



INDEPENDENCE
* MISSOURI *

Procurement Division
111 E Maple, PO Box 1019
Independence, MO 64051-0519

REQUEST FOR PROPOSAL #21064
Rock Creek Treatment Facility Boiler Upgrade

ATTENTION PROPOSER – COMPLETE AND RETURN WITH PROPOSAL

Proposing Firm Rand Construction Company Phone Number (816) 421-4143
(Please print or type)

Address 1428 W. 9th Street City Kansas City State MO Zip 64101

Name of Authorized Agent  Email dan@randsc.com
Dan Hinrichs - President

The only authorized source for Request for Proposal (RFP) forms, addenda, and information regarding this RFP is www.publicpurchase.com. Using RFP forms, addenda, and information not obtained from www.publicpurchase.com creates the risk of not receiving necessary information about the RFP that may eliminate your proposal from consideration.

Submit questions regarding this RFP online at www.publicpurchase.com by deadline in the RFP schedule.

Proposals shall be submitted online via www.publicpurchase.com by the date and time indicated. Paper, fax, or email responses will NOT be accepted and will not be returned to sender. Proposals are sealed in a virtual lockbox that can only be opened after the Request for Proposal (RFP) closing date and time, to maintain confidentiality of the proposal. All proposals are subject to the terms and conditions herein.

Submission of a proposal shall be deemed a firm offer and is not revocable within 120 days after response deadline.

**Rock Creek Treatment Facility Boiler Upgrade
Request for Proposal #21064**

Proposed RFP Schedule

These dates and times are subject to change:

Issue RFP	July 28, 2021
Pre-proposal conference (non-mandatory) Rock Creek Treatment Facility at 9600 Norledge Ave., Independence, Missouri 64053 For the purpose of answering questions and clarifying requirements of the solicitation	August 9, 2021 10:30 a.m. local time

Other opportunities for viewing the building and equipment may be arranged by contacting Tim Hamilton at thamilton@indepmo.org

Deadline for questions	August 11, 2021, 5:00 p.m. local time
Proposals due	August 13, 2021, 5:00 p.m. local time
Evaluation	August 16, – August 20, 2021
Recommendation to Council	September 7, 2021
Notification of award	September 13, 2021

Structure of the RFP

For the convenience of the proposer, this RFP is structured as follows:

- Section 1 – Introduction
- Section 2 – Scope of Work for Rock Creek Treatment Boiler Facility
- Section 3 – Pricing
- Section 4 – Prevailing Wage
- Section 5 – Evaluation Criteria
- Section 6 – Proposal Deliverables
- Section 7 – Evaluation Process
- Section 8 – Right of Protest
- Section 9 – RFP Terms and Conditions
- Attachment 1 – Affidavit of Non-Conflict of Interest and Non-Collusion
- Attachment 2 – Design-Build Contract (separate attachment)

**Rock Creek Treatment Facility Boiler Upgrade
Request for Proposal #21064**

1) INTRODUCTION

Firms interested in providing Design-Build Services for the Rock Creek Waste Water Treatment Plant Project are invited to respond to the Request For Proposal (“RFP”) to the Independence Municipal Services (“Owner”). The intent of this Design Build Services, Rock Creek Waste Water Treatment Plant Boiler Replacement procurement is for the Owner to identify and select the most qualified firm to perform the design and installation of Boiler System. The RFP is to identify and implement for the Boiler Replacement application. The current boiler is a Clever Brooks unit from the year 1977. Please see nameplate at the end of the RFP.

The Owner will review and evaluate the proposals submitted.

The Owner may prepare a short list of qualified firms for follow-up oral interviews or may make the selection without interviews.

Proposal shall include as a minimum:

- 1) Price quote – Turnkey Design-Build Services
- 2) Design concept and suggested changes to baseline design
- 3) Equipment manufacturers/models and Subcontractors
- 4) Calculated energy savings of new system vs existing
- 5) Resumes of key project personnel
- 6) HVAC expertise as a firm

Project Development: Upon selection of successful Firm, the Owner and Firm will enter into a Letter of Intent agreement to begin engineering/development phase. Firm will be responsible for identifying, quantifying and selecting an energy efficient system. Owner will issue a contract for the Design-Build Services to the Firm.

2) SCOPE OF WORK FOR ROCK CREEK TREATMENT BOILER FACILITY

- Provide turnkey design-build services to replace existing boiler.
- Dispose of existing boiler and old materials.
- Replace existing diesel boiler with a more efficient design.
- Calculate energy savings for new boiler design.
- Controls shall be integrated into existing campus Automated Logic BMS system.
- Provide manuals and four hours of training on the new system.

A. Project Development

- a. Develop preliminary design documents for the purpose of clearly defining and confirming the scope.
- b. Determine applicable utility capacities (electric, natural gas, and water).
- c. Utilize detailed engineering study services to evaluate existing system operations and performance
- d. Develop new system type
- e. Calculate utility savings. Document assumptions and calculation methodology.
- f. Project Development shall be completed by August 15, 2021

B. Design-Build Implementation

- a. Finalize design documents and drawing packages for the scope agreed to in the Project Development phase.
- b. Order major equipment and material purchases.
- c. Obtain and pay for all required construction related permits.
- d. Furnish bonds and insurance as required by the contract documents.

- e. Manage and coordinate all trade contractors and subcontractors and others engaged in the performance of the work.
- f. Supervise and observe all work in progress so as to ensure that the work is proceeding in accordance with the construction contract documents.
- g. Schedule and lead regular project and construction progress meetings, and conduct regular meetings at the site. All meetings shall be held at a location and time convenient to the Owner.
- h. Develop and implement a project wide safety program per OSHA guidelines, including monitoring and enforcement of the program for Trade and subcontractors.
- i. Monitor closely the progress of construction, prepare a construction schedule report at least bi-weekly and, if necessary, prepare and submit recovery schedules.
- j. Furnish bi-weekly reports concerning the progress of the work which address: (a) compliance with the construction schedule, (b) status of testing and inspection activities, (c) status of shop drawings and submittals, (d) status of change orders, and (e) other matters relating to the progress of work.
- k. Determine when scope of work is substantially complete and prepare a list of incomplete work and work which does not conform to the requirements of the construction documents.
- l. Maintain complete and accurate records, including (a) correspondence, (b) meeting notes and minutes, (c) shop drawings and submittals, (d) construction documents including change orders, (e) clarifications and interpretations of the construction documents, (f) progress reports including observations of testing performed, (g) as-built drawings, and (h) all other project related documents.

C. Post-Construction Phase – Construction Closeout

Develop and implement procedures for orderly completion of punch list items, checkout of utilities, operational systems and equipment, staff training for Owner building operations staff, and initial start-up and testing. Preparation and delivery to the Owner of warranties, as built drawings, maintenance manuals, and the like, and generally administer closeout of the project. Ensure performance of all warranty obligations, resolution of all claims, and other post-construction requirements.

D. Commissioning – Design/Construction/Acceptance/Warranty

Commissioning guidelines will be based on the NEBB Procedural Standards for Building Systems Commissioning. All commissioning requirements will be executed by Firm as the acting Commissioning Agent (CA).

1. General Requirements for Preconstruction/Design Phase Commissioning

- a. Uphold best Design Standards, Commissioning Scope, Contract Documents, and Construction Documents
- b. Develop and implement a Commissioning Plan identifying team roles and responsibilities, testing plan, and schedule for all project phases
- c. Maintain Issues Log of commissioning related issues with responses, dates and authors of the issues and responses

2. Post Construction (Warranty) Phase Commissioning

- a. Verify deferred or seasonal testing completion as required.
- b. Provide owner a final report with completed final commissioning documentation.
- c. Identify areas that may come under warranty or under the original construction contract.
- d. Assist owner and operations staff in resolving any outstanding or warranty issues.

3. Performance Matrix

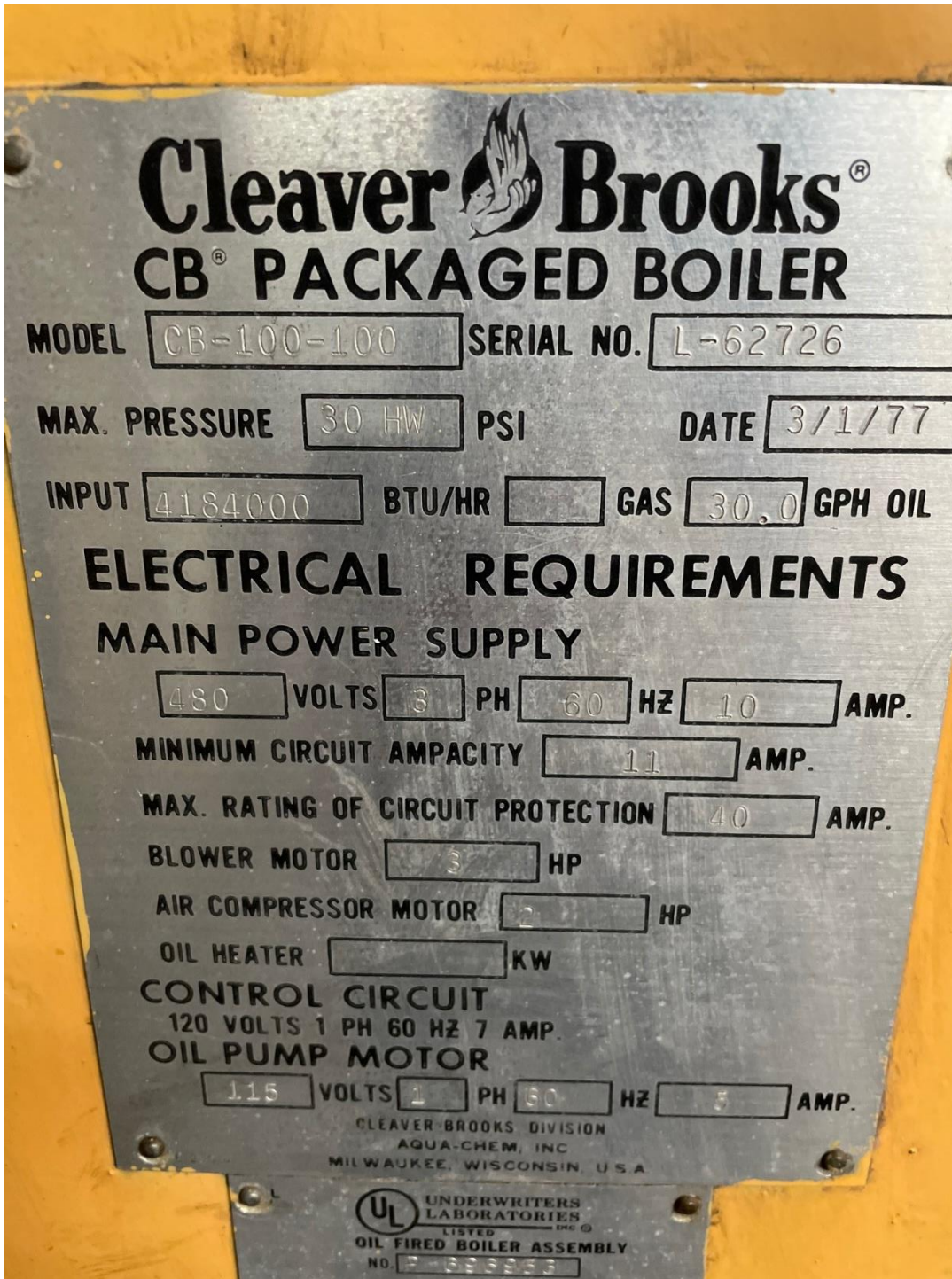
Indicate in the table below which services will be self-performed by Firm and which will be performed by others. If services are performed by others indicate likely subcontractors or consultants who will perform the work.

Performance Matrix

	Self Perform	Others	Contractor or Consultant for Work Not Self Performed
Project Development Phase			
Energy Savings Calculations		X	S & S Engineering
Preliminary Design	X	X	Rand/ S & S Engineering
RFP Pricing	X		Rand Construction
Design-Build Implementation			
Final Design		X	S & S Engineering
Mechanical Installation	X		Rand Construction
Electrical Installation		X	Superior Electric
Controls Installation		X	Control Service Co.
Commissioning			
Commissioning Plan		X	S & S Engineering
Final Commissioning Report		X	S & S Engineering

Next Page contains the nameplate for the existing boiler

Nameplate from existing boiler:



3. PRICING

Firm proposal shall include:

- 1) Price for Design Build Services to include determine space utilization study and building loads, system design, engineered stamped drawings and permits as required.
- 2) Design to meet all applicable codes
- 3) Turnkey Boiler System Replacement
- 4) Controls shall be integrated into existing campus Automated Logic BMS system.

4. PREVAILING WAGE

If a contract is issued from this ITB that is valued at \$75,000 or above, the contract shall be based upon payment by the contractor or contractor’s subcontractors of wage rates not less than prevailing hourly wage rate for each craft or classification of workers engaged to perform the work as determined by the Industrial Commission of Missouri on behalf of the Department of Labor and industrial Relations. The prevailing wage law does not prohibit payment of more than the prevailing rate of wages nor does it limit the hours of work, which may be performed by any worker in any particular period of time. The contractor shall submit certified payrolls to the City’s project manager. Prevailing wage requirements include:

- 1) State of Missouri prevailing wage rates per current wage order for Jackson County, Missouri that is named in the specifications section of this solicitation. Prevailing wages must be paid by the successful contractor in accordance with labor involved for this project (Section 290.250, RSMo).
- 2) The contractor will forfeit a penalty to the City of \$100 per day (or portion of a day) for each worker that is paid less than the prevailing wage rate for any work done under the contract the by contractor or by any subcontractor (Section 290.250, RSMo).
- 3) The contractor and all subcontractors to the contract must require all onsite employees to complete the ten-hour construction safety training program required under Section 292.675, RSMo, unless they have previously completed the program and have documentation of having done so.
- 4) The contract will forfeit a penalty to the contracting public body of \$2,500 plus an additional \$100 for each employee employed by the contractor or subcontractor, for each calendar day, or portion thereof, such employee is employed without the required training (Section 292.675, RSMo).
- 5) The City’s Procurement Division will file a Prevailing Wage Project Notification form (PW-2) to the Division of Labor Standards upon issuance of the contract and retain copy in City files.
- 6) While the contract work is being performed, a legible list of all prevailing wage rates must remain posted in a prominent and easily accessible place at the worksite by each contractor and subcontractor on the project (Section 290.265, RSMo).
- 7) Before final payment can be made, the general contractor and all subcontractors must file an Affidavit of Compliance form PW-4 with the City of Independence. The affidavit must state the contractor has fully complied with Missouri Prevailing Wage Law, and the City must verify that the correct wages were paid. No payment can be legally made by the City to the contractor(s) until the affidavit is filed in proper form and order with the City.
- 8) The City’s Project Manager shall retain a copy of certified payroll in City files

5. EVALUATION CRITERIA

Proposals shall be evaluated on these criteria. The proposer is cautioned that it is the proposer’s sole responsibility to submit information related to the evaluation categories. The City is under no obligation to solicit such information, if it is not included in the proposer’s original proposal. Failure to provide such information may have an adverse impact on the evaluation of the proposer’s proposal.

	Maximum % Weight
1 Did the proposer respond to all requirements of the RFP?	Yes / No
• If yes, proceed with with evaluation	
• If no, proposal is nonresponsive and disqualified from further review	

2	<p>Evidence of experience of proposer & references with similar projects</p> <ul style="list-style-type: none"> • Is the proposer experienced in providing services similar to those requested in the RFP? • Familiarity and experience with similar projects • References from at least 5 clients of similar scope and size • Consider experience and references listed by the proposer 	20%
3	<p>Expertise of personnel</p> <ul style="list-style-type: none"> • Consider comparable experience and background of specific personnel that shall be assigned to the City's project • Experience of personnel on projects of similar scope and size • Resumes for each team member included in response 	20%
4	<p>Applicable resources</p> <ul style="list-style-type: none"> • Evaluate the extent of applicable resources available to the proposer to complete the City's project • Standard quality assurance/quality control program or procedures the firm has in place • Adequacy and ability of proposed team/resources to complete project within proposed time frame • Response time for maintenance and service calls acceptable 	20%
5	<p>Responses to requirements section and project narrative</p> <ul style="list-style-type: none"> • Did the proposer take exception to the City's standard terms and conditions or proposed contract? • Evaluate the proposer's approach and understanding of the scope of services and total project required in the RFP as evidenced in the proposal • Project schedule and detailed approach is reasonable and responsive to City's needs • Roles of all involved parties clearly identified • Familiarity with project location as evidenced by proposal • Identify and recognize critical or unique issues specific to the project • Adequacy of proposed communications process • Unique approaches that have been successful elsewhere 	25%
6	<p>Price</p> <ul style="list-style-type: none"> • Fee schedule included for pricing; includes equipment, services, maintenance, training, life cycle replacement, anything else pertaining to price 	15%

The proposer is cautioned that it is the proposer's sole responsibility to submit a response to the RFP requirements including evaluation categories. The City is under no obligation to solicit the information after RFP closing if it is not included in the proposer's original proposal. Failure to provide such information may the proposal nonresponsive.

6. PROPOSAL DELIVERABLES

Proposals must be received by the date and time stated on page 2, through www.publicpurchase.com. The proposer shall submit, at a minimum, the following information and documents as part of the proposal:

- A. Cover sheet, completed
- B. Letter of intent/introduction from proposer
- C. Affidavit, completed and notarized (scanned copy is acceptable)
- D. Response to the requirements in this RFP

- E. Design-Build Contract (attached), completed and signed or exceptions or alternate contract. Exceptions and alternate contracts will not be automatically accepted.

Proposals will not be accepted after the deadline for submission, regardless of the reason. Any exceptions to the RFP must be submitted as part of the proposal. Firms selected for award will be required to provide proof of insurance and City of Independence business license as stipulated herein.

7. EVALUATION PROCESS

The City will deem a proposal nonresponsive when critical information is lacking, or the submission represents a major deviation from the requirements of the RFP. Minor omissions or informalities may be waived at the sole option and discretion of the City. The City also reserves the right to reject any and all proposals, make no award, or make multiple awards as a result of this solicitation. Responsive proposals will be evaluated in the following manner:

- A. An evaluation team will review and rank all proposals individually according to the criteria established in this RFP. The team may contact proposers if any clarification is needed on the proposal.
- B. Proposers whose proposals are ranked the highest by the evaluation committee may be asked to participate in an interview and demonstration process to ensure a mutual understanding of the City's requirements and the proposal. However, the committee may decide that interviews or demonstrations are not necessary and make recommendation for award based on the information provided in the proposal. Interviews and demonstrations will be scored by the evaluation team based on criteria developed by the team during the evaluation process.
- C. The firm that provides the City with the best value based on the established evaluation criteria will be recommended for approval. Procurement in excess of \$100,000 require City Council approval prior to award.
- D. In accordance with federal, state and local laws, the proposal documents will be available for public review following: rejection of all proposals; posting of the Notice of Intent to Award; execution of the contract or purchase order.

8. RIGHT OF PROTEST

A Notice of Intent to Award will be posted on the Internet at www.publicpurchase.com for procurements in excess of \$100,000. Any protest must be filed within five (5) business days of the date of posting of the Notice. Neither the City nor www.publicpurchase.com shall be responsible for directly notifying proposer of the Notice of Intent to Award. Protests must be received in the office of the Procurement Manager and must contain the company name, address, phone number and signature of the authorized representative; solicitation number; a detailed statement describing the grounds for the protest; and supporting evidence or documents to substantiate the claim. The Director of Finance and Administration will review the information provided and issue a written decision within five (5) business days of receipt of the protest. This decision shall be final.

9. TERMS AND CONDITIONS

A. COMPENSATION

The City shall pay the successful proposer an amount not to exceed the amount stated in the fee schedule included in the proposer's proposal. Regular (e.g. monthly) invoices shall be submitted by the successful proposer to the City for payment of services performed and expenses incurred. Invoices shall indicate the hours expended for each person, the total labor billing, and a summary of other expenses and charges with supporting documentation. Payment will be made by the City within thirty (30) days of receipt of invoice. Payment with the City's credit card is the preferred method of payment, provided no processing fees are assessed. If proposer will not accept the City's credit card, payment will be made via check on a Net 30 basis. The City is exempt from State of Missouri sales and use taxes on purchases made directly for the City. Successful proposer shall not include any sales or use taxes on transactions between the successful proposer and City.

B. VENDOR SELF SERVICE (VSS)

Vendors contracted with the City shall register online as a vendor on the City's Vendor Self-Service (VSS) portal at <https://independencemo.munisselfservice.com>. All contracts, purchase orders, and other documentation is uploaded to VSS from the City's financial system. Contracts and purchase orders are no longer mailed, faxed, or emailed. Invoices may also be submitted to the City on this portal. Complete instructions for registering are included in the documents listed with this RFP.

C. PERMITS AND LICENSES

The successful proposer shall procure all necessary local permits and licenses and a City of Independence business license, unless exempt under state law. Successful proposer will abide by all applicable laws, regulations, and ordinances of all federal, state, and local governments in which work under this contract is performed and will require the same of all sub-contractors. The successful proposer must furnish and maintain certification of authority to conduct business in the State of Missouri.

D. OWNERSHIP OF DOCUMENTS AND INTELLECTUAL PROPERTY

Except as otherwise provided herein, documents, drawings, and specifications prepared by successful proposer as part of the services shall become the property of City, provided, however, that successful proposer shall have the unrestricted right to their use. Notwithstanding the foregoing, City accepts that any re-use of the documents or intellectual property shall be at City's sole risk and liability.

E. CHANGES, DELETIONS, OR ADDITIONS TO CONTRACT

Either party may request changes within the general scope if a contract is awarded. If a requested change causes an increase or decrease in the price or time required to perform the contract, City and successful proposer will agree to an equitable adjustment of the contract price, period of service, or both, and will reflect such adjustment in a change order or written modification.

F. STANDARD OF CARE

Successful proposer shall exercise the same degree of care, skill, and diligence in the performance of the services as is ordinarily possessed and exercised by a peer professional under similar circumstances.

G. LIABILITY AND INDEMNIFICATION

Having considered the potential liabilities that may exist during the performance of a potential contract and the successful proposer's fee, and in consideration of the mutual covenants contained in the contract, City and successful proposer agree to allocate and limit such liabilities in accordance with this section:

Successful proposer agrees, to the fullest extent permitted by law, to indemnify and hold harmless the City, its officers, directors, and employees, against all damages liabilities or costs, including reasonable attorneys' fees and defense costs, to the extent caused by the successful proposer's negligent performance of services under the contract and that of its sub-contractors, or anyone for whom the successful proposer is legally liable. Successful proposer shall indemnify City against legal liability for damages arising out of claims by successful proposer's employees.

H. INSURANCE

Construction

- A. Contractor shall procure, and maintain as required, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the Scope of Services/Project. The cost of such insurance shall be included in the Contractor's bid.
- B. Contractor shall maintain the following coverages and minimum limits:
 1. Commercial General Liability: [ISO "occurrence" form or its equivalent]
 - a. \$2,000,000 General Aggregate
 - b. \$1,000,000 per occurrence limit Bodily injury/Property damage
 - c. \$1,000,000 Personal/Advertising injury
 - d. \$1,000,000 Products & Completed operations aggregate limit.
 2. Business Auto Coverage: (Applicable to any *Owned, hired, and non-owned autos*) \$1,000,000 property damage / bodily injury, combined single per Accident limit – Any Auto. If no autos are owned by the proposing Contractor, a non-owned auto liability endorsement on the Commercial General Liability program is acceptable.
 3. Workers Compensation and Employers Liability: Workers compensation limits as required by the statutes of the state of Missouri and employers' liability limits of \$100,000/\$500,000/\$100,000. When workers compensation insurance policy is applicable "other states" coverage is required. Regardless of any minimum number of employees to trigger statutory responsibility, the City requires evidence of Workers' Compensation insurance should the Contractor have any employees.
 4. Umbrella Liability: minimum limit of \$1,000,000 excess of Commercial General Liability.

Exposure Limits: The above are minimum acceptable coverage limits and do not infer or place a limit on the liability of the Contractor nor has the City assessed the risk that may be applicable to Contractor. Contractor shall assess its own risks and if it deems appropriate and/or prudent maintain higher limits and/or broader coverages. The Contractor's insurance shall be primary and any insurance or self-insurance maintained by the City shall be excess for the City and not contribute with the coverage maintained by Contractor.

Coverage Limits: Coverage limits for General and Auto Liability exposures may be met by a combination of primary and umbrella policy limits.

- C. Additional Insured. The City shall be listed by ISO endorsement or its equivalent as additional insureds for the service/project as the City's interest may appear on the General Liability and any applicable Umbrella Liability. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

- D. Verification of Coverage.
1. A certificate of insurance accompanied by an additional insured ISO form endorsement (CG 20 10; and CG 20 37) or equivalent effecting the coverage required by the City which includes products and completed operations.
 2. The insurance coverages are to be provided by Missouri admitted insurance companies with a Best's rating of at least A:VII. Those not admitted must be approved by City.
 3. Any self-insurance or self-insured retentions must be specified on the certificate of insurance if \$50,000 or higher per claim/loss. In addition, when self-insured the name, address, and telephone number of the claims office must be indicated on the certificate or separate attached document. Any and all deductibles or self-insurance in the above describes coverages shall be the responsibility and at the sole risk of the Contractor.
 4. When any of the foregoing insurance coverages are required to remain in force after final payment, additional certificates with appropriate endorsements evidencing continuation of such coverage shall be submitted along with the application for final payment.
 5. Any coverage provided by a Claims-Made form policy must contain a three-year tail option, extended reporting period, or must be maintained for three years post contract.
 6. Any deviation from the requirements set forth in this Insurance section may be allowed by the City Risk Manager subject to the City Legal Department's review and approval.
- E. Cancellation. Each insurance policy required shall not be suspended, voided, or canceled; except after thirty (30) days' advance written notice has been given to the City.
- F. Subcontractors. The Contractor may include all subcontractors as additional insured under its insurance policies or shall furnish to the City separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.
- G. Indemnity
1. Loss: For purposes of indemnification requirements, the term "Loss" means any and all loss, damage, liability or expense, of any nature whatsoever, whether incurred as a judgment, settlement, penalty, fine or otherwise (including reasonable attorney's fees and the cost of defense), in connection with any action, proceeding, demand or claim for injury, including death, to any person or persons or damages to or loss of, or loss of the use of, property of any person, firm or corporation, including the parties hereto, which arise out of or are connected with the performance of this Agreement.
 2. Indemnification and Hold Harmless: For purposes of this Agreement, Consultant agrees to indemnify, defend and hold harmless City and its agents from any and all Loss where Loss is caused or incurred as a result of the intentional misconduct, recklessness, negligence, or other actionable fault of Consultant or its subcontractors.
 3. Comparative Fault & Contributory Negligence: It is a specific element of consideration of this Agreement that the indemnity in Section V.E.2 will apply notwithstanding the joint, concurring or contributory or comparative fault or negligence of City or any Third Party and, further notwithstanding any theory of law including, but not limited to, a characterization of City's or any Third Party's joint, concurring or contributory or comparative fault or negligence as either passive or active in nature; provided, however, that Consultant's obligation hereunder will not include amounts attributable to the fault or negligence of City or any Third Party for whom Consultant is not responsible.
 4. Damage Limitations: The indemnification obligation contained in this Agreement will not be limited by any limitation on amount or type of damages, compensation or benefits payable by or for Consultant or its subcontractors, by the minimum insurance required by this Agreement, nor under workers' compensation acts, disability benefit acts, or other employee benefit acts.
 5. Negligence by the City: Consultant is not required hereunder to defend City or its agents from assertions that they were negligent, nor to indemnify and hold them harmless from liability based on City's negligence.

Comply: _____ Exception: _____

ACKNOWLEDGEMENT OF INSURANCE REQUIREMENTS

By signing its proposal, respondent acknowledges that is has read and understand the insurance requirements for the proposal. Respondent also understand that the certificate of required insurance must be submitted within fifteen (15) days following the notification of award. No final contract will be signed by the City until all Certificate of Insurance are received and meet the minimums noted herein.

The contractor shall not commence work under this contract until he or she has obtained all insurance required under this section and elsewhere in the contract documents, such as exceptional insurance requirements outlined in the contract special provisions, and such insurance has been approved by the City.

I. SHIPPING, TITLE, AND RISK OF LOSS

All sales and deliveries are F.O.B. City.

J. DELAY IN PERFORMANCE

Neither City nor successful proposer shall be considered in default of this contract for delays in performance caused by circumstances beyond the reasonable control of the nonperforming party. Such circumstances include, but are not limited to abnormal weather conditions; floods; earthquakes; fire; epidemics; war, riots, and other civil disturbances; strikes, lockouts, work slowdowns, and other labor disturbances; sabotage; judicial restrains; and inability to procure permits, licenses, or authorizations from any local, state, or federal agency for any of the supplies, materials, accesses, or services required to be provided by either City or successful proposer as required. Should such circumstances occur, the non-performing party shall, within a reasonable time of being prevented from performing, give written notice to the other party describing the circumstances preventing continued performance and the efforts being made to resume performance of the contract.

K. TERMINATION

City may terminate or suspend performance of a contract that results from this solicitation, for City's convenience upon written notice to successful proposer whom becomes the contractor. Contractor shall terminate or suspend performance of the services on a schedule acceptable to City. If termination or suspension is for City's convenience, City shall pay contractor for all the services performed till the date of the termination by the City or suspension expenses. If contract is restarted, an equitable adjustment shall be made to contractor's compensation.

The contract may be terminated by either party upon written notice in the event of substantial failure by the other party to perform in accordance with the terms of the contract. The nonperforming party shall have fifteen (15) calendar days from the date of the termination notice to cure or to submit a plan for cure acceptable to the other party.

In the event that funding for the contract is discontinued, City shall have the right to terminate this contract immediately upon written notice to contractor.

L. WAIVER

A waiver by either City or successful proposer of any breach of the contract shall be in writing. Such a waiver shall not affect the waiving party's rights with respect to any other or further breach.

M. SEVERABILITY

The invalidity, illegality, or unenforceability of any provision of the contract or the occurrence of any event that renders any portion or provision of the contract void shall in no way affect the validity or enforceability of any other portion or provision of the contract. Any void provision shall be deemed severed from the contract, and the balance of the contract shall be construed and enforced as if this contract did not contain the particular portion or provision held to be void. The parties further agree to amend the contract to replace any stricken provision with a valid provision that comes as close as possible to the intent of the stricken provision. The provisions of this section shall not prevent the entire contract from being void if a provision, which is of the essence of this contract, be determined void.

N. SUCCESSORS AND ASSIGNS

City and successful proposer each binds itself and its directors, officers, partners, successors, executors, administrators, assigns, and legal representatives to the other party to the contract and to the directors, officers, partners, successors, executors, administrators, assigns, and legal representatives of such other party in respect to all provisions of the contract.

O. ASSIGNMENT

Neither City nor successful proposer shall assign any rights or duties under the contract without the prior written consent of the other party. Unless otherwise stated in the written consent to an assignment, no assignment will release or discharge the assignor from any obligation under the contract.

P. THIRD PARTY RIGHTS

Nothing in this document shall be construed to give any rights or benefits to anyone other than City and successful proposer.

Q. INDEPENDENT CONTRACTOR

Each party shall perform its activities and duties hereunder only as an independent contractor. The parties and their personnel shall not be considered to be employees or agents of the other party. Nothing shall be interpreted as granting either party the right or authority to make commitments of any kind for the other. A contract resulting from this solicitation shall not constitute, create, or in any way be interpreted as a joint venture, partnership, or formal business organization of any kind.

R. AUDIT

Successful proposer agrees that the City, or a duly authorized representative, shall, until the expiration of three (3) years after final payment under a successful contract, have access to and the right to examine and copy any pertinent books, documents, papers, and records of the successful proposer involving transactions related to the contract.

S. EQUAL EMPLOYMENT OPPORTUNITY

During the performance of this contract or purchase order, the successful proposer agrees:

Not to discriminate against any employee or applicant for employment because of race, age, color, religion, sex, national origin or any other legally protected category. The successful proposer will take affirmative action to ensure that applicants are employed, and that employees are treated fairly during employment, without regard to their race, age, color, religion, sex, or national origin. Such action

shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training including apprenticeship. The successful proposer agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

To state in all solicitations or advertisements for employees placed by or on behalf of the successful proposer that all qualified applicants will receive consideration for employment without regard to race, age, color, religion, sex, or national origin.

To send to each labor union or representative of workers with which they has a collective bargaining agreement or other contract or understanding a notice to be provided by the City advising the said labor union or workers' representatives of the successful proposer's commitment under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

To comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

To furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his or her books, records, and accounts by the department and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

In the event the successful proposer is not compliant with the non-discrimination clauses of this contract or purchase order, with any of the said rules, regulations, or orders, this contract or purchase order may be canceled, terminated, or suspended in whole or in part, and the organization may be declared ineligible for any further government contracts or purchase order or federally assisted contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, or by rules, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

The proposer will include the entire text of this Equal Employment Opportunity section and its subsections in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each sub-contractor or vendor. The successful proposer will take such action with respect to any sub-contractor or purchase order as the department may direct as a means of enforcing such provisions, including sanctions of noncompliance; provided, however, that in the event an successful proposer becomes involved in, or is threatened with litigation with a sub-contractor or vendor as a result of such direction by the department, the successful proposer may request the United States to enter into such litigation to protect the interest of the United States.

T. ANTI-DISCRIMINATION AGAINST ISRAEL ACT

Contractors working on behalf of the City of Independence are to abide by Missouri Revised Statute 34.600, otherwise known as the Anti-Discrimination against Israel Act.

U. GOVERNING LAW

Contracts shall be governed by the laws of the State of Missouri. The City and the successful proposer agree that the performance of a contract will be deemed to have occurred in the State of Missouri and that successful proposer's performance under the contract will be deemed the transaction of business in Missouri. Jurisdiction and venue for any claim or cause of action arising under the contract shall be exclusively in the Sixteenth Judicial Circuit of Missouri and the successful proposer submits to personal jurisdiction of and waives any personal jurisdiction or inconvenient forum objection to, that court.

V. MISSOURI SUNSHINE LAW

The proposer acknowledges and agrees that the City is bound by the Missouri Open Records Law (Sunshine Law) and cannot protect information for the sole reason that it is marked "confidential" or "proprietary". All information submitted in response to this RFP shall be available for public review in accordance with all federal, state and local laws after: 1) posting of the Notice of Intent to Award; 2) a contract has been executed; or 3) all proposals have been rejected. Requests must be submitted in writing to the Procurement Manager, City of Independence

W. COMMUNICATIONS

Any communication shall be made in writing to the authorized representative at the address specified below on the cover page of the proposal response. Communications with the City shall be to Procurement Manager, 111 E. Maple, Independence, MO 64050. Nothing contained in this section shall be construed to restrict the transmission of routine communications between representatives of successful proposer and City.

X. SEPARATE CONTRACTS

City and successful proposer each reserve the right to, from time to time, enter into other contracts for specific projects. If such contracts are separately approved in writing by the parties, the terms and conditions of those contracts shall prevail for the specific projects set forth therein.

Y. ENTIRE CONTRACT

A contract resulting from this solicitation and successful proposer's proposal represents the entire agreement between the City and successful proposer. All previous or contemporaneous agreements, representations, promises and conditions relating the successful proposer's services described herein are superseded.

Z. PRECEDENCE OF DOCUMENTS

The RFP including the terms and conditions, the successful proposer's proposal, and purchase order shall constitute the entire contract for each project. If these General Terms & Conditions be in conflict with any attached Special Conditions, the Special Conditions will supersede the General Terms & Conditions. In case of a discrepancy, the purchase order or contract shall take precedence over the RFP and the RFP shall take precedence over the proposer's proposal.

RFP:

AFFIDAVIT

STATE OF Missouri)
) SS.
COUNTY OF Jackson)

Dan Hinrichs of the City of Kansas City
Jackson, County of Jackson, State of Missouri,

being duly sworn on her or his oath, deposes and says:

1. That I am the President (Title of Affiant) of Rand Construction Company (Name of Proposer) and have been authorized by said proposer to make this affidavit on the proposer's behalf;
2. No Councilmember, City Manager, Director of Finance and Administration, City Procurement Manager, or any City employee is financially interested in what the proposer is offering to sell to the City pursuant to this RFP, nor is the proposer a City employee or board member whose proposal creates a conflict of interest. A conflict of interest would arise if any person named in this section is in a position to affect either the decision to solicit proposals or the selection of the successful proposer;
3. Proposer has not participated in collusion or committed any act in restraint of trade, directly or indirectly, which bears upon anyone's response or lack of response to this RFP; and
4. Proposer is responsible for submitting with his or her proposal a record of any discussion with a Councilmember, City Manager, Director of Finance and Administration, City Procurement Manager, or any other City employee regarding this RFP; and
5. The authorized signer of this document certifies that the organization and each of its principals are not suspended or debarred by the City of Independence, State of Missouri or Federal government.

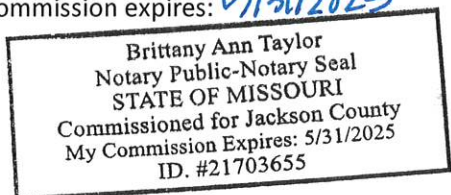
By: Dan Hinrichs (Name of Proposer)
[Signature] (Signature of Affiant)
President (Title of Affiant)

Subscribed and sworn to before me this 13th day of August, 2021.

(SEAL)

[Signature]
NOTARY PUBLIC in and for the County of Jackson
State of Missouri

My commission expires: 5/31/2025



DESIGN-BUILD CONTRACT

This Contract, made by and between the City of Independence, Missouri (hereinafter called City) and, _____ Rand Construction Company _____, (hereinafter called Contractor),

WITNESSETH:

WHEREAS, City requires Design-Build Services for _____ Request for Proposal #21064 – Rock Creek Treatment Facility Boiler Upgrade _____ and

WHEREAS the City has caused to be prepared, in accordance with law, specifications, plans and other contract documents for the work herein described, and has approval and adopted said documents, and in connection with the construction of items in accordance with the terms of this contract; and,

NOW, THEREFORE, in consideration of the compensation to be paid to the Contractor and of the mutual agreements herein contained, the Parties to these presents have agreed and hereby agree, the City for itself and its successors, and the Contractor for itself and its executors and administrators, as follows:

ARTICLE 1

That the Contractor shall:

- a. Furnish all tools, equipment, supplies, insurance, superintendence, transportation, and other construction accessories, services, and facilities;
- b. Furnish all materials, supplies, and equipment specified and required to be incorporated in and form a permanent part of the completed work;
- c. Provide and perform all necessary labor and, in a good, substantial, workmanlike manner in accordance with the general provisions and technical specifications of this contract, which are attached hereto and made a part hereof, and in conformity with the terms and conditions, contract plans and specifications designated and identified therein;
- d. Make payment of all wages in conformance with the official schedule of wage rates as determined by the Industrial Commission of Missouri for the Department of Labor and Industrial Relations, and in compliance with the Prevailing Wage Law of Missouri, all as set forth in the general provisions which are attached hereto and made a part hereof by reference, perform and observe all of the terms, agreements, requirements and conditions contained in the general provisions and technical specifications which are attached hereto and made a part hereof by reference;
- e. Execute, construct and complete all work included in and covered by the City's official award of this contract to the said Contractor, such award being based on the acceptance by the City of the Contractor's bid, (or part thereof if City so elects).

ARTICLE 2

That the City shall pay to the Contractor for the performance of the work embraced in this contract, and the Contractor will accept as full compensation therefore, a sum (subject to change orders approved by the City) not to exceed

§ 214,400.00 for all work covered by and included in the contract award and designated in the foregoing Article 1; payment thereof to be made in the manner provided in the general provisions hereto attached.

ARTICLE 3

That the Contractor shall work on, or within ten (10) days following the date of a written order from the City to the Contractor to proceed with the work to be performed under provisions of this contract, or on a subsequent date designated and authorized by the City in said order, and that the Contractor shall complete said work within

150 **consecutive calendar days** from and after the date of, or subsequent date authorized in, the said order by the City to proceed. **Note - This includes design, permitting, equipment lead times, construction, test and balance, O&M's and closeout.**

ARTICLE 4

This Contract shall be governed by the laws of the State of Missouri. The City and the Contractor agree that the performance of this Contract will be deemed to have occurred in the State of Missouri and that Contractor's performance under this Contract will be deemed the transaction of business in Missouri. Jurisdiction and venue for any claim or cause of action arising under this Contract shall be exclusively in the Sixteenth Judicial Circuit of Missouri and the Contractor submits to personal jurisdiction of and waives any personal jurisdiction or inconvenient forum objection to, that court.

GENERAL TERMS & CONDITIONS FOR CONSTRUCTION

1. CONTRACTOR'S RESPONSIBILITY

- A. The contractor explicitly understands and agrees that the City is in no way responsible for the cost to the contractor of the work, nor for the cost of the risks involved in executing the work, and that the payments herein provided include compensation for all risks as well as for all completed construction. It is expressly understood that the contractor is in all respects an independent contractor for this work and is in no respect an agent, servant or employee of the City. The contractor specifically represents that in performing work covered by this agreement he or she is the sole employer of all labor to be furnished in the performance of this work and that, within the meaning of all federal and state unemployment compensation, insurance or other laws and all State Worker's Compensation Acts, the contractor's employees and the employees of all subcontractors are not employees of the City for any purpose whatsoever; also that the contractor accepts exclusive liability for all contributions, taxes, interest and penalties necessarily paid by the City under unemployment compensation, insurance or other laws on account of all persons employed by the contractor or any subcontractors hereunder, and the contractor hereby agrees to reimburse the City for all contributions, taxes, interest, penalties, if any, necessarily paid by the City under unemployment compensation, insurance or other laws covering employees of the contractor or any subcontractors.
- B. The contractor agrees to pay in full for all furnished materials and for all employed labor for the work or any part thereof, and to save the City free and harmless from any lien for work or labor performed, or materials or supplies furnished in the performance of the work under this contract, and from every claim, demand, or lien arising from or growing out of any act or thing done or suffered by the contractor or any agent, servants or subcontractors, and any employees in, about or connected with the construction of the work aforesaid. The contractor agrees to pay and discharge all bills and claims against the contractor in any way incurred in connection with the work herein provided for; it being intended hereby to cover the payment of all items, whatsoever their nature, in addition to items which entitle the claimant to a lien upon any property of said City by virtue of the laws of the State of Missouri.
- C. The contractor shall require any subcontractors deemed a transient employer as defined by

State law to show proof of having filed a financial assurance instrument with the State Director of Revenue and to show proof that the subcontractor holds a current valid certificate of insurance for workers' compensation coverage in Missouri prior to the subcontractor performing any work under the contract. If required by the State Director of Revenue or the State Director of the Division of Worker's Compensation, the contractor will withhold all or any part of payment to the subcontractor to satisfy State law.

- D. The contractor agrees to comply in all respects with the requirements of law relating to furnishing reports and statements, or as may be reasonably required by the City.
- E. It shall be the responsibility of the contractor to examine the site of the work to determine the amount of work to be done in connection with the construction herein specified, the quantities of material required, and the construction equipment and labor necessary for the performance of the contract. By submission of a bid for this work, the contractor represents that he or she has investigated the character of the work and conditions which may be encountered, and the quantities and types of related work not covered by unit prices, and agrees that the data furnished herein is merely informative and represents the best information available at the time. The contractor understands that such information or data is furnished is without guarantee of its accuracy and variations from the indicated amounts or types of work, other than that covered by contract unit prices, required to complete the contract will not entitle the City to any credits or the contractor to any extra payment.

2. APPLICABLE CODES AND STANDARDS

- A. Reference to standard specifications of any technical society, organization or association, or to codes of local or state authorities, shall mean the latest such standard, code, specification or tentative specification adopted and published at the date of taking the contractors bid, unless specifically otherwise stated. Applicable codes and standards referred to in these specifications shall establish minimum requirements for equipment, materials and construction and shall be superseded by more stringent requirements of drawings and specifications when and where they occur.
- B. All construction methods and tools shall meet all State of Missouri safety requirements and comply with commonly accepted standards for safety and health of personnel engaged in construction work.

3. COMPLIANCE WITH LAWS, PERMITS, LICENSES AND TAXES

- A. The contractor shall conform to and comply with all applicable laws, bylaws, regulations and ordinances with regard to all and every action and operation, and shall require conformity and compliance of all subcontractors and employees in such a manner as to save the City harmless. The contractor shall secure and be financially responsible for all permits, licenses, approvals, acceptances, etc., relative to the conduct of all work and shall give all notices necessary to the due and lawful prosecution of the work. Fees for required City permits for work within the construction limits will not be waived.
- B. The City is exempt from sales tax. This includes purchases by contractors for City projects. The City will provide a certificate to contractors for their use in obtaining the sales tax exemption. Contractor is to prepare their bid for the City project without including sales tax. It is the responsibility of the contractor to request a tax exempt certificate and a project tax exemption certificate before the project begins. Missouri state law prohibits issuance of project exemption certificates after the project is completed.

4. FORCE MAJEURE

Neither party shall be liable for delays, or defaults in the performance of a contract due to Acts of

God or the public enemy, riots, strikes, fires, explosions, accidents, governmental action of any kind or any other causes of a similar character beyond its control and without its fault or negligence. Neither party shall penalize or add any additional fees, surcharges, or any other financial requirements due to force majeure.

5. PATENTS

The Contractor warrants that the articles described herein and the sale or use of them will not infringe upon any U.S. or foreign patent or copyright and Contractor covenants they will at their own expense, defend every suit that may be brought against the City, or those selling or using City's product (provided Contractor is promptly notified of such suit and all documentation delivered) for any alleged infringement of any patent or copyright by reason of the sale or use of such articles; and contractor agrees they will pay all costs, damages, and profits recoverable in any such suit. All fees or royalties for any patented article or operation of work or any part thereof, or any materials, tools, implements, machinery, fixtures, or anything used shall be included in the price stipulated in the bid, and the contractor shall protect and hold harmless the City against all demands for such fees, royalties, and claims.

6. SUPERVISION AND INSPECTION

- A. The work herein considered is to be constructed in accordance with the contract documents. Wherever the words "directed, permitted, approved, acceptable, satisfactory," or words or phrases of similar import occur in the contract documents, they shall be understood to be functions of the City and to be exercised at the City's discretion.
- B. Methods of construction and procedure shall be of the contractor's own selection, provided no requirement of the contract documents is violated and the work is completed within the time allowed. Approval of the City of any construction device or method, or absence of disapproval, shall not relieve the Contractor of full responsibility for any failure thereof and shall not connote and is not intended to connote that the City will direct the manner in which the work is to be performed under the contract.
- C. All materials and every process of manufacture and construction shall be subject to inspection at all times and the City or any representative shall have free access to all operations. The Contractor shall provide necessary facilities for inspecting workmanship and testing of materials, and the City shall have the right to select suitable samples of materials for testing and examination, which the contractor shall supply without charge. In case such samples must be shipped to some other point for inspection or testing, the contractor shall box or crate samples as necessary and shall deliver them at points designated for shipment, without charge. Omission of inspection shall not relieve the contractor of any obligation to produce the work required by plans and specifications.
- D. Rejected materials shall be removed promptly from the vicinity of the work and the contractor shall promptly remove, reconstruct, replace and make good as may be directed, without charge, any defective work. If in the judgment of the City, the defective work would perform within an allowable tolerance, the contractor may be given the choice of receiving reduced payment for the work or removing and replacing the defective work. Oversight or error of judgment of inspectors, or previous acceptance, shall not relieve the Contractor from the obligation to make good defects whenever discovered. If the contractor does not make corrections of such condemned work and remove rejected materials within a reasonable time, as fixed by written notice, the City may make removals and corrections and charge the expense to the contractor.
- E. The contractor shall furnish to the City any information concerning the nature or source of any material or equipment or part thereof which the contractor proposes to use. Tests may be conducted where, in the opinion of the City, such are necessary. Where the contractor desires

to propose for use in the work any material or product as an alternative or equivalent to a material or product specified herein, the contractor will be required to submit samples to a testing bureau designated by the City, and shall pay the cost of such testing and analysis as may be required to determine the suitability of such materials and products.

7. PERSONAL LIABILITIES

In carrying out any of the provisions of a contract or in exercising any power or authority granted to them thereby, there shall be no personal liability upon any member, agent or representative of the City. No act or failure to act on the part of the City or any agent of the City, payment for the work in whole or in part, extension of time or possession taken of the work, shall operate as a waiver of any right to damages therein provided for; nor shall waiver or breach of contract be held to be a waiver of any other or subsequent breach.

8. SUBLETTING OR ASSIGNING CONTRACT

A. The contractor shall not sublet, sell, transfer, assign or otherwise dispose of the contract or contracts or any portion thereof, or of the contractor's right, title or interest therein, without written consent of the City. Request for permission to sublet, assign or otherwise dispose of any portion of the contract shall be in writing and shall be accompanied by evidence that the organization which will perform the work is particularly experienced and equipped for such work.

(1) In case such consent is given, the contractor will be permitted to sublet a portion thereof, but the contractor shall perform work amounting to not less than 50% of the total contract cost, except that any items designated by the City as specialty items so performed by subcontract may be deducted from the total contract cost before computing the amount of work required to be performed by the contractor.

The value of the work sublet will be determined by multiplying the number of units of any contract item sublet by the unit price as set forth in the original contract, or by a price agreed to by the City where no unit price is included in the contract for the work sublet. Approval of the subcontract is in no way approval of the unit prices in the subcontract. The subcontractor shall perform the work described in the subcontract agreement. The contractor shall furnish the City a signed copy of the subcontract on request.

B. No subcontracts or transfer of contract shall in any case release the contractor of his or her liability under the contract and bonds.

9. COOPERATION WITH OTHERS

The contractor and subcontractors will be expected to cooperate with forces of the City, utility companies or other contractors who may be working in the area. No delay of this contract work due to avoidable conflicts will be allowed. The contractor shall, as far as possible, arrange work schedules and dispose of materials so as not to interfere with the operations of other contractors or others engaged upon the project or nearby. The contractor shall also join his or her work to that of others in a proper manner, in accordance with the spirit and intent of the contract documents and perform his or her work in proper sequence in relation to that of other contracts.

10. PLANS (CONTRACT DRAWINGS)

A. Certain plans prepared on behalf of the City, and elsewhere described and named to accompany and supplement these provisions, constitute a part of the contract documents. Such plans are agreed to be constructively attached to the contract documents, although convenience may preclude physical attachment.

B. The City shall have the right to modify details of these plans to provide final, or checked, plans in lieu of any preliminary or unchecked plans, as the work proceeds, all of which shall be considered as plans accompanying the contract documents. The contractor shall not take advantage of any errors or discrepancies discovered in the plans, but shall report same, and the

City will make or approve the necessary corrections.

- C. The contractor will be provided, at no cost, a maximum of ten sets of contract documents. Additional sets of these documents will be supplied at the cost of printing, materials and delivery.

11. NOTICE TO PROCEED

- A. Upon receipt of contract documents fully executed by the City, the contractor shall immediately proceed with activities pertaining to the work, such as specified coordination submittals and required conferences. The contractor shall not move onto the site until the City has issued a written Notice to Proceed.
- B. The Notice to Proceed will be issued upon completion of (a) receipt of acceptable copies of insurance policies and certificates, (b) acceptance of specified coordination submittals, i.e., Program of Construction, Schedule of Values, etc., and (c) the conclusion of initial coordination conferences. The date of Notice to Proceed shall be that on which the contractor may move onto the site, unless otherwise set forth in the said notice, which date will not be more than thirty days after the date of contract, unless City and contractor agree upon a longer time. The completion time of contract shall be the number of calendar days stated in the contract beginning with the date of Notice to Proceed or date stated therein.

12. GENERAL PROVISIONS CONCERNING TIME

- A. The construction herein provided for is to be completed within certain times as set forth in the contract documents. No payment shall be made to the contractor on account of any delays whatsoever, no matter by what or by whom caused, even by other contractors on the same work, or by reason of the City's acts in giving directions, in rejecting materials, methods or workmanship, or by seasons, weather or stream fluctuations. The amount provided in the contract for payment for the work items is understood and agreed to include and cover all expenses due to delays. Extensions of time for completion will be granted under the following conditions:
 - (1) If the City should, in writing, direct deferment of the beginning of work beyond the official date to begin work, or if the City should order the work closed down or temporarily discontinued, corresponding extensions of time would be granted with due consideration for changed working conditions incident to seasons and weather.
 - (2) If the final contract price, as increased by duly executed change order(s), exceeds the total contract price based on the estimated quantities as given in the bid, the time of completion will be set forward a number of working days in the proportion that such excess cost bears to the cost based on estimated quantities.
 - (3) The contractor is requested to bring to the attention of the City, in writing and during the progress of the work, the occurrence of events that the contractor may warrant extension of time under the conditions of the contract. If the contract is not completed within the time stipulated, the contractor shall, at the conclusion of the work, present a written statement to the City concerning all matters of time extensions.
 - (4) The amount of all extensions of time, for whatever reason drafted, shall be determined by the City with due consideration of working seasons and working conditions. In general, only actual and not constructive or hypothetical days of delay will be considered. The City shall have authority to draft additional extensions of time as the City may deem advisable and justifiable.
 - (5) If the contractor fails to complete the work within the time fixed by the contract or extensions thereof, and if the City shall nevertheless permit the contractor to continue and complete the same, such permission shall neither modify nor waive any liability of the contractor for damages arising from non-compliance of the work within the said time, but all liabilities shall continue in full force against the contractor.

- B. With only the exceptions outlined herein, all work under any contract shall be completed and ready for operation within the time listed in the bid after the issuance of Notice to Proceed.

13. LIQUIDATED DAMAGES

- A. If the contractor shall neglect, refuse, or fail to complete the work within the time set forth above, or any proper extension thereof granted by the City, the contractor shall pay to the City the amount specified in the bid documents for each day the entire work is incomplete. Said obligation of the contractor is not a penalty but is liquidated damages for loss to the City and the public, after the expiration of the time stipulated in the contract, as adjusted by duly executed change orders, and will be deducted from any money due the contractor under the contract. The contractor and the surety of record shall be liable for any and all liquidated damages.

14. PREVAILING WAGE

If a contract is issued that is valued at \$75,000 or above, the contract shall be based upon payment by the contractor or contractor's subcontractors of wage rates not less than prevailing hourly wage rate for each craft or classification of workers engaged to perform the work as determined by the Industrial Commission of Missouri on behalf of the Department of Labor and Industrial Relations. The prevailing wage law does not prohibit payment of more than the prevailing rate of wages nor does it limit the hours of work, which may be performed by any worker in any particular period of time. The contractor shall submit certified payrolls to the City's project manager. Prevailing wage requirements include:

- A. State of Missouri prevailing wage rates per current wage order for Jackson County, Missouri that is named in the specifications section of this solicitation. Prevailing wages must be paid by the successful contractor in accordance with labor involved for this project (Section 290.250, RSMo).
- B. The contractor will forfeit a penalty to the City of \$100 per day (or portion of a day) for each worker that is paid less than the prevailing wage rate for any work done under the contract the by contractor or by any subcontractor (Section 290.250, RSMo).
- C. The contractor and all subcontractors to the contract must require all onsite employees to complete the ten-hour construction safety training program required under Section 292.675, RSMo, unless they have previously completed the program and have documentation of having done so.
- D. The contract will forfeit a penalty to the contracting public body of \$2,500 plus an additional \$100 for each employee employed by the contractor or subcontractor, for each calendar day, or portion thereof, such employee is employed without the required training (Section 292.675, RSMo).
- E. The City's Procurement Division will file a Prevailing Wage Project Notification form (PW-2) to the Division of Labor Standards upon issuance of the contract and retain copy in City files.
- F. While the contract work is being performed, a legible list of all prevailing wage rates must remain posted in a prominent and easily accessible place at the worksite by each contractor and subcontractor on the project (Section 290.265, RSMo).
- G. Before final payment can be made, the general contractor and all subcontractors must file an Affidavit of Compliance form PW-4 with the City of Independence. The affidavit must state the contractor has fully complied with Missouri Prevailing Wage Law, and the City must verify that the correct wages were paid. No payment can be legally made by the City to the contractor(s) until the affidavit is filed in proper form and order with the City.
- H. The City's Project Manager shall retain a copy of certified payroll in City files.

15. BOND AND MAINTENANCE GUARANTEE

The contractor shall provide a payment, performance, and maintenance bond for faithful performance of the contract and for persons performing labor or furnishing materials in connection therewith, with sureties satisfactory to the City and in the form provided. This bond shall be in the full amount of the contract and shall have as surety thereon a company authorized to do business in the State of Missouri, qualified as acceptable surety for United States government deposits, and

acceptable to the City.

The contractor will guarantee that the equipment, materials and workmanship furnished under the contract will be as specified and will be free from defect for a period of two years from the date of final City acceptance. In addition, the equipment or materials furnished by the contractor shall, upon receipt of notice from the City, be repaired or replaced without expense to the City, and the contractor shall save the City harmless from any damage from faulty workmanship or materials installed under the contract.

16. TAKING OVER WORK AND WITHHOLDING PAYMENTS

- A. If the contractor shall become insolvent or be declared bankrupt, or commit any act of bankruptcy or insolvency, or if it should become evident to the City that the contractor is not making proper progress to ensure completion within the specified time, or is prosecuting the work with insufficient, inadequate, or unsuitable plant and equipment, or has failed to make good rejected work or materials, the City shall have the right, without violation of contract, after giving the contractor seven days' notice in writing, to undertake itself either by administration or by letting contract(s) to other parties, the completion of the said work which is being thus neglected, or to supplement the contractor's work and operations by supplying additional plant, equipment, materials or labor.
- B. Should the City's work cost less than the contractor would have been paid, the difference shall be paid to the contractor. However, should it cost more, the difference shall be payable by the contractor and the contractor shall, on demand, pay the amount of excess to the City. Under these circumstances and for these purposes, the City shall have the right to enter upon and take temporary possession of the plant, tools, and supplies of said contractor, or any part thereof.

In addition to the percentage of payments to be temporarily retained by the City, pending completion of the work, the City shall have the right to withhold sufficient amounts of any payment otherwise due the contractor to cover failure of the contractor to make proper payment on amounts past due and payable for just claims for labor, materials and services applied to the work of the contract, and for defective work not remedied. The City shall have the right to act as agent for the contractor in disbursing such withheld funds to the party or parties entitled thereto, and in case of such disbursements shall render the Contractor a full accounting for all such funds.

- C. The City shall not be obligated to take any such action and the failure of the City to act under this and similar clauses of the specifications shall not relieve the contractor from any responsibilities, obligations, or liabilities resulting from failure to complete the contract within the times prescribed.

17. USE OF COMPLETED WORK

The City may, prior to the completion of all the work performed by the contractor or acceptance thereof by the City, enter upon and use any portion of said work without any compensation or payment whatever to the contractor for any delay in the work caused by such use. Such taking possession and use shall not be deemed as acceptance of the work so taken and used, or any part thereof.

18. SAFETY PRACTICES AND ACCIDENT PREVENTION

- A. In the performance of the contract, the contractor and subcontractors shall comply with and observe all of the requirements of the Federal Occupational Safety and Health Act (OSHA), and all rules and regulations published in connection therewith. The contractor shall provide equipment and medical facilities as are necessary to supply first aid to anyone who may be injured in connection with the project. Provisions must also be made for the immediate removal and hospitalization in case of emergency. Anyone acting in a supervisory capacity should have

authority to order such emergency action.

- B. Precaution shall be exercised at all times for the protection of persons and property. The safety provisions of applicable laws, building and construction codes and the like shall be observed. Machinery and equipment and other hazards shall be guarded in accordance with the safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, to the extent that such provisions are consistent with applicable law or regulation.
- C. The contractor shall provide, erect and maintain all necessary barricades, suitable and sufficient red or yellow lights, danger signals, warning and closure signs, and shall provide watchers and take all necessary precautions for the protection of the work and the safety of the public.

19. LIABILITIES, DAMAGES, AND ACCIDENTS

- A. The contractor shall assume and be responsible for and shall indemnify, protect and save harmless the City against any and all claims, demands or causes of action by any party or parties whatsoever for loss, injury or damage of any kind or character, either to persons or to property, directly or indirectly arising out of his/her operations or the acts or omissions of the contractor, any agents or workers. The contractor shall pay all judgments obtained by reason of accidents, injuries or damages in any suit or suits against the City, including all legal costs, court expenses and other like expenses; the contractor shall have the option of assuming the sole defense of such suits.
- B. The contractor shall assume all risks of loss and damage to the contractor's property and to property in his/her custody and to the property of any employees, agents, and servants, howsoever caused; all risks of damage resulting from the death of or injury to himself/herself, any agents and servants, while engaged in said work and while traveling to and from the same; and he/she agrees to hold the City free and harmless from all loss, cost and expense on account thereof, and agrees to indemnify and save harmless the City from all loss, cost and expense arising or growing out of any injury to any employee of the City caused by the negligence of the contractor or any employees; also from all loss, cost and expense arising or growing out of any injury to any person while upon the premises of the City caused by the negligence of the contractor, or any employee; also from all loss, cost and expense arising or growing out of any damage to any property, whether belonging to the City or not.
- C. All delivered materials and portions of completed work shall be deemed to have become the property of the City, but the contractor shall store materials and shall be responsible for and shall maintain partly or wholly finished work during the continuance of the contract, and until final acceptance of the work covered by the contract. If any materials or parts of the work be lost, damaged or destroyed by any means whatsoever, the contractor shall satisfactorily repair and replace the same at his or her own cost.

20. INSURANCE REQUIREMENTS

Construction

- A. Contractor shall procure, and maintain as required, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the Scope of Services/Project. The cost of such insurance shall be included in the Contractor's bid.
- B. Contractor shall maintain the following coverages and minimum limits:
 - 1. Commercial General Liability: [ISO "occurrence" form or its equivalent]
 - a. \$2,000,000 General Aggregate
 - b. \$1,000,000 per occurrence limit Bodily injury/Property damage
 - c. \$1,000,000 Personal/Advertising injury
 - d. \$1,000,000 Products & Completed operations aggregate limit.
 - 2. Business Auto Coverage: (Applicable to any *Owned, hired, and non-owned autos*) \$1,000,000 property damage / bodily injury, combined single per Accident limit – Any Auto.

If no autos are owned by the proposing Contractor, a non-owned auto liability endorsement on the Commercial General Liability program is acceptable.

3. Workers Compensation and Employers Liability: Workers compensation limits as required by the statutes of the state of Missouri and employers' liability limits of \$100,000/\$500,000/\$100,000. When workers compensation insurance policy is applicable "other states" coverage is required. Regardless of any minimum number of employees to trigger statutory responsibility, the City requires evidence of Workers' Compensation insurance should the Contractor have any employees.
4. Umbrella Liability: minimum limit of \$1,000,000 excess of Commercial General Liability.

Exposure Limits: The above are minimum acceptable coverage limits and do not infer or place a limit on the liability of the Contractor nor has the City assessed the risk that may be applicable to Contractor. Contractor shall assess its own risks and if it deems appropriate and/or prudent maintain higher limits and/or broader coverages. The Contractor's insurance shall be primary and any insurance or self-insurance maintained by the City shall be excess for the City and not contribute with the coverage maintained by Contractor.

Coverage Limits: Coverage limits for General and Auto Liability exposures may be met by a combination of primary and umbrella policy limits.

- C. Additional Insured. The City shall be listed by ISO endorsement or its equivalent as additional insureds for the service/project as the City's interest may appear on the General Liability and any applicable Umbrella Liability. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
- D. Verification of Coverage.
 1. A certificate of insurance accompanied by an additional insured ISO form endorsement (CG 20 10; and CG 20 37) or equivalent effecting the coverage required by the City which includes products and completed operations.
 2. The insurance coverages are to be provided by Missouri admitted insurance companies with a Best's rating of at least A-VII. Those not admitted must be approved by City.
 3. Any self-insurance or self-insured retentions must be specified on the certificate of insurance if \$50,000 or higher per claim/loss. In addition, when self-insured the name, address, and telephone number of the claims office must be indicated on the certificate or separate attached document. Any and all deductibles or self-insurance in the above describes coverages shall be the responsibility and at the sole risk of the Contractor.
 4. When any of the foregoing insurance coverages are required to remain in force after final payment, additional certificates with appropriate endorsements evidencing continuation of such coverage shall be submitted along with the application for final payment.
 5. Any coverage provided by a Claims-Made form policy must contain a three-year tail option, extended reporting period, or must be maintained for three years post contract. Any deviation from the requirements set forth in this Insurance section may be allowed by the City Risk Manager subject to the City Legal Department's review and approval.
- E. Cancellation. Each insurance policy required shall not be suspended, voided, or canceled; except after thirty (30) days' advance written notice has been given to the City.
- F. Subcontractors. The Contractor may include all subcontractors as additional insured under its insurance policies or shall furnish to the City separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.

G. Indemnity

1. Loss: For purposes of indemnification requirements, the term "Loss" means any and all loss, damage, liability or expense, of any nature whatsoever, whether incurred as a judgment, settlement, penalty, fine or otherwise (including reasonable attorney's fees and the cost of defense), in connection with any action, proceeding, demand or claim for injury, including death, to any person or persons or damages to or loss of, or loss of the use of, property of any person, firm or corporation, including the parties hereto, which arise out of or are connected with the performance of this Agreement.
2. Indemnification and Hold Harmless: For purposes of this Agreement, Consultant agrees to indemnify, defend and hold harmless City and its agents from any and all Loss where Loss is caused or incurred as a result of the intentional misconduct, recklessness, negligence, or other actionable fault of Consultant or its subcontractors.
3. Comparative Fault & Contributory Negligence: It is a specific element of consideration of this Agreement that the indemnity in Section V.E.2 will apply notwithstanding the joint, concurring or contributory or comparative fault or negligence of City or any Third Party and, further notwithstanding any theory of law including, but not limited to, a characterization of City's or any Third Party's joint, concurring or contributory or comparative fault or negligence as either passive or active in nature; provided, however, that Consultant's obligation hereunder will not include amounts attributable to the fault or negligence of City or any Third Party for whom Consultant is not responsible.
4. Damage Limitations: The indemnification obligation contained in this Agreement will not be limited by any limitation on amount or type of damages, compensation or benefits payable by or for Consultant or its subcontractors, by the minimum insurance required by this Agreement, nor under workers' compensation acts, disability benefit acts, or other employee benefit acts.
5. Negligence by the City: Consultant is not required hereunder to defend City or its agents from assertions that they were negligent, nor to indemnify and hold them harmless from liability based on City's negligence.

Comply: X Exception: _____

ACKNOWLEDGEMENT OF INSURANCE REQUIREMENTS

By signing its proposal, respondent acknowledges that is has read and understand the insurance requirements for the proposal. Respondent also understand that the certificate of required insurance must be submitted within fifteen (15) days following the notification of award. No final contract will be signed by the City until all Certificate of Insurance are received and meet the minimums noted herein.

The contractor shall not commence work under this contract until he or she has obtained all insurance required under this section and elsewhere in the contract documents, such as exceptional insurance requirements outlined in the contract special provisions, and such insurance has been approved by the City.

21. CHANGES IN AMOUNTS OF WORK

The City shall have the right to increase or diminish the quantity, to change the order, or to dispense with portions of the work at any time without impairing the contract and without changing the unit prices to be paid.

In case of increase in amount of work, payment for such increase at the unit price bid for the work or the classes so increased shall be full compensation for the work done. When changes to work occur

that are not covered in the contract documents and involving added cost, they will be performed only on a written change order signed by the contractor and duly processed by the City. All costs and indirect costs, including overhead, bond, and profit shall be submitted as a maximum cost figure on this change order. The Contractor shall not proceed with any work under a change order requiring additional materials or costs until written approval is given by the City.

The City may at or prior to contract award appropriate up to ten percent more than the contract value to be reserved for change orders to the project. Administrative change orders may be processed for the contract up to appropriation amounts. Administrative change orders may be for unit price extensions, cost plus additions, or negotiated prices and are to be in written form approved by the City. Change orders that exceed 10% of the total contact price require approval by the City Council, unless otherwise specified in the ITB.

22. NEW ITEMS

- A. The City shall have the right to require the contractor to perform work or supply materials essential to the completion of the work, of a class or type not provided for in the contract documents, or not included and covered under classifications for which price payments are provided in the contract. This work shall be added as a new line item.
- B. When a new item is ordered, it shall be paid for as the City may elect, either by a lump sum or by unit prices mutually agreed upon by the City and the contractor in writing, or, if such agreement cannot be made or the City so elects, on the basis of estimated cost to the contractor of constituent unfabricated materials, including fuel, or applied labor, and of liability insurance for labor, plus 20% thereof to cover and include contractor's profit, superintendence, overhead, and indirect expense, including interest on borrowed money and premiums on bonds, and for the use of plant, equipment, tools, and appliances. Where manufactured or fabricated materials or articles are to be purchased for installation or some of the work is done by subcontract the contractor shall estimate 5% over and above the contractor's costs of such items instead of 20%. For such work, plant and tools shall be provided of the same general character as employed for similar kinds of operations on the project.
- C. The contractor shall not begin any work for which new items are provided in the contract without written approval from the City.

28. NOTICE OF CLAIMS FOR EXTRA COMPENSATION

Should any conditions arise which in the contractor's opinion will require any claims or demands for extra or additional compensation above that fixed by the contract, or on which he or she contemplates bringing claims for such extra compensation, the contractor shall promptly and before incurring any expenses, notify the City in writing of the conditions and circumstances and that such claims are anticipated. The contractor agrees that any claims made without such advance notice, and not presented in such a way as to enable the City to observe conditions as they occur and to verify expenses as they occur and to determine with certainty the correctness of such claims and of the expenses involved, are waived and shall be null and void. The contractor shall not proceed with any work requiring added compensation until written approval is given by the City.

29. ACCEPTANCE OF WORK

No part of the construction will be finally accepted until the all construction is completed in its entirety. Upon final completion of the work, the City will make final inspection and when it is found that the contractor has completed the entire contract in accordance with the contract documents, the City will thereupon issue a written order of acceptance and the final pay estimate will be rendered.

30. METHODS OF PAYMENT

- A. Lump Sum Payment: When so indicated in the ITB, payment will be made for the entire contract upon completion, final inspection, approval of as-built record plans and acceptance of the work.
- B. Partial (Progress) Payments: Payments will be made at unit prices shown in the bid with work in place as described in the contract documents as a basis for making monthly pay estimates. Before the first application for payment, the contractor shall submit to the City a schedule of values of the various portions of the work, including quantities, if required by the City, aggregating the total contract sum, divided according to subcontractors and prepared in such form as the City and the contractor may agree upon, and supported by such data to substantiate its correctness as the City may require. Each item in the schedule of values shall include its proper share of overhead and profit and this schedule, when approved, shall be used only as a basis for the contractor's application for payment.

At least 15 calendar days before each payment will fall due, the contractor shall submit to the City an itemized application for payment, supported to the extent required by the City by receipts or vouchers showing payments for materials and labor, payments to subcontractors, and such other evidence of the right to payment as the City may direct. On or about the first day of the month, the City will make an estimate of the value of the total work done and shall pay to the contractor, within 15 days, 90% of the amount of such estimated sum, less the sum of all previous payments. No payments will be made on account of materials not to be incorporated in the work. Progress payments will be made to the contractor based on 90% of the value of the work satisfactorily completed and for the unused material on hand at the time of the progress estimate. After the contract is 50% completed, payments may be increased by the full value of the additional work satisfactorily completed. The retained percentage will be withheld by the City until final payment is authorized, except that when the work is stated as substantially complete in writing, the City may reduce the retained percentage to an amount equal to two hundred percent of the remaining minor items to be completed.

As directed in writing by the City, adjustments may be made in the estimates for quantities shown under each bid item at the unit prices named in the bid, so long as these adjustments do not result in an excess of the total contract amount.

It is agreed by the Contractor that any payments or advancements of funds to be made to the contractor under provisions of this agreement shall not be assigned or pledged by contractor unless consent in writing is first obtained from the City.

- C. Force Account may be applied under the following conditions:
 - (1) Force Account work will be measured and paid for on a contractor's cost plus a percentage basis.
 - (2) The contractor's cost is hereby defined and shall include the amounts required to pay subcontractors plus the costs of contractor's as follows:
 - a. Labor Costs
 - (i) The payroll cost for all workers such as foremen, mechanics, craftsmen, and laborers.
 - (ii) All incidental labor expenses incurred as a direct result of the performance of the work, including payroll taxes, worker's compensation, pension, and retirement allowances and social security insurance or other regular payroll charges on same.
 - b. Material and Equipment Costs
 - (i) The cost of all materials and equipment required, delivered to the construction site that are not furnished by City or others.
 - (ii) Sales and use taxes applicable to such materials and equipment.
 - c. Supplemental Costs
 - (i) Rental for all power-driven equipment at agreed-upon rates shall be charged against

Force Account work only for the actual time which the equipment is used specifically therefore.

(ii) Transportation charges necessarily incurred in connection with such equipment, which is not already on the site.

(iii) Cost of power, fuel, lubricants, and water required for such equipment (may be included in agreed-upon rate).

(iv) Additional cost for surety bonds, liability and property damage, and other insurance required, where cost is necessarily increased by coverage of the Force Account Work.

d. The above definitions and requirements apply equally to work done by subcontractors, suppliers and manufacturers.

e. The percentages, which shall be added to the several items of contractor's cost, are as follows:

- | | |
|------------------------------------|-------|
| (i) Amounts paid to subcontractors | - 5% |
| (ii) Labor costs | - 10% |
| (iii) Material and equipment costs | - 10% |
| (iv) Supplemental costs | - 0% |

(3) The above percentages shall be understood to include all other costs and full compensation for profit, overhead, superintendence, field office expense and all other elements of cost not included in the "contractor's cost," as herein defined.

(4) The contractor shall keep and present in an acceptable form an accurate account with vouchers of the several items of cost, including those of subcontractors performing Force Account work.

D. Late Payment Clause: If the City fails to make a monthly pay estimate thirty (30) days after approval, in addition to other remedies available to the contractor, then interest shall be added to each payment at the maximum legal rate, commencing on the first day after said payment is due and continuing until the payment is received by the contractor. The legal rate of interest shall be as specified in R.S.Mo 34.057.

31. ACCEPTANCE AND FINAL PAYMENT

Upon determination by the City that all work has been completed in accordance with the contract, and approval of as-built plans submitted for record, the City will accept the project as such by an approved Letter of Acceptance. When the work has been so completed and certified by the City, a final estimate will be executed and submitted which will provide payment to the contractor for the entire sum due as set forth in the contract documents, including all amounts previously retained by the City. All prior partial estimates and payments shall be subject to correction by the City in this final estimate and payment. Payments for the work will be made by the City's credit card, which is the preferred method of payment with no added fees; or check by the City of Independence, Missouri, as herein specified.

32. FIRM PRICES

The contractor warrants that prices quoted will be firm for acceptance for a period of not less than 120 days unless otherwise specified in the bid document. Such prices will remain firm for the period of time specified in the purchase order or contract. The City shall not be responsible to pay surcharges or any other fees not disclosed and agreed upon between the parties.

33. GENERAL GUARANTY AND WARRANTY

The contractor warrants that all materials, fixtures, and equipment furnished by the contractor and his subcontractors shall be new, of good quality, and of good title, and that the work will be done in a neat and workmanlike manner. The contractor also guarantees the workmanship and

materials for a minimum period of one year from the date of final acceptance of all the work required by the contract. Furthermore, the contractor shall furnish the City with all manufacturers' and suppliers' written guarantees and warranties covering materials and equipment furnished under the contract.

34. TERMINATION

City may terminate or suspend performance of a contract for City's convenience upon written notice to contractor. City shall pay contractor for all the services performed till the date of the termination by the City or suspension expenses.

A contract may be terminated by either party upon written notice in the event of substantial failure by the other party to perform in accordance with the terms of the contract. The nonperforming party shall have ten (10) calendar days from the date of the termination notice to cure or to submit a plan for cure acceptable to the other party. Risk to persons or property shall result in immediate termination of the contract.

35. AVAILABILITY OF FUNDING

Any resulting contract or purchase order is contingent upon the availability of funding and allocation of City funds. The City may cancel any contract or purchase order immediately by giving written notice to the contractor, in the case of a reduction or elimination of funds or funding for any project, commodity, or service.

36. ANTI-DISCRIMINATION AGAINST ISRAEL ACT

Contractors working on behalf of the City of Independence are to abide by Missouri Revised Statute 34.600, otherwise known as the Anti-Discrimination against Israel Act.

City OF INDEPENDENCE, MISSOURI
Party of the First Part (City)

By: _____



RAND CONSTRUCTION COMPANY
Party of the Second Part (Contractor)

By: *Dan Hinrichs*
Dan Hinrichs - President

ATTEST:
Diane McKinney
Secretary

1428 W. 9th Street
Kansas City, MO 64101
City, State, Zip



1428 West 9th Street
Kansas City, MO 64101

Phone: (816) 421-4143
Fax: (816) 421-4144

www.randsc.com

REQUEST FOR PROPOSAL #21064
Rock Creek Treatment Facility Boiler Upgrade

RAND PROPOSAL



1428 W. 9th Street
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Mr. Tim Hamilton
SCADA Supervisor
Rock Creek Treatment Facility
9600 Norledge Ave.
Independence, Mo 64053

August 13, 2021

Re: Rock Creek Treatment Facility Boiler Upgrade Design Build

Dear Tim,

Thank you as always for the opportunity to work with you and the city of Independence on the Rock Creek Boiler Upgrade. The following proposal was developed based on various site visits with key project personnel including engineering staff, control contractor, electrical contractor & equipment reps. Each aspect of the project was evaluated from demolition, installation, control integration and overall design and functionality to capture the best ROI. Coordination with all the key trades involved was discussed at this time and will be incorporated into the schedule to minimize disruption to the facility and shorten the duration of the project.

The current boiler system utilizes a Cleaver Brooks scotch marine fire tube style application operating on #2 fuel oil or diesel fuel. The capacity of the existing boiler is 418,400 MBH input at 30 gallons per hour fuel consumption. This information along with the understanding that the annual fuel oil consumption cost being \$18,000-\$20,000 was key in calculating the projected energy savings. Other considerations for this calculation include the overall design of the system including new automation control, the use of a condensing style boiler with O₂ trim and the system pumping. The projected annual savings is anticipated to be \$10,000 including fuel and energy consumption.

An efficiency comparison w/ annual energy use equivalency in terms of NG fuel as the base model, we could expect approx. 50% reduction in annual energy cost and 60% reduction in annual energy use. This is possible because, we have high efficiency condensing boilers with efficiency in 90% 's compared to existing one in 70% 's to 80% tops, then the cost of #2 fuel oil being 4 times as expensive compared to natural gas per unit of energy in BTUHs and turning the pumping systems to variable flow pumping from constant volume.





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For this project Rand Construction selected the Lochinvar Crest boiler for its superior efficiency as compared to other high efficiency condensing boilers. Included as part of this proposal are attachments with the boiler data, efficiencies, and specific unit information. The attachments will show the AHRI certified test results for the top three boiler manufacturers: Lochinvar, Aerco and Fulton.

As you can see when you look at combustion efficiency and thermal efficiency combined, Lochinvar really stands out as the very best. Lochinvar's standard Crest boiler has the highest turndown and the lowest O₂ readings across the competition, below 5.9% O₂ throughout the entire firing range (turndown) of 25:1. To match the capacity and the field verified load we will utilize (2) of these boilers with a capacity of 2,000,000 BTU each, this will provide redundancy should one boiler fail, as well as the ability to service each individually while maintaining the building comfort.

The new boiler system will utilize a variable primary pumping system allowing the pumps to back the flow off based on system demand and maximizing efficiencies. This will be accomplished by replacing the loop pumps currently in place with (2) new inverter duty rated pumps accompanied by (2) new variable frequency drives. This will also provide redundancy as well on the hydronic side. The current 3-way valves on the air handling units will be replaced with 2-way valves for full isolation. The addition of a differential pressure meter will be added to the system to monitor the flow condition allowing the adjustment of the pump flows via the new frequency drives.

The addition of Automated Logic controls will be integrated into the existing control system to match what is currently being used to control the chilled water loop and air handling multi-zone units. The dynamic for the heating water loop will closely replicate the chilled water sequence of operation for pumping. The new control will reset the heating loop temperature based on outside air temperature for maximum comfort and efficiencies. The boilers will have a sequencing control to stage the boilers and equalize run times etc. The control system will enable the boilers and monitor all the points available via a network communication card. This will allow all the boiler information to be available on the BMS system.

As part of looking at overall system reliability, we looked at emergency power and determined that the plant is dual fed by (2) separate utilities so no need for any additional electrical requirements. The current proposal includes demo of the fuel oil lines back to a reasonable point and capping them off. Something we feel may need to be separately addressed would be the existing fuel oil tanks and what to do to safely abandon them in place. It appears that the tanks have some fuel oil remaining and will need to be pumped out and properly disposed of per EPA guidelines roughly 5,000 gallons. After the tanks are pumped out, they can either be cleaned and filled or removed completely as directed by EPA. Pricing for this work is not currently included in this proposal and would be priced as a change order as there are many different options for safely addressing them.





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Current boiler lead times regardless of manufacture are lengthy and will likely creep into the heating season. Upon award or notice to proceed the heating loads will be quickly verified so equipment orders can be promptly placed. Every effort will be made through multiple outlets to minimize lead time. Prior to the receipt of the new equipment infrastructure will be completed, including controls pumps pipe fab etc. The existing boiler can remain in operation and the new boilers will be installed over a weekend to minimize building comfort disruption. This cost is included in the proposal. This will provide a means of using the remaining fuel oil up as well.

Key Project Personnel Resume's Attached

1. Michael Schram HVAC Service Manager/Project Manager Rand Construction
2. Fred Thorp Vice President/ Project Manager Rand Construction
3. Santanu Nath Principal S&S Engineering
4. Jeff Daniels Project Manager Control Service Company
5. JP Pauley Senior Project Manager Superior Electrical Construction

Team members listed above have worked on numerous projects including boiler and control projects similar in scope and size over the last 15-20 plus years. Many include successful boiler and control projects with calculated energy savings and design build. The projects and references listed had the same type of boiler and control sequence as this project.

Regular meetings will be held throughout the duration of the project with key owner representatives along with the project and engineering team as directed by the RFP. Safety implementation will be ongoing with regular safety site visits. Bi-weekly reports will be generated and provided to the city as requested. Upon completion of construction, OEM factory start-up will take place along with water balancing and point to point control test and calibration with reports. A warranty period matrix will be included with all the O&M and closeout documents ensuring rapid response to any warranty related issues. This will include proper contact information for each specific aspect of the project.





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Scope Of Work

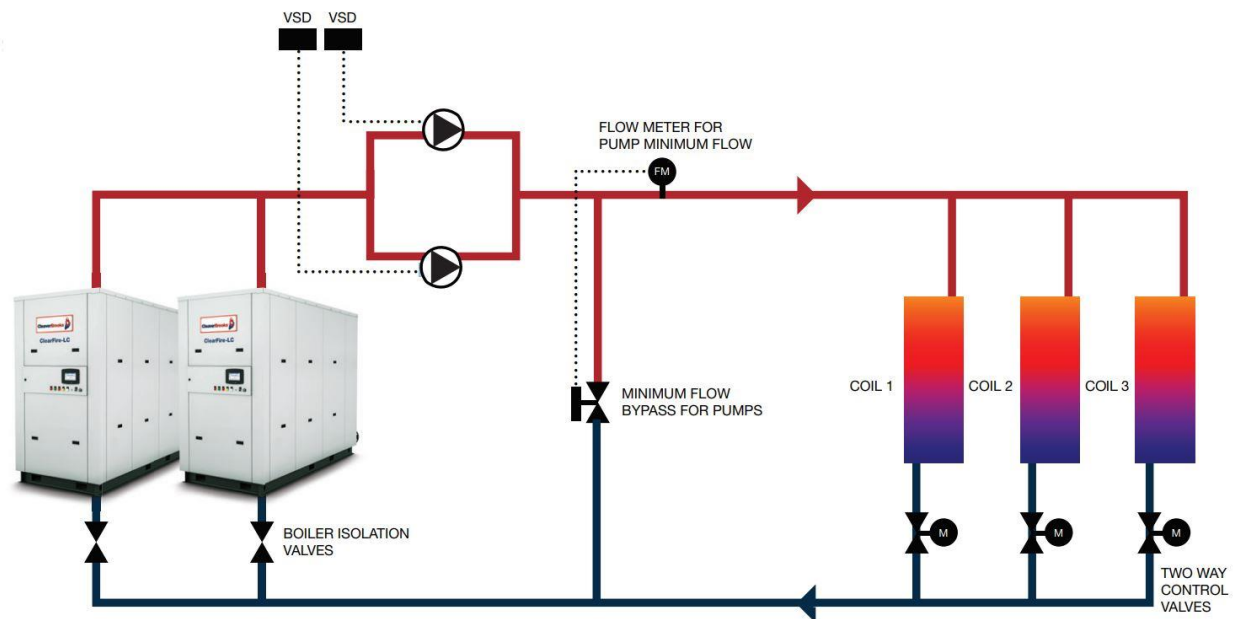
- Verify heating loads
- Complete design documents for city permitting
- Install new motorized heating coil isolation valves
- Install new primary pumps (2) each & Frequency drives
- Install new control panel with automated logic controls and integrate into existing control
- Install (2) new Lochinvar condensing boilers
- Install new compression tank to replace old expansion tanks
- Install new chemical pot feeder & Loop chemical
- Install new electrical supply and new breakers for each boiler with new conduits
- Old boiler will be removed and disposed of off site
- Cap and isolate fuel oil lines
- Perform start-up, balancing, owner training (4) hours and closeout documents

Proposed Schedule

- Notification of award 9-13-2021
- Complete updated formal construction schedule
- Complete Bond & Insurance requirements
- Begin project development phase, identify connected heating loads, and place boiler & pump order. 9-14-2021
- Calculate final energy savings & ROI
- Finalize design documents and obtain permits with stamped drawings for permitting use through city. 9-20-2021
- Boiler lead times to be determined, currently 8-10 weeks
- Begin pipe fabrication, pump replacement, control installation and frequency drive installation. Replace AHU 3-way valves install temperature and pressure controls prior to boiler arrival. 9-20-2021 through 10-3-2021.
- Infrastructure for the new boilers will be in place and ready for a quick change over to the new system. Receive new boilers 11-8-2021 shut down old boiler Friday 11-12-2021, old boiler will be removed in one-piece, new boilers set in place and connected using the prefabricated piping. Install new boilers over the weekend and at a minimum have one operating prior to the following Monday 11-15-2021 to minimize any disruptions to building comfort.
- Complete the construction phase, owner training and all closeout documents 11-19-2021



Conceptual Piping Flow Diagram Of Proposed System





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Total Turnkey Price Including Design \$214,400.00 Plus Applicable Taxes

*Due to price fluctuations in materials and equipment pricing shall be good for 15 days.

Exclusions:

- Hazardous material removal
- Asbestos abatement
- Items not specified above
- Taxes

Michael Schram

HVAC Service Manager

Phone: 816-421-4143 Ext. #288

Mobile: 913-271-5246

Email: Michael.s@randsc.com





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EXPERIENCE AND REFERENCES



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QUALITY TIMELY SERVICE

Quality, Timely Construction and Service.
Commitment to Safety.
Integrity. Satisfied Customers.

About Us

Rand Construction Company is a full service construction company offering preconstruction, general construction, mechanical construction, plumbing and service.

Mission Statement

The mission of Rand Construction Company is to provide OOwners with a positive construction experience at a great value. This is achieved by being an efficient, sole source contact with a wide spectrum of self-performing capabilities, including service. We are committed to high Quality and safety. Our culture values long-term relation-ships, both inside the company and with our customers.



RANDSC.COM

History, Organization, and Capabilities

Rand Construction Company has been in business since 1962 when the late Earl Rand Sr. started Rand & Son Mechanical. Daniel Hinrichs, the current owner, joined Rand Construction Company in 2006 after a long history of successful construction experience and subsequently purchased the company. Rand has the unique advantage of being a mid-sized, highly diversified sole proprietorship. Unlike many of our competitors, our organization is clear and we have a president who is our owner and is accessible for client needs.

Rand Construction offers a full range of construction services today to the public and private sectors. We are proficient in General Contracting, Millwright, Ironwork, Boilermaker, Plumbing & HVAC Service, and Commercial and Institutional Piping. Rand has successfully served client's needs ranging from small projects to a number of projects in excess of \$10 MM.

Rand has the experience and staff to manage concurrent, geographically separated construction projects. We have completed projects or have ongoing projects in Colorado, Kansas, Missouri, Hawaii, Puerto Rico, Alaska, Guam, Cuba and 20 other states within the continental United States. Many of these projects were under Rand's active management at the same time.



SAFETY

Rand is an industry leader when it comes to safety – this fact is reflected in our current EMR rating of 0.57. We believe that safety is paramount to the success of our organization, thus, we consider it as one of our core business objectives. Rand has received numerous awards for excellence in safety from organizations such as The Builders Association, Mechanical Contractors Association of America, TAUC, and NMAPC. In 2020, Rand Construction eclipsed over 3,008,371 man-hours without a lost time accident spanning over ten years.

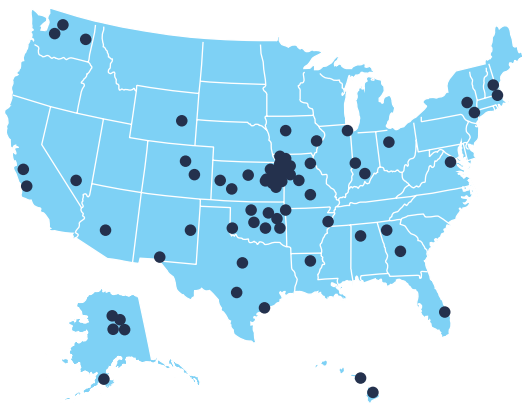
Providing a safe working environment for all Rand Employees, subcontractors, inspectors, and other on-site personnel is the number one goal of our safety program. It is the policy of Rand Construction to perform all work with the highest regard to safety for all our employees and contract associates. We are committed to providing employees with a safe and healthful workplace. Safety is of the utmost importance in the performance of all duties and will not be compromised or neglected.

Rand Construction has built a strong safety culture where everyone is accountable to protect not only themselves, but also others, in all daily activities. The result is that everyone feels responsible for safety and pursues it on a daily basis.

Part of our safety culture includes the selection of subcontractors. During the subcontractor selection process, all subcontractors are required to submit their EMR, DART Rates, RIR, and OSHA 300 logs to determine if the subcontractor has a strong history of performing work safely. Subcontractor safety records are taken into consideration in determining the best subcontractor for the project. The lowest price does not always equal the best subcontractor, and Rand Construction understands that.



PLACES WE'VE BEEN



RECENT SAFETY AWARDS

2019-2020

James T. Smerz Award

1,099.63 Points Achieved out of 1100, Specialty Trades Insurance Company

2019

Greg Woodworth Award of Excellence Award,

Specialty Trades Insurance Company

2019 2nd Place

Safety Excellence Award

Sub-Contractor Division 300,001-500,000 Work Hours, from OSHA Region VII, Kansas Dept. of Labor, MO Division of Labor and Builders Assoc.

2018 Grand Award Winner for All Divisions,

Builders Assoc.

2018 1st Place

Safety Excellence Award

Sub-Contractor Division 300,001-500,000 Work Hours, from OSHA Region VII, Kansas Dept. of Labor, MO Divisions of Labors and Builders Association

2017 1st Place

Safety Excellence Award

Sub-Contractor Division 150,001-300,000 Work Hours, from OSHA Region VII, Kansas Dept. of Labor, MO Division of Labor and Builders Assoc.

2016-2017

James T. Smerz Award

1024.63 Points Achieved, Specialty Trades Insurance Company

2016

Thomas J. Reynolds Award

The Association of Union Contractors (TAUC)

2015

Thomas J. Reynolds Award

The Association of Union Contractors (TAUC)

2015 3rd Place

Safety Excellence Award

Sub-Contractor Division 300,001-500,000 Work Hours, from OSHA Region VII, Kansas Dept. of Labor, MO Division of Labor and Builders Assoc.

2014-2015

Award of Excellence

812.73 Points Achieved Specialty Trades Insurance Company



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RANDSC.COM



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www.randsc.com

Bid RFP #21064 Rock Creek Treatment Facility Boiler Upgrade

PROJECT REFERENCES

Reference #1:

Project Description	Renovations and Upgrades (HVAC) Bldg. 1230 Education Center Tyndall, AFB – Design/Build Mechanical & Plumbing Renovation
Project Location	Tyndall AFB, FL Bldg. 1230
Owner/Contact	USACE-Mobile - Mechanical sub to Tepas/Roundhouse PBN, LLC
Contact Phone/Email	Adrian Harmon (478) 294-0024 Adrian.Harmon@tepa.com
Project Duration	October 2019 to July 2021

Reference #2:

Project Description	Design and Construction of the SGT Charles R. Long ARC Full Facility Revitalization – Renovation of Existing Facility
Project Location	Independence, MO
Owner/Contact	USACE-Louisville – Mechanical sub to American Legacy/Rand Construction Joint Venture
Contact Phone/Email	Jeff Kempf (816) 421-4143 Jeff.k@randsc.com
Project Duration	July 2018 to July 2021

Reference #3:

Project Description	Midwest Transplant Network (MTN) Organ Recover & Donor Care Unit – Mechanical & Plumbing Renovation
Project Location	1900 W. 47 th Place #400, Westwood, KS 66205
Owner/Contact	MWTN – Mechanical sub to McCownGordon
Contact Phone/Email	Skip Rosenstock (913) 216-2304 Srosenstock@mwtn.org
Project Duration	December 2020 to July 2022



Reference #4:

Project Description	HVAC Renovations, Center for Behavioral Medicine & Kansas City Regional Office, KCMO
Project Location	(CBM) 1000 E. 24 th , KCMO – (KCRO) 821 East Admiral, KCMO
Owner/Contact	State of Missouri/ Brad Luecke
Contact Phone/Email	(573) 751-3205/ brad.luecke@ao.mo.gov
Project Duration	November 2016 to June, 2017

Reference #5:

Project Description	Mechanical & Plumbing Repairs & Alterations, GSA Bannister Prospectus Bldg. 2306 & 2312, KCMO
Project Location	2306-2312 Bannister Road, KCMO
Owner/Contact	General Services Administration – Mechanical sub to J.E. Dunn
Contact Phone/Email	Jack Walliser (816) 283-9080 jack.waliser@jedunn.com
Project Duration	December 2018 – December 2021



S&S Engineering has provided energy audit, energy management and design services to include project development using financial proforma and energy modeling on the following projects.

University of Central Missouri; Warrensburg, MO
Developed \$36.1 million energy service project serving as Owner's technical representative. Services also included Project Development, Energy Management, Engineering Design, Measurement & Verification, and Commissioning for project validation.



Osage County Courthouse; Lyndon, KS
Energy Audit, Energy Modeling and Utility Analysis and ECM Implementation

Atchison County Courthouse, Atchison, KS
Energy Management Consulting and Development of ECM's

State Fair Community College; Sedelia, MO
Develop design for ECM's implementation of six buildings

Two Brush Creek Office Building; Kansas City, MO
Energy Analysis and Design Upgrades



Doniphan County Troy, KS
Developed Investment Grade Audit (IGA) and helped develop financial proforma and engineering bridging documents for ECM Implementation

LEED Projects
S&S has been retained as Energy and MEP Consultants on various LEED Projects with services provided in the areas of Energy Modeling, High-Performance MEP System Design for buildings, and Measurement & Verification and Commissioning for project certification with the USGBC.

In 2008, we began work with the University of Central Missouri to develop a sustainable campus in Warrensburg, MO. UCM worked with CCI (Clinton Climate Initiative) and ACUPCC (American College and University President's Climate Commitment) to organize and execute a \$36.1 million energy management project. Because of the support of CCI and ACUPCC, UCM was able to undertake the largest campus sustainability project of this kind to date.

Our involvement was included but not limited to:

- Owner representative to evaluate and recommend a qualified Energy Service Company (ESCO) to provide Energy Performance Contract (EPC) Services
- Development of an RFP for the Green Campus Initiative Program
- Helped develop a comprehensive program addressing campus-wide deferred maintenance (the IGA involved energy audit and survey of approximately 29 historic academic buildings on campus totaling over 1 million gross square feet)
- Presentations to support the program were made to the President and his counsel and the board of trustees, faculty board, student body, along with public town hall meetings to create campus outreach, education, and awareness
- Serving as the independent commissioning authority to validate the program
- Engineering review of documents for ECMs being implemented; review of shop drawings
- Conducting measurement and verification of ECMs for calibrated modeling
- Weekly meeting and reporting on technical coordination between Owner's Project Requirements (OPR) with ESCO program
- Coordinate issuance of ASI, PR, engineering design documents related to ESCO project for accreditation
- Review of ESCO pay applications
- Helped develop a campus-wide Climate Action Plan (CAP) for GHG emission reporting.

Our design services included preparation of contract documents for coordination with scope definition and electrical one-line power riser diagram with design-build ESCO contractor as UCM's consultant to convert 4160-volt central plant power distribution system to individual utility service for classroom and administrative buildings on campus and to upgrade and modernize electrical service and service entrance equipment.

S & S also provided design services and scope definition of HVAC improvements for painting and metal working studios in the Art Center and computer rooms in Grinstead academic buildings to maintain accreditation. The HVAC improvements especially address requirements for ventilation, pressure relationship, safety, and reliability issues.

HVAC system improvements for a 4-story 52,000 square foot student dormitory building chiller plant was provided. S & S teamed up with the campus president in developing a campus-wide Climate Action Plan (CAP) with necessary emission reporting to reduce carbon footprint. CAP is developed to solidify the university's commitment to running a sustainable campus. This plan was essential to the success of the project.

Our research on sustainability and contribution to this project was recognized internationally by ASHRAE, nationally by NACUBO (National Association of College and University Business Officers), regionally by CACUBO (Central Association of College and University Business Officers) and Kansas City' Ingram's Magazine.



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KEY PROJECT PERSONNEL RESUMES

- RAND CONSTRUCTION COMPANY
- S & S ENGINEERING
- CONTROL SERVICE COMPANY
- SUPERIOR ELECTRICAL CONSTRUCTON



Michael Schram

SERVICE MANAGER / SERVICE PROJECT MANAGER

As a service manager, my responsibilities include generating estimates, establishing budgets estimating and managing preventative maintenance contracts for industrial clients. Provide effective management of labor, material procurement, and cost analysis throughout the project & service contract duration to achieve the project profitability goals.

YEARS OF EXPERIENCE

- 10 Years Martin Mechanical Corp.
- 3 Years Rand Construction
- 11 Years with P1 Group
- 25 Years Mechanical HVAC & Refrigeration

EDUCATION

- Pipe Fitter Local 533 Journeyman
- Ammonia Refrigeration Operator 1 & 2 GCAP
- OSHA-10 Hour
- LEED Green Associate
- MCA MSP Training
- Enterprise Estimating
- Excel 1& 2 JCCC
- RETA Refrigeration Engineers & Technicians Association
- IIAR International Institute Ammonia Refrigeration

RELEVANT EXPERIENCE

Primary Focus

- Planned prescriptive maintenance for ammonia refrigeration & HVAC
- Compliance & Process safety implementation
- Mechanical integrity
- Energy projects & retrofits
- PIC Control Upgrades
- Employee Safety training & continuing education

Hunt Midwest Subtropolis Underground Ammonia Engine Room

- Complete PLC Integration
- Rotary vane compressor replacement with Screw package
- Energy Rebates through the utility for peak demand savings & Kilowatt hour savings

Associated Wholesale Grocers

- New screw compressor Nashville TN
- Multiple Compressor Replacements
- Distillation Unit installation
- Condenser Replacements
- Evaporator Replacements

US Foods Topeka KS

- Penetrative Maintenance ammonia engine room
- Hermetic ammonia pump upgrades
- HPR replacement

Graves Foods

- New low charge ammonia refrigeration system for new freezer expansion \$2 million dollar contract
- New supervisory controls for lighting refrigeration & floor heat



Frederick P. Thorpe, Jr.
Vice President - Commercial & Healthcare Division

AREAS OF EXPERTISE

- Business Development
- Project Management / Estimating
- Mechanical
- Plumbing
- Healthcare/Commercial
- Service

YEARS OF EXPERIENCE

- 24 years

EDUCATION

- B.S. in Mechanical Engineering & B.S. in Civil Engineering from Point Park College, PA
- M.B.A. from University of Pittsburgh, PA

PROFESSIONAL AFFILIATIONS

- American Society of Mechanical Engineers
- American Society of Civil Engineers
- American Society of Plumbing Engineers
- American Society of Healthcare Engineers

SPECIALIZED SKILLS

- Master Pipefitter License
- Master Plumber License
- Master Mechanical Contractor License

Fred joined Rand Construction Company in 2005 and has approximately 30 years of Estimating/Project Management experience in the industry.

Fred is experienced in all facets of mechanical and plumbing construction specifically in the area of healthcare, institutional, critical facilities, and service oriented projects ranging in value from \$1,000 to \$15M+.

His education includes a B.S. in Mechanical Engineering and a B.S. in Civil Engineering from Point Park College in Pittsburgh, PA and an M.B.A. from the University of Pittsburgh, PA. Fred is a member of the American Society of Mechanical Engineers, Civil Engineers, Plumbing Engineers and Healthcare Engineers. He holds a Master Pipefitter license, Mechanical Contractor license and is licensed as a Master Plumber.

Jackson Co Courthouse Mechanical Upgrades & Judges' Chambers
Kansas City, MO

Design-Build mechanical upgrades due to a water main break that flooded the building. Rand replaced the steam/condensate systems and chilled water systems in the basement and all associated steam/condensate pumps, heat exchangers, sump pumps, chilled water pumps and all steam traps and specialties.

Overland Park Regional Medical Office Building
Overland Park, Kansas

Professional Building, shell space fit outs for physician offices, internal medicine department and administration areas. Rand performed both the plumbing and mechanical scopes of work on this project.

Mid-America Surgery Center - Menorah Medical Center
Overland Park, Kansas

New two-story medical office building on the north side and a three-story medical office building on the south side of the hospital with connecting underground walking tunnel. Rand performed both the plumbing and HVAC scopes of work for both new buildings and also performed the design/build and plan/spec shell space fit out projects.

Overland Park Command & Control Center
Overland Park, Kansas

New headquarters for the City of Overland Park, Kansas emergency and dispatch calls including National Security, police and fire department calls.

Western Missouri Medical Center
Warrensburg, Missouri

New Wing addition and renovations to existing hospital. This project also included mechanical and plumbing upgrades to the existing hospital with more energy efficient equipment.



Frederick P. Thorpe, Jr.
Vice President - Commercial & Healthcare Division

University of Pittsburgh Medical Center
Pittsburgh, Pennsylvania

Seven years of extensive Plumbing, HVAC and Fire Protection additions and renovations to Montefiore Hospital, Presbyterian Hospital, Biomedical Science Tower, Southside Hospital and Aliquippa Hospital. The work consisted of research labs, emergency rooms, service work, oncology renovations, surgery renovations and various other upgrades and improvements.

Lee's Summit Hospital – St. Luke's Group of Hospitals
Lee's Summit, Kansas

New neurology, gastroenterology, & internal medicine suites consisting of medical gas systems, plumbing and HVAC. Rand performed several projects in this facility in phased sequence and at night to prevent disruption of daytime operations and procedures.

DST Systems
Kansas City, Missouri

Numerous mechanical installations & infrastructure upgrades including but not limited to AHU replacements, chiller replacements, boiler and Plote/Frank heat exchanger installations, controls replacements and upgrades to the B.M.S. and perimeter security measures.

U.S. Air Force Academy
Colorado Springs, Colorado

As a 53,000 sqft design/build "Medcom" project for the flagship facility of the Air Force administered by the Corps of Engineers, this high profile job involved the complete demolition and build-back of the hospital's 3rd and 4th floors, nuclear medicine, women's health, and allergy and immunizations clinics on the 1st floor. The project was heavily phased to satisfy the hospital's operational requirements which necessitated the construction of a temporary phasing facility to meet the scheduling demands. A focus of this project was to transfer load from existing air handling units to new systems. This effort required detailed planning and coordination to minimize downtime during the existing system modifications.

Munson Hospital
Ft. Leavenworth, Kansas

Design/build "Medcom" project administered by the Corps of Engineers involving renovation and expansion of the existing PT/OT department including a new addition complete with a mechanical penthouse housing a new air handling unit with hot water coil, steam to hot water heat exchanger, pumps and piping. The highlight of this project included a phased and sequenced demolition and cut over plan developed and written by Rand to energize the new AHU while demolishing the exiting AHU with no interruption to hospital operations.

On-Call Maintenance and Repair Service Contracts

- Jackson County MO On-Call Plumbing
- City of Kansas City, Missouri Aviation Department
- City of Olathe, Kansas
- KU Med On-Call Mechanical
- KU Med On-Call Plumbing
- Metropolitan Community College On-Call Plumbing



Randall Walton
Safety Director

AREAS OF EXPERTISE

- Jobsite Safety
- OSHA Regulations
- Safety Training
- Workers Compensation

YEARS OF EXPERIENCE

- 18 years of Safety/Construction

EDUCATION

- B.S. in Safety Management
University of Central Missouri

PROFESSIONAL AFFILIATIONS /

AWARDS

- Construction Safety Group (CSG)
Kansas City, Missouri
- ASSE Member
Kansas City, Missouri
- 2018 Grand Award Winner for All Divisions, Builder's Association
- 1st place 2011/2012/2013/ 2015/ 2017 Safety Excellence Award for Sub-Contractor
100,000-300,000 man hours
- 2012/ 2013 /2014/ 2015/ 2016
Thomas J. Reynolds Award from The Association of Union Contractors (TAUC)
- 2016-2017 -
James T. Smerz Award- 1,024.63 Points Achieved
- 2017-2018 -
James T. Smerz Award- 999.53 Points Achieved

SPECIALIZED SKILLS

- OSHA 10 & 30 hour Construction Trainer
- MSHA Part 46 Surface Trainer
- JLG Lift, Scissor Lift, Forklift
- Fall Protection
- Lockout
- Rigging / Hand Signaling
- Electrical Safe Work Practices
- MUST Certification

Randall Walton effectively manages safety improvements on all Rand job sites, as well as in the Rand warehouse and fabrication shop. He ensures the compliance of OSHA regulations and is responsible for equipment reviews, insurance issues and investigations, and implementation of the Rand safety incentive program. Randall also performs all workplace safety training including 10 and 30 hour OSHA 1926 Construction, MSHA Part 46 and Proper Use of a Forklift.

While at Rand Construction, Randall has established a safety program that is strongly based on our culture towards safety in the field and in the office. Establishing a good safety culture throughout the company has proven to work because in 2009 Rand Construction joined the Build Safe Partnership with OSHA and received the 1st place Safety Excellence Award in 2009, 2011, 2012 and 2013, 2015, 2017 and 2018. Rand Construction has also been awarded the Thomas J. Reynolds Award presented by The Association of Union Contractors (TAUC) every year since 2010. Most recently, Rand Construction was awarded the 2018 Grand Award Winner for All Divisions by the Builder's Association, which was quite the honor.

For the second consecutive year, under Randall's supervision, Rand Construction was awarded the 2017-2018 James T. Smerz Award for having the best safety record among 40 contractor members where Rand earned 999.53 points.

Randall does most of the safety training for Rand Construction. The training ranges from new hire safety orientation to permit required confined space training. He believes that a good safety culture starts with training your employees.

Randall has been involved in many OSHA audits and has received zero citations. At Bayer Crop Science in Kansas City, Missouri, Randall was involved in an OSHA Audit where the OSHA inspector was on the jobsite for 100 man hours over a period of three weeks.

Before joining Rand Construction as the Safety Director, Randall owned his own Safety Consulting company working directly with clients to ensure OSHA compliance and handle all aspects of safety management.

Santanu Nath

P.E., C.E.M., LEED AP, CxA
Principal

EDUCATION	B.S., Mechanical/Production Engineering M.S., Mechanical/Industrial Engineering
REGISTRATIONS	Professional Engineer - IL, KS, MI, MS, MO, OH, TX
AFFILIATIONS	ASHRAE, ASME, ASHE, AEE

PROFESSIONAL QUALIFICATIONS

Santu is the founder and principal-in-charge of the MEP engineering services for S&S Engineering, Inc. since 2004. Santanu has extensive computer modeling experience especially for HVAC systems energy analysis and life cycle cost analysis for various buildings and is familiar with simulation and modeling tools such as Computational Fluid Dynamics (CFD) to study the effect of air temperature, velocity static pressure, etc. distribution in critical environmentally controlled spaces. He has over 20 years varied design experience in educational, mixed-use, healthcare, commercial institutional and industrial projects.

CAREER PROJECT EXPERIENCE

Santanu has provided leadership on these projects over the course of his career.

Jackson County Courthouse PH-1D.B plumbing and mech pipping upgrade; Kansas City, MO

Park Plaza Design Build Renovation, Kansas City, Mo

KC Zoo Tree Kangaroo Camel Feed, and Tropic Tent remodels, Kansas City, MO

City Hall Master Planning, Kansas City, MO

Metropolitan Community College MEP Campus Renovations; Kansas City, MO

Children's Mercy Main Lab Renovations; Kansas City, MO

MRI Global Labs Design Build Renovation; Kansas City, MO

Dean Machinery - Caterpillar's Service & Distribution Center; Kansas City, MO

University of Central Missouri; Warrensburg, MO

Type of Project: Campus wide Energy Efficiency & Sustainability

Metropolitan Community College; Kansas City, MO

Type of Project: Campus Energy and System Upgrades

Dwight D. Eisenhower VA Medical Center; Leavenworth, KS

Type of Project: IDIQ Contract with VA

Colmery-O'Neil VA Medical Center; Topeka, KS

Type of Project: IDIQ Contract with VA

Kansas City VA Medical Center; Kansas City, MO

Type of Project: IDIQ Contract with VA



AWARDS / ACCOLADES

Santu has published and presented a paper on “A Vision of Sustainable Campus through ‘ESCO’ Partnership” at the 10th REHVA (Federation of European Heating, Ventilation and Air Conditioning Associations) World Engineering Congress at CLIMA 2010 cosponsored by ASHRAE, Antalya, Turkey, May 9-12 2010. Paper #0344;

Proceeding Reference #R3-TS19-PP04; <http://www.clima2010.org>

Santu has served as a Subject Matter Expert (SME) to help develop a job/task analysis (JTA) for commercial building energy modelers using “developing a curriculum” (DACUM) method for National Renewable Energy Laboratory (NREL), US Department of Energy (DOE)/Energy Efficiency & Renewable Energy (EERE) in September 2011.

Santu has served in the national committee of AABC-ACG’s Energy Management Professional (EMP) Group as a founding committee team member to help develop the EMP certification program including the handbook and the test, 2009 thru Present. The EMP certification program was launched in AABC-ACG’s 8th Annual Conference on Total Building Commissioning in Las Vegas, April 25- 27, 2012. Currently sit on the national certification council for Energy Management Association (EMA), Washington DC.

Steve Tobin P.E.

Senior Engineer

EDUCATION Bachelor of Science, Engineering 2005
Masters of Science Architectural Engineering 2006
University of Nebraska

REGISTRATIONS Professional Engineer: Nebraska 2011
Also Licensed in KS and MO

Certified Commissioning Authority, CxA 2014

PROFESSIONAL QUALIFICATIONS

Steve has twelve years of experience in the industry. He has worked on numerous types of projects in his career that include senior living, public safety, retail, government, commercial, and education. Steve takes pride in evaluating the correct approach and solutions for the projects and is detailed in his methods.

CAREER PROJECT EXPERIENCE

Following is a list of representative projects in which Steve has provided project leadership throughout the course of his career:

Jackson County Courthouse Renovations; Kansas City, MO
Emporia Hills Pet Nutrition; Emporia, KS
Vaughn Metro Center; Ontario, Canada
Venture Global Corp; Louisiana
Cerner 3001 Office Building; Kansas City, MO
Energy Modeling for O5; (LEED Gold); Gig Harbor, WA
Raymore City Hall Renovation; Raymore, MO
Holy Family Church Expansion; Kansas City, MO
Hilliard Advanced Science Research Center; St. Joseph, MO
Victory Ford and Chrylers Dealerships; Kansas City, KS
Santa Marta Senior Living; Olathe, KS
KCK Public Schools - Numerous Projects; Kansas City, KS
Spencer Fan Brit Brown Tenant Improvement; Kansas City, MO
Overland Park Public Safety; Overland Park KS
Shawnee Mission Secure Entrance Projects; Overland Park, KS
Ft. Campbell ASOC Plumbing; Ft. Campbell, KY
Naval Air Station Whidbey Island - P-239 Hangar 10; Whidbey Island, WA
Shawnee Justice Center; Shawnee KS (LEED Certified)
Pittsburg State University, McCray Hall Renovation; Pittsburg, KS
Johnson County Courthouse Remodel; Olathe KS
Multiple Projects with US Federal Courts
Ft. Riley Camp Funston CFTA (LEED Silver); Fort Riley, KS



Jeff Daniels
416 Southwest Albatross Court
Lee's Summit, MO 64082
816-305-7670

Experience

Control Service Company

March 2017-Present

Estimator and Sales Associate

- Developed and maintained professional relationships with customers.
- Created and presented estimates and scope letters to customers based on plans and specifications.
- Completed design build pricing for customers without formal drawings.
- Provided pre-construction budget costs for potential future projects
- Managed and priced change orders.

P1 Group, Inc.

2007-March 2017

A turnkey solutions provider specializing in a broad spectrum of services including new construction, electrical construction services, retrofits and preventive maintenance. www.p1group.com

Electrical Service Manager

2008-2017

KC Branch Manpower Coordinator

2013-2016

- Cradle to grave responsibilities within procuring, estimating, managing and forecasting projects.
- Developed customized and tailored solutions for customers based on their specific needs.
- Single point of contact managing approximately 20 foremen on various sites throughout Kansas City metro and central Kansas. Managed staffing, subcontractors and materials.
- Creation of jobsite documents; budgets, schedules, submittals and operations manuals.
- Monthly revenue forecasting meetings.
- Assisted with invoicing and accounts receivables.
- Implemented training classes to provide continued education for the field personnel; Customer Care, Technical Training and New Product education.
- Answered technical questions from field personnel.
- Managed staffing; hiring, coaching, training, reviews and terminations
- Managed the after-hours emergency service calls.
- Coordinated purchasing and distribution of end of the year gifts and planning offsite meetings.
- Organized and led weekly project manager staff meeting to forecast the electrical labor pool needs for the Kansas City branch.
- Represented the company at grievance meetings brought by local unions.

Highlights

2015: Estimated and supervised over 300 projects for a total of 3.1 million of gross revenue and \$679,000 in gross profit.

2016: Estimated and supervised 407 projects for a total of \$4.1 million of gross revenue and \$855,000 in gross profit.

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Project Experience with P1 Group

Water 1 Hansen Water Treatment Plant

Construction of a 12470 to 4160 medium voltage substation and distribution system. \$1.3 million dollars. Acting as the general and electrical contractor, I supervised the removal of the antiquated equipment and the installation of the new switchgear building.

- **Pre-Construction:** Building permits, soil testing, erosion plan, a perimeter security drawing, short circuit coordination study and an easement survey for the utility company.
- **Demo-**The existing gear contained PCBs so a hazardous travel plan had to be submitted and approved by the EPA. Once the equipment reached its final destination, recycling paperwork had to be provided ensuring the remediation of the materials.
- **Site Preparation-**Erosion control installation, concrete footing excavation, asbestos testing, soil compaction testing, concrete placement and duct bank excavation to intercept the existing conduits. All of these items had to be inspected by not only the city but by Black and Veatches QAQC Manager.
- **Change Order-**Tests results revealed asbestos in the existing conduit that extended from the building to the old station. This required deviation from the original scope of work which added approximately 700' of concrete encased duct bank, a 20,000 pound manhole and a custom built stainless steel junction box. Since the plant supplied fresh water to the southern portion of Johnson County, Ks, we were required to complete the additional work and still meet the original completion date.

Professional Lofts Apartment Complex

- \$750,000.00 Fire/Insurance Project. This was a complete electrical distribution rebuild following an explosion that vaporized a section of the bus duct and fire alarm back bone. To execute the job I worked directly with the owner, the insurance company, the city, the fire marshal, the equipment manufacturers and my subcontractors. Due to the damage, approximately 300 residents and 6 businesses were displaced requiring an expedited and efficient schedule. At the completion of the project Alexander Properties provided P1 with a letter of appreciation thanking me personally for my planning and execution of the project.

Blue River Waste Water Treatment Plant

- 4000 amp bus duct replacement project for the high service pump building. The system failed unexpectedly the Friday before Memorial Day Weekend. This required me and my team to bring in and connect a temporary generator within 2 hours of the failure to avoid a back-up and overflow of raw sewage. The existing system was found to be flawed so the customer asked me to develop a replacement solution which had to withstand the corrosive environment. At the conclusion of the project the customer told me that they were not only pleased with the solution that I provided but that it was going to be a new standard to which future projects would be based around.

Superior Linen

- Complete Plant Rebuild Post Fire (Design/Build/Negotiated). My crew and I worked 92 consecutive days for 12 hours per day in order to get the electrical infrastructure in place for a temporary plant. Thereafter managing the reconstruction of the damaged section, resulting in a state of the art facility.

ATK Lake City Army Ammunition Plant

- Building 3- \$675,000.00 and the Central Utility Plant @ \$112,000.00. Johnson Controls awarded the project to another contractor but 3 months in I was contacted and asked to take over due to a lack of

Jeff Daniels
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progress. I was able to schedule and manage the project in an expedited manner in order to meet the original completion date.

Amazon Warehouse

- Trane Controls installation 2016 \$180,000.00. Completion time of 6 weeks from Notice to Proceed to Substantial Completion.

State Farm Data Center

- \$735,000.00. Managed a crew of 10 electricians and 3 subcontractors to complete the installation of Johnson Controls in the Project Vortex Center.

Midwest Shredding Service-New Single Stream Recycling Plant

- Oversaw the design and installation of the electrical for the entire project from the Main Service to the final machine connections. This involved coordinating and working directly with the owner, engineer, utility company and my subcontractors. The equipment installed was the 1st of its kind in the area which required special research and partnering with the equipment manufacturer.

Watts Water Technology

- \$525,000.00 Pex plant relocation (Design/Build/Negotiated). Worked directly with offsite ownership and was required to travel to their location in order to complete a survey of the existing equipment. Provided the information to my engineering team who then generated design drawings that I submitted to the city. The project was completed on time and within the established budget.

Harris Electric

1997-2007

- Apprentice & Service Truck Driver

Education/Training

- Corporate Training
 - Understanding contracts, taxes, insurance, subcontract agreements, liens and bonds
 - Material purchasing and material pre-fabrication
 - Improving Jobsite Productivity
 - Managing Effective Customer Care
 - How to Deal Effectively with People
 - Making Ethically Sound Decisions
 - Conducting Effective Short and Long Term Planning
 - Managing Risk and Scope Change
- Sea-Corp Training: Sales Training (2016) and Organization and Time Management (2015)
- Accu-Bid estimating software (Level 3 trained)
- National Electrical Contractors Association-Project management training
- COINS-Accounting Software Trained
- Electrical journeyman and Master License holder in KCMO.
- International Brotherhood of Electrical Workers Apprenticeship Program Graduate, Class of 2002

Professional References:

Available upon request

Brad Masuen

bmasuen@controlservice.com | 816.309.0187

WORK EXPERIENCE

Engineering Manager

Control Service Company, Inc.

December 2017 – Present

- Responsible for the development and maintenance of company-wide engineering practices and standards for HVAC, lighting and access control product offerings
- Provides supervision and guidance to the engineering department on all technical matters
- Acts as the primary point of contact for high-priority clients, providing technical support, project development support and project implementation support
- Collaborates with Business Development on technical issues that arise during project scope development

Applications Engineer

Control Service Company, Inc.

2011 – November 2017

- Systems Integration Engineering, Project Design Development, Project Software Programming, System Commissioning.
- Coordinating controls systems design and installation with Automated Logic Systems. Web Control design and implementation.
- Accountable for systems integration, project engineering, installation, commissioning, and customer satisfaction.
- Major projects: North Kansas City School District, Kansas City Public School District, Topeka School District, Blue Cross Blue Shield of Kansas City, Cerner, Nelson Atkins Museum of Art, Kansas University Medical Center, United Methodist Church.

Chief Engineer

Kauffman Center for the Performing Arts

2010 – 2011

- Commissioning DDC systems, Fire Alarm Systems, Lighting Control Systems, and Power Monitoring Systems for ownership group.
- Developed standard operation procedures concerning the ongoing operation and maintenance of the property.

Engineering Manager

Nelson-Atkins Museum of Art

2004 – 2010

- Responsible for maintaining a 445,000 sq. ft. fine art museum, 165,000 sq. ft. parking garage, and 21 acre Sculpture Park.
- Maintained a Building Automation System (BAS) that includes over 8000 physical control points and 12000 points of integration that are critical to the environmental control and the sustainability of The Museum's art, building infrastructure, and grounds.
- Implemented and maintained the Centralized Maintenance Management System (CMMS) which provided up to date records, history, and equipment information on all facility equipment.

EDUCATION

Iowa State University — B.S. Bachelor of Science – Institutional Management — Graduated August 2004

Baker University — M.B.A. Masters of Business Administration — Graduated December 2011

ADDITIONAL TRAINING AND CERTIFICATIONS

- Automated Logic DDC Controls Certification Course
 - Tridium Niagara AX Certified
 - SkySpark Analytics Implementation Course
- 

Justin Smith

jsmith@controlservice.com | 816.600.5860

WORK EXPERIENCE

Startup & Checkout Department Manager

Control Service Company, Inc.

March 2009 – Present

- Hired on as a warehouse associate to manage and maintain compliance within company procedures for distribution and inventory management to maximize customer satisfaction and minimize cost
- Enhanced product workflow by analyzing and developing logistics plans that affected organization of controls project inventory and distribution
- Promoted to Controls Technician after two years on the job to oversee the startup and commission of live systems for specific projects
- Installed, serviced, troubleshot and maintained products and equipment at customer sites
- Provided customer support for systems utilization and optimization to ensure high levels of client satisfaction
- Promoted to current role after six years of successful project completion in school buildings, data centers, government facilities and commercial buildings
- Currently oversees all jobs and all projects in the company pipeline while leading a team of 10 technicians
- Works with Project Managers as a second tier of support for client service, overseeing technical updates and interactions
- Responsible for comprehensive in-house training for all employees for all products, systems, processes and procedures

Manager

Mirror Image Express Carwash

August 2006 – March 2009


- Directed day-to-day operations of full-service carwash servicing over 100,000 cars per year, with an annual revenue over \$1.4 million
- Precisely managed cash revenue, which made up 35 to 40 percent of annual sales
- Maintained labor percentage goal and chemical cost analysis
- Accountable for hiring, training, scheduling and supervising a staff of 35 employees
- Oversaw maintenance and operation of all wash equipment including hydraulics, pneumatics, tunnel control board, and operating software Site Watch, by DRB Systems
- Performed water quality testing and conducted all maintenance and repair of wastewater recycling system
- Demonstrated effectiveness in customer service by resolving customer complaints and repairing any damages to vehicles caused by the carwash

EDUCATION

Metropolitan Community College — Various courses in Business, Technology and Engineering

2004 – 2006

ADDITIONAL TRAINING AND CERTIFICATIONS

- OSHA 10 Certification
 - Softwarehouse and Axis Certifications
- 

John (JP) Pauley

Superior Electrical Construction, Inc.

- Experience**
- 2001-Present Superior Electrical Construction, Inc.**
- Positions
 - Apprentice Electrician
 - Journeyman Electrician- performed various electrical tasks
 - Foreman Electrician-Supervised projects with 2-10 man crew
 - General Forman –Supervised multiple projects with 2-30 man crew
 - Field General Forman – Superintendent
 - Planned and Supervised several large electrical projects
 - 10-70 man crews
 - Projects up to \$8,500,000.00
 - Project Manager / Estimator
 - Estimated, Planned and Managed Projects, Field Personnel, Field Support Personnel and Project Schedules
 - Projects up to \$8,500,000.00
 - Multiple Crafts: Electricians, Millwrights, Pipefitters, Operators and Laborers
 - Additional Work Experience
 - Control Wiring and Trouble Shooting
 - Power Wiring and Troubleshooting
 - Control Circuit Design
 - Panel Building
 - Heavy Industrial Motor Controls
 - Planned, Supervised and Coordinated various projects
 - Progress Energy Power Plants 4 & 5 Precipitator Rebuilds
 - CertainTeed Insulation Plant
 - Honeywell FM&T (NNSA)
 - Kinder Morgan Liquid Natural Gas Plant
 - Various Pump Station & Lift Station Retrofits
 - Wastewater Treatment Plants
 - Bayer Animal Health
 - Ford Assembly Plant (Claycomo)
 - GM Assembly Plant (Fairfax)
 - Anheuser Busch, St. Louis, MO
 - Conveyor Systems
 - Chiller & Boiler Replacements
 - School Renovations
- 1998-2001 U.S. Electrical / P1 Group**
- 1997-1998 Progress Electric / Infinite Energy**
- 1996-1997 Barts Electric**
- 1987-1992 U.S. Navy**
- Naval Aircrewman / Operator
 - Gulf War Combat Veteran

Education

1981-1985	Blue Springs High School, Blue Springs, MO
1987-1992	U.S. Navy Various Technical Schools Florida Community College of Jacksonville, Jacksonville, FL
1997-2002	JATC Electrical Apprenticeship

Certificates **1999 to Present**

- IBEW Apprenticeship Journeyman Certificate
- NECA Basic Estimating
- NECA Effective Supervision
- OSHA-30
- 3M Medium Voltage Terminations (15kV)
- Basic Instruction for Rockwell Automation
- AMP – Installation and Connection of LAN Cabling Systems
- Crosby Rigging and Communication

Community Service

- Grain Valley Board of Education (1999-2011) 12 Years
- Pop Warner Football
- Grain Valley Youth Softball
- Grain Valley Youth Wrestling
- Live Webcasts of GVHS football, basketball and wrestling



1428 West 9th Street
Kansas City, MO 64101

Phone: (816) 421-4143
Fax: (816) 421-4144

www.randsc.com

LOCHINVAR CREST BOILER EQUIPMENT INFORMATION

**CREST
COMMERCIAL
CONDENSING BOILER**

Submittal Sheet



Lochinvar[®]
HIGH EFFICIENCY BOILERS & WATER HEATERS

**MODELS
FB 0751 - FB 6001**



FBN-Sub-13

Job Name: _____

Location: _____

Contractor: _____

Type Gas: _____

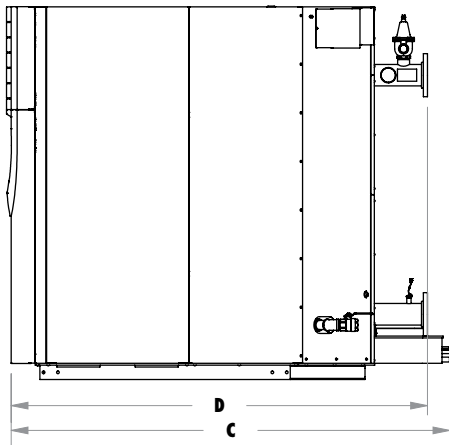
Engineer: _____

Model #: _____

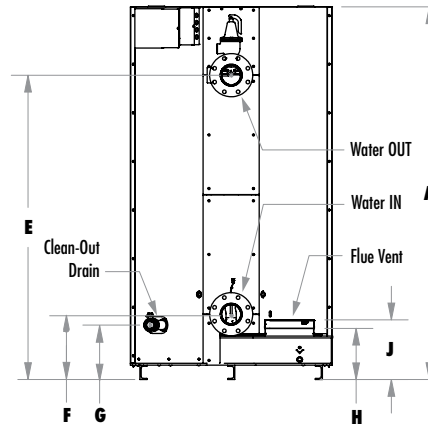
Agent/Wholesaler: _____

Equipment Tag(s): _____

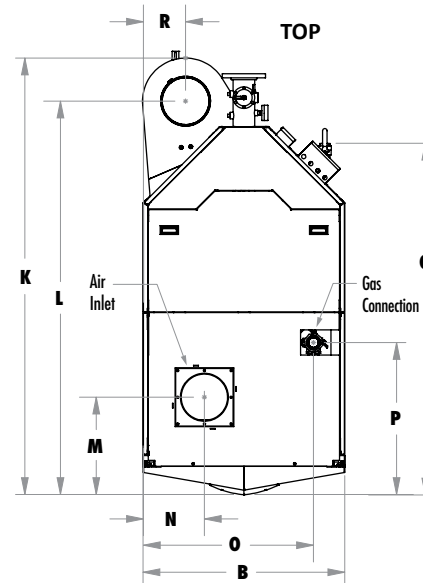
SIDE



BACK



TOP



JOB NOTES:

Notes:

- * Insert "N" for natural gas, "L" for LP gas models and "D" for dual fuel.
- Indoor installation only.
- Low NOx Operation.
- Lochinvar should be consulted before selecting a boiler for installations having unusual piping and pickup requirements, such as intermittent system operation, extensive piping systems, etc.
- The ratings have been determined under the provisions governing forced draft burners.
- The Net AHRI water ratings shown are based on a piping and pickup allowance of 1.15.

Model Number	Input MBH		Thermal %	Gross Output MBH	Net AHRI Rating MBH	Turn-down	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	Gas Conn.	Water Inlet/Outlet	Air Intake	Vent Size	Oper. Weight (with water)	Ship. Weight (lbs.)
	Min	Max																											
FB*0751	50	750	96.2%	722	628	15:1	78"	30"	55-1/2"	57-5/8"	66-1/8"	11-7/8"	11-3/8"	11-1/4"	12-1/2"	55"	51"	13"	8-3/4"	26-3/4"	23-3/4"	49-1/2"	7-3/8"	1-1/4"	3"	6"	6"	1,768	1,560
FB*1001	50	999	96.2%	961	836	20:1	78"	30"	56-1/2"	57-5/8"	66-1/8"	11-7/8"	11-3/8"	11-1/4"	12-1/2"	56"	51"	13"	8-3/4"	26-3/4"	23-1/8"	49-1/2"	6-1/2"	1-1/4"	3"	6"	6"	1,838	1,596
FB*1251	62.5	1,250	96.2%	1,203	1,046	20:1	78"	30"	56-1/2"	57-3/4"	66-1/8"	11-7/8"	11-3/8"	11-1/4"	12-1/2"	56"	51-3/8"	13"	8-3/4"	26-3/4"	21-5/8"	49-1/2"	6-1/2"	1-1/2"	3"	6"	8"	1,975	1,648
FB*1501	60	1,500	96.2%	1,443	1,255	25:1	78"	30"	67-3/4"	68"	65-3/8"	12-3/8"	11-3/8"	11-1/4"	12-1/2"	67-1/4"	62-3/8"	15-7/8"	9"	26-7/8"	27-7/8"	59-1/4"	5-1/8"	1-1/2"	4"	8"	8"	2,307	1,961
FB*1751	70	1,750	96.2%	1,684	1,464	25:1	78"	30"	66-1/4"	68"	65-3/8"	12-3/8"	11-3/8"	11-1/4"	12-1/2"	65-3/4"	61-1/2"	15-7/8"	9"	27"	27-1/8"	58-3/4"	5-1/8"	1-1/2"	4"	8"	8"	2,458	2,017
FB*2001	80	1,999	96.2%	1,923	1,672	25:1	78"	30"	66-1/2"	68"	65-3/8"	12-3/8"	11-3/8"	11-1/4"	12-1/2"	66"	61-1/2"	15-7/8"	9"	27"	26-3/4"	58-3/4"	5-1/8"	1-1/2"	4"	8"	8"	2,570	2,087
FB*2501	125	2,500	96%	2,400	2,087	20:1	77-3/4"	35"	83-3/4"	83-3/4"	63-3/4"	13-1/2"	11-1/4"	10-1/2"	12-1/4"	83-1/4"	76-1/4"	19-3/4"	9-1/4"	28-3/4"	32"	71"	7-1/4"	2"	4"	8"	9"	3,600	2,577
FB*3001	150	3,000	96%	2,883	2,507	20:1	77-3/4"	35"	83-3/4"	83-3/4"	63-3/4"	13-1/2"	11-1/4"	10-1/2"	12-1/4"	83-1/4"	76-1/4"	19-3/4"	9-1/4"	28-3/4"	32"	71"	7-1/4"	2"	4"	10"	10"	3,900	2,881
FB*3501	175	3,500	96%	3,364	2,925	20:1	77-3/4"	42"	91-1/2"	86-3/4"	63-1/2"	13-1/4"	11-1/2"	10-3/4"	12-1/2"	91"	82"	20-1/4"	12-3/4"	35-1/2"	31-3/4"	73-1/4"	8-3/4"	2"	4"	10"	10"	4,600	3,218
FB*4001	333.3	3,999	96%	3,843	3,342	12:1	77-3/4"	45-1/2"	103-1/2"	99"	63-1/2"	13-3/4"	11-1/2"	10-3/4"	12-1/2"	103"	94"	24-3/4"	13-1/2"	39-1/2"	42-1/4"	85-1/4"	10-1/2"	2-1/2"	4"	12"	12"	5,200	3,805
FB*5001	499.9	4,999	96%	4,804	4,177	10:1	77-3/4"	46-1/2"	102-1/4"	99-1/2"	63-1/2"	15"	11-1/2"	10-3/4"	12-1/2"	101-3/4"	92-1/2"	22"	14"	39-3/4"	39-1/2"	84"	9"	2-1/2"	6"	14"	14"	5,900	4,101
FB*6001	600	6,000	96%	5,766	5,014	10:1	77-3/4"	50"	102-3/4"	99-3/4"	63-1/4"	14-3/4"	11-1/2"	10-3/4"	12-1/2"	102-1/2"	93-1/4"	20"	15-3/4"	43-1/2"	36-1/2"	83-3/4"	9-1/4"	3"	6"	14"	14"	6,900	4,711

Information subject to change without notice. Dimensions shown are approximate and should not be used for construction purposes.

CREST[®]

CONDENSING BOILER

Codes & Registrations

ANSI Z21.13/CSA Certified

ASME Certified, "H" Stamp / National Board

California Code Compliant

Canadian Registration Number (CRN)

CSD1 / Factory Mutual / GE Gap Compliant

South Coast Air Quality Management District
Qualified & Energy Star Rated (FB 0751-2001)

Smart Touch™ Features

CON-X-US Remote Connect

SMART TOUCH Touchscreen Operating Control

Full-Color 8" Touchscreen LCD Display

Built-in Cascading Sequencer for up to 8 Boilers

- › Built-in Redundancy
- › Cascade Multiple Sized Boilers
- › Lead/Lag Cascade
- › Efficiency Optimized Cascade

Front-End Loading Capability with Copper-Fin II® and Power-Fin® Boilers

Building Management System Integration with 0-10 VDC Input

BACnet MSTP Communications

Outdoor Reset Control with Outdoor Air Sensor

Password Security

Domestic Hot Water Prioritization

- › DHW tank piped with priority in the boiler loop
- › DHW tank piped as a zone in the system with the pumps controlled by the Smart System
- › DHW Modulation Limiting
- › Separately Adjustable SH/DHW Switching Times

Low Water Flow Safety Control & Indication

Inlet & Outlet Temperature Readout

Freeze Protection

Service Reminder

Time Clock

Data Logging

- › Hours Running, Space Heating
- › Hours Running, Domestic Hot Water
- › Hours Running, Modulation Rate
- › Ignition Attempts
- › Last 10 Lockouts

Programmable System Efficiency Optimizers

- › Night Setback
- › Anti-Cycling
- › Outdoor Air Reset Curve
- › Ramp Delay
- › Boost Temperature & Time
- › Modulation Factor Control

Three Pump Control

- › System Pump
- › Boiler Pump
- › Domestic Hot Water Pump



High-Voltage Terminal Strip

- › 120V/1PH/60Hz Power Supply (FB 0751-2001)
- › 208V/3PH/60Hz Power Supply (FB 2501-3501)
- › 480V/3PH/60Hz Power Supply (FB 4001-6001)
- › System Pump, Boiler Pump and DHW Pump Power

Low-Voltage Terminal Strip

- › 24 VAC Auxiliary Device Relay
- › Auxiliary Proving Switch Contacts
- › Alarm on Any Failure Contacts
- › Runtime Contacts
- › DHW Thermostat Contacts
- › Unit Enable/Disable Contacts
- › System Sensor Contacts
- › DHW Tank Sensor Contacts
- › Outdoor Air Sensor Contacts
- › Cascade Contacts
- › 0-10 VDC BMS External Control Contact
- › 0-10 VDC Variable Speed Boiler Pump Control Contact

Standard Features

Proof of Closure Valve (FB 6001)

Modulating Burner with up to 25:1 Turndown

Direct-Spark Ignition

Low NOx Operation

Sealed Combustion

Air Inlet Filter

Low Gas Pressure Operation

Vertical and Horizontal Direct Venting

- › Direct Vent up to 100 Feet
- › PVC, CPVC, Polypropylene or AL29-4C (FB 0751-4001)
- › AL29-4C (FB 0751-6001)

ASME "H" Stamped Heat Exchanger

316L Stainless Steel Fire Tubes

160 psi Working Pressure

On/Off Switch

Adjustable High Limit with Manual Reset

Low Water Cutoff with Manual Reset & Test

High & Low Gas Pressure Switches w/Manual Reset

Low Air Pressure Switches

Condensate Trap w/Blocked Drain Switch

Drain Valve

System Sensor

Outdoor Air Sensor

Inlet & Outlet Temperature Sensors

High-Voltage Terminal Strip

Low-Voltage Terminal Strip

Downstream Gas Test Cocks

50 psi ASME Relief Valve

Temperature & Pressure Gauge

Zero Clearances to Combustible Materials

High Altitude Models Available

10-Year Limited Warranty (See Warranty for Details)

1-Year Warranty on Parts (See Warranty for Details)

Optional Equipment

Alarm on Any Failure

ASME Relief Valve Option:

75 psi 100 psi 125 psi 150 psi

BMS Gateway - BACnet IP or LonWorks

Condensate Neutralization Kit

Common Vent Kits Damper

Modbus Communication

Motorized Isolation Valve

RealTime O₂ Feedback™

Variable Speed Boiler Pump

Wireless Outdoor Temperature Sensor

Electrical Transformer Options (Shipped Loose):

› FB 0751-2001

208V/3PH/60Hz → 120V/1PH/60Hz

480V/3PH/60Hz → 120V/1PH/60Hz

600V/3PH/60Hz → 120V/1PH/60Hz

› FB 2501-3501

480V/3PH/60Hz → 208V/3PH/60Hz

600V/3PH/60Hz → 208V/3PH/60Hz

› FB 4001-6001

208V/3PH/60Hz → 480V/3PH/60Hz

600V/3PH/60Hz → 480V/3PH/60Hz



Lochinvar, LLC
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Lebanon, Tennessee 37090
P: 615.889.8900 / F: 615.547.1000
f t in v Lochinvar.com



CREST BOILER PRODUCT SUMMARY
(FB) 750,000 - 2,000,000 BTU/HR

	FB-0751	FB-1001	FB-1251	FB-1501	FB-1751	FB-2001
WATER						
GALLON CAPACITY	73	77	87	94	106	111
HEATING SURFACE (SQ. FT.)	87	114.7	140.5	162.3	186	197.8
INLET WATER CONNECTION	3" Flanged	3" Flanged	3" Flanged	4" Flanged	4" Flanged	4" Flanged
OUTLET WATER CONNECTION	3" Flanged	3" Flanged	3" Flanged	4" Flanged	4" Flanged	4" Flanged
DRAIN	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
MAXIMUM FLOW RATE (GPM)	350	350	350	350	350	350
ABSOLUTE MINIMUM FLOW RATE (GPM)	18	18	18	25	25	25
20°F ΔT WATER FLOW (GPM)	72	96	120	144	168	192
HEAD LOSS (FT. OF HD.)	4.8	8.3	9.2	12.3	13.8	14.5
40°F ΔT WATER FLOW (GPM)	36	48	60	72	84	96
HEAD LOSS (FT. OF HD.)	3.0	6.0	6.0	7.3	8.1	8.1
MAX. WORKING PRESSURE (PSI)	160	160	160	160	160	160
# OF RELIEF VALVES	1	1	1	1	1	1
RELIEF VALVE SIZE	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/2
RELIEF VALVE RATING (MBH)	1,954	1,954	1,954	1,954	1,954	1,954
RELIEF VALVE PRESSURE RATING (PSI)	50	50	50	50	50	50
GAS						
BTU/HR INPUT	750,000	999,000	1,250,000	1,500,000	1,750,000	1,999,000
BTU/HR OUTPUT (HIGH FIRE)	722,000	961,000	1,203,000	1,443,000	1,684,000	1,923,000
BTU/HR OUTPUT (LOW FIRE)	48,100	48,100	60,150	57,720	67,360	76,920
HORSE POWER (INPUT)	22	30	37	45	52	60
INLET CONNECTION	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	1 1/2
MAX. INLET PRESSURE, NAT	14" w.c.	14" w.c.	14" w.c.	14" w.c.	14" w.c.	14" w.c.
MIN. INLET PRESSURE, NAT	4" w.c.	4" w.c.	4" w.c.	4" w.c.	4" w.c.	4" w.c.
MAX. INLET PRESSURE, LP	14" w.c.	14" w.c.	14" w.c.	14" w.c.	14" w.c.	14" w.c.
MIN. INLET PRESSURE, LP	8" w.c.	8" w.c.	8" w.c.	8" w.c.	8" w.c.	8" w.c.
ELECTRICAL						
VOLTAGE/HEATER (VAC)	120V/1PH/60Hz	120V/1PH/60Hz	120V/1PH/60Hz	120V/1PH/60Hz	120V/1PH/60Hz	120V/1PH/60Hz
VOLTAGE/CONTROL (VAC)	24	24	24	24	24	24
TOTAL AMPS (FLA)	5	6	7	10	10	13
MINIMUM CIRCUIT AMPS (MCA)	6	8	9	13	13	16
# OF ELECTRICAL CONNECTIONS	1	1	1	1	1	1
DIMENSIONS						
HEIGHT	78	78	78	78	78	78
WIDTH	30	30	30	30	30	30
DEPTH	57 5/8	57 5/8	57 3/4	68	68	68
SHIPPING WEIGHT (lbs.)	1,560	1,596	1,648	1,961	2,017	2,087
OPERATING WEIGHT (lbs.)	1,768	1,838	1,975	2,307	2,458	2,570
SERVICE CLEARANCES (RECOMMENDED)						
FRONT	30	30	30	30	30	30
REAR	24	24	24	24	24	24
RIGHT SIDE	24	24	24	24	24	24
LEFT SIDE	24	24	24	24	24	24
TOP	24	24	24	24	24	24
DIRECT VENTING						
VENT SIZE	6	6	8	8	8	8
AIR INLET SIZE	6	6	6	8	8	8
VENT CATEGORY	II or IV	II or IV	II or IV	II or IV	II or IV	II or IV
VENT MATERIAL	SS, CPVC, PVC, Polypro	SS, CPVC, PVC, Polypro	SS, CPVC, PVC, Polypro	SS, CPVC, PVC, Polypro	SS, CPVC, PVC, Polypro	SS, CPVC, PVC, Polypro

* Electrical - For alternate voltages and amp draws, please consult the factory or the installation and operation manual.
Unless otherwise specified dimensions are in inches.

**Boiler
Cascade
Schedule:**



1. Select model from drop-down choices in "Boiler X" box(es).
2. Choose the variables (w/red headings) to complete the line item.
NOTE: Cell values can be manually changed as needed. A new copy of the schedule will be needed to restore auto-population.

This schedule is designed to be used for up to 8 boilers that will be in a cascade. This means a number of specifications will be the same for each unit.
Use the drop down menus in columns with red headings to select the desired spec.

For units that stand alone, or are in a different area of the building; use the RESET button to create separate schedules.

	Boiler 1 FB-2001	Boiler 2 FB-2001	Boiler 3	Boiler 4	Boiler 5	Boiler 6	Boiler 7	Boiler 8
--	----------------------------	----------------------------	----------	----------	----------	----------	----------	----------

UNIT DESCRIPTION					BURNER						WATER								ELECTRICAL		DIMENSIONS						
TAG	BOILER TYPE	MAKE	MODEL	AHRI EFFICIENCY	FUEL	INPUT (btuh)	MAX. OUTPUT (btuh)	MIN. OUTPUT (btuh)	TURNDOWN RATIO	MIN-MAX. INLET PRESSURE (IN. W.C.)	GALLON CAPACITY	MAX. PRESSURE RATING (PSI)	RELIEF VALVE PRESSURE RATING (PSI)	MINIMUM FLOW RATE (GPM)	MAXIMUM FLOW RATE (GPM)	DESIGN SYSTEM DELTA T (°F)	WATER FLOW (GPM) Based on ΔT	HEAD LOSS (FT. OF HD.) Based on ΔT	RETURN W.T. (°F)	SUPPLY W.T. (°F)	VOLTAGE/ PHASE	TOTAL AMPS (FLA)	VENT SIZE (inches)	VENT MATERIAL	OPERATING WEIGHT (lbs.)	UNIT DIMENSIONS (inches) H x W x D	
B-1	Condensing Stainless Steel Firetube	LOCHINVAR	FBN2001	96.2%	Natural Gas	1,999,000	1,923,000	76,920	25:1	4 to 14	111	160	50	25	350	30	128.41	10.1	130	160	120V/1PH/60Hz	13	8	SS, CPVC, PVC, or Polypro	2,570	78 x 30 x 68	
B-2	Condensing Stainless Steel Firetube	LOCHINVAR	FBN2001	96.2%	Natural Gas	1,999,000	1,923,000	76,920	25:1	4 to 14	111	160	50	25	350	30	128.41	10.1	130	160	120V/1PH/60Hz	13	8	SS, CPVC, PVC, or Polypro	2570	78 x 30 x 68	

- Schedule Notes:**
- Boiler shall meet ANSI Standard Z21.13 and thermal and combustion efficiencies and shall be AHRI certified.
 - Boiler to be CSD-1 Compliant.
 - Boilers must be low NOX approved for South Coast Air Quality Management District Rule 1146.2 (for boilers up to 2000 MBH) and Bay Area Air Quality Management District.
 - Boiler heat exchanger shall be condensing, stainless steel, fire tube design. No exceptions.
 - Boiler shall be of a single burner and single heat exchanger design. Designs with multiple burners and pressure vessels in a single jacket will not be accepted.
 - Boiler shall be CSA certified, at site altitude at high and low turndown ratio.
 - Scheduled water volume is minimum allowed to prevent any increase in short cycling.
 - Boiler shall not have a published excess 02% of more than 5.7%.
 - Provide an ultra high turndown gas regulator on each incoming boiler gas line sized per National Fuel Gas Code.
Select Max. Gas Pressure >> P/N =
 - Boiler must integral cascade sequencer with BACnet MSTP interface, lead/lag, efficiency optimization, and cascade redundancy.
 - Boiler shall have 8" touchscreen interface with WiFi and ethernet connection for remote monitoring and control.
 - Select Piping Configuration >>
Variable Primary piping: Boiler isolation valves shall be provided on the outlet of each boiler and controlled by the boiler operating system.
 - Boiler shall be able to anticipate system load changes via a 0-10vdc signal from the variable frequency drive and boiler low voltage contacts.
 - Condensate neutralization kit shall be provided with each boiler.
P/N =
 - Pressure vessel and heat exchanger shall be protected by a factory warranty that covers lifetime thermal shock, 5 year on burner and 18 months on parts.
 - Factory trained start-up and owners training required. Full verification of specified turndown ratio shall be witnessed by owners rep.



FEDERAL ENERGY MANAGEMENT PROGRAM

Energy Cost Savings Calculator for Commercial Boilers: Closed Loop, Space Heating Applications Only

Federal Energy Management Program

[Office of Energy Efficiency & Renewable Energy](#) »

Energy Cost Savings Calculator for Commercial Boilers: Closed Loop, Space Heating Applications Only

This cost calculator is a screening tool that estimates a product's lifetime energy cost savings at various efficiency levels.

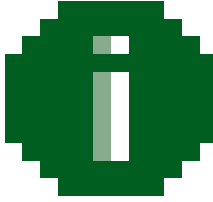
Learn more about the base model and other [assumptions](#).

Project Type	
	Is this a new installation or a replacement? <input type="radio"/> New <input checked="" type="radio"/> Replacement
	What is the deliverable fluid type? <input checked="" type="radio"/> Water <input type="radio"/> Steam
	What fuel is used? <input checked="" type="radio"/> Gas <input type="radio"/> Oil
	How many boilers will you purchase? 2 unit(s)
Performance Factors	
Existing	What is the capacity of the existing boiler? 4184 MBtu/hr*
	What is the thermal efficiency of the existing boiler? 75 % E _t
New	What is the capacity of the new boiler? 2000 MBtu/hr*
	What is the thermal efficiency of the new boiler? 90 % E _t
Cost Factors	
	What is the current cost of energy? \$ 0.50 per therm*
	What are the annual hours of operation? ** 1500 hours

*1 MBtu equals 1,000 Btu
 1 therm natural gas equals 100,000 Btu
 1 gallon No. 2 fuel oil equals 140,000 Btu

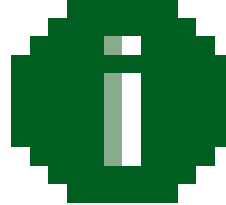
** Value entered should be equivalent full load hours (e.g. 3,000 hours at 50% load equals 1,500 full load hours)

Energy Cost Savings



You save **\$983,762!**

You Can Spend



Up to **\$17,449** more per unit

Boilers of the efficiency you specified will save \$983,762 in lifetime avoided energy costs compared to your existing boiler.

	EXISTING BOILER	BASE MODEL	FEMP MIN. EFFICIENCY REQUIREMENT	BEST AVAILABLE	YOUR CHOICE
LIFETIME ENERGY COST SAVINGS (PER BOILER)*	\$0	\$451,179	\$468,628	\$505,735	\$491,881
LIFETIME ENERGY COSTS (PER BOILER)	\$817,554	\$366,375	\$348,926	\$311,819	\$325,673
ANNUAL ENERGY COSTS (PER BOILER)	\$41,840	\$18,750	\$17,857	\$15,958	\$16,667
ANNUAL ENERGY USE (THERM) (PER BOILER)	83,680	37,500	35,714	31,915	33,333
THERMAL EFFICIENCY (%)	75	80	84	96	90

Office of
Energy Efficiency & Renewable Energy

Forrestal Building
1000 Independence Avenue, SW
Washington, DC 20585



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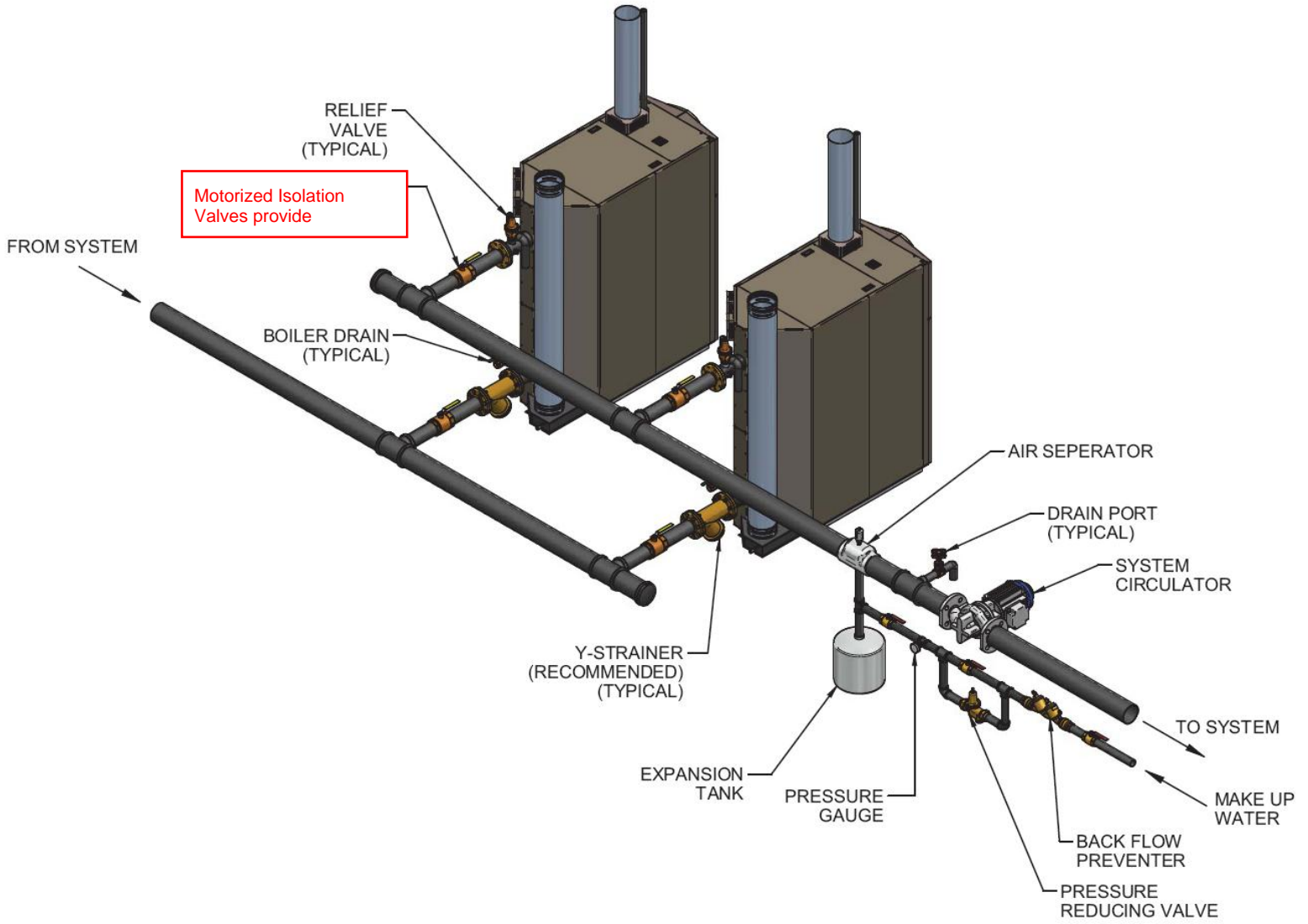
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Small Business
Staff & Contractor Resources

FEDERAL GOVERNMENT

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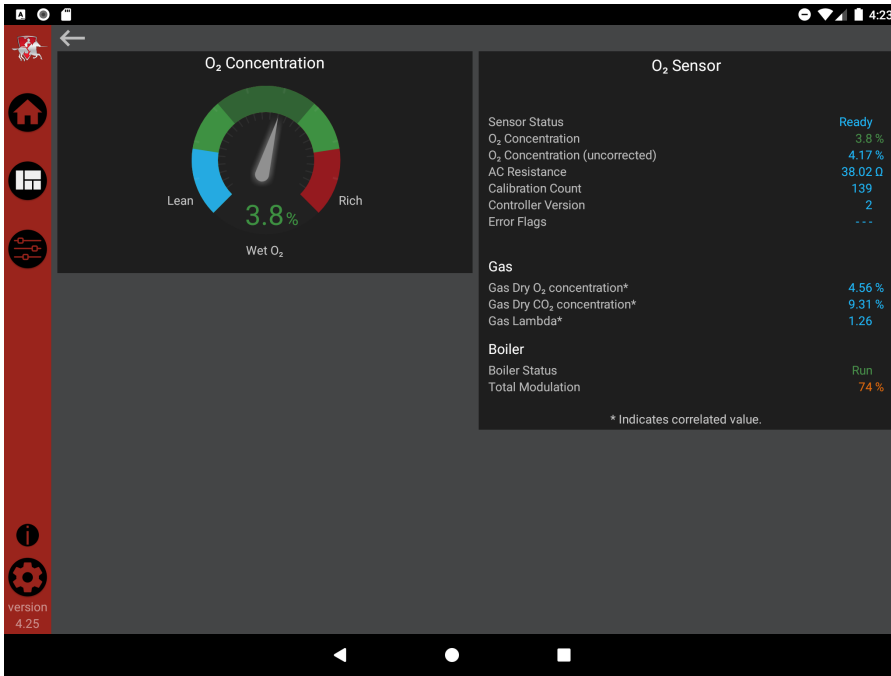
Multiple Boiler – Full Flow Piping | CREST



CREST

INTRODUCING REAL TIME O₂ FEEDBACK

The Crest® combustion system, which has been providing industry best results for years, is now available with optional O₂ feedback. The O₂ feedback system can monitor air/fuel ratio in real time. With the new O₂ sensor, the Crest now features a quicker start up and real time O₂ feedback via the touchscreen display or the CON-X-US® App.



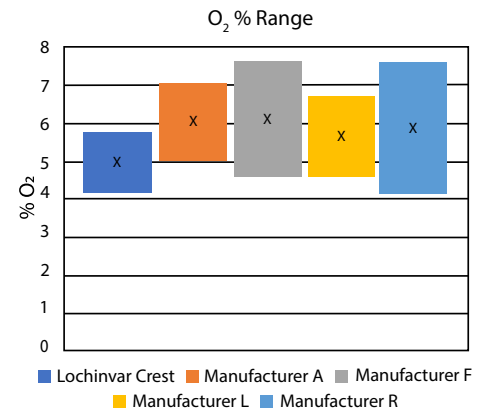
LOCHINVAR'S REAL TIME O₂ FEEDBACK HAS THE FOLLOWING ADVANTAGES:

- Exclusive arrangement with a top automotive supplier to develop the O₂ sensor platform that provides a longer lifetime and better performance.
- Free air calibration at every combustion cycle ensuring maximum precision.
- O₂ reading auto corrects for high altitude.
- Located in the combustion chamber to minimize exposure to moisture and deliver a more accurate and fast response reading.
- O₂ reading is displayed in real time via the display and the CON-X-US App.
- Detail screen shows correlated O₂ and CO₂ values that can be verified with hand held analyzers.
- Error flags provide an alert if O₂ sensor is outside of calibration.
- Reduce new product commissioning time by 50% or more.

Through field feedback, laboratory evaluation and rigorous testing, Lochinvar's products continue to reach new heights to satisfy our customers' high demands. That's one more reason no one brings it all together like **Lochinvar**.

A PROVEN COMBUSTION SYSTEM THAT MINIMIZES EXCESS AIR ALONG WITH A HIGH TURNDOWN!

Lochinvar's combustion system features not only a turndown capability of up to 25:1, but also low excess air as evidenced by the range of O₂%.



Learn more at Lochinvar.com

AHRI Certified	Old AHRI R	Model Stat	Brand Name	Series Name	Model Number	Material	Location	Fuel Type	Heating Me	Input Ratin	Gross Outp	AHRI Certif	AHRI Certif	Net AHRI R	Net AHRI R	Net AHRI R	AHRI R	Ignition	Draft Type	Control	Overfire, in Vent Press	Condensin	Sold In?	CO2 that is	Is Rerated
5760801	Active	AERCO	Benchmark	BMK 3000	Stainless Steel	Indoor	Natural Gas	Water	3000	2823	94.1	94.6					2455	Intermitter	Forced Dra	Step-Modu	0	Yes	USA, Canac	9	
5760802	Active	AERCO	Benchmark	BMK 2500	Stainless Steel	Indoor	Natural Gas	Water	2500	2337	94.0	93.5					2032	Intermitter	Forced Dra	Step-Modu	0	Yes	USA, Canac	9	
8005810	Active	LOCHINVAR	Crest	FBN2001	Stainless Steel	Indoor	Natural Gas	Water	1999	1923	96.4	96.2					1672	Intermitter	Forced Dra	Step-Modu	0.1	Yes	USA, Canac	9.6	
9426023	Active	FULTON HEATING SOLUTIONS	Endura Plus	EDR+2500	Stainless Steel	Indoor	Natural Gas	Water	2500	2420	94.2	96.8					2104	Intermitter	Forced Dra	Step-Modu	0	Yes	USA, Canac	9	
9427441	Active	FULTON HEATING SOLUTIONS	Endura Plus	EDR+3000	Stainless Steel	Indoor	Natural Gas	Water	3000	2769	93.8	96.3					2408	Intermitter	Forced Dra	Step-Modu	0	Yes	USA, Canac	9	
10190864	Active	AERCO	Benchmark Platinum	BMK PLATINUM 2500	Stainless Steel	Indoor	Natural Gas	Water	2500	2337	94.0	93.5					2032	Intermitter	Forced Dra	Step-Modu	0	Yes	USA, Canac	9	
10191425	Active	AERCO	Benchmark Platinum	BMK PLATINUM 3000	Stainless Steel	Indoor	Natural Gas	Water	3000	2823	94.1	94.6					2455	Intermitter	Forced Dra	Step-Modu	0	Yes	USA, Canac	9	
202132737	Active	LOCHINVAR	Crest	FBN2501	Stainless Steel	Indoor	Natural Gas	Water	2500	2400	96.1	96.0					2087	Intermitter	Forced Dra	Step-Modu	0.2	Yes	USA, Canac	9.6	
202132752	Active	LOCHINVAR	Crest	FBN3001	Stainless Steel	Indoor	Natural Gas	Water	3000	2883	96.1	96.0					2507	Intermitter	Forced Dra	Step-Modu	0.2	Yes	USA, Canac	9.6	
202132753	Active	LOCHINVAR	Crest	FBN3501	Stainless Steel	Indoor	Natural Gas	Water	3500	3364	96.1	96.0					2925	Intermitter	Forced Dra	Step-Modu	0.2	Yes	USA, Canac	9.6	
202132754	Active	LOCHINVAR	Crest	FBN4001	Stainless Steel	Indoor	Natural Gas	Water	3999	3843	96.1	96.0					3342	Intermitter	Forced Dra	Step-Modu	0.01	Yes	USA, Canac	9.6	
202274816	Active	FULTON HEATING SOLUTIONS	ENDURA PLUS	EDR+4000	Stainless Steel	Indoor	Natural Gas	Water	4000	3732	93.3	94.6					3245	Intermitter	Forced Dra	Step-Modu	0.1	Yes	USA, Canac	9.5	
205310832	Active	AERCO	Benchmark	BMK 4000	Stainless Steel	Indoor	Natural Gas	Water	4000	3820	95.5	94.1					3322	Intermitter	Forced Dra	Step-Modu	0	Yes	USA, Canac	9	
205311221	Active	AERCO	Benchmark Platinum	BMK PLATINUM 4000	Stainless Steel	Indoor	Natural Gas	Water	4000	3820	95.5	94.1					3322	Intermitter	Forced Dra	Step-Modu	0	Yes	USA, Canac	9	
207132744	Active	LOCHINVAR	Crest	FCB2000N	Stainless Steel	Indoor	Natural Gas	Water	1999	1923	96.4	96.2					1672	Intermitter	Forced Dra	Step-Modu	0.1	Yes	USA, Canac	9.6	
207132745	Active	LOCHINVAR	Crest	FCB2500N	Stainless Steel	Indoor	Natural Gas	Water	2500	2400	96.1	96.0					2087	Intermitter	Forced Dra	Step-Modu	0.2	Yes	USA, Canac	9.6	
207132746	Active	LOCHINVAR	Crest	FCB3000N	Stainless Steel	Indoor	Natural Gas	Water	3000	2883	96.1	96.0					2507	Intermitter	Forced Dra	Step-Modu	0.2	Yes	USA, Canac	9.6	
207132747	Active	LOCHINVAR	Crest	FCB4000N	Stainless Steel	Indoor	Natural Gas	Water	3999	3843	96.1	96.0					3342	Intermitter	Forced Dra	Step-Modu	0.01	Yes	USA, Canac	9.6	