

ADDENDUM



Date: 07/23/2014

Project: TJ Majors Building Upgrade

To: Bidding Contractors

Project No.: 14-040

Addendum No.: 1

CC: Kathy Carroll PSC Vice
President
Administration and Finance

This addendum is issued by the Architect/Engineer to all known bidders before receipt of proposals. Bidders shall acknowledge the receipt of this Addendum on their bid form and all information and instructions given herein shall become a part of the Contract Documents.

GENERAL

Prior Approvals – If not specifically called out as OR EQUAL under the specified product the following substitutes are acceptable as long as they meet specification; this is not a formal approval that can only be determined at shop drawing/submittal review stage.

Dampers	NCA Manufacturing, Inc. United Enertech
Diffusers, Grilles, Registers, and Louvers	MetalAire Tuttle & Bailey NCA Manufacturing, Inc. United Enertech Price Industries Titus
Single Duct VAV Boxes	NCA Manufacturing, Inc. Tuttle & Bailey Price Industries Nailor Titus
Centrifugal Fan	PennBarry
Rooftop Hoods	PennBarry Loren Cook Soler & Palau
Exhaust Fans	Captive Aire Loren Cook Soler & Palau Twin City Fan Company
Fresh/Relief Air Hoods	United Enertech Twin City Fan Company
Air to Air Energy Recovery Equipment	Semco Greenheck ConsERV
Air Duct Accessories	United Enertech
Duct Heaters	Neptronics Indeeco
Heat Pumps	Daikin Applied Florida Heat Pump Mammoth



Door Hardware	Stanley Hinges Stanley Door Closers Precision Exit Devices ABH Overhead Stops
The following items were submitted for prior approval but have NOT been approved.	

General Pre-Bid Meeting Item:

Sign-in sheets for the pre-bid meeting are attached for informational purposes only.

GENERAL NOTE: IF MAILING IN A BID, ALL BIDS MUST ARRIVE July 29th BECAUSE MAIL ON July 30th WILL NOT BE DELIVERED PRIOR TO BID OPENING AT 2:00 AM.

CHANGES TO PROJECT MANUAL

1. 00 11 13 – Advertisement for Bids

- A. Paragraph 1.03, J: Change the fax number for the Lincoln A&D Technical Supply office to 402 474-5779.

2. 01 50 00 – Temporary Facilities and Control

- A. Paragraph 1.12 FIELD OFFICES: The Owner has offered the use of Room 325 for the Contractor’s use as a field office and meeting space, in lieu of providing a trailer as an office.

3. 00 73 00 – Supplementary Conditions

- A. Under 1.03, A. ARTICLE 1: GENERAL PROVISIONS, add the following subparagraph 3. to read:

“3. Under Paragraph 1.5 – OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE, add the following subparagraph 1.5.3:

1.5.3 Electronic CAD files may be provided to the Contractor or Subcontractor under the following conditions:

1.5.3.1 Generally, only CAD floor plans and/or reflected ceiling plans shall be distributed. Distribution of any other types of CAD drawings should be approved by the Architect.

1.5.3.2 All extraneous information such as dimensions, section call-outs, notes, etc. shall be removed from the CAD file. Under normal circumstances, walls, doors, room numbers and grid lines shall be the only information left in the drawing file.

1.5.3.3 The Architect’s or Engineer’s title block and all references to the Architect or Engineer shall be removed in their entirety, this includes any Architect/Engineer “seals”.

1.5.3.4 The distribution file(s) shall be copied onto a Compact Disk (CD-ROM) by the Architect/Engineer.

1.5.3.5 A flat fee of \$25.00 per floor plan sheet shall be received from:

Advanced Engineering Systems, Inc. 4630 Antelope Creek Rd #200 Lincoln, NE 68506 phone (402) 488-0075 fax (402) 488-0272
 620 N. 129th Street Omaha, NE 6815 phone (402) 504-3885 fax (402) 504-4598



- 1.5.3.5.1 Sprinkler system contractors
- 1.5.3.5.2 Fire alarm system contractors

1.5.3.6 All others requesting CAD files shall be charged \$50.00 per sheet.

1.5.3.7 Disclaimers shall be attached to the CAD file distribution and shall read as follows:

1.5.3.7.1 The end user of these CAD drawing files shall agree to defend, indemnify and hold harmless the Architect or Engineer from all claims, damages, losses, expenses and attorney fees that may arise from their use. These CAD drawing files may not be reproduced, altered or used without the explicit consent of the Architect or Engineer.

1.5.3.8 All contractor(s) who would like to obtain CAD drawings must contact Architect or Engineer and request all sheets required. Contractor(s) must also complete and sign the Computer Generated Data Use Agreement included at the end of this section and forward to the Architect or Engineer with each request. Upon receipt of a signed Computer Generated Data Use Agreement and required fees, the Architect or Engineer will issue all agreed upon files.”

(SEE ATTACHED Document Disclaimer Form FOR ENGINEER’S DRAWINGS AND THE AIA Document C106 – 2007 FOR ARCHITECT’S DRAWINGS)

4. 08 12 13 – Hollow Metal Frames

- A. Approved Substitutions:
 - 1) Republic Doors and Frames

5. 08 14 16 – Flush Wood Doors

- A. Approved Substitutions:
 - 1) Oshkosh Door Co.

6. 08 71 00 – Door Hardware (See also Sheet A2.1: Hardware Schedule)

- A. Approved Substitutions:
 - 1) Hinges: Stanley 5 Knuckle Ball Bearing Hinges; FBB Series
 - 2) Door Closers: Stanley QDC100 Series
 - 3) Exit Device: Stanley Precision Apex 2000 Series
 - 4) Overhead Stop: ABH Mfg. 1000 Series Concealed

7. 09 51 00 – Acoustical Ceilings

- A. Approved Substitutions:
 - 1) Acoustical Units: Armstrong Dakota Tegular, Item No. 2870

8. 10 21 13.19 – Plastic Toilet Partitions

- A. Approved Substitutions:
 - 1) Accurate Partitions – Solid Plastic (HDPE)



9. **23 81 46 – Water to Air heat pumps**

- A. Paragraph 2.01.I.1: add sentence x to read “Unit shall be provided with terminal strip for connection to the building control system. Unit shall be provided with all internal safeties and alarms, alarms shall be transmitted to the BMS. The unit control board shall have a blinking LED indicator light to give specific trouble shooting codes. Units with variable capacity compressors and modulating reheat shall utilize their own internal controls with access to the control system through an interface. The unit control board shall have a blinking LED indicator light to give specific trouble shooting codes.”

10. **28 31 11 – Digital, Addressable Fire – Alarm System**

- A. Paragraph 1.03.B: Clarification –there is not an existing main campus fire alarm control unit. Do not provide a connection from the new TJ Majors FA panel to the campus control unit. The TJ Majors panel shall have space and power to add future network card(s) that will provide for the capability to connect to a future campus control unit. Electronic door holders are not required to be EST 1508-AQN5, but shall be compatible with the Siemens fire alarm system.
- B. Paragraph 2.08 Remote Annunciator
 - 1) Add part C: provide a microphone at the Remote Annunciator. Microphone shall be integral to the remote annunciator and installed in the same enclosure.

CHANGES TO PROJECT DRAWINGS

All work shall be in accordance with the terms, stipulations, and conditions of the original contract.

1. **Sheet T0.0**

- A. **Staging** – Staging area will be provided to the contractor for use in the open grassy area to the north-west of the building. See picture below for exact location. Any areas utilized shall be repaired back to the original conditions. Contractor to take before pictures.



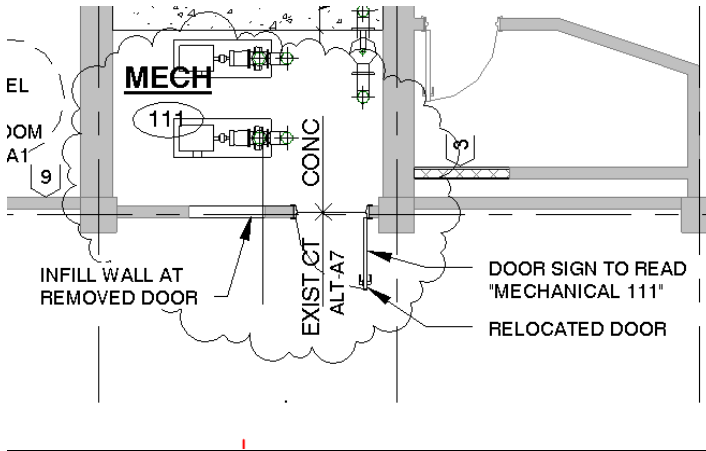
Architectural

2. Sheets D1.1, D1.2 and D1.3

- A. **Acoustic Ceiling Systems** – Remove all existing acoustic ceiling pads and grids entirely.

3. Sheet D1.1 and A1.1

- A. **Mechanical Room 111** – The door is not shown in the correct location for the remodel of the room into a Mechanical Room. Remove and salvage the existing door, frame and hardware and relocate as shown. Carefully cut and remove the existing marble wall wainscot and base to be reinstalled in the infill of where the existing door was removed. Infill wall where door was removed to match adjacent surfaces.



4. **Sheet A1.3**

- A. **Women 310 and Men 322** – These restrooms are to be remodeled in the Base Bid. Change the note in each to read: “REMODEL RESTROOM UNDER BASE BID”.

5. **Sheet A1.4**

- A. **Attic Floor Plan** – Where ducts enter shafts that extend between 2 or more floors, Building Codes require that the top of the shaft be closed-off with a 1-hour rated horizontal assembly installed directly below the existing third floor plaster ceiling. The existing plaster ceiling shall be removed for the entire width and depth of the shaft and the new shaft lid shall be continuous to all 4 walls of the shaft. Fire dampers shall be installed where the ducts penetrate the horizontal rate assembly – see mechanical. Fire caulk around all ducts and dampers where they penetrate the horizontal rated assembly. (See construction detail below)

1 Hour Fire-Rated Construction	Non-Loadbearing	
Construction Detail	Description	Report Number
	<ul style="list-style-type: none"> – corridor ceiling, and stair soffit • 1" SHEETROCK brand gypsum liner panels • 5/8" SHEETROCK FIRECODE C Core gypsum panels • USG steel C-H stud spanning horizontally 24" o.c. • USG steel J-runner – joints finished 	<p>AER-09038</p>

6. **Sheet A3.2**

- A. **Mech 233 - Second Floor Reflected Ceiling Plan** – Add a 1 hour rated soffit to cover the ducts entering through the second floor ceiling. Frame soffit with the shaftwall system specified in item 3 above.



7. Sheets A3.1 and A3.2

- A. **Reflected Ceiling Plans** – Demolish the existing gyp. bd. ceilings in Men 110, Women 117, Men 220, Women 221 and replace with 2x2 acoustic ceiling system under the base bid. Demolish the existing acoustic ceiling system in the area of Men 250 and Testing 248 and replace with new acoustic ceiling system under the base bid if Alt-A1 is not accepted.

Mechanical

1. Sheet W1.2

A. **14 Bore Hole piping detail**

- 1) All 1" piping shall read 1-1/4"

B. **Bore Hole detail**

- 1) All 1" piping shall read 1-1/4"

C. **Flush and Purge Specifications and Procedures**

- 1) Revise flush and purge to read as follows:

All mains, branches and zones shall be cleaned and treated by the following steps Owner / engineer shall be given 72 hours notice prior to each step being performed .

Flushing contractor will be required to flush and purge all hydronic systems including heat pump system.

Independent party flushing contractor: purpose is to provide an independent cleaning of the entire system as a whole.

- Contractor shall be purge rite (1-866-96-purge) or an approved contractor. Substitute contractors must be submitted to the engineer 10 days in advance of answer given. Complete explanation of purge cart being proposed to be used with pump details shall be submitted to the engineer.
- All results must be submitted directly to the owner / engineer.
- A report with pictures, description of work done with gpm's and velocities listed and amount of derbies removed shall be submitted upon completion.

The mechanical and well field contractor pre-flush requirements: purpose is to get system ready for flushing and purging.

- Piping must pass all required pressure testing and visual inspection for leaks.
- All pumps shall be tested for rotation and properly aligned and lubricated.
- A domestic water quality test should be obtained and sent to the chemical treatment supplier, owner and engineer.
- Chemicals proposed on being used must have certificate of assurance and product cut sheets presented to the owner/engineer prior to being used.
- Bypass all terminal units and coils closing the unit isolation valves and opening the normally closed bypass valve.
- All system check valves should be replaced with spools to allow water to flow in both directions.

The mechanical and well field contractor flush requirements: purpose is to have the contractors



on site for assistance and to see firsthand what is done.

- Representatives from both the mechanical contractor and well field contractor must be on site during the flushing and purging process.
- it is the responsibility of the mechanical contractor to remove, clean and replace all strainers as described in this procedure.
- all system piping modifications needed to reverse the water flow and replace back as designed is the responsibility of the mechanical contractor.

The flush and purge contractor requirements: purpose is to completely remove all debris, dirt and air from the hydronic system.

purge cart requirements:

- Contractor must have a pump on the purge unit that will meet or exceed the volume required to flush and purge this system. A pump curve on the purge unit will be submitted and approved by the engineer before process begins. A field test of pressure at shut-off will be used as well.
- Purge unit will have a tank for air separation large enough to insure air separation before water is re-circulated.
- Purge unit will have a filter system with minimum of 100 mesh filter or smaller.
- Purge unit shall be capable of reversing the flow direction. It is also to have isolation shut off valves.
- Purge unit will have a electronic water metering device accurate within 2% to verify flow or an ultrasonic flow meter.
- Purge unit is to have a pressure gauges on supply and return in order to verify pressure during the flushing and purging process.

1. Pre-flushing: mechanical contractor and well field contractor - purpose is to remove all grease, grime, dirt and debris from the system.
 - bypass all terminal units and coils closing the unit isolation valves and opening the normally closed bypass valve. Fill entire system with clean fresh potable water. The initial fill shall be metered to measure the exact system volume.
 - System shall be circulated for a minimum of 1 hour with clean water (velocities above 6 ft/sec) in the direction of flow based on piping size. Flushing shall continue until all water being drained appears clean. After completed all strainers shall be removed and cleaned thoroughly.
 - Piping shall then be reworked as required to flush system in the opposite direction of normal flow. This shall include replacing all check valves with spools.
 - System shall be circulated for a minimum of 1 hour with clean water (velocities above 6 ft/sec) in the direction of flow based on piping size. Flushing shall continue until all water being drained appears clean. After completed all strainers shall be removed and cleaned thoroughly.
 - This process of reversing the flow back and forth should go on until the system water is free of debris.
2. Chemical cleaning for steel piping (if needed): mechanical contractor - purpose is to remove all grease, grime, dirt and debris from the system.
 - add system cleaner that contains detergent and emulsifying agents to properly removed grease, grime and other debris. Volume of cleaner used shall be about 10% of total volume.
 - System shall be circulated for a minimum of 48 hours with water velocities of a minimum of 2 ft/sec or greater in the direction of flow. After completed all strainers shall be removed and cleaned thoroughly. House pumps are acceptable to circulate the

water

3. Final-flushing: flush and purge contractor - purpose is to remove all grease, grime, dirt and debris from the system.
 - System shall be circulated for a minimum of 1 hour with clean water (velocities above 6 ft/sec) in the direction of flow based on piping size. Flushing shall continue until all water being drained appears clean and free of cleaner. After completed all strainers shall be removed and cleaned thoroughly.
 - Piping shall then be reworked as required to flush system in the opposite direction of normal flow. This shall include replacing all check valves with spools.
 - System shall be circulated for a minimum of 1 hour with clean water (velocities above 6 ft/sec) in the direction of flow based on piping size. Flushing shall continue until all water being drained appears clean. After completed all strainers shall be removed and cleaned thoroughly.
 - This process of reversing the flow back and forth should go on until the system water is free of debris.
 - ph level of water are to be tested and maintained above 7.5. If ph is less than 7.5 (or as suggested by chemical treatment contractor) then, the chemical cleaning should be repeated. Clean water is needed to flush pipe. Submit manufacturer data (including msds) on inhibitors and cleaning chemicals. Inhibitors are not to be installed until approved by engineer and regulatory agency governing ground water protection. (prior to start of process).
 - All water/chemical shall be properly disposed of to sanitary system.

4. Purging: flush and purge contractor - purposed is to remove all air from the system
 - All air vents shall be opened as required to allow air to escape.
 - open all isolation valves to units and close bypass valves.
 - replace all temporary spool with permanent check valves and equipment.
 - All pumps and valves shall be temporarily on and opened for 60 min to ensure chemical is circulated throughout all the piping.
 - System shall be filled with a local domestic / softened water mixture as required by chemical treatment supplier. System shall be filled with a pressure reducing valve at the specified fill pressure.
 - Chemical treatment shall be added to the system after thoroughly mixing with water according to the manufacturer recommendations. Chemical treatment shall include inhibitors and glycol if specified.
 - system shall be circulated for a minimum of 1 hour with water velocities of a minimum of 3 ft/sec or greater in the direction of flow based on piping size
 - All records and documentation should be kept and submitted upon completion.
 - System water shall be tested with reports submitted to engineer / owner.
 - If system does not meet manufacturer recommendations the system shall have more chemical inhibitor / glycol added or diluted as required. System water shall then be re-tested and submitted to engineer / owner.

5. Chemicals: mechanical contractor
 - As recommended by chemical supplier. Chemical supplier is responsible for making sure the chemicals provided are safe for use with all piping, valving, equipment and seals installed throughout the system. All chemicals must: be approved by the state prior to being added to the system, fda approved food grade and meet astm-1384. Automotive grade chemicals are not allowed.
 - inhibitors - as recommended
 - glycol (food grade) - 0%



- Chemical tests shall include: hardness, sulfate, calcium, iron, tds, tss, ph, bacteria, copper, carbonates, alkalinity, magnesium concentrations (ppm) and inhibitor / glycol concentrations.
- Water quality requirements shall be as follows (unless recommended otherwise by the chemical supplier).
 - ph - 8 to 9.5
 - tds - double domestic water level or < 1500 ppm
 - iron - < 2 ppm

Approximate System volume for interior piping is 1,795 gallons (contractor to verify before ordering).

Approximate System volume for exterior HDPE piping is 3,980 gallons (contractor to verify before ordering).

2. Sheet M1.1

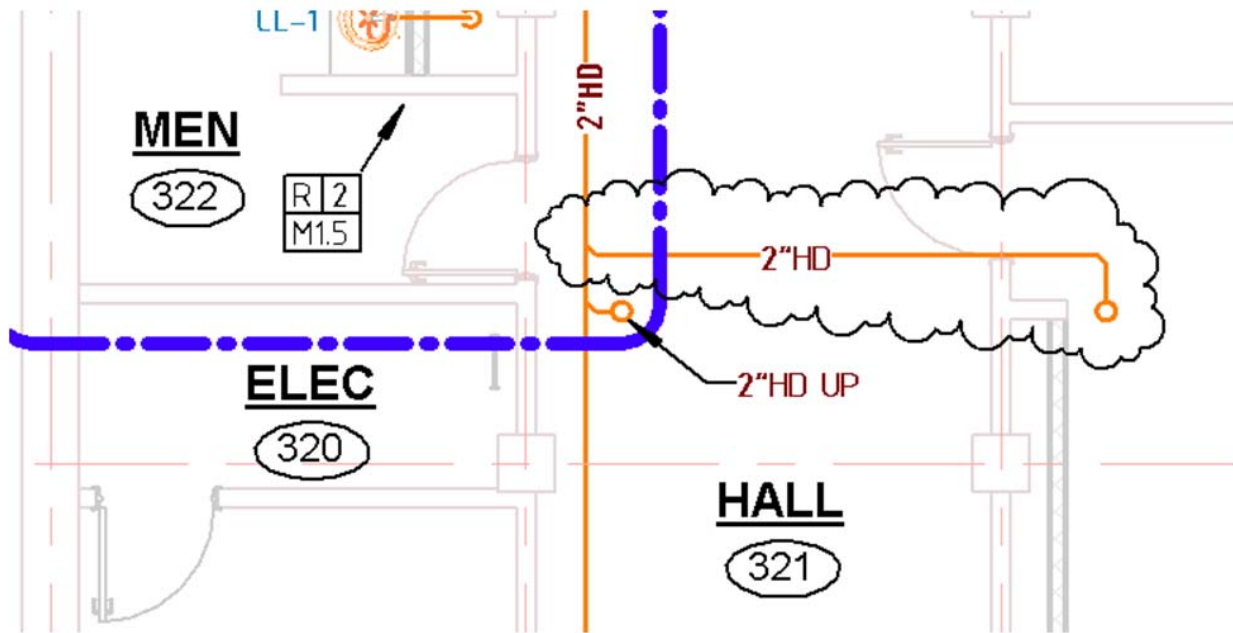
A. **Mechanical Floor plan –**

- 1) Add note 11 to read "install PT ports on supply and return piping at an accessible location. Install in horizontal section of HPS and HPR piping just before entering chase to attic, HPS and HPR piping before leaving mech 111 to stor 122 and in HPS and HPR piping in stor 122 before a branch take-off.
- 2) Install steam heat exchanger (HE-1) and associated piping as shown on attached drawings.

3. Sheet M1.3

A. **Mechanical Floor plan –**

- 1) Extend humidity drain piping to floor sink just north west of column line 5-L. (see plan below, not to scale).



4. Sheet M1.4

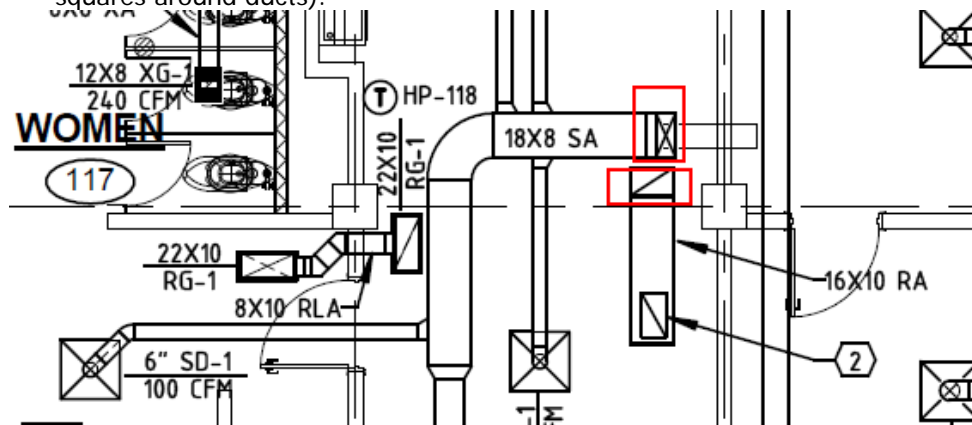
A. **Mechanical Floor plan –**

- 1) Revise heat pump return piping to be 3" starting after HP-206 going north.
- 2) Revise note 11 to read "Mechanical contractor to provide piping support for mechanical piping to be fastened to the existing structure (typical). Supports to be roller chair pipe support or a flat steel plate with side rails (to prevent perpendicular movement)."
- 3) Add note 13 to read "install PT ports on supply and return piping at an accessible location. Install in vertical section of HPS and HPR piping above chase to first level and in HPS and HPR piping in front of new southeast stair. "

5. Sheet M2.1

A. **HVAC Floor plan –**

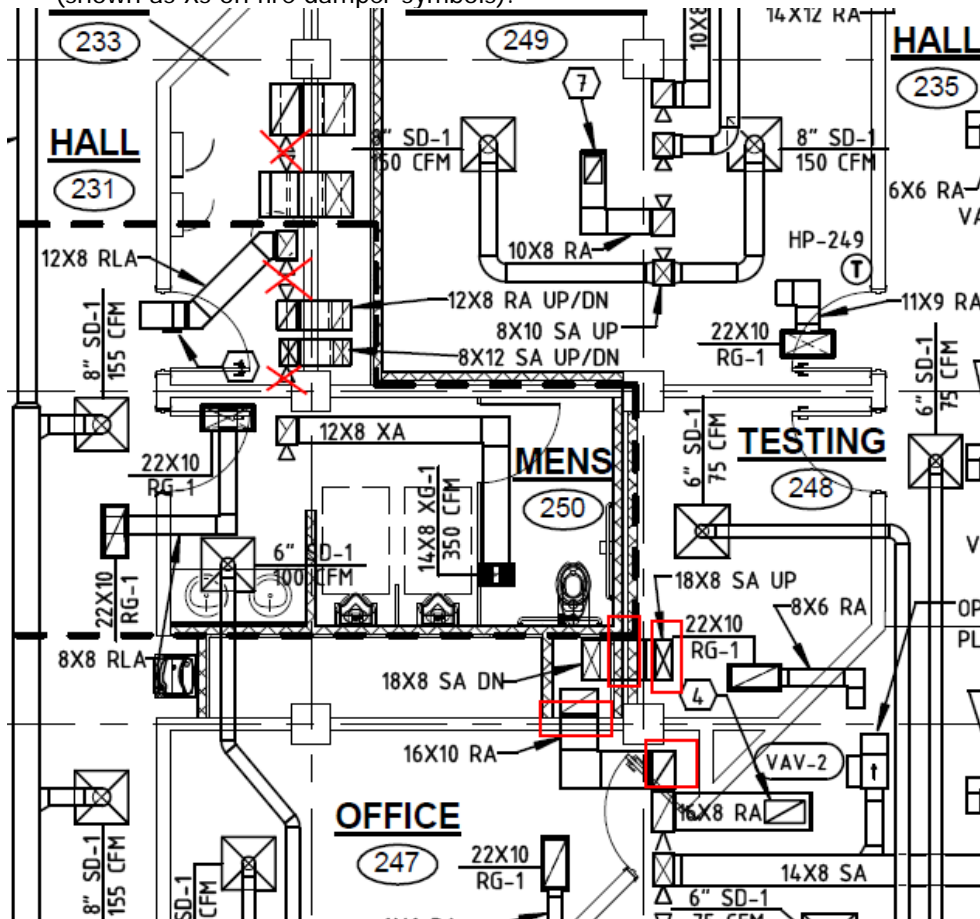
- 1) Add fire dampers to supply and return ducts from HP-118 in penetration to first floor. (shown as squares around ducts).



6. Sheet M2.2

A. HVAC Floor plan –

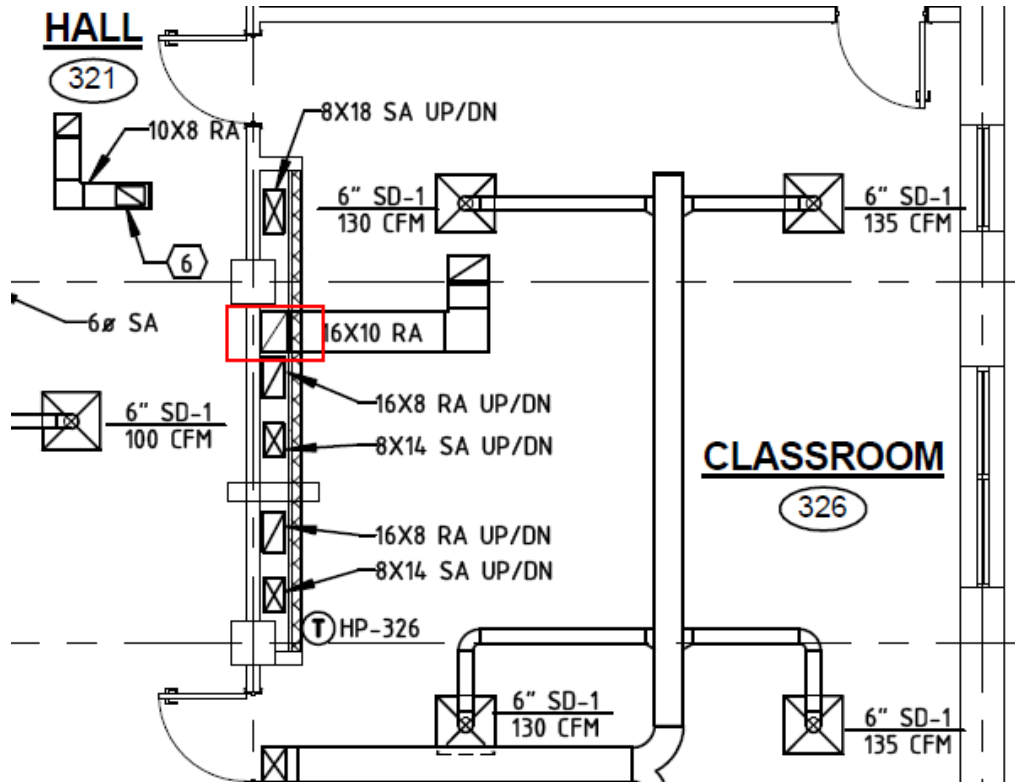
- 1) Add fire damper to 16x10 Return air and 18x8 supply ducts from HP-118 (shown as squares around duct)
- 2) Delete fire dampers in mech 233 as there will be a rated shaft that offsets around the duct (shown as Xs on fire damper symbols).



7. Sheet M2.3

A. HVAC Floor plan –

- 1) Add fire damper to 16x10 Return air duct from HP-118 (shown as squares around duct).



8. Sheet M2.4

A. HVAC Floor plan –

- 1) Add Key Note #12. It shall be pointed to the roof and read as follows “All roof loading including roofing protection and equipment shall not exceed 25 PSF.”
- 2) Add the following text to Key Note #4. “Fire damper shall be installed in shaft ceiling directly below 3rd floor ceiling with damper access door installed as low as possible in attic. Fire damper and access door shall also be installed where duct exits shaft on lower floor.”

9. Sheet M4.1

A. Pipe Material and Insulation Schedule –

- 1) Add the following verbiage to the end of note 7 (original note shall remain). “Type L Copper piping with soft soldered, pro-press or Victaulic connections is an acceptable alternate”.

B. Pump Schedule –

- 1) Add pump p-4 for heat exchanger. See attached drawing
- 2) Add shell and tube heat exchanger schedule. See attached drawing

10. Sheet M4.2

A. Heat Pump Schedule –

- 1) Delete the words “via BACnet” from Note #11.
- 2) Add note 19 which shall be applicable to all heat pumps “Unit shall be provided with terminal strip for connection to the building control system. Unit shall be provided with all internal safeties and alarms, alarms shall be transmitted to the BMS. The unit control board shall have a blinking LED indicator light to give specific trouble shooting codes. Units with variable capacity compressors and modulating reheat shall utilize their own internal controls with access to the



control system through an interface. The unit control board shall have a blinking LED indicator light to give specific trouble shooting codes."

11. Sheet M5.1

A. **General Project Notes –**

- 1) "ALL SHEETS REQUESTED IN CAD (.DWG) FORMAT SHALL BE PROVIDED AT A CHARGE OF \$25/SHEET FOR FIRE ALARM AND FIRE SPRINKLER CONTRACTORS. ALL OTHERS REQUESTING CAD FILES SHALL BE CHARGED \$50/SHEET. PRIOR TO TRANSMISSION OF FILES, THE REQUESTING PARTY MUST SIGN AND RETURN "DOCUMENT DISCLAIMER" TO AES."

B. **Heat Pump Piping Detail –**

- 1) Remove isolation valves just after the branch take-offs. Only 1 set of isolation valves is required at each unit
- 2) Remove temperature sensor on supply piping to unit.

C. **Attic Floor Sink Mounting Detail –**

- 1) Note with leader to the drain piping shall say "Humidity drain piping, size as shown on drawings"

D. **End of Main Condensate Detail –**

- 1) Detail shall be changed to Heat Exchanger Connection Detail and as shown on attached drawing.

12. Sheet M5.2

A. **General Project Notes –**

- 1) "ALL SHEETS REQUESTED IN CAD (.DWG) FORMAT SHALL BE PROVIDED AT A CHARGE OF \$25/SHEET FOR FIRE ALARM AND FIRE SPRINKLER CONTRACTORS. ALL OTHERS REQUESTING CAD FILES SHALL BE CHARGED \$50/SHEET. PRIOR TO TRANSMISSION OF FILES, THE REQUESTING PARTY MUST SIGN AND RETURN "DOCUMENT DISCLAIMER" TO AES."

13. Sheet M6.1

A. **Hydronic Sequence of Operation –**

- 1) Add sequence of operation for steam heat exchanger with associated steam controls, pump, control valves and added temperature sensor. See attached drawing

B. **Air side Sequence of Operation –**

- 1) There are no duct heaters downstream of heat pumps, and therefore will be no secondary discharge air temperature sensors downstream of the heat pump.

Electrical

1. **Add the following General Note to all Lighting Floor Plan Sheets: Contractor shall clean all light fixtures that are to remain and remove bugs/debris from inside fixture and on lens. At third floor – if Alternate E1 is accepted, these fixtures are to be cleaned and free of debris before reinstallation.**

2. Sheet E0.1

A. **Stair ST3-1/ST4-2**

- 1) Remove fire alarm magnetic hold open devices

B. **Mech 111**

- 1) Remove receptacle at south wall and data devices with cabling at east wall

- C. **Stor 123/Lobby 125-4**
 - 1) Remove fire alarm smoke detectors at ceiling
- D. **NE and SE Stairs to Lower Level**
 - 1) Remove (1) existing 2x4 grid troffer located over stairs in each stair well (not shown on plans).

3. Sheet E0.2

- A. **Classroom 203**
 - 1) Remove fire alarm bell and associated enclosure located at west wall near south door.
- B. **Admin 207/Files 224**
 - 1) Remove fire alarm smoke detectors

4. Sheet E0.3

- A. **Storage 131**
 - 1) Where MDP will be removed, provide j-boxes as required, to extend any electrical feeders that are currently embedded in floor (fed underfloor from MDP) that are to be connected to the new MSB. Extend all wiring/conduit as noted on Electrical One-Line Diagram.
- B. **Stair ST1-3/ST2-3/ST3-1/ST4-2**
 - 1) Remove fire alarm smoke detectors at stairwell ceilings.
- C. **Stair ST4-2**
 - 1) Remove existing 2x4 grid troffer at ceiling.
- D. **Classroom 301**
 - 1) Remove fire alarm smoke detector at ceiling
 - 2) Remove fire alarm bell located at west wall near south door.
- E. **Hall 314**
 - 1) Built-in display case at east side of corridor (corridor side of wall adjacent to Classroom 302) – Display light fixture to remain and stay connected to existing lighting circuit.

5. Sheet E0.4

- A. **Attic General Notes**
 - 1) Add the following to Attic General Note '1': **Contractor to provide an allowance of \$7,500.00 for this work. All items that are to be removed/relocated/re-routed/re-supported, etc. to accommodate new plywood flooring and new mech/elec systems shall be itemized in full with quantity and description indicated.**

6. Sheet E1.1

- A. **Lecture 114/115**
 - 1) Delete fixture type 5E and replace with type 5.
 - 2) Connect occupancy sensor relay packs to unswitched lighting circuit in each room.
- B. **Hall 106/112/118**
 - 1) Type 2E fixtures shall be connected as nightlights and be energized at all times.
 - 2) Hall 112: north end – fixture labeled with type '1' shall be labeled as a type '2' fixture.
- C. **Office 103**
 - 1) Rotate light fixtures 90 degrees in this room such that there is 1 fixture near the door oriented to the North and the other fixture 4ft o.c. from the window, oriented North.



7. Sheet E1.2

A. **Stair ST3-1**

- 1) Connect type 18E fixture as a nightlight.

B. **Women 221**

- 1) Unlabeled fixture shall be labeled type '8'.

C. **Restroom near Testing 248**

- 1) Provide an additional type '8' fixture in this area and connect to lighting circuit. Rotate fixtures in the east – west direction and locate 6' o.c.

D. **Hall 225**

- 1) Hall 217/225/231: Type 2E fixtures shall be connected as nightlights and be energized at all times.
- 2) At North and South end of hallway, provide a type 3 exit light fixture with directional arrows pointing to the stair exits to the East. Connect to local unswitched lighting circuit.

8. Sheet E1.3

A. **Hall 321**

- 1) Hall 311/314/321: Type 2E fixtures shall be connected as nightlights and be energized at all times.
- 2) South end – fixture unlabeled shall be type '2'.

B. **Hall 314**

- 1) At North and South end of hallway, provide a type 3 exit light fixture with directional arrows pointing to the stair exits to the East. Connect to local unswitched lighting circuit.

C. **Men 322/Women 310**

- 1) Provide an additional type '8' fixture in this area and connect to lighting circuit. Rotate fixtures in the east – west direction and locate 6' o.c.

D. **Keynote 1**

- 1) Modify second sentence to read as follows: Under Alternate E1 – Reinstall all fixtures noted with an 'RL' and connect to existing circuits.

9. Sheet E1.3A

A. **Hall 314**

- 1) At North and South end of hallway, provide a type 3 exit light fixture with directional arrows pointing to the stair exits to the East. Connect to local unswitched lighting circuit.

10. Sheet E2.1

A. **Corridor West of Stor 122**

- 1) Add fire alarm strobe device in this corridor.

B. **Mech 130**

- 1) Add electrical connection for new pump P-4 (see mechanical information in this addendum for location in this room). Provide STE disconnect, 2-#10 conductors plus #10 gnd in ¾" c. Route to Panel M3 and terminate to new 30/1 breaker.

11. Sheet E2.2

A. **Storage 232**

- 1) Add fire alarm heat detector in this room.

12. Sheet E2.3**A. Lobby 305/Studio 306**

- 1) Add fire alarm speaker strobe in Lobby. Add fire alarm strobe in Studio.

13. Sheet E3.2**A. Renovated Panel 1B**

- 1) Space 38 – add new 20/1 breaker

14. Sheet E3.3**A. Light Fixture Schedule:** delete fixture type 5E**B. Renovated Panel 1FC:** Spaces 14 thru 24: add new 20/1 breakers**C. Renovated Panel 2FC:** Spaces 18, 20, 22, 23, and 24: add new 20/1 breakers**D. New Panel M3**

- 1) Provide handle lock devices for FACP and FAVP breakers (breaker 15,17)
- 2) Ckt M2-39 breaker for ERV 3 shall be 40/2
- 3) Delete 1-20/1 spare breaker and provide 1-30/1 breaker for pump P-4.

15. Sheet E3.4**A. Equipment Connection Schedule**

- 1) ERV 2/ERV 3: electrical requirements are as follows – breaker = 40/2, wire = 2-#8 plus #10 gnd in ¾" c.
- 2) HP 104/HP 304: wire size shall be #8

B. New Panel M1

- 1) Ckt M1-1 breaker for HP 307 shall be 30/2
- 2) Ckt M1-5 breaker for HP 215 shall be 15/2
- 3) Ckt M1-25 breaker for HP 104 shall be 40/2
- 4) Ckt M1-2 breaker for HP 106 shall be 15/2
- 5) Ckt M1-6 breaker for HP 306 shall be 20/2
- 6) Ckt M1-37 breaker for ERV 2 shall be 40/2

16. Sheet E4.1**A. Keynotes**

- 1) Keynote 2: replace with word 'new' with 'existing' in this keynote.
- 2) Keynote 8 (delete ground wires from MSB to existing transformer): modify to read as follows: 24-#500mcm in 6-4" c.

B. Electrical One-Line Diagram

- 1) CLARIFICATION – work at existing transformer.
 - a) At the Contractor's option, it is acceptable to not remove the transformer temporarily for the installation of the new secondary electrical service. The Contractor shall still perform all electrical requirements needed for disconnection of the existing electrical service and installation/connection of the new electrical service to the transformer.
 - b) Removal/reinstallation of the existing transformer is the responsibility of the Contractor and shall be included in all costs. This work will not be performed by OPPD or the College.
 - c) See attached Electrical Campus Distribution Diagram on Sheet E4.1 – the existing primary distribution will allow for the TJ Majors transformer to be de-energized by opening switches at the Industrial Arts Bldg transformer and the Student Center Transformer. Contractor shall confirm and verify primary distribution and connections with College prior to



commencing work. Outage for the TJ Majors building shall be kept to a minimum (bldg is in use during construction). Contractor shall coordinate all work and outages with Owner and Architect/Engineer. This work shall be done during weekends, as required, to keep bldg downtime to a minimum.

- 2) At the existing transformer, provide a new ground rod as required and connect to transformer. Coordinate with OPPD and owner.
- 3) New feeder for ELV – clarification: elevator disconnect is located at 3rd floor near elevator equipment. New feeder conductors and ground shall be installed from MSB to the elevator disconnect.

17. Sheet E5.1

A. **General Project Notes – add the following note**

- 1) "ALL SHEETS REQUESTED IN CAD (.DWG) FORMAT SHALL BE PROVIDED AT A CHARGE OF \$25/SHEET FOR FIRE ALARM AND FIRE SPRINKLER CONTRACTORS. ALL OTHERS REQUESTING CAD FILES SHALL BE CHARGED \$50/SHEET. PRIOR TO TRANSMISSION OF FILES, THE REQUESTING PARTY MUST SIGN AND RETURN "DOCUMENT DISCLAIMER" TO AES."

By:

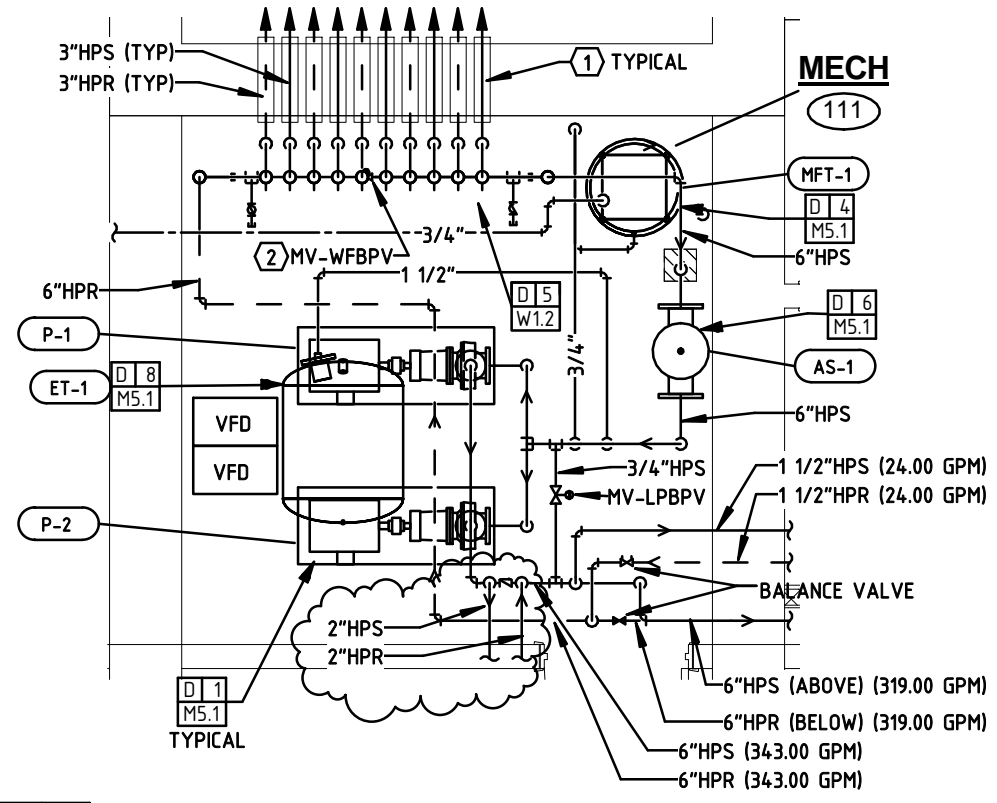
Kyle Wilkinson and Jeff Johnson

Date:

07/23/14

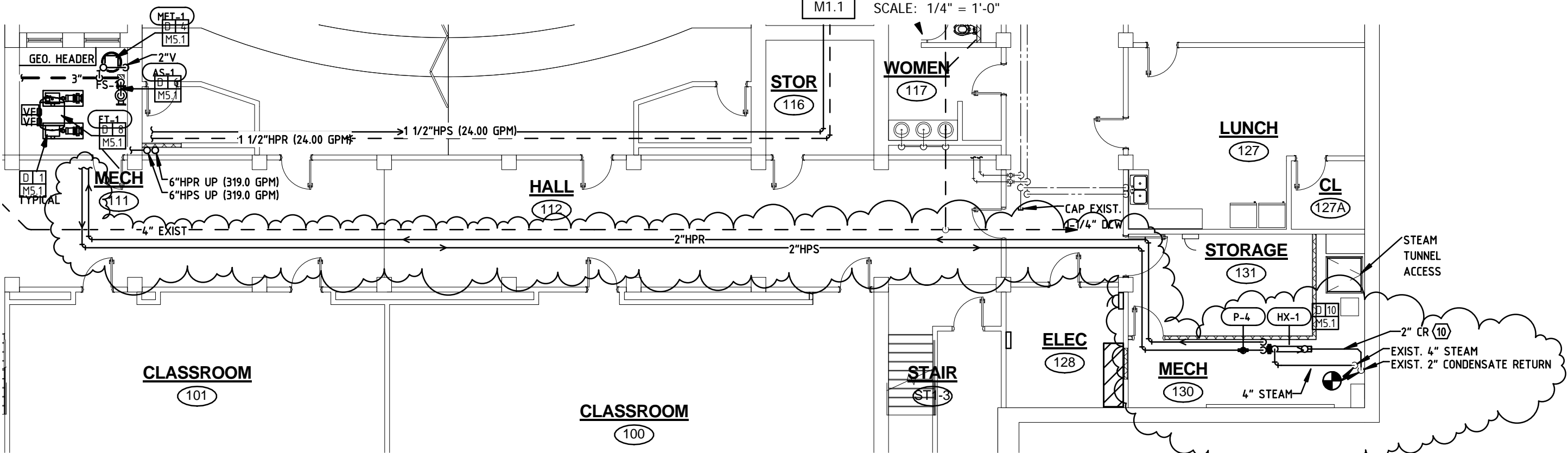
SHEET NOTES

10. INSTALL 2" CONDENSATE RETURN PIPING AS LOW AS POSSIBLE AND PROVIDE STAINLESS STEEL SHROUD OVER PIPING.



P 2 PARTIAL MECH. PLAN - 111

SCALE: 1/4" = 1'-0"



P 1 PARTIAL MECHANICAL - FIRST FLOOR

SCALE: 3/32" = 1'-0"



PUMPS SCHEDULE

MARK	MANUFACTURER	MODEL #	GPM	FT. HEAD	MIN. PUMPING EFFICIENCY	HP	VOLT	PHASE	RPM	PUMP TYPE	DIRECT OR SPLIT COUPLING TYPE	SYSTEM SERVED	NOTES
P-1	PATTERSON	E3F11A-1	343.00	95	74.5	15	208	3	1750	BASE MOUNT END SUCTION	SPLIT	HEAT PUMP LOOP	1,2,3,4,5
P-2	PATTERSON	E3F11A-1	343.00	95	74.5	15	208	3	1750	BASE MOUNT END SUCTION	SPLIT	HEAT PUMP LOOP	1,2,3,4,5
P-3	PATTERSON	PM1-3	4.50	65	-	0.5	115	1	3450	VERTICAL IN-LINE CIRCULATOR	DIRECT	HP-324	4,6
P-4	PATTERSON	V1.5A7A-CC	45.00	35	-	1	115	1	1750	VERTICAL IN-LINE CIRCULATOR	DIRECT	HX-1	4,6

PUMP SCHEDULE NOTES

1. PROVIDE WITH COMPATIBLE VARIABLE FREQUENCY DRIVE (VFD) WITH INTEGRAL MANUAL BYPASS, DIGITAL DISPLAY AND LOCAL CONTROL. VFD SHALL BE PROVIDED WITH THE FOLLOWING: INTEGRAL INSTANTANEOUS CIRCUIT BREAKER OCPD (RATED 22KAIC, MINIMUM) WITH PAD-LOCKABLE, DOOR-MOUNTED HANDLE MECHANISM, SHORT-CIRCUIT PROTECTION, TYPE 2 SURGE SUPPRESSION, UNDER AND OVERVOLTAGE PROTECTION, LOSS-OF-PHASE PROTECTION, REVERSE-PHASE PROTECTION, VFD AND MOTOR-OVERLOAD/OVERTEMPERATURE PROTECTION, NO/NC AUX CONTACTS, STATUS AND DISPLAY LIGHTS, INPUT LINE CONDITIONING AND OUTPUT FILTERING (3% LINE/LOAD REACTORS AND HARMONIC FILTERS), EMI/RFI FILTERING, MANUAL BYPASS, AND COMMUNICATION PORTS/CARD TO COMMUNICATE WITH CONTROL SYSTEM (VERIFY WITH CONTROLS CONTRACTOR). TRAIN OWNER PERSONNEL A MINIMUM OF 2 HRS TO ADJUST, OPERATE, REPROGRAM, AND MAINTAIN VFDS.
2. PUMP MOTOR SHALL BE INVERTER READY FOR USE WITH A VFD AND A SHAFT GROUNDING KIT, AND CONFORM TO NEMA STANDARD MG1, PART 31.4.4.2.
3. PUMP SHALL BE PROVIDED WITH A FACTORY INSTALLED SHAFT GROUNDING KIT, INLET/OUTLET GAUGE TAPS, SEAL FLUSH LINE, INTERNAL CASE WEAR RING, DURAFLEX COUPLING (OR EQUAL) RATED FOR VARIABLE SPEED USE AND OSHA COMPLIANT COUPLING GUARD WITH BALANCED IMPELLER.
4. PUMP SHALL BE TIED TO ENERGY MANAGEMENT SYSTEM TO MONITOR AND CONTROL.
5. PUMP BASE SHALL BE SHIMMED LEVEL BEFORE INTSALLATION AND ALIGNED AFTER INSTALLATION ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
6. DIRECT COUPLED PUMPS SHALL HAVE A SHAFT GROUNDING KIT, INLET/OUTLET GAUGE TAPS, SEAL FLUSH LINE, INTERNAL CASE WEAR RING WITH A BALANCED IMPELLER.

SHELL AND TUBE HEAT EXCHANGER

MARK	MANUFACTURER	MODEL #	PASSES	FLUID	SHELL SIDE			TUBE SIDE				UNIT SIZE		SYSTEM SERVED	NOTES
					LBS/HR	PSI	FLUID	EWT	LWT	GPM	MAX. PD PSI	DIA.	LENGTH		
HX-1	THRUSH	S6-36-4A	4	STEAM	1185.97	12	WATER	45°	95°	45	15	6"	36"	HEAT PUMP LOOP	1

SHELL AND TUBE HEAT EXCHANGER SCHEDULE NOTES

1. EXCHANGER SHALL BE STEEL CONSTRUCTION WITH COPPER TUBES RATED AT 150 PSIG AND 375°F MAX TEMP.

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**ADVANCED
ENGINEERING
SYSTEMS**

PROJECT: PERU STATE COLLEGE CAMPUS

PROJECT #: 14040

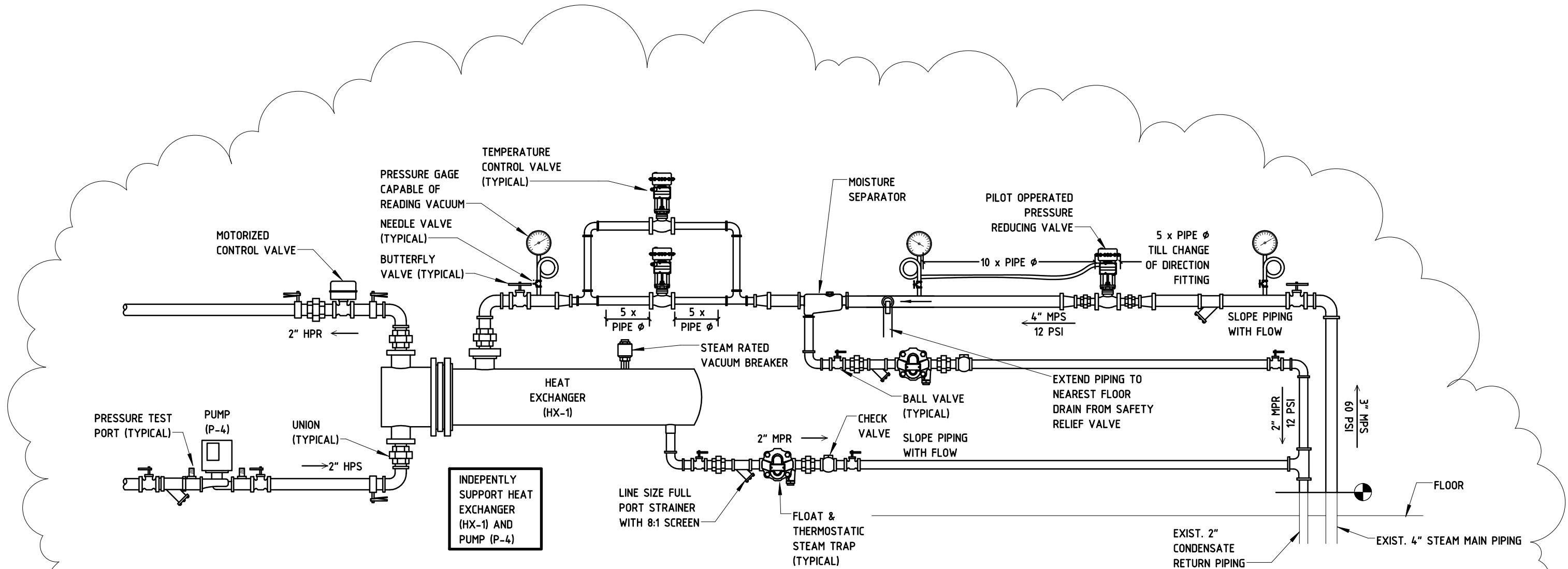
DATE: 07/22/14

DESCRIPTION: ADDENDUM #1

SHEET:

M4.1

NUMBER: 1 of 1



D	10	HEAT EXCHANGER CONNECTION DETAIL
M5.1	NO SCALE	



HYDRONIC SEQUENCE OF OPERATION

STEAM HEAT EXCHANGER

- THE STEAM HEAT EXCHANGER STEAM VALVES (HESTM1V AND HESTM2V) SHALL BE NORMALLY CLOSED AND MODULATE IN A 1/3 + 2/3 RELATIONSHIP TO MAINTAIN A LEAVING HEAT PUMP SUPPLY WATER TEMPERATURE TO THE BUILDING (HPLST2) OF 45° F (ADJ). THE STEAM VALVES SHALL EXERCISE OPEN ONCE/MONTH (ADJ) TO FULL OPEN, THEN CLOSE IMMEDIATELY.
- UPON A CALL FOR HEAT THE NORMALLY CLOSED HEAT EXCHANGER HP PUMP LOOP VALVE (HEHPV) SHALL OPEN, AFTER BEING PROVEN OPEN, THE HEAT EXCHANGER PUMP (P-HE) SHALL TURN ON. THE PUMP SHALL EXERCISE ON AND HEHPV OPEN ONCE/MONTH (ADJ) FOR 1 MIN THEN TURN OFF.

D	3
M6.1	

HYDRONIC SEQ. OF OPERATIONS

NO SCALE

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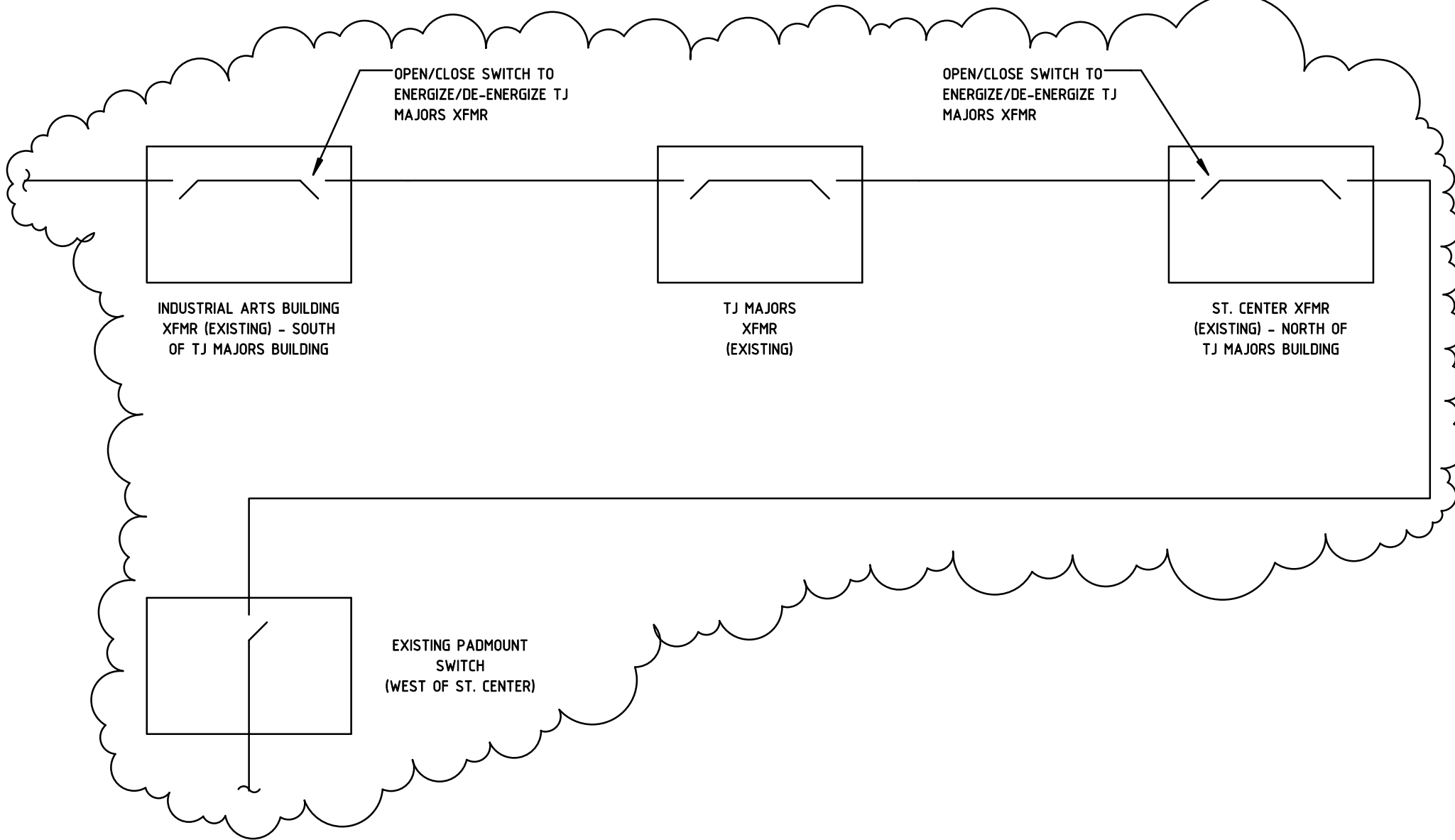


PROJECT: PERU STATE COLLEGE CAMPUS
 PROJECT #: 14040
 DATE: 07/22/14
 DESCRIPTION: ADDENDUM #1

SHEET:

M6.1

NUMBER: 1 of 1



E	1
E4.1	

CAMPUS PRIMARY DISTRIBUTION - EXISTING

NO SCALE

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PROJECT: PERU STATE COLLEGE CAMPUS
PROJECT #: 14040
DATE: 07/23/14
DESCRIPTION: ADDENDUM #1

SHEET:

E4.1

NUMBER: 1 of 1



**ADVANCED
ENGINEERING
SYSTEMS**

Project: Peru State College TJ Majors Upgrade

Project No: 14040

Date: 7-17-14

Location: PSC TJ Majors

Subject:
Pre-Bid Conference

Submitted By:

Sign – In Sheet

Name	Organization	Contact Information
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Digital Data Licensing Agreement

AGREEMENT made as of the _____ day of _____ in the year _____
(In words, indicate day, month and year.)

BETWEEN the Party transmitting Digital Data ("Transmitting Party"):
(Name, address and contact information, including electronic addresses)

Architectural Design Associates, P.C.
7501 O Street, Suite 105
Lincoln, NE 68510

and the Party receiving the Digital Data ("Receiving Party"):
(Name, address and contact information, including electronic addresses)

for the following Project:
(Name and location or address)

Peru State College TJ Majors Building Upgrade
600 Hoyt Street, Peru, NE

In consideration of the following promises exchanged, the Parties agree as follows:

ADDITIONS AND DELETIONS:

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TABLE OF ARTICLES

1 GENERAL PROVISIONS
2 TRANSMISSION OF DIGITAL DATA
3 LICENSE CONDITIONS
4 LICENSING FEE OR OTHER COMPENSATION

ARTICLE 1 GENERAL PROVISIONS

§ 1.1 The purpose of this Agreement is to grant a license from the Transmitting Party to the Receiving Party for the Receiving Party's use of Digital Data on the Project, and to set forth the license terms.

§ 1.2 This Agreement is the entire and integrated agreement between the parties. Except as specifically set forth herein, this agreement does not create any other contractual relationship between the parties.

§ 1.3 Digital Data is defined as information, communications, drawings, or designs created or stored for the Project in digital form.

§ 1.3.1 Confidential Information is defined as Digital Data that the Transmitting Party has designated as confidential and clearly marked with an indication such as "Confidential" or "Business Proprietary."

ARTICLE 2 TRANSMISSION OF DIGITAL DATA

§ 2.1 The Transmitting Party grants the Receiving Party a nonexclusive limited license to use the Digital Data solely and exclusively to perform services or construction for the Project in accordance with the conditions set forth in Article 3.

§ 2.2 The transmission of Digital Data constitutes a warranty by the Transmitting Party to the Receiving Party that the Transmitting Party (1) is the copyright owner of the Digital Data, (2) has permission from the copyright owner to transmit the Digital Data and grant a license for its use on the Project, or (3) is authorized to transmit Confidential Information.

§ 2.3 The Transmitting Party retains its rights in the Digital Data. By transmitting the Digital Data, the Transmitting Party does not grant to the Receiving Party an assignment of those rights; nor does the Transmitting Party convey to the Receiving Party any right in the software used to generate the Digital Data.

§ 2.4 To the fullest extent permitted by law, the Receiving Party shall indemnify and defend the Transmitting Party from and against all claims arising from or related to the Receiving Party's modification to, or unlicensed use of, the Digital Data.

§ 2.5 The Receiving Party agrees to keep Confidential Information strictly confidential and not to disclose it to any other person except to (1) its employees, (2) those who need to know the content of the Confidential Information in order to perform services or construction solely and exclusively for the Project, or (3) its consultants and contractors whose contracts include similar restrictions on the use of Confidential Information.

ARTICLE 3 LICENSE CONDITIONS

§ 3.1 The parties agree to the following conditions on the limited license granted in Section 2.1:
(State below rights or restrictions applicable to the Receiving Party's use of the Digital Data, requirements for data format, transmission method or other conditions on data to be transmitted.)

ARTICLE 4 LICENSING FEE OR OTHER COMPENSATION

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(State the fee, in dollars, or other method by which the Receiving Party will compensate the Transmitting Party for the Receiving Party's use of the Digital Data.)

Fifty Dollars (\$50.00)

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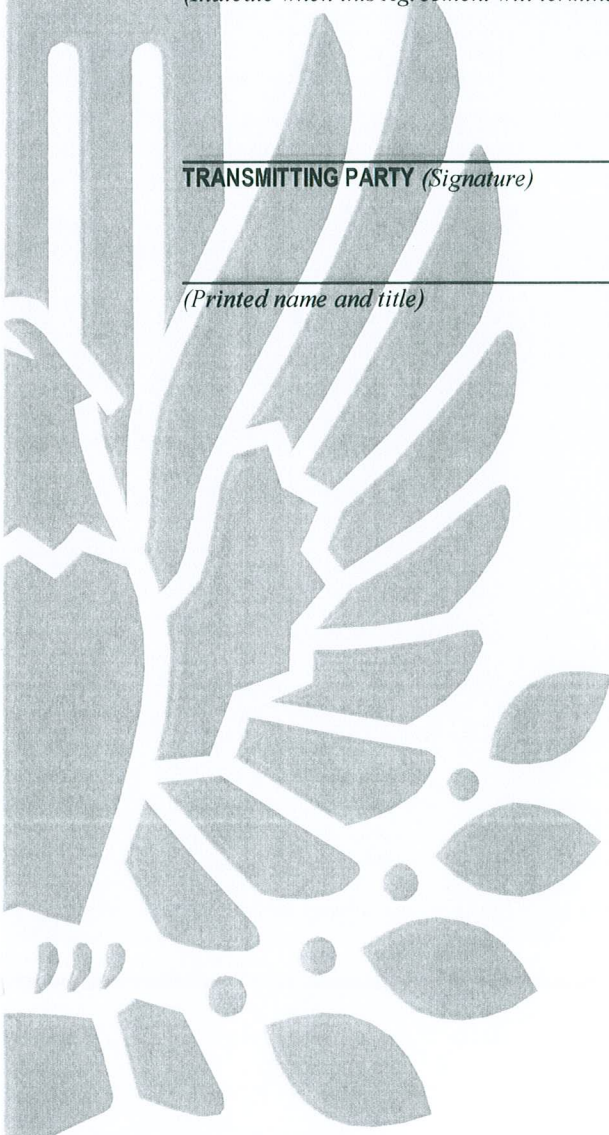
(Indicate when this Agreement will terminate, if other than the date of Substantial Completion.)

TRANSMITTING PARTY *(Signature)*

RECEIVING PARTY *(Signature)*

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(Printed name and title)



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(Title)

(Dated)