



# Steamboat Regional EPC Project

Request for Proposal - 204377-002

**November 12, 2020**



# Steamboat Regional EPC Project

## Request for Proposal - 204377-002

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# Request for Proposal

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**DATE:** 11/12/2020

We request pricing to provide materials, labor, tools, rentals, permits, taxes, supervision and other services required to accomplish the scope of work for the following project:

## **PROJECT NAME: Steamboat Regional EPC Project**

SEND PRICING TO: [ShaneSmi@mckinstry.com](mailto:ShaneSmi@mckinstry.com), Shane Smith, Construction Manager  
[JoeGoodman@mckinstry.com](mailto:JoeGoodman@mckinstry.com), Joe Goodman, Construction Project Engineer

MANDATORY SITE WALK: **Tentatively November 19-20, 2020 – Schedule to follow as addendum**

QUESTIONS DUE: **November 25, 2020**

PRICING DUE: **December 4, 2020 @ 4:00 pm MDT**

### ESTIMATED SCHEDULE:

The following are approximate dates for this project. Be advised that McKinstry reserves the right to modify this schedule to accommodate North Park SD's operational usage. Final schedule is to be mutually agreed upon between McKinstry, North Park SD, and the selected Subcontractor.

Estimated Notice of Award Date: January, 2021

Estimated Construction Schedule: Summer, 2021

Thank you for your interest in this project.



# Final Pricing Form

**PROJECT NAME:** STEAMBOAT REGIONAL EPC PROJECT

**Date:** November 12, 2020

## ACKNOWLEDGEMENT:

The Respondent must complete and submit this Bid Form. This Bid Form shall be the cover page for the Respondents Proposal. DO NOT MODIFY THE FORMAT OF ANY OF THE REQUIRED ATTACHMENTS. If the Proposal has modified the Bid Form, or other Attachments, or exceeds the maximum number of pages, the Respondent will be disqualified and deemed non-responsive.

Project Number:	<b>204377-002</b>
Project Name:	<b>STEAMBOAT REGIONAL EPC PROJECT</b>

The following documents are required for this proposal:

- BID FORM - Complete, sign, and staple
- Attachment A - Scope of Work
- Attachment B - Drawings & Specifications
- Attachments C - I

By signing below, the Respondent acknowledges that they have carefully examined all RFP Documents and understands all instructions, requirements, specifications, terms and conditions; and that all statements, information, costs, and schedules submitted in response to the RFP are current, complete, true and accurate. The undersigned accordingly submits the following cost proposal.

\_\_\_\_\_  
Name of Company

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name of Firm Representative

\_\_\_\_\_  
Signature of Firm Representative

\_\_\_\_\_  
E-mail

\_\_\_\_\_  
Phone

\_\_\_\_\_  
Fax

# Final Pricing Form

## 01.01- Boiler Replacement Yampa Town Hall

TRADES		BASE BID		ADD ALTERNATE #1	
		LABOR	EQUIPMENT/ MATERIALS	LABOR	EQUIPMENT/ MATERIALS
<input type="checkbox"/>	Electrical				
<input type="checkbox"/>	Mech.				
<input type="checkbox"/>	T&B				
<input type="checkbox"/>	Propane				

CONCRETE IMAGING \$ \_\_\_\_\_ (Lump Sum)

PERFORMANCE & PAYMENT BOND \$ \_\_\_\_\_ (Lump Sum)

BOND RATE \_\_\_\_\_ % (Percent)

### SAFETY AND HEALTH PERFORMANCE

**COVID-19:** All contractors will need to provide a COVID Safety Plan. The plan must meet the CDC guidelines and any State and Federal Orders that apply. It must address social distancing, decontamination, personal protective equipment and monitoring and isolation.

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## ADDENDA ACKNOWLEDGEMENT

Respondent acknowledges receipt of the following addenda, and has incorporated the requirements of such addenda into the proposal (List all addenda issued for this project):

No.	Date	No.	Date	No.	Date
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## CHANGES IN THE WORK / SCOPE

McKinstry and/or Owner reserves the right to have any additional work done at a guaranteed maximum price, fixed negotiated price, or separate cost-plus basis, which will include the Subcontractor's profit and overhead. On a guarantee maximum price or cost-plus basis work, the Subcontractor will use 10% mark-up for overhead and 5% mark-up for profit. All changes in work which include a subcontracted portion of work to the Subcontractor (Sub of Subcontractor) shall include a copy of the sub-subcontractor's quote. Mark-up on subcontracted work will be as detailed in this paragraph.

Markup is considered to be the maximum total markup defined by McKinstry from the lowest tier subcontractor up through the Subcontractor. This shall include all overhead and profit on labor and material as applies to every subcontractor and/or supplier for a particular change in scope.

For purposes of this Contract, direct costs for Change Order work directed by McKinstry or Owner shall include direct labor, direct labor burden, associated labor taxes, material, equipment and Subcontract costs. It is expected that the subcontractor will submit a GMAX pricing for a complete system and therefore no change orders are expected as it relates to the base design and installation requirement.

All other costs are considered overhead or profit (to include but not limited to small tools with an actual purchase price less than \$500.00, insurance and B&O Taxes) and shall be included in the percentage of mark-up as set forth in this contract.

Provide within the proposal a detailed list of labor rates (fully burdened) including job title, straight time rate, overtime rate and double time rate. Identify salaried personnel on this list.

Job Title	Straight Time	Over Time	Double Time	Swing Shift	Salary Y/N

## SUBCONTRACTORS / VENDORS

The Respondent shall furnish the following Subcontractor and Material Supplier list with their proposal. It is intended that this list will show for each item the manufacturer and/or supplier of all major items of work that will be subcontracted and to whom. If no subcontractor is listed, work will be performed by the respondent. McKinstry reserves the right to purchase all or a part of the materials required to complete the project.

The proposed subcontractors and suppliers shall be established, reputable firms of recognized standing with a record of successful and satisfactory performance for the type of work proposed.

Current Licenses are required by all contractors for their particular scope of work.

After the approval by McKinstry, the subcontractor/vendor shall not be changed unless written approval of said change results



# Final Pricing Form

in a revision of the contract price beneficial to McKinstry.

## Subcontractors

Description of Work Segment	Subcontractor	PWC License Class

## Material Suppliers

Description of Materials	Material Supplier

## SCHEDULE

Provide estimated schedule duration

The crew size submitted for this scope of work and schedule is \_\_\_\_\_ crew members



# Final Pricing Form

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Please prioritize the risks (list the greatest risks first). This template must be used. All cost and schedule impacts associated with these risks/solutions must be included in your base cost/schedule. You may add/delete additional rows to identify additional risks, solutions, and value-added options, but do not exceed the 2-page limit.

## Major Risk Items

**Risk 1:**

**Solution:**

.....  
.....

**Risk 2:**

**Solution:**

.....  
.....

**Risk 3:**

**Solution:**

.....  
.....

**Risk 4:**

**Solution:**

.....  
.....

**Risk 5:**

**Solution:**

.....  
.....

**Risk 6:**

**Solution:**

.....  
.....





# Final Pricing Form

## Pre-qualification Application

Name of Firm:		
Trade Name (DBA):		
Address Line 1:		
Address Line 2:		
City and State:		
Owner/Principle Name(S):		
Unified Business ID #:		Website:
Tax ID or Federal ID #/ SS#		Duns #:
Qualifications/License to provide Service:	(State) License #:	
	(State) License #:	

**INSURANCE AND BONDING: PLEASE ATTACH A COPY OF THE FOLLOWING:**

1. Current copy of Liability Insurance Certificate
2. Letter from Bonding Company/Surety (statement of bonding capacity)
3. Current copy of Workers Compensation Policy

If the company has been in business less than 1 year, please include the following:

Name of Bank:

Address:

Contact Name:

Phone number:

Estimated amount of  
*Subcontract/Material or  
Equipment Purchase:*

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# Final Pricing Form

GENERAL INFORMATION			
1. Company Name:		Telephone:	Fax:
Street Address:		Mailing Address:	
2. Officers		Years With Company	
President:			
Vice President:			
Treasurer:			
3. How many years has your organization been in business under the current firm name?			
4. Under what other or former names has your firm operated?:			
5. Is your firm owned or controlled by any other organization? If yes, provide organization:			
6. Bonding Capacity and Rate:			
7. State Contractor ID #(s):			
8. Contact for Insurance Information:			
Title:	Telephone:	Fax:	
9. Insurance Carrier(s):			
Name	Type of Coverage	Limits	Telephone
10. Are you self insured for Worker's Compensation Insurance? Yes <input type="checkbox"/> No <input type="checkbox"/>			
11. Company Contact for Requesting Proposals:			
Title:	Telephone:	Fax:	
12. Form Completed By:			
Title:	Telephone:	Fax:	

# Final Pricing Form

ORGANIZATION / WORK HISTORY				
13. Form of Business: Sole Owner <input type="checkbox"/> Partnership <input type="checkbox"/> Corporation <input type="checkbox"/>				
Date Founded: _____				
State of Incorporation if applicable: _____				
14. A. Do you normally employ?  Average number of employees for last 3 years:	Union Personnel <input type="checkbox"/>	Non-Union Personnel <input type="checkbox"/>	Leased Personnel <input type="checkbox"/>	
	Year _____	Year _____	Year _____	
	Avg # _____	Avg # _____	Avg # _____	
15. Annual Dollar Volume for the Past Three Years:	Year _____	Year _____	Year _____	
16. Largest Project in past 3 Years: \$ _____		Avg. Project Size in last 3 yrs: \$ _____		
17. Your Firm's Desired Project Size:		Maximum:	Minimum:	
18. Net Worth:	\$ _____			
19. Major jobs in progress: (List Below)				
Customer/Location	Type of Work	Size (\$'s)	Customer Contact	Telephone
20. MAJOR JOBS COMPLETED IN THE PAST THREE YEARS:				
Customer/Location	Type of Work	Size \$	Customer Contact	Telephone

# Final Pricing Form

21. Are there any judgments, claims or suits pending or outstanding against your company? If yes, please attach details.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
22. Are you now or have you ever been involved in any bankruptch or reorganization proceedings? If yes, please attach details	Yes <input type="checkbox"/>	No <input type="checkbox"/>
23. Has your firm ever had a claim against a bond on which your firm stood as principle? If yes, please attach details	Yes <input type="checkbox"/>	No <input type="checkbox"/>
24. Has your firm ever been denied a bond? If yes, please attach details	Yes <input type="checkbox"/>	No <input type="checkbox"/>

## SAFETY AND HEALTH PERFORMANCE

List your Worker's Compensation Interstate Experience Modification Rate (EMR) for the last three years:

	Current Year	Last Year	2 Years Prior	McKinstry Expectation
Year Reported	2020	2019	2018	≤1.0
EMR Rating*				

\*A Letter from your Workers Compensation Insurance Provider needs to be submitted to support the EMR Ratings calculated on this worksheet.

Who is responsible for safety at your company?

\_\_\_\_\_

What is their title?

\_\_\_\_\_

Does your company have a written safety program?

\_\_\_\_\_

Has been on a McKinstry project in the region.	<input type="checkbox"/> <12 Months	<input type="checkbox"/> 12-24 Months	<input type="checkbox"/> Never
Last time on a McKinstry project.	<input type="checkbox"/> <12 Months	<input type="checkbox"/> 12-24 Months	<input type="checkbox"/> >24 Months
Subcontractor Project Team Experience	<input type="checkbox"/> Has had good experience working on McKinstry projects	<input type="checkbox"/> Has worked on McKinstry project but not as a team	<input type="checkbox"/> No McKinstry project experience
McKinstry Project Incidents/Injuries (last 2 years)	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> >2
Scope of Work (consider size)	<input type="checkbox"/> Same scope of work	<input type="checkbox"/> Similar Scope of work from previous scope performed	<input type="checkbox"/> Different Scope of work from previous scope performed

# Final Pricing Form

Report the number of man-hours, injuries and illnesses for the last three years. (Use your OSHA 300 Log as a source of information)

	Current Year	Last Year	2 Years Prior	McKinstry Expectation
1. Hours Worked*				
2. Fatalities (G)*				
3. Total # of OSHA Recordable Cases (J)*				
4. Cases with Days Away (H)*				
5. Days Away + Restricted/Transfer Cases (H)+(I)*				
6. Recordable Incident Rate (RIR)				≤7.2
7. Lost Workday Incident Rate (LWIR)				≤2.5
8. 3 YEAR RIR				
9. 3 YEAR LWIR				
<i>*OSHA 300-A logs need to be submitted to support worksheet calculations.</i>				

OSHA Citation History:

Last 3 Years		McKinstry Expectations
1. Willful		*No more than 3 serious OSHA Violations in the last three-year period.
2. Failure to Abate		
3. Repeat		
4. Serious		
5. Other than Serious		
6. De Minimis (violations which have no direct or immediate relationship to safety or health)		
7. Total		
*Include all State and Federal OSHA citations. Attach explanations of citations and corrective actions taken to abate		
<b>Report Completed By:</b>		
<b>Name:</b>		

# Final Pricing Form

<b>Title</b>	
<b>Date of Report:</b>	

Do you have a written drug-testing program?

Yes

No

If not, do you have a plan to have one?

Yes

No

How often do you have Site Safety Meetings?

Weekly

Monthly

Other  
(Specify):

Do the meetings include all of the employees?

All subcontractors?

How often do you conduct project/site safety inspections/audits?

Weekly

Monthly

Other  
(Specify):

Who conducts the inspections/audits?

Name:

Title:

When was the last time it was updated to meet current standards?

Do you have a documented orientation program for:

- New Hires
- Foreman
- Supervisors
- Subcontractors

Yes

No

Yes

No

Yes

No

Yes

No

# Final Pricing Form

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**REFERENCES**

Provide a minimum of three references that can provide information on your company’s experience on projects of similar size and scope of work:

Reference 1:

Name: \_\_\_\_\_ Title: \_\_\_\_\_  
Company/Organization: \_\_\_\_\_  
Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Reference 2:

Name: \_\_\_\_\_ Title: \_\_\_\_\_  
Company/Organization: \_\_\_\_\_  
Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Reference 3:

Name: \_\_\_\_\_ Title: \_\_\_\_\_  
Company/Organization: \_\_\_\_\_  
Phone: \_\_\_\_\_ Email: \_\_\_\_\_





PROJECT: Steamboat Region EPC

DOCUMENT: Narrative & Standard Scope Requirements

Date: 11/12/2020

## STANDARD SCOPE REQUIREMENTS

- 1) SUBCONTRACTOR will furnish and install the scopes of work in accordance with all current federal, state and local codes, publications and standards including, but not limited to IBC 2015, ANSI, NFPA, NEC, and OSHA.
- 2) SUBCONTRACTOR will provide the appropriate supervision in both the field and office to maintain and execute the work according to the following documents:
  - a) Request for Proposal dated November 12, 2020.
- 3) SUBCONTRACTOR will furnish all labor, supervision, material, equipment, tools, hoisting, scaffolding, freight, unloading, traffic control, taxes, parking, material and labor escalation, overhead, clean-up, trash removal and other miscellaneous costs in order to provide a complete and working system.
- 4) SUBCONTRACTOR to provide all necessary costs for inspections, permits, licenses, plan checks, connection fees, etc. for the SUBCONTRACTOR's scope of work as required by authority having jurisdiction.
- 5) SUBCONTRACTOR shall remove and properly dispose of waste generated by this scope of work on a daily basis.
- 6) SUBCONTRACTOR is responsible of the disposal of non-ACM hazardous materials per state and federal regulations and requirements.
- 7) If SUBCONTRACTOR disturbs an area that is suspected to be asbestos, SUBCONTRACTOR shall seal off the area, post hazard signs for the area, and contact McKinstry.
- 8) SUBCONTRACTOR shall provide, install and maintain all material and equipment for temporary protection of existing facilities and surrounding work. Protected surfaces include, but are not limited to roofing, ceilings, walls, floors, doors, windows, landscaping, sidewalks, finishes and pavement. Floor coverings not scheduled for removal will be protected with a minimum of 1/2" plywood or similar hard board with taped seams.
- 9) SUBCONTRACTOR is responsible for any patching, painting, and repair of existing surfaces damaged by SUBCONTRACTOR'S work.
- 10) SUBCONTRACTOR shall notify McKinstry of any expected damage to the existing conditions due to this scope of work. Given such knowledge of potential damage, if McKinstry does not direct work to proceed, SUBCONTRACTOR shall be responsible for any damage to the existing conditions. If McKinstry is not alerted of such potential damage and SUBCONTRACTOR damages existing conditions, SUBCONTRACTOR shall be responsible for this damage to the existing conditions.
- 11) SUBCONTRACTOR to provide all necessary penetrations as required for a complete working system. SUBCONTRACTOR to provide all waterproofing, caulking, damp proofing, etc. for penetrations created to complete the work including all roof penetrations and repair.
- 12) SUBCONTRACTOR to provide and install all necessary framing, hangars, inserts, racking, suspension systems, backing/blocking, bracing, sleeves, fasteners, caulking, fire caulking for a complete system.
- 13) The SUBCONTRACTOR is responsible for maintaining fire ratings at all penetrations required for this scope of work. SUBCONTRACTOR is to provide all sleeves, caulking, fire seals, fire-safing, firestopping, fire caulking, penetration seals, flashing, escutcheon plates and assemblies, or other material for penetrations for this scope. All materials shall be installed in a manner that meets the material Manufacturer's recommendation. All penetrations in designated assemblies are to be U.L. rated to meet applicable codes. Sealing of penetrations shall be in accordance with local codes and must meet sound attenuation requirements as well as aesthetic requirements.
- 14) SUBCONTRACTOR is responsible for field verification of materials and all field measurements prior to installation or submittal of shop drawings.
- 15) SUBCONTRACTOR shall coordinate and verify equipment and device locations with McKinstry prior to rough-in.
- 16) SUBCONTRACTOR acknowledges that McKinstry has employed other contractors to work on the project.
- 17) SUBCONTRACTOR will coordinate with other contractors so the work can proceed in an orderly, productive, and continuous operation. Due to the nature of the work, multiple move-ins may be required, and SUBCONTRACTOR shall include these in the cost of work.
- 18) SUBCONTRACTOR shall be responsible for delivering, unloading, and storing all material required for the scope of work covered under this Agreement.
- 19) SUBCONTRACTOR shall coordinate all equipment and material deliveries, storage and installation with the McKinstry Superintendent.
- 20) SUBCONTRACTOR shall furnish all hoisting facilities for SUBCONTRACTOR's material, equipment, and personnel. Provide all vertical and horizontal movement of materials, including forklift, crane (as







PROJECT: Steamboat Region EPC

DOCUMENT: Narrative & Standard Scope Requirements

Date: 11/12/2020

- qualified), lifts, scaffolding, etc. as required for unloading, transport and distribution for work under this scope.
- 21) This SUBCONTRACTOR is solely responsible for the security of the materials and equipment for this scope of work throughout the life of the project, including loss from damage, theft, or vandalism.
  - 22) SUBCONTRACTOR to provide temporary lighting, task lighting, and weather protection as necessary to complete the work.
  - 23) SUBCONTRACTOR must provide all locates (public and private) necessary for areas that will be impacted by their scope of work.
  - 24) SUBCONTRACTOR must provide daily signed logs for all employees on site indicating the trade work and hours performed by individual employees.
  - 25) SUBCONTRACTOR is responsible for all traffic control as required for work under this scope.
  - 26) SUBCONTRACTOR shall take all necessary measures to prevent tracking of mud onto surrounding streets and driveways. Any major cleaning as a direct result of this scope of work is the responsibility of the SUBCONTRACTOR.
  - 27) The installed equipment will be commissioned by McKinstry. SUBCONTRACTOR must provide on-site commissioning support to make adjustments identified by commissioning agent. If SUBCONTRACTOR does not have personnel capable of making adjustments, then SUBCONTRACTOR shall make factory trained persons available to McKinstry.
  - 28) SUBCONTRACTOR must provide two (2) hard copies and two (2) electronic copies of their IOM manuals that include product cut sheets of each unique piece of equipment. Included in the IOM manuals must be details on product warranties and procedures for warranty claims. Warranty must be a minimum of one year for all installed equipment and labor beginning on the date of substantial completion. Warranty shall include all labor and materials to execute warranty work.
  - 29) SUBCONTRACTOR must provide a minimum of 8 hours of on-site training to key facility personnel. Training will be videotaped by McKinstry. Training syllabus must be approved by McKinstry prior to beginning training.
  - 30) SUBCONTRACTOR shall provide preventative maintenance checklists for each FIM or scope of work. Checklists shall clearly provide preventative maintenance actions and the frequency that these actions are to be conducted. Checklists must consolidate information into a single reference and shall be included in addition to the Operation and Maintenance Manuals that are delivered at project completion.
  - 31) Basis of Design
    - a) SUBCONTRACTOR acknowledges that the project includes materials and equipment specifically identified within the RFP dated November 12, 2020, drawings, specifications and/or contract scope narrative. Specifically identified materials and equipment shall be considered the Basis of Design, and as such are required without substitution to meet the performance and operational requirements of the project.
    - b) SUBCONTRACTOR may submit to McKinstry, prior to the proposal due date listed in the RFP dated November 12, 2020, a substitution request for material and equipment alternatives to the Basis of Design.
      - i) Substitution requests must provide at a minimum the manufacturer, model, performance specifications, and the change in overall bid price compared to the Basis of Design.
      - ii) Substitution requests shall in no way relieve the SUBCONTRACTOR from its responsibility to provide the Basis of Design materials and equipment.
      - iii) At its sole discretion, McKinstry shall evaluate substitution requests. If a Substitution Request is granted, McKinstry shall then notify all bidders of the approved alternate.
      - iv) SUBCONTRACTOR shall be responsible for any and all changes to supporting systems resulting from acceptance to substitutions.
  - 32) SUBCONTRACTOR must submit Certificate of Insurance to [subinsurance@mckinstry.com](mailto:subinsurance@mckinstry.com).
  - 33) DEFINITIONS:
    - a) Furnish – Purchase and bring to the site equipment, materials, etc.
    - b) Install – Position and fasten equipment, materials, etc. furnished by others.
    - c) Provide – Furnish and install equipment, materials, etc.



# Detailed Scope of Work

## 01.01 – Boiler Replacement Yampa Town Hall

### GENERAL

Replace end-of-life coal-fired boiler serving the Yampa Town Hall with a higher efficiency propane-fired boiler capable of staging/modulating to heat the building.

#### General

- A. Site altitude: Equipment shall be sized and rated for specified performance at site altitude of 7,880' ASL.
  - B. Supplemental Documentation: The following documents support this Scope of Work and shall be considered part of the Subcontractor's requirements. Where discrepancies exist among referenced documents, the more stringent shall apply.
    - 1) Owner's Construction Design Guidelines and Specifications
    - 2) Codes
      - a) 2018 International Building Code.
      - b) 2018 International Existing Building Code.
      - c) 2018 International Fire Code.
      - d) 2018 International Plumbing Code.
      - e) 2018 International Mechanical Code.
      - f) 2018 International Fuel Gas Code.
      - g) 2018 International Energy Conservation Code.
      - h) 2020 National Electric Code.
    - 3) Industry Standards (Latest edition, unless noted otherwise)
      - a) NEBB Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems
      - b) SMACNA HVAC Duct Construction Standards, Metal and Flexible
      - c) National Fire Protection Association Standards (NFPA)
    - 4) McKinstry Standards & Specifications
      - a) TAB Provider Performance Standards
    - 5) Reference Drawings
      - a) Attached mechanical plans, furnished by McKinstry.
2. Mechanical – Demolish
    - A. Subcontractor shall be responsible for equipment, materials, accessories, insulation and other associated requirements called for in the following scope, and as indicated in the above supported documents.
    - B. Isolate, disconnect, and remove (1) 410 MBH output coal boiler and associated coal hopper, (2) heating water circulation pumps, and (1) expansion tank (see attached reference drawings for location of boiler room).
      - 1) Cut back and isolate existing heating water piping to extent needed to facilitate this scope of work.
      - 2) Drain system to extent needed to facilitate this scope of work.
    - C. Demolish existing 10" boiler flue vent through the masonry chimney termination. The chimney shall be reused as a pathway for the new flue vent.
      - 1) Masonry block removal will be required in the basement mechanical room in order to access the flue vent pathway to the chimney. See image below:



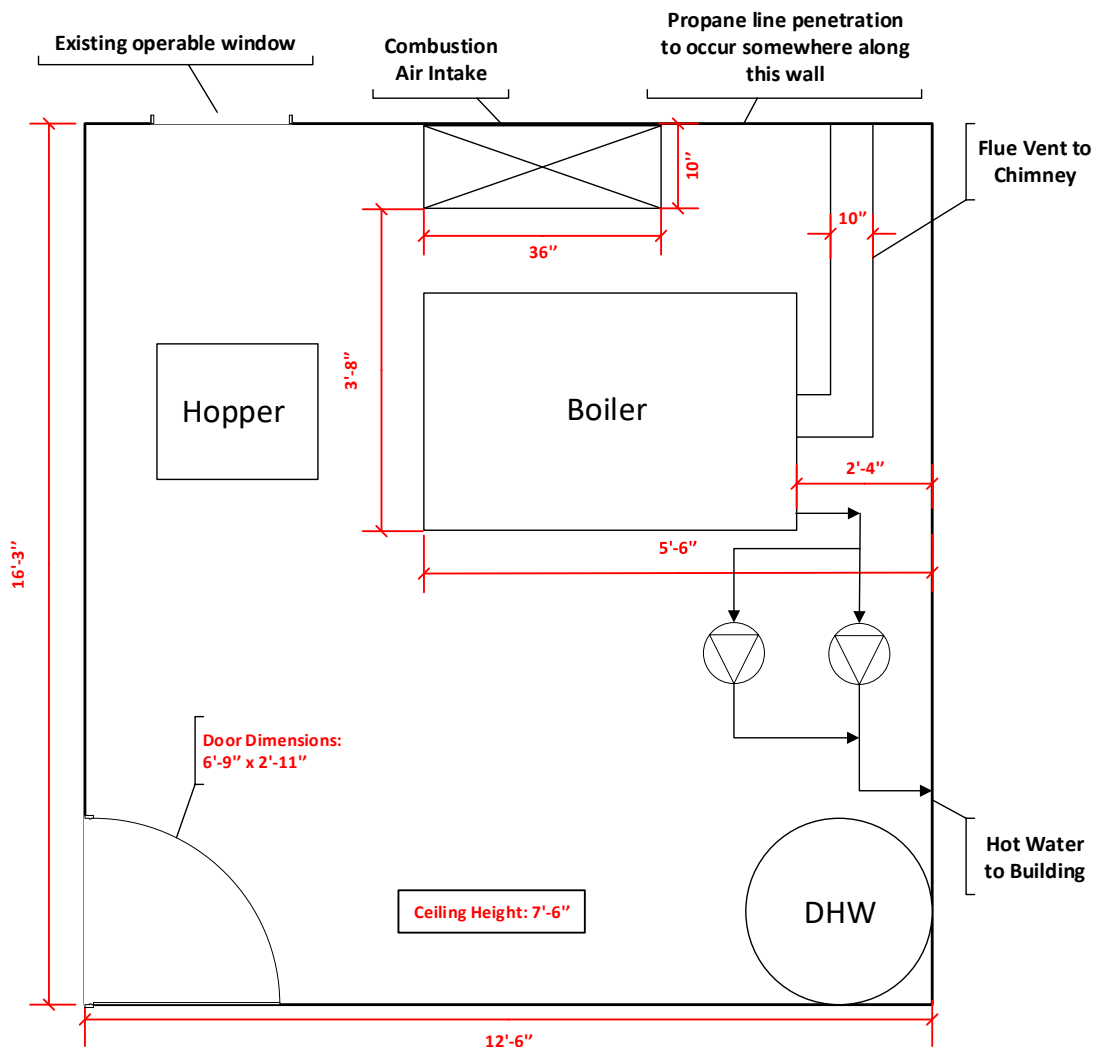
# Detailed Scope of Work

- 2) Remove existing chimney cap and any associated parts to allow for the removal of the old flue vent.
- D. Demolish existing 36" x 10" combustion air intake vent. Evaluate the potential to reuse the wall penetration for the new horizontal direct combustion air intake. If reusing the penetration is feasible, ensure an opening is left for a 6" vent. Seal and insulate remaining wall penetration to be weather-tight.
- E. Demolish and dispose of all existing control components (including sensors, actuators, controls enclosures, and conduit) not intended to be re-used.
- F. Properly dispose of associated equipment with guidance from the owner.
- G. Existing concrete pad to remain and be extended as necessary to support the new boiler installation.
3. Mechanical
  - A. Subcontractor shall be responsible for equipment, materials, accessories, insulation and other associated requirements called for in the following scope, and as indicated in the above supported documents.
  - B. All equipment shall be installed in same location as old equipment, utilizing existing pads.
  - C. **Furnish & Install New Propane Boiler**
    - 1) Furnish and install (1) 750,000 BTU/hr input (before altitude derating), propane-fired boiler.
      - (i) Basis of Design: Raypack MVB 754A, or approved equivalent.
      - (ii) Furnish and install gas pressure regulator, pressure relief valve, boiler safeties, and boiler isolation valves to meet code requirements.
      - (iii) The propane gas supply pressure must be a minimum of 4 in. w.c. and shall not exceed 13 in. w.c.
        - (a) A pounds-to-inches regulator must be installed to reduce the gas supply pressure if it is higher than 13 in. w.c. This regulator should be placed a minimum distance of 10 times the pipe diameter upstream of the heater gas controls.
      - (iv) Furnish and install new 10" (12" OD) vertical flue vent from boiler up through the existing termination in chimney.
        - (a) Vent shall be Category I (Type B Equivalent), double wall material. Install and terminate per manufacturer's recommendations.
          - (i) Include barometric and/or adjustable vent damper if needed per manufacturer's recommendations.
          - (b) Ensure manufacturer flue pitch requirements are met and install appropriate flue vent bracing in the chimney so that all ducting is self-supported.
          - (c) Provide new flashing and seal remainder of chimney to be weather tight.
          - (d) Terminate flue vent with manufacturer approved stainless steel flue direct vent cap.
        - (v) Furnish and install new 6" horizontal combustion air intake vent through existing combustion air wall penetration and ducted to the boiler. If the existing penetration cannot be reused (see section 2.D above), a new horizontal wall penetration will be required.
          - (a) Vent shall be Category III (PVC, ABS or CPVC). Install and terminate per manufacturer's recommendations.
          - (b) Furnish and install a motorized low leak damper per manufacturer's recommendations.
          - (c) Ensure manufacturer pitch requirements are met and install appropriate bracing so that all ducting is self-supported.
          - (d) Provide flashing and seal the remainder of the air intake wall penetration to be weather tight.
          - (e) Terminate intake with rain cap and bird screen, or as otherwise recommended by the manufacturer.
      - 2) Ensure manufacturer minimum clearance requirements are met on all sides of the new boiler.
      - 3) Boiler model shall have motorized modulation firing with a minimum 7:1 turndown.
      - 4) Include manufacturer start-up of boiler and training of owner's staff.
      - 5) Furnish (4) extra combustion air filters for the owner that meet the boiler model requirements.
      - 6) Reconnect existing heating water piping. Provide all piping appurtenances as required.
      - 7) Connect new propane gas piping to the boiler gas inlet.
      - 8) Ensure all heating water piping is properly insulated per state codes and install new insulation as needed where it is not present.
      - 9) See Figure 1 below for a diagram of the existing boiler room layout as well as dimensions.
      - 10) **Add Alternate #1 (Mechanical to Cover, if Possible):**
        - (i) Furnish and install (7) new 1" zone control valves (size to be field verified) to replace the existing valves.
          - (a) Basis of design: Honeywell V8043 2-way on-off low voltage zone valve, or equivalent.
          - (b) Cut back and isolate heating water piping to extent needed to facilitate this scope of work.
          - (c) Drain system to extent needed to facilitate this scope of work.
          - (d) Disconnect and dispose of old control valves. Existing valve motors are rated for 24V.
          - (e) Reconnect new valve motors to existing wiring and replace any wiring that is in disrepair to meet code requirements.
          - (f) Furnish and install transformers as needed for a valve with a different voltage rating.
        - (ii) Furnish and install (7) new low-voltage hardwired thermostats to control the new zone valves. See mechanical plans for locations of existing thermostats.

# Detailed Scope of Work

- (a) Basis of design: Honeywell PRO 1000, or equivalent.
- (b) Demolish and remove existing thermostats. Patch and paint wall as needed in demolition location.
- (c) Reconnect new thermostats to existing wiring and replace any wiring that is in disrepair to meet code requirements.
- (d) Program thermostats to meet owner's zone temperature requirements.
- (e) Thermostats shall communicate directly through a wired connection with the new control valves.

Figure 1: Town Hall Boiler Room Dimensions



## D. Trench Digging

- 1) Subcontractor shall be responsible for digging the trench on the exterior of the building for the propane company to bury the new propane yard line underground. Trench will extend from new propane tank location to the point of entrance to the building mechanical room.
- 2) Subcontractor shall coordinate with the propane company to select a trench location that matches up with the propane stub out location from the basement mechanical room.
- 3) Subcontractor shall also verify the existence of any buried piping or utilities in the selected trench location.
- 4) Trench shall be dug to a depth of 18 inches or as directed by the propane supplier to ensure the gas line is safe and cannot be damaged by the weight of a vehicle above.
  - (i) After propane company installs the propane line the mechanical subcontractor shall backfill the trench and

# Detailed Scope of Work

- complete final grading to ensure a flat, compacted surface above the pipe to meet owner's requirements.
- 5) Underground piping shall be marked per propane company specifications or per state/local codes.
- E. Furnish & Install Interior Propane Gas Piping**
- 1) Subcontractor shall be responsible for all propane gas piping within the interior of the building (propane company shall be responsible for the exterior tank and piping installation).
  - 2) Furnish and install new propane gas service piping within the mechanical room to connect the boiler to the exterior supply line run by the propane subcontractor.
    - (i) Gas connection at the boiler is 1" diameter.
    - (ii) Gas pipe in the mechanical room shall be 1-1/2" in diameter (length to be verified on-site by subcontractor). Pipe material shall be carbon steel or code approved equivalent.
    - (iii) Gas piping shall have a sediment trap ahead of the boiler gas controls and a manual shut-off valve located outside the boiler jacket.
    - (iv) A new weather-tight wall penetration will be required from the mechanical room to the exterior of the building.
  - 3) Furnish and install a UL listed propane gas detector with an alarm in the basement boiler room for safety.
    - (i) Basis of design: Honeywell E3Point Wall Mounted Analog Gas Monitor, or equivalent.
    - (ii) Mount in a location following manufacturer recommendations.
    - (iii) The gas detector shall be interlocked to a UL listed solenoid valve located to shut off the supply of gas to the building in the event of an alarm.
- F. Furnish & Install Heating Water Circulation Pumps**
- 1) Furnish and install (2) new heating water circulation pumps.
    - (i) Basis of Design: Grundfos MAGNA3 40-80 F in-line circulator pump, or approved equivalent.
      - (a) Note: This selected pump has wireless multi-pump control that allows it to connect to a parallel coupled pump for lead/lag control.
    - (ii) Existing pumps are mounted near the floor and are rated as follows (new pumps shall be in-kind):
      - (a) 35 gpm at 20' head, 1750 rpm, 1/2 hp motor.
    - (iii) Existing pump isolation valves shall be replaced to meet code requirements.
    - (iv) Furnish and install a new Y-strainer for each pump.
    - (v) Ensure boiler manufacturer minimum flow requirements are met.
- G. Furnish & Install Air Separator**
- 1) Furnish and install a combination air eliminator/dirt separator at the boiler discharge before the hot water circulation pumps and expansion tank. The air eliminator shall be capable of 35 gallons per minute capacity.
    - (i) Basis of Design: Spirovent VDT-200, or equivalent.
- H. Furnish & Install Expansion Tank**
- 1) Furnish and install new 50-gallon pressurized expansion tank to replace the existing tank.
    - (i) Basis of Design: Bell & Gossett D-100 pressurized horizontal expansion tank, or equivalent.
- I. Furnish & Install Boiler Controls:**
- 1) Provide all necessary programmable controllers, low voltage wiring to control panels, conduit, sensors, transformers and actuators for a complete and functioning control system for the boiler.
  - 2) All boiler plant control components shall be new. Install manufacturer provided sensors and instrumentation.
  - 3) New boiler shall have self-contained factory controls.
  - 4) Provide boiler controller (plant management system), capable of controlling boiler plant containing (1) hot water boiler and (2) secondary building pumps.
    - (i) Boiler plant shall be controlled by the boiler management system provided by the boiler manufacturer. Provide new control instruments as necessary.
    - (ii) Provide control points for boiler enable, boiler status, boiler hot water supply temperature, boiler hot water return temperature, header hot water supply temperature, header hot water return temperature, and secondary pump enable (x2).
  - 5) Control strategy:
    - (i) Existing heating water system is a primary, constant volume loop with two heating water pumps that circulate water to baseboard heaters and (3) unit heaters. This design shall remain the same.
    - (ii) Program a heating water reset schedule as follows based on the outside air temperature:
      - (a) OAT = 20°F (adj.), HWST = 180°F (adj.)
      - (b) OAT = 60°F (adj.), HWST = 160°F (adj.)
      - (c) Boiler shall be disabled when OAT > 70°F (adj.)
4. Controls
- A. To be determined based on feedback from mechanical subcontractor on minor controls scope above.
5. Electrical
- A. Contractor shall be responsible for equipment, materials, accessories, and other associated requirements called for in the following scope, and as indicated in the above supporting documents.

# Detailed Scope of Work

## B. General circuiting requirements

- 1) Contractor shall survey existing facility drawings and power distribution system to determine available space and capacity to support the additional scope of work.
- 2) For power circuits indicated as being removed, Contractor shall remove conductors back to the associated panel, and shall remove associated starters, disconnects, and other devices. Conduit shall be cut back to within 3" of room penetration.
- 3) For new power circuits, Contractor shall furnish and install overcurrent protection, conduit conductors, starter, disconnect, and related accessories.
- 4) Where power circuits indicated as being removed meet the requirements for new power circuits, existing components may be reused where in compliance with current NEC.
- 5) Unless otherwise specified, similar loads may be combined on a common circuit as permitted by current NEC.

## C. Demolish

- 1) Disconnect and safe off power to boiler, pumps, and coal hopper/stoker for mechanical demolition.
- 2) Existing boiler, pump and stoker electrical ratings are as follows:

EQUIPMENT SCHEDULE											
UNIT	FUNCTION	LOAD	V	Ø	AMPS	NO. WIRES	WIRE SIZE	COND SIZE	P DEV		DISC SW
									A	P	
WH	WATER HTR.	6 KW	208	1	28.9	2	8	3/4	40	2	60
RA	RANGE	10 KW	208	1	48.1	2	6	1	60	2	
SP	SUMP PUMP	1/2HP	120	1	9.8	2	12	1/2	20	1	
P-1	PUMP	1/2HP	120	1	9.8	2	12	1/2	20	1	
SR	STOKER	1/3HP	120	1	7.2	2	12	1/2	20	1	
UH-1	UNIT HEATER	1/8HP	120	1	3.0	2	12	1/2	20	1	
UH-2	UNIT HEATER	1/15HP	120	1	1/5	2	12	1/2	20	1	
EF-1	EXH. FAN	1/2HP	120	1	9.8	2	12	1/2	20	1	
EF-2	EXH. FAN	130 W	120	1	1.1	2	12	1/2	20	1	
EF-3	EXH. FAN	105 W	120	1	1.0	2	12	1/2	20	1	
BR	BOILER CONTR.	500 W	120	1	4.4	2	12	1/2	20	1	

- 3) Existing conduit and conductors shall remain for re-use.
- 4) Existing 20A/1P breakers in serving panelboard (located in boiler room) shall remain.

## E. Install Boiler & Pump Electrical Connections

- 1) Reconnect new heating water pumps and boiler to existing electric circuits following manufacturer's recommendations.
  - (i) New boiler single-point connection 120V, 12 FLA
    - (a) Extend existing conduit and conductors to new boiler control panel and connect power to unit.
  - (ii) New pumps shall be rated for 120V, 1/2HP
    - (a) Extend existing conduit and conductors to new pumps and connect power.
- 2) Provide EPO switch at the entrance to the mechanical room and connect to the boiler. Provide and install new conduit from the boiler control panel to the EPO switch.
- 3) Electrical panels and disconnects serving mechanical equipment shall comply with the service clearance requirements of the NEC. Provide remote mounted panels and disconnects where required by the NEC.

## 5. Structural

A. Not applicable.

## 6. Architectural

A. Not applicable.

## 7. Specialty – Propane

A. Contractor shall be responsible for equipment, materials, accessories, and other associated requirements called for in the following scope, and as indicated in the above supporting documents.

- 1) Furnish and install (1) 1000-gallon liquified propane tank in a location between the Town Hall and Shop building as shown in green in Figure 2 below.
- 2) Subcontractor shall select a location in the identified area that is compacted and free from depressions, pits, or drains. The location shall be easily accessible to vehicle delivery.
- 3) Subcontractor shall install tank on appropriate concrete support pads/blocks and shall ensure tank is level and meets code clearance requirements from existing structures on all sides.
- 4) Subcontractor shall install fencing or bollards to protect the propane tank per discussion with owner.
- 5) Subcontractor shall be responsible for the tank and all associated parts (gauges, valves, supply lines, etc...) to create a complete and functioning propane supply system on the exterior of the building that meets local building code requirements.
  - (i) Mechanical contractor shall cover the exterior trench digging.

# Detailed Scope of Work

- 6) Subcontractor shall ensure that the new propane supply yard line is connected to the gas plumbing stub out provided by the mechanical contractor. Coordinate with mechanical contractor on the appropriate location for the stub. Mechanical room is circled in red in Figure 2 below.
  - (i) Materials for underground yard piping shall be polyethylene to meet code requirements.
- 7) Subcontractor shall test the system for leaks and perform a pressure test before the tank is filled with propane.
- 8) Subcontractor shall ensure that the propane gas supply pressure to the building conforms with the manufacturer requirements for the boiler model to be installed.
- 9) Subcontractor shall perform the first complete fill of the tank with propane and provide the owner recommendations and cost for ongoing service, maintenance and filling schedule.
- 10) Liquid propane infrastructure shall be installed so that it is readily available for inspection, testing, reading, and shutting off the gas supply. All service piping and main supply shut-off valves shall be outside the building.



Figure 2: Proposed location for propane tank

8. Testing, Adjusting and Balancing (TAB)
  - A. Subcontractor shall review this scope of work and inspect field conditions to develop a work plan prior to commencement of TAB activities. Report to McKinstry's Construction Manager for field conditions that might impede the performance of this work.
  - B. Coordinate with McKinstry's Construction and Commissioning personnel, and Mechanical and Controls Subcontractors, for the appropriate timing and extent of this work, and for required interface with Mechanical and Control systems.
  - C. Provide complete pre-construction test for existing boiler and heating water pumps.
    - 1) Measure system flow (gpm), total head, shut off head, and boiler combustion efficiency.
  - D. Provide complete post-construction waterside test and balance for proposed boiler and heating water pumps.
    - 1) Measure system flow (gpm), total head, shut off head, and boiler combustion efficiency.
  - E. Provide results from pre and post construction tests in a NEBB written report.
9. Commissioning
  - A. Not applicable.
10. Demolition and Removal
  - A. Not applicable.
11. Allotments
  - A. Not applicable.

# Attachment B – Drawings & Specifications

The following documents and standards are hereby included in this RFP and will be included in the winning bidder contract by reference. All documents that are not an industry standard are included in the Dropbox link below.

## Industry Codes & Standards

- 1) Codes
  - a) 2018 International Building Code.
  - b) 2018 International Existing Building Code.
  - c) 2018 International Fire Code.
  - d) 2018 International Plumbing Code.
  - e) 2018 International Mechanical Code.
  - f) 2018 International Fuel Gas Code.
  - g) 2018 International Energy Conservation Code.
  - h) 2020 National Electric Code.
- 2) Industry Standards (Latest edition, unless noted otherwise)
  - a) NEBB Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems
  - b) SMACNA HVAC Duct Construction Standards, Metal and Flexible
  - c) National Fire Protection Association Standards (NFPA)

## McKinstry Standards & Specifications

- 3) McKinstry Standards
  - a) McKinstry Test and Balance Provider Performance Standards (Attachment C)
  - b) McKinstry Sample Subcontract (Attachment D)
  - c) McKinstry Submittal Requirements (Attachment E)
  - d) Contractor Insurance Requirements (Attachment F)
  - e) McKinstry Concrete Imaging Policy (Attachment G)

## **MCKINSTRY STANDARDS, SPECIFICATIONS & DRAWINGS ACCESS**

Copy and paste the below address into Chrome (preferred) for the most up to date McKinstry standards, specifications, and drawings:

[https://www.dropbox.com/sh/l03up4wqnb8sh8/AADSuoeWC7tzyHAa\\_kwxk3iWa?dl=0](https://www.dropbox.com/sh/l03up4wqnb8sh8/AADSuoeWC7tzyHAa_kwxk3iWa?dl=0)