



420 Rail Street  
Negaunee, MI 49866  
906-475-6616  
906-475-6954 Fax  
WWW.NDW.US

## ADDENDUM

---

Number: 2	Project Number: 1211
Project: IMVA-Expand Imaging 585-12-112	Date: October 24, 2014

---

The contractor shall acknowledge receipt of all addenda by listing the number where indicated on the bid form.

Drawings, specifications, and / or proposals are herein amended, expanded, and / or modified, and become a part of the Contract Documents with the same effect as if incorporated in the original documents. Any contrary provisions contained, or referred to, in Drawings and / or Specifications, shall remain applicable unless overridden by this Addendum. Revised provisions herein shall include all labor, materials, methods, modifications, etc. required for the completion of the Work.

---

### Specification Modifications:

1. Section 00 01 00 - Table of Contents: Add new section 01 35 26 to table of contents.
2. Section 01 00 00 - General Requirements: Modify sections 1.6 Operations and Storage Areas and 1.19 Temporary Use of Existing Elevators, section reissued with changes.
3. Section 01 32 16.15 - Project Schedules: Change 1.2.C to require Contractor to engage the services of an outside consultant. Section not reissued.
4. Add new Section 01 35 26 - Safety Requirements.
5. Section 22 05 23 – General Duty Valves for Plumbing Piping: Add Article 2.2 Thermostatic Mixing Valves, Par. A.
6. Section 23 21 13- Hydronic Piping- Modify section 2.3 and 3.2 Reissued entire section
7. Section 23 22 13 - Steam and Condensate Heating Piping: Add new attached section.
8. Section 23 34 00 - HVAC Fans: Add new attached section.
9. Section 23 81 23 - Computer-Room Air-Conditioners
  - Article 1.2, Par. F.; add the following paragraph: "G. Section 23 22 13 STEAM AND CONDENSATE HEATING PIPING: Requirements for steam humidifier."
  - Article 2.1, Par. M.; add the following subparagraph: "7. Factory wired and mounted non-fused, locking, disconnect switch."
  - Article 2.1, Par. P., 1.; revise to read:  
"1. Building Steam Humidifier: Refer to specification section 23 22 13 STEAM AND CONDENSATE HEATING PIPING."
  - Article 2.1, Par. P.; remove subparagraph 2.
  - Article 2.1, Par. P., 3.; revise to read:

- "2. Control: By Computer Room Air Conditioner microprocessor controls, fully modulating to provide gradual 0 to 100 percent capacity with field-adjustable maximum capacity; with high-water probe."
- Article 2.1, Par. P.; remove subparagraph 4.
- Article 2.1, Par. P.; add the following paragraphs :
  - "Q. Electrical:
    - 1. All electrical components, including contactors, relays and control transformers shall be pre-wired and contained in a unit-mounted electrical enclosure with piano-hinged door that shall swing out for easy access and servicing.
    - 2. Indoor unit; thru wall, locking, non-fused disconnect switch."
- Article 2.5; add the following new article and paragraphs :
  - "2.6 REFRIGERANT MONITORING AND SAFETY EQUIPMENT
    - A. General: Provide refrigerant monitoring sensor/alarm system and safety equipment as specified here. Refrigerant sensor and alarm system shall comply with ASHRAE Standard 15. The refrigerant monitoring system will be provided by the chiller manufacturer and shall be interfaced with the DDC control system.
    - B. Refrigerant monitor shall continuously display the specific gas (refrigerant used) concentration; shall be capable of indicating, alarming and shutting down equipment; and automatically activating ventilation system. On leak detection by refrigerant sensor(s), the following shall occur:
      - 1. Activate room ventilation – supply and exhaust fans and exhaust air damper.
      - 2. Activate visual and audio alarm inside and outside of machinery room, with beacon light(s) and horn sounds equipment room and outside equipment room door(s). Shut down combustion process where combustion equipment is employed in the machinery room.
      - 3. Notify Engineering Control Center (ECC) of the alarm condition.
    - C. Refrigerant monitor shall be capable of detecting concentration of 1 part per million (ppm) for low-level detection and for insuring the safety of operators. It shall be supplied factory-calibrated for the apparent refrigerant.
    - D. Monitor design and construction shall be compatible with temperature, humidity, barometric pressure, and voltage fluctuations of the machinery room operating environment."
- Article 3.1, Par. D.; revise to read: "D. Field Piping: Chilled water Piping, Steam and Condensate Piping, as specified in specification Section 23 21 13, HYDRONIC PIPING."
- Article 3.1, Par. E.; delete entirely.
- Article 3.2, Par. E.; delete entirely.
- Article 3.2, Par. F.; revise to read: "E. Chilled-Water Piping: Comply with applicable requirements in Section 23 21 13, HYDRONIC PIPING. Provide shutoff valves in inlet and outlet piping to cooling coils."
- Article 3.2, Par. F.; add the following paragraph: "F. Steam and Condensate Piping: Comply with applicable requirements in Section 23 22 13, STEAM and

CONDENSATE HEATING PIPING. Provide shutoff valves in steam inlet and steam trap in condensate outlet piping to heating coils."

Drawing Modifications:

1. Revise Detail 16/A502 as indicated (Reissued).
2. A101- Floor Plan part B- (Reissued): Revise window type "I" in room 2215A to type "n" as indicated to coordinate with mechanical louver installation. Revise window type "I" to window type "h" and window type "h" to window type "I" as indicated.
3. PD102 (Reissued)
  - a. Added  $\frac{3}{4}$ " raw cold water riser.
  - b. Demo existing raw cold water piping riser up to second floor.
4. PD201 (Reissued)
  - a. Revised and added existing raw cold water piping to plan.
5. PD202 (Reissued)
  - a. Revised and added existing raw cold water piping to plan.
  - b. Demo existing raw cold water piping riser down to first floor.
6. PL102 (Reissued)
  - a. Added  $\frac{3}{4}$ " raw cold water riser.
  - b. Relocate raw cold water riser to second floor as shown on plan.
7. PL201 (Reissued)
  - a. Revised and added existing raw cold water piping to plan.
8. PL202 (Reissued)
  - a. Revised and added existing raw cold water piping to plan.
  - b. Relocate raw cold water riser to first floor as shown on plan.
9. MD203 (Not Reissued)
  - a. Revised exhaust ductwork.
  - b. Added key note # 11 "REMOVE INLINE EXHAUST FAN AND ALL ASSOCIATED CONTROLS".
  - c. Add note to exhaust duct from Nuclear Medicine explaining duct routes on to EF-15.
10. MD207 (Not Reissued)
  - a. Revised steam and condensate piping.
  - b. Showed switch for Nuclear Medicine purge fan (EF-15) with direction to remove and salvage for reuse – keyed note #8.
11. MH202 (Reissued)
  - a. Showed duct caps.
  - b. Added key note # 7 "CAP AND SEAL DUCTWORK".
  - c. Added ductwork for refrigerant monitor air purge.
  - d. Added note regarding providing temporary air makeup unit.
12. MH203 (Reissued)
  - a. Showed duct caps.
  - b. Added key note # 7 "CAP AND SEAL DUCTWORK".
  - c. Added motorized damper in exhaust duct to EF-15.

- d. Added note to Nuclear Medicine exhaust duct up "UP THROUGH 2ND FLOOR ROOF AND UP TO 6TH FLOOR ROOF, AND EF-15".
  - d. Rearranged ductwork at corridor C2-1.
  - e. Changed exhaust air valves and associated ductwork.
  - f. Added transfer and exhaust air ductwork and supply and exhaust fans for refrigerant monitor air purge system – PACS COMPUTER (2215A).
  - g. Added refrigerant monitor – PACS COMPUTER (2215A)
13. MH204 (Not Reissued)
- e. Added note "UP TO ERU-2" to detail 6.
  - f. Added note "UP FROM 2ND FLOOR ROOF BELOW" to detail 7.
14. MP202 (Reissued)
- a. Added note directing to insulate steam and condensate piping where asbestos was removed.
15. MP203 (Reissued)
- a. Revised piping At CDAC3.
  - b. Added steam and condensate piping for CRAC3 humidifier.
  - c. Showed reinstallation of switch for EF-15 as purge exhaust for Nuclear Medicine.
  - d. Added key note 10 "REINSTALL EF-15 PURGE FAN SWITCH. SWITCH TO OPERATE EF-15, OPEN MOTORIZED DAMPER IN EXHAUST DUCT, AND CLOSE EXHAUST AIR VALVE 1-AFCV-S-2254 SERVING NUCLEAR MEDICINE 2254".
  - e. Added key note 12 "STEAM PIPE DROP TO DIRT LEG AND STEAM TRAP. BRANCH TO EQUIPMENT CONNECTION".
  - f. Added note directing to insulate steam and condensate piping where asbestos was removed.
16. M602 (Reissued)
- a. Revised and grouped schedules associated with CRAC3.
  - b. Added fan schedule.
17. M702 (Reissued)
- a. Added items to Point List for Miscellaneous HVAC Equipment
  - b. Added Nuclear Medicine Purge control sequence.
  - c. Added refrigerant monitor control sequence.
18. M705 (Reissued)
- a. Deleted note regarding temporary makeup air handler
  - b. Deleted future note on supply air riser diagram
19. E002 (Reissued)
- a. Modified Equipment Schedule to reflect HVAC changes.
20. ED102 (Reissued)
- a. Added notation to reflect HVAC changes.
21. EP102 (Reissued)
- a. Added notation to reflect MFG. and HVAC changes.
22. ET101 & ET102
- a. Added cable tray sizes

- 23. EY502 (Reissued)
  - a. Added temporary power to make-up air unit.
- 24. EY504 (Reissued)
  - a. Changed feeder sizes to reflect HVAC changes.
- 25. EY506 (Not Reissued)
  - a. Panel CR2C; Add 15/1 Circuit breaker at position 18. Label as "EF-1"
  - b. Panel CR2C: Add 15/1 Circuit breaker at position 20. Label as "SF-1"
- 26. EY509 (Reissued)
  - a. Change reference drawing to reflect HVAC changes.
- 27. FA101 & FA102 (Reissued)
  - a. Added coordination notation.

Attachments: Specification sections 01 00 00, 01 35 26, 22 05 23, 23 21 13, 23 22 13, 23 34 00. Drawings: A101, Detail 16/A502 sketch, FP102, PD102, PD201, PD202, PL102, PL201, PL202, MH202, MH203, MP202, MP203, M602, M702, M705, E002, ED102, EP102, ET101, ET102, EY502, EY504, EY509, FA101, FA102 .

End of Addendum

---