

November 25, 2024

**REQUEST FOR PROPOSAL FOR  
COMMISSIONING SERVICES**

**East Montpelier Town Garage  
Templeton Road  
East Montpelier 05651**

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# REQUEST FOR PROPOSALS FOR COMMISSIONING SERVICES

## GENERAL

The Town of East Montpelier is seeking the services of a qualified firm to act as the commissioning authority (CA) for the Town of East Montplier new Town Garage building. The CA will contract directly with the Town of East Montpelier.

The project team includes:

|                                       |   |
|---------------------------------------|---|
| Owner:                                | <b>Town of East Motnpelier</b>                              |
| Architect:                            | <b>William Lamphere Architects, David Roy, John LaMothe</b> |
| Mechanical & Electrical Engineer(ME): | <b>Engineering Services of Vermont</b>                      |
| Construction Manage(CM):              | <b>TBD</b>  |
| Mechanical Contractor(MC):            | <b>TBD</b>  |
| Electrical Contractor (EC):           | <b>TBD</b>  |
| Controls Contractor(CC):              | <b>TBD</b>  |
| Testing & Balancing Contractor(TAB):  | <b>TBD</b>  |

Abbreviations used in this document are:

|      |  |
|------|--|
| BECx | = Building Enclosure Commissioning Authority |
| Cx   | = Commissioning Authority                    |
| CC   | = Controls Contractor                        |
| CM   | = Construction Manager                       |
| CX   | = Commissioning                              |
| EC   | = Electrical Contractor                      |
| MC   | = Mechanical Contractor                      |
| ME   | = Mechanical & Electrical Engineer           |
| RFP  | = Request for Proposal                       |
| TAB  | = Testing & Balancing Contractor             |

## PROJECT DESCRIPTION

The project encompasses approximately 9,000 sq.ft. of new construction

## PROJECT SCHEDULE

The proposed project schedule is as follows: **See Attachment**

## PART ONE: GENERAL SCOPE OF WORK

A. General Description of Commissioning Activity:

The Owner is committed to commissioning this facility to ensure that all systems are complete and functioning properly upon occupancy and that facility staff has adequate system documentation and training. Commissioning consists of systematically documenting the proper installation and start-up of specified components and systems, as well as testing those components and systems to verify and document proper operation through all modes and conditions. In addition, Owner-personnel training will be verified and final project operations and maintenance (O&M) documents will be reviewed for completeness. The CA shall review commissioning related reports and documents submitted by the Contractors to verify that they are complete and satisfy the requirements of the Contract Documents. The CA shall work cooperatively with the ME and will coordinate with all parties as needed, recognizing the need for advance planning of on-site meetings and activities. The CA scope of work shall include, but shall not be limited to the following:

1. Reviewing the Construction Documents. This shall include reviewing the design requirements; the ME design assumptions such as occupancy, space and process requirements; applicable codes, policies, and standards; and the load and climatic assumptions utilized. Review will start at partially complete Design Development (DD) plans
2. Development of a commissioning plan. The commissioning plan shall include but not be limited to a brief overview of the commissioning process; list of all systems and assemblies included in the CA scope of work; description of the management, communication and reporting of the commissioning process; overview of the commissioning process activities for the pre-design, design, construction, and occupancy and operations phases, including development of the project requirements, review of the basis of design, schematic design, construction documents and submittals, construction phase verification, functional performance test development and implementation, and 10-month warranty review; list of expected work products; and a list of key commissioning process milestones.
3. Verify the installation, functional performance, training and operation and maintenance documentation.
4. Complete a commissioning report.

## B. Systems To Be Commissioned

Refer to the project construction documents for proposed systems, size, types of equipment, and controls and for building enclosure.

HVAC Systems Description: The HVAC systems for the project include:

- Ground source Water to Water Heat Pumps (GSJHP)
- GSHP associated thermal storage tanks
- Air to air heat pump(s) (ASHP) for the office area
- Energy Recovery Ventilator in office area
- Exhaust Fans and Intakes in garage and mechanical room
- Plate and Frame Heat Exchangers
- Domestic Water Heater and Recirculation System
- Control Valves
- Control Dampers
- Pumps/Circulators
- Radiant Floor system
- All Control Systems, including sequences, sensors, and controls.
- Well pump

- Earth connected heat exchange. TBD if open or closed loop, including conductivity test if closed loop and water flow and quality if open loop.
- Electrical system
- Lighting and lighting controls
- Air compressor and air service lines
- Oil separator (from floor drains)
- EGauge monitoring system (assume 20 measured points)

Building enclosure commissioning tasks include:

- Air tightness meets the requirements in the construction documents.
- Doors, windows, overhead doors, mechanical and electrical penetrations and any other penetrations are properly air sealed
- Insulation is properly installed and continuous, including between differing insulation systems
- Air barrier, weather resistant barrier, sub-slab vapor barrier are all properly installed and continuous from sub-slab to roof
- Louvers, sealants, control joints,
- Flashings, transitions, end dams, etc.
- Below grade construction including damp proofing
- Interface between all of the above elements

#### C. Level of effort expected for each commissioned system

1. The CA shall develop pre-functional and functional checklists for the Installing Contractors to include in their initial checkout and startup. The functional testing shall include operating the system and components through each of the written sequences of operation, as well as other significant modes and sequences, including startup, shutdown, unoccupied mode, manual mode, staging, miscellaneous alarms, power failure, security alarm when impacted, and interlocks with other systems or equipment. Sensors and actuators shall be calibrated during pre-functional testing by the Installing Contractors and spot-checked by the CA during functional testing. Tests on respective HVAC equipment shall be executed during both the heating and cooling season. Some overwriting of control values to simulate conditions may be allowed, however, if used judiciously and verified subsequently during actual weather conditions. Functional testing shall be completed using conventional manual methods, control system trend logs, and read-outs or stand-alone data-loggers, to provide a high level of confidence in proper system function, as deemed appropriate by the CA and the Owner.
  - a. **Ventilation:** The CA shall check the physical operation of all ventilation equipment to insure that they operate properly and that all air dampers are properly positioned for all sequences. The CA shall review the Balancing Report to verify that fresh air quantities are in accordance with the Design Criteria and applicable codes.

- b. **Mechanical Rooms:** The CA shall confirm that all equipment operates in accordance with the Design Criteria, including verification of proper lead/lag operation of pumps, settings of operating limits, outdoor reset schedules, and performance of other equipment.
  - c. **Heating and Cooling:** The CA shall check proper operation of all heat pumps, heat exchangers, control valves, and pumps.
  - d. **Hydronics associated with GSHP:** Proper operation of all hydronics, including but not limited to balancing report on wells/bore-holes, piping, circulatorsm radiant floor piping
  - e. **Building Enclosure:** Minimum of two progress tests and one final test for air leakage, inspection of all enclosure elements prior to those being covered, verification of proper enclosure materials and installation. Site visits and meetings as required, including meeting with insulation, window and door installer, and air sealing subs just prior to their arriving on site for their work, and a preconstruction meeting with the whole team. Meetings shall include review of all construction details and specifications, air leakage goal and testing and inspection process.
2. The CA shall conduct a review of contractor submittals for commissioned equipment concurrently with the shop drawing/submittal review of the ME.
  3. The CA shall prepare a report certifying that the systems perform as designed, and shall document any discrepancies between actual performance and the Design Criteria, including applicable code requirements. The CA shall also document proper operation after any required corrections.
  4. The CA shall propose two copies of a checklist format, which shall be submitted to the Owner.
  5. The CA shall verify that any corrective actions required of Contractors as a result of recommendations presented in the report and approved by the ME are properly implemented.

#### D. Commissioning Services during Construction and Warranty Phases

A summary of the commissioning process during construction is:

1. The CA shall review draft DD documents, draft CD documents and final CDs.
2. The Commissioning Authority (CA) develops a commissioning plan, with a schedule coordinated with the master construction schedule, to be included in the project manual.
3. The CA shall conduct a scoping meeting where the Commissioning Process is reviewed with the construction team members.

4. Additional meetings will be required throughout construction, scheduled by the CA with necessary parties attending, to plan, scope, coordinate, and schedule future activities and resolve problems.
5. Equipment documentation is submitted to the CA during normal submittals, including detailed start-up procedures.
6. The CA works with the MC and CC in developing start-up plans and start-up documentation formats, including providing pre-functional checklists to the MC and CC to be completed during the startup process.
7. The checkout and performance verification proceeds from simple to complex; from component level to equipment to systems and intersystem levels with pre-functional checklists being completed before functional testing.
8. The MC and CC, under their own direction, execute and document the pre-functional checklists and perform startup and initial checkout. The CA documents that the checklists and startup were completed according to the approved plans. This may include the CA witnessing startup of selected equipment.
9. The CA shall develop specific equipment and system functional performance test procedures. The Subs shall review the procedures.
10. The procedures are executed by the MC and CC, under the direction of, and documented by the CA.
11. The CA shall check the operation of each control valve and control actuator. The CA shall review trend logs for all control loops and perform a real-time review of space temperature to determine if the temperature of each individual space is maintained within the design criteria. Operation of all equipment shall be visually verified, at the piece of equipment and verified that the control system readouts correspond with the actual operation. The CA shall also verify that the control system readouts correspond with the actual operation; shall document proper operation, as well as any deficiencies or deviations from the design criteria; and document proper operation after any required corrections.
12. Items of non-compliance shall be corrected by the MC and CC and the system shall be re-tested at the expense of the MC and CC.
13. The CA shall review the O&M documentation, project reports, and closeout documents for completeness by the end of the one-month occupancy period.
14. Final post-construction commissioning is completed after Substantial Completion and before occupancy.
15. The CA shall review, pre-approve, and coordinate the training provided by the MC and CC and verifies that it was completed.

16. Seasonal Commissioning: The CA shall commission each system within both the heating season and for the offices, the cooling season, and shall confirm the operation of 50 percent of each control valve and control actuator; review trend logs for all control loops, and perform a real-time review of space temperature to determine if the temperature of each individual space is maintained within the Design Criteria and the system is operating as per the sequence of operations. Operation of all equipment shall be visually verified at the location of each piece of equipment. The CA shall also verify that the control system readouts correspond with the actual operation; shall document proper operation, as well as any deficiencies or deviations from the design criteria; and document proper operation after any required corrections.
17. Post-Occupancy Check: Include a post-occupancy check-up as part of the commissioning proposal to verify how the building is actually operating at one month prior to end of one year warranty period. The CA will follow up on a list of “events” or complaints compiled by the Owner. This post occupancy checkout shall mimic the initial checkout, but shall be done from the controls console, with physical checking at each piece of equipment or zone only as needed. A one-week trend log of all control loops completed just prior to this check-up shall be included in the specifications for the CC. The CA, prior to the on-site checkout, shall review the trend logs. This post occupancy checkout should be completed at a different season than the initial checkout to be sure that proper operation is documented in both heating and cooling conditions.
18. CA will prepare final commissioning report outlining findings of the commissioning and any recommendations for any further action. Include, as appendices, all documents generated during commissioning. Coordinate this with closeout documentation provided by the ME to avoid duplication. Submit draft of report to Owner for approval, and incorporate any changes requested by Owner.

#### E. Team Cooperation

The Mechanical Contractor (MC), the Control Contractor (CC), the Balancing Contractor (TAB), the Mechanical Engineers (ME) and the Owner shall assist the CA as indicated below.

1. The Mechanical Engineer (ME) shall provide full construction documents, including design intent and full sequences of operation. The ME shall include requirements for the following in the specifications and shall submit the following reports and documents to the CA, after completion, review and revision as per the Design Engineer’s final review:
  - Final Inspection List
  - Record Drawings
  - Maintenance Manual
  - Warrantees
  - Spare Parts List
  - Control System Trend Logs
  - Testing, Adjusting and Balancing Report
  - Product data
  - Submittals

2. The Mechanical Contractor (MC) shall assist the CA by facilitating access to equipment as required, including removing and replacing access panels on each piece of equipment, by removing and replacing ceiling tiles as required for inspection of piping, valves, ductwork and concealed equipment and by providing lifts and ladders to reach equipment where necessary. The MC shall assist the CA in scheduling the on-site services for the Control Contractor (CC) and the Balancing Contractor (TAB).
3. The Control Contractor (CC) shall provide on-site assistance to the CA to verify proper operation of controls/mechanical equipment, as required. The CC shall provide to the CA copies of all written materials required by the Contract Documents, including the Project Close-Out documents required in the Control System Specifications. In addition, the CC shall provide one seven-day trend log and graph for every control loop in the project. Each graph shall show the operating setpoint, controlled variable and any other relevant data. The CC shall correct any deficiencies discovered by the CA, if so directed by the ME.
4. The Testing and Balancing Contractor (TAB) shall be available on site to assist the CA verify proper operation of mechanical systems. The CA shall include in the specifications the number of sessions and hours per sessions on site required by the TAB. The TAB shall be expected to make new measurements or verify previous measurements, as requested by the CA, but shall not change air or hydronic flow rates unless so directed by the ME.
5. The Owner shall provide access as needed to all parts of the building as needed and as is practical, recognizing the need for sensitivity with regard to occupied portions of the building after occupancy.

## **METHOD OF CONSTRUCTION**

The Town of East Montpelier has retained [REDACTED] to act as **Construction Manager** to provide both preconstruction and construction management services including cost estimating, scheduling, bidding, and construction. The Town has retained Mark Blanchard [mblanchard@viscc.com](mailto:mblanchard@viscc.com) as the owners representative.

## **PROPOSAL REQUIREMENTS**

Proposals shall be submitted on the “Commissioning RFP Response Form” attached at the end of this RFP. Candidate firms may be asked to attend an interview with the Town subsequent to the due date of the RFP or to provide additional information about their proposal.

Email copies of your proposal which include the requirements as listed on the Commissioning RFP Response Form, to Town Administrator Jennifer Devine [manager@eastmontpeliervt.org](mailto:manager@eastmontpeliervt.org) with copy to Mark Blanchard [mblanchard@viscc.com](mailto:mblanchard@viscc.com).

Request for Voluntary Alternates: Firms are invited to include in their proposal any additions and/or changes to this scope of work (Voluntary Alternates) that will enhance the result and/or reduce the cost of commissioning services.

## **PROPOSAL SELECTION CRITERIA**



The Town will use the following criteria to evaluate the qualifications of firms:

1. Completeness of the Proposal
2. Appropriateness of qualifications and experience of the firm and commissioning team
3. Favorable references of the firm and individuals proposed for the commissioning team
4. Fees for Commissioning Services, including hourly rates and reimbursable expenses

## PROPOSAL DEADLINE

Proposals are due by \_\_\_\_\_ . Faxed & Emailed bids are acceptable.

### RFP Delivered To:

Jennifer Devine [manager@eastmontpeliervt.org](mailto:manager@eastmontpeliervt.org) with copy to Mark Blanchard [mblanchard@viscc.com](mailto:mblanchard@viscc.com).

The Town may elect to solicit additional information from certain firms. The Town reserves the right to reject any or all proposals.

## QUESTIONS

Questions may be addressed via email to Jennifer Devine [manager@eastmontpeliervt.org](mailto:manager@eastmontpeliervt.org) with copy to Mark Blanchard [mblanchard@viscc.com](mailto:mblanchard@viscc.com)

## SCHEDULE FOR RFP

- RFP issued to firms via **email**. \_\_\_\_\_
- Deadline for questions via email \_\_\_\_\_
- Addendum (if any) shall be issued on \_\_\_\_\_ via email
- Deadline for proposals \_\_\_\_\_

END OF REQUEST FOR PROPOSAL