



ADDENDUM NO. 2 TO PROJECT NO. 44014

**CONSTRUCTION WORK, HVAC WORK, PLUMBING WORK, AND ELECTRICAL WORK
PROVIDE CITYSCAPE COMPLEX
STATE PREPAREDNESS TRAINING CENTER
5900 AIRPORT ROAD
ORISKANY, NY**

August 22, 2012

NOTE: This Addendum forms a part of the Contract Documents. Insert it in the Project Manual. Acknowledge receipt of this Addendum in the space provided on the Bid Form.

CD WRITING ERROR

1. The Drawing labeled as "A-114" should be labeled "A-200".
2. The Drawing labeled as "A-610" should be labeled "M-000".

CONSTRUCTION WORK SPECIFICATIONS

3. SECTION 024116 STRUCTURE DEMOLITION: Discard the Section bound in the Project Manual and use attached Section (pages 024116-1 thru 024116-3), noted "REVISED 8/15/12.
4. Page 054000-2, Paragraph 2.01 A.: Delete this Paragraph in its entirety and replace with the following:
"A. Framing (including Studs and Tracks): Galvanized steel, structural quality sheet steel; ASTM A446, Grade A (minimum yield 33 ksi).
 1. Required Gages: As shown on Contract Drawings.
 - a. 12 gage: 0.1017 inch minimum base metal thickness.
 - b. 16 gage: 0.566 inch minimum base metal thickness."
5. SECTION 074213 INSULATED METAL PANELS : Change "INSULATED METAL PANELS" Section Title to read "INSULATED PANELS".
6. Page 074213-1, ARTICLE 2.01 INSULATED METAL PANELS: Change "INSULATED METAL PANELS" Article Title to read "INSULATED PANELS".
7. Page 081102-1, ARTICLE 1.01 RELATED WORK SPECIFIED ELSEWHERE: Add the following Paragraph:
"C. Insulated Panels: Section 074213."

8. Page 084113-1, ARTICLE 1.02 RELATED WORK SPECIFIED ELSEWHERE: Add the following Paragraph:
“C. Insulated Panels: Section 074213.”
9. Page 085123-1, ARTICLE 1.01 RELATED WORK SPECIFIED ELSEWHERE: Add the following Paragraph:
“C. Insulated Panels: Section 074213.”
10. Page 092116-2, Paragraph 2.01 A.: Delete this Paragraph in its entirety and replace with the following:
“A. Studs, Tracks, and Furring: ASTM C 645; galvanized steel, with additional framing members, reinforcing, accessories, and anchors necessary for the complete framing system.
 1. Deep-Leg Deflection Track: ASTM C 645 top runner with 2 inch deep flanges.
 2. Required Gages: As shown on Contract Drawings.
 - a. 16 gage: 0.0566 inch minimum base metal thickness.
 - b. 20 gage: 0.0346 inch minimum base metal thickness.”
11. SECTION 105113 METAL LOCKERS: Add attached Section (pages 105113-1 thru 105113-4) to the Project Manual.
12. Page 133419-1, PART 1 GENERAL: Add the following Article:

“1.09 SUMMARY OF THE WORK

- “A. In addition to the pre-engineered structure and components as described in this section, the pre-engineered metal building manufacturer is responsible for providing all framing supports and connections per the structural design criteria and configurations shown on the drawings for, but not limited to, the following building elements:
 1. Breaching doors.
 2. Rappel points.
 3. Operable panel system.
 4. Folding partition.
 5. Catwalk supports at roof structure.
 6. Second floor framing and composite deck.”
13. Page 133419-2, Paragraph 1.04 A.: Delete this Paragraph in its entirety and replace with the following:
“A. Design Criteria: Refer to Drawing Nos. S-001, S-002, and S-003 for loading criteria.”
14. Page 133419-3, Paragraph 1.05 B.: Add the following Subparagraph:
“6. Calculations: Final drawings, anchor bolt plans, and column reactions shall be designed by a licensed professional engineer and submitted for review. All drawings and supporting calculations shall be sealed by an engineer licensed in the State of New York.”
15. Page 133419-11, ARTICLE 2.05 METAL WALL SYSTEM: Change “METAL WALL SYSTEM” Article Title to read “COMPOSITE METAL WALL PANEL”.

16. SECTION 341100 RAIL TRACKS: Add the attached Section (pages 341100-1 thru 341100-2) to the Project Manual.
17. SECTION 344113 TRAFFIC SIGNS: Add the attached Section (page 344113-1) to the Project Manual.
18. SECTION 321614 PRECAST CONCRETE CURBS: Delete this Section in its entirety.
19. Page 321216 – 1, Paragraph 1.04 A.: Delete this Paragraph in its entirety and replace with the following:
 - “A. The State can require or the Contractor may request evaluation and possible adjustment of the price of asphalt providing the actual price differs by more than 20 percent from the contract baseline price of asphalt. For the purposes of determining if contract price adjustments are warranted the following baseline prices have been set for this contract:
 1. Top Course: \$85.00 per ton.
 2. Binder Course: \$80.00 per ton.
 3. Base Course: \$80.00 per ton.”

HVAC WORK SPECIFICATIONS

20. SECTION 260523 WIRING FOR MOTORS AND MOTOR CONTROLLERS: Discard the Section bound in Project Manual and substitute the attached Section (pages 260523-1 thru 260523-15 noted “Revised 8/15/12”.

PLUMBING WORK SPECIFICATIONS

21. Page 224200-2, PART 2 PRODUCTS: Add the following Article:

“2.13 VITREOUS CHINA LAVATORY (LAV-3 L-3 MOCKUP

- A. Fixture: Vitreous china, unitized construction, straight front and sides, flat top graded to bowl, cast-in soap dish, anti-splash rim and front overflow; designed for concealed arm supports.
 1. Dimensions: 20 inches long, 18 inches front to back, 3-1/2 inch front and side apron.
 2. 4 inch high integral back.
- B. Lavatory Fitting: Combination faucet and pop-up waste assembly with the following features:
 1. Maximum Flow: None – Mockup.
 2. Over rim spout with aerator.
 3. Renewable operating units.
 4. Metal 4 arm indexed handles set on 8 inch centers, with either integral splines, or ceramic spline inserts. Plastic spline inserts will not be accepted.
 5. Pop-up waste with non-removable drain plug.
 6. 1-1/4 inch tailpiece.
 7. Rigid connectors between spout and valve units; flexible connectors are not acceptable.
- C. Trap: Cast brass, non-adjustable P trap, 1-1/4 inch tubing inlet, 1-1/2 inch ips outlet.
 1. Bottom cleanout plug.
 2. Ips brass nipple with solid cast brass escutcheon.

- D. Supplies: 3/8 inch ips brass with key operated stops and solid cast brass escutcheons.
 - 1. Wall Supplies: Angle stops with keys.
 - E. Floor Mounted Carrier Supports:
 - 1. Concealed Arms: Steel, with fixture locking lugs, leveling screws and a means of attaching, positioning and securing the fixture to the carrier.”
22. SECTION 260523 WIRING FOR MOTORS AND MOTOR CONTROLLERS: Discard the Section bound in Project Manual and substitute the attached Section (pages 260523-1 thru 260523-15 noted “Revised 8/15/12”.

CONSTRUCTION WORK DRAWINGS

23. Drawing No. S-104, SOUTH FIRST FLOOR SLAB PLAN:
 - a. Delete stray “Concrete Apron” reference above gridline B-7 between gridlines 1 and 2.
 - b. Delete “T.O. Wall Elev” reference above gridline D between gridlines 7 and 8.
24. Drawing No. S-201, SLAB-ON-GRADE SECTIONS AND DETAILS:
 - a. DETAIL 1: Change “Undisturbed Soil” designation to read “Undisturbed soil, granular fill, or common fill as described in the geotechnical report.
 - b. Detail 2: Delete the word “Poly” from the vapor barrier reference at left hand side of detail.
25. Drawing No. S-203, DETAIL 8: Change the words “Interior concrete slab” to read “Interior concrete apron”.
26. Drawing No. C-104, ENLARGED SITE AND LAYOUT PLAN: Change Detail Indicators noted 11/501 Parking Meter to read: “12/501 Parking Meter”.
27. Drawing No. C-105, GRADING PLAN: Change the Note, “SEE ENLARGED PLAN ON C-104” to read “SEE ENLARGED PLAN ON C-106”.
28. Drawing No. C-503, DETAIL No. 8/503: Delete this Detail in its entirety. Refer to Addendum Drawing No. L-002 for revised detail.
29. Addendum Drawings:
 - a. Drawing Nos. A-506, L-001, and L-002 noted “ADDENDUM DRAWING 8/15/12 accompany this Addendum and form part of the Contract Documents.
30. Revised Drawings:
 - a. Drawing Nos. S-001, S-002, S-003, A-001, A-103, A-104, A-105, A-106, A-111, A-112, A-113, A-200, A-201, A-202, A-401, A-402, A-403, A-501, and A-601 noted “REVISED DRAWING 8/15/12 accompany this Addendum and supersede the same numbered originally issued drawings.

HVACWORK DRAWINGS

31. Drawing No. M-107, SOUTH SECOND FLOOR PIPING PLAN: Change all references to Keynote “8” to read Keynote “4”.

PLUMBING WORK DRAWINGS

32. Drawing No. P-100, NORTH FIRST FLOOR PLUMBING PLAN: Delete “BT-1” reference in front of lavatory in this room.
33. Drawing No. P-200, FIRST FLOOR PLAN:
 - a. Delete the Note, “National Grid to provide and install gas meter. Coordinate meter installation. Included all permit fees and installation cost in proposal.”
 - b. Delete water meter reference near sink SK-1.
34. Revised Drawings:
 - a. Drawing Nos. FP-100, FP-102, and FP-200 noted “REVISED DRAWING 8/15/12 accompany this Addendum and supersede the same numbered originally issued drawings.

END OF ADDENDUM

James Dirolf, P.E.
Director of Design

JRC;jc

SECTION 024116

STRUCTURE DEMOLITION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Scope of Work: The Contractor shall provide all labor, materials, equipment, and services necessary for, and incidental to demolish all structures indicated on the Plans. All foundation walls, piers, footings, and appurtenances shall be removed complete. Remove, salvage and/or properly dispose of construction and demolition debris generated from the building demolition at an approved disposal facility in accordance with State and Federal regulations. Items identified to be removed and turned over to the Director shall be removed whole and placed neatly in the area indicated on the drawings.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Asbestos Abatement: Section 028213.
- B. Summary of the Work: Section 011000.
- C. Construction Facilities and Temporary Controls: Section 015000.
- D. Removals, Cutting and Patching: Section 017329.
- E. Earthwork: Section 310000.
- F. Topsoil: Section 329120.
- G. Seeding: Section 329219.

1.03 SUBMITTALS

- A. The Contractor shall prepare and submit a Demolition Work Plan identifying the procedures and equipment to be employed, critical sequencing, temporary protection and control methods, and scheduling.
- B. The Contractor shall submit the following:
 - 1. Name, location, and registration information for the disposal site(s) to be used.
 - 2. Name and license information of any haulers to be used.
 - 3. Demolition permit.
- C. Applicable Permits.
- D. Temporary shoring plans, designed by a licensed professional engineer.

1.04 QUALITY ASSURANCE

- A. Reference Standards
 - 1. 29 CFR 1910 and 1926 – Occupational Safety and Health Administration (OSHA) Standards

1.05 PROJECT CONDITIONS

- A. The Contractor shall perform the following tasks prior to commencing demolition activities:
 - 1. Asbestos Abatement
 - 2. Remove electrical equipment
 - 3. Abandon site drainage features
 - 4. Abandon and/or reroute existing utilities
 - 5. Decommission all mechanical equipment
- B. Permits:
 - 1. The Contractor shall be responsible for obtaining any permits required for the project and for paying fees associated with those permits.
- C. Occupancy: Structures to be demolished are vacant. Structures to remain are considered occupied.
- D. Condition of Structures:
 - 1. Director assumes no responsibility for actual condition of structures to be demolished or structures that are to remain.
 - 2. Conditions existing at time of inspection for bidding purpose will be maintained by Director insofar as practicable. However, variations within structure may occur by Director's removal and salvage operations prior to start of demolition work.
 - 3. The Contractor is advised that a lead-based paint survey was performed throughout the buildings. The results of the testing indicated that lead-based paint is not present. A copy of the Lead Based Paint Survey is included as Appendix A in section 020800.
 - 4. The Contractor is advised that the building contains asbestos at various locations. The Contractor shall have all asbestos containing materials removed prior to initiating demolition activities. A copy of the Asbestos Survey is included as Appendix A in section 028213.
- E. Salvaged Materials: With the exception of items indicated to be removed and turned over to the Director, items of value to Contractor may be removed from structures as work progresses. Transport Contractor salvaged items from project site as they are removed. Storage or sale of removed items will not be permitted on-site.
- F. Explosives: Use of explosives will not be permitted for building demolition.
- G. Traffic: Conduct demolition operations and removal of debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.
- H. Protections: The contractor shall take care to not damage adjacent pavement surfaces that are to remain.
- I. Damages: Promptly repair damages caused to adjacent facilities by demolition operations, at no additional cost to the Director.

PART 2- PRODUCTS (NOT USED)

PART 3- EXECUTION

3.01 DEMOLITION

- A. Pollution Controls: Use water sprinkling, temporary enclosures, and other suitable methods to limit dust from rising and scattering in the air. Comply with governing regulations pertaining to environmental protection.

1. Do not use water for dust suppression when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.
 2. Clean roadways and adjacent structures and improvements of dust, dirt, and debris caused by demolition operations. Return adjacent areas to the condition existing prior to start of work.
- B. Building Demolition: Demolish buildings, including all foundation systems, and remove from the site. Use such methods as required to complete work within limitations of governing regulations.
1. Small structures may be removed intact when acceptable to Director's Representative and approved by authorities having jurisdiction.
 2. Proceed with demolition in systematic manner, from top of structure to ground. Complete demolition work above each floor or tier before disturbing supporting members on lower levels.
 3. Demolish concrete and masonry in small sections.
 4. Remove structural framing members and lower to ground by hoists, demolition equipment capable of gripping framing members, or other suitable methods.

3.02 FILLING SUMPS, PITS, AND OTHER BELOW GRADE VOIDS

- A. Remove all liquids, sediment, debris, and equipment from sumps, pits, and other below grade voids and dispose at a permitted disposal facility.

3.03 SALVAGED MATERIALS

- A. Except for items indicated to be retained as Director's property, all demolition debris and salvaged materials shall become Contractor's property and shall be removed from the site.

3.04 DISPOSAL OF DEMOLISHED MATERIALS

- A. On a regular basis remove from the site accumulated debris, rubbish, and other materials resulting from demolition operations.
- B. Burning of combustible materials from demolished structures will not be permitted.
- C. Removal: Transport materials removed from demolished structures and dispose of properly.
- D. Do not store or sell materials on State property.

END OF SECTION

SECTION 105113
METAL LOCKERS

PART 1 GENERAL

1.01 SUBMITTALS

- A. Shop Drawings: Show fabrication details and connections to adjacent Work.
- B. Product Data: Manufacturer's catalog sheets, specifications, and installation instructions for each item specified.
- C. Samples: Manufacturer's standard color chart.
- D. Contract Closeout Submittals:
 - 1. Operation and Maintenance Data: Deliver 2 copies, covering the installed products, to the Director's Representative.

1.02 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Protect locker finish and adjacent surfaces from damage.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Steel: Prime grade mild cold-rolled sheet steel free from surface imperfection, capable of taking a high-grade enamel finish and in compliance with ASTM A1008.
- B. Steel: Sheet steel components shall be fabricated using zinc-coated steel free from surface imperfection, capable of taking a high-grade enamel finish and in compliance with ASTM A879.
- C. Hooks: Zinc plated forged steel, ball ends.
- D. Bolts and Nuts: Zinc plated truss fin head bolts and hex nuts.

2.01 METAL LOCKERS

- A. Type: Vanguard, standard duty, knock-down lockers by Penco Products, Inc., 2024 Cressman Rd. P. O. Box 158 ; Skippack, PA 19474; (800)-562-1000; www.pencoproducts.com.
- B. Construction:
 - 1. Tops, Bottoms, Backs, Sides, and Shelves: 24 gauge sheet steel.
 - 2. Doors: 16 gauge sheet steel.
 - 3. Rear Legs: 14 guage.
- C. Locker Body: Steel specially formed for added strength and rigidity and to ensure tight joints at fastening points.
 - 1. Tops and bottoms with three sides formed 90 degrees, the front offset formed to be flush with horizontal frame member.

2. Shelves with four sides formed to 90 degrees, front edge having a second bend.
 3. Hole spacing in locker body construction: Not exceeding 9 inches
 4. Form door frame members to a channel shape, not less than 16 gauge steel.
 5. Provide vertical door frame members with additional 3/8 inch flange as a continuous door strike.
 6. Mortise and tenon intermembering parts; electrically weld together in a rigid assembly capable of resisting strains.
 7. Securely weld cross frame members of channel shapes to vertical framing members to ensure rigidity, including intermediate cross frame on double and triple tier lockers.
 8. Optional factory assembly of locker bodies using rivets.
 9. Center partitions: 24 gauge steel vertical partitions, full depth between bottom and shelf.
- C. Locker Doors: One piece sheet steel.
1. Multi-Point Latch Doors: Full channel formation of adequate depth to fully conceal lock bar on lock side, channel formation on hinge side, right angle formations across top and bottom, with holes for attaching number plates.
 2. Provide holes for attaching number plates.
 3. Ventilation: Louvered doors in manufacturer's standard louver pattern.
 - a. Doors 60 inches or Higher: Louvers in groups of 6 at top and bottom.
- D. Hinges:
1. Two inch high, 0.074 inch thick sheet steel, double spun, full loop, tight pin, projection welded to door frame and securely fastened to the door with two steel rivets.
 - a. Doors over 48 inches high: Three 2 inch high five-knuckle hinges.

2.02 DOOR HANDLES AND LATCHING

- A. Two Person and Duplex Lockers, 1 Tier: Multi-point latching:
1. Chrome-plated zinc alloy die-cast case and handle, 40,000 psi maximum tensile strength.
 2. Attachment to latch bar concealed inside door and tamperproof; pulling handle out shall move latch bar up and open door in one motion.
 3. Padlock Eye: For use with 9/32 inch diameter padlock, integral with handle and located so that extension of handle forms padlock strike.
 4. Case: Kick-proof type shielding movable part and providing padlock strike to prevent scratching and marring the door.
 5. Provide lock hole cover plate for use with padlocks.
 6. Latch Clip: Glass-filled nylon engaging the door frame and holding the door shut.
 - a. Doors over 48 inches High: Three points.
 7. Locking Device: Positive, automatic type, whereby locker may be locked when open, then closed without unlocking.
 8. Firmly secure one rubber silencer in frame at each latch hook.
 9. Classic III Multi-point latching with recessed handles:
 - a. Recess finger-lift control handle in door.
 - b. Pocket: 22 gauge brushed stainless steel securely fastened to door with two tabs and a positive tamper-resistant decorative fastener; of depth sufficient to prevent combination padlock, built-in combination lock, or key lock from protruding beyond door face.
 - c. Provide lock hole cover plate for use with padlocks.

- d. Attach 14 gauge formed steel lifting piece to latching channel with one concealed retaining lug and one rivet, assuring a positive two-point connection.
- e. Handle finger lift: Molded, sound-deadening, attached with rivet; padlock eye for use with 9/32 inch diameter padlock shackle.
- f. Latch Clip: Glass-filled nylon engaging the door frame and holding the door shut.
 - 1) Doors 60 inches and 72 inches high: Three points.
- g. Locking Device: Positive, automatic type, whereby locker may be locked when open, then closed without unlocking.
- h. Firmly secure one rubber silencer in frame at each latch hook.

2.03 ACCESSORIES

- A. Number Plates: Provide each locker with a polished aluminum number plate, 2-1/4 inches wide by 1 inch (25 mm) high, with black numerals not less than 3/8 inch high; attach to face of door with two aluminum rivets.
- B. Continuous Sloped Hoods: 18 gauge steel, slope rise equal to 1/3 of the locker depth (18.5 degrees), plus a 1 inch vertical rise at front.
 - 1. Supplied in 72 inch lengths only.
 - 2. Slip joints without visible fasteners at splice locations.
 - 3. Provide necessary end closures.
 - 4. Finish to match lockers.
- C. Zee Bases for Knock-Down Lockers: 14 gauge, steel flanged outward at top for support of lockers, flanged inward at bottom for anchoring to floor.
 - 1. Height: 4 inches.

2.04 FABRICATION

- A. Fabricate lockers square, rigid, without warp, with metal faces flat and free of distortion.
- B. Knock-Down Lockers: Fabricate lockers on the unit principle, each locker with individual door and frame, individual top, bottom, back, and shelves, with common intermediate divisions separating compartments. Verify dimensions and arrangement before fabrication.
- C. Finish: Enamel powder coat paint finish electrostatically applied and properly cured to manufacturer's specifications for optimum performance. Finishes containing volatile organic compounds and subject to out-gassing are not acceptable. Locker exterior and interior shall be painted the same color.
 - 1. Powder Coat - Dry Thickness: 1 to 1.2 mils (0.025 to 0.03 mm).
 - 2. Color: As selected from manufacturer's standard colors.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install the Work of this Section in accordance with the manufacturer's printed instructions.
- B. Install lockers plumb, level, and square.

- C. Anchor lockers to floor and wall at 48 inches or less, as recommended by the manufacturer.
- D. Bolt adjoining locker units together to provide rigid installation.
- E. Install sloping tops and metal fillers using concealed fasteners. Provide flush hairline joints against adjacent surfaces.
- F. Install front bases between legs without overlap or exposed fasteners. Provide end bases on exposed ends.

3.03 ADJUSTING AND CLEANING

- A. Adjust doors and latches to operate without binding. Verify that latches are operating satisfactorily.
- B. Adjust built-in locks to prevent binding of dial or key and ensure smooth operation prior to substantial completion.
- C. Touch-up with factory-supplied paint and repair or replace damaged products.

END OF SECTION

JRC:jc

SECTION 341100

RAIL TRACKS

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Earthwork: Section 310000.

1.02 SUBMITTALS

- A. Shop Drawings: Show fabrication details and connections to adjacent Work.
- B. Product Data: Catalog sheets, specifications, and installation instructions for materials specified.

PART 2 PRODUCTS

2.01 RAIL TRACKS

- A. Rails: steel, 115RE, new or second hand, 118.8 pounds per yard.
- B. Ties: 7" x 9" x 8.5' long, hardwood, treated per AWPA Manual C-6 to 8 ½ lb/cu ft for hardwoods and will conform to AREMA manual Chapter 3.
- C. Tie Plates: Double shoulder plate, 1:40 Cant compatible with rail.
- D. Anti-splitting device: nail plates
- E. Spikes: One spike gage side and one spike field side of each rail, four per tie. High carbon steel spikes shall be used and conform to the recommendations found in Chapter 5 (Track), Part 2 (Track Spikes). Track spikes shall be 5/8" square by 6" long.
- F. Joint Bars: 4 or 6 hole bars meeting specifications for "High Carbon Steel Joint Bars" or specifications for "Quenched Carbon steel Joint Bars in Chapter 4, Part 2 of the AREMA Manual.
- G. Track bolts, nuts and spring washers: Conform to Chapter 4, Parts 1 and 2 of the AREMA Manual. Bolt diameter: 1".
- H. Rail Anchors: Drive on or Spring Type conforming to Chapter 5, Part 7 of the AREMA Manual. New or reclaimed rail anchors shall be used. 4 anchors per tie.
- I. Joint bar assemblies: meet Chapter 4, Part 1 of the AREMA Manual.

- J. Bumping Posts or Wheel Stops: Provide car block with rotating cam locking device similar Model C-2 Car Block as manufactured by Central Rail Supply, www.centralrailsupply.com.
- K. Railroad Gate Crossing signal: Model 10 gate crossing signal as manufactured by Western Cullen Hayes, 206-264-0808, www.Westernsafety.com.
 - 1. 24' long and 12" wide gate arm, FG construction with engineering grade reflective sheeting
 - 2. 16' x 4" mast
 - 3. clamp type mechanism
 - 4. cast iron counter weigh
 - 5. one way main and side lights (note: lights will not be operational)
 - 6. Crossing sign: Engineering grade reflective sheeting
 - 7. Track Sign: Engineering grade reflective sheeting
 - 8. concrete foundation
 - 9. Stop on Red Signal Sign: Engineer grade reflective sheeting.
 - 10. sidewalk arm: not required
 - 11. gate lights: 4"
 - 12. Bell: not required
 - 13. Note: Crossing signal will not be powered.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Construct track and roadbed to line and grade shown on the Drawings.
- B. Ties shall be placed at 21" on center and placed at right angles to the centerline of the track.
 - 1. Bolted joints shall be centered between ties when possible.
 - 2. Prevent damage to ties during placement. Pulling of spikes from ties after driven shall be avoided. If necessary, plug holes with chemical tie-plugging compound that completely fills the hole.
 - 3. Clean tie plates before placement. Incline plates toward center of track.
- C. Rails shall be cleaned prior to placement. Rails shall be placed so that joints in each line of rail shall be within the middle half of the opposite length rail. Rails shall be cut with a rail saw. Lay rails one at a time.
- D. Anchors shall be securely and squarely fastened to the rail and have solid bearing against the ties.
- E. Ballasting: lifts shall not be more than 4" in height except for the last lift which shall be 2". Tamp with power tamping equipment. Ballast shall be thoroughly tamped on both sides of the tie from a point 15" inside the rails to the end of the ties.
- F. Railroad Crossing Arm: Install per the manufacturer's recommendations.

END OF SECTION

SECTION 344113

TRAFFIC SIGNS

PART 1 GENERAL

1.01 SUBMITTALS

- A. Shop Drawings: Show shop drawings, not necessarily to scale, but sufficient enough in detail to show color, wording, lettering size and style, overall sign size, construction details and installation details for each type of sign.

PART 2 PRODUCTS

2.01 TRAFFIC SIGNS

- A. Construction Materials: Comply with the applicable requirements of DOT Section 645.
- B. Posts: Galvanized steel.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Erect signs in their designated locations, as indicated and in accordance with the approved shop drawings and the applicable requirements of DOT Section 645.
- B. Protect surfaces and finishes from abrasion and other damage during handling and installation.
- C. Replace damaged or faulty signs.

END OF SECTION

dm

SECTION 260523

WIRING FOR MOTORS AND MOTOR CONTROLLERS

PART 1 GENERAL

1.01 REFERENCES

- A. NEMA, ANSI, and UL.

1.02 SUBMITTALS

- A. Shop Drawings: Complete wiring diagrams of all power and control connections (Standard diagrams will not be accepted). Deliver 2 copies of approved wiring diagrams to the Electrical Work Contractor for installation of power wiring and connections required under the Electrical Work Contract.
- B. Product Data: Catalog sheets, specifications and installation instructions.

PART 2 PRODUCTS

2.01 MATERIALS FOR CONTROL WIRING

- A. Raceways, Fittings and Accessories:
 - 1. Rigid Ferrous Metal Conduit: Steel, hot dipped galvanized on the outside and inside, UL categorized as Rigid Ferrous Metal Conduit (identified on UL Listing Mark as Rigid Metal Conduit - Steel or Rigid Steel Conduit), by Allied Tube & Conduit Corp., LTV Copperweld, or Wheatland Tube Co.
 - 2. Intermediate Ferrous Metal Conduit: Steel, galvanized on the outside and enameled on the inside, UL categorized as Intermediate Ferrous Metal Conduit (identified on UL Listing Mark as Intermediate Metal Conduit or IMC), by Allied Tube & Conduit Corp., LTV Copperweld, or Wheatland Tube Co.
 - 3. Electrical Metallic Tubing: Steel, galvanized on the outside and enameled on the inside, UL categorized as Electrical Metallic Tubing (identified on UL Listing Mark as Electrical Metallic Tubing), by Allied Tube & Conduit Corp., LTV Copperweld, or Wheatland Tube Co.
 - 4. Flexible Metal Conduit: Galvanized steel strip shaped into interlocking convolutions, UL categorized as Flexible Metal Conduit (identified on UL Listing Mark as Flexible Steel Conduit or Flexible Steel Conduit Type RW), by AFC Cable Systems Inc., Anamet Electrical Inc., Electri-Flex Co., or International Metal Hose Co.
 - 5. Liquid-tight Flexible Metal Conduit: UL categorized as liquid-tight flexible metal conduit (identified on UL Listing Mark as Liquid-Tight Flexible Metal Conduit, also specifically marked with temperature and environment application data), by AFC Cable Systems Inc., Anamet Electrical Inc., Electri-Flex Co., or Universal Metal Hose Co.

6. Surface Metal Raceway, Fittings and Accessories: By Thomas & Betts Corp., Mono-Systems Inc. or Wiremold Co. Area and conductor capacity indicated for each size raceway is for reference. Follow manufacturer's recommended raceway capacity for all types and sizes of conductors:
 - a. Size 1: Nominal area .3 sq. in. min., 4 No. 12 THW max.; Thomas & Betts B400, Mono-Systems SMS 700, or Wiremold's V700.
 - b. Size 2: Nominal area .75 sq. in. min., 11 No. 12 THW max.; Thomas & Betts SR250, Mono-Systems SMS2100, Wiremold's 2100.
 - c. Size 3: Nominal area 2.8 sq. in. min., 43 No. 12 THW max.; Thomas & Betts SR500, Mono-Systems SMS3200, or Wiremold's G3000.
7. Wireways, Fittings and Accessories:
 - a. NEMA 1 (Without Knockouts): Hoffman Enclosures Inc. Bulletin F-40, Hubbell/Wegmann's HSK, Lee Products Co.'s S Series, Rittal/Electromate's EW & EWHC Lay-In Wireway System, or Square D Co.'s Square-Duct Class 5100.
8. Insulated Bushings, Plastic Bushings, Insulated Grounding Bushings: By Appleton Electric Co., Cooper/Crouse-Hinds, OZ/Gedney Co., or Thomas & Betts Corp.
9. Connectors and Couplings:
 - a. Locknuts: UL, steel/zinc electroplate; Appleton Electric Co.'s BL-50 Series, Cooper/Crouse-Hinds' 11 Series, OZ/Gedney Co.'s 1-50S Series, Raco Inc.'s 1002 Series, Steel City/T&B Corp.'s LN-101 Series, or Thomas & Betts Corp.'s 141 Series.
 - b. Couplings (For Rigid Metal and IMC Conduit): Standard galvanized threaded couplings as furnished by conduit manufacturer, Allied Tube & Conduit Corp.'s Kwik-Couple, or Thomas & Betts Corp.'s Shamrock.
 - c. Three Piece Conduit Coupling (For Rigid Metal and IMC Conduit): Steel, malleable iron, zinc electroplate; Allied Tube & Conduit Corp.'s Kwik-Couple, Appleton Electric Co.'s EC-50 Series, Cooper/Crouse-Hinds' 190M Series, OZ/Gedney Co.'s 4-50 Series, Raco Inc.'s 1502 Series, Steel City/T & B Corp.'s EK-401 Series, or Thomas & Betts Corp.'s 675 Series.
 - d. Electrical Metallic Tubing Couplings and Insulated Connectors: Compression type, steel/zinc electroplate; Appleton Electric Co.'s TW-50CS1, TWC-50CS Series, Cooper/Crouse-Hinds' 1650, 660S Series, Raco Inc.'s 2912, 2922 Series, Steel City/T & B Corp.'s TC-711 Series, or Thomas & Betts Corp.'s 5120, 5123 Series.
 - e. Flexible Metal Conduit Connectors: Arlington Industries Inc.'s Saddle-Grip, OZ/Gedney Co.'s C-8T, 24-34T, ACV-50T Series, or Thomas & Betts Corp.'s Nylon Insulated Tite-Bite Series.

- f. Liquid-tight Flexible Metal Conduit Connectors:
 - 1) Dry, Damp Locations: Steel, malleable iron, zinc electroplate, insulated throat; Appleton Electric Co.'s STB Series, Cooper/Crouse-Hinds' LTB Series, OZ/Gedney Co.'s 4Q-50T Series, Raco Inc.'s 3512 Series, Steel City/T & B Corp.'s LT-701 Series, or Thomas & Betts Corp.'s 5332 Series.
 - 2) Wet Locations: OZ/Gedney Co.'s 4Q-TG Series (hot-dip/mechanically galvanized), or Thomas & Betts Corp.'s 3322 Series (PVC coated).
- 10. Conduit Bodies (Threaded):
 - a. Dry, Damp Locations: Zinc electroplate malleable iron or cast iron alloy bodies with zinc electroplate steel covers; Appleton Electric Co.'s Unilets, Cooper/Crouse-Hinds' Condulets, OZ/Gedney Co.'s Conduit Bodies, or Thomas & Betts Corp.'s Conduit Bodies.
 - b. Wet Locations: Malleable iron or cast iron alloy bodies and covers with hot dipped galvanized or other specified corrosion resistant finish; Cooper/Crouse-Hinds' Condulets (Corro-free epoxy powder coat), Thomas & Betts Corp.'s Conduit Bodies (hot dipped galvanized), or OZ/Gedney Co.'s Conduit Bodies (hot dipped galvanized). Stainless steel cover screws, covers gasketed to suit application.
- 11. Expansion Fittings:
 - a. Dry, Damp Locations:
 - 1) Malleable iron, zinc electroplate finish: Appleton Electric Co.'s XJ or OZ/Gedney Co.'s AX (TX for EMT), with external bonding jumper.
 - 2) Electrogalvanized Steel: Cooper/Crouse-Hinds' XJG (XJG-EMT for EMT), or Thomas & Betts Corp.'s XJG, with internal grounding.
 - b. Wet Locations: Cooper/Crouse-Hinds XJG (Corro-free epoxy powder coat), OZ Gedney Co.'s AX, EXE (end type, hot dipped galvanized), or Thomas & Betts Corp.'s XJG (hot dipped galvanized).
- 12. Deflection Fittings:
 - a. Dry, Damp Locations: Appleton Electric Co.'s DF, Cooper/Crouse-Hinds' XD, or OZ/Gedney Co.'s Type DX.
 - b. Wet Locations: Ductile iron couplings with hot dipped galvanized finish, neoprene sleeve, and stainless steel bands, Appleton Electric Co.'s CF; or bronze couplings, neoprene sleeve, and stainless steel bands, OZ/Gedney Co.'s Type DX.
- 13. Sealing Fittings:
 - a. Dry, Damp Locations: Appleton Electric Co.'s EYS, ESU w/Kwiko sealing compound and fiber filler, Cooper/Crouse-Hinds' EYS, EZS w/Chico A sealing compound and Chico X filler, OZ/Gedney Co.'s EY, EYA with EYC sealing compound and EYF damming fiber, or Thomas & Betts Corp.'s. EYS w/Chico A sealing compound and Chico X filler.

- 1) Other Type Fittings: As required to suit installation requirements, by Appleton Electric Co., Cooper/Crouse-Hinds, OZ/Gedney Co, or Thomas & Betts Corp.
- b. Wet Locations: Malleable iron body with hot dipped/mechanically galvanized finish, neoprene sleeve, and stainless steel bands, Appleton electric Co.'s CF; or bronze couplings, neoprene sleeve, and stainless steel bands, OZ/Gedney Co.'s Type DX.
 - 1) Horizontal: Cooper/Crouse-Hinds' EYS with Chico A sealing compound and Chico X filler, OZ/Gedney Co.'s EYD with EYC sealing compound and EYF damming fiber, or Thomas & Betts Corp.'s. EYS w/Chico A sealing compound and Chico X filler.
 - 2) Vertical (with Drain): Cooper/Crouse-Hinds with Chico A sealing compound and Chico X filler, OZ/Gedney Co.'s EY, EYA with EYC sealing compound and EYF damming fiber, or Thomas & Betts Corp.'s. w/Chico A sealing compound and Chico X filler.
 - 3) Other Type Fittings. As required to suit installation requirements, by Cooper/Crouse-Hinds, OZ/Gedney Co., or Thomas & Betts Corp. with hot dipped/mechanically galvanized finish or epoxy powder coat.
14. Sealant for Raceways Exposed to Different Temperatures: Sealing compounds and accessories to suit installation; Appleton Electric Co.'s DUC, or Kwiko Sealing Compound with fiber filler, Cooper/Crouse-Hinds' Chico A Sealing Compound with Chico X fiber, Electrical Products Division 3M Scotch products, OZ Gedney Co.'s DUX or EYC sealing compound with EYF damming fiber, or Thomas & Betts Corp.'s Blackburn DX.
15. Vertical Conductor Supports:
 - a. Dry, Damp Locations: Kellems/Hubbell Inc.'s Conduit Riser Grips, or OZ/Gedney Co.'s Type M, Type R.
 - b. Wet Locations: Kellems/Hubbell Inc.'s Conduit Riser Grips (stainless steel or tin coated bronze), or OZ/Gedney Co.'s hot dipped galvanized finish Type CMT or Type W.
- B. Outlet/Device, Junction and Pull Boxes:
 1. Galvanized Steel Boxes for Concealed Work: Standard galvanized steel boxes and device covers by Appleton Electric Co., Beck Mfg./Picoma Industries, Cooper/Crouse-Hinds, Raco/Div. of Hubbell , or Steel City/T & B Corp.
 2. Galvanized Steel Junction and Pull boxes for Exposed Work: Code gage, galvanized steel screw cover boxes by Delta Metal Products Inc., Hoffman Enclosures Inc., Hubbell Wiegmann, Lee Products Co., or Rittal/Electromate.

3. Threaded Type Boxes for Exposed Work:
 - a. Outlet Boxes:
 - 1) For Dry, Damp Locations: Zinc electroplate malleable iron or cast iron alloy boxes by Appleton Electric Co., Cooper/Crouse-Hinds Co., OZ/ Gedney Co., or Thomas & Betts Corp. with zinc electroplate steel covers to suit application.
 - 2) For Wet Locations: Malleable iron or cast iron alloy boxes with hot dipped galvanized or other specified corrosion resistant finish as produced by Cooper/Crouse-Hinds (hot dipped galvanized or Corro-free epoxy powder coat), OZ/Gedney Co. (hot dipped galvanized), or Thomas & Betts Corp. (hot dipped galvanized) with stainless steel cover screws, and malleable iron covers gasketed to suit application.
 - b. Junction And Pull Boxes:
 - 1) For Dry, Damp Locations: Zinc electroplate cast iron boxes by Appleton Electric Co., Cooper/Crouse-Hinds, OZ/Gedney Co., or Thomas & Betts Corp. with zinc electroplate steel or cast iron cover.
 - 2) For Wet Locations: Cast iron boxes by Cooper/Crouse-Hinds' (hot dipped galvanized or Corro-free epoxy powder coat), OZ/Gedney Co. (hot dipped galvanized), or Thomas & Betts Corp. (hot dipped galvanized) with stainless steel cover screws and cast iron cover gasketed to suit application.
 - c. Conduit Bodies, Threaded (Provided with a Volume Marking):
 - 1) For Dry, Damp Location: Zinc electroplate malleable iron or cast iron alloy bodies with zinc electroplate steel covers; Appleton Electric Co.'s Unilets, Cooper/Crouse-Hinds' Condulets, OZ/Gedney Co.'s Conduit Bodies, or Thomas & Betts Corp.'s Conduit Bodies.
 - 2) For Wet Locations: Malleable iron or cast iron alloy bodies with hot dipped galvanized or other specified corrosion resistant finish; Cooper/Crouse-Hinds' Condulets (hot dipped galvanized or Corro-free epoxy power coat), OZ/Gedney Co.'s Conduit Bodies (hot dipped galvanized), or Thomas & Betts Corp.'s Conduit Bodies (hot dipped galvanized) with stainless steel cover screws and malleable iron covers gasketed to suit application.
4. Specific Purpose Outlet Boxes: As fabricated by manufacturers for mounting their equipment.
5. For Fire Rated Construction:
 - a. Parameters For Use of Listed Metallic Boxes: UL Electrical Construction Equipment Directory - Metallic Outlet Boxes (QCIT).
 - b. Wall Opening Protective Materials: As listed in UL Fire Resistance Directory - Wall Opening Protective Materials (CLIV), or UL Electrical Construction Equipment Directory - Wall Opening Protective Materials (QCSN).

- C. Conductors and Accessories:
1. Date of Manufacture: No insulated conductor over one year old when delivered to the site will be acceptable.
 2. Conductors: Annealed uncoated copper or annealed coated copper in conformance with the applicable standards for the type of insulation to be applied on the conductor.
 3. Class 1 Wiring:
 - a. No. 18 and No. 16 AWG: Insulated copper conductors suitable for 600 volts, NFPA 70 types KF-2, KFF-2, PAFF, PF, PFF, PGF, PGFF, PTF, SF-2, SFF-2, TF, TFF, TFN, TFFN, ZF, or ZFF.
 - b. Larger than No. 16 AWG: Insulated copper conductors suitable for 600 volts, in compliance with NFPA 70 Article 310.
 - c. Conductor with other types and thickness of insulation may be used if listed for Class 1 circuit use.
 4. Class 2 Wiring:
 - a. Multiconductor Cables: NFPA 70 Article 725, Types CL2P, CL2R, CL2.
 - b. Other types of cables may be used in accordance with NFPA 70 Table 725-61 "Cable Uses and Permitted Substitutions", as approved.
 5. Class 3 Wiring:
 - a. Single Conductors No. 18 and No. 16 AWG: Same as Class 1 No. 18 and No. 16 AWG conductors, except that:
 - 1) Conductors are also listed as CL3.
 - 2) Voltage rating not marked on cable except where cable has multiple listings and voltage marking is required for one or more of the listings.
 - b. Multiconductor Cables: NFPA 70 Article 725, Types CL3P, CL3R, CL3.
 - c. Other types of cables may be used in accordance with NFPA 70, Table 725-61 "Cable Uses and Permitted Substitutions", as approved.
 6. Connectors:
 - a. General: Connectors specified are part of a system. Furnish connectors and components, and use specific tools and methods as recommended by connector manufacturer to form complete connector system.
 - b. Splices:
 - 1) Spring Type:
 - a) Rated 105° C, 600V; Buchanan/Ideal Industries Inc.'s B-Cap, Electrical Products Div./3M's Scotchlok Type Y, R, G, B, O/B+, R/Y+, or B/G+, or Ideal Industries Inc.'s Wing Nuts or Wire Nuts.
 - b) Rated 150° C, 600V; Ideal Industries Inc.'s High Temperature Wire-Nut Model 73B, 59B.

- 2) Indent Type with Insulating Jacket:
 - a) Rated 105° C, 600V; Buchanan/Ideal Industries Inc.'s Crimp Connectors, Ideal Industries Inc.'s Crimp Connectors, Penn-Union Corp.'s Penn-Crimps, or Thomas & Betts Corp.'s STA-KON.
 - 3) Indent Type (Uninsulated): Anderson/Hubbell's Versa-Crimp, VERSAtile, Blackburn/T&B Corp.'s Color-Coded Compression Connectors, Electrical Products Div./3M's Scotchlok 10000, 11000 Series, Framatome Connectors/Burndy's Hydent, Penn-Union Corp.'s BCU, BBCU Series, or Thomas & Betts Corp.'s Compression Connectors.
 - 4) Connector Blocks: NIS Industries Inc.'s Polaris System, or Thomas & Betts Corp.'s Blackburn AMT Series.
 - 5) Resin Splice Kits: Electrical Products Div./3M's Scotchcast Brand Kit Nos. 82A Series, 82-B1 or 90-B1, or Scotchcast Brand Resin Pressure Splicing Method.
 - 6) Heat Shrinkable Splices: Electrical Products Div./3M's ITCNS, Raychem Corp.'s Thermofit Type WCS, or Thomas & Betts Corp.'s SHRINK-KON Insulators.
 - 7) Cold Shrink Splices: Electrical Products Div./3M's 8420 Series.
7. Terminals: Nylon insulated pressure terminal connectors by Amp-Tyco/Electronics, Electrical Products Div./3M, Framatome Connectors/Burndy, Ideal Industries Inc., Panduit Corp., Penn-Union Corp., Thomas & Betts Corp., or Wiremold Co.
 8. Insulation Tapes:
 - a. Plastic Tape: Electrical Products Div./3M's Scotch Super 33+ or Scotch 88, Plymouth Rubber Co.'s Plymouth/ Bishop Premium 85CW.
 - b. Rubber Tape: Electrical Products Div./3M's Scotch 130C, or Plymouth Rubber Co.'s Plymouth/Bishop W963 Plysafe.
 9. Moisture Sealing Tape: Electrical Products Div./3M's Scotch 2200 or 2210, or Plymouth Rubber Co.'s Plymouth/Bishop 4000 Plyseal-V.
 10. Wire Management Products: Cable clamps and clips, cable ties, spiral wraps, etc., by Catamount/T&B Corp., or Ideal Industries Inc.

D. Supporting Devices:

1. "C" Beam Clamps:
 - a. For 1 Inch Conduit Maximum: B-Line Systems Inc.'s BG-8-C2 and BP-8-C1 Series, or Caddy Fastener Div./Erico Products Inc.'s BC-8P and BC-8PSM Series.
 - b. For 3 Inch Conduit Maximum: Appleton Electric Co.'s BH-500 Series beam clamp with H50W/B Series hangers, Kindorf/T&B Corp.'s 500 Series beam clamp with 6H0-B Series hanger, or OZ/Gedney Co.'s IS-500 Series beam clamp with H-OWB Series hanger.
 - c. For 1/4 Inch Hanger Rods: B-Line Systems Inc.'s BC, Caddy Fastener Div./Erico Products Inc.'s BC, Kindorf/T&B Corp.'s 500-SC, 510, or Unistrut Corp.'s P1648S, P2398S, P2675, P2676.

- d. For 3/8 Inch Hanger Rods: B-Line Systems Inc.'s BC, Caddy Fastener Div./Erico Products Inc.'s BC, Kindorf/T&B Corp.'s E231-3/8, 502, or Unistrut Corp.'s P1649AS, P2401S, P2675, P2676.
2. Pipe Straps: Two hole steel conduit straps; Kindorf/T&B Corp.'s C-144 Series.
3. Pipe Clamps: One hole malleable iron clamps; Kindorf/T&B Corp.'s HS-400 Series, or OZ/ Gedney Co.'s 14-50 Series.
4. Supporting Fastener (Metal Stud Construction): Metal stud supports, clips and accessories as produced by Caddy Fastener Div./Erico Products Inc.

PART 3 EXECUTION

3.01 INSTALLATION, GENERAL

- A. Power Wiring: Not included in this Contract (provided by Electric Contractor).
Exception:
 1. Where a power source (at junction box, enclosed circuit breaker, safety switch, or panelboard) is provided by the Electric Contractor, provide power wiring from the power source to the equipment.
- B. Control Wiring: Provide control wiring and connections.
 1. Where control circuit interlocking is required between individually mounted motor controllers, provide a single pole on-off switch in a threaded type box mounted adjacent to motor safety switches which are remote from the control transformer (to enable interlock circuit to be opened when the motor safety switch is opened).

3.02 RACEWAY INSTALLATION

- A. Conduit Installed Concealed:
 1. Install conduit concealed unless otherwise indicated on the drawings.
 2. New Construction:
 - a. Run conduit in the ceilings, walls, and partitions.
 - b. Concrete Floor Slabs (Concrete slabs that are both ceilings and floors shall be treated as floor slabs):
 - 1) Conduit in Slab: Run 1/2 and 3/4 inch conduit in the slab where placement of reinforcement and slab thickness is sufficient to allow 1-1/2 inches of concrete cover over conduit, otherwise run conduit under slab. Run conduit one inch and larger in the slab in the specific location(s) where it is indicated on the drawing to be run in the slab, otherwise run conduit under slab.
 - a) Run conduit under reinforcement where reinforcement is in upper portion or middle of slab.
 - b) Run conduit over reinforcement where reinforcement is in lower portion of slab.

- c) Run conduit between reinforcement where reinforcement is in upper and lower portions of slab.
 - d) Separate parallel conduits minimum of 2 inches so that each conduit will be enveloped in concrete.
 - e) Pass conduit over steel beams, if any, parallel with the reinforcement.
 - f) Tie down conduit to avoid movement during placement of concrete.
 - g) Demonstrate to the Director's Representative that conduit has been placed to allow minimum of 1-1/2 inches of concrete cover.
 - 2) Conduit Under Slab on Grade:
 - a) Run conduit under vapor barrier (if any).
 - b) Install equipment grounding conductor in each conduit. Bond at boxes and equipment to which conduit is connected.
 - 3) Conduit Under Slab, Above Finished Ceiling:
 - a) Attach conduit to bottom of slab or structure supporting the slab.
 - b) Firestop through-penetrations of the slab.
 - 4. If any portions of the conduit system cannot be installed concealed due to conditions encountered in the building, report such conditions and await approval in writing before proceeding.
- B. Conduits Penetrating Concrete Floor Slabs (Concrete slabs that are both ceilings and floors shall be treated as floor slabs):
- 1. Provide a minimum of 2 inches between conduits that vertically penetrate elevated concrete slabs.
 - 2. Provide firestopping and spray on fireproofing at locations where conduits penetrate surface of floor slab and slab is part of fire rating required for construction.
- C. Conduit Installed Exposed:
- 1. Install conduit exposed where indicated on the drawings. If not indicated, conduit may be installed exposed, as approved, in:
 - a. Unfinished spaces, and finished spaces housing mechanical or electrical equipment that is generally accessible only to facility maintenance personnel.
 - b. Areas where existing conduits have been installed exposed.
 - c. Areas where conduit cannot be installed concealed.
 - 2. Install conduit tight to the surface of the building construction.
Exceptions:
 - a. Where otherwise indicated or directed.
 - b. Where conduit is exposed in wet locations. Install entire wiring system including conduit, boxes, and fittings so that there is 1/4 inch air space between it and the wall or supporting surface.
 - 3. Install vertical runs perpendicular to the floor.
 - 4. Install runs on the ceiling perpendicular or parallel to the walls.
 - 5. Install horizontal runs parallel to the floor.

6. Do not run conduits near heating pipes.
 7. Installation of conduit directly on the floor will not be permitted.
- D. Conduit Size: Not smaller than 1/2 inch electrical trade size.
- E. Raceways Exposed to Different Temperatures: Where portions of an interior raceway system are exposed to widely different temperatures, seal interior and exterior of raceway to prevent circulation of air from a warmer to a colder section through the raceway installation.
1. Refrigerated Rooms: Install conduit body or junction box in the raceway system on warm side of refrigerated room. After conductors are installed, seal interior of the raceway at the conduit body or junction box.
 2. Heated Areas to Unheated Areas: After conductors are installed, seal interior of the raceway at the nearest conduit body, outlet or junction box in the heated area adjoining the unheated area.
- F. Conduits in Heating Tunnels: Install rigid ferrous metal conduit exposed in the tunnel and run conduit to avoid manhole entrances and other obstructions.
- G. Conduit in Waterproofed Floors: Install conduit runs in waterproof floors to avoid penetrating the waterproofing. Avoid penetration of waterproofing with conduit risers so far as practicable.
1. Where it is necessary to puncture the waterproofing for a conduit riser, install a standard weight steel pipe sleeve extending one inch above the finished floor level. Flash the steel pipe sleeve to the waterproofing with 16 ounce copper. Construct the flashing with a copper tube extending the full height of the sleeve, soldered to a copper base extending 6 inches in all directions from the sleeve.
 2. The flashing will be integrated into the waterproofing by the Construction Contractor. Provide solid cast brass floor plates with chromium finish where pipe sleeves are exposed in rooms.
- H. Conduit in Hazardous Areas: Install Work in hazardous areas in accordance with NFPA 70 - National Electrical Code.
1. Install sealing fittings in concealed conduit runs in a recessed box with blank face plate to match other face plates in the area.
- I. Raceway Schedule:
1. Rigid Ferrous Metal Conduit: Install in all locations unless otherwise specified or indicated on the drawings.
 2. Intermediate Metal Conduit: May be installed in all dry and damp locations except:
 - a. Hazardous areas.
 - b. Where other type raceways are specified or indicated on the drawings.
 3. Electrical Metallic Tubing:
 - a. May be installed concealed above suspended ceilings where conduit does not support equipment.

- b. May be installed concealed in hollow areas in dry locations, including:
 - 1) Hollow concrete masonry units, except where cores are to be filled.
 - 2) Drywall construction with sheet metal studs, except where studs are less than 3-1/2 inches deep.
 - c. May be installed exposed as branch circuit conduits in dry non-hazardous locations at elevations over 10'-0" above finished floor where conduit does not support equipment.
4. Flexible Metal Conduit: Install equipment grounding conductor in the flexible metal conduit and bond at each box or equipment to which conduit is connected:
- a. Use 1 to 3 feet of flexible metal conduit for final conduit connection to:
 - 1) Equipment subject to vibration (dry locations).
 - 2) Equipment requiring flexible connection for adjustment or alignment (dry locations).
 - b. Use above existing non-removable suspended ceilings where rigid type raceways cannot be installed due to inaccessibility of space above ceiling.
 - c. May be installed concealed in drywall construction with sheet metal studs, except where studs are less than 3-1/2 inches deep.
5. Liquid-tight Flexible Metal Conduit: Use 1 to 3 feet of liquid-tight flexible metal conduit (UL listed and marked suitable for the installation's temperature and environmental conditions) for final conduit connection to:
- a. Equipment subject to vibration (damp and wet locations).
 - b. Equipment requiring flexible connection for adjustment or alignment (damp and wet locations).
6. Surface Metal Raceway: Use as exposed raceway system in finished spaces at locations, when approved, where raceways cannot be installed concealed:
- a. Use surface metal raceway system of size required for number of wires to be installed therein.
 - b. Do not run raceway through walls that have a plaster finish nor through masonry walls or floors. Install a pipe sleeve, or a short length of conduit with junction boxes or adapter fittings for raceway runs through such areas. Run raceway along top of baseboards, care being taken to avoid telephone and other signal wiring. Where raceway crosses chair railing or picture molding, cut the chair railing or picture molding to permit the raceway to lie flat against the wall. Run raceway around door frames and other openings. Run raceway on ceiling or walls perpendicular to or parallel with walls and floors.
 - c. Secure raceway at intervals not exceeding 36 inches.
 - d. Where equipment is mounted on an outlet box and the equipment base is larger than the outlet box, provide finishing collar around equipment base and outlet box or provide finishing collar/outlet box:

- 1) Finishing Collar: Same finish and peripheral dimensions as the equipment base, including provisions for mounting, slots to fit over raceway and of depth to cover outlet box and extend back to ceiling or wall.
 - 2) Combination Finishing Collar/Outlet Box: Same finish and peripheral dimensions as the equipment base to be mounted thereon, gage or thickness of metal as required by National Electrical Code, including provision for mounting and knockouts for entrance of raceway.
7. Wireways: May be used indoors in dry locations for exposed raceway between grouped, wall mounted equipment.

J. Fittings and Accessories Schedule:

1. General:
 - a. Use fittings and accessories that have a temperature rating equal to, or higher than the temperature rating of the conductors to be installed within the raceway.
 - b. Use zinc electroplate or hot dipped galvanized steel/malleable iron or cast iron alloy fittings and accessories in conjunction with ferrous raceways in dry and damp locations unless otherwise specified or indicated on the drawings.
 - c. Use malleable iron or cast iron alloy fittings and accessories having hot dipped/mechanically galvanized finish or other specified corrosion resistant finish in conjunction with ferrous raceways in wet locations unless otherwise specified or indicated on the drawings.
 - d. Use caps or plugs to seal ends of conduits until wiring is installed (to exclude foreign material).
 - e. Use insulated grounding bushings on the ends of conduits that are not directly connected to the enclosure (such as stub-ups under equipment, etc.) and bond between bushings and enclosure with equipment grounding conductor.
 - f. Use expansion fittings where raceways cross expansion joints.
 - g. Use deflection fittings where raceways cross expansion joints that move in more than one plane.
 - h. Use 2 locknuts and an insulated bushing on end of each conduit entering sheet metal cabinet or box in dry or damp locations.
 - 1) Plastic bushings may be used on 1/2 and 3/4 inch conduit in lieu of insulated bushing.
 - 2) Terminate conduit ends within cabinet/box at the same level.
 - i. Use watertight hub on end of each conduit entering cabinets or boxes (in wet locations) that are not constructed with integral threaded hubs.
2. For Rigid and Intermediate Metal Conduit: Use threaded fittings and accessories. Use 3 piece conduit coupling where neither piece of conduit can be rotated.
3. For Electrical Metallic Tubing: Use compression type connectors and couplings.
4. For Flexible Metal Conduit: Use flexible metal conduit connectors.
5. For Liquid-tight Flexible Metal Conduit: Use liquid-tight connectors.

6. For Surface Metal Raceway: Use raceway manufacturer's standard fittings and accessories.
7. For Wireways: Use wireway manufacturer's standard fittings and accessories.

3.03 OUTLET, JUNCTION AND PULLBOX INSTALLATION

- A. Boxes For Concealed Conduit System:
 1. Non-Fire Rated Construction:
 - a. Depth: To suit job conditions and comply with NFPA 70 Article 370.
 - b. For Junction and Pull Boxes: Use galvanized steel boxes with flush covers.
 - c. For Devices:
 - 1) Plaster or Cast-In-Place Concrete Walls: Use 4 inch or 4-11/16 inch galvanized steel boxes with device covers.
 - 2) Walls Other Than Plaster or Cast-In-Place Concrete: Use type of galvanized steel box that will allow device to cover the opening made for the installation of the box.
 2. Recessed Boxes in Fire Rated (2 hour maximum) Bearing and Nonbearing Wood or Steel Stud Walls (Gypsum Wallboard Facings):
 - a. Use listed single and double gang metallic device boxes. The surface area of individual device box shall not exceed 16 square inches.
 - b. The aggregate surface area of the boxes shall not exceed 100 square inches per 100 square feet of wall surface.
 - c. Securely fasten boxes to the studs. Verify that the opening in the wallboard facing is cut so that the clearance between the box and the wallboard does not exceed 1/8 inch.
 - d. Separate boxes located on opposite sides of walls or partitions by a minimum horizontal distance of 24 inches. This minimum separation distance may be reduced when wall opening protective materials are installed according to the requirements of their classification.
 - e. Use wall opening protective material in conjunction with boxes installed on opposite sides of walls or partitions of staggered stud construction in accordance with the classification requirements for the protective material.
 3. Other Fire Rated Construction: Use materials and methods to comply with the listing requirements for the classified construction.
- B. Boxes For Exposed Conduit System:
 1. Dry and Damp Locations: Use zinc electroplate or hot dipped galvanized threaded type malleable iron or cast iron alloy outlet, junction, and pullboxes or conduit bodies provided with a volume marking in conjunction with ferrous raceways unless otherwise specified or indicated on the drawings.
 - a. Galvanized steel boxes may be used in conjunction with conduit sizes over 1 inch in non-hazardous dry and damp locations.

- b. Galvanized steel boxes may be used in conjunction with electrical metallic tubing where it is installed exposed as branch circuit conduits at elevations over 10'-0" above finished floor.
 - 2. Wet Locations: Use threaded type malleable iron or cast iron alloy outlet junction, and pullboxes or conduit bodies (provided with a volume marking) with hot dipped galvanized or other specified corrosion resistant coating in conjunction with ferrous raceways unless otherwise specified or indicated on the drawings.
 - 3. Finishing Collar or Combination Finishing Collar/Outlet Box (Surface Mounted Equipment Used With Exposed Raceway):
 - a. Use finishing collar where surface mounted equipment is installed on an exposed raceway outlet box and the equipment base is larger than the outlet box.
 - b. Use combination finishing collar/outlet box where surface mounted equipment is not indicated to be installed on an exposed raceway outlet box, but raceway cannot be run directly into equipment body due to equipment design.
- C. Specific Purpose Outlet Boxes: Use to mount equipment when available and suitable for job conditions. Unless otherwise specified, use threaded type boxes with finish as specified for exposed conduit system, steel (painted) for surface metal raceway system and galvanized steel for recessed installations.

3.04 CONDUCTOR INSTALLATION

- A. Install conductors in raceways.
- B. Conductor Size: Install conductors of size shown on drawings. Where size is not indicated for control wiring, the minimum size allowed is:
 - 1. For Class 1 Circuits:
 - a. No. 18 and No. 16 AWG may be used provided they supply loads that do not exceed 6 amps (No. 18 AWG), or 8 amps (No. 16 AWG).
 - b. Larger than No. 16 AWG: Use to supply loads not greater than the ampacities given in NFPA 70 Section 310-15.
 - 2. For Class 2 Circuits: Any size to suit application.
 - 3. For Class 3 Circuits: No. 18 AWG.
- C. Color Code for Control Circuits: In accordance with ICEA/NEMA WC-30 "Color Coding of Wires and Cables". Other coding methods may be used, as approved.
- D. Wire Management: Use wire management products to bundle, route, and support wiring in junction boxes, pullboxes, wireways, gutters, channels, and other locations where wiring is accessible.
- E. Insulated Conductor Schedule:
 - 1. Class 1 Circuits: Use Class 1 wiring specified in Part 2 (except where special type insulation is required).
 - 2. Class 2 Circuits: Use Class 2 wiring specified in Part 2 (except where special type insulation is required).

3. Class 3 Circuits: Use Class 3 wiring specified in Part 2 (except where special type insulation is required).
- F. Connector Schedule:
1. Splices:
 - a. Dry Locations: For Conductors No. 8 AWG or Smaller: Use spring type pressure connectors, indent type pressure connectors with insulating jackets, or connector blocks (except where special type splices are required).
 - b. Damp Locations: As specified for dry locations, except apply moisture sealing tape over the entire insulated connection (moisture sealing tape not required if heat shrinkable splices or cold shrink splices are used).
 - c. Wet Locations: Use uninsulated indent type pressure connectors and insulate with resin splice kits, cold shrink splices or heat shrinkable splices. Exception: Splices above ground which are totally enclosed and protected in NEMA 3R, 4, 4X enclosures may be spliced as specified for damp locations.
 2. Terminations:
 - a. For Conductors No. 10 AWG or Smaller: Use terminals for connecting control wiring to terminal strips, and to equipment designed for use with terminals.

3.05 SUPPORTING DEVICE INSTALLATION

- A. Attachment of Conduit System:
1. Wood Construction: Attach conduit to wood construction by means of pipe straps or pipe clamps and wood screws or lag bolts.
 2. Masonry Construction: Attach conduit to masonry construction by means of pipe straps or pipe clamps and masonry anchorage devices.
 3. Steel Beams: Attach conduit to steel beams by means of "C" beam clamps and hangers.
 4. Conduit Above Suspended Ceiling: Do not rest conduit directly on runner bars, T-bars, etc. Support conduit from ceiling supports or from construction above suspended ceiling.
- B. Metal Stud Construction: Attach raceways and boxes to metal studs by means of supporting fasteners manufactured specifically for the purpose.
1. Support and attach outlet boxes so that they cannot torque/twist. Either:
 - a. Use bar hanger assembly, or:
 - b. In addition to attachment to the stud, also provide far side box support.

END OF SECTION

SECTION 260523

WIRING FOR MOTORS AND MOTOR CONTROLLERS

PART 1 GENERAL

1.01 REFERENCES

- A. NEMA, ANSI, and UL.

1.02 SUBMITTALS

- A. Shop Drawings: Complete wiring diagrams of all power and control connections (Standard diagrams will not be accepted). Deliver 2 copies of approved wiring diagrams to the Electrical Work Contractor for installation of power wiring and connections required under the Electrical Work Contract.
- B. Product Data: Catalog sheets, specifications and installation instructions.

PART 2 PRODUCTS

2.01 MATERIALS FOR CONTROL WIRING

- A. Raceways, Fittings and Accessories:
 - 1. Rigid Ferrous Metal Conduit: Steel, hot dipped galvanized on the outside and inside, UL categorized as Rigid Ferrous Metal Conduit (identified on UL Listing Mark as Rigid Metal Conduit - Steel or Rigid Steel Conduit), by Allied Tube & Conduit Corp., LTV Copperweld, or Wheatland Tube Co.
 - 2. Intermediate Ferrous Metal Conduit: Steel, galvanized on the outside and enameled on the inside, UL categorized as Intermediate Ferrous Metal Conduit (identified on UL Listing Mark as Intermediate Metal Conduit or IMC), by Allied Tube & Conduit Corp., LTV Copperweld, or Wheatland Tube Co.
 - 3. Electrical Metallic Tubing: Steel, galvanized on the outside and enameled on the inside, UL categorized as Electrical Metallic Tubing (identified on UL Listing Mark as Electrical Metallic Tubing), by Allied Tube & Conduit Corp., LTV Copperweld, or Wheatland Tube Co.
 - 4. Flexible Metal Conduit: Galvanized steel strip shaped into interlocking convolutions, UL categorized as Flexible Metal Conduit (identified on UL Listing Mark as Flexible Steel Conduit or Flexible Steel Conduit Type RW), by AFC Cable Systems Inc., Anamet Electrical Inc., Electri-Flex Co., or International Metal Hose Co.
 - 5. Liquid-tight Flexible Metal Conduit: UL categorized as liquid-tight flexible metal conduit (identified on UL Listing Mark as Liquid-Tight Flexible Metal Conduit, also specifically marked with temperature and environment application data), by AFC Cable Systems Inc., Anamet Electrical Inc., Electri-Flex Co., or Universal Metal Hose Co.

6. Surface Metal Raceway, Fittings and Accessories: By Thomas & Betts Corp., Mono-Systems Inc. or Wiremold Co. Area and conductor capacity indicated for each size raceway is for reference. Follow manufacturer's recommended raceway capacity for all types and sizes of conductors:
 - a. Size 1: Nominal area .3 sq. in. min., 4 No. 12 THW max.; Thomas & Betts B400, Mono-Systems SMS 700, or Wiremold's V700.
 - b. Size 2: Nominal area .75 sq. in. min., 11 No. 12 THW max.; Thomas & Betts SR250, Mono-Systems SMS2100, Wiremold's 2100.
 - c. Size 3: Nominal area 2.8 sq. in. min., 43 No. 12 THW max.; Thomas & Betts SR500, Mono-Systems SMS3200, or Wiremold's G3000.
7. Wireways, Fittings and Accessories:
 - a. NEMA 1 (Without Knockouts): Hoffman Enclosures Inc. Bulletin F-40, Hubbell/Wegmann's HSK, Lee Products Co.'s S Series, Rittal/Electromate's EW & EWHC Lay-In Wireway System, or Square D Co.'s Square-Duct Class 5100.
8. Insulated Bushings, Plastic Bushings, Insulated Grounding Bushings: By Appleton Electric Co., Cooper/Crouse-Hinds, OZ/Gedney Co., or Thomas & Betts Corp.
9. Connectors and Couplings:
 - a. Locknuts: UL, steel/zinc electroplate; Appleton Electric Co.'s BL-50 Series, Cooper/Crouse-Hinds' 11 Series, OZ/Gedney Co.'s 1-50S Series, Raco Inc.'s 1002 Series, Steel City/T&B Corp.'s LN-101 Series, or Thomas & Betts Corp.'s 141 Series.
 - b. Couplings (For Rigid Metal and IMC Conduit): Standard galvanized threaded couplings as furnished by conduit manufacturer, Allied Tube & Conduit Corp.'s Kwik-Couple, or Thomas & Betts Corp.'s Shamrock.
 - c. Three Piece Conduit Coupling (For Rigid Metal and IMC Conduit): Steel, malleable iron, zinc electroplate; Allied Tube & Conduit Corp.'s Kwik-Couple, Appleton Electric Co.'s EC-50 Series, Cooper/Crouse-Hinds' 190M Series, OZ/Gedney Co.'s 4-50 Series, Raco Inc.'s 1502 Series, Steel City/T & B Corp.'s EK-401 Series, or Thomas & Betts Corp.'s 675 Series.
 - d. Electrical Metallic Tubing Couplings and Insulated Connectors: Compression type, steel/zinc electroplate; Appleton Electric Co.'s TW-50CS1, TWC-50CS Series, Cooper/Crouse-Hinds' 1650, 660S Series, Raco Inc.'s 2912, 2922 Series, Steel City/T & B Corp.'s TC-711 Series, or Thomas & Betts Corp.'s 5120, 5123 Series.
 - e. Flexible Metal Conduit Connectors: Arlington Industries Inc.'s Saddle-Grip, OZ/Gedney Co.'s C-8T, 24-34T, ACV-50T Series, or Thomas & Betts Corp.'s Nylon Insulated Tite-Bite Series.

- f. Liquid-tight Flexible Metal Conduit Connectors:
 - 1) Dry, Damp Locations: Steel, malleable iron, zinc electroplate, insulated throat; Appleton Electric Co.'s STB Series, Cooper/Crouse-Hinds' LTB Series, OZ/Gedney Co.'s 4Q-50T Series, Raco Inc.'s 3512 Series, Steel City/T & B Corp.'s LT-701 Series, or Thomas & Betts Corp.'s 5332 Series.
 - 2) Wet Locations: OZ/Gedney Co.'s 4Q-TG Series (hot-dip/mechanically galvanized), or Thomas & Betts Corp.'s 3322 Series (PVC coated).
- 10. Conduit Bodies (Threaded):
 - a. Dry, Damp Locations: Zinc electroplate malleable iron or cast iron alloy bodies with zinc electroplate steel covers; Appleton Electric Co.'s Unilets, Cooper/Crouse-Hinds' Condulets, OZ/Gedney Co.'s Conduit Bodies, or Thomas & Betts Corp.'s Conduit Bodies.
 - b. Wet Locations: Malleable iron or cast iron alloy bodies and covers with hot dipped galvanized or other specified corrosion resistant finish; Cooper/Crouse-Hinds' Condulets (Corro-free epoxy powder coat), Thomas & Betts Corp.'s Conduit Bodies (hot dipped galvanized), or OZ/Gedney Co.'s Conduit Bodies (hot dipped galvanized). Stainless steel cover screws, covers gasketed to suit application.
- 11. Expansion Fittings:
 - a. Dry, Damp Locations:
 - 1) Malleable iron, zinc electroplate finish: Appleton Electric Co.'s XJ or OZ/Gedney Co.'s AX (TX for EMT), with external bonding jumper.
 - 2) Electrogalvanized Steel: Cooper/Crouse-Hinds' XJG (XJG-EMT for EMT), or Thomas & Betts Corp.'s XJG, with internal grounding.
 - b. Wet Locations: Cooper/Crouse-Hinds XJG (Corro-free epoxy powder coat), OZ Gedney Co.'s AX, EXE (end type, hot dipped galvanized), or Thomas & Betts Corp.'s XJG (hot dipped galvanized).
- 12. Deflection Fittings:
 - a. Dry, Damp Locations: Appleton Electric Co.'s DF, Cooper/Crouse-Hinds' XD, or OZ/Gedney Co.'s Type DX.
 - b. Wet Locations: Ductile iron couplings with hot dipped galvanized finish, neoprene sleeve, and stainless steel bands, Appleton Electric Co.'s CF; or bronze couplings, neoprene sleeve, and stainless steel bands, OZ/Gedney Co.'s Type DX.
- 13. Sealing Fittings:
 - a. Dry, Damp Locations: Appleton Electric Co.'s EYS, ESU w/Kwiko sealing compound and fiber filler, Cooper/Crouse-Hinds' EYS, EZS w/Chico A sealing compound and Chico X filler, OZ/Gedney Co.'s EY, EYA with EYC sealing compound and EYF damming fiber, or Thomas & Betts Corp.'s. EYS w/Chico A sealing compound and Chico X filler.

- 1) Other Type Fittings: As required to suit installation requirements, by Appleton Electric Co., Cooper/Crouse-Hinds, OZ/Gedney Co, or Thomas & Betts Corp.
- b. Wet Locations: Malleable iron body with hot dipped/mechanically galvanized finish, neoprene sleeve, and stainless steel bands, Appleton electric Co.'s CF; or bronze couplings, neoprene sleeve, and stainless steel bands, OZ/Gedney Co.'s Type DX.
 - 1) Horizontal: Cooper/Crouse-Hinds' EYS with Chico A sealing compound and Chico X filler, OZ/Gedney Co.'s EYD with EYC sealing compound and EYF damming fiber, or Thomas & Betts Corp.'s. EYS w/Chico A sealing compound and Chico X filler.
 - 2) Vertical (with Drain): Cooper/Crouse-Hinds with Chico A sealing compound and Chico X filler, OZ/Gedney Co.'s EY, EYA with EYC sealing compound and EYF damming fiber, or Thomas & Betts Corp.'s. w/Chico A sealing compound and Chico X filler.
 - 3) Other Type Fittings. As required to suit installation requirements, by Cooper/Crouse-Hinds, OZ/Gedney Co., or Thomas & Betts Corp. with hot dipped/mechanically galvanized finish or epoxy powder coat.
14. Sealant for Raceways Exposed to Different Temperatures: Sealing compounds and accessories to suit installation; Appleton Electric Co.'s DUC, or Kwiko Sealing Compound with fiber filler, Cooper/Crouse-Hinds' Chico A Sealing Compound with Chico X fiber, Electrical Products Division 3M Scotch products, OZ Gedney Co.'s DUX or EYC sealing compound with EYF damming fiber, or Thomas & Betts Corp.'s Blackburn DX.
15. Vertical Conductor Supports:
 - a. Dry, Damp Locations: Kellems/Hubbell Inc.'s Conduit Riser Grips, or OZ/Gedney Co.'s Type M, Type R.
 - b. Wet Locations: Kellems/Hubbell Inc.'s Conduit Riser Grips (stainless steel or tin coated bronze), or OZ/Gedney Co.'s hot dipped galvanized finish Type CMT or Type W.
- B. Outlet/Device, Junction and Pull Boxes:
 1. Galvanized Steel Boxes for Concealed Work: Standard galvanized steel boxes and device covers by Appleton Electric Co., Beck Mfg./Picoma Industries, Cooper/Crouse-Hinds, Raco/Div. of Hubbell , or Steel City/T & B Corp.
 2. Galvanized Steel Junction and Pull boxes for Exposed Work: Code gage, galvanized steel screw cover boxes by Delta Metal Products Inc., Hoffman Enclosures Inc., Hubbell Wiegmann, Lee Products Co., or Rittal/Electromate.

3. Threaded Type Boxes for Exposed Work:
 - a. Outlet Boxes:
 - 1) For Dry, Damp Locations: Zinc electroplate malleable iron or cast iron alloy boxes by Appleton Electric Co., Cooper/Crouse-Hinds Co., OZ/ Gedney Co., or Thomas & Betts Corp. with zinc electroplate steel covers to suit application.
 - 2) For Wet Locations: Malleable iron or cast iron alloy boxes with hot dipped galvanized or other specified corrosion resistant finish as produced by Cooper/Crouse-Hinds (hot dipped galvanized or Corro-free epoxy powder coat), OZ/Gedney Co. (hot dipped galvanized), or Thomas & Betts Corp. (hot dipped galvanized) with stainless steel cover screws, and malleable iron covers gasketed to suit application.
 - b. Junction And Pull Boxes:
 - 1) For Dry, Damp Locations: Zinc electroplate cast iron boxes by Appleton Electric Co., Cooper/Crouse-Hinds, OZ/Gedney Co., or Thomas & Betts Corp. with zinc electroplate steel or cast iron cover.
 - 2) For Wet Locations: Cast iron boxes by Cooper/Crouse-Hinds' (hot dipped galvanized or Corro-free epoxy powder coat), OZ/Gedney Co. (hot dipped galvanized), or Thomas & Betts Corp. (hot dipped galvanized) with stainless steel cover screws and cast iron cover gasketed to suit application.
 - c. Conduit Bodies, Threaded (Provided with a Volume Marking):
 - 1) For Dry, Damp Location: Zinc electroplate malleable iron or cast iron alloy bodies with zinc electroplate steel covers; Appleton Electric Co.'s Unilets, Cooper/Crouse-Hinds' Condulets, OZ/Gedney Co.'s Conduit Bodies, or Thomas & Betts Corp.'s Conduit Bodies.
 - 2) For Wet Locations: Malleable iron or cast iron alloy bodies with hot dipped galvanized or other specified corrosion resistant finish; Cooper/Crouse-Hinds' Condulets (hot dipped galvanized or Corro-free epoxy power coat), OZ/Gedney Co.'s Conduit Bodies (hot dipped galvanized), or Thomas & Betts Corp.'s Conduit Bodies (hot dipped galvanized) with stainless steel cover screws and malleable iron covers gasketed to suit application.
4. Specific Purpose Outlet Boxes: As fabricated by manufacturers for mounting their equipment.
5. For Fire Rated Construction:
 - a. Parameters For Use of Listed Metallic Boxes: UL Electrical Construction Equipment Directory - Metallic Outlet Boxes (QCIT).
 - b. Wall Opening Protective Materials: As listed in UL Fire Resistance Directory - Wall Opening Protective Materials (CLIV), or UL Electrical Construction Equipment Directory - Wall Opening Protective Materials (QCSN).

- C. Conductors and Accessories:
1. Date of Manufacture: No insulated conductor over one year old when delivered to the site will be acceptable.
 2. Conductors: Annealed uncoated copper or annealed coated copper in conformance with the applicable standards for the type of insulation to be applied on the conductor.
 3. Class 1 Wiring:
 - a. No. 18 and No. 16 AWG: Insulated copper conductors suitable for 600 volts, NFPA 70 types KF-2, KFF-2, PAFF, PF, PFF, PGF, PGFF, PTF, SF-2, SFF-2, TF, TFF, TFN, TFFN, ZF, or ZFF.
 - b. Larger than No. 16 AWG: Insulated copper conductors suitable for 600 volts, in compliance with NFPA 70 Article 310.
 - c. Conductor with other types and thickness of insulation may be used if listed for Class 1 circuit use.
 4. Class 2 Wiring:
 - a. Multiconductor Cables: NFPA 70 Article 725, Types CL2P, CL2R, CL2.
 - b. Other types of cables may be used in accordance with NFPA 70 Table 725-61 "Cable Uses and Permitted Substitutions", as approved.
 5. Class 3 Wiring:
 - a. Single Conductors No. 18 and No. 16 AWG: Same as Class 1 No. 18 and No. 16 AWG conductors, except that:
 - 1) Conductors are also listed as CL3.
 - 2) Voltage rating not marked on cable except where cable has multiple listings and voltage marking is required for one or more of the listings.
 - b. Multiconductor Cables: NFPA 70 Article 725, Types CL3P, CL3R, CL3.
 - c. Other types of cables may be used in accordance with NFPA 70, Table 725-61 "Cable Uses and Permitted Substitutions", as approved.
 6. Connectors:
 - a. General: Connectors specified are part of a system. Furnish connectors and components, and use specific tools and methods as recommended by connector manufacturer to form complete connector system.
 - b. Splices:
 - 1) Spring Type:
 - a) Rated 105° C, 600V; Buchanan/Ideal Industries Inc.'s B-Cap, Electrical Products Div./3M's Scotchlok Type Y, R, G, B, O/B+, R/Y+, or B/G+, or Ideal Industries Inc.'s Wing Nuts or Wire Nuts.
 - b) Rated 150° C, 600V; Ideal Industries Inc.'s High Temperature Wire-Nut Model 73B, 59B.

- 2) Indent Type with Insulating Jacket:
 - a) Rated 105° C, 600V; Buchanan/Ideal Industries Inc.'s Crimp Connectors, Ideal Industries Inc.'s Crimp Connectors, Penn-Union Corp.'s Penn-Crimps, or Thomas & Betts Corp.'s STA-KON.
 - 3) Indent Type (Uninsulated): Anderson/Hubbell's Versa-Crimp, VERSAtile, Blackburn/T&B Corp.'s Color-Coded Compression Connectors, Electrical Products Div./3M's Scotchlok 10000, 11000 Series, Framatome Connectors/Burndy's Hydent, Penn-Union Corp.'s BCU, BBCU Series, or Thomas & Betts Corp.'s Compression Connectors.
 - 4) Connector Blocks: NIS Industries Inc.'s Polaris System, or Thomas & Betts Corp.'s Blackburn AMT Series.
 - 5) Resin Splice Kits: Electrical Products Div./3M's Scotchcast Brand Kit Nos. 82A Series, 82-B1 or 90-B1, or Scotchcast Brand Resin Pressure Splicing Method.
 - 6) Heat Shrinkable Splices: Electrical Products Div./3M's ITCNS, Raychem Corp.'s Thermofit Type WCS, or Thomas & Betts Corp.'s SHRINK-KON Insulators.
 - 7) Cold Shrink Splices: Electrical Products Div./3M's 8420 Series.
7. Terminals: Nylon insulated pressure terminal connectors by Amp-Tyco/Electronics, Electrical Products Div./3M, Framatome Connectors/Burndy, Ideal Industries Inc., Panduit Corp., Penn-Union Corp., Thomas & Betts Corp., or Wiremold Co.
 8. Insulation Tapes:
 - a. Plastic Tape: Electrical Products Div./3M's Scotch Super 33+ or Scotch 88, Plymouth Rubber Co.'s Plymouth/ Bishop Premium 85CW.
 - b. Rubber Tape: Electrical Products Div./3M's Scotch 130C, or Plymouth Rubber Co.'s Plymouth/Bishop W963 Plysafe.
 9. Moisture Sealing Tape: Electrical Products Div./3M's Scotch 2200 or 2210, or Plymouth Rubber Co.'s Plymouth/Bishop 4000 Plyseal-V.
 10. Wire Management Products: Cable clamps and clips, cable ties, spiral wraps, etc., by Catamount/T&B Corp., or Ideal Industries Inc.
- D. Supporting Devices:
1. "C" Beam Clamps:
 - a. For 1 Inch Conduit Maximum: B-Line Systems Inc.'s BG-8-C2 and BP-8-C1 Series, or Caddy Fastener Div./Erico Products Inc.'s BC-8P and BC-8PSM Series.
 - b. For 3 Inch Conduit Maximum: Appleton Electric Co.'s BH-500 Series beam clamp with H50W/B Series hangers, Kindorf/T&B Corp.'s 500 Series beam clamp with 6H0-B Series hanger, or OZ/Gedney Co.'s IS-500 Series beam clamp with H-OWB Series hanger.
 - c. For 1/4 Inch Hanger Rods: B-Line Systems Inc.'s BC, Caddy Fastener Div./Erico Products Inc.'s BC, Kindorf/T&B Corp.'s 500-SC, 510, or Unistrut Corp.'s P1648S, P2398S, P2675, P2676.

- d. For 3/8 Inch Hanger Rods: B-Line Systems Inc.'s BC, Caddy Fastener Div./Erico Products Inc.'s BC, Kindorf/T&B Corp.'s E231-3/8, 502, or Unistrut Corp.'s P1649AS, P2401S, P2675, P2676.
- 2. Pipe Straps: Two hole steel conduit straps; Kindorf/T&B Corp.'s C-144 Series.
- 3. Pipe Clamps: One hole malleable iron clamps; Kindorf/T&B Corp.'s HS-400 Series, or OZ/ Gedney Co.'s 14-50 Series.
- 4. Supporting Fastener (Metal Stud Construction): Metal stud supports, clips and accessories as produced by Caddy Fastener Div./Erico Products Inc.

PART 3 EXECUTION

3.01 INSTALLATION, GENERAL

- A. Power Wiring: Not included in this Contract (provided by Electric Contractor).
Exception:
 - 1. Where a power source (at junction box, enclosed circuit breaker, safety switch, or panelboard) is provided by the Electric Contractor, provide power wiring from the power source to the equipment.
- B. Control Wiring: Provide control wiring and connections.
 - 1. Where control circuit interlocking is required between individually mounted motor controllers, provide a single pole on-off switch in a threaded type box mounted adjacent to motor safety switches which are remote from the control transformer (to enable interlock circuit to be opened when the motor safety switch is opened).

3.02 RACEWAY INSTALLATION

- A. Conduit Installed Concealed:
 - 1. Install conduit concealed unless otherwise indicated on the drawings.
 - 2. New Construction:
 - a. Run conduit in the ceilings, walls, and partitions.
 - b. Concrete Floor Slabs (Concrete slabs that are both ceilings and floors shall be treated as floor slabs):
 - 1) Conduit in Slab: Run 1/2 and 3/4 inch conduit in the slab where placement of reinforcement and slab thickness is sufficient to allow 1-1/2 inches of concrete cover over conduit, otherwise run conduit under slab. Run conduit one inch and larger in the slab in the specific location(s) where it is indicated on the drawing to be run in the slab, otherwise run conduit under slab.
 - a) Run conduit under reinforcement where reinforcement is in upper portion or middle of slab.
 - b) Run conduit over reinforcement where reinforcement is in lower portion of slab.

- c) Run conduit between reinforcement where reinforcement is in upper and lower portions of slab.
 - d) Separate parallel conduits minimum of 2 inches so that each conduit will be enveloped in concrete.
 - e) Pass conduit over steel beams, if any, parallel with the reinforcement.
 - f) Tie down conduit to avoid movement during placement of concrete.
 - g) Demonstrate to the Director's Representative that conduit has been placed to allow minimum of 1-1/2 inches of concrete cover.
- 2) Conduit Under Slab on Grade:
 - a) Run conduit under vapor barrier (if any).
 - b) Install equipment grounding conductor in each conduit. Bond at boxes and equipment to which conduit is connected.
 - 3) Conduit Under Slab, Above Finished Ceiling:
 - a) Attach conduit to bottom of slab or structure supporting the slab.
 - b) Firestop through-penetrations of the slab.
4. If any portions of the conduit system cannot be installed concealed due to conditions encountered in the building, report such conditions and await approval in writing before proceeding.
- B. Conduits Penetrating Concrete Floor Slabs (Concrete slabs that are both ceilings and floors shall be treated as floor slabs):
- 1. Provide a minimum of 2 inches between conduits that vertically penetrate elevated concrete slabs.
 - 2. Provide firestopping and spray on fireproofing at locations where conduits penetrate surface of floor slab and slab is part of fire rating required for construction.
- C. Conduit Installed Exposed:
- 1. Install conduit exposed where indicated on the drawings. If not indicated, conduit may be installed exposed, as approved, in:
 - a. Unfinished spaces, and finished spaces housing mechanical or electrical equipment that is generally accessible only to facility maintenance personnel.
 - b. Areas where existing conduits have been installed exposed.
 - c. Areas where conduit cannot be installed concealed.
 - 2. Install conduit tight to the surface of the building construction.
Exceptions:
 - a. Where otherwise indicated or directed.
 - b. Where conduit is exposed in wet locations. Install entire wiring system including conduit, boxes, and fittings so that there is 1/4 inch air space between it and the wall or supporting surface.
 - 3. Install vertical runs perpendicular to the floor.
 - 4. Install runs on the ceiling perpendicular or parallel to the walls.
 - 5. Install horizontal runs parallel to the floor.

6. Do not run conduits near heating pipes.
 7. Installation of conduit directly on the floor will not be permitted.
- D. Conduit Size: Not smaller than 1/2 inch electrical trade size.
- E. Raceways Exposed to Different Temperatures: Where portions of an interior raceway system are exposed to widely different temperatures, seal interior and exterior of raceway to prevent circulation of air from a warmer to a colder section through the raceway installation.
1. Refrigerated Rooms: Install conduit body or junction box in the raceway system on warm side of refrigerated room. After conductors are installed, seal interior of the raceway at the conduit body or junction box.
 2. Heated Areas to Unheated Areas: After conductors are installed, seal interior of the raceway at the nearest conduit body, outlet or junction box in the heated area adjoining the unheated area.
- F. Conduit in Waterproofed Floors: Install conduit runs in waterproof floors to avoid penetrating the waterproofing. Avoid penetration of waterproofing with conduit risers so far as practicable.
1. Where it is necessary to puncture the waterproofing for a conduit riser, install a standard weight steel pipe sleeve extending one inch above the finished floor level. Flash the steel pipe sleeve to the waterproofing with 16 ounce copper. Construct the flashing with a copper tube extending the full height of the sleeve, soldered to a copper base extending 6 inches in all directions from the sleeve.
 2. The flashing will be integrated into the waterproofing by the Construction Contractor. Provide solid cast brass floor plates with chromium finish where pipe sleeves are exposed in rooms.
- G. Conduit in Hazardous Areas: Install Work in hazardous areas in accordance with NFPA 70 - National Electrical Code.
1. Install sealing fittings in concealed conduit runs in a recessed box with blank face plate to match other face plates in the area.
- H. Raceway Schedule:
1. Rigid Ferrous Metal Conduit: Install in all locations unless otherwise specified or indicated on the drawings.
 2. Intermediate Metal Conduit: May be installed in all dry and damp locations except:
 - a. Hazardous areas.
 - b. Where other type raceways are specified or indicated on the drawings.
 3. Electrical Metallic Tubing:
 - a. May be installed concealed above suspended ceilings where conduit does not support equipment.
 - b. May be installed concealed in hollow areas in dry locations, including:
 - 1) Hollow concrete masonry units, except where cores are to be filled.
 - 2) Drywall construction with sheet metal studs, except where studs are less than 3-1/2 inches deep.

- c. May be installed exposed as branch circuit conduits in dry non-hazardous locations at elevations over 10'-0" above finished floor where conduit does not support equipment.
- 4. Flexible Metal Conduit: Install equipment grounding conductor in the flexible metal conduit and bond at each box or equipment to which conduit is connected:
 - a. Use 1 to 3 feet of flexible metal conduit for final conduit connection to:
 - 1) Equipment subject to vibration (dry locations).
 - 2) Equipment requiring flexible connection for adjustment or alignment (dry locations).
 - b. Use above existing non-removable suspended ceilings where rigid type raceways cannot be installed due to inaccessibility of space above ceiling.
 - c. May be installed concealed in drywall construction with sheet metal studs, except where studs are less than 3-1/2 inches deep.
- 5. Liquid-tight Flexible Metal Conduit: Use 1 to 3 feet of liquid-tight flexible metal conduit (UL listed and marked suitable for the installation's temperature and environmental conditions) for final conduit connection to:
 - a. Equipment subject to vibration (damp and wet locations).
 - b. Equipment requiring flexible connection for adjustment or alignment (damp and wet locations).
- 6. Surface Metal Raceway: Use as exposed raceway system in finished spaces at locations, when approved, where raceways cannot be installed concealed:
 - a. Use surface metal raceway system of size required for number of wires to be installed therein.
 - b. Do not run raceway through walls that have a plaster finish nor through masonry walls or floors. Install a pipe sleeve, or a short length of conduit with junction boxes or adapter fittings for raceway runs through such areas. Run raceway along top of baseboards, care being taken to avoid telephone and other signal wiring. Where raceway crosses chair railing or picture molding, cut the chair railing or picture molding to permit the raceway to lie flat against the wall. Run raceway around door frames and other openings. Run raceway on ceiling or walls perpendicular to or parallel with walls and floors.
 - c. Secure raceway at intervals not exceeding 36 inches.
 - d. Where equipment is mounted on an outlet box and the equipment base is larger than the outlet box, provide finishing collar around equipment base and outlet box or provide finishing collar/outlet box:
 - 1) Finishing Collar: Same finish and peripheral dimensions as the equipment base, including provisions for mounting, slots to fit over raceway and of depth to cover outlet box and extend back to ceiling or wall.

- 2) Combination Finishing Collar/Outlet Box: Same finish and peripheral dimensions as the equipment base to be mounted thereon, gage or thickness of metal as required by National Electrical Code, including provision for mounting and knockouts for entrance of raceway.
7. Wireways: May be used indoors in dry locations for exposed raceway between grouped, wall mounted equipment.

I. Fittings and Accessories Schedule:

1. General:
 - a. Use fittings and accessories that have a temperature rating equal to, or higher than the temperature rating of the conductors to be installed within the raceway.
 - b. Use zinc electroplate or hot dipped galvanized steel/malleable iron or cast iron alloy fittings and accessories in conjunction with ferrous raceways in dry and damp locations unless otherwise specified or indicated on the drawings.
 - c. Use malleable iron or cast iron alloy fittings and accessories having hot dipped/mechanically galvanized finish or other specified corrosion resistant finish in conjunction with ferrous raceways in wet locations unless otherwise specified or indicated on the drawings.
 - d. Use caps or plugs to seal ends of conduits until wiring is installed (to exclude foreign material).
 - e. Use insulated grounding bushings on the ends of conduits that are not directly connected to the enclosure (such as stub-ups under equipment, etc.) and bond between bushings and enclosure with equipment grounding conductor.
 - f. Use expansion fittings where raceways cross expansion joints.
 - g. Use deflection fittings where raceways cross expansion joints that move in more than one plane.
 - h. Use 2 locknuts and an insulated bushing on end of each conduit entering sheet metal cabinet or box in dry or damp locations.
 - 1) Plastic bushings may be used on 1/2 and 3/4 inch conduit in lieu of insulated bushing.
 - 2) Terminate conduit ends within cabinet/box at the same level.
 - i. Use watertight hub on end of each conduit entering cabinets or boxes (in wet locations) that are not constructed with integral threaded hubs.
2. For Rigid and Intermediate Metal Conduit: Use threaded fittings and accessories. Use 3 piece conduit coupling where neither piece of conduit can be rotated.
3. For Electrical Metallic Tubing: Use compression type connectors and couplings.
4. For Flexible Metal Conduit: Use flexible metal conduit connectors.
5. For Liquid-tight Flexible Metal Conduit: Use liquid-tight connectors.
6. For Surface Metal Raceway: Use raceway manufacturer's standard fittings and accessories.
7. For Wireways: Use wireway manufacturer's standard fittings and accessories.

3.03 OUTLET, JUNCTION AND PULLBOX INSTALLATION

- A. Boxes For Concealed Conduit System:
 - 1. Non-Fire Rated Construction:
 - a. Depth: To suit job conditions and comply with NFPA 70 Article 370.
 - b. For Junction and Pull Boxes: Use galvanized steel boxes with flush covers.
 - c. For Devices:
 - 1) Plaster or Cast-In-Place Concrete Walls: Use 4 inch or 4-11/16 inch galvanized steel boxes with device covers.
 - 2) Walls Other Than Plaster or Cast-In-Place Concrete: Use type of galvanized steel box that will allow device to cover the opening made for the installation of the box.
 - 2. Recessed Boxes in Fire Rated (2 hour maximum) Bearing and Nonbearing Wood or Steel Stud Walls (Gypsum Wallboard Facings):
 - a. Use listed single and double gang metallic device boxes. The surface area of individual device box shall not exceed 16 square inches.
 - b. The aggregate surface area of the boxes shall not exceed 100 square inches per 100 square feet of wall surface.
 - c. Securely fasten boxes to the studs. Verify that the opening in the wallboard facing is cut so that the clearance between the box and the wallboard does not exceed 1/8 inch.
 - d. Separate boxes located on opposite sides of walls or partitions by a minimum horizontal distance of 24 inches. This minimum separation distance may be reduced when wall opening protective materials are installed according to the requirements of their classification.
 - e. Use wall opening protective material in conjunction with boxes installed on opposite sides of walls or partitions of staggered stud construction in accordance with the classification requirements for the protective material.
 - 3. Other Fire Rated Construction: Use materials and methods to comply with the listing requirements for the classified construction.
- B. Boxes For Exposed Conduit System:
 - 1. Dry and Damp Locations: Use zinc electroplate or hot dipped galvanized threaded type malleable iron or cast iron alloy outlet, junction, and pullboxes or conduit bodies provided with a volume marking in conjunction with ferrous raceways unless otherwise specified or indicated on the drawings.
 - a. Galvanized steel boxes may be used in conjunction with conduit sizes over 1 inch in non-hazardous dry and damp locations.
 - b. Galvanized steel boxes may be used in conjunction with electrical metallic tubing where it is installed exposed as branch circuit conduits at elevations over 10'-0" above finished floor.

2. Wet Locations: Use threaded type malleable iron or cast iron alloy outlet junction, and pullboxes or conduit bodies (provided with a volume marking) with hot dipped galvanized or other specified corrosion resistant coating in conjunction with ferrous raceways unless otherwise specified or indicated on the drawings.
 3. Finishing Collar or Combination Finishing Collar/Outlet Box (Surface Mounted Equipment Used With Exposed Raceway):
 - a. Use finishing collar where surface mounted equipment is installed on an exposed raceway outlet box and the equipment base is larger than the outlet box.
 - b. Use combination finishing collar/outlet box where surface mounted equipment is not indicated to be installed on an exposed raceway outlet box, but raceway cannot be run directly into equipment body due to equipment design.
- C. Specific Purpose Outlet Boxes: Use to mount equipment when available and suitable for job conditions. Unless otherwise specified, use threaded type boxes with finish as specified for exposed conduit system, steel (painted) for surface metal raceway system and galvanized steel for recessed installations.

3.04 CONDUCTOR INSTALLATION

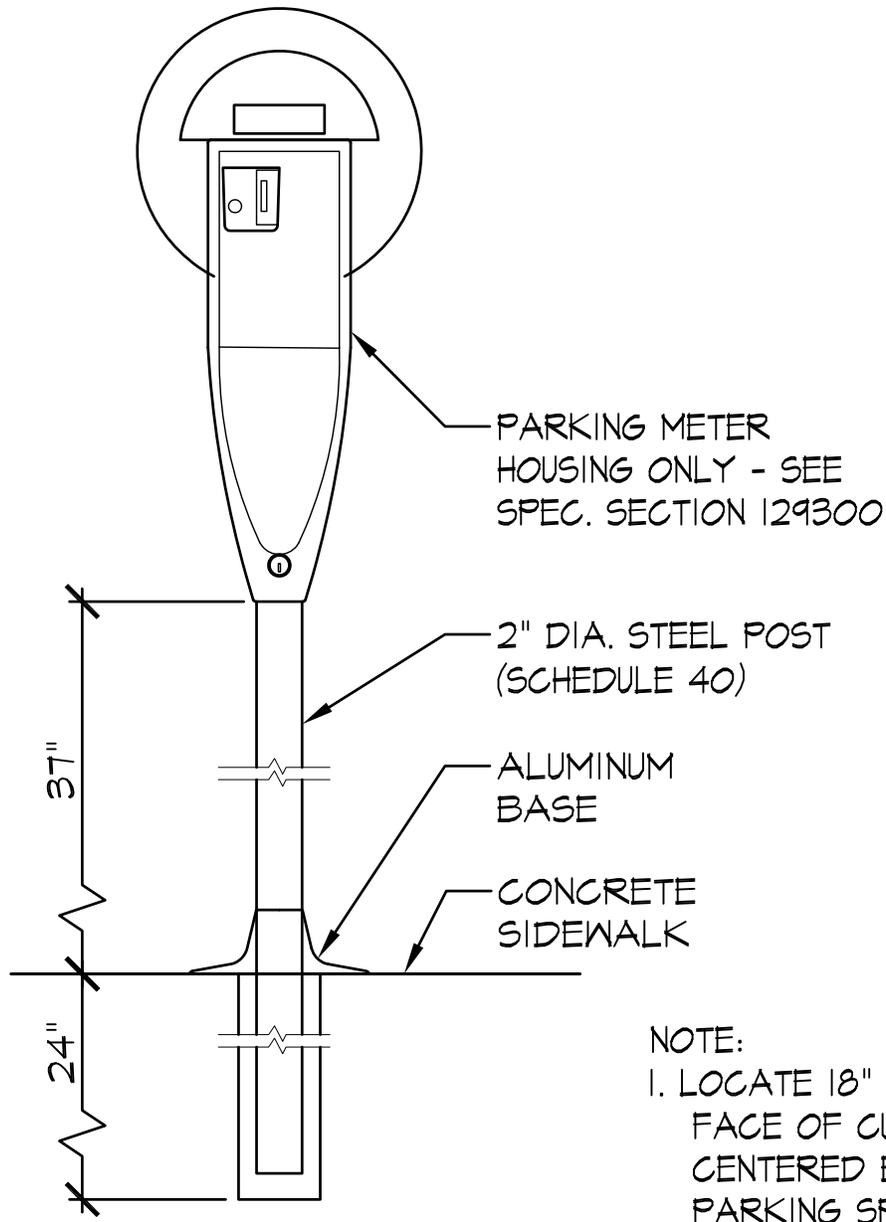
- A. Install conductors in raceways.
- B. Conductor Size: Install conductors of size shown on drawings. Where size is not indicated for control wiring, the minimum size allowed is:
 1. For Class 1 Circuits:
 - a. No. 18 and No. 16 AWG may be used provided they supply loads that do not exceed 6 amps (No. 18 AWG), or 8 amps (No. 16 AWG).
 - b. Larger than No. 16 AWG: Use to supply loads not greater than the ampacities given in NFPA 70 Section 310-15.
 2. For Class 2 Circuits: Any size to suit application.
 3. For Class 3 Circuits: No. 18 AWG.
- C. Color Code for Control Circuits: In accordance with ICEA/NEMA WC-30 "Color Coding of Wires and Cables". Other coding methods may be used, as approved.
- D. Wire Management: Use wire management products to bundle, route, and support wiring in junction boxes, pullboxes, wireways, gutters, channels, and other locations where wiring is accessible.
- E. Insulated Conductor Schedule:
 1. Class 1 Circuits: Use Class 1 wiring specified in Part 2 (except where special type insulation is required).
 2. Class 2 Circuits: Use Class 2 wiring specified in Part 2 (except where special type insulation is required).
 3. Class 3 Circuits: Use Class 3 wiring specified in Part 2 (except where special type insulation is required).

- F. Connector Schedule:
1. Splices:
 - a. Dry Locations: For Conductors No. 8 AWG or Smaller: Use spring type pressure connectors, indent type pressure connectors with insulating jackets, or connector blocks (except where special type splices are required).
 - b. Damp Locations: As specified for dry locations, except apply moisture sealing tape over the entire insulated connection (moisture sealing tape not required if heat shrinkable splices or cold shrink splices are used).
 - c. Wet Locations: Use uninsulated indent type pressure connectors and insulate with resin splice kits, cold shrink splices or heat shrinkable splices. Exception: Splices above ground which are totally enclosed and protected in NEMA 3R, 4, 4X enclosures may be spliced as specified for damp locations.
 2. Terminations:
 - a. For Conductors No. 10 AWG or Smaller: Use terminals for connecting control wiring to terminal strips, and to equipment designed for use with terminals.

3.05 SUPPORTING DEVICE INSTALLATION

- A. Attachment of Conduit System:
1. Wood Construction: Attach conduit to wood construction by means of pipe straps or pipe clamps and wood screws or lag bolts.
 2. Masonry Construction: Attach conduit to masonry construction by means of pipe straps or pipe clamps and masonry anchorage devices.
 3. Steel Beams: Attach conduit to steel beams by means of "C" beam clamps and hangers.
 4. Conduit Above Suspended Ceiling: Do not rest conduit directly on runner bars, T-bars, etc. Support conduit from ceiling supports or from construction above suspended ceiling.
- B. Metal Stud Construction: Attach raceways and boxes to metal studs by means of supporting fasteners manufactured specifically for the purpose.
1. Support and attach outlet boxes so that they cannot torque/twist. Either:
 - a. Use bar hanger assembly, or:
 - b. In addition to attachment to the stud, also provide far side box support.

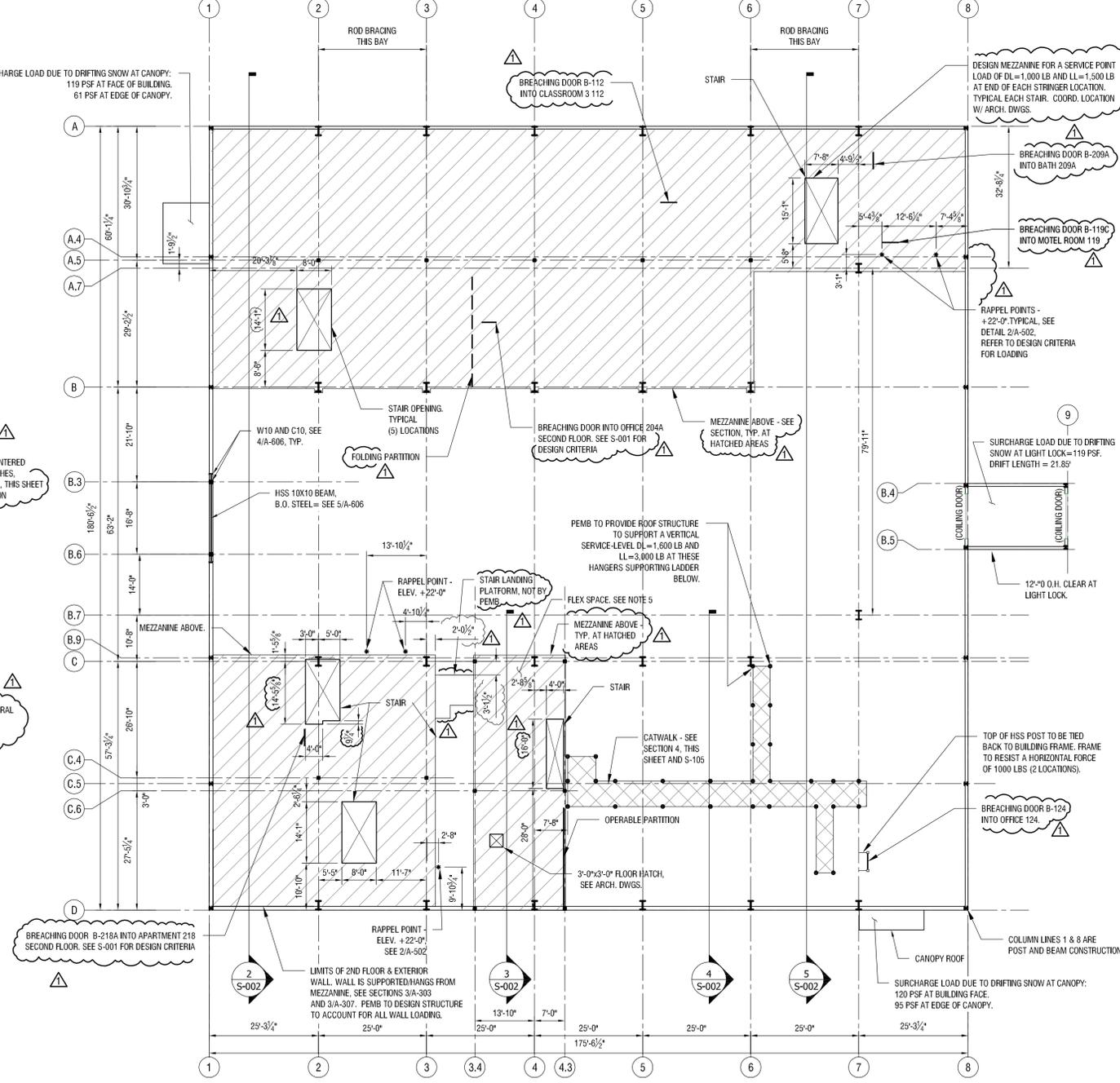
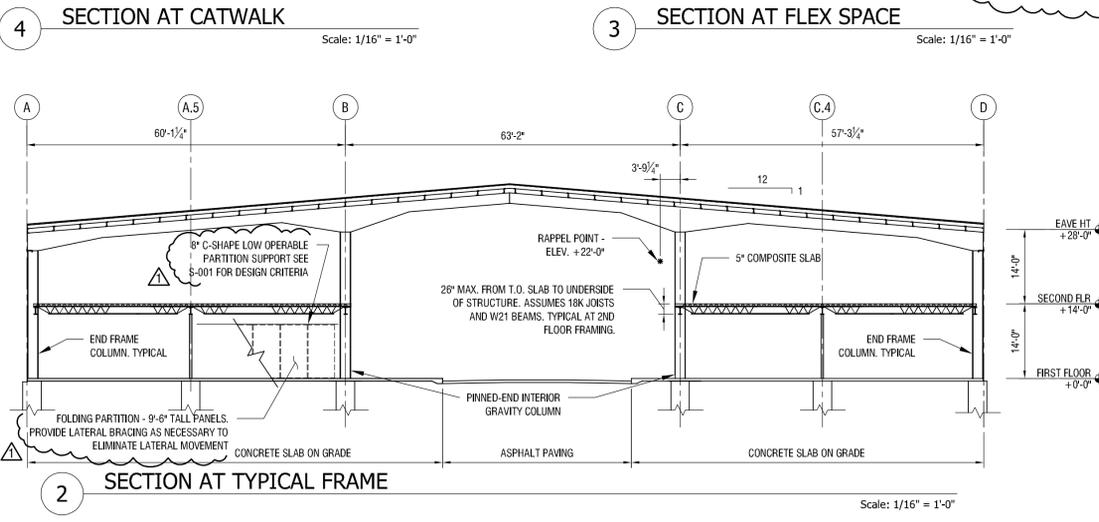
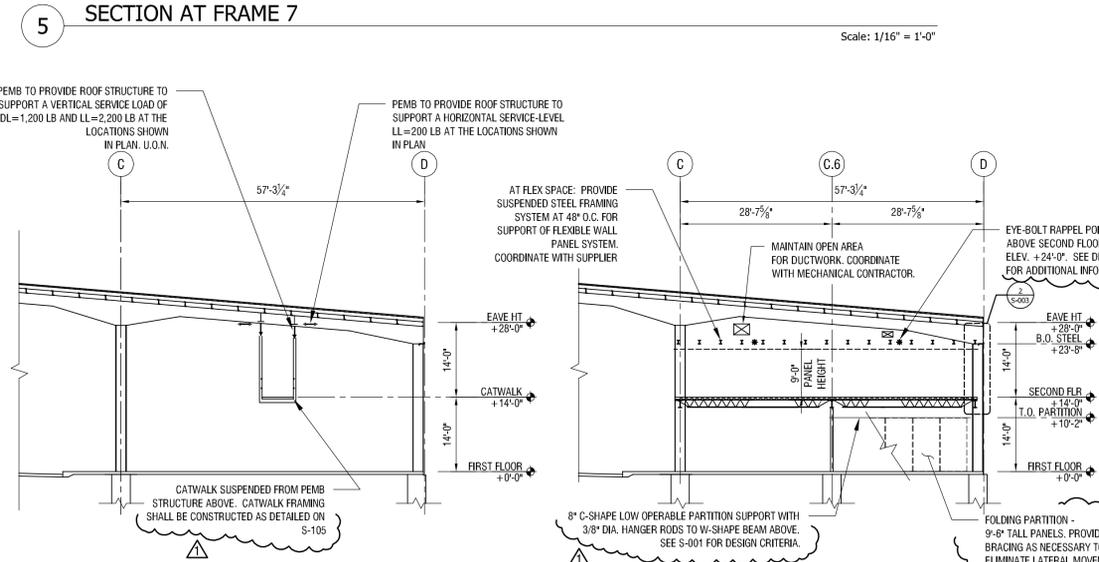
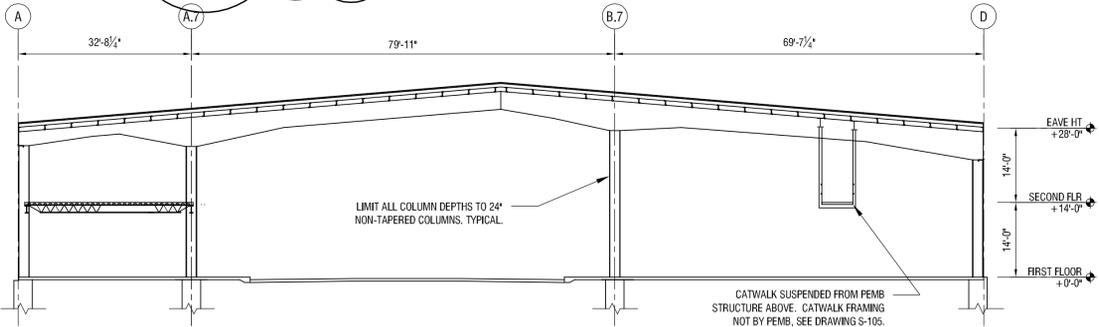
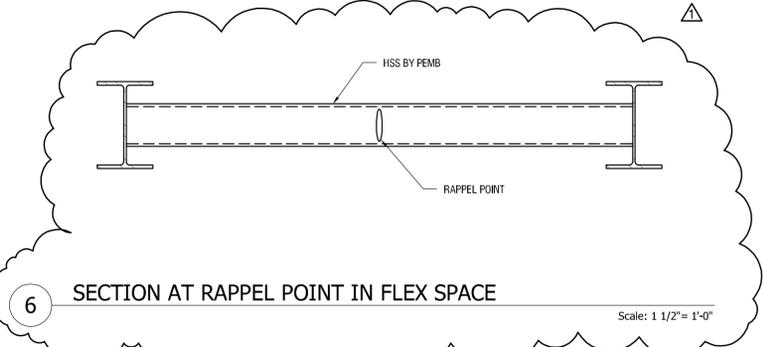
END OF SECTION



12 PARKING METER
501

ADDENDUM DRAWING 8/15/12

 <p>NYS OFFICE OF GENERAL SERVICES <i>Serving New York</i></p>	SHEET TITLE: PARKING METER	
	PROJECT: PROVIDE CITY SCAPE COMPLEX	
	<small>WARNING: THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS 'A' MISDEMEANOR.</small>	DWG NO: L-001
	CONTRACT: CONSTRUCTION	
PROJ. NO: 44014		
DATE: 8/15/2012		
DRAWN: D. MILLER		
APPROVED: -		



- PRE-ENGINEERED METAL BUILDING NOTES:**
1. THE STRUCTURAL ENGINEER OF RECORD IS NOT RESPONSIBLE FOR THE DESIGN OF THE PRE-ENGINEERED METAL BUILDING. THE PRE-ENGINEERED METAL BUILDING, ANCHOR BOLT DESIGN AND LAYOUT ARE TO BE PROVIDED BY THE METAL BUILDING MANUFACTURER. FINAL DRAWINGS, ANCHOR BOLT PLANS AND COLUMN REACTIONS ARE TO BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER AND SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW. ALL DRAWINGS AND SUPPORTING CALCULATIONS SHALL BE SEALED BY AN ENGINEER LICENSED IN THE STATE OF NEW YORK. MINIMUM ANCHOR BOLT LENGTHS ARE GIVEN IN DETAIL 1/S-202.
 2. SEE S-001 FOR DETAILED DESIGN CRITERIA.
 3. ALONG COLUMN LINES 2 THROUGH 7 PROVIDE RIGID FRAMES WITH PINNED COLUMN ENDS, TRANSFERRING NO MOMENTS TO FOUNDATIONS.
 4. ALONG COLUMN LINES 1 AND 8 PROVIDE POST AND BEAM FRAMING WITH PINNED COLUMN ENDS, TRANSFERRING NO MOMENTS TO FOUNDATION.
 5. THE FLEX SPACE AT MEZZANINE LEVEL CONTAINS A PANELIZED WALL SYSTEM THAT MOVES ALONG A TRACK WITH SUPPORTS AT 4' O.C. CONTACT FOLDABLE PANEL SYSTEM MANUFACTURER FOR LOADING CRITERIA. LOADING CRITERIA FOR BASIS OF DESIGN IS AS FOLLOWS:
 - A. 4'-0" x 8'-3" PANEL WEIGHT: BASIC=205 LB, WINDOW=200 LB, DOOR=355 LB
 - B. RACK: FIRST FLOOR: 3.6 PLF, SECOND FLOOR: LESS THAN ONE PLF
 6. SEE THE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
 7. ALL COMPONENTS SHALL BE DESIGNED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION AND THE AMERICAN IRON AND STEEL INSTITUTE.
 8. INCLUDE STRUCTURAL STEEL FRAMING AS NECESSARY FOR SUPPORT OF ROOFTOP HVAC UNITS.
 9. PROVIDE FRAMING MADE OF STRUCTURAL W- AND HSS SHAPES AROUND THE TWO (2) LARGE OVERHEAD DOORS. COLD-FORMED CHANNEL JAMBS ARE NOT PERMITTED. DESIGN THE FRAMING FOR ALL EFFECTS OF WIND AND DEAD LOADS INCLUDING CATERWAY FORCES.
 10. PERMANENT BUILDING BRACING SHALL NOT BE RELIED ON DURING ERECTION. DESIGN AND PROVIDE TEMPORARY LATERAL BRACING DURING CONSTRUCTION UNTIL PERMANENT BRACING IS IN PLACE.

- PRE-ENGINEERED METAL BUILDING NOTES (CONT.):**
11. BASE PLATE SIZES SHALL BE DESIGNED TO FIT ON THE FOUNDATION PIERS PROVIDED.
 12. USE RODS, NOT CABLES, FOR WALL AND ROOF BRACING IN THE BAYS SHOWN.
 13. METAL ROOF AND PURLINS SHALL BE FABRICATED, SUPPLIED AND ERECTED BY THE SAME MANUFACTURER.
 14. SHOP DRAWINGS AND CALCULATIONS SHALL BE PERFORMED BY A PROFESSIONAL ENGINEER LICENSED IN NEW YORK STATE AND SUBMITTED FOR REVIEW BY STRUCTURAL ENGINEER. SHOP DRAWINGS SHALL INDICATE MEMBER SIZES AND CONNECTIONS. PROVIDE DESIGN CALCULATIONS FOR ALL STRUCTURAL FRAMING, PURLINS, GIRTS, BRACING, CONNECTIONS, AND ANCHOR BOLTS.
 15. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR ROOF SUPPORTED EQUIPMENT AND PROVIDE SUPPORT FOR ADDITIONAL LOADS AS REQUIRED. INDICATE ALL FINAL UNIT LOCATIONS ON SHOP DRAWINGS.
 16. MAXIMUM PURLIN SPACING SHALL BE 5'-0" O.C. WITH A MAXIMUM ALLOWABLE TOTAL LOAD DEFLECTION OF L/240. STEEL FRAMING SUPPORTING MASONRY AGAINST WIND LOADING SHALL BE DESIGNED FOR A MAXIMUM ALLOWABLE LATERAL WIND LOAD DEFLECTION OF L/600. ALL OTHER WIND COLUMNS AND GIRTS SHALL BE DESIGNED FOR A MAXIMUM ALLOWABLE TOTAL LOAD DEFLECTION OF L/300.
 17. WELDED JOINTS SHALL COMPLY WITH REQUIREMENTS OF A.I.S.I. D1.1. CONTRACTOR SHALL RETAIN AN INDEPENDENT TESTING LABORATORY TO INSPECT AND TEST SHOP FABRICATION OF WELDED JOINTS TO VERIFY COMPLIANCE. COPIES OF TEST REPORTS SHALL BE SENT TO ENGINEER OF RECORD. JOINTS WHICH FAIL TESTS SHALL BE REWORKED AND RETESTED AT FABRICATOR'S EXPENSE UNTIL ACCEPTABLE.
 18. THE BUILDING MANUFACTURER SHALL COORDINATE WITH THE ARCHITECTURAL DRAWINGS AND LOCATE WALL BRACING SO AS NOT TO CONFLICT WITH DOOR AND WINDOW OPENINGS.
 19. MAXIMUM ALLOWABLE DRIFT OF FRAMES SHALL NOT EXCEED THE EAVE HEIGHT/300 UNDER DESIGN WIND AND/OR SEISMIC LOAD. LATERAL DRIFT CALCULATIONS SHALL BE BASED ON THE STIFFNESS OF THE RIGID FRAMES ONLY. STIFFNESS FROM OTHER COMPONENTS SHALL BE NEGLECTED.
 20. THE METAL BUILDING DESIGN ENGINEER, OR A MEMBER OF HIS STAFF, SHALL INSPECT THE COMPLETED METAL BUILDING FRAME AND COMPONENTS TO INSURE COMPLIANCE WITH THE INTENT OF THE DESIGN. VERIFICATION OF COMPLIANCE SHALL BE PROVIDED IN WRITING TO THE ARCHITECT/STRUCTURAL ENGINEER OF RECORD.

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NYS OFFICE OF GENERAL SERVICES
Serving New York

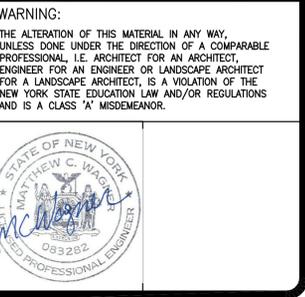
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ROANN M. DESTITO
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CONTRACT:
CONSTRUCTION
TITLE: PROVIDE CITYSCAPE COMPLEX

LOCATION:
STATE PREPAREDNESS TRAINING CENTER
5900 AIRPORT ROAD
ORISKANY, NY 13424

CLIENT:
DIVISION OF HOMELAND SECURITY
& EMERGENCY SERVICES

REVISED DRAWING
08/15/2012

MARK	DATE	DESCRIPTION
△	08/15/2012	ADDENDUM NO. 2
△	07/05/2012	FINAL SUBMISSION

PROJECT NUMBER: 44014 - C

DESIGNED BY:

DRAWN BY:

FIELD CHECK:

APPROVED:

SHEET TITLE:
PEMB DESIGN CRITERIA AND PERFORMANCE REQUIREMENTS (1 of 2)

DRAWING NUMBER:
S-002

SHEET X OF



NYS OFFICE OF GENERAL SERVICES

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LOCATION: STATE PREPAREDNESS TRAINING CENTER
5900 AIRPORT ROAD
ORISKANY, NY 13424

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& EMERGENCY SERVICES

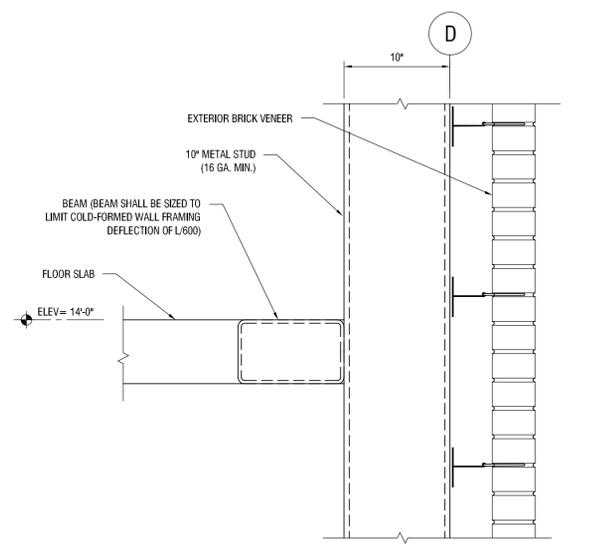
REVISED DRAWING
08/15/2012

MARK	DATE	DESCRIPTION
△	08/15/2012	ADDENDUM NO. 2
	07/05/2012	FINAL SUBMISSION
PROJECT NUMBER:	44014 - C	
DESIGNED BY:		
DRAWN BY:		
FIELD CHECK:		
APPROVED:		

PEMB DESIGN CRITERIA
AND PERFORMANCE
REQUIREMENTS (2 of 2)

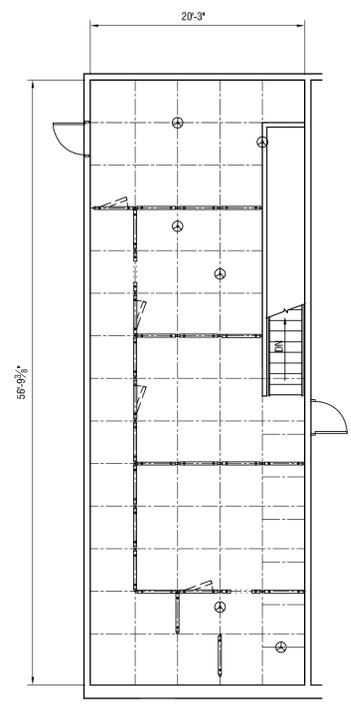
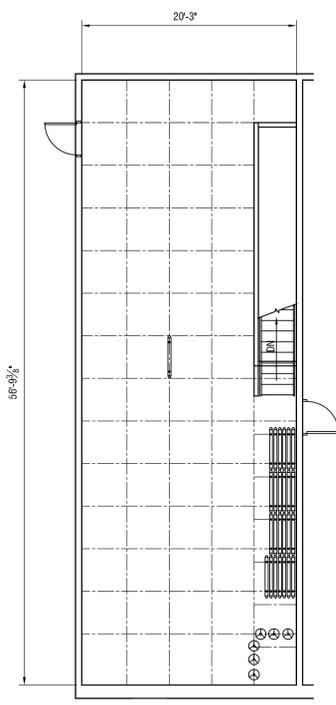
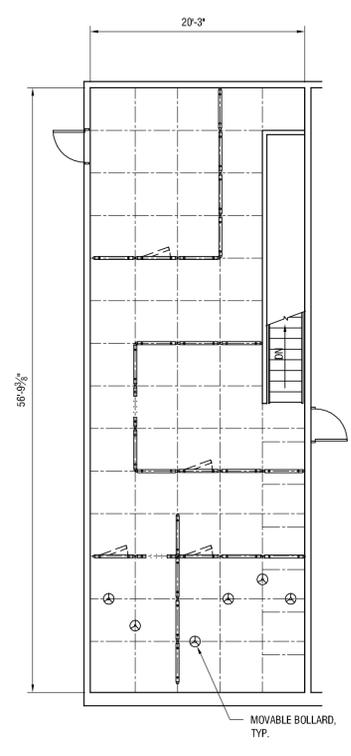
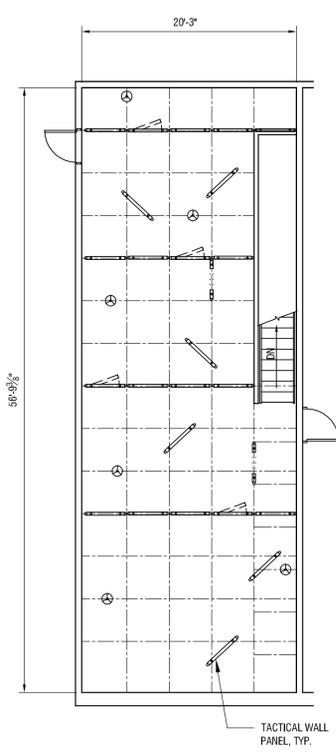
DRAWING NUMBER:
S-003

SHEET X OF -

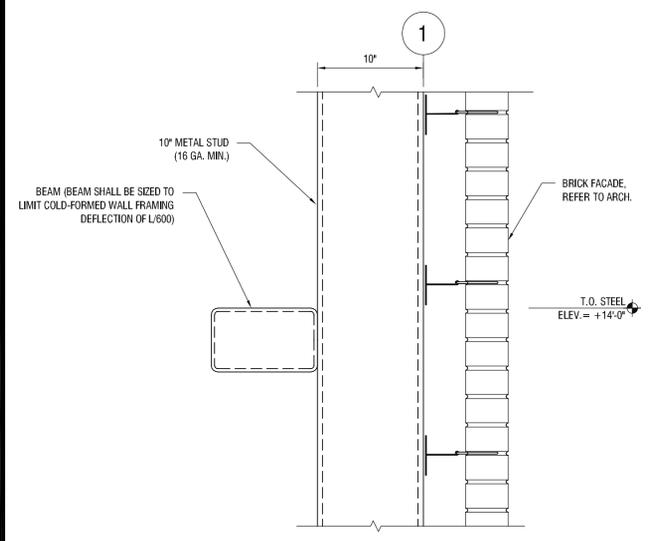


3 SOUTH WALL SECTION

Scale: 1 1/2"=1'-0"

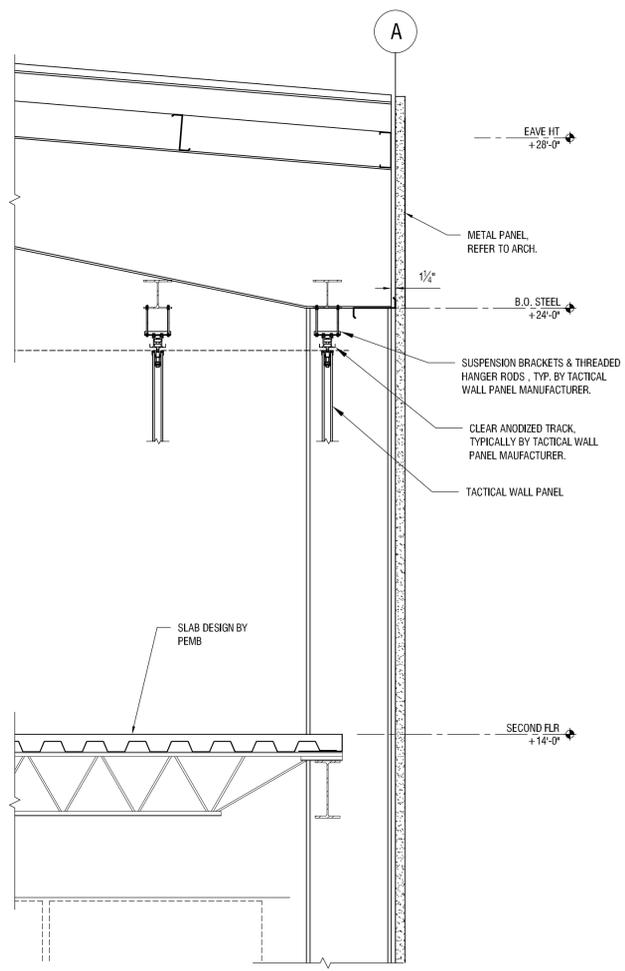


△ **1 FLEX ROOM OPERABLE PANEL LOADING CONDITIONS**
NOTE: SEE NOTE 5 ON S-002 FOR LOADING CRITERIA. Scale: 1/8"=1'-0"



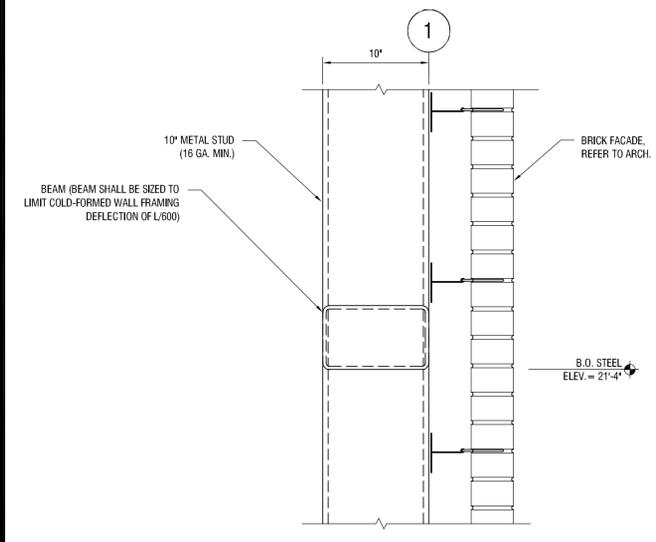
5 WEST WALL SECTION (BETWEEN GRID LINES A & B/C & D)

Scale: 1 1/2"=1'-0"



2 WALL PANEL AT NORTH WALL (EAST SIM.)

Scale: 1"=1'-0"



4 WEST WALL SECTION (BETWEEN GRID LINES B & C)

Scale: 1 1/2"=1'-0"

36x24 PLDT SHEET

ARCHITECTURAL ABBREVIATIONS

(ALL SYMBOLS SHOWN ARE NOT NECESSARILY USED ON THE DRAWINGS)

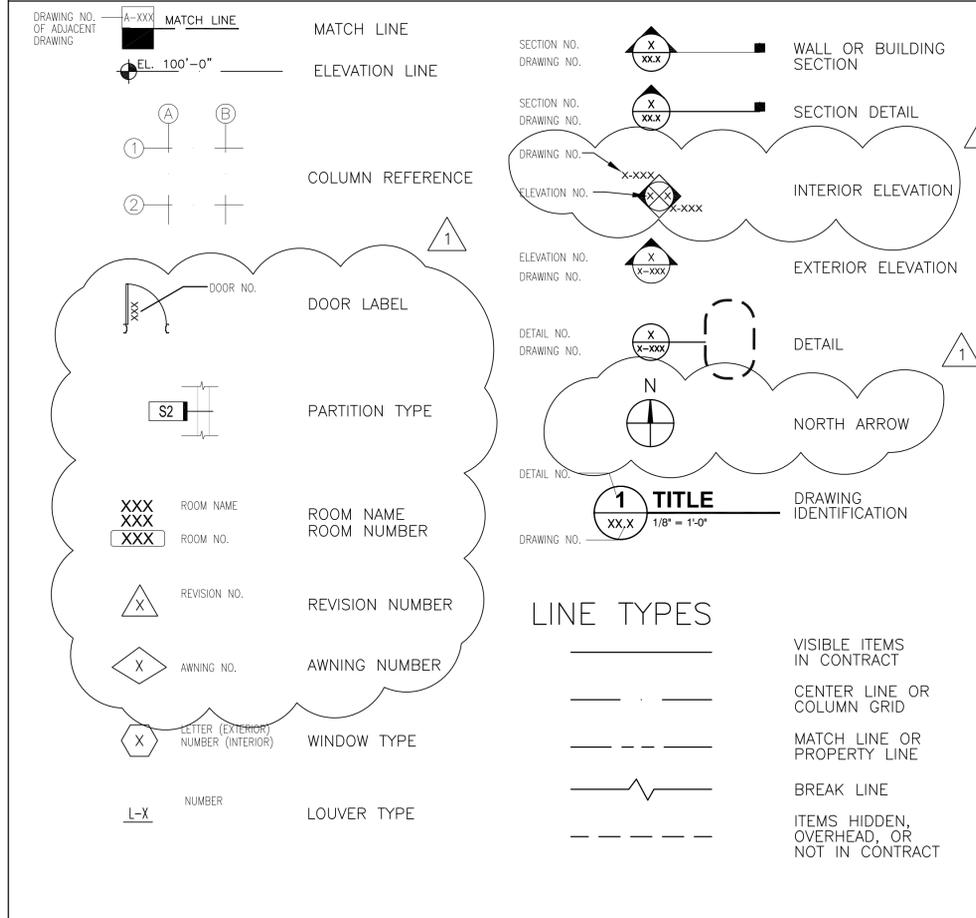
<u>A</u>	
AB	ANCHOR BOLT
A/C	AIR CONDITIONING
ACOUS	ACOUSTICAL
ACT	ACOUSTICAL CEILING TILE
AD	AREA DRAIN
ADH	ADHESIVE
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AGGR	AGGREGATE
AHU	AIR HANDLING UNIT
AL	ALUMINUM
ALUM	ALUMINUM
ANCH	ANCHOR
ANOD	ANODIZED
AP	ACCESS PANEL
APPX	APPROXIMATE
ARCH	ARCHITECTURAL
ASB	ASBESTOS
ASPH	ASPHALT
AUTO	AUTOMATIC
<u>B</u>	
BC	BOTTOM OF CURB
BD	BOARD
BITUM	BITUMINOUS
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BSMT	BASEMENT
B/S	BOTH SIDES
B/	BOTTOM OF
<u>C</u>	
C	CONSTRUCTION
CAB	CABINET
CPT	CARPET
CB	CATCH BASIN
CEM	CEMENT
CG	CORNER GUARD
CH	COAT HOOK
CI	CAST IRON
CJ	CONTROL JOINT
CK BD	CHALK BOARD
CL	CLOSET
CLG	CEILING
CLK	CAULKING (INTERIOR)
CLO	CLOSET
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CNTR	COUNTER
CO	CLEAN OUT
COL	COLUMN
CONC	CONCRETE
COND	CONDITION
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
COORD	COORDINATE
CORR	CORRIDOR
CT	CERAMIC TILE
CTB	CERAMIC TILE BASE
CTR	CENTER
CTSK	COUNTERSUNK
CW	COLD WATER
CFMF	COLD FORMED METAL FRAMING
<u>D</u>	
DBL	DOUBLE
DD	DECK DRAIN
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DISP	DISPENSER
DN	DOWN
DO	DITTO
DR	DOOR
DRWG	DRAWING
DWR	DRAWER
DS	DOWNSPOUT
DSP	DRY STANDPIPE
DWG	DRAWING
<u>E</u>	
E	EAST OR ELECTRIC
EA	EACH
EAL	EXTERIOR ACRYLIC LATEX
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMBED	EMBEDMENT
EMER	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
ENT	ENTRANCE
EP	ELECTRICAL PANELBOARD
EQ	EQUAL
EQUIP	EQUIPMENT
ESC	ESCALATOR
E/S	EACH SIDE
ETR	EXISTING TO REMAIN

<u>E</u>	
EW	ELECTRIC WATER COOLER
EX	EXISTING
EXIST	EXISTING
EXPO	EXPOSED
EXP	EXPANSION
EXP B	EXPANSION BOLT
EJ	EXPANSION JOINT
EXT	EXTERIOR
EIFS	EXTERIOR INSULATION & FINISH SYSTEM
<u>F</u>	
FA	FIRE ALARM
FBO	FURNISHED BY OTHER
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FINISH FLOOR
FG	FIBER GLASS
FHC	FIRE HOSE CABINET
FH	FIRE HYDRANT
FIN	FINISH
FLR OR FL	FLOOR
FLASH	FLASHING
FLUOR	FLUORESCENT
FND	FEMININE NAPKIN DISPOSAL
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOS	FACE OF STUDS
FP	FIREPROOF
FR	FRAME
FS	FULL SIZE
FT	FOOT OR FEET
FTG	FOOTING
FTWD	FIRE TREATED WOOD
FURR	FURRING
FUT	FUTURE
F/	FACE OF
<u>G</u>	
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GL	GLASS
GND	GROUND
GR	GRADE
GT	GLAZED TILE
GTB	GLAZED TILE BASE
GWB	GYPSPUM WALL BOARD
GYP	GYPSPUM
<u>H</u>	
H	HEAT VENTILATING AIR CONDITIONING
HB	HOSE BIBB
HC	HOLLOW CORE
HD BD	HARD BOARD
HDWR	HARDWOOD
HDWR	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HR	HOUR
HT	HEIGHT
HVAC	HEATING VENTILATING AIR CONDITIONING
<u>I</u>	
I	INTERIOR ACRYLIC LATEX
IAL	INSIDE DIAMETER
ID	INCH
IN	INFORMATION
INFO	INSULATION
INSUL	INTERIOR
INT	
<u>J</u>	
JAN	JANITOR
JB	JAMB
JT	JOINT
<u>K</u>	
KD	KNOCK DOWN
KIT	KITCHEN
KOP	KNOCK OUT PANEL
KP	KICK PLATE
<u>L</u>	
LAB	LABORATORY
LAM	LAMINATE
LAV	LAVATORY
LG	LONG
LH	LEFT HAND
LHR	LEFT HAND REVERSE
LKR	LOCKER
LLV	LONG LEG VERTICAL
LSD	LIQUID SOAP DISPENSER
LT	LIGHT
LW	LIGHT WEIGHT
<u>M</u>	
MAT'L	MATERIAL
MAX	MAXIMUM
M & BH	MOP & BROOM HOLDER
MC	MEDICINE CABINET
MECH	MECHANICAL

<u>M</u>	
MEMB	MEMBRANE
MET	METAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTD	MOUNTED
MTRL	MATERIAL
MUL	MULLION
<u>N</u>	
N	NORTH
NAT	NATURAL
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NRP	NON-REMOVABLE PIN
NTS	NOT TO SCALE
NOS	NUMBERS
<u>O</u>	
OBS	OBSCURE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFF	OFFICE
OPNG	OPENING
OPP	OPPOSITE
<u>P</u>	
P	PLUMBING
PART	PARTITION
PART BD	PARTICLE BOARD
PEMB	PRE-ENGINEERED METAL BUILDING
PL	PLATE
P LAM	PLASTIC LAMINATE
PLAS	PLASTER
PLYWD	PLYWOOD
PR	PAIR
PROV	PROVIDE
PC	PRECAST
PT	PAINT
PTD	PAPER TOWEL DISPENSER
PART	PARTITION
PTR	PAPER TOWEL RECEPTACLE
PT WD	PRESSURE TREATED WOOD
<u>Q</u>	
QT	QUARRY TILE
QTB	QUARRY TILE BASE
<u>R</u>	
R	RISER
RAD	RADIUS
RB	RESILIENT BASE
RD	ROOF DRAIN OR ROUND
REF	REFRIGERATOR
REG	REGISTER
REINF	REINFORCED
REQ, REQ'D	REQUIRED
RESIL	RESILIENT
REV	REVISION
RL	RAIN LEADER
RM	ROOM
RO	ROUGH OPENING
<u>S</u>	
S	SOUTH
SAD	SECURITY ACCESS DOOR
SC	SOLID CORE
SCH	SCHEDULE
SCHED	SCHEDULE
SCD	SEAT COVER DISPENSER
SCT	SHOWER CURTAIN & TRACK
SD	SOAP DISPENSER
SECT	SECTION
SH	SHelf
SHR	SHOWER
SHT	SHEET
SHT MET	SHEET METAL
SIM	SIMILAR
SM	SURFACE MOUNTED
SP	SECURITY PORTAL
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
S SK	SERVICE SINK
ST	STAIN
STA	STATION
STD	STANDARD
STL	STEEL
STOR	STORAGE
STR'L	STRUCTURAL
STRUCT	STRUCTURAL
SUSP	SUSPENDED
SYM	SYMMETRICAL
<u>T</u>	
T	TREAD
TB	TOWEL BAR
TEL	TELEPHONE
TER	TERRAZZO
TEMP	TEMPERED
T & G	TONGUE AND GROOVE
TH	TOWEL HOOK
THK	THICK

<u>T</u>	
TK BD	TACK BOARD
TOC	TOP OF CURB
TOS	TOP OF STEEL
TP	TOP OF PAVEMENT
TS	TUBE STEEL
TTD	TOILET TISSUE DISPENSER
TTH	TOILET TISSUE HOLDER
TV	TELEVISION
TW	TOP OF WALL
TYP	TYPICAL
T/	TOP OF
<u>U</u>	
UL	UNDERWRITER'S LABORATORY
UNF	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
UR	URINAL
<u>V</u>	
V	VENT
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VEST	VESTIBULE
VWC	VINYL WALL COVERING
VWF	VINYL WALL FABRIC
<u>W</u>	
WC	WATER CLOSET
WD	WOOD
WDW	WINDOW
W/O	WITHOUT
WP	WATERPROOF
WSCT	WAINSCOT
WT	WEIGHT
W	WEST
W/	WITH
<u>Y</u>	
YD	YARD
YD	YARD DRAIN

SYMBOLS



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CONSTRUCTION

TITLE: PROVIDE CITYSCAPE COMPLEX
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ORISKANY, NY 13424
CLIENT: DIVISION OF HOMELAND SECURITY & EMERGENCY SERVICES

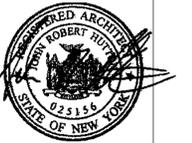
REVISED DRAWING

08/15/2012

MARK	DATE	DESCRIPTION
1	08/15/2012	ADDENDUM NO 2
	07/05/2012	FINAL SUBMISSION
PROJECT NUMBER:	44014- C	
DESIGNED BY:	XXXXX	
DRAWN BY:	XXXXX	
FIELD CHECK:	XXXXX	
APPROVED:	XXXXX	
SHEET TITLE:	SYMBOLS AND ABBREVIATIONS	
DRAWING NUMBER:	A-001	
SHEET	X	OF X

- GENERAL NOTES:
- REFER TO DRAWING A-601 FOR DOOR SCHEDULE INFORMATION.
 - REFER TO DRAWING A-607 FOR WINDOW SCHEDULE INFORMATION.
 - REFER TO DRAWINGS A-504 & A-505 FOR COLUMN DETAILS.
 - REFER TO DRAWINGS A-407 - A-418 FOR CASEWORK INFORMATION.
 - REFER TO DRAWING A-419 FOR FINISH SCHEDULE.
 - FIRST FLOOR FINISH SLAB IS DESIGNATED AS 0'-0".
 - REFER TO SITE DRAWINGS FOR ADDITIONAL INFORMATION.
 - REFER TO DRAWING A-500 FOR PARTITION TYPES.
 - REFER TO DRAWINGS A-421 - A-422 FOR GRAPHICS AND SIGNAGE.

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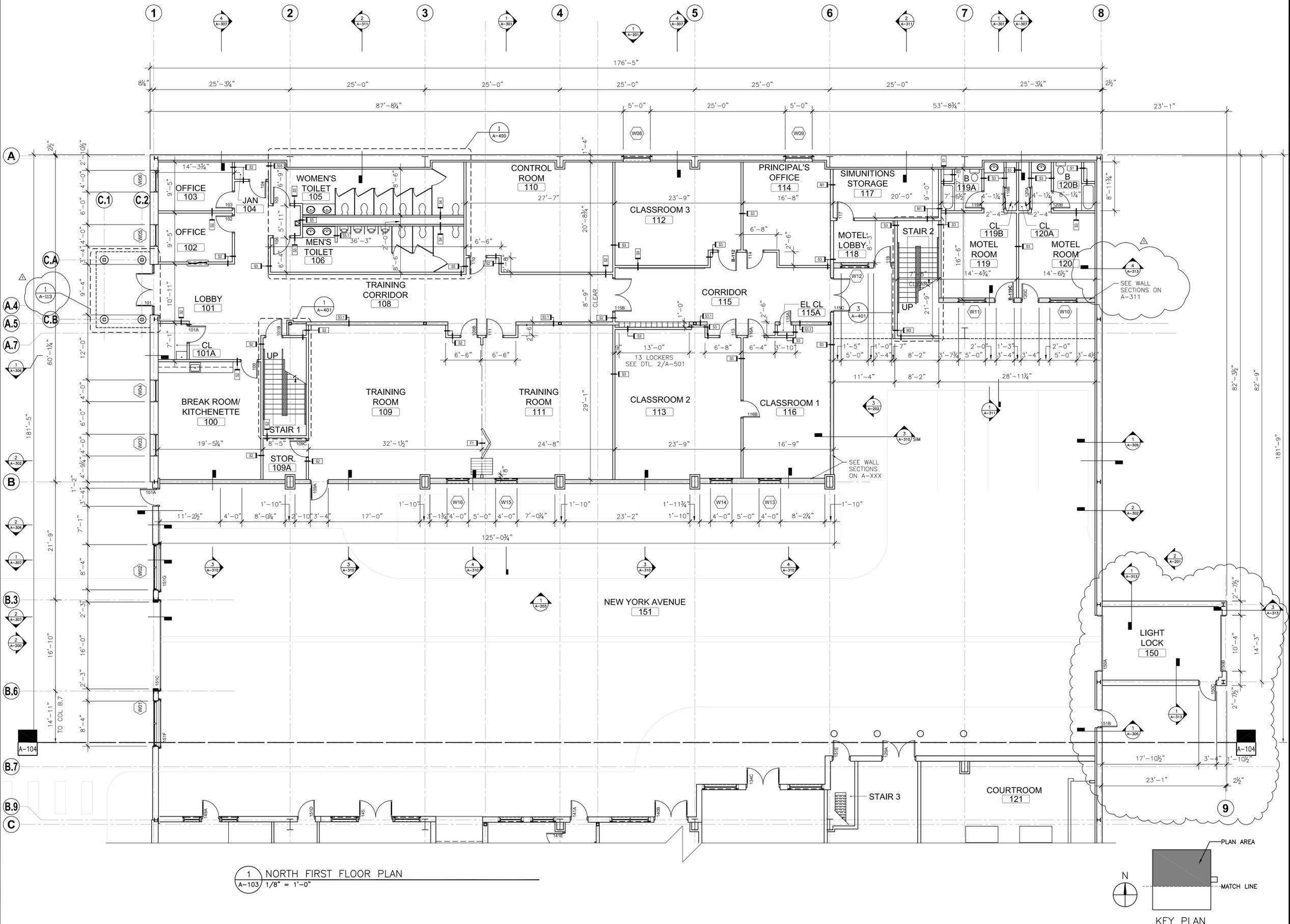


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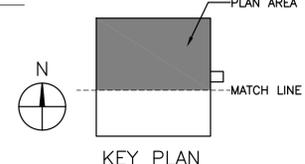
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MARK	DATE	DESCRIPTION
1	08/15/2012	ADDENDUM NO 2
	07/05/2012	FINAL SUBMISSION
PROJECT NUMBER:	44014 - C	
DESIGNED BY:	XXXXX	
DRAWN BY:	XXXXX	
FIELD CHECK:	XXXXX	
APPROVED:	XXXXX	

SHEET TITLE:
NORTH FIRST FLOOR PLAN
DRAWING NUMBER:
A-103
SHEET X OF X



1 NORTH FIRST FLOOR PLAN
A-103 1/8" = 1'-0"





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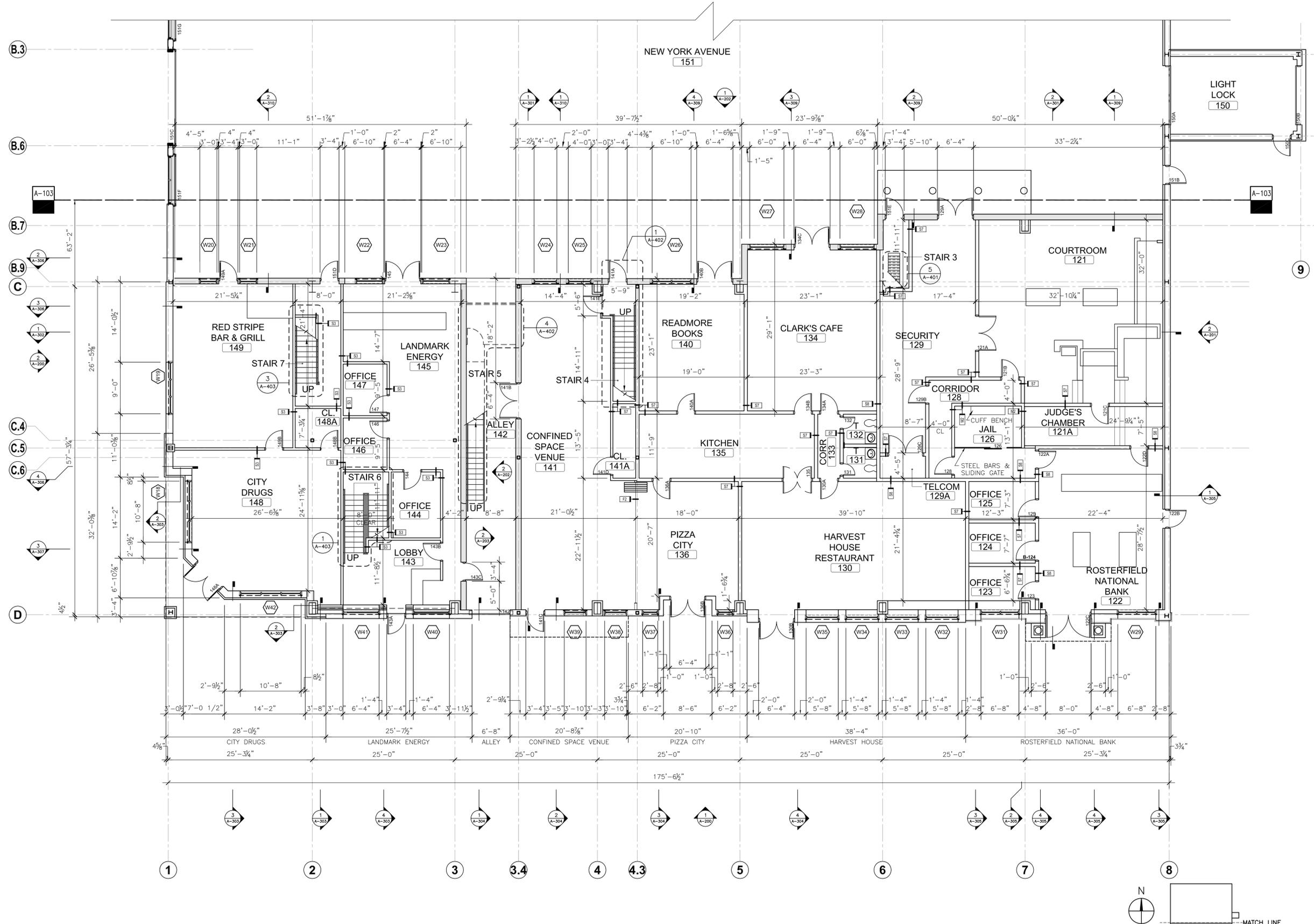
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	07/05/2012	FINAL SUBMISSION

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DRAWN BY:	XXXXX
FIELD CHECK:	XXXXX
APPROVED:	XXXXX

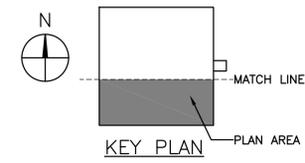
SHEET TITLE:
SOUTH FIRST FLOOR PLAN

DRAWING NUMBER:
A-104

SHEET X OF X



1 SOUTH FIRST FLOOR PLAN
A-104 1/8" = 1'-0"



Aug 21, 2012 - 10:44am
 V:\Design\Construction\44014\44014_C\04Arch\A-104.dwg
 36x24 PLOT SHEET



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 - REFER TO DRAWINGS A-407 - A-418 FOR CASEWORK INFORMATION.
 - REFER TO DRAWING A-419 FOR FINISH SCHEDULE.
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 - REFER TO DRAWING A-500 FOR PARTITION TYPES.
 - REFER TO DRAWINGS A-421 - A-422 FOR GRAPHICS AND SIGNAGE.

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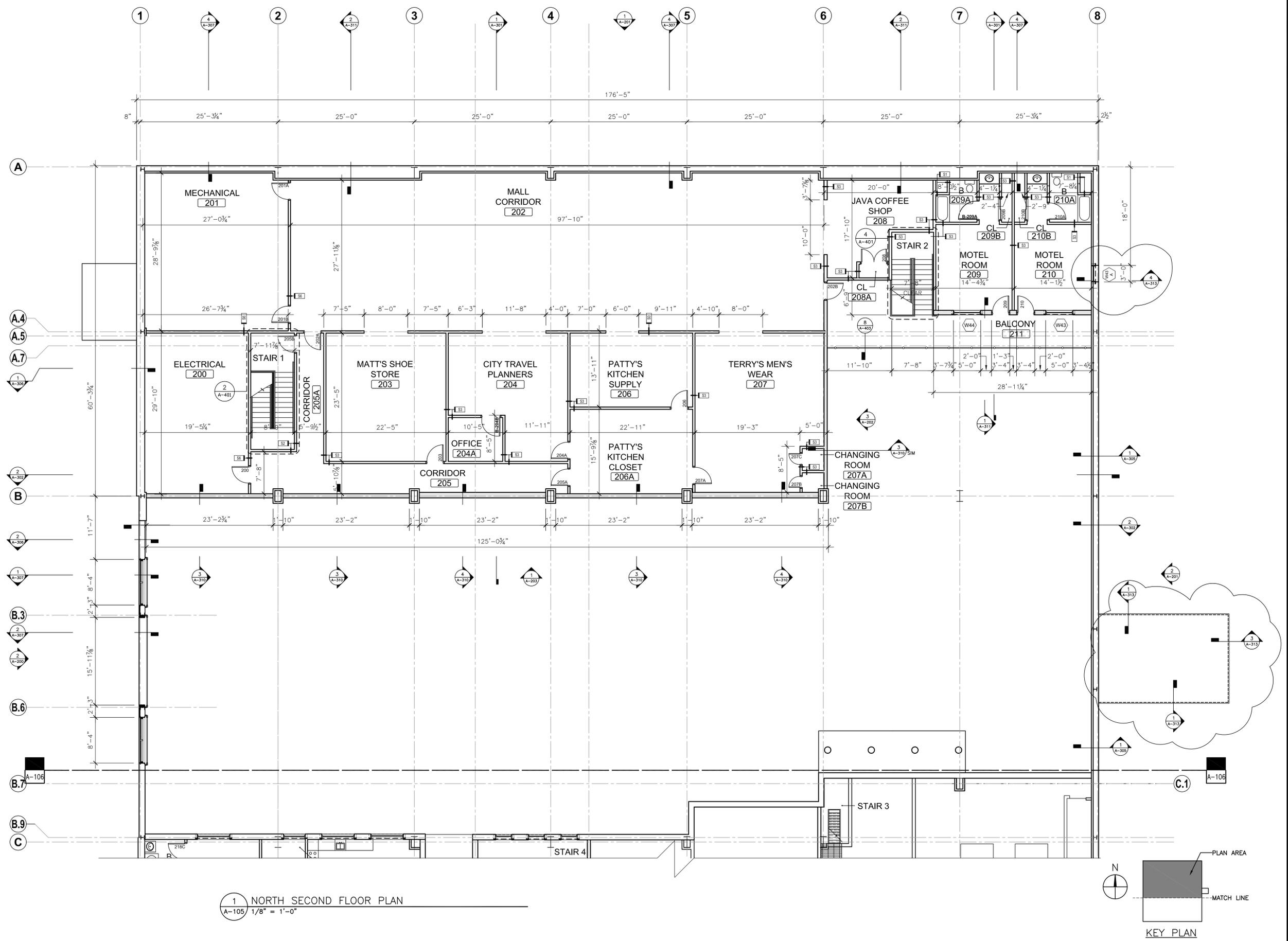


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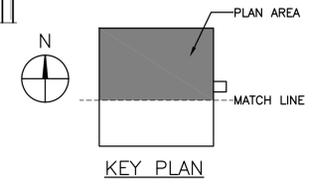
REVISED DRAWING
08/15/2012

MARK	DATE	DESCRIPTION
1	08/15/2012	ADDENDUM NO 2
	07/05/2012	FINAL SUBMISSION

PROJECT NUMBER: **44014 - C**
DESIGNED BY: XXXXX
DRAWN BY: XXXXX
FIELD CHECK: XXXXX
APPROVED: XXXXX
SHEET TITLE: **NORTH SECOND FLOOR PLAN**
DRAWING NUMBER: **A-105**
SHEET X OF X



1 NORTH SECOND FLOOR PLAN
A-105 1/8" = 1'-0"



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 - REFER TO DRAWINGS A-407 - A-418 FOR CASEWORK INFORMATION.
 - REFER TO DRAWING A-419 FOR FINISH SCHEDULE.
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 - REFER TO DRAWING A-500 FOR PARTITION TYPES.
 - REFER TO DRAWINGS A-421 - A-422 FOR GRAPHICS AND SIGNAGE.

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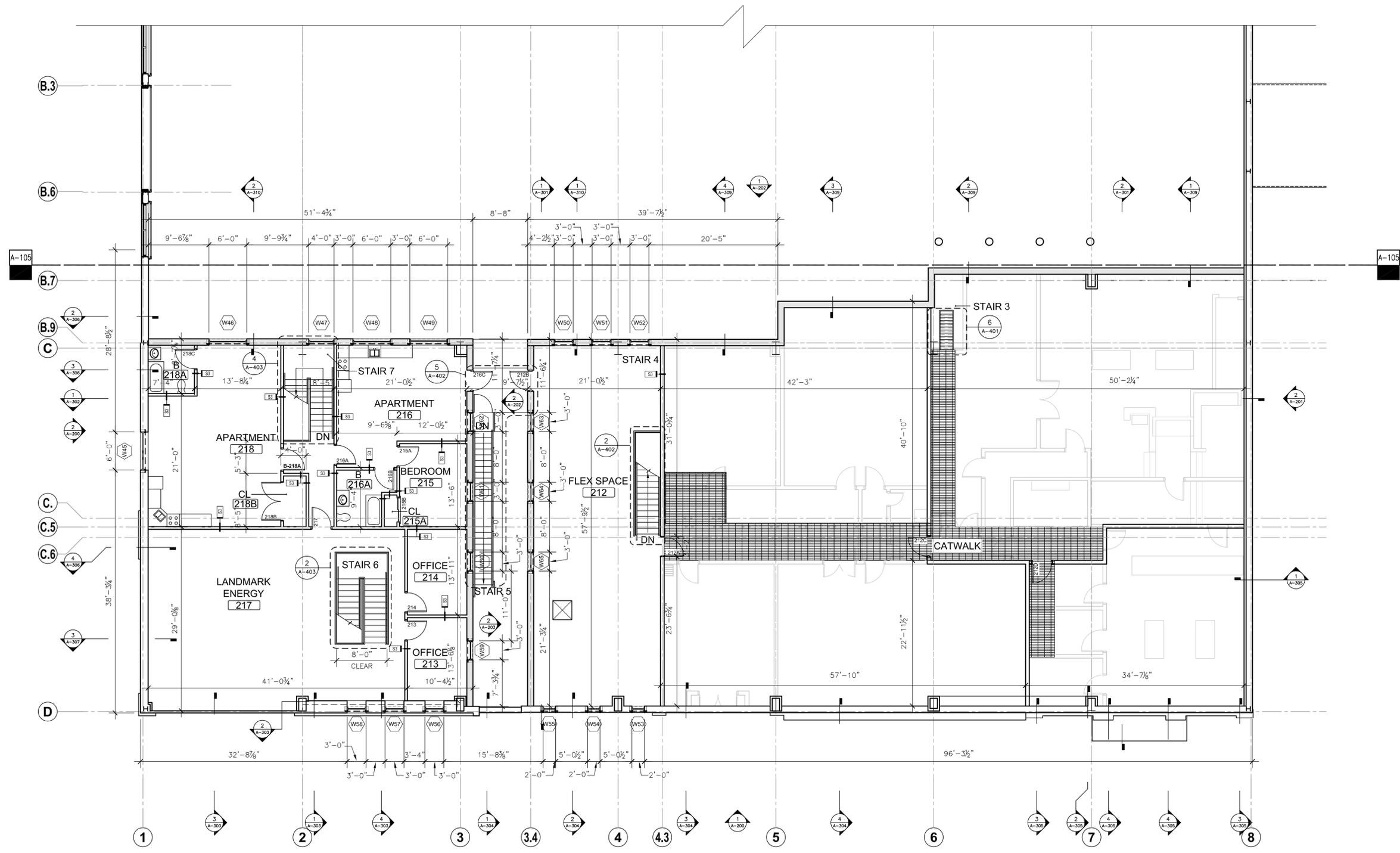


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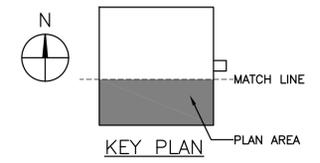
REVISED DRAWING
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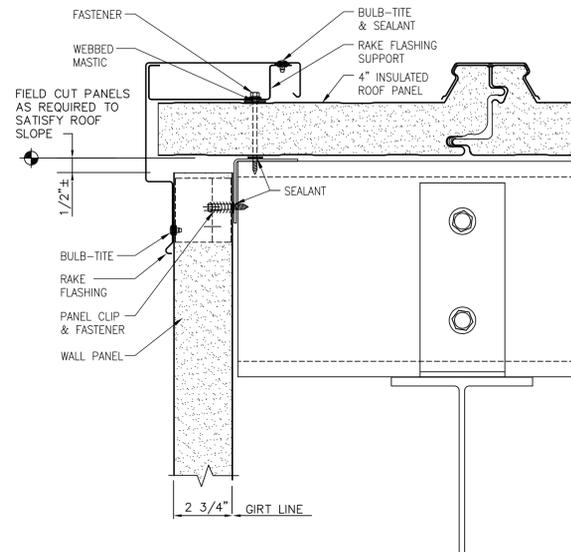
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	07/05/2012	FINAL SUBMISSION
PROJECT NUMBER:	44014 - C	
DESIGNED BY:	XXXXX	
DRAWN BY:	XXXXX	
FIELD CHECK:	XXXXX	
APPROVED:	XXXXX	

SHEET TITLE:
SOUTH SECOND FLOOR PLAN
DRAWING NUMBER:
A-106
SHEET X OF X

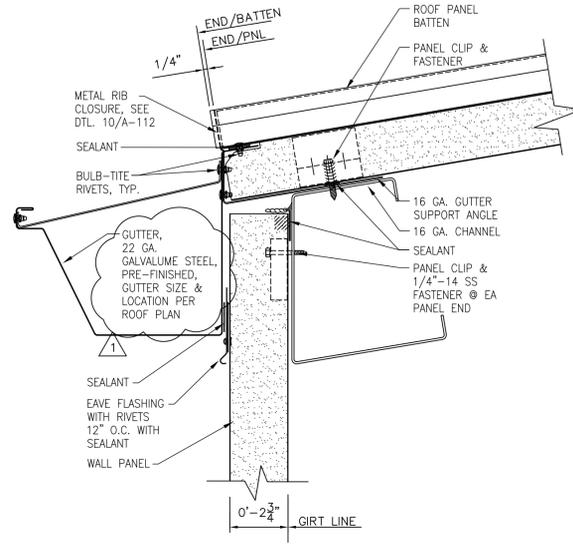


1 SOUTH SECOND FLOOR PLAN
A-106 1/8" = 1'-0"

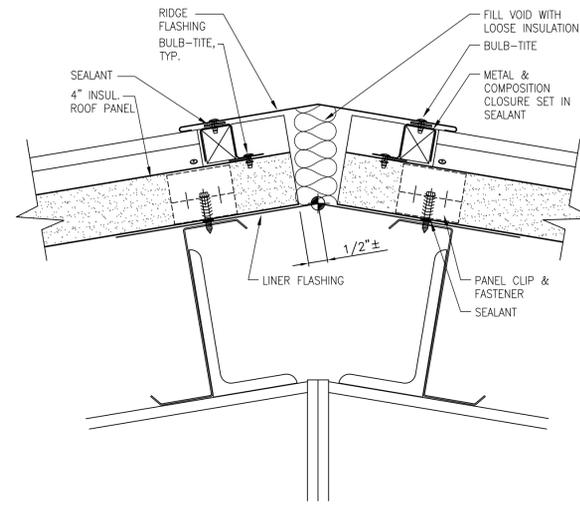




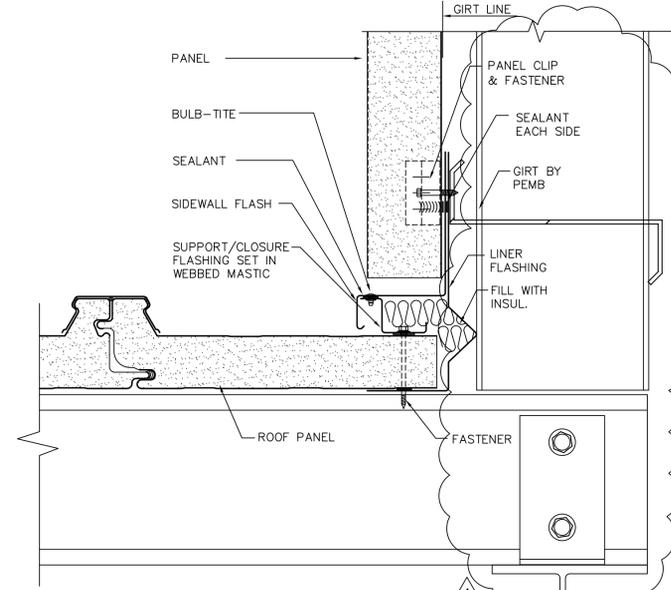
1 RAKE DTL.
A-112 N.T.S.



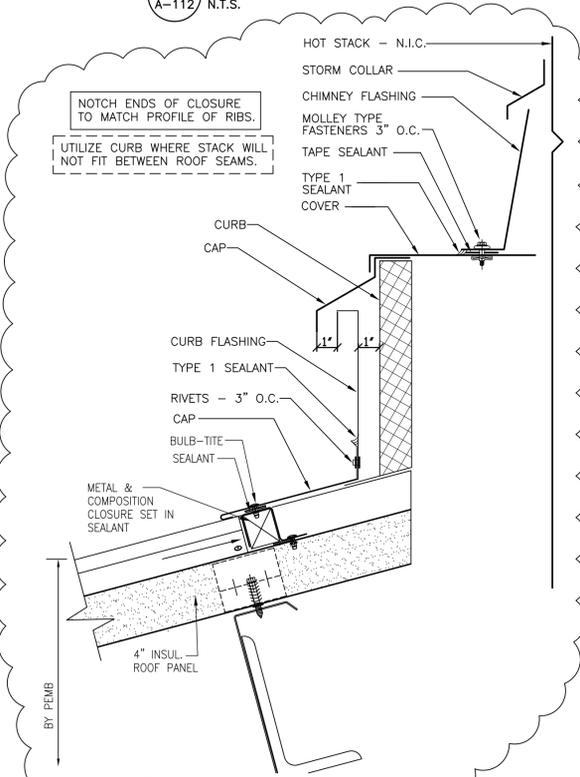
2 EAVE & GUTTER DTL.
A-112 N.T.S.



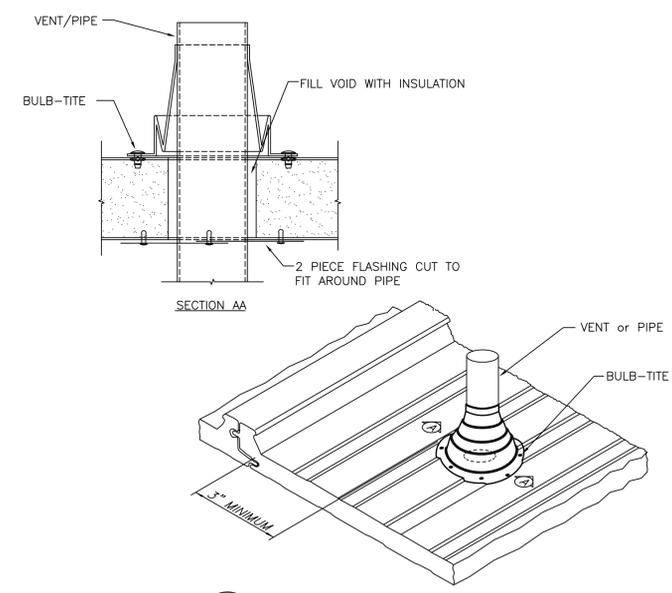
3 RIDGE DTL.
A-112 N.T.S.



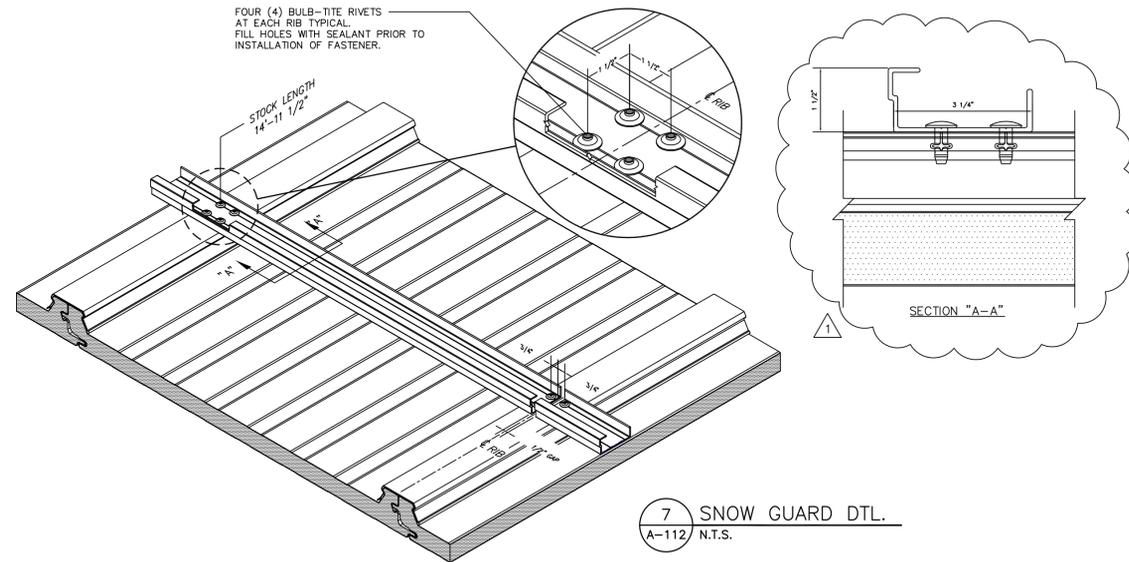
4 WALL BASE FLASHING
A-112 N.T.S.



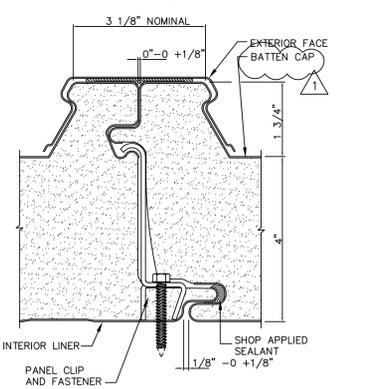
5 HOT STACK FLASHING
A-112 N.T.S.



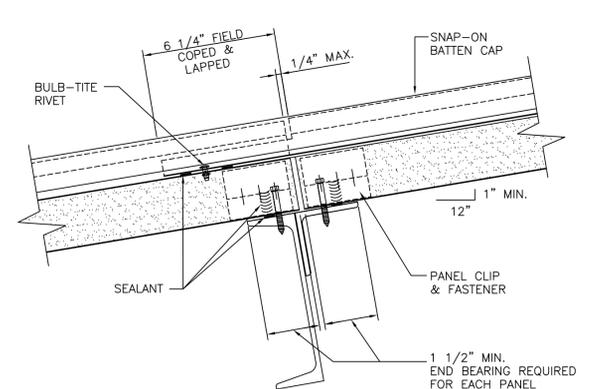
6 PIPE PENETRATION
A-112 N.T.S.



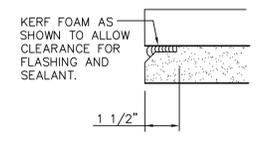
7 SNOW GUARD DTL.
A-112 N.T.S.



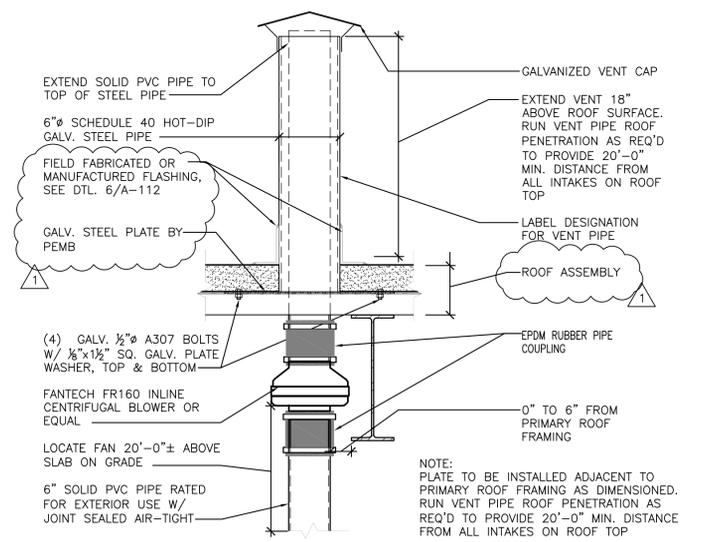
8 ROOF PANEL DTL.
A-112 N.T.S.



9 ROOF PANEL JT.
A-112 N.T.S.



10 EDGE FINISH DETAILS
A-112 N.T.S.



11 SUB SLAB DEPRESSURIZATION ASS.
A-112 1\"/>

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TITLE:
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CLIENT:
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REVISED DRAWING
08/15/2012

MARK	DATE	DESCRIPTION
1	08/15/2012	ADDENDUM NO. 2
	07/05/2012	FINAL SUBMISSION
PROJECT NUMBER:	44014 - C	
DESIGNED BY:	XXXXX	
DRAWN BY:	XXXXX	
FIELD CHECK:	XXXXX	
APPROVED:	XXXXX	

SHEET TITLE:
ROOF DETAILS
DRAWING NUMBER:
A-112
SHEET X OF X

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ADDENDUM
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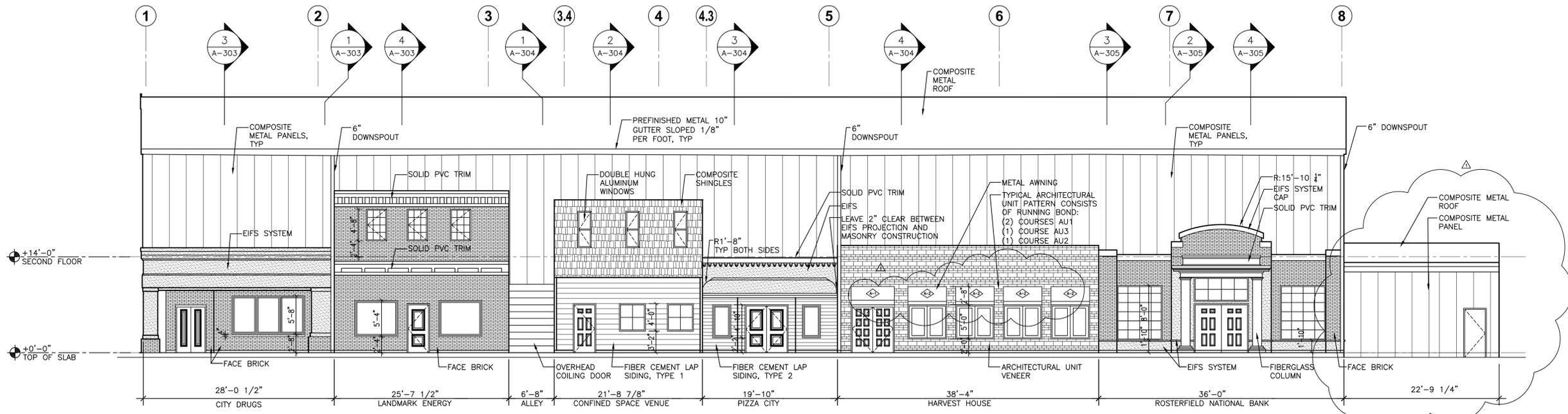
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DATE	07/05/2012	FINAL SUBMISSION

MARK	DATE	DESCRIPTION
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DESIGNED BY:	XXXXX	
DRAWN BY:	XXXXX	
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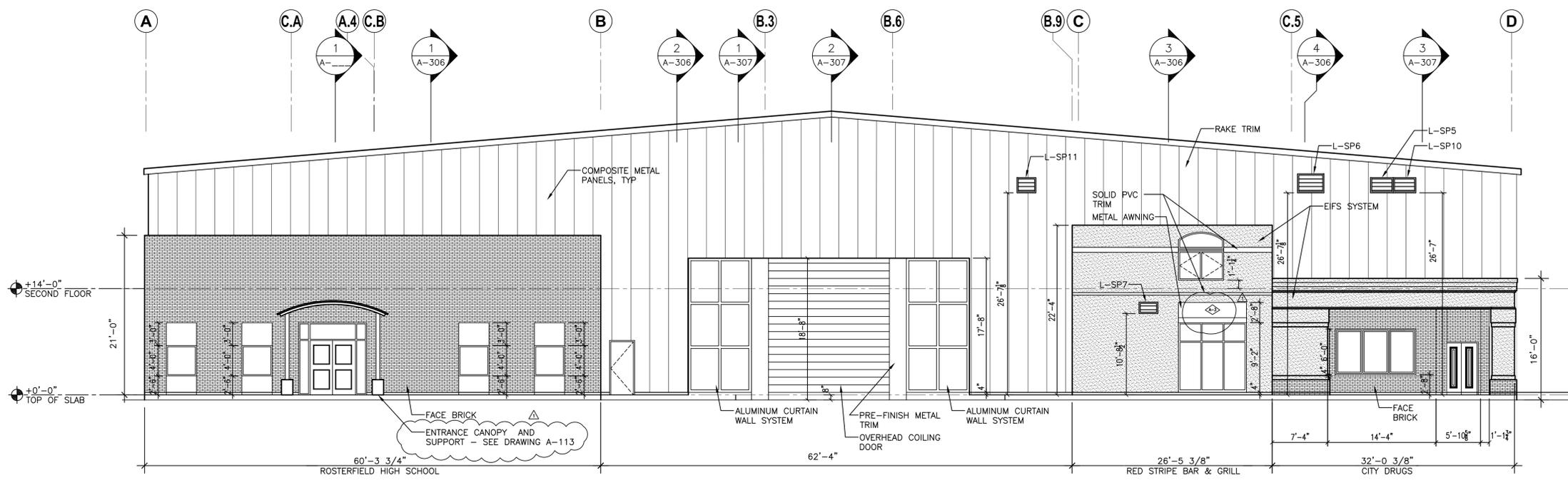
SHEET TITLE:
SOUTH AND WEST ELEVATIONS

DRAWING NUMBER:
A-200

SHEET X OF X



1 SOUTH ELEVATION
A-200 1/8" = 1'-0"



2 WEST ELEVATION
A-200 1/8" = 1'-0"

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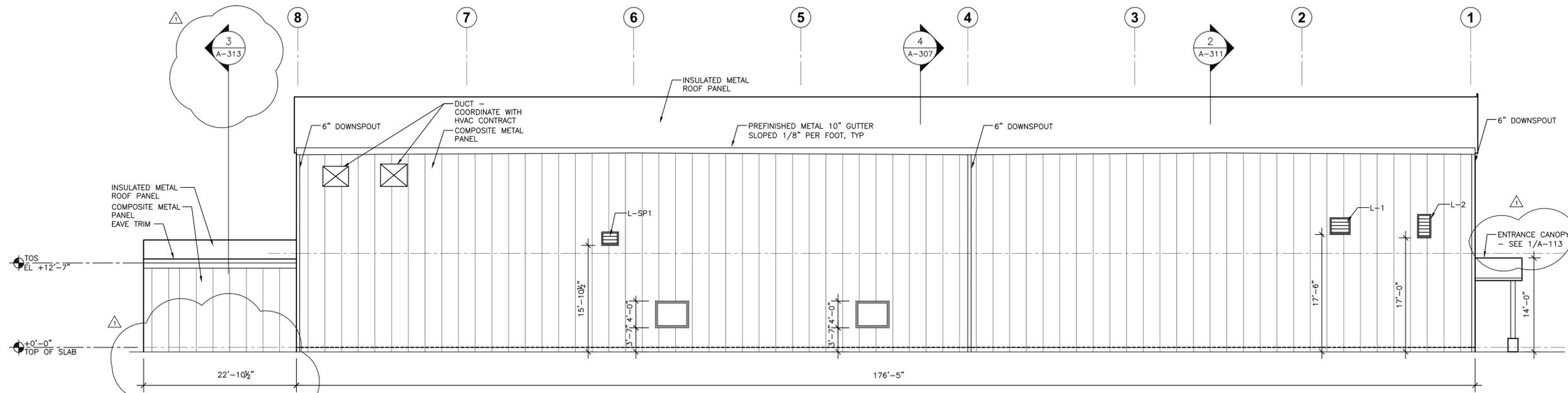
ADDENDUM
DRAWING
08/15/2012

MARK	DATE	DESCRIPTION
△	08/15/2012	ADDENDUM NO 2
	07/05/2012	FINAL SUBMISSION
PROJECT NUMBER:	44014- C	
DESIGNED BY:	XXXXX	
DRAWN BY:	XXXXX	
FIELD CHECK:	XXXXX	
APPROVED:	XXXXX	

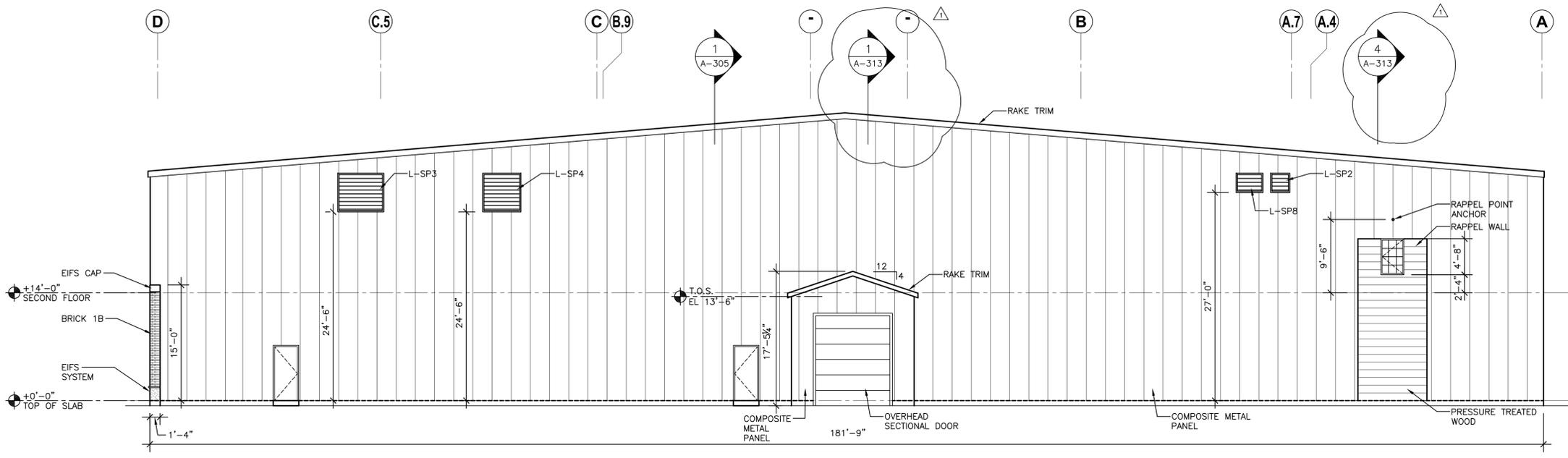
SHEET TITLE:
NORTH AND EAST ELEVATIONS

DRAWING NUMBER:
A-201

SHEET X OF X

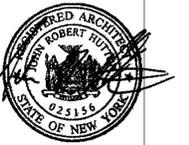


1 NORTH ELEVATION
A-201 1/8" = 1'-0"



2 EAST ELEVATION
A-201 1/8" = 1'-0"

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08/15/2012

DATE	08/15/2012	ADDENDUM NO 2
DATE	07/05/2012	FINAL SUBMISSION
MARK	DATE	DESCRIPTION

PROJECT NUMBER: **44014 - C**

DESIGNED BY: XXXXX

DRAWN BY: XXXXX

FIELD CHECK: XXXXX

APPROVED: XXXXX

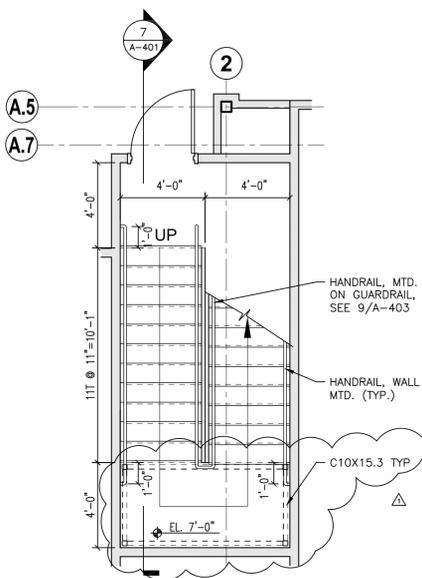
SHEET TITLE:

**ENLARGED
STAIR PLANS**

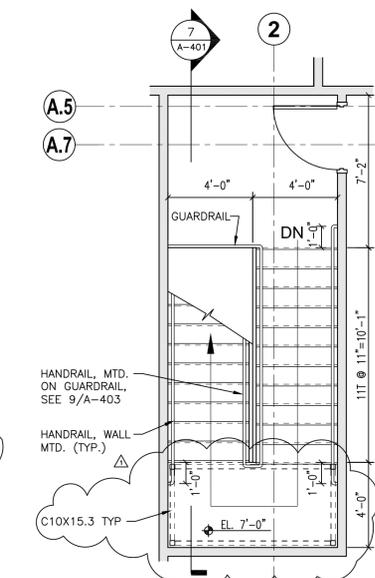
DRAWING NUMBER:

A-401

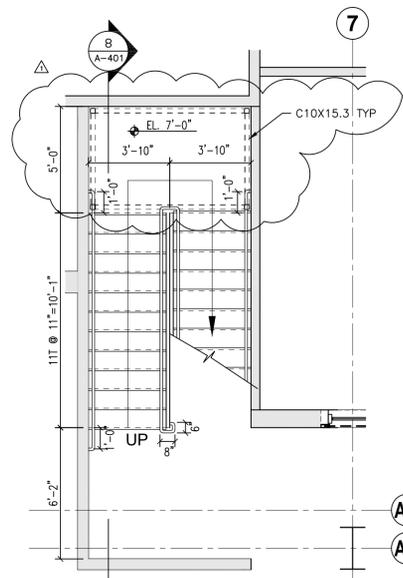
SHEET X OF X



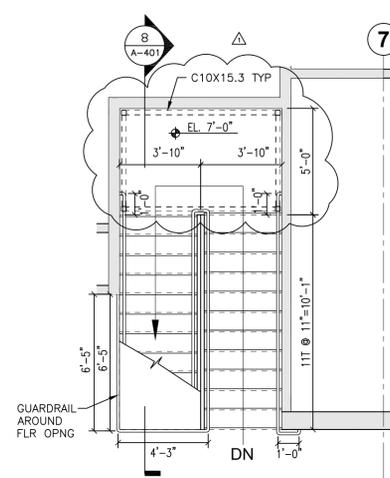
1 STAIR 1 - FIRST FLR
A-401 1/4" = 1'-0"



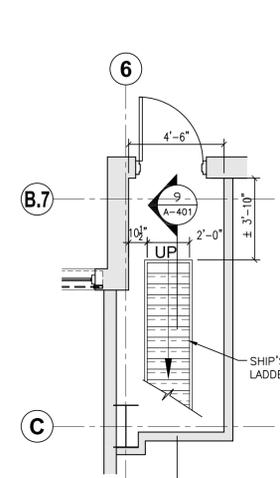
2 STAIR 1 - SECOND FLR
A-401 1/4" = 1'-0"



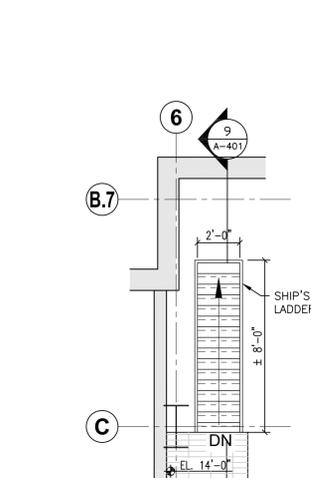
3 STAIR 2 - FIRST FLR
A-401 1/4" = 1'-0"



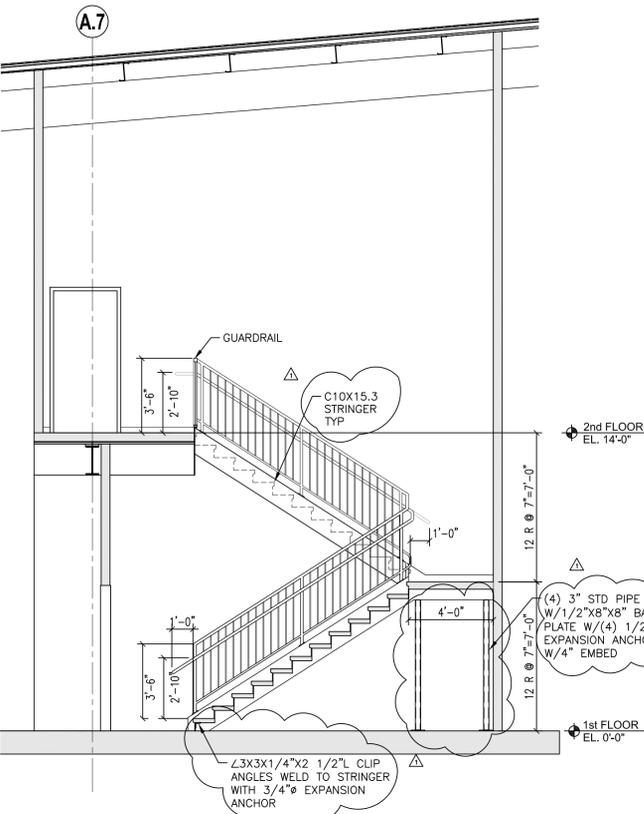
4 STAIR 2 - SECOND FLR
A-401 1/4" = 1'-0"



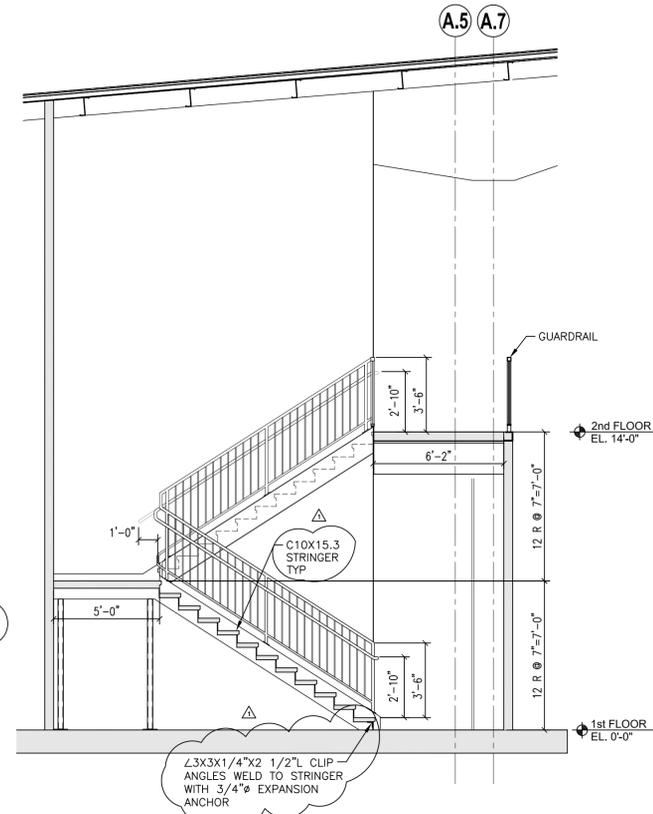
5 STAIR 3 - FIRST FLR
A-401 1/4" = 1'-0"



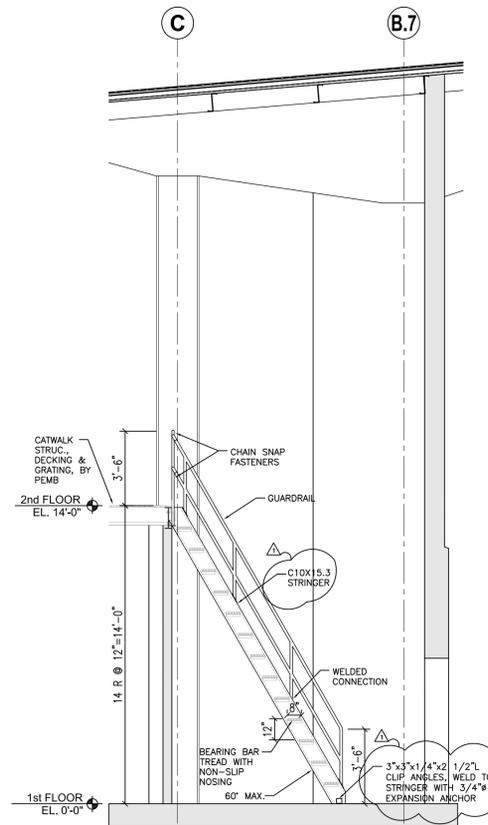
6 STAIR 3 - SECOND FLR
A-401 1/4" = 1'-0"



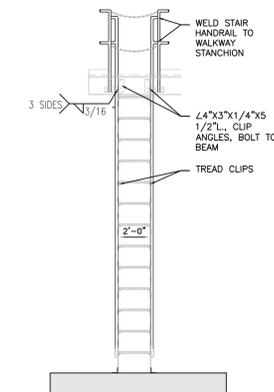
7 STAIR 1 - SECTION
A-401 1/4" = 1'-0"



8 STAIR 2 - SECTION
A-401 1/4" = 1'-0"



9 STAIR 3 - SECTION
A-401 1/4" = 1'-0"



10 STAIR 3 - ELEVATION
A-401 1/4" = 1'-0"

DRAWING NOTES:

- STAIR LANDINGS AND FRAMING BY PRE-ENGINEERED METAL BUILDING MANUFACTURER (PEMB). SEE STRUCTURAL DRAWINGS FOR LOAD & DESIGN PARAMETERS.
- STAIR NOS. 1, 2, 4, 6 & 7 ARE CONCRETE FILLED METAL PAN AND STEEL STRINGER CONSTRUCTION.
- STAIR NO. 3 IS A PRE-MANUFACTURED SHIP'S LADDER, REFER TO SPECIFICATION SECTION 055000.
- STAIR NO. 5 IS GALV. STEEL GRATE TREADS AND LANDINGS WITH GALV. STEEL STRINGERS AND FRAMING.
- SEE TYPICAL HANDRAIL AND GAURDRAIL DETAILS, DWG A-403. SEE ENLARGED FLOOR PLANS & SECTIONS FOR HANDRAIL EXTENSIONS.
- ALL STAIRS: PAINT ALL EXPOSED STEEL; ITEMS NOT LIMITED TO BUT INCLUDING: FRAMING, LANDINGS, DECKS, GRATING, STRINGERS, RISERS, GUARDRAILS, HANDRAILS & BRACKETS WITH IAL-3 PAINT SYSTEM. COLOR SELECTION BY DIRECTOR'S REPRESENTATIVE.

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CONTRACT:

CONSTRUCTION

TITLE:
PROVIDE CITYSCAPE COMPLEX

LOCATION:
**STATE PREPAREDNESS TRAINING CENTER
5900 AIRPORT ROAD
ORISKANY, NY 13424**

CLIENT:
**DIVISION OF HOMELAND SECURITY
& EMERGENCY SERVICES**

REVISED DRAWING
08/15/2012

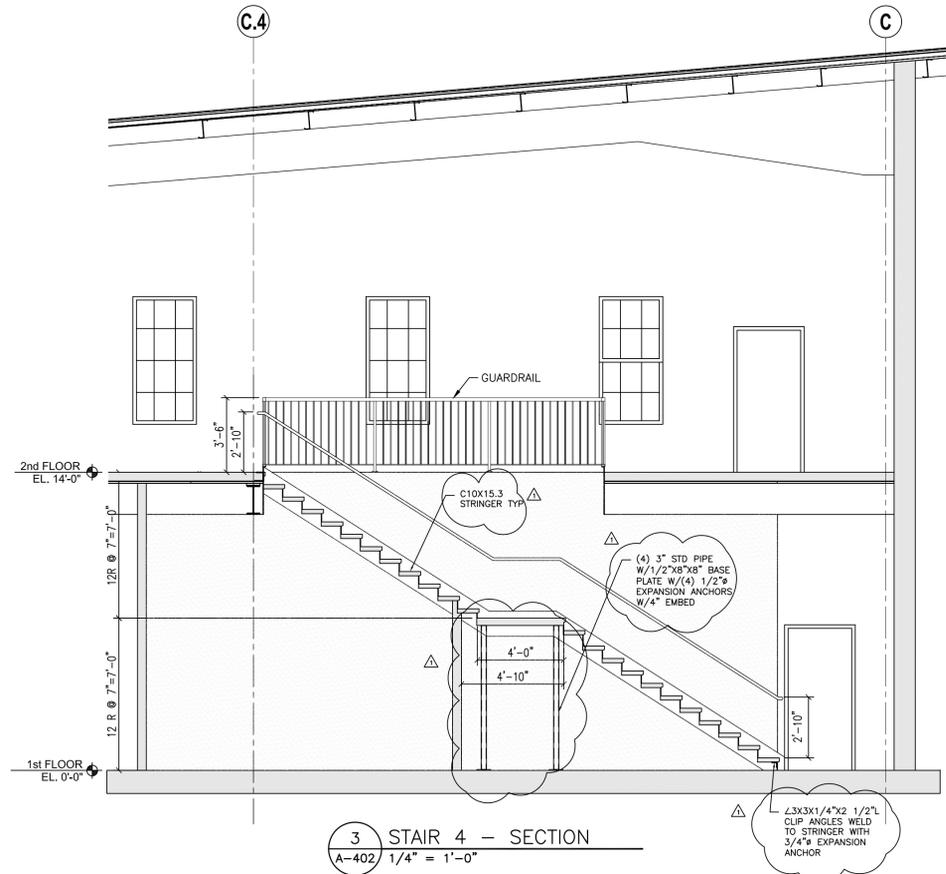
MARK	DATE	DESCRIPTION
△	08/15/2012	ADDENDUM NO 2
	07/05/2012	FINAL SUBMISSION

PROJECT NUMBER:	44014- C
DESIGNED BY:	XXXXX
DRAWN BY:	XXXXX
FIELD CHECK:	XXXXX
APPROVED:	XXXXX

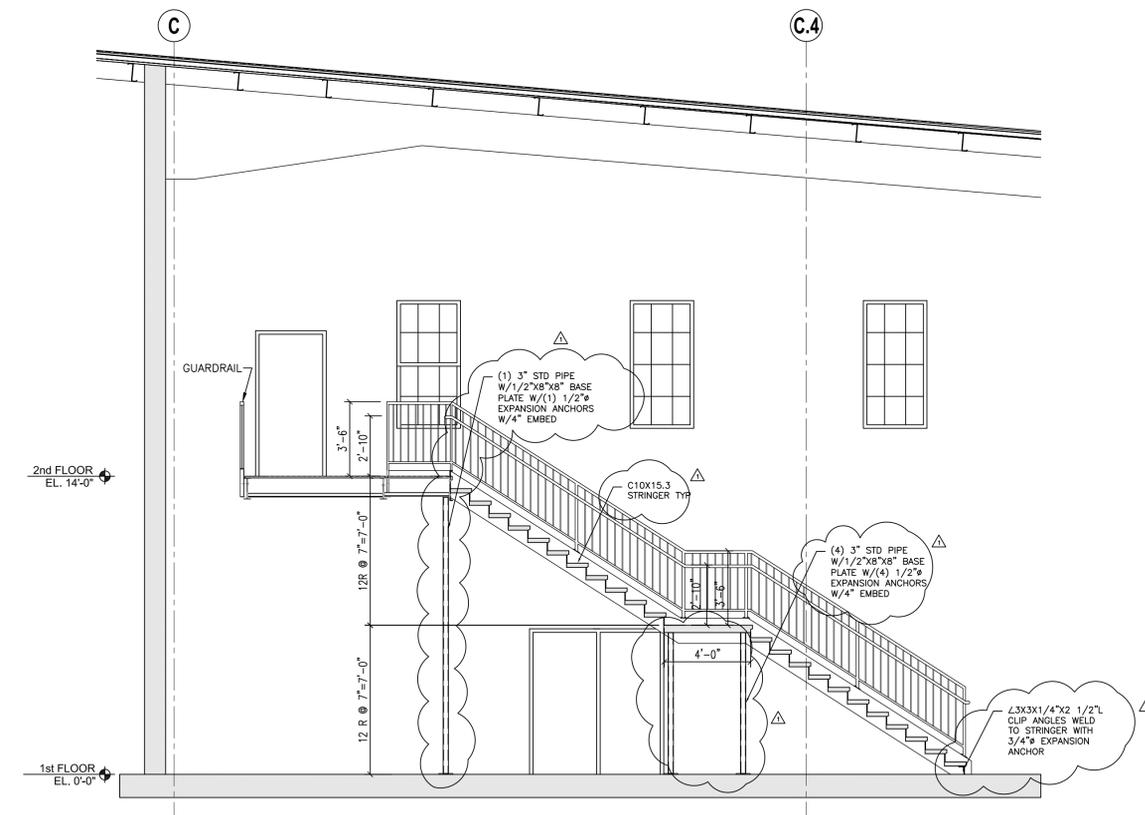
SHEET TITLE:
**ENLARGED
STAIR PLANS**

DRAWING NUMBER:
A-402

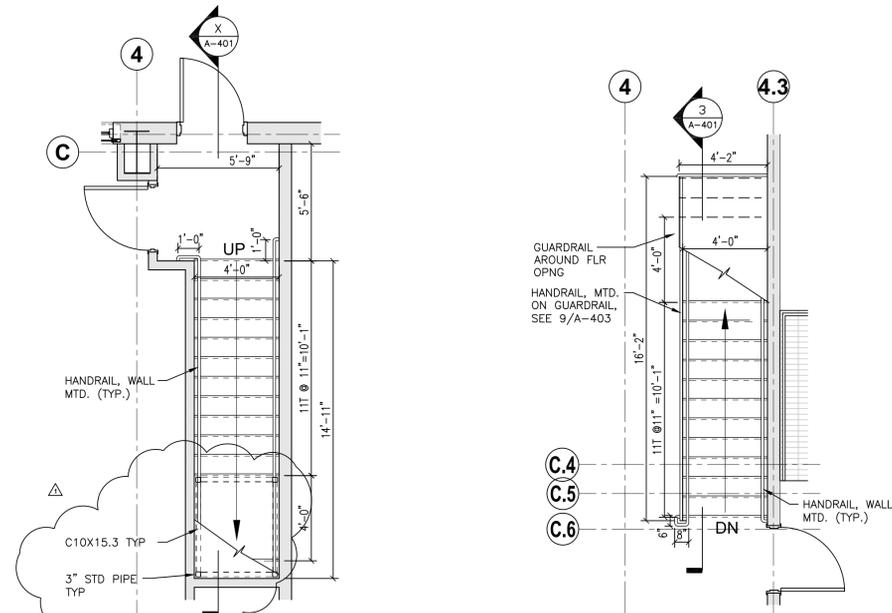
SHEET X OF X



3 STAIR 4 - SECTION
A-402 1/4" = 1'-0"

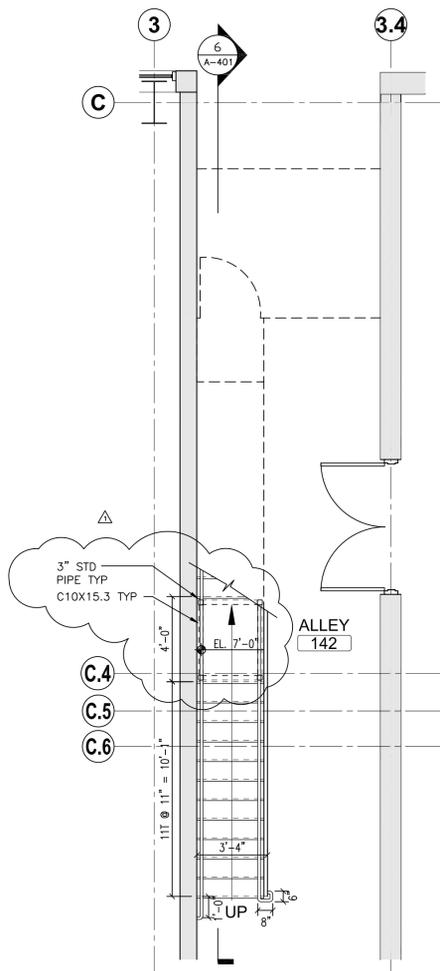


6 STAIR 5 - SECTION
A-402 1/4" = 1'-0"

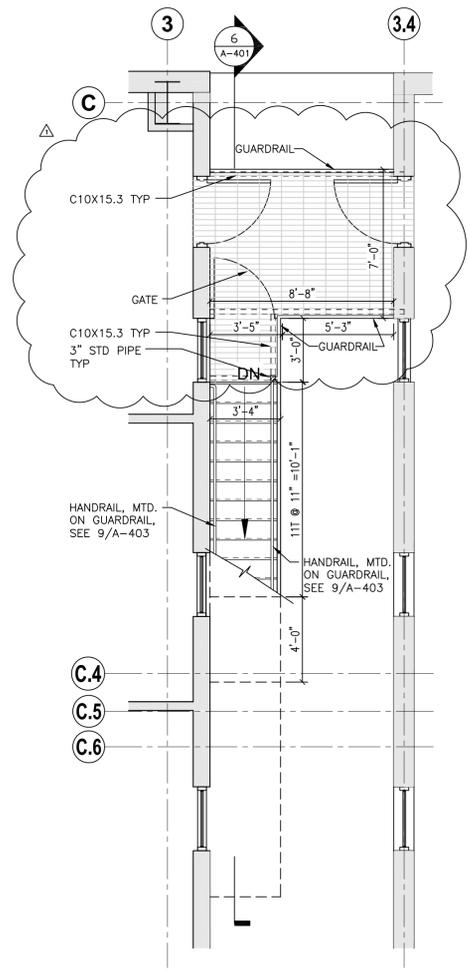


1 STAIR 4 - FIRST FLR
A-402 1/4" = 1'-0"

2 STAIR 4 - SECOND FLR
A-402 1/4" = 1'-0"



4 STAIR 5 - FIRST FLR
A-402 1/4" = 1'-0"



5 STAIR 5 - SECOND FLR
A-402 1/4" = 1'-0"

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CONTRACT: **CONSTRUCTION**

TITLE: **PROVIDE CITYSCAPE COMPLEX**

LOCATION: **STATE PREPAREDNESS TRAINING CENTER
5900 AIRPORT ROAD
ORISKANY, NY 13424**

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REVISED DRAWING
08/15/2012

MARK	DATE	DESCRIPTION
△	08/15/2012	ADDENDUM NO 2
	07/05/2012	FINAL SUBMISSION

PROJECT NUMBER: **44014 - C**

DESIGNED BY: XXXXX

DRAWN BY: XXXXX

FIELD CHECK: XXXXX

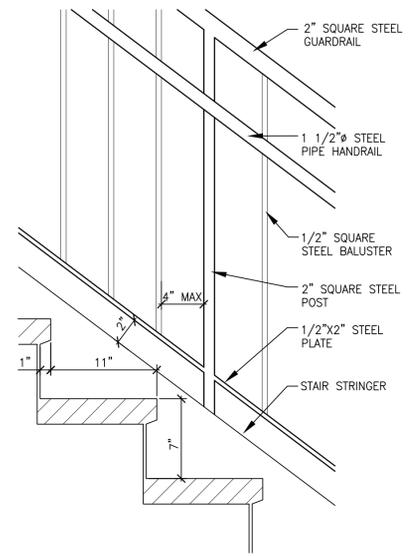
APPROVED: XXXXX

SHEET TITLE:

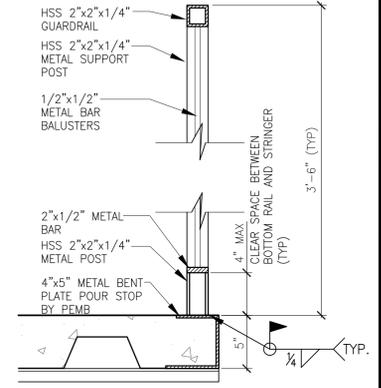
**ENLARGED
STAIR PLANS**

DRAWING NUMBER: **A-403**

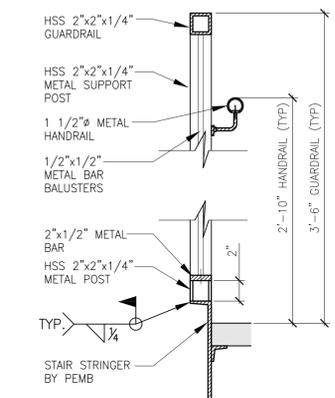
SHEET X OF X



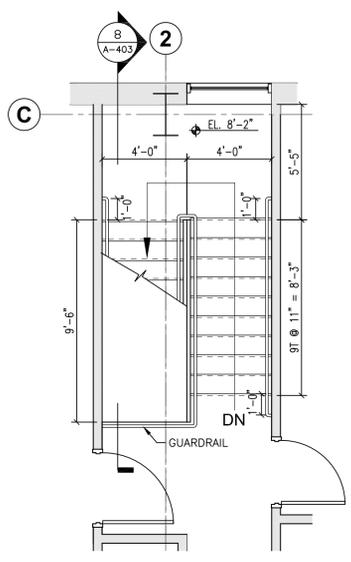
5 STAIR DTL
A-403 1 1/2" = 1'-0"



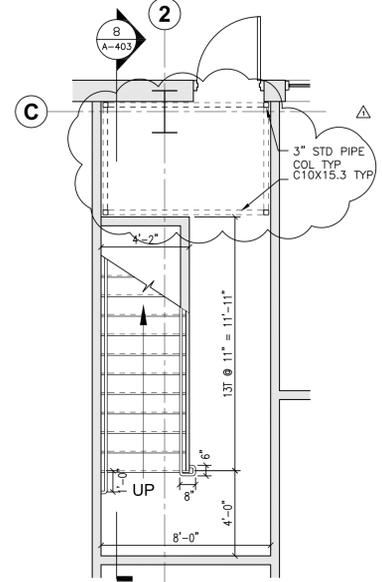
8 GUARDRAIL SECTION
A-403 1 1/2" = 1'-0"



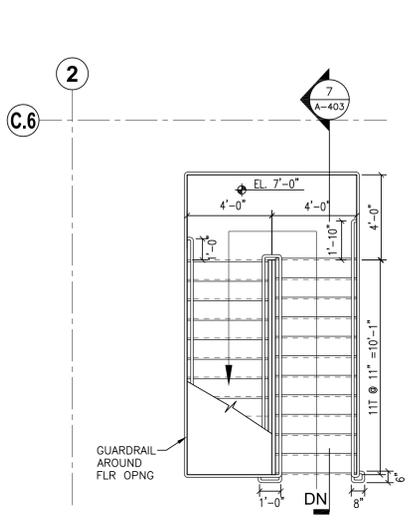
9 HANDRAIL SECTION
A-403 1 1/2" = 1'-0"



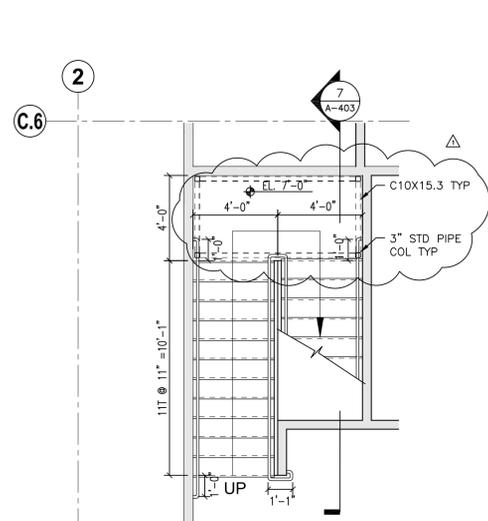
4 STAIR 7 - SECOND FLR
A-403 1/4" = 1'-0"



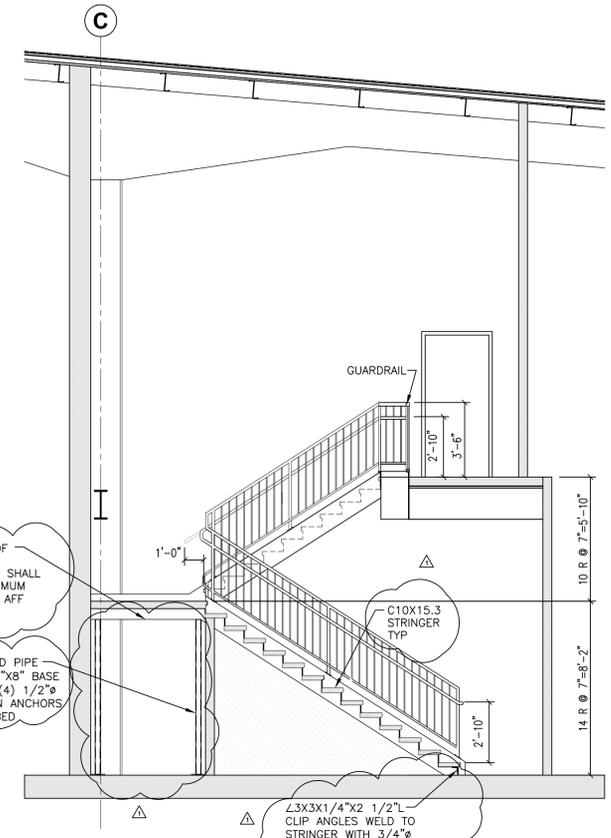
3 STAIR 7 - FIRST FLR
A-403 1/4" = 1'-0"



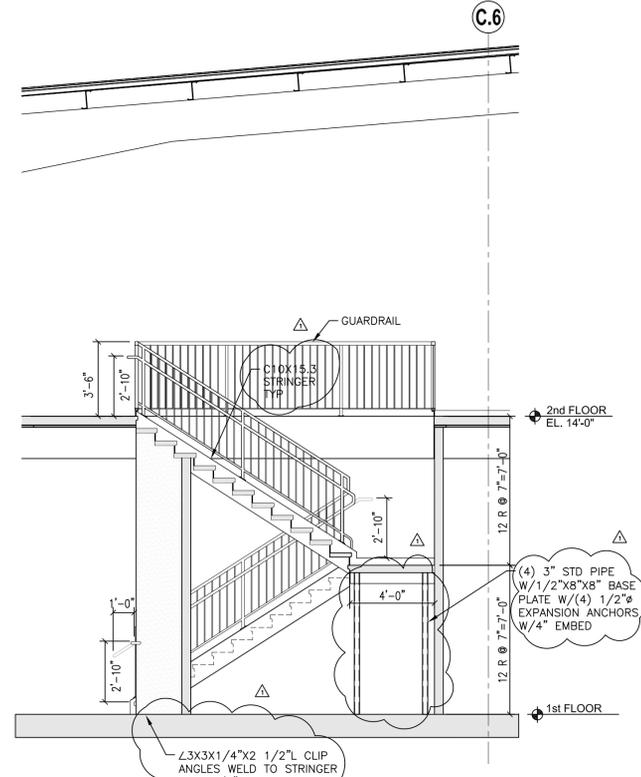
2 STAIR 6 - SECOND FLR
A-403 1/4" = 1'-0"



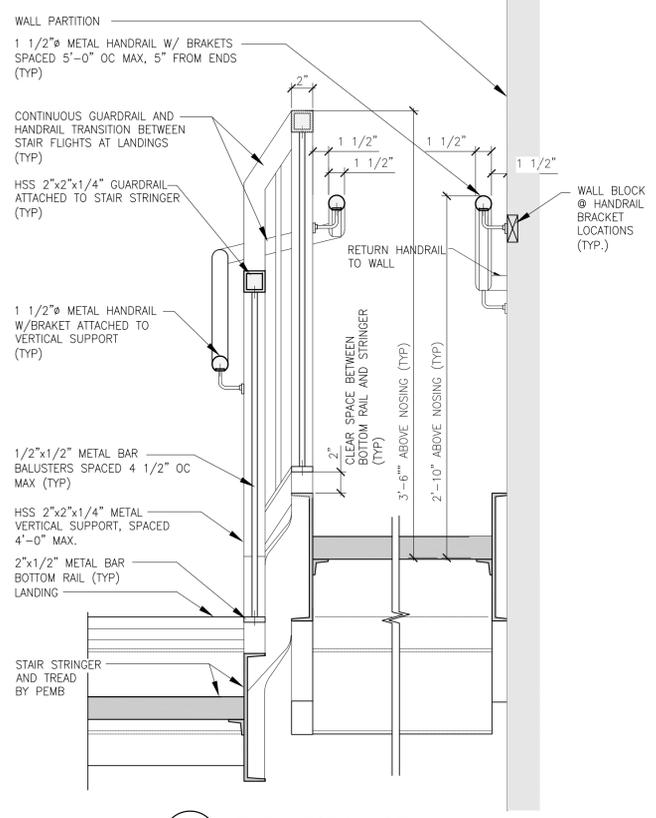
1 STAIR 6 - FIRST FLR
A-403 1/4" = 1'-0"



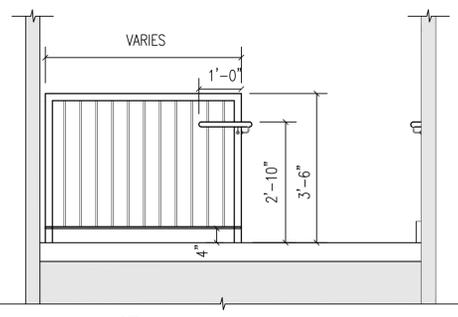
8 STAIR 7 - SECTION
A-403 1/4" = 1'-0"



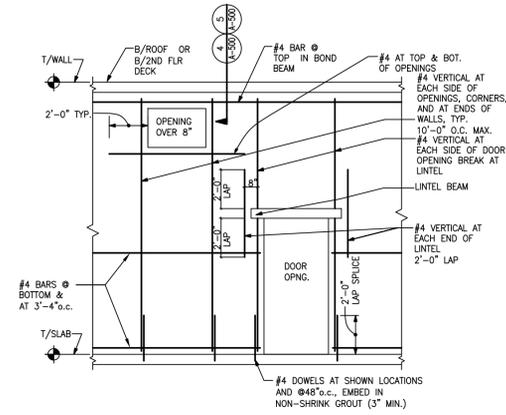
7 STAIR 6 - SECTION
A-403 1/4" = 1'-0"



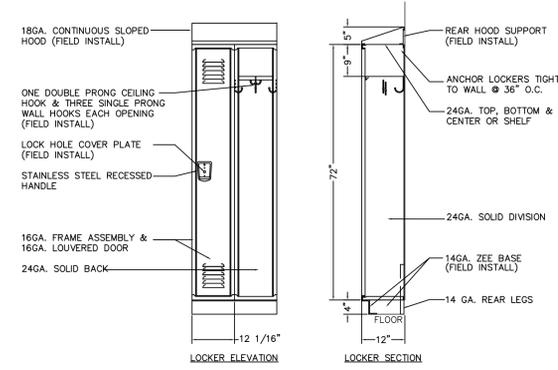
6 STAIR SECTION DTL
A-403 1 1/2" = 1'-0"



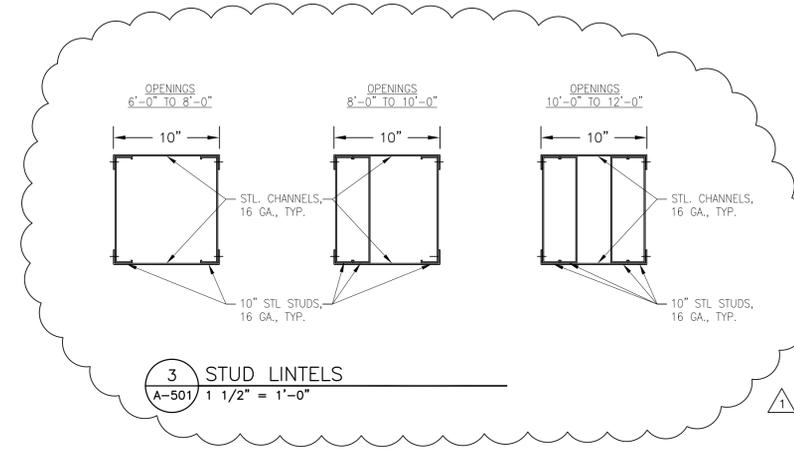
10 GUARDRAIL DTL
A-403 1/2" = 1'-0"



1 ELEV.-TYP. PARTITION REINF.
A-501 N.T.S.



2 LOCKER ELEV. & SECTION
A-501 1\"/>



3 STUD LINTELS
A-501 1 1/2\"/>

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CONTRACT: **CONSTRUCTION**
TITLE: **PROVIDE CITYSCAPE COMPLEX**
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5900 AIRPORT ROAD
ORISKANY, NY 13424**
CLIENT: **DIVISION OF HOMELAND SECURITY
& EMERGENCY SERVICES**

REVISED DRAWING
08/15/2012

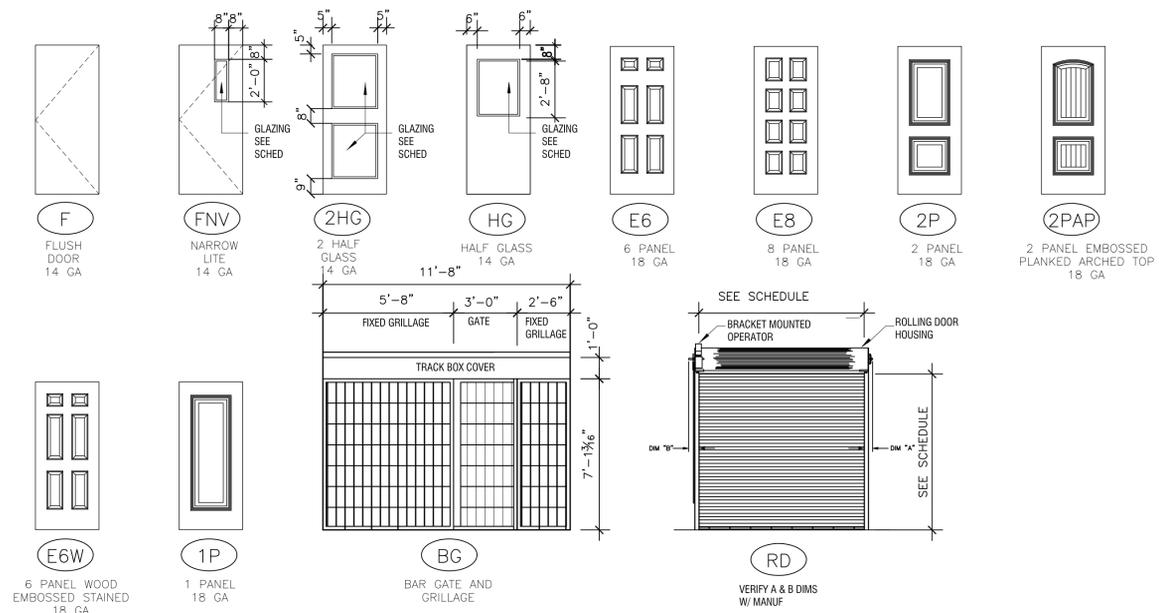
MARK	DATE	DESCRIPTION
△	08/15/2012	ADDENDUM NO. 2
	07/05/2012	FINAL SUBMISSION
PROJECT NUMBER:		44014-C
DESIGNED BY:		XXXXX
DRAWN BY:		XXXXX
FIELD CHECK:		XXXXX
APPROVED:		XXXXX

SHEET TITLE:
PARTITION DTLS.
DRAWING NUMBER:
A-501
SHEET X OF X

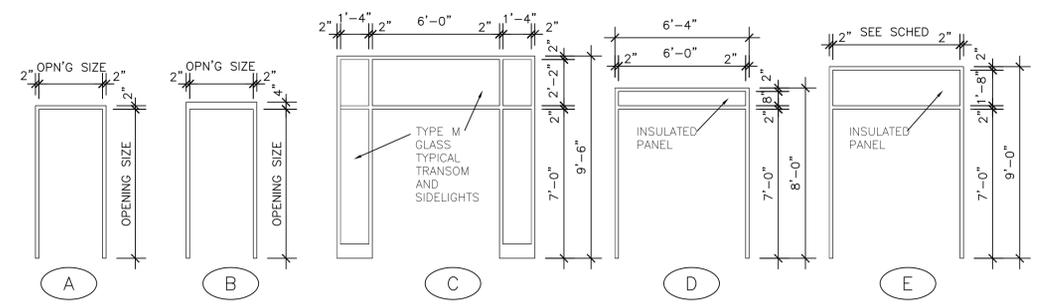
PE	MATL	DETAIL			GLAZING TYPE	FIRE RATING	DOOR HAND	HDWE GRP	REMARKS
		HEAD	JAMB	SILL					
	STL	1/A-602	2/A-602	--	D	--	--	10	
	ALM	13/A-602	14/A-602	11&12/A-602	M	--	--	1	
	STL	1/A-602	2/A-602	--	--	--	--	10A	
	STL	1/A-602	2/A-602	--	--	--	--	4A	
	STL	1/A-602	2/A-602	--	D	--	--	9	
	STL	1/A-602	2/A-602	--	D	--	--	9	
	STL	1/A-602	2/A-602	--	--	--	--	10	
	STL	1/A-602	2/A-602	--	--	--	--	22	
	STL	1/A-602	2/A-602	--	--	--	--	22	
	--	--	--	--	--	--	--	--	
	STL	1/A-603	2/A-603	--	--	--	--	6	
	STL	1/A-602	2/A-602	--	D	--	--	11	
	STL	1/A-602	2/A-602	--	--	--	--	10	
	STL	1/A-602	2/A-602	--	--	--	--	8	
	STL	1/A-602	2/A-602	--	D	--	--	11	
	--	5/A-605	6/A-605	--	--	--	--	--	PRY TYPE BREACH DOOR
	STL	1/A-602	2/A-602	--	S-1	--	--	12	
	STL	1/A-602	2/A-602	--	S-1	--	--	9	
	STL	1/A-602	2/A-602	--	--	--	--	10	
	STL	1/A-602	2/A-602	--	--	--	--	5	OUT OF PLAY SIGNAGE
	STL	1/A-603	2/A-603	--	--	--	--	5	
	STL	1/A-602	2/A-602	--	S-1	--	--	12	
	STL	1/A-602	2/A-602	--	--	--	--	10	
	STL	3/A-602	4/A-602	--	--	3/4 HR	--	8	
	STL	1/A-602	2/A-602	--	--	--	--	4	
	STL	1/A-602	2/A-602	--	--	--	--	15	
	STL	9/A-602	10/A-602	--	--	--	--	20	HUNG SLIDING DOORS
	--	5/A-605	6/A-605	--	--	--	--	--	RAM TYPE BREACH DOOR
	STL	9/A-602	10/A-602	--	--	--	--	20	HUNG SLIDING DOORS
	STL	1/A-602	2/A-602	--	--	--	--	15	
	STL	5/A-603	6/-603	--	--	--	--	14A	
	STL	5/A-602	6/A-602	--	--	--	--	16	
	STL	5/A-602	6/A-602	--	--	--	--	10	
	STL	5/A-602	6/A-602	--	--	--	--	9	
	STL	5/A-602	6/A-602	--	--	--	--	10	
	STL	9/A-603	10/A-603	11/A-603	--	--	--	13	
	STL	6/A-604	7/A-604	5/A-604	--	--	--	3A	
	STL	5/A-602	6/A-602	--	--	--	--	10	
	STL	5/A-602	6/A-602	--	S-1	--	--	9	
	--	5/A-605	6/A-605	--	--	--	--	--	HYDRAULIC TYPE BREACH DOOR
	STL	5/A-602	6/A-602	--	S-1	--	--	9	
	STL	1/A-605	2/A-605	--	--	--	--	--	MANUAL SLIDING BAR GATE/G
	--	--	--	--	--	--	--	--	
	STL	5/A-602	6/A-602	--	--	--	--	10	
	STL	3/A-603	4/A-603	--	--	--	--	5	
	STL	5/A-602	6/A-602	--	--	--	--	10	
	STL	5/A-602	6/A-602	--	--	--	--	5	OUT OF PLAY SIGNAGE
	STL	5/A-602	6/A-602	--	--	--	--	10A	
	STL	3/A-604	4/A-604	5/A-604	--	--	--	3	
	STL	5/A-602	6/A-602	--	--	--	--	15	
	STL	5/A-602	6/A-602	--	--	--	--	15	
	--	--	--	--	--	--	--	--	
	STL	5/A-602	6/A-602	--	--	--	--	10A	
	STL	5/A-602	6/A-602	--	--	--	--	10A	
	STL	3/A-604	4/A-604	5/A-604	--	--	--	5	
	STL	7/A-602	8/A-602	--	--	--	--	17	DOUBLE ACTING SPRING PIVO
	STL	5/A-602	6/A-602	--	--	--	--	10	OUT OF PLAY SIGNAGE
	STL	15/A-603	16/A-603	12/A-603	--	--	--	3	
	--	--	--	--	--	--	--	--	
	--	--	--	--	--	--	--	--	
	--	--	--	--	--	--	--	--	
	STL	5/A-602	6/A-602	--	--	--	--	10	
	STL	7/A-603	8/A-603	--	--	--	--	7	
	STL	3/A-603	4/A-603	--	--	--	--	6	
	STL	1/A-603	2/A-603	--	--	--	--	16	
	STL	15/A-603	16/A-603	11/A-603	--	--	--	2	

DOOR SCHEDULE REMARKS

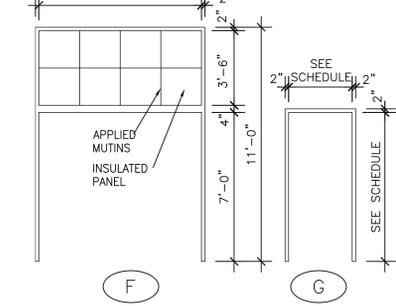
- WHERE NOTED PROVIDE INSULATED INFILL PANELS AT TRANSOMS.
- PAINT EXPOSED METAL FRAMES WITH IAL-3 PAINT SYSTEM AT INTERIOR DOORS AND EAL-2 PAINT SYSTEM AT EXTERIOR DOORS. COLORS SELECTED BY DIRECTOR'S REPRESENTATIVE.
- UNLESS OTHERWISE NOTED, PAINT INTERIOR STEEL DOORS WITH IAL-3 PAINT SYSTEM AND EXTERIOR DOORS WITH EAL-2 PAINT SYSTEM. COLORS SELECTED BY DIRECTOR'S REPRESENTATIVE.
- DOOR SCHEDULED AS OUT OF PLAY ARE TO BE PROVIDED WITH A SIGN AS SHOWN ON THIS DRAWING MOUNTED CENTERED ON THE DOOR 5'-0" AFF.
- REFER TO STRUCTURAL DWGS. FOR MASONRY LINTEL SCHEDULE. REFER TO DTL. 3/A-501 FOR STUD LINTEL SCHEDULE.



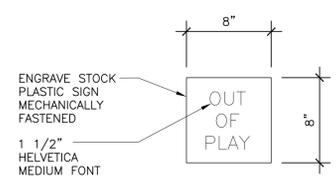
DOOR TYPES



FRAME TYPES



FRAME TYPES



SIGN TYPE

ANDREW M. CUOMO
Governor
ROANN M. DESTITO
Commissioner
JAMES M. DAVIES, A.I.A.
Deputy Commissioner, Design and Construction

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CONTRACT: **CONSTRUCTION**
TITLE: **PROVIDE CITYSCAPE COMPLEX**
BUILDING NO. XXX
LOCATION: **STATE PREPAREDNESS TRAINING CENTER**
5900 AIRPORT ROAD
ORISKANY, NY 13424
CLIENT: **DIVISION OF HOMELAND SECURITY & EMERGENCY SERVICES**

REVISED DRAWING
08/15/2012

MARK	DATE	DESCRIPTION
△	08/15/2012	ADDENDUM NO 2
	07/05/2012	FINAL SUBMISSION
PROJECT NUMBER:	44014 - C	
DESIGNED BY:	XXXXX	
DRAWN BY:	XXXXX	
FIELD CHECK:	XXXXX	
APPROVED:	XXXXX	

SCHEDULES

DRAWING NUMBER:
A-601



300 STATE STREET, SUITE 201
 ROCHESTER, NY 14614
 P: (585) 454-6110
 F: (585) 454-3066
 www.labeliapc.com
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CONTRACT: **PLUMBING**
 TITLE: PROVIDE CITYSCAPE COMPLEX
 LOCATION: STATE PREPAREDNESS TRAINING CENTER
 5900 AIRPORT ROAD
 ORISKANY, NY 13424
 CLIENT: DIVISION OF HOMELAND SECURITY & EMERGENCY SERVICES

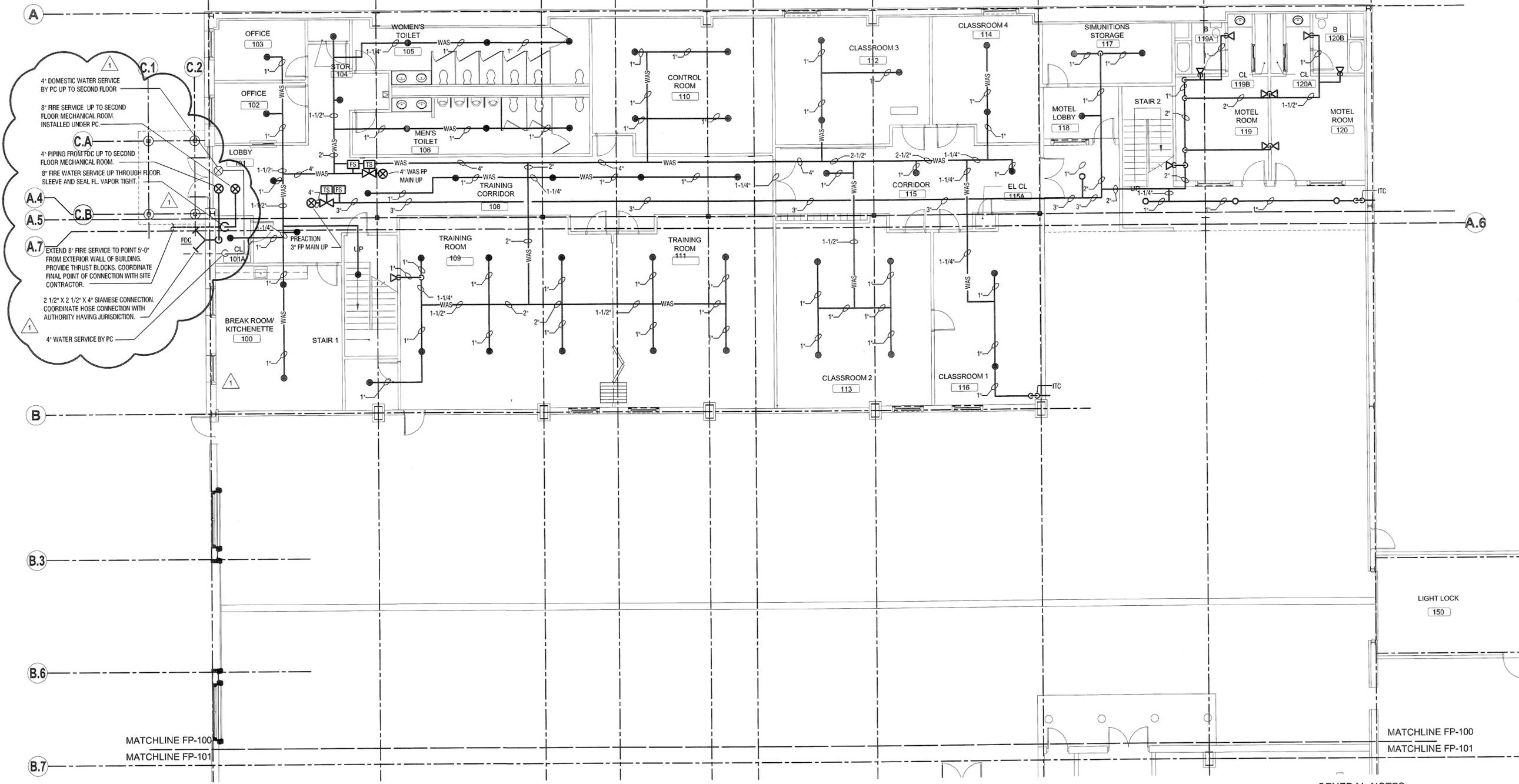
REVISED DRAWING
 08/15/2012

MARK	DATE	DESCRIPTION
1	08/15/2012	ADDENDUM 2
	07/05/2012	FINAL SUBMISSION

PROJECT NUMBER: 44014 - P
 DESIGNED BY: DWM
 DRAWN BY: JMB
 FIELD CHECK: XXXXX
 APPROVED: RWM
 SHEET TITLE:

**NORTH FIRST FLOOR
 FIRE PROTECTION PLAN**

DRAWING NUMBER:
FP-100
 SHEET X OF X



A.1 4" DOMESTIC WATER SERVICE BY PC UP TO SECOND FLOOR

A.2 8" FIRE SERVICE UP TO SECOND FLOOR MECHANICAL ROOM. INSTALLED UNDER PC.

A.3 4" PIPING FROM FDC UP TO SECOND FLOOR MECHANICAL ROOM.

A.4 8" FIRE WATER SERVICE UP THROUGH FLOOR. SLEEVE AND SEAL FL. VAPOR TIGHT.

A.5 EXTEND 8" FIRE SERVICE TO POINT 5'-0" FROM EXTERIOR WALL OF BUILDING. PROVIDE THRUST BLOCKS. COORDINATE FINAL POINT OF CONNECTION WITH SITE CONTRACTOR.

A.6 2 1/2" X 2 1/2" X 4" SIAMESE CONNECTION. COORDINATE HOSE CONNECTION WITH AUTHORITY HAVING JURISDICTION.

A.7 4" WATER SERVICE BY PC

1 FIRST FLOOR FIRE PROTECTION PLAN
 FP-100 SCALE 1/8" = 1'-0"

- GENERAL NOTES:**
- REFER TO ARCHITECTURAL PLANS FOR CEILING TYPES AND ELEVATIONS.
 - REFER TO ARCHITECTURAL, HVAC AND ELECTRICAL PLANS FOR LIGHTS AND DIFFUSER LOCATIONS AND COORDINATE SPRINKLER LOCATIONS WITH MECHANICAL AND ELECTRICAL CONTRACTORS.
 - COORDINATE THE LOCATIONS OF SPRINKLER HEADS WITH CEILING GRID TO CENTER SPRINKLER HEADS IN CEILING TILES.
 - COORDINATE SPRINKLER MAINS AND BRANCH PIPING TO SPRINKLERS LOCATED ABOVE CEILINGS WITH DUCTWORK, PLUMBING DOMESTIC PIPING, HEATING PIPING, AND ELECTRICAL CONDUIT AND CABLE TRAYS. REFER TO HVAC AND ELECTRICAL AND PLUMBING DRAWINGS FOR ABOVE CEILING EQUIPMENT, DUCTWORK, PIPING, CONDUIT, AND CABLE TRAYS.

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Aug 14, 2012 - 1:35pm
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36x24 PLOT SHEET

WARNING:
THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS 'A' MISDEMEANOR.



CONTRACT: **PLUMBING**
TITLE: PROVIDE CITYSCAPE COMPLEX
LOCATION: STATE PREPAREDNESS TRAINING CENTER
5900 AIRPORT ROAD
ORISKANY, NY 13424
CLIENT: DIVISION OF HOMELAND SECURITY & EMERGENCY SERVICES

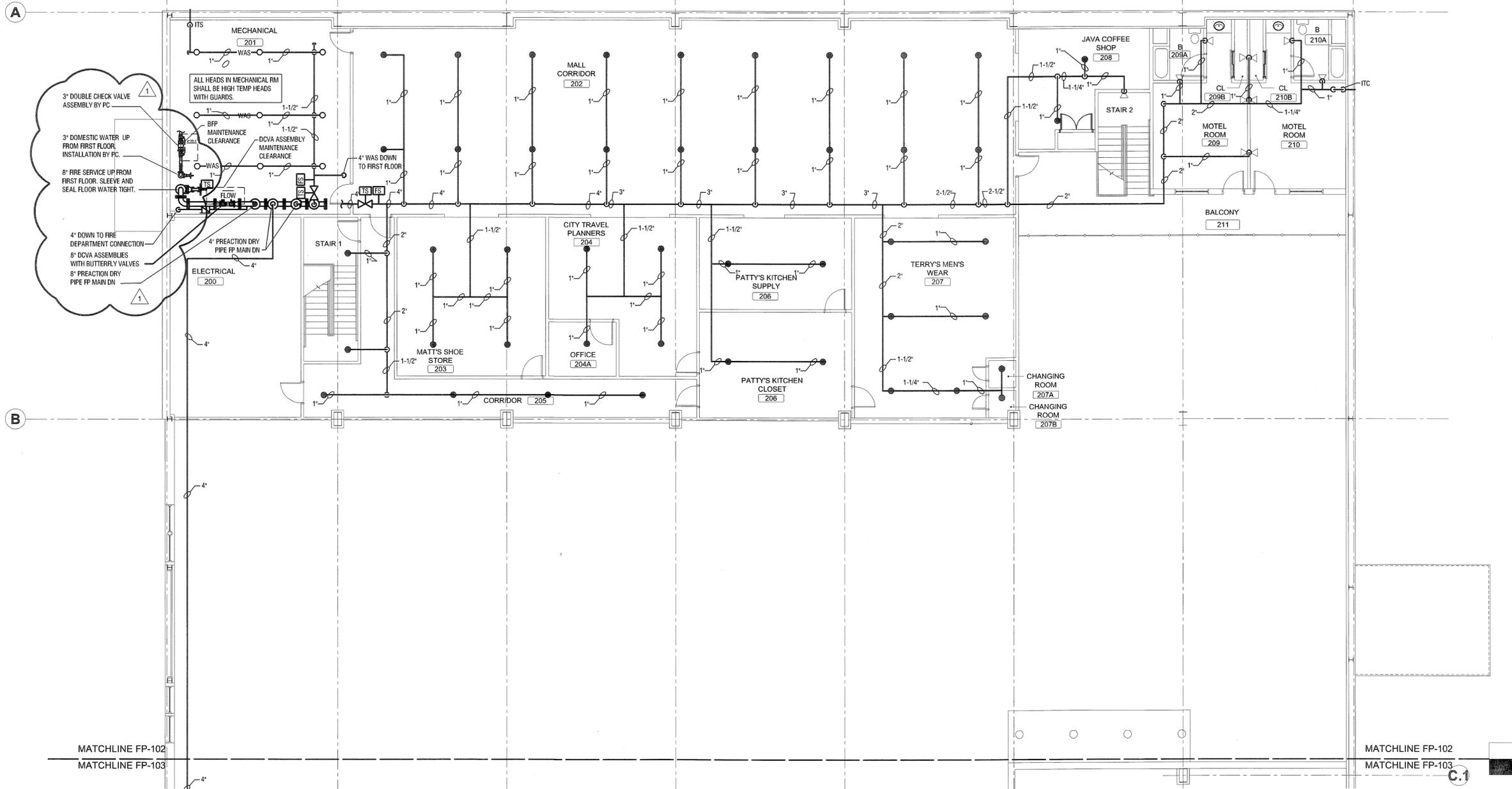
REVISED DRAWING
08/15/2012

MARK	DATE	DESCRIPTION
1	08/15/2012	ADDENDUM 2
	07/05/2012	FINAL SUBMISSION

PROJECT NUMBER: 44014 - P
DESIGNED BY: DWM
DRAWN BY: JMB
FIELD CHECK: XXXXX
APPROVED: RWM

SHEET TITLE:
NORTH SECOND FLOOR FIRE PROTECTION PLAN

DRAWING NUMBER:
FP-102



1 SECOND FLOOR FIRE PROTECTION PLAN
FP-102 SCALE 1/8" = 1'-0"

- GENERAL NOTES:**
- REFER TO ARCHITECTURAL PLANS FOR CEILING TYPES AND ELEVATIONS.
 - REFER TO ARCHITECTURAL, HVAC AND ELECTRICAL PLANS FOR LIGHTS AND DIFFUSER LOCATIONS AND COORDINATE SPRINKLER LOCATIONS WITH HVAC AND ELECTRICAL CONTRACTORS.
 - COORDINATE THE LOCATIONS OF SPRINKLER HEADS WITH CEILING GRID TO CENTER SPRINKLER HEADS IN CEILING TILES.
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