

Request for Bids

(Issued: 4/27/26)

Project Name **Granville Town Office HVAC Improvements**

Owner **Town of Granville**

Location **Granville, Vermont**

Request for Bids – Construction Services for Town of Granville’s Town Office

RFB Date: 4/27/26

Optional Bidder Walkthrough: 5/7/26 at 3:00pm, 4157 VT-100, Granville, VT

Submit Questions by: 5/20/26

Responses Due: 5/27/26 at 5:00pm

The Town of Granville requests written bid responses to secure construction services for the Granville Town Office HVAC Improvements Project. The scope of work consists of multiple upgrades to the building’s HVAC system. The full scope is detailed below.

Project Description	
Square Footage	5,724 SF
Building Type	Municipal
Location	Granville, Vermont

Schedule	
Bid	Winning bid selected June 2026
Construction	Summer- Fall 2026
Required Completion Date	11/15/26

Project Team (add rows as needed)	
Owner	Town of Granville
Owner’s Representatives	Harry Falconer, energy coordinator, TRORC Cheryl Sargeant, Town Clerk, Granville

Submission Requirements

Please submit an electronic copy of the completed Budget Form and the Review Form. Submissions must arrive no later than **5:00 p.m. EST on 27 May 2026**. Questions must also be submitted to the address below by the specified date and time. Submit to:

Harry Falconer
Two Rivers-Ottauquechee Regional
Commission
hfalconer@trorc.org

Advertisement and Instructions to Bidders

You are invited to submit a bid for Town Building Energy Improvements. Copies of the bid documents are available on the Vermont Businesses Registry or by emailing Harry Falconer at hfalconer@trorc.org. **All bids shall be accepted via email to hfalconer@trorc.org until 5:00 PM on 27 May 2026.**

Each bid shall be submitted in an attached PDF and marked on the first title page with the words “Sealed Bid – GRANVILLE_TOWN HALL”. Failure to submit bids on the required forms or on time may be cause for rejection of the bid.

Bidders shall develop a bid that provides prices for each item. The Town will select items for final construction based on grant amount/requirements. TRORC and the Town of Granville understand contractors may only be able to give estimates for certain items and final construction prices may change. The Town will ONLY be selecting one Prime or General Contractor. Bidders should also provide a price for Project Management (Coordination/Permits).

The Prime or General contractor will be responsible for permits, standard construction management tasks, coordinating and managing all subcontractors, and coordinating with the Town of Granville’s grant manager for grant reporting as needed. The prime contractor can be a construction firm or an A/E firm with appropriate subcontractors.

All bids must be submitted on the attached bid form. No lines on the bid may be left blank. Scope items not priced by the contractor must be stated as such. Bidders should list subcontractors separately if known. Additionally, the following items must be submitted:

- Statement of technical understanding of work to be performed
- Key staff and roles/tasks with rates
- Similar project list and references
- Schedule
- Insurance COI (can be generic for BID response) and SOV SOS documentation

Schedule

The Contractor shall commence the Work covered by this Contract on the date of issuance of the Notice to Proceed and shall complete the work by 15 November 2026. Contract time is 7:00AM to 5:00PM Monday through Thursday. The Town may approve a request to work otherwise if such a request is

determined to be in the best interest of the project.

Terms and Conditions

1. The work shall be performed in accordance with the attached scope.
2. This work is funded through a SOV MERP Implementation Grant through the Department of Building and General Services (BGS). BABA and Davis Bacon do not apply as these are state dollars. A proposed list of subcontractors will need to be provided to TRORC and BGS. More information for bidders can be found here: <https://bgs.vermont.gov/municipal-energy-resilience-program/implementation-grant>
3. The contractor is responsible for all applicable state and local permits including Division of Fire Safety and local zoning (possibly design review). Additionally, once final materials and installation methods are determined, non-exempt buildings, areas and activities must be submitted for historical review and approved by VT VDHP prior to construction. More information for bidders can be found here: <https://bgs.vermont.gov/sites/bgs/files/documents/MERP%20VDHP%20Project%20Review%20Form%20%2B%20Non-Exempt%20List.pdf>
4. The Contractor will furnish all the materials and supplies, equipment, and labor and other services necessary in conformance with these contract documents for the construction and completion of the project as described.
5. The contract will be awarded based on the lowest responsible Total Contract Price in Words written on the Bid Form. The Town reserves the right to negotiate the work stated in this proposal as deemed necessary, to reject any and all bids, to waive any informality and to award a contract deemed to be in the best interest of the Town.
6. The Town is exempt from sales tax on products permanently incorporated in work. The Contractor may obtain sales tax exemption certificate number from the Town. The Contractor shall pay all legal costs and assessed penalties for improper use of exemption certificate number.
7. The Contractor shall perform and complete in good and workmanlike manner all work required in connection with the project. The contractor will maintain good relations with building occupants and town staff. Failure to do so may result in the Town declaring the contract in default. In the event of default, the Contractor will be liable to the Town for the cost of completion.
8. The Contractor guarantees for a period of one (1) year from the date of completion of the contract that the work is free from defects due to faulty materials or workmanship. The Contractor shall make all necessary corrections or repairs to correct any defects.
9. The Contractor shall indemnify and hold harmless the Town, TRORC and employees, from and against all losses and all claims, demands, payments, suits, actions, recoveries, claims of outstanding indebtedness, attorneys fees, liens, and judgments of every nature, and description brought or recovered against them by reasons of any act or omission of the said Contractor, its agents, or employees, in the execution of the work or in guarding the same.

10. The Contractor shall assume primary responsibility for the supervision of work and shall perform any liaison with all third parties for the furtherance of this project.
11. The Contractor shall have full and sole responsibility under this contract for any subcontracts which the Contractor may let.
12. The Contractor agrees not to sublet or assign this work except in accordance with the bid documents without the written consent of the Town.
13. The Contractor is responsible for compliance with all applicable State and Federal wage and labor laws.
14. Contractor certifies that it complies with Federal Motor Carrier Safety Administration regulations and that all employee drivers of Contractor who are required to have a Commercial Driver's License and operate a Commercial Motor Vehicle, as defined in 49 C.F.R. Part 383, for the contracted service described in this agreement are currently participating in a drug and alcohol testing program pursuant to those regulations.
15. In order to protect the lives and health of its employees under the Contractor, the Contractor shall comply with all pertinent provisions of the Occupational Safety and Health Administration (OSHA) and any VOSHA Safety and Health requirements.
16. The Contractor alone shall be responsible for the safety and security at the work site.
17. PAYMENT:
 - a. Payments requisitions shall be submitted monthly by the Prime to the Town's grant manager using EJCDC C-620 forms.
 - b. Final payment shall be made to the Contractor when the Work is completed and accepted by the Town. The total amount of the payment shall be the amount of the Contract plus the value of all changes as reflected in approved contract change orders, excepting such sums as may be lawfully retained by the Town.
 - c. All changes affecting the project's construction cost or length of time, or modifications of the terms or conditions of the contract, must be authorized by means of a written contract change order which is mutually agreed to by the Town and Contractor.
 - d. For lump sum contracts, the Contractor is required to supply a schedule of values. Contract change orders shall be based on the schedule of values provided. Payment shall be based on a percent complete as agreed upon by the Contractor and the Town.
 - e. A pay request shall be provided at least 10 calendar days before a scheduled Selectboard meeting for payment subsequent to the Selectboard meeting.
18. All questions or disputes arising between the parties hereto respecting any matter pertaining to this Contract or any part thereof, or any breach of said Contract shall be referred to (designated and agreed upon party), whose decision and award shall be final, binding and conclusive upon all parties.
19. TERMINATION:
 - a. The Town may, without cause and without prejudice to any other right or remedy, elect to abandon the project and terminate the contract. In such case, the Contractor shall be paid for the reasonable value of all the work completed.

- b. Upon completion of the work or upon termination of the contract, the Contractor shall remove from the vicinity of the work all equipment and all temporary structures, waste materials and rubbish resulting from its operations, leaving the premises in a neat and presentable condition. In the event of failure to do so, the same may be done by the Town at the expense of the Contractor.

20. All plans and design and records shall be the property of the Town during and upon completion.

21. Contractor shall be registered with the VT SOS office and shall submit documentation.

22. INSURANCE:

- a. The Contractor shall purchase and maintain such insurance as will protect him from claims set forth below which may arise out of or result from the Contractor's execution of the work, whether such execution be by himself or by any subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:
 - i. Claims under workmen's compensation, disability benefit and other similar employee benefit acts;
 - ii. Claims for damages because of bodily injury, occupational sickness or disease, or death or his employees;
 - iii. Claims for damages because of bodily injury, sickness or disease, or death of any person other than his employees;
 - iv. Claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the Contractor, or (2) by any other person; and
 - v. Claims for damages because of injury to or destruction of tangible property, including loss of use resulting there from.
- b. Certificates of Insurance acceptable to the Town shall be filed with the Town prior to commencement of the work. These Certificates shall contain a provision that coverage afforded under the policies will not be canceled unless at least fifteen (15) days prior written notice has been given to the Town.
- c. Contractors will list the State of VT and the Town as additional insured. This statement will be declared on the Certificate of Insurance (COI).

ABSTRACT FOR BID REGISTRY:

This work consists of multiple HVAC system upgrades to the Granville Town Office (4157 VT-100, Granville, VT), including air source heat pumps, energy recovery ventilators, and a heat pump water heater. A recent energy audit for the building is available by emailing the project contact. Before submitting a proposal, bidders shall examine the town scope documents, visit the work site if necessary, and fully inform themselves as to all existing conditions. Questions may be submitted to Harry Falconer at hfalconer@trorc.org.

Scope of Work

The scope of work includes multiple improvements to the building's mechanical systems, including the installation of air-source heat pumps, energy recovery ventilators, and a heat pump water heater. See below for full details. **Materials are listed in Part 2 and methods in Part 3.**

PART 1 - GENERAL

1.01 DEFINITIONS AND ABBREVIATIONS:

- A. "Contractor" indicates the Design-Build Contractor (Prime or Secondary).
- B. "Provide" indicates the Contractor shall furnish and install complete.
- C. "MEP" is an abbreviation for "mechanical, electrical, and plumbing".
- D. "EOR" is an abbreviation for "Engineer of Record".
- E. "D/B" is an abbreviation for "Design-Build"
- F. "CM" or "GC" is an abbreviation for "Construction Manager" or "General Contractor".

1.02 SUMMARY

- A. This section includes general system performance requirements for Mechanical Contractor Work. This narrative is for bidding purposes only and is not a formal design for construction.
- B. These design build specifications are based on upgrades described in the MERP Level 1 Energy Assessment prepared by the Nova Group. The scope of work is further defined in the State of Vermont Grant Agreement, Attachment A: Scope of Work.
- C. Substitution of specified HVAC systems and equipment is not permitted during the bid phase (only) of the project. Revisions to this specification and final system type and design, layouts, selected equipment and manufacturers are by the successful Contractor through negotiation with the Owner.
- D. The Contractor and its EOR is responsible for all design and engineering calculations, equipment selections, material selections, construction drawings, temperature control design and coordination across all building trade groups.
- E. The Contractor is responsible to carry all costs associated with the design, layout, fabrication, purchase, installation, and warranty of the system as generally described in this Narrative.

1.03 DESIGN

- A. Employ (or subcontract directly) a professional mechanical engineer for all engineering and design requirements bearing the full responsibility as the EOR. All building and related mechanical systems shall be engineered, designed, and drawn under the direction of a licensed State of Vermont Mechanical Engineer under the direction of the Contractor. Stamp final construction documents.
- B. Provide fully designed construction drawings (minimum scale 1/4" =1'-0") which are coordinated with new and existing architectural, structural, HVAC, plumbing, fire protection, electrical, and civil/site requirements and/or existing conditions.
- C. Provide (1) set of stamped and signed original design drawings to the Owner prior to releasing the work for purchase and construction. Complete drawings in AutoCAD and include plan views of all systems (including double-line piping layout for pipe sizes 2½" and greater), equipment schedules, system schematics (boiler, piping, etc.), and (as necessary) installation details.
- D. Do not commence construction work until the design documents are completed, submitted for review by the Owner and State Agencies (including the State Fire Marshal's office), and a formal statement of acceptance is received by the Contractor.
- E. Participate with the Owner to obtain energy rebates for all new mechanical and electrical work.

- F. Provide necessary scope or code corrections to the documents at no additional cost to the Owner. This is a turn-key design-build project including all engineering costs; additional charges are not permitted unless specifically directed in writing by the Owner.
- G. General Mechanical System Standards:
 - 1. Equipment selection, capacity, temperatures, etc. are based on preliminary calculations by Owner/Engineer. Specified selections are for Contractor bidding only; actual HVAC system calculations, equipment selections, and system layouts including field verifications are by the EOR.
 - 2. All engineering submissions shall be stamped by the Contractor's EOR. Provide calculations, analysis, and descriptions according to the overall project schedule.

1.04 SUBMITTALS

- A. Apply Contractor's stamp on each copy of each submittal, signed or initialed certifying that the product is in accordance with the requirements of the Work and Contract Documents. The stamp shall have the following wording: "I hereby certify that I have carefully examined the enclosed submittal(s) and have determined and verified all field measurements, construction criteria, materials, catalog numbers and similar data, coordinated the submittal(s) with other submissions and the work of other trades and contractors, and that to the best of my knowledge and belief, the enclosed submittal(s) is/are in full compliance with the Contract requirements, except as follows: (enter NONE if there are no exceptions).
- B. EOR's acceptance of submittal(s) shall not relieve the Contractor of responsibility for any deviation from the requirements of the Contract unless Contractor has informed the EOR, in writing, of such deviation at the time of submission and EOR has given written acceptance to the specific deviation, nor shall acceptance relieve the Contractor from responsibility for errors or omissions in the submittal.
- C. Submit shop drawings and product data grouped to include complete submittals or related systems, products and accessories in a single submittal.
- D. Provide catalog cuts and shop drawings for all equipment, trim, devices and materials. Submittals shall be project specific indicating all specialties and accessories intended to be provided. Clearly indicate the precise items submitted.
- E. Do not purchase or install any equipment or material without submittals reviewed and accepted by the EOR. Equipment purchased or installed without submittal acceptance is done at the sole financial risk of the Contractor.
- F. Provide installation instructions and operation and maintenance (O&M) manuals for all equipment. Manuals will be submitted for review before final punch list is performed.
- G. Provide all record drawings in AutoCAD format to Owner; bind all backgrounds prior to delivery.
- H. Provide copies of all required permits to the Owner.

1.05 REGULATORY REQUIREMENTS

- A. All design, fabrication, and installation work must comply with but not limited to the following codes, standards, and guidelines including State of Vermont amendments. Design and install a fully code compliant system; replace/repair deficiencies at no additional cost to the Owner.

1. Vermont Fire and Building Safety Code (2015).
2. International Building Code (2015).
3. International Plumbing Code (2015) as amended by the 2018 Vermont Plumbing Rules.
4. Vermont Act 193, Vermont's Lead in Consumer Products Law.
5. Energy Efficiency - VT CBES-2020.
6. NFPA 1 and 101 (per State of Vermont latest accepted edition).
7. NFPA 54, 58, 90A, 90B, 96, and 211 (per State of Vermont latest accepted edition).
8. NFPA 70 National Electrical Code (per State of Vermont latest accepted edition).
9. ASHRAE Guideline 62.1 (latest edition).
10. SMACNA Duct Construction Standards (latest edition).
11. Except as modified by the Architect, the Design-Build Contractor to establish the Seismic Design Category construction requirements.
12. Comply with requirements of all State and Federal Codes and all State Regulatory Agencies and shall arrange for and pay all fees for permits, utility company charges and observations.

1.06 PROJECT, SYSTEM NARRATIVE, COORDINATION

- A. Coordinate and install work in locations as described for a complete and functioning system.
- B. Proposed rearrangement of work to meet project conditions including changes to work specified in other trades must be accepted by EOR and CM before proceeding.
- C. It is the sole responsibility of the Mechanical Contractor to coordinate the work of their trade with all other trades prior to the commencement of construction. The performance narrative is schematic in nature; not all system requirements are described.
- D. It is the sole responsibility of the Mechanical Contractor to provide, in its original bid, all necessary costs, allowances, and fees for a complete and fully engineered, designed, delivered, and functional MEP system including where necessary and required, architectural scope of work.

1.07 RECORD DRAWINGS

- A. During the progress of the work, furnish and keep on file at all times a complete and separate set of black or blue line print record documents. Each shall be clearly, neatly and accurately noted, promptly, as the work progresses, all changes, revisions, additions, deletions and deviations from the work. Wherever the work was installed, other than as shown on the Contract Drawings, the changes shall be so noted.
 1. Indicate the following installed conditions:
 - a. Ductwork mains and branches, size and location, for both exterior and interior; locations of dampers and other control devices; filters, boxes, and units requiring periodic maintenance or repair.
 - b. Equipment locations (exposed and concealed), dimensioned from prominent building lines.
 - c. Approved substitutions, Contract Modifications, actual equipment and materials installed.
- B. At the completion of the work, submit to the Owner for its comments and/or acceptance. Final payment will be held until the record prints are received and accepted by the Owner. Incorporate comments and provide corrected drawings and electronic AutoCAD files (.dwg) to the Owner.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to the project properly identified with names, model numbers, types, grades, compliance labels, and other information needed for identification.

1.09 OPERATION AND MAINTENANCE MANUALS

- A. Assemble maintenance and operating manuals containing the following:
 - 1. Accepted shop drawings submittals for all HVAC equipment items.
 - 2. Name, address and telephone number of manufacturer or manufacturer's representative for each piece of HVAC equipment. Name shall include a specific contact person.
 - 3. Troubleshooting guides and maintenance manuals for each piece of HVAC equipment.
 - 4. List of recommended spare parts for each piece of HVAC equipment.
 - 5. A single matrix or chart detailing specific operating procedures and operating sequences for all pieces of HVAC equipment.
 - B. Assemble maintenance manuals in three-ring binders. Do not fill to more than 75% capacity.
 - C. Separately tab each specific piece of HVAC and Plumbing equipment along with its accompanying information within the binder.
 - D. Label the spine of each binder with Operating and Maintenance Manual - Book _____ of _____.
The front cover shall have the same information as the spine. Additionally, identify the project name and date of final acceptance by the Contract Administrator on the front cover. Also identify the name, address, telephone number of the Contractor responsible for the HVAC and Plumbing work, and the name, address and telephone number of the Electrical Engineer of record.
 - E. Unless otherwise directed provide two (2) copies of the accepted Operation and Maintenance Manuals to the Owner.
 - F. In addition, provide an electronic copy of the O&M Manual to the Owner.

1.10 SUBMITTALS AND PRODUCT SUBSTITUTIONS

- A. Equipment listed in the specifications is the basis of system performance for bidding purposes only. The Contractor is responsible for final design and selection of all Mechanical equipment and coordination with all conditions and sub-trade requirements (structural, sprinkler, electrical, etc.)
- B. The Owner and/or EOR reserves the right to reject any Submittals determined to be inferior or in conflict with the Owner's Project's Requirements.

1.11 QUALITY ASSURANCE

- A. Design equipment and appurtenances in conformity with ANSI, IEEE, NEMA, OSHA, UL and other generally accepted applicable standards. They shall be of rugged construction and of sufficient strength to withstand all stresses which may occur during fabrication, testing, transportation, installation and all other conditions or operations.
- B. Provide ample clearance for repairs, service, observation and adjustment.
- C. Safeguard all machinery and equipment in accordance with the safety codes of the ANSI, OSHA, and local industrial codes, including but not limited to, Code Clearances on all Electrical equipment for working clearances.
- D. Before commencing work, review the project with the Local and State inspectors. Conform, in every respect, with their separate recommendations,

unless the recommendations are inferior to, or in conflict with, the Contract Documents. Owner's acceptance will be required before proceeding with any changes in the work, recommended or required by local or state inspectors.

- E. Perform all M/P work by M/P journeyman, apprentices and mechanics who are qualified to do such work and who are normally engaged in this type of work. Because of the complexity of the M/P work, unskilled labor is not permitted.

PART 2 PRODUCTS

2.01 GENERAL

- A. Use the best quality materials and equipment which conform to standards and carry labels in every case where standards have been established.
- B. To the maximum extent possible, all Mechanical equipment for any one system shall be the product of a single manufacturer. The Owner and OER reserves the right to not accept and reject equipment from various manufacturers when acceptable components can be secured from fewer manufacturers and to require that source of materials be unified to the maximum extent possible.
- C. Manufacturers: No preferred manufacturers were identified by Owner. Generally, select manufacturers and their products based on their reputation and the availability and quality of local representation.

2.02 MECHANICAL

- A. **Air Source Heat Pumps in the Town Office**
 - 1. Install a cold climate air source heat pump consisting of a modular variable refrigerant volume heating and air conditioning system with central outdoor units supplying multiple indoor units in each room through a network of refrigerant piping and branch box components.
 - 2. Heat pump system shall be sized based on heating and cooling load calculations performed by the EOR. As a means of estimating equipment size the existing boiler has a rated heating capacity of 126,000 btu/hr.
 - 3. Outdoor units will be modular variable refrigerant volume units with IEER up to 28.5. Daikin Emerion HR REYAxixAATJA or approved equal. Mount units on reinforced concrete mounting pads with 18" high metal stands. **Locate outdoor unit to the rear of the Town Office (per historic preservation requirements) away from the roof dripline.**
 - 4. Indoor units consist of ducted fan coils, wall mount units, ceiling cassettes, and floor mount units. It is anticipated a total of **5 indoor units** will be required to serve the Main Office area, Back Hall, Main Entry, Constables Office, and Corridor/Kitchen area. Daikin indoor units to be compatible with VRV Emerion HR REYA or approved equal.
 - 5. Provide condensate piping from each indoor unit to a floor drain, mop sink, or through the exterior wall at 24" above finished grade. Routing piping in concealed spaces. Condensate piping to be PVC DWV with 1/2" thick insulation.
 - 6. Refrigerant piping shall be Type ACR copper with brazed fittings. Provide 1" thick insulation with protective cover for interior piping. Provide a combination pipe insulation and protection and wall seal kit for exterior piping to be Airex Pro System Kit model TSS with insulation on both the suction and liquid lines.
 - 7. Refrigerants shall be A2L type with low GWP. The refrigerant piping system shall be designed to comply with refrigerant limits described in ASHRAE 15 - Safety Standard for Refrigeration Systems and ASHRAE 34 - Designation and Safety Classifications of Refrigerants.
 - 8. **Existing oil-fired boiler in Town offices to remain to serve as**

supplemental heat. Provide programmable thermostats (total of 5 to be field verified) and adjust heating setpoint to be lower than heating setpoint for heat pump system.

9. Oil-fired furnace and warm air duct system in Town Hall to remain. Heat pumps will not be provided for the Town Hall.

B. Energy Recovery Ventilators

1. Install air-to-air energy recovery ventilator (ERV) to serve the Town Offices. Locate ERV in the basement and install supply and exhaust ductwork up to floor mounted grilles or route up in walls to wall mounted grilles. ERV shall be ducted to serve the Main Office area and Constable's Office.
2. Provide louvers in exterior wall to deliver outside air and provide exhaust air. Provide ductwork from louvers to energy recovery ventilator.
3. Energy recovery ventilators shall have a sensible effectiveness of 70% and an enthalpy recovery ratio of 50% minimum.
4. Energy recovery ventilators shall be sized based on the requirements in 2022 ASHRAE 62.1 Ventilation and Acceptable Indoor Air Quality.
5. Filters: MERV-13 for outdoor air, MERV-8 for return air
6. Provide duct mounted electric heating coil in the supply duct. Size electric heating coil to raise supply air temperature to 65 degrees F when outside air temperature is -13 degrees F.
7. Provide factory controller with programmable occupancy modes.
8. ERVs shall be Renewaire model HE or approved equal.
9. Provide duct mounted electric heating coil in the supply duct. Size the
10. Existing Bathroom exhaust fans to remain.

C. Thermostats

1. Each indoor heat pump unit connected to the central heat pump system shall have a programmable thermostat. Daikin DTST-LTE-LA-A or compatible equal.

D. Pipe Insulation for Hydronic Heating Piping

1. Type: Heavy density fiberglass with All Service Jacket (ASJ) and Self Sealing Lap (SSL).
2. Manufacturers: CertainTeed, Johns Manville, Knauf, Owens Corning
3. Thickness: 1 1/2" thick for 1 1/4" and smaller piping, 2" thick for 1 1/2" and larger piping.
4. Label with adhesive-backed pipe markers, flexible vinyl film, white colored lettering on green background.
5. Insulate exposed heating water piping. Quantity of piping is estimated as 300 lf, to be field verified.

E. Duct & Duct Insulation, Interior

1. Design: Size ductwork based on 0.08 inches w.c. pressure drop per 100 linear feet of ductwork.
2. Construction: Round, rectangular or oval rigid, galvanized steel construction
3. Round flexible polyethylene with helically wound steel wire spring utilized in lengths no greater than 5 ft.
4. Low-VOC mastic sealant.
5. Full radius or vaned elbows and 45 degree expanded saddle collar branch connections.
6. Duct Insulation
 - a. Manufacturers: CertainTeed, Johns Manville, Knauf, Owens Corning
 - b. Type: Fiberglass Wrap, 0.75 pcf, foil face jacket

- c. Thickness: Cooling Supply Air Duct: 1.5" (R-4 installed)ERV
Outdoor Air & Exhaust Air Duct: 3.0" (R-8 installed)
- d. Label with adhesive-backed duct markers, high gloss acrylic vinyl film, black colored lettering on white background.

F. **Volume Control Dampers**

- 1. Manufacturers: Greenheck, Louvers & Dampers, Ruskin
- 2. Location: At each duct branch
- 3. Construction: Single blade, 24 ga. metal

G. **Registers, Grilles, & Diffusers**

- 1. Supply and return grilles shall be steel construction, single deflection type with fully adjustable deflection blades. Blades shall run parallel to the long dimension of the grille. Finish shall be white powder coat.
- 2. Size grilles based on a maximum core velocity of 400 fpm and NC rating of 25 or lower.
- 3. Locate grilles in ceilings or sidewalls to minimize disruption to existing surfaces.
- 4. Provide filtered return grilles in floor mounted return3.

H. **Louvers**

- 1. Type: 4" deep, 12 gauge extruded aluminum frame with drainable blades, 1/2" square mesh screen, drainable type.
- 2. Size intake louvers based on 300 fpm air velocity. Size exhaust louvers based on 500 fpm air velocity.
- 3. Locate louvers in exterior wall and provide ductwork to energy recovery ventilator in the Basement.

2.03 PLUMBING

- A. Install 1.0 gpm Water Sensor certified aerator in the lavatory faucets. Total of two to be field verified. Install 1.5 gpm aerators in kitchen area faucets. Total of two to be field verified.
- B. Insulate exposed domestic hot water piping with 1" thick, R3.5 or higher, pre-formed fiberglass with ASJ facing. Quantity of piping is estimated as 100 linear feet to be field verified.
- C. Remove electric domestic water heater.
- D. Install new hybrid electric heat pump water heater sized to deliver hot water to sinks lavatories, and mop sink. Field verify the number of fixtures demanding hot water. For estimating assume a 80 gallon storage capacity water heater with 6 gph recovery at 90 degrees F temperature rise (compressor only), and 24 gph recovery rate at 90 degrees F temperature rise (compressor and element), Bradford White Aerotherm model RE2HP8010. Provide ASME temperature & pressure relief valve and pipe to 6" AFF. Provide drain valve.
- E. Install heat pump water heater in compliance with manufacturer's written directions.
- F. Thermostatic Mixing Valve: Bronze body, thermostatic element, corrosion and lime-resistance internal components, integral locking temperature adjustment.

PART 3 EXECUTION

3.01 ROUGH-IN

- A. Perform all field measurements, layout lines, and coordination with existing conditions.
- B. Verify final locations for rough-ins with field measurements and with the requirements of the actual equipment to be connected.

3.02 COORDINATION

- A. General: Sequence, coordinate and integrate the various elements of Mechanical and Plumbing materials and equipment. Comply with the

following requirements:

1. Coordinate all mechanical and plumbing equipment electrical characteristics with the building service(s) and Electrical Contractor. Do not purchase or release electrically-driven equipment without confirming required electrical characteristics with the electrical design-build contractor (Volt/Phase/Amps/etc.) Failure to confirm is at Contractor's sole risk.
2. Coordinate MEP systems, equipment, and materials installation with other building components; verify all dimensions by field measurements.
3. Arrange for chases, slots, and opening in other building components during progress of construction, to allow for Mechanical installations.
4. Coordinate the installation of required supporting devices and sleeves to be set in poured-in-place concrete and other structural components, as they are constructed.
5. Sequence, coordinate, and integrate installations of MEP materials and equipment for efficient flow of the Work. Give particular attention to large equipment requiring positioning prior to closing in the building.
6. Where mounting heights are not detailed or dimensioned, install systems, materials, and equipment to provide the maximum headroom possible and clearances as defined by the applicable Codes.
7. Install systems, materials, and equipment to conform with accepted submittal data, including coordination drawings, to greatest extent possible. Conform to arrangements indicated by the Contract Documents, recognizing that portions of the Work are shown only in diagrammatic form. Where coordination requirements are in conflict with individual system requirements, refer the conflict to the Architect for review.
8. Install systems, materials, and equipment level and plumb, parallel and perpendicular to other building systems and components, where installed exposed in finished spaces.
9. Install MEP equipment to facilitate servicing, maintenance, and repair or replacement of equipment components. As much as practical, connect equipment for ease of disconnecting, with minimum of interference with other installations.
10. Coordinate installation of access panel or doors where units are concealed behind finished surface.
11. Install systems, materials, and equipment giving right-of way priority to systems required to be installed at a specified slope.

3.03 ELECTRICAL INSTALLATIONS

- A. Review all Architectural, Mechanical, Plumbing, and Electrical drawings and Specifications. Mechanical design-build contractor shall provide equipment manufacturer installed or supplied starters, variable frequency drives, disconnect switches and fuses for all motor operated loads.
- B. Mechanical Contractor is responsible to coordinate and confirm with the Electrical Contractor the electrical characteristics of each piece of equipment (voltage, phase, amps, etc.). Failure to confirm with the Electrical Contractor is at the Mechanical Contractor's sole risk.

3.04 CUTTING AND PATCHING

- A. Perform cutting, fitting, and patching of Mechanical equipment and materials required to:
 1. Uncover work to provide for installation of ill-timed work.
 2. Remove and replace defective work.

3. Remove and replace work not conforming to requirements of the contract.
4. Remove samples of installed work as specified for testing.
5. Upon written instructions from the Owner, uncover and restore work to provide for Owner or EOR observation of concealed work.

3.05 INSTALLATION OF EQUIPMENT

- A. All equipment shall be installed true, level and in the location shown on the Drawings. Precision gauges and levels shall be used in setting all equipment.
- B. Erect equipment in a neat and workmanlike manner on the foundations and supports at the locations and elevations shown on the Drawings, unless otherwise directed by the Owner during installation.
- C. Bring equipment to a proper level by wedges and shims. After the Mechanical equipment has been leveled and aligned, tightened the nuts on the anchor bolts to bond the Electrical equipment firmly into place against the wedges or shims.
- D. Furnish, install and protect all necessary guides, anchors and attachment bolts, and all other appurtenances required for the installation of equipment. These shall be of ample size and strength for the purpose intended.
- E. Provide supports and hangers as required to anchor and support the equipment as required by the Building Code.
- F. Install equipment in such a manner as to provide access for routine maintenance, including lubrication.
- G. Provide and install structural steel supports and miscellaneous steel required for supporting and/or hanging equipment and piping furnished under this Division.

3.06 CLEANING

- A. Protect equipment against mortar, dust, weather, etc., during construction and leave all equipment clean. Wipe down all equipment and remove shipping labels. Sweep the work areas; remove from the premises all debris and unused material and leave premises in a clean and neat condition.
- B. Observe all items of equipment thoroughly. Repair any items dented, scratched, or otherwise damaged in any manner and paint to match original finish. All items so repaired and refinished shall be brought to the attention of the Owner for observation and acceptance.
- C. Remove all construction debris and materials and equipment from demolition work and new work. Dispose of all debris in a legal manner. Comply with State of Vermont requirements for sorting and recycling of materials.

3.07 TESTING, ADJUSTING, AND BALANCING

- A. Perform TAB work on the energy recovery ventilator and air inlets and outlets.
- B. Adjustment Tolerances
 1. Energy Recovery Ventilator: Adjust to within plus or minus 5 percent of design for supply systems and plus or minus 10 percent of design for exhaust systems.
 2. Air Outlets and Inlets: Adjust total to within plus 10 percent and minus 5 percent of design to space. Adjust outlets and inlets in space to within plus or minus 10 percent of design.

3.08 GUARANTEE

- A. Guarantee all work and equipment installed under this Section of the

Specifications against any defects which may occur. Guarantee all other work and damage as a result of such defects. Coordinate with the Owner for requirements of guarantee.

- B. Replace any material and equipment prior to final acceptance, which is corroded or otherwise damaged through the failure to properly operate and maintain the installation during construction or testing.
- C. Materials or equipment requiring excessive service during the first year of operation will be considered defective.
- D. Post on the equipment and give to the Owner, a list of phone numbers to call for servicing during emergency and guarantee periods.
- E. Keep the work in repair and replace any defective materials, equipment or workmanship upon notice from the Owner for a period of (1) one year from date of acceptance.

END OF SCOPE

Appendix A: Bid Form

**TOWN OF Granville, VERMONT
MERP BUILDING ENERGY IMPROVEMENTS 2026
BID FORM / BID ACCEPTANCE**

Proposal of _____ (herein after called BIDDER), organized and existing under the laws of the State of _____, conducting business as a (corporation, partnership, or individual).

To Town of Granville (herein after called OWNER).

By submission of this BID, the BIDDER certifies that its BID has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this BID with any other BIDDER or with any competitor.

BIDDER agrees to hold its BID for sixty (60) calendar days from the date of receipt of BIDS, without withdrawing or revising its BID.

Upon acceptance of this BID by the Owner, the BIDDER shall become the CONTRACTOR and the document entitled Request for Bids including all Terms and Conditions, Technical Specifications, and Plans shall become the contract between the CONTRACTOR and OWNER.

A bid bond in the amount of 10% of the proposal cost by town must accompany the submission to ensure the proposer's commitment to the project.

BIDDER acknowledges receipt of the following ADDENDA:

ADDENDUM NO. _____

DATED: _____

ADDENDUM NO. _____

DATED: _____

PRIME/GENERAL FIRM:

DESIGNER:

BUILDER:

SUBCONTRACTORS (potential/if known):

(BID FORM CONTINUED)

BIDDER agrees to perform all the WORK for the following unit prices or lump sum:

Item Description	Unit	Quantity	Unit Price (Figures)	Extended Amount (Figures)
Project Management/Permits				
ITEMS BELOW				

TOTAL CONTRACT PRICE IN FIGURES \$ _____

TOTAL CONTRACT PRICE IN WORDS _____

(BID FORM CONTINUED)

The "TOTAL CONTRACT PRICE IN WORDS" is the basis for Bid Comparison.
BIDDER by signature below, presents this BID for consideration by the OWNER.

FIRM NAME:

ADDRESS:

PHONE #:

FAX #:

CONTACT PERSON (Print):

EMAIL ADDRESS:

AUTHORIZED AGENT (Print):

AUTHORIZED AGENT (Signature):

DATE:

(Do not write below this line - for use by the OWNER)

The signature below acknowledges acceptance of the BID and award of a CONTRACT to the CONTRACTOR, to perform the work. Compensation for the work to be performed shall be the "TOTAL CONTRACT PRICE IN WORDS". Compensation shall be:

WORDS:

OWNER ACCEPTANCE AND AWARD

OWNER: Town of Granville
 PO BOX 88
 Granville, VT 05747

AUTHORIZED AGENT (Print):

AUTHORIZED AGENT (Signature):

DATE:

APPENDIX B: MERP Level-2 Energy Audit

Email hfalconer@trorc.org to obtain a copy. The file is too large to be uploaded to the Vermont Business Registry.