



ADDENDUM No. 4

Project: Fire Station No. 1 – New Facility

Town of Clarksville

Clarksville, Indiana

Proj. No: 1639.02

Date: March 2, 2018

This addendum is a part of the bid documents. Acknowledge receipt on the Proposal Form.

General

1. Notify Matt Gullo of any questions regarding bidding at phone (812-913-4616) or email (matt.gullo@koverthawkins.com).

Specification

Division 15 (Mechanical)

- To be applied to this section: Where manufacturer names are not listed in the specification, any vendor may bid the work but final approval is not given until post-bid submittals are reviewed. The full letter of intent of the specifications must be met and satisfactory to the engineer.
- Add specification to Division 15, "Section 15141 – Domestic Water Piping and Compressed Air Piping". See attached spec section for information.

Specification 15107 (Ground-Loop Heat-Pump Piping)

- Section 1.3.A – Clarification
Contractor to perform Thermal Conductivity Test to allow architect/engineer to determine final number of wells and any adjustments needed. For the purpose of the bid, price the number of wells as shown per the Drawings.
- Section 1.3.C.1 – Revise depth as "Total depth (350 ft.)".
- Section 1.3.J – delete in its entirety and replace with:
"The design drawings show the geothermal well pumps selected for eight wells. If the actual number of well required, based on the conductivity test, is different from the current design, the contractor shall provide information to the engineer for revision of the pump selection. The contractor shall dig the first well to perform the conductivity testing. As conductivity testing is performed, the contractor is to finish digging the additional seven (7) wells per the Drawings. The contractor shall keep the drilling rig on site one additional day to allow for time to determine if the number of borings is sufficient per the conductivity test."

Specification 15151 (Sanitary Waste and Vent Piping)

- Section 3.8.D – add the following acceptable materials
PVC Schedule 40 or 80 DWV pipe and fittings will be acceptable for underground sanitary.

Specification 15901 (Instrumentation And Control For HVAC)

- Section 1.1.B – add the following acceptable standard for temperature control
- BACnet



Specification 16216 (Internal Combustion Generators)

- Paragraph 1.01, Replace "natural gas" with "**diesel fuel**".
- Paragraph 1.05, Generator size must be greater than or equal to 150kw with 48 hour fuel tank. Provide full tank of diesel fuel, and top off fuel tank after testing.

Drawings

Drawing L-101

- Label "IG" on the planting plan is to be Ilex glabra 'Shamrock' (Shamrock Inkberry). There are a total of eleven (11) shown on the planting plan. Size to be container #5.
- On the plant schedule, label "EP" is to be changed to "**EC**" to coordinate with the planting plan id label.

Drawing P-201

- Plumbing Fixture Schedule: WC-1 shall be floor mount, basis of specification American Standard 'Madera' 1.28gpf in lieu of wall mount style.

Drawing M-401

- On Geothermal Water Source Pump Schedule – delete hot-gas bypass on HP-5.

Drawing E-101

- Electrical Keynotes E4 & E5: Addendum #3 noted the specified model to be discontinued. Provide the following, or equal:

Chain Hoist : Ingersoll Rand, Model ELK50-INS50 1PH30-26-2G

Trolley: Ingersoll Rand, Model PT-010-8

Ingersoll Rand Distributor:

Allied Tools - Sean Sheehan – (502) 966-4114 or (502) 594-2006

E-201

- Request for Substitution:

Lumenation – The general intent of the lighting substitution request submittal dated March 1, 2018 is acceptable. This general review has checked for aesthetic appearance and initial apparent quality. Acceptance of the general intent does not relinquish supplier from meeting the requirements of the basis of specification light fixtures as scheduled (lumen output, finish, etc.). Review during shop drawing phase will be more thorough and extensive and may require modification of the fixtures that have not yet been noted. Deviation from basis of specification is not grounds for increase in price.

No fixture specifications are noted on the submittal. Acceptance of this light fixture package is based on the assumption that all fixtures can and will meet the basis of specification fixtures (size, lumens, wattage, finish, etc.). Failure to meet basis of specification will be rejected and supplier will be expected to provide architect approved substitution fixture to meet basis fixture at no additional charge.



The following fixtures appear to be deviations from the basis of specification light fixtures and are not accepted:

- 'G' – specified fixture is 4" diameter.
- 'L' – does not match design aesthetic of specified fixture.

Drawing E-302

Generator size must be greater than or equal to 150kw with 48 hour fuel tank. Provide full tank of diesel fuel, and top off fuel tank after testing.

Drawing T-201

- Wall Night Vision Lighting: Wall night vision lighting by Dispatch Alarm contractor and to be within the Dispatch Alarm Allowance. No work by electrical contractor on this item.

Prepared by,

Matthew D. Gullo, RLA

Director of Landscape Architecture and Planning

enclosed: Spec Section 15141

file: 1639.02

End of Addendum No. 4



SECTION 15141 – DOMESTIC WATER PIPING AND COMPRESSED AIR PIPING

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Furnish labor, materials, equipment, special tools, supervision and services required to complete the following work indicated, noted and detailed on drawings and specified herein:
1. Pipe and pipe fittings.
 2. Valves.
 3. Sanitary sewer drain, waste and vent piping system.
 4. Domestic water piping system.
 5. Condensate piping system.
 6. Compressed air piping system.
 7. Hose bibbs.

1.02 REFERENCES

- A. ASTM B88 - Seamless Copper Water Tube.
- B. ASTM B306 - Copper Drainage Tube (DWV).
- C. ASTM D1785 - PVC Plastic Pipe, schedule 40, 80 and 120.
- D. ASTM D2665 - PVC Plastic Drain, Waste and Vent Pipe and Fittings.
- E. ASTM F876/F877 – Crosslinked Polyethylene (PEX) Tubing.

1.03 QUALITY ASSURANCE

- A. Valves: Manufacturer's name and pressure rating marked on valve body.

1.04 SUBMITTALS

- A. Submit product data.
- B. Include data on pipe materials, pipe fittings, valves and accessories.

PART 2 - PRODUCTS

2.03 DOMESTIC WATER PIPING

- A. Above Grade:
1. Type "L" hard temper copper tubing.
 - a. Wrought copper solder fittings or mechanically formed Tee connections above grade for pipe sizes up to and including 4".
 - b. Solder with Sil-Fos or approved equal.
 - c. Victaulic grooved copper connection may be used for pipe sizes 2" through 6".
- B. Below Grade:
1. Type "K" hard temper copper tubing.
 - a. Wrought copper solder fittings below grade inside and outside building for pipe sizes up to 3".
- C. Valves:
1. Shut-off service shall be gate or ball type.
 2. Flow check service shall be swing check type.
 3. Pressure Rating: 160 psi minimum.

- D. Water Hammer Arresters:
 - 1. "Zurn", Z-1700 Shoktrol.
 - a. Size 100: 1-11 Fixture Units.
 - b. Size 200: 12-32 Fixture Units.
 - c. Size 300: 33-60 Fixture Units.
 - d. Size 400: 61-113 Fixture Units.
 - e. Size 500: 114-154 Fixture Units.

2.04 CONDENSATE PIPING

- A. PVC Schedule 40.
- B. Fittings: PVC Schedule 40, designed for solvent welded connections.
- C. Use Type "L" hard temper copper tubing with wrought copper solder fittings or mechanically formed Tee connections if within a plenum space, where PVC is not allowed for installation, or where otherwise indicated.

2.05 COMPRESSED AIR PIPING

- A. Type K Copper, solder joint wrought copper fittings up to 1" pipe size.
- B. For larger than 1", black steel, threaded with malleable iron couplings and unions.
- C. Isolate copper from steel with dielectric fittings.

2.06 HOSE BIBBS

- A. Hose Bibb:
 - 1. Non-Freeze areas.
 - 2. Type as indicated or scheduled on drawings.
If not indicated, provide "Woodford", Model 24P.
 - 3. Loose tee key or wheel handle as indicated or scheduled on drawings.
If not indicated, provide loose tee key.
 - 4. Brass.
- B. Chrome Hose Bibb:
 - 1. Non-Freeze areas.
 - 2. Type as indicated or scheduled on drawings.
If not indicated, provide "Woodford", Model 24P.
 - 3. Loose tee key or wheel handle as indicated or scheduled on drawings.
If not indicated, provide loose tee key.
 - 4. Chrome.
- C. Freezeless Hose Bibb:
 - 1. Freezeless wall hydrant.
 - 2. Type as indicated or scheduled on drawings.
If not indicated, provide "Woodford", Model 70P.
 - 3. Loose tee key or wheel handle as indicated or scheduled on drawings.
If not indicated, provide loose tee key.
 - 4. Chrome.
- D. Wheel Handles (where scheduled or indicated to be provided):
 - 1. Provide polycarbonate wheel handles in interior areas, unless otherwise indicated.
 - 2. Provide metal wheel handles in exterior areas, unless otherwise indicated.
 - 3. Provide metal wheel handles in interior areas of manufacturing or in applications where polycarbonate may be damaged or abused, unless otherwise indicated.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Provide non-conducting dielectric connections wherever jointing dissimilar metals.
- B. Route piping in orderly manner and maintain gradient.
- C. Install piping to conserve building space and not interfere with use of space.
- D. Group piping whenever practical at common elevations.
- E. Install piping to allow for expansion and contraction without stressing pipe, joints or connected equipment.
- F. Provide clearance for installation of insulation and access to valves and fittings.
- G. Slope water piping and arrange to drain at low points.
- H. Prepare pipe, fittings, supports and accessories not prefinished, ready for finish painting.
- I. Establish invert elevations, slopes for drainage 1/8 inch per foot.
- J. Install valves with stems upright or horizontal, not inverted.
- K. No double-wye fittings will be permitted. Where the fixture/branch sanitary piping connects to the sanitary main, single wye fittings are to be used.
- L. Short 1/4 turn radius on sanitary piping elbows is prohibited.
- M. Where sanitary piping makes a change in direction, two 45-degree fittings or a "medium sweep" shall be used.

3.02 APPLICATION

- A. Install unions downstream of valves and at equipment or apparatus connections.
- B. Install brass male adapters each side of valves in copper piped system. Sweat solder adapters to pipe.
- C. Install ball valves for shut-off and to isolate equipment, part of systems, or vertical risers. Install at all plumbing fixture drops, or group of fixtures drop, above ceiling and with water hammer arrestors at the high point.
- D. Install water hammer arrestors as follows:
 - a. Install in an upright position.
 - b. Located at the remote end of a long run of piping and as close to the point of valve closure as possible, unless otherwise indicated.
 - c. Multiple fixtures, branch line less than 20':
Measured from the start of the horizontal branch line to the last fixture supply on the line.
Locate at the end of the branch line between the last two fixtures served.

- d. Multiple fixtures, branch line more than 20':
Measured from the start of the horizontal branch line to the last fixture supply on the line.
Use two units whose capacities total the requirements of the branch. Locate one unit between the last and next to last fixture and the other unit approximately midway between the fixtures.

3.03 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

- A. Prior to starting work, verify system is complete, flushed and clean.
- B. Sterilization shall be performed in accordance with State Board of Health Rules and Regulations.
- C. Provide Certification from Board of Health after sterilization.

3.04 SERVICE CONNECTIONS

- A. Provide new sanitary sewer services. Before commencing work check tap locations, invert elevations required for sewer connections, confirm inverts and ensure that these can be properly connected with slope for drainage.

SUBMITTAL CHECK LIST

- 1. Product Literature

END OF SECTION 15141