building.

→ JV Program safety manager for the Northeast Water Purification Plant Expansion, City of Houston, Texas. Employed by the design builder (CDM/CH2M) Mr. Parana was in charge of all aspects of safety during design. The Design-Builder was responsible for the ultimate design and construction of the project to expand the City's water treatment capacity to serve the Treated Water needs of the City and the Authorities. The project facilities will be located on the project site and are comprised of (a) new water treatment facilities sized to achieve 320 mgd of treated water production; (b) new raw water facilities, including intake, pumping and conveyance facilities to withdraw raw water from Lake Houston and deliver it to the new water treatment facilities; (c) new electrical supply facilities, including a new electrical substation; and (d) certain related buildings, structures, fixtures, systems and equipment.

→ Health and safety director for the City of Logan, Utah, Logan Regional Wastewater Treatment Facility. Development and oversite for this CMGC project H&S program for the construction of the new facility. The project allowed the City of Logan to treat a greater amount of wastewater, to a higher quality, with a smaller footprint.

→ Health and Safety Director for Trinity River Authority, Texas, Phase III-B Solids Management Improvement Project for the Central Regional Wastewater System. This is one of three projects in the U.S. to utilize the Cambi Thermal Hydrolysis Process to produce higher quality biosolids, capture and treat odors more effectively.

→ Health and safety director for the City of Frisco, Texas, Stewart Creek West Wastewater Treatment Plant Expansion. This expansion project allowed the North Texas Municipal Water District (NTMWD) to increase treatment and discharge from 5 mgd to 10 mgd with better odor control and backup power.

→ Health and safety director for the City of Ennis, Texas, Joint Booster Pump Station #3 Project. This project involved constructing a raw water booster pump station and pipeline for Tarrant Regional Water District in Ennis, Texas. This new pump station connected the Dallas-Fort Worth Metroplex to new sources of raw water and treatment of 347 mgd through the installation of 4,000 ft. of 108-inch and 114-inch pipe.

Gregory P. Parana, C.S.P.

Certification (cont.)

Qualify Management Procedures for Construction Project Operations

Hazardous Materials for Air Transportation

Hazardous Materials Shipping for Environmental Professionals

Respiratory Protection

Operational Integrity Management Systems (OIMS)

Professional Affiliations

American Society of Safety Professionals

Board of Certified Safety Professionals

→ Health and safety director for Orange County, Florida, South Water Reclamation Facility Phase V Improvements. This project expanded the wastewater treatment capacity from 43 mgd to 56 mgd involving the construction of three new mechanical screen units, upgrades to the grit removal system, aeration improvements, a secondary clarifier, new RAS and WAS pump station and blower building.

→ Health and safety director for Orange County, Florida, South Water Reclamation Facility Influent Pump Station Improvements. This project included the construction of a new submersible raw wastewater influent pump station. Work included significant yard piping, a new electrical building, demolition of buildings, and miscellaneous site civil and roadway improvements.

→ Health and safety director for Orange County, Florida, Malcolm Road Water Supply Facility. This project involved the greenfield construction of six raw water wells, two (2) 2-million-gallon ground storage tanks, a treatment building and yard piping.

→ Construction safety manager for the City of Fort Worth, Texas, Village Creek Wastewater Treatment Plant SCADA Upgrade Design-Build. While at his previous firm CDM Smith (CDM) Mr. Parana was the construction safety manager for this $7 million design-build project with Johnson Controls, Inc. and the City of Ft. Worth. CDM installed and commissioned a new SCADA system in conjunction with Emerson, who will furnish and install the new distributed control system gear at the Village Creek Wastewater Treatment Plant. CDM has remodeled the existing control room as part of the DCS replacement project.

→ Construction safety manager for the City of Weslaco, Texas, North Wastewater Treatment Plant CMAR. Mr. Parana served as construction safety manager for this project that involved improvements to the existing influent pump station as well as the installation of four additional pumps and bypass piping; construction of a new aeration basin with preliminary bio selector aeration chambers and fine and coarse bubble diffusers; new headworks and screening structures; a 104 ft. diameter circular clarifier with skimmer; chlorination system, sludge facilities, and belt filter press. The project also included the conversion of an existing clarifier to a chlorine contact basin and conversion of an existing oxidation ditch to aerobic digester and ancillary pumping, piping and minor structure.

→ Construction safety manager for the City of Weslaco, Texas, Water Treatment Plant CMAR. Mr. Parana served as construction safety manager for water treatment plant improvements and offsite distribution system for the City of Weslaco's Water Treatment Plant. Post construction services included startup training and startup assistance and oversight of process equipment startup and training.

→ Construction safety manager for the City of Hempstead, Texas, Hempstead Wastewater Treatment Plant CMAR. Mr. Parana served as construction safety manager for this 1 mgd plant that includes lift station, headworks structure, treatment structures, digesters, sludge holding tank, blowers, chlorine contact basin, chlorine storage and feed system, non-potable water pumps, operations building and laboratory, emergency generator, electrical services, sitework, and yard piping.

→ Construction safety manager for League City, Texas, Southwest Water Reclamation Facility CMAR. While with his previous firm CDM Smith (CDM), Mr. Parana served as construction safety manager for this project to construct a new water reclamation facility under a CMAR contract to meet the growing demand of the community. CDM's scope of work includes site location analysis, permitting, preliminary process selection and final design as well as all construction support services and system integration and the new plant contains two lift stations, head works, dewatering, aeration basins, clarifiers, filters, re-aeration and UV disinfection. The wastewater will be disinfected allowing it to be released into the ground for reuse.

→ Construction safety manager for League City, Texas, State Highway 3 Booster Pump Station CMAR.

Tamara L. Heger

Tamara Heger joined Carollo in 2015, working on construction management and electrical design for both water and wastewater treatment facilities. Her electrical experience includes power distribution, lighting, motor controls, and grounding. Tamara's instrumentation experience includes the development of process and instrumentation diagrams (P&IDs) and the design of Profibus DP networks and network components. She is also experienced in construction management including inspections and coordination of work.

Education

BS Mechanical Engineering, Colorado School of Mines, 2011

Relevant Experience

→ Facility drawings coordinator for PAR 1085 South Secondary Improvements for the Metro Wastewater Reclamation District, Denver, Colorado. Responsibilities included drawing list organization and implementation of client specific CAD standards for all disciplines.

→ Electrical engineer for the Clifton Water District, Colorado, Electrical System Study. The project included a field investigation as well as a load study, shock hazard analysis, arc flash hazard analysis, and protective device coordination studies. Responsibilities included field investigation, modeling, and creating reports.

→ Electrical and instrumentation design for electrical equipment replacement in the backwash pump station for the Water Treatment Facility, Fort Collins, Colorado. The project included the replacement of a motor control center, automatic switchgear, transformers, panelboards, and updating the electrical system study. Design documents included one-lines, elevations, and P&IDs.

→ Electrical and instrumentation design engineer for the PAR 1247 Electrical Transformer Replacement Project for the Metro Wastewater Reclamation District, Denver, Colorado. Responsibilities included conduit routing for the replacement of two 4.16 kV to 13.2 kV substation transformers with low resistance and zig-zag transformer grounding, two 13.2 kV to 480 V substation transformers with high resistance grounding, and a 480-V load center.

→ Electrical and instrumentation design engineer for the PAR 1259 Digester Complex Rehabilitation Project for the Metro Wastewater Reclamation District, Denver, Colorado. This work involved design and construction of digester modifications to improve system reliability, redundancy, and maintainability. Responsibilities included lighting design, conduit routing, network design, and substation transformer and low voltage Switchgear replacement.

→ Electrical and instrumentation engineer for the upgrade of the UPS system in the Water Quality Lab for the Albuquerque Bernalillo County Water Utility Authority, Albuquerque, New Mexico. Responsibilities included the evaluation of the existing system and upsizing the uninterruptable power supply (UPS) and distribution system to provide power to critical equipment during a power outage.

→ Electrical design for the Chemical Storage Building Rehabilitation for the County of Washoe, Reno, Nevada. This project included the design of power and control for the temporary chemical storage system and new chemical system. Responsibilities included conduit routing and addition of new equipment on existing panelboards and MCCs.

→ Electrical design for the Pellet Softening Improvements for South Adams County Water and Sanitation District, Commerce City, Colorado. Project includes the addition of a new pellet softening building and chemical building. New equipment includes substation transformers, outdoor generator, automatic transfer switchgear, motor control centers, and low voltage electrical distribution for both buildings.

→ Electrical and instrumentation field engineer for construction of PAR 1225 South Headworks and Grease Construction Management Services for the Metro Wastewater Reclamation District, Denver, Colorado. Responsibilities included oversight of all EI&C submittal reviews, response to request for information, design changes, and startup

and testing plans for electrical and instrumentation. Electrical equipment included low voltage switchgear, substation transformers, MCCs, and VFDs.

→ Construction management services during the construction of the Chlorine Contact Basin for the City of Fort Collins, Colorado. The project included addition of a chlorine contact basin and miscellaneous renovation projects. Construction responsibilities included submittal reviews, design changes, site inspections, and as-built drawings.

→ Construction management services for the WT-0115 Overholser WTP Improvements project, Oklahoma City, Oklahoma. The project consisted a new dual use pump station with new utility transformer, 480V switchgear, VFD, and motor control center. Responsibilities included submittal review, design clarifications, and responding to requests for information.

→ Construction management services for the WT-0108 Low Lift Pump Station Improvements at the Hefner WTP for City of Oklahoma City, Oklahoma. The project consisted a new dual use pump station with new 12.47 kV padmount switchgear, padmount transformers, VFD, and motor control center. Responsibilities included submittal review, design clarifications, and responding to requests for information.

→ Construction management services for the SWRP Power Loop A&B Project Phase 1 at the Albuquerque Bernalillo County Water Utility, New Mexico, Southside Wastewater Reclamation Plant. The project consisted of a new 12.47 kV switchgear and power loop feed. Responsibilities included a submittal review, design clarifications, progress meeting coordination, and responding to requests for information.

→ Construction management services for the South Adams County Water and Sanitation District, Colorado, Pellet Softening Improvements. Project consisted of a new pellet softening building and chemical building. New equipment includes substation transformers, outdoor generator, automatic transfer switchgear, motor control centers, and low voltage electrical distribution for both buildings. Responsibilities include submittal review, design clarifications, and responding to requests for information.