Essexville-Hampton Public Schools

Garber High School

Office Renovation Project

GENERAL REQUIREMENTS:

1. ***Integrated Project Delivery Method:***
   - The owner, Essexville-Hampton Public Schools (E-HPS) wishes to procure this project using the Integrated Project Delivery Method. The GENERAL CONTRACTOR will be the "PRIME" contractor for this project.
   - The owner intends to issue ONE CONTRACT for this project.
   - The owner requests that all CONTROL WORK is "BY OTHERS". The Prime contractor will coordinate with the CONTROLS CONTRACTOR for all integration of the new HVAC units to the existing Building Automation System.
   - The owner will pre-purchase the new entrance assembly of doors, framing and panels.
2. **Submittals:**
   - The Prime Contractor will provide submittals for approval on all major items provided by the contractor for this project.

GENERAL SPECIFICATIONS

3. Demolition Methods and Materials:

General

- The Prime contractor has overall responsibility for removal of all general mechanical, electrical and other material as identified on the drawings and herein in a safe and clean manner. A daily cleanup of the work site is mandatory and all material is to be removed either by contractor's truck or by the placement of a dumpster at the contractor's expense.
- The existing classroom HVAC units are to be returned to the owner.

- Electrical demolition of conduits, disconnects, wiring and other electrical components is the responsibility of the electrical sub-contractor.
- Mechanical demolition of HVAC units is the responsibility of the mechanical sub-contractor.
- The DEMOLITION schedule and duration will be coordinated based on the final selection of Prime Contractor, availability of new entry systems and the owners operating schedule.
- The owner reserves the right to salvage any and all material from the site by coordinating with the Prime contractor's crew on the placement of such material.

4. Basic mechanical installation:

General

- The mechanical sub-contractor is responsible to provide and install all material not identified as "by others" or "by Owner". The mechanical sub-contractor will provide all site coordination necessary for offloading and handling of the new HVAC units including crane and rigging. Final setting in place of the new HVAC units is the Prime contractor's responsibility.
- All mechanical work is to be provided consistent with the State of Michigan Mechanical Code 2015 and is to be inspected by the State recognized Authority Having Jurisdiction (AHJ). The final acceptance of all work by the AHJ must be provided to the "owner" prior to final acceptance by the "owner".

Draining and Filling

- The Prime contractor is responsible for all labor and material to properly and safely drain all piping systems to be removed and/or modified during this project. All labor required to test and inspect the piping system after draining and refilling is the contractor's responsibility. The scheduling of this work MUST be approved by the Engineer and the Owner with at least a 24 hour notice.

Piping

- All piping is to be clean and new TYPE L COPPER. Press style fittings are acceptable. All pipe is to be routed “straight, level, plumb and square” and in a consistent path with other existing piping.
- Pipe hangers and supports may utilize existing anchor points from previous piping systems and may utilize existing pipe access openings and penetrations as necessary. The mechanical sub-contractor will provide a desired pipe routing plan to the engineer during the FINAL DESIGN process and PRIOR to installation for approval.
- All pipe systems are to be flushed clean and pressure tested prior to final acceptance by the “owner” and mechanical inspector. The engineer is to witness the pressure test and provide an approval for final cleaning and filling of the system.

Fittings and Valves

- Mechanical couplings, elbows and flanges to create a complete system may be press style or approved equal. Both “flexible” and “fixed” type fittings are to be used to create a stable piping system. Fixed anchor points are to be included in the system to prevent significant pipe movement during normal pump starting and stopping.
- Isolation valves are to be full port ball valves.

Insulation and Fire Stopping

- All chilled and hot water heating water pipe is to be insulated with 1” wall fiberglass preformed pipe insulation with a protective aluminum cover. All elbows and fittings are to be insulated with fiberglass equal to 1” wall with a preformed plastic covering.
- Any fire stopping required must be installed per the Hilti Fire Stopping method manual and must be submitted to the “engineer” for approval prior to installation.

Labeling

- All piping is to be labeled using printed labeling methods and directional arrows per SETON and installed per the ANSI/ASME A13.1-2007 Standard.

HVAC Fan Coil Unit Installation:

- The mechanical sub-contractor is responsible to order, receive and set in place the Fan Coil Units. The contractor must provide all necessary installation, rigging and operation manuals to properly install the fan coils and prepare them for operation. Each fan coil will have the following minimum features at the inlet and outlet of ALL piping connections:
  - Flexible connections
  - Full port ball type Isolation valves
  - Strainer
  - A Pressure gauge "manifold" to indicate entering and leaving pressures
  - Vibration Isolation.
  - Room temperature sensors provided by the CONTROLS CONTRACTOR.
  - Single point power connection

Check, Test and System Startup:

- The piping system in the affected area is to be flushed, cleaned, drained and then pressure tested for integrity prior to final filling. The pressure test is to be witnessed by the AHJ and the engineer. The mechanical sub-contractor will provide all necessary labor and material required to assist all trades during startup.
- The mechanical sub-contractor will provide the assistance of a NEBB Certified Test and Balance Contractor for all work required to properly set all flow rates for both new and existing systems. The mechanical sub-contractor and the NEBB Certified test and balance contractor will coordinate all work with the Building Automation System installer to properly operate all systems, verify operating performance and make all necessary adjustments to achieve design operating performance. The final acceptance of this work will not occur until all systems are in full operating condition.

ELECTRICAL SPECIFICATIONS

Demolition Methods and Materials:

General:

- The electrical sub-contractor is responsible for the safe removal of all electrical components, wiring, raceways and materials identified by the Prime contractor. All circuits to be removed require that all conduit, wire, starters and other related equipment be removed back to the main panels.
- The owner reserves the right to salvage any and all material removed as part of this project for their use.
- In all cases any material that is to be scrapped must be removed from the jobsite by the contractor and the jobsite cleaned prior to installation of new equipment.

BASIC ELECTRICAL INSTALLATION:

General:

- The electrical sub-contractor is responsible to provide and install all material and equipment necessary to power the new HVAC, lighting and receptacle devices using the existing system. New Fan Coil disconnects are required at each unit.
- Conduit, wiring and hardware are required for the CONTROL SYSTEM INTEGRATION. This work to be coordinated with the owners CONTROL CONTRACTOR.
- All electrical work is to be consistent with the State of Michigan Electrical Code (NEC 2014with Michigan Part 8 amendments). All work is to be inspected by the State recognized Authority Having Jurisdiction (AHJ). The final acceptance of all work by the AHJ must be provided to the “owner” prior to final acceptance by the “owner”.

Equipment and circuit isolation

- The electrical sub-contractor is responsible to properly isolate and “Lock Out- Tag Out” all electrical circuits that are removed or modified during this project. The scheduling of all equipment shut downs and circuit renovations must be coordinated with the owner 24 hours prior to the work.

Conduit and Raceways

- All conduits are to be “EMT” type with appropriate fittings and hangers per the NEC. Flexible conduit connections at equipment are appropriate with proper connections. All conduits are to follow basic “straight, level, plumb and square” routing methods and are to be consistent with existing routing methods. All necessary hangers, supports and connectors are to be provided and installed per the NEC guidelines.

Wiring and labeling:

- All insulated wire is to be THWN or THHN copper only. All wire terminations are to be properly identified by tagging and labeling. Labeling may be placed on the conduit as well. All low voltage wiring terminations are to be labeled.

Preliminary ARC-FLASH Hazard Analysis/ Short-Circuit/ Overcurrent Protection Coordination:

- The electrical contractor shall provide a limited NFPA 70E Study to provide proper labeling of all newly installed electrical equipment, control panels and other serviceable devices on this project. The entire facility is not required to be included in this study. All required “labels” for equipment are to be provided and installed by the electrical contractor along with permanent “TAGS” on each device indicating the equipment controlled by that device.

Electrical System Start up and Coordination:

- The electrical contractor is to participate in the startup of all major equipment and modified systems.