



DESIGN AND CONSTRUCTION GROUP
THE GOVERNOR NELSON A. ROCKEFELLER
EMPIRE STATE PLAZA
ALBANY, NY 12242

ADDENDUM NO. 3 TO PROJECT NO. 44559

CONSTRUCTION WORK, HVAC WORK, PLUMBING WORK, AND ELECTRICAL WORK
PROVIDE STATE POLICE FORENSIC IDENTIFICATION UNIT BUILDING,
HEADQUARTERS ADDITION AND COLD STORAGE BUILDING
TROOP E HEADQUARTERS
1569 ROCHESTER ROAD
CANANDAIGUA, NEW YORK

February 11, 2016

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.

CHANGES TO ADDENDUM NO. 1

1. Item No. 1 of Construction Work Drawings: Drawing C-106, noted "REVISED DRAWING 2/10/2016" accompanies this Addendum and supersedes the same numbered originally issued as Revised Drawing issued 2/2/2016.

CONSTRUCTION WORK SPECIFICATION

2. Page 013300 – 3, Paragraph 1.06 G Delete the word "Construction" in the first sentence.
3. Page 033000 – 7, Subparagraph 2.02 A. 1: Delete "3000 psi with a minimum of 564 pounds per cubic yard or".
4. Page 033000 - 7,
ADD Subparagraph 2.01 T:
Compressible Filler: Composed of asphalt impregnated fibers conforming to ASTM D1751.
 1. A.P.S Fiber Board, 711 Cooper Street, Beverly, NJ 08010
(609) 877-7900
5. Page 310000 – 5, Add Add the Following Article to Part 2 PRODUCTS:
2.01.I Item B-12: Equal Blend of No.1 and No. 2 Crushed Stone that complies with material requirements of DOT Article 703-02, crushed stone only.

Sieve		Percent Passing
Sieve Size	Size opening (mm)	
1-1/2 inch	38.1	100
1 inch	25.4	95-100
½ inch	12.7	45-60
¼ inch	6.35	0-15

HVAC WORK SPECIFICATIONS

6. Page 013300 – 3, Paragraph 1.06 G Delete the word “Construction” in the first sentence.
7. 233113 METAL DUCTWORK: Discard the section in the Project Manual and substitute the accompanying Sections (pages 233113 – 1 thru 233113 – 11) noted Revised 02/10/2016.

PLUMBING WORK SPECIFICATION

8. Page 013300 – 3, Paragraph 1.06 G Delete the word “Construction” in the first sentence.

ELECTRICAL WORK SPECIFICATION

9. Page 013300 – 3, Paragraph 1.06 G Delete the word “Construction” in the first sentence.

CONSTRUCTION WORK DRAWINGS

10. Drawing L-101 Planting Plan:
Change planting reference “3 AF” to “3 QB”, Quercus Bicolor.
11. Revised Drawings:
 - a. Drawing No. C-103 noted “REVISED DRAWING 2/10/2016” accompanies this Addendum and supersedes the same numbered originally issued drawing.
 - b. Drawing No. C-104 noted “REVISED DRAWING 2/10/2016” accompanies this Addendum and supersedes the same numbered originally issued drawing.
 - c. Drawing No. C-105 noted “REVISED DRAWING 2/10/2016” accompanies this Addendum and supersedes the same numbered originally issued drawing.
 - d. Drawing No. C-106 noted “REVISED DRAWING 2/10/2016” accompanies this Addendum and supersedes the same numbered originally issued drawing.
 - e. Drawing No. A-103 H noted “REVISED DRAWING 2/10/2016” accompanies this Addendum and supersedes the same numbered originally issued drawing.
12. Drawing S-101 CS Foundation Plan and Building Section:
 - f. DELETE the construction joints all around the trench drain as shown in plan and on 5A/S-201 CS. Leave Control joints as shown on Foundation Plan.
13. Drawing A-201 CS Exterior Elevations:
 - g. ADD vertical control joints at maximum spacing of 18'-0” o.c. and maximum 9'-0” from corners on all building elevations.
14. Drawing S-501 CS Truss Diagrams:
 - h. DETAIL 2 – Change the cont. angle at the top of wall from L3x3x1/4 to L4x4x1/4.

15. Drawing A-101 H Partial First Floor Removal Plan
 - i. ADD note "Remove existing ceramic tile floor finish at toilet room alcoves H112 & H113 and prepare floor to accept carpet tile to be provided by Facility.
16. Drawing A-103 H Partial First Floor Removal Plan
 - a. ADD note P4 "Existing shower and associated drain, accessories and piping to be removed and capped by P-Contract. Coordinate with MEP contracts.
 - b. ADD note "Remove existing ceramic tile floor finish at toilet room alcoves H141 & H143 and prepare floor to accept carpet tile to be provided by Facility.
17. Drawing 5/A-402 H Int. Elev. Break Room (HA105):
 - a. REMOVE: Solid surface counter top, backsplash and side splashes.
 - b. ADD: Break room counter top, back splash, side splash and cabinets to be plastic laminate. Refer to A/605 H for Finish Color Legend.
18. Drawing 1/A-402 H Enlarged Partial Plan:
 - j. ADD: Wall Type 1 to partition at Vending Machines (N.I.C).
19. Drawing A-604 H Finish Schedule:
 - k. REMOVE note T-2, T-3 Wall Finish from Room Finish Schedule for rooms H160 and H160A
 - l. ADD note GWB, PNT-6 Wall Finish to Room Finish Schedule for rooms H160 and H160A.
 - m. DELETE reference to 5/A605 H for Conference Room HA106.
20. Drawing A-605 F Finish Schedule and Interior Elevations:
 - n. REMOVE PNT-2 from Corridor 101.
 - o. ADD Wood Wall Covering wainscot to Corridor 101, typical all walls.
21. Drawing A-501 CS Section Details:
 - p. DETAIL 3 – Change "Top of Masonry" from +10'-0" to +12'-0".
 - q. DETAIL 5: ADD mortar net, thru wall flashing and weep holes/vents. Refer to Detail 1/A601 CS.

HVAC WORK DRAWINGS

22. Revised Drawing:
 - r. Drawing No. M-001 H, noted "REVISED DRAWING"02-10-2016" accompanies this Addendum and supersedes the same numbered originally issued drawing.
 - s. Drawing No. M-201 H, noted "REVISED DRAWING"02-10-2016" accompanies this Addendum and supersedes the same numbered originally issued drawing.
 - t. Drawing No. M-301 H, noted "REVISED DRAWING"02-10-2016" accompanies this Addendum and supersedes the same numbered originally issued drawing.
 - u. Drawing No. M-401 H, noted "REVISED DRAWING"02-10-2016" accompanies this Addendum and supersedes the same numbered originally issued drawing.
 - v. Drawing No. M-502 F, noted "REVISED DRAWING"02-10-2016" accompanies this Addendum and supersedes the same numbered originally issued drawing.

PLUMBING WORK DRAWINGS

23. Revised Drawing:

- w. Drawing No. F-100 F, noted “REVISED DRAWING”02-10-2016” accompanies this Addendum and supersedes the same numbered originally issued drawing.

ELECTRICAL WORK DRAWINGS

24. Revised Drawing:

- a. Drawing No. E-100 F, noted “REVISED DRAWING”02-10-2016” accompanies this Addendum and supersedes the same numbered originally issued drawing.
- b. Drawing No. E-301 F, noted “REVISED DRAWING”02-10-2016” accompanies this Addendum and supersedes the same numbered originally issued drawing.
- c. Drawing No. E-600 F, noted “REVISED DRAWING”02-10-2016” accompanies this Addendum and supersedes the same numbered originally issued drawing.

Attachments:

Section 265629 - STREET LIGHTING AND GROUNDS LIGHTING

Drawing C-103 – STAGING PLAN

Drawing C-104 – LAYOUT AND SITE PLAN

Drawing C-105 – GRADING AND DRAINAGE

Drawing C-106 – UTILITY PLAN

Drawing A-103 H – PARTIAL FIRST FLOOR REMOVAL PLAN

M-001 H – SYMBOLS LIST, ABBREVIATIONS AND GENERAL NOTES

M-201 H – SCHEDULES

M-301 H – HVAC DETAILS –I

M-401 H – FIRST FLOOR NEW WORK AND ADA PART PLANS

M-502 F – HVAC DETAILS – II

F-100 F – FLOOR PLANS

E-100 F – POWER PLAN

E-301 F – SITE LIGHTING AND SECURITY PLAN

E-600 F – DETAILS SHEET #1 of 3

END OF ADDENDUM

Margaret F. Larkin
Executive Director
Design and Construction

SECTION 233113
METAL DUCTWORK

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Construction Indoor Air Quality Management: Section 018119.

1.02 REFERENCES

- A. American Conference of Governmental Industrial Hygienists (ACGIH).
- B. National Fire Protection Association (NFPA).
- C. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA).

1.03 PERFORMANCE REQUIREMENTS

- A. Design ductwork and supports to withstand all seismic loads. Refer to seismic loading criteria on the Contract Drawings.
- B. Seismic Performance: Design and install ductwork to assure continued performance of their intended function when subjected to the specified seismic forces.
- C. Seismic Performance: Design and install ductwork to assure that they remain in place with no separation of any parts when subjected to the specified seismic forces.
- D. The design of the ductwork and supports shall be performed by a professional engineer experienced in the seismic design of ductwork.

1.04 SUBMITTALS

- A. Shop Drawings:
 - 1. **Layouts for areas in which it may be necessary to deviate substantially from layout shown on the Drawings. Show major relocation of ductwork and major changes in size of ducts. Minor transitions in ductwork, if required due to job conditions, need not be submitted as long as the duct area is maintained.**
 - 2. Layouts of mechanical equipment rooms **and penthouses**
 - 3. Details of intermediate structural steel members required to span main structural steel for the support of ductwork.
 - 4. Method of attachment of duct hangers to building construction.
 - 5. Coordinate shop drawings with related contracts prior to submission.

6. Drawings identifying seismic locations with corresponding details of pre-approved seismic restraints, with seismic loads and seismic force level (Fp) calculations; pre-engineered and stamped by a NYS Licensed Professional Engineer experienced in seismic restraint systems.
- B. Product Data: Material, gage, type of joints, sealing materials, and reinforcing for each duct size range, including sketches or SMACNA plate numbers for joints, method of fabrication and reinforcing. Include ACGIH figure numbers for hoods if applicable.
- C. Quality Control Submittals:
1. Seismic Restraint Manufacturer's Qualifications Data:
 - a. Name of firm producing the seismic restraints, business address and telephone number.
 - b. Period of time firm has been in the business producing seismic restraints, and names and addresses of 3 similar projects that the manufacturer has produced seismic restraints for during the past 5 years.
 2. Company Field Advisor Data:
 - a. Name, business address and telephone number of Company Field Advisor secured for the required services.
 - b. Certified statement from the Company listing the qualifications of the Company Field Advisor.
 - c. Services and each product for which authorization is given by the Company, listed specifically for this project.
 3. Manufacturer's Certificate of Compliance for Seismic Restraints: Certificate from seismic restraint manufacturer stating that the restraint and its mounting system or anchorage has been tested or analyzed and meets the requirements of NYS Building Code (Section 1621).

1.05 QUALITY ASSURANCE

- A. SMACNA: Gages of materials, fabrication, reinforcement, sealing requirements, installation, and method of supporting ductwork shall be in accordance with the following SMACNA manuals, unless otherwise shown or specified:
1. HVAC Duct Construction Standards.
 2. Seismic Restraint Manual Guidelines for Mechanical Systems.
- B. Regulatory Requirements:
1. Seismic components shall be UL listed or California OSHPD (Office of Statewide Health Planning and Development) approved.
 2. Seismic restraints for ductwork shall conform with Appendix B of the SMACNA Seismic Restraint Manual Guidelines for Mechanical systems.
- C. Seismic Restraint Manufacturer's Qualifications: The firm producing the seismic restraints shall be experienced in seismic restraint work and shall have produced seismic restraints on minimum of 3 similar projects over the past 5 years.
- D. Company Field Advisor: Secure the services of a Company Field Advisor from seismic restraint manufacturer for the following:

1. Render advice regarding installation and final adjustment of seismic restraint system.
 2. Render advice on the suitability of each seismic restraint for its particular application.
 3. Inspect completed installation of seismic restraint system and certify with an affidavit that the system is installed in accordance with the Contract Documents and is operating properly.
 4. Train facility maintenance personnel on the installation of seismic restraint system and routine maintenance of the system.
- E. Conform to the applicable requirements of NFPA 90A, 90B, 91, 96, and 101.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Sheet Metal:
1. Aluminum: ASTM B-209, Alloy 3003, Temper H-14.
 2. Galvanized Steel: ASTM A653, Class LFQ (lock forming quality), coating designation G-90.
 3. Stainless Steel: AISI Types 302, 304 and 316, as specified.
- B. Duct Hangers:
1. Strap Hangers: Same material as ducts, except that hangers for stainless steel ducts in unfinished spaces may be galvanized steel.
 2. Rod Type Hangers: Mild low carbon steel, unless otherwise specified; fully threaded or threaded each end, with 2 removable nuts each end for positioning and locking rod in place. Unless stainless steel, galvanized or cadmium plated; shop coat with metal primer.
- C. Miscellaneous Fasteners and Upper Hanger Attachments:
1. Sheet Metal Screws, Machine Bolts and Nuts: Same material as duct, unless otherwise specified.
 2. Concrete Inserts: Steel or malleable iron, galvanized; continuously slotted or individual inserts conforming with MSS SP-58, Types 18 & 19, Class A-B.
 3. C Clamps: Fee & Mason Co.'s 255L with locking nut, and 255S with retaining strap.
 4. Metal Deck Ceiling Bolts: B-Line Systems, Inc.'s Fig. B3019.
 5. Welding Studs: Erico Fastening Systems, capacitor discharge, low carbon steel, copper flashed.
 6. Structural (carbon) Steel Shapes and Steel Plates: ASTM A36, shop primed.
 7. Stainless Steel Shapes and Plates: ASTM A276 and ASTM A666.
 8. Machine Bolt Expansion Anchors:
 - a. Non-caulking single unit type: FS FF-S-325, Group II, Type 2, Class 2, Style 1.
 - b. Non-caulking double unit type: FS FF-S-325, Group II, Type 2, Class 2, Style 2.
 - c. Self-drilling type: FS FF-S-325, Group III, Types 1 and 2.

2.02 FABRICATION - GENERAL

- A. Fabricate ductwork from galvanized sheet metal, except as follows:
 - 1. Fabricate the following ductwork from aluminum:
 - a. Exhaust ductwork from shower rooms.
 - 2. Fabricate the following ductwork from stainless steel:
 - a. Exhaust ductwork connected to laboratory exhaust fume hoods. Install stainless steel from the individual hood to its respective fan and from the fan to the point of discharge to the outside air. Use AISI Type 316 stainless steel.
 - b. Use stainless steel with a No. 4 finish where installed exposed in finished rooms and No. 2B finish in other locations. Use stainless steel fasteners for ductwork installed exposed in finished rooms and where fastener penetrates duct. Galvanized fasteners may be used in unfinished spaces for non-penetrating service.
- B. Dissimilar Metals: Separate dissimilar metals used for ductwork with 12 oz vinyl coated woven fiberglass duct connector fabric, such as Duro Dyne's Glasseal. No separation is required between screws or rivets and the materials in which they are inserted.

2.03 FABRICATION OF STAINLESS STEEL DUCTS

- A. Use minimum No. 20 gage for exhaust ducts connected to other hoods.
- B. Use stainless steel reinforcing members for ducts in finished spaces and galvanized steel in unfinished spaces.

2.04 DOUBLE WALL DUCT SYSTEM

- A. All round supply, return and exhaust ductwork shown on the plans to be insulated shall be SPIROsafe Double Wall as manufactured by Lindab, Inc. The duct system shall consist of fittings that are factory fitted with a sealing gasket and spiral duct which, when installed according to the manufacturer's instructions, will seal the duct joints without the use of duct sealer.
- B. All duct and fittings shall be G-90 galvanized steel in accordance with ASTM A-653 and A-924.
- C. Perforated liner on double wall duct shall consist of 1/8 inch perforations on ¼ inch staggered centers corresponding to an overall open area of 23%.
- D. Retaining fabric shall be 0.008 inch thick, 15.6 lb/ft³ density with air permeability rate of 9.2 ft³/ft²*s.
- E. Fiberglass insulation shall have a maximum conductivity factor (k) of 0.26 BTU- in/hr-ft²-F at 75 F mean ambient temperature.
- F. Insulation stop shall be closed cell polyethylene foam, 1.7 lb/ft³ in accordance

with ASTM E-84.

- G. All double wall fittings shall come factory equipped with a double lipped, U-profile, EPDM rubber gasket. Gasket shall be manufactured to gauge and flexibility so as to insure that system will meet the performance criteria set forth in the manufacturer's literature. Gasket shall be classified by UL to conform to ASTM E84-91a and NFPA 90A =flame spread and smoke developed ratings of 25/50.
- H. Double wall duct and fittings shall consist of a perforated or solid inner liner, a **2 inch, 1.50 lb/ft³ layer** of fiber glass insulation and a solid outer pressure shell. When a perforated inner liner is specified, a retaining fabric shall be wrapped between the perforated inner and the fiber glass insulation. This fabric provides fiber tear retention while maintaining acoustical properties. For **2 inch** thick insulation, the outer pressure shell diameter shall be **4 inches** larger than the inner liner.
- I. All double wall duct and fittings shall be furnished with a foam insulation stop. Fitting inner liner shall be flush with the outer shell. Duct inner liner shall be recessed.
- J. All fitting ends shall be calibrated to manufacturer's published dimensional tolerance standard.
- K. All fittings and outer diameters shall have rolled over edges for added strength and rigidity during installation and shipping.
- L. Double wall to single wall transitions shall be provided where insulated duct connects to non-insulated, single wall duct. Transitions reduce the double wall outer shell diameter to the inner shell diameter.

2.05 REGISTERS AND GRILLES INSTALLED IN EXPOSED DUCTWORK

- A. Frames are not required for registers and grilles installed directly in uninsulated exposed ductwork.
- B. Cut openings in ducts, forming a double thickness of metal, to attach registers or grilles with sheet metal screws. Bend back edges of openings into duct, on all 4 sides, a minimum of 1 inch to provide the thickness of metal stated above. Provide felt or sponge rubber gasketing, all 4 sides of duct openings, for supply grilles and supply registers.

2.06 AIR DIFFUSERS INSTALLED IN EXPOSED DUCTWORK

- A. Frames are not required for diffusers installed directly in uninsulated exposed ductwork.
- B. Cut and form openings in ducts, to accommodate the specified volume control damper and adjustable equalizing grid assembly. Reinforce openings as required and approved. Provide felt or sponge rubber gasketing, around duct opening, for supply diffuser assemblies.

2.07 VIBRATION ISOLATION FOR DUCTWORK

- A. Type: Combination rubber and spring type designed for insertion in a split hanger rod for isolating ductwork from the overhead construction.
 - 1. Approved isolators: Amber Booth Type BSSR, Korfund Type VX, Mason Industries, Type DNHS, Vibration Eliminator Co. Type SNRC and Vibration Mountings and Controls Type RSH.

2.08 SEISMIC RESTRAINT SYSTEM FOR DUCTWORK

- A. General:
 - 1. Coordinate all structural attachments with the Director's Representative.
 - 2. Design analysis shall include calculated dead loads, static seismic loads, and capacity of materials utilized for the connection of the equipment or system to the structure.
 - 3. Analysis shall detail anchoring methods, bolt diameter, and embedment depth.
 - 4. Design seismic restraint devices to accept without failure the forces calculated per the applicable building code and as specified.
 - 5. Construct seismic supports so that support engagement is maintained.
 - 6. Stamp seismic supports with manufacturer's name and part number for identification.
 - 7. Design seismic supports specifically for mitigation of seismic force loads.
 - 8. Design the stiffness of seismic restraints for mechanical equipment so that the load path for the restraint performs its intended function.
 - 9. Where possible, utilize components designed with tamper resistant break-off bolt heads or break-off nuts to assure visual verification of proper installation.
 - 10. Attachment components shall be UL Listed catalog components with published loads designed specifically for seismic application.
- B. **Type: Pre-engineered seismic restraint system designed to support and restrain ductwork to meet applicable lateral force requirements.**
- C. **Acceptable Manufacturers:**
 - 1. **B-Line.**
 - 2. **Mason Industries.**
 - 3. **TOLCO Inc.**
- D. **Strut/Channel Bracing: 12 gauge solid steel with no holes, 1-5/8 inches wide x 1-5/8 inches deep of single lengths or stitch-welded back-to-back configurations.**
- E. **Pipe Bracing: Schedule 40 steel pipe.**
- F. **Cable Bracing: Pre-stretched galvanized aircraft cable 7 x 19 strand core.**
- G. **Rigid Seismic Braces For Single Hung Duct Systems: A12 strut channel or schedule 40 steel pipe**

1. **Maximum Brace Length: 13 feet 1 inches.**
- H. Rigid Seismic Braces For Trapeze Supported Duct Systems: A12 strut channel or schedule 40 steel pipe**
1. **Maximum Brace Length: 13 feet 1 inches.**
- I. Cable Seismic Braces For Single Hung Duct Systems: Pre-stretched aircraft cable 7 x 19 core.**
- J. Cable Seismic Braces For Trapeze Supported Duct Systems: Pre-stretched aircraft cable 7 x 19 core.**
- K. Structural Attachments for Rigid and Cable Seismic Braces for Single Hung and Trapeze Supported Duct Systems:**
1. **Structural attachments shall be positive.**
 2. **Do not make structural attachments to the bottom of a bar joist.**
 3. **Supplemental steel shall be installed for all pre-cast decks less than 4 inches thick**
 4. **Do not use concrete inserts or continuous concrete insert strut to attach brace.**
 5. **Wedge type anchors are permitted. The size and embedment depth will be determined by the manufacturer, and as approved..**
- L. Vertical Brace Component (up-thrust protection):**
1. **Reinforce Vertical Hanger Rod when lengths exceed the following**
 - a. **3/8 inch dia rod: 19 inches.**
 - b. **1/2 inch dia rod: 25 inches.**
 - c. **5/8 inch dia rod: 31 inches.**
 - d. **7/8 inch dia rod: 43 inches.**
 - e. **1 inch dia rod: 50 inches.**
 - f. **1-1/4 inch dia rod: 62 inches.**

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

- A. Install ductwork to allow maximum headroom. Properly seam, brace, stiffen, support and render ducts mechanically airtight. Adjust ducts to suit job conditions. Dimensions may be changed as approved, if cross sectional area is maintained.
- B. Provide necessary transformation pieces, and flexible fabric connections for ductwork connected to air handling equipment or air inlet and outlet devices.

3.02 SEALING SEAMS, JOINTS, AND PENETRATIONS

- A. Seal ductwork in accordance with the SMACNA Manual except for the following:
 1. Ductwork Specified to be Insulated: Conform with Seal Class A for all pressure classes.

3.03 HANGERS FOR DUCTS, UNDER 2 INCHES W.G.

- A. Install hangers for ducts as specified in the SMACNA Manual, with the following exceptions:
 - 1. Rectangular ducts up to 42 inches wide, not having welded or soldered seams, and supported from overhead construction; extend strap hangers down over each side of the duct and turn under bottom of duct a minimum of 2 inches. Secure hanger to duct with 3 full thread sheet metal screws, one in the bottom and 2 in the side of the duct.
 - 2. Rectangular ducts 43 inches wide and over, and all sizes of duct with welded or soldered seams, and supported from overhead construction; use trapeze hangers.
 - 3. Prime coat plain steel rods threaded at the site immediately after installation with metal primer.

3.04 HANGERS FOR DUCTS, 2 INCHES W.G. AND OVER

- A. Install hangers for ducts as specified in the SMACNA Manual, with the following exceptions:
 - 1. Support rectangular ducts, regardless of size, by means of trapeze hangers, framed all four sides. Provide minimum 1 x 1 x 1/8 inch angle iron framing for duct having a maximum side dimension up to and including 36 inches in size. Install framing snug to all four sides of duct.

3.05 UPPER HANGER ATTACHMENTS

- A. General:
 - 1. Secure upper hanger attachments to structural steel or steel bar joists wherever possible.
 - 2. Do not use drive-on beam clamps, flat bars or bent rods, as upper hanger attachments.
 - 3. Do not attach hangers to steel decks which are not to receive concrete fill.
 - 4. Do not attach hangers to precast concrete planks less than 2-3/4 inches thick.
 - 5. Avoid damage to reinforcing members in concrete construction.
 - 6. Metallic fasteners installed with electrically operated or powder driven tools may be used as upper hanger attachments, in accordance with the SMACNA Manual, with the following exceptions:
 - a. Do not use powder driven drive pins or expansion nails.
 - b. Do not attach powder driven or welded studs to structural steel less than 3/16 inch thick.
 - c. Do not support a load, in excess of 250 lbs from any single welded or powder driven stud.
 - d. Do not use powder driven fasteners in precast concrete.
- B. Attachment to Steel Frame Construction: Provide intermediate structural steel members where required by ductwork support spacing. Select steel members for use as intermediate supports based on a minimum safety factor of 5.
 - 1. Secure upper hanger attachments to steel bar joists at panel points of joists.

2. Do not drill holes in main structural steel members.

3.06 DUCT RISER SUPPORTS, UNDER 2 INCHES W.G.

- A. Support vertical round ducts by means of double-ended split steel pipe riser clamps bearing on floor slabs or adjacent structural members, at every other floor through which the riser passes.
- B. Unless otherwise specified or shown on the drawings, support vertical rectangular ducts by means of two steel angles, secured to duct and resting on floor slab or adjacent structural steel member, at every other floor through which the duct passes. Size supports as follows:

MAX. SIDE DIMENSION (inches)	SUPPORT ANGLE (inches)	SECURE TO DUCT WITH	MIN BEARING AT EACH END (inches)
36	1 x 1 x 1/8	Screws	2
48	1-1/2 x 1-1/2 x 1/8	Bolts	3
60	2 x 2 x 1/8	Bolts	3
61 - up	2-1/2 x 2-1/2 x 3/16	Bolts	4

3.07 DUCT RISER SUPPORTS, 2 INCHES W.G. AND OVER

- A. Support vertical round ducts by means of double-ended split steel pipe riser clamps welded to the ducts and bearing on floor slabs or adjacent structural members, at every other floor through which the riser passes.
- B. Support vertical rectangular ducts by means of two steel angles or channels, anchor bolted to floor slab or adjacent structural member at every other floor through which the riser passes. Secure steel angles or channels to a transverse joint by means of 3/8 inch bolts, or by welding. Size supports as follows:

MAXIMUM SIDE DIMENSION (inches)	SUPPORT ANGLE (inches)	SUPPORT CHANNEL (inches)	MINIMUM BEARING AT EACH END (inches)
36	1 x 1 x 1/8	1 x 1/2 x 1/8	2
48	1-1/2 x 1-1/2 x 1/8	1-1/2 x 3/4 x 1/8	3
60	2 x 2 x 1/8	2 x 1 x 1/8	3
61 - up	2-1/2 x 2-1/2 x 3/16	2 x 1 x 3/16	4

3.08 VIBRATION ISOLATION FOR DUCTWORK

- A. Install vibration isolation in accordance with the manufacturer's printed installation instructions, unless otherwise specified.
- B. High Velocity Ductwork Installed within Mechanical Equipment, Machine and Penthouse Mechanical Equipment Rooms: Provide combination rubber and

spring type isolators, designed for insertion in a split hanger rod for overhead supported ductwork and double rubber-in-shear isolators for floor supported ductwork. Provide isolators designed for a static deflection of 1/2 inch.

3.09 SEISMIC RESTRAINT SYSTEM FOR DUCTWORK

A. General:

1. Do not use powder-actuated fasteners for seismic restraint anchorage in tension applications.
2. Install seismic restraints in accordance with seismic restraint manufacturer's printed installation instructions and guidelines unless otherwise specified.
3. Laterally support vertical risers with riser clamps at each floor unless otherwise specified.
4. When systems cross building seismic separation points, pass between buildings, or are supported from different portions of the building, install to allow differential support displacements without damaging the duct, equipment or support connections.
5. Do not brace seismic bracing to different parts of the building that may respond differently during seismic activity.
6. Provide adequately sized openings in walls, floors, and ceilings for anticipated seismic movement. Provide fire stopping in fire-rated walls.
7. Seismic restraint installations shall not cause any modifications in the positioning of equipment or piping resulting in stresses or misalignment.
8. No rigid connections between equipment, piping, duct, or conduit shall be made to the building structure that degrades the noise and vibration isolation system specified.
9. Bracing attached to structural members may present additional stresses. Submit loads to the Director's Representative for approval.
10. Provide vertical stiffening components to support rods when necessary to accept compressive loads. Welding of components to vertical support rods is not acceptable.
11. Notify Director's Representative if any discrepancies between the specifications and field conditions prior to installation.

B. Seismic Restraints for Ductwork:

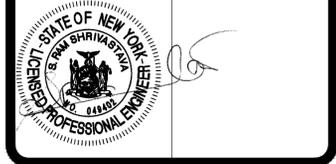
1. Provide seismic restraint of ductwork systems in accordance with the latest edition of the seismic Restraint Manual.
2. Provide seismic restraint on all ductwork systems:
3. Ductwork not requiring Seismic restraints include the following:
 - a. Ducts suspended by individual hangers 12 inches or less in length from the top of the duct to supporting structure, providing the hangers are detailed to avoid significant bending of the hangers and their connections.
 - b. Ducts having a cross-sectional area of less than 6 square feet.
4. Provide longitudinal and transverse seismic restraints in accordance with the Contract Drawings, with members sized in accordance with tables for seismic Level A, as defined in the latest edition of SMACNA Seismic Restraint Manual.
5. Brace trapeze assemblies supporting ducts considering the total weight of the duct on the trapeze.

6. Provide transverse bracing at 30 ft. maximum spacing for duct.
7. Provide longitudinal bracing at 60 ft. maximum spacing for duct.
 - a. Transverse restraints for one duct section may also act as a longitudinal restraint for a duct section of the same size perpendicular to it if the restraint is installed within 24-inches of the elbow centerline or tee or combined stresses are within allowable limits at longer distances.
 - b. Brace duct running perpendicular to or over the top of fire suppression and or hazardous piping as required if its failure can cause damage to those systems.
8. Equipment installed in-line with the duct system (ex. Fans, humidifiers, etc) with an operating weight greater than 75 lbs. shall be supported and laterally braced independently of the duct system and shall meet the force requirements of Section 1621.1.4 of Building Code of New York State.
9. The interaction between mechanical and electrical equipment and the supporting structures shall be designed into the seismic restraint systems.
10. Friction clips shall not be used for anchorage attachments.
11. Components mounted on vibration isolation systems shall have a bumper restraint or snubber in each horizontal direction and vertical restraints shall be provided to resist overturning.
12. Brace vibration isolated duct with cables to allow flexibility.

Revised 02/10/2016

END OF SECTION

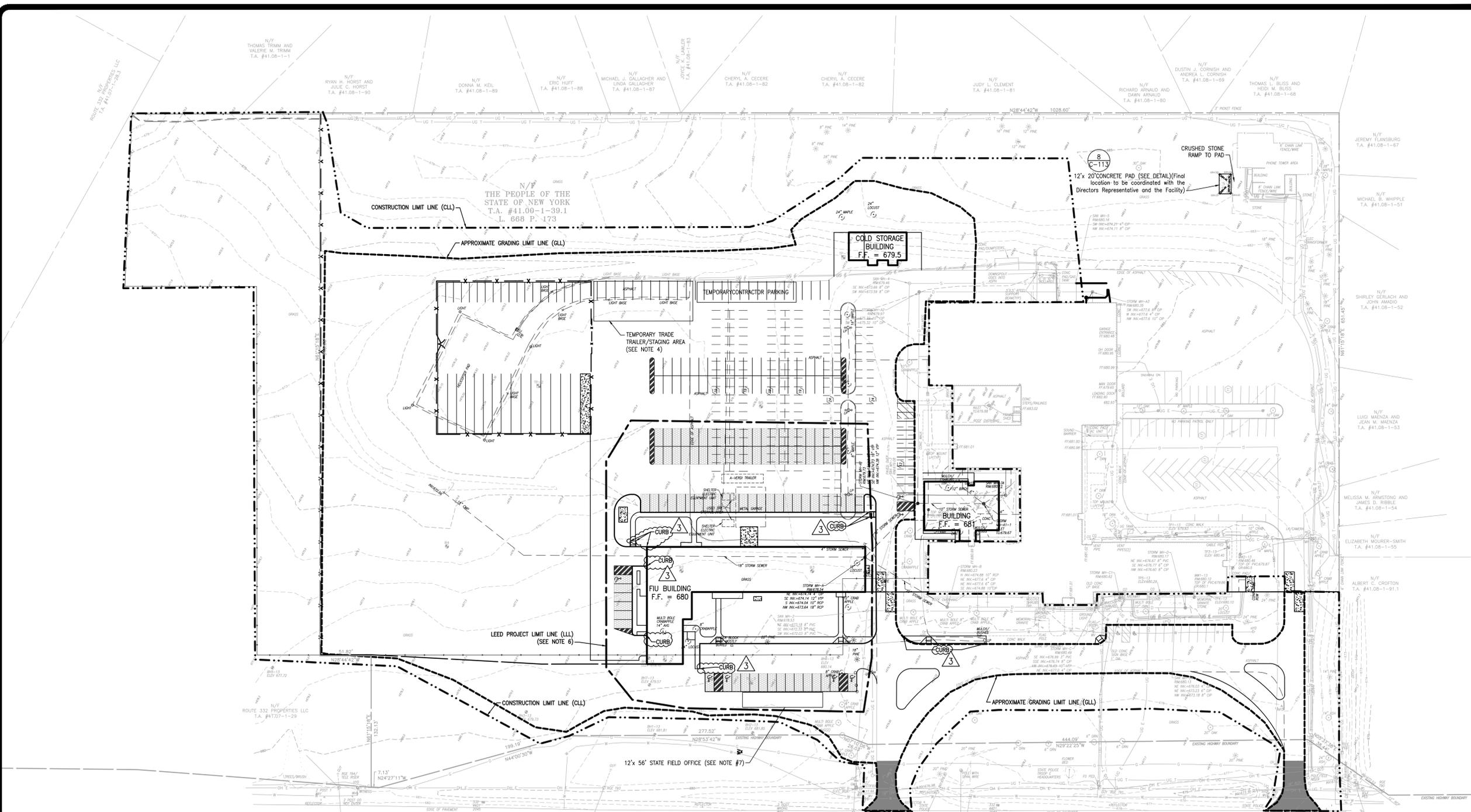
WARNING:
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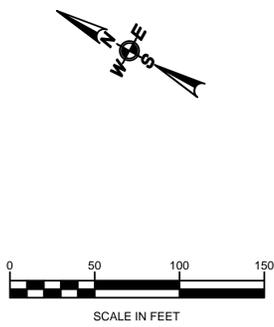
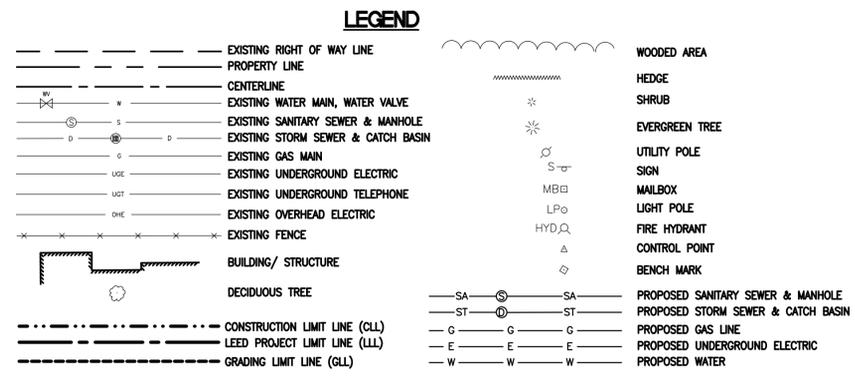
CONTRACT: CONSTRUCTION
TITLE: PROVIDE STATE POLICE FORENSIC IDENTIFICATION UNIT BUILDING, HEADQUARTERS ADDITION AND COLD STORAGE BUILDING
LOCATION: TROOP "E" HEADQUARTERS, 1569 ROCHESTER ROAD, CANANDAIGUA, NEW YORK
CLIENT: NEW YORK STATE POLICE TROOP E

MARK	DATE	DESCRIPTION
	10/12/2014	60% SUBMISSION
	01/16/2015	PROGRESS - 100% CD
	03/04/2015	100% SUBMISSION
	08/27/2015	BID DOCUMENT
3	02/10/2016	REVISED PER ADDENDUM 3

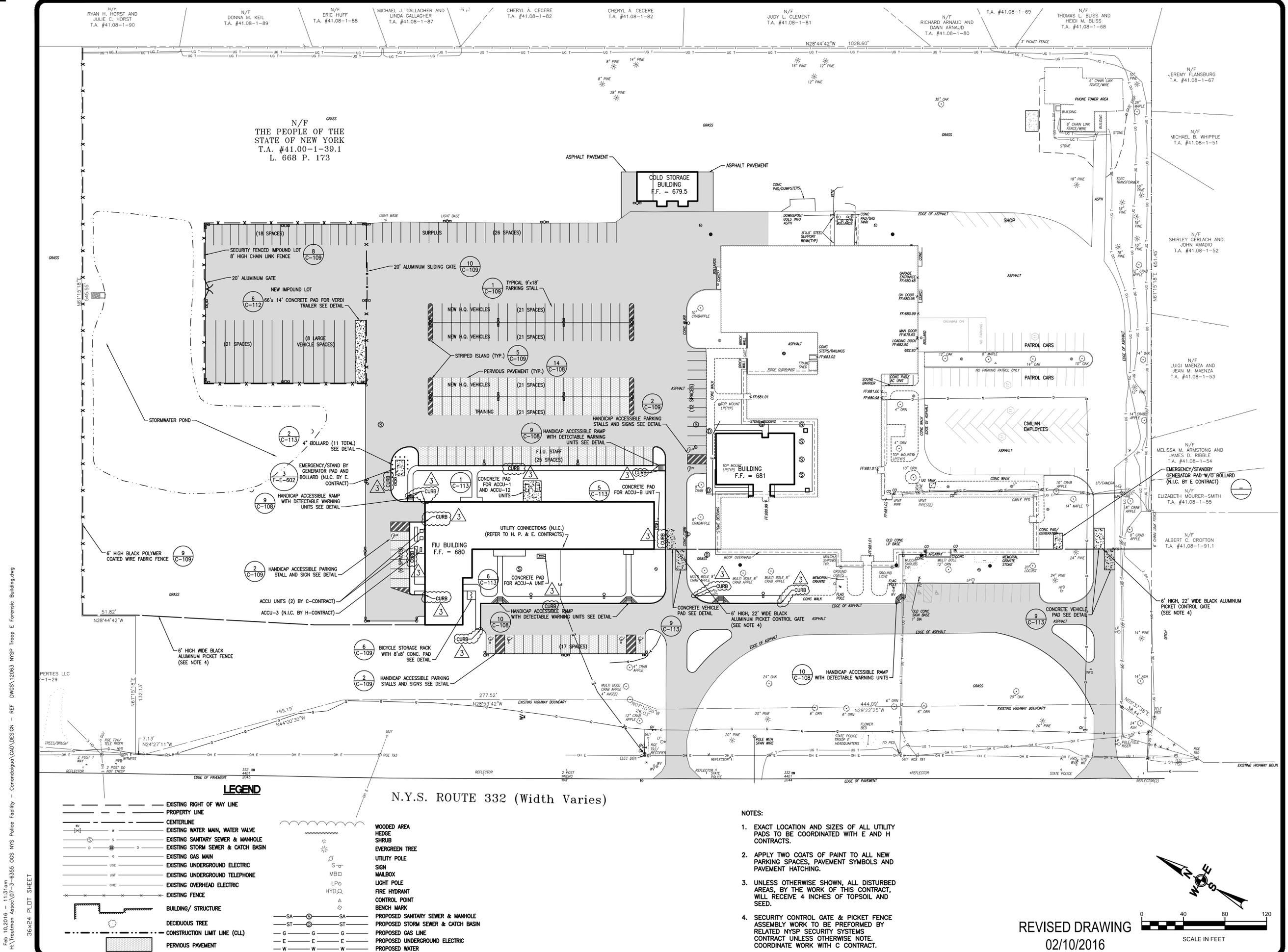
PROJECT NUMBER:	44559 - C
DESIGNED BY:	S.E.F.
DRAWN BY:	K.M.S.
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	STAGING PLAN
DRAWING NUMBER:	C-103
SHEET	16 OF 256



- NOTES:**
- CONTRACTOR SHALL COORDINATE REMOVAL AND RELOCATION OF IMPOUND VEHICLES WITH DIRECTOR'S REPRESENTATIVE.
 - PROVIDE THE OWNER WITH ACCESS TO THE IMPOUND/VEHICLE STORAGE LOTS AT ALL TIMES.
 - SHOULD THE CONTRACTOR REQUIRE ACCESS WITHIN THE IMPOUND VEHICLE STORAGE LOT, AN ESCORT WILL BE REQUIRED. PROVIDE 48 HOURS NOTICE TO THE DIRECTOR'S REPRESENTATIVE BEFORE AN ESCORT WILL BE NEEDED.
 - ADJUST THE TEMPORARY TRADE TRAILER AND TEMPORARY DUMPSTER LOCATIONS TO ACCOMMODATE CONSTRUCTION ACTIVITIES IN THESE AREAS. ANY DAMAGE TO THE EXISTING ASPHALT PAVEMENT WILL BE THE RESPONSIBILITY OF THE C-CONTRACTOR TO REPAIR AT THE CONCLUSION OF THE PROJECT.
 - PRIOR TO OCCUPYING ANY PORTION OF THE SITE, CONSTRUCT THE PROPOSED SURPLUS VEHICLE AND IMPOUND LOTS. UPON ACCEPTANCE BY THE DIRECTOR'S REPRESENTATIVE, THE LOTS SHALL BE TURNED OVER TO THE OWNER FOR THEIR EXCLUSIVE USE. THE DIRECTOR'S REPRESENTATIVE WILL THEN COORDINATE OCCUPANCY OF THE SITE WITH THE CONTRACTOR.
 - THE PORTION OF THE PROJECT THAT IS PURSUING LEED SILVER STATUS IS DEFINED BY THIS BOUNDARY. REFER TO SPECIFICATION SECTION 018113 "LEED DOCUMENTATION REQUIREMENTS". SPECIFICATION SECTION 017419 "CONSTRUCTION WASTE MANAGEMENT" APPLIES TO THE ENTIRE PROJECT (NOT ONLY THE PORTION WITHIN THE LEED LIMIT LINE).
 - STATE FIELD OFFICE, 12' x 56', PROVIDE AND INSTALL TEMPORARY ELECTRICAL, INTERNET/TELEPHONE, SEWER AND WATER SERVICES. CONTRACTOR TO COORDINATE WITH EXISTING UTILITIES AND OBTAIN ALL NECESSARY PERMITS. (FINAL LOCATION TO BE DETERMINED BY DIRECTOR'S REPRESENTATIVE) CONTRACTOR TO COORDINATE TEMPORARY ELECTRICAL SERVICE. NOTE THAT INTERNET/TELEPHONE CONNECTIONS MAY REQUIRE A RUN OF 1,200 FT. OR MORE. REFER TO SECTION 01520 OF THE PROJECT MANUAL.
 - CONTRACTOR SHALL PROVIDE BYPASS PUMPING OF SANITARY SERVICE DURING DEMOLITION AND CONSTRUCTION OF SANITARY SYSTEM(S). EIC TO COORDINATE TEMPORARY SHUTDOWN OF SANITARY FACILITIES AND REASSIGNMENT OF PERSONNEL DURING SANITARY WORK.



REVISED DRAWING
02/10/2016



N/F RYAN H. HORST AND JULIE C. HORST T.A. #41.08-1-90
 N/F DONNA M. KEIL T.A. #41.08-1-89
 N/F ERIC HUFF T.A. #41.08-1-88
 MICHAEL J. GALLAGHER AND LINDA GALLAGHER T.A. #41.08-1-87
 CHERYL A. CECERE T.A. #41.08-1-82
 CHERYL A. CECERE T.A. #41.08-1-82
 N/F JUDY L. CLEMENT T.A. #41.08-1-81
 N/F RICHARD ARNAUD AND DAWN ARNAUD T.A. #41.08-1-80
 T.A. #41.08-1-69
 N/F THOMAS L. BLISS AND HEIDI M. BLISS T.A. #41.08-1-68
 N/F JEREMY FLANSBURG T.A. #41.08-1-67
 N/F MICHAEL B. WHIPPLE T.A. #41.08-1-51
 N/F SHIRLEY GERLACH AND JOHN AMADIO T.A. #41.08-1-52
 N/F LUIGI MAENZA AND JEAN M. MAENZA T.A. #41.08-1-53
 N/F MELISSA M. ARMSTRONG AND JAMES D. RIBBLE T.A. #41.08-1-54
 N/F ELIZABETH MOURER-SMITH T.A. #41.08-1-55
 N/F ALBERT C. CROFTON T.A. #41.08-1-91.1

N/F THE PEOPLE OF THE STATE OF NEW YORK T.A. #41.00-1-39.1 L. 668 P. 173

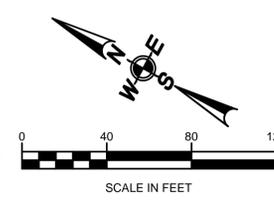
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 36x24 PLDT SHEET

LEGEND

---	EXISTING RIGHT OF WAY LINE	---	WOODED AREA
---	PROPERTY LINE	---	HEDGE
---	CENTERLINE	---	SHRUB
---	EXISTING WATER MAIN, WATER VALVE	---	EVERGREEN TREE
---	EXISTING SANITARY SEWER & MANHOLE	---	UTILITY POLE
---	EXISTING STORM SEWER & CATCH BASIN	---	SIGN MAILBOX
---	EXISTING GAS MAIN	---	LIGHT POLE
---	EXISTING UNDERGROUND ELECTRIC	---	FIRE HYDRANT
---	EXISTING UNDERGROUND TELEPHONE	---	CONTROL POINT
---	EXISTING OVERHEAD ELECTRIC	---	BENCH MARK
---	EXISTING FENCE	---	PROPOSED SANITARY SEWER & MANHOLE
---	BUILDING/ STRUCTURE	---	PROPOSED STORM SEWER & CATCH BASIN
---	DECIDUOUS TREE	---	PROPOSED GAS LINE
---	CONSTRUCTION LIMIT LINE (CLL)	---	PROPOSED UNDERGROUND ELECTRIC
---	PERVIOUS PAVEMENT	---	PROPOSED WATER

N.Y.S. ROUTE 332 (Width Varies)

- NOTES:**
- EXACT LOCATION AND SIZES OF ALL UTILITY PADS TO BE COORDINATED WITH E AND H CONTRACTS.
 - APPLY TWO COATS OF PAINT TO ALL NEW PARKING SPACES, PAVEMENT SYMBOLS AND PAVEMENT HATCHING.
 - UNLESS OTHERWISE SHOWN, ALL DISTURBED AREAS, BY THE WORK OF THIS CONTRACT, WILL RECEIVE 4 INCHES OF TOPSOIL AND SEED.
 - SECURITY CONTROL GATE & PICKET FENCE ASSEMBLY WORK TO BE PERFORMED BY RELATED NYS POLICE SECURITY SYSTEMS CONTRACT UNLESS OTHERWISE NOTE. COORDINATE WORK WITH C CONTRACT.



REVISED DRAWING
 02/10/2016

NEW YORK STATE OF OPPORTUNITY Office of General Services
 DESIGN & CONSTRUCTION

CONSULTANT
TRAUTMAN ASSOCIATES 470 FRANKLIN STREET BUFFALO, NY 14202
 ARCHITECTS / ENGINEERS

LARSEN ENGINEERS
 700 WEST METRO PARK, ROCHESTER, NEW YORK 14623-2678
 (585)272-7310 FAX (585)272-0159
 www.larsen-engineers.com

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STATE OF NEW YORK PROFESSIONAL ENGINEER

CONTRACT: **CONSTRUCTION**

TITLE: PROVIDE STATE POLICE FORENSIC IDENTIFICATION UNIT BUILDING, HEADQUARTERS ADDITION AND COLD STORAGE BUILDING

LOCATION: TROOP "E" HEADQUARTERS 1569 ROCHESTER ROAD CANANDAIGUA, NEW YORK

CLIENT: NEW YORK STATE POLICE TROOP E

MARK	DATE	DESCRIPTION
	10/12/2014	60% SUBMISSION
	01/16/2015	PROGRESS - 100% CD
	03/04/2015	100% SUBMISSION
	08/27/2015	BID DOCUMENT
	02/10/2016	REVISED PER ADDENDUM 3

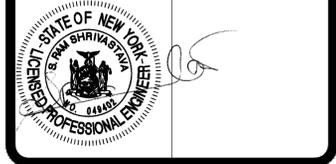
PROJECT NUMBER: **44559 - C**

DESIGNED BY: S.E.F.
 DRAWN BY: K.M.S.
 FIELD CHECK:
 APPROVED:
 SHEET TITLE: **LAYOUT AND SITE PLAN**

DRAWING NUMBER: **C-104**

SHEET 17 OF 256

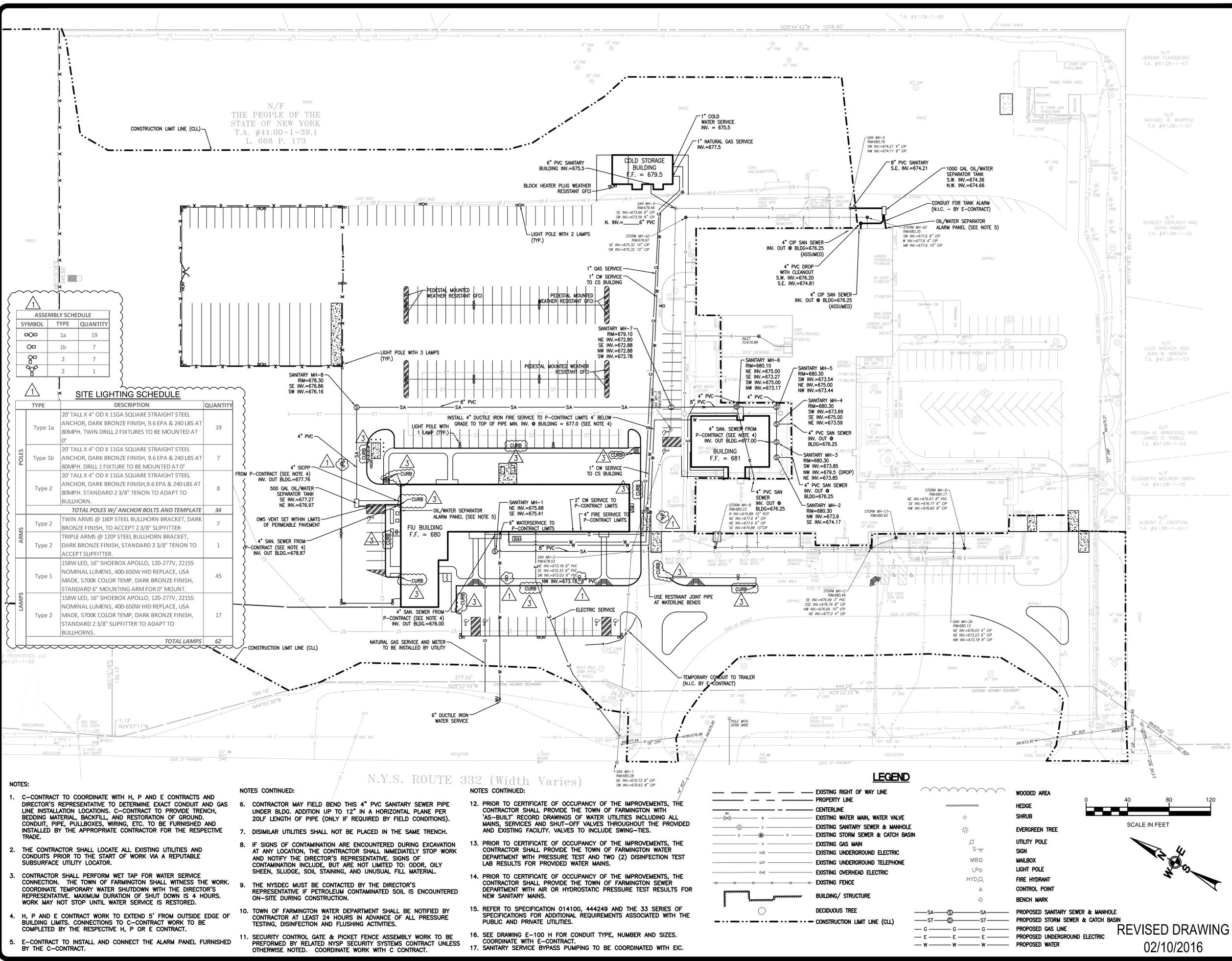
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CONTRACT: CONSTRUCTION
TITLE: PROVIDE STATE POLICE FORENSIC IDENTIFICATION UNIT BUILDING, HEADQUARTERS ADDITION AND COLD STORAGE BUILDING
LOCATION: TROOP "E" HEADQUARTERS
1569 ROCHESTER ROAD
CANANDAIGUA, NEW YORK
CLIENT: NEW YORK STATE POLICE
TROOP E

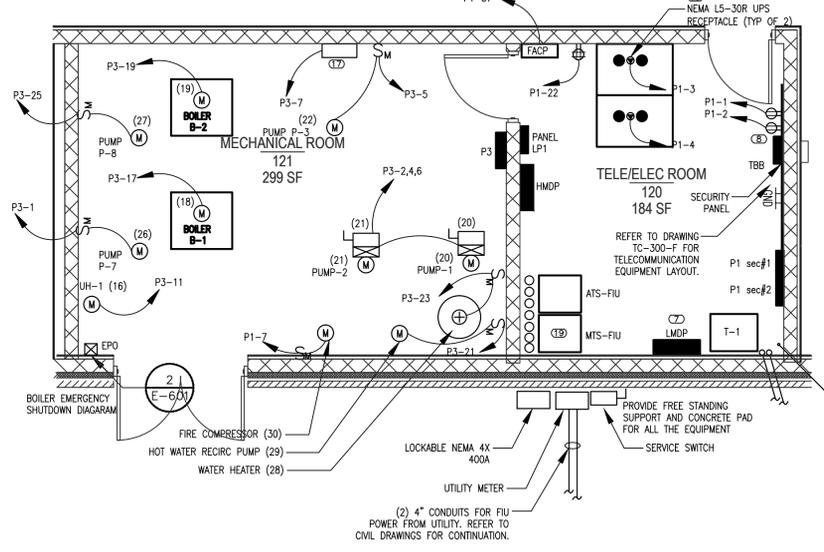
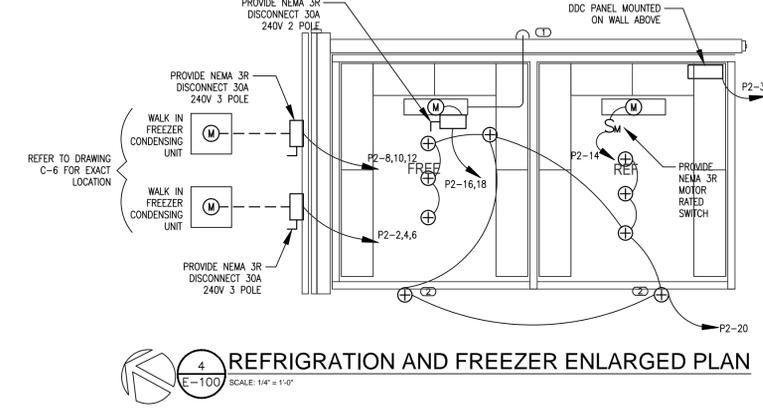
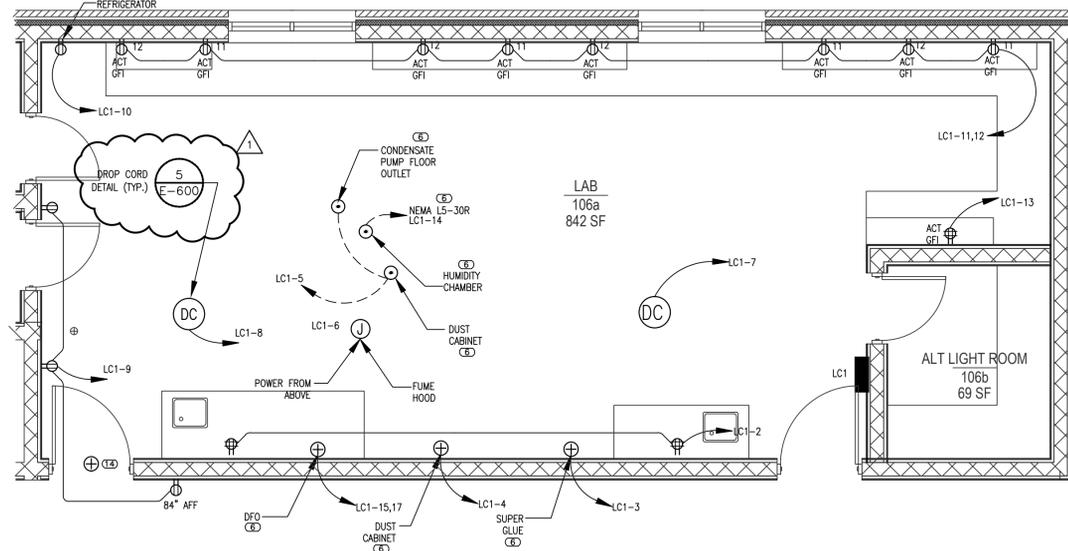
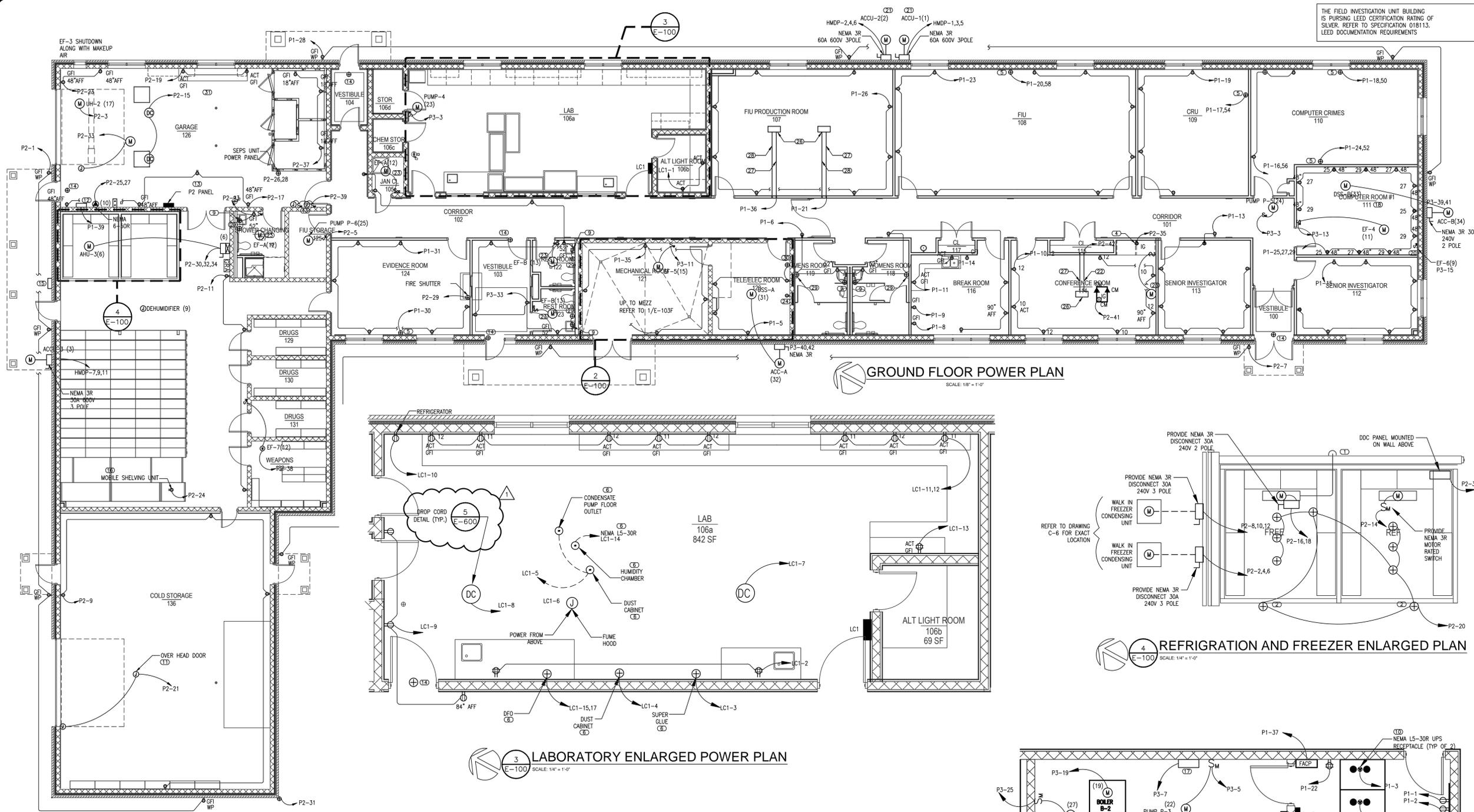
MARK	DATE	DESCRIPTION
	10/12/2014	60% SUBMISSION
	01/16/2015	PROGRESS - 100% CD
	03/04/2015	100% SUBMISSION
	08/27/2015	BID DOCUMENT
	02/08/2016	REVISED PER ADDENDUM 1
	02/10/2016	REVISED PER ADDENDUM 3

PROJECT NUMBER:	44559 - C
DESIGNED BY:	S.E.F.
DRAWN BY:	K.M.S.
FIELD CHECK:	
APPROVED:	
SHEET TITLE:	UTILITY PLAN
DRAWING NUMBER:	C-106
SHEET 19	OF 256



Feb 10, 2016 - 11:29am
H:\Treutman Assoc\07-3-6355_OGS NYS Police Facility - Conandaigua\CAD\DESIGN - REF DWG\12063_NYSP Troop E Forensic Building.dwg
36x24 PLDT SHEET

REVISED DRAWING
02/10/2016



KEYED NOTES:

- HEAT TAPE ON FREEZER CONDENSATE DRAIN FURNISHED & INSTALLED BY PLUMBING CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE ELECTRICAL CONNECTIONS WITH GFI PROTECTION. COORDINATE INSTALLATION WITH PLUMBING CONTRACTOR.
- PROVIDE 120V ELECTRICAL CONNECTION TO FREEZER/COOLER LIGHTS/DOOR HEATERS. PROVIDE ALL INTERCONNECTING BRANCH CIRCUITING AS REQUIRED. COORDINATE INSTALLATION REQUIREMENTS WITH EQUIPMENT VENDOR.
- CEILING MOUNTED VIDEO PROJECTION LOCATION. KEEP CLEAR OF ALL OBSTRUCTIONS. COORDINATE EXACT LOCATION OF CEILING MOUNTED DUPLEX RECEPTACLE OUTLET & CEILING MOUNTED DATA RECEPTACLE OUTLET WITH A/V DRAWINGS.
- COORDINATE OUTLET LOCATION WITH A/V EQUIPMENT PRIOR TO ROUGH-IN.
- PROVIDE ELECTRICAL CONNECTION TO MODULAR FURNITURE. COORDINATE EXACT REQUIREMENTS WITH FURNITURE VENDOR PRIOR TO ROUGH-IN. INSTALL ABOVE BASE MOULDINGS.
- PROVIDE ELECTRICAL CONNECTION TO LABORATORY EQUIPMENT. COORDINATE EXACT REQUIREMENTS AND LOCATION WITH OWNERS EQUIPMENT PRIOR TO ROUGH-IN. PROVIDE BRASS COVER THAT EXCEEDS THE UL SCRUB WATER EXCLUSION REQUIREMENT.
- PROVIDE (2) 4" CONDUITS TO EXISTING TROOP HEADQUARTERS FOR TELECOM, FIRE ALARM & SECURITY CABLING. PROVIDE (1) 1" CONDUIT FOR DDC COMMUNICATIONS TO EXISTING HEADQUARTERS BUILDING. REFER TO TC & SC DRAWINGS & DRAWING E-100H.
- PROVIDE (2) DUPLEX RECEPTACLES FOR SECURITY EQUIPMENT. COORDINATE EXACT REQUIREMENTS WITH NYSP-TYCO AND SECURITY PANEL BY NYSP-TYCO.
- MOUNT JUNCTION BOX UNDER SINK FOR FAUCET POWER. PROVIDE RECEPTACLE IF REQUIRED.
- SECURE UPS RECEPTACLE TO OVERHEAD LADDER RACK. REFER TO TC SERIES DRAWINGS FOR ADDITIONAL INFORMATION.
- PROVIDE DOUBLE GANG BACKBOX WITH MUD RING & BLANK COVERPLATE IN THE CEILING & ON THE WALL FOR FUTURE OVERHEAD DOOR & CONTROLS. PROVIDE 3/4" CONDUIT BETWEEN BOXES BACK TO PANEL P2 WITH PULLSTRING.
- OIL/WATER SEPARATOR CONTROL PANEL FURNISHED & INSTALLED BY C-CONTRACT. ELECTRICAL CONTRACTOR TO PROVIDE ELECTRICAL CONNECTIONS. PROVIDE 1" CONDUIT WITH PULL STRING TO OIL/WATER SEPARATOR. COORDINATE WITH SITE CONTRACTOR.
- PROVIDE POWER CONNECTION TO INSTANTANEOUS WATER HEATERS (2).
- PROVIDE 120V CONNECTION TO DOOR HARDWARE. CONNECT TO BRANCH CIRCUIT P3-9. COORDINATE INSTALLATION WITH NYSP-TYCO.
- LOCKABLE NEMA 4X 400A TERMINAL CABINET FOR PORTABLE GENERATOR CONNECTION.
- MOBILE SHELVING POWER. COORDINATE RECEPTACLE LOCATION WITH MOBIL SHELVING UNITS PRIOR TO ROUGH-IN.
- DDC PANEL BY MECHANICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE ELECTRICAL CONNECTIONS. COORDINATE WITH MECHANICAL CONTRACTOR.
- COORDINATE RECEPTACLE ELEVATION WITH FURNITURE VENDOR PRIOR TO ROUGH-IN. OUTLETS SHOULD BE INSTALLED ABOVE THE TOP OF THE FURNITURE TO ALLOW ACCESS.

- MANUAL TRANSFER SWITCH. REFER TO ONE LINE DRAWING DETAIL E-002-F & SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- UP TO EF-6. FOR CONTINUATION REFER TO DRAWING E-102F.
- COORDINATE LOCATION WITH HVAC CONTRACTOR.
- 1" CONDUIT BELOW FLOOR. RISE IN WALL TO ABOVE ACCESSIBLE CEILING. PROVIDE BUSHING AT END OF CONDUIT.
- PROVIDE (1) 20A, 120V CIRCUIT FROM PANEL P2, CIRCUIT #22 WITH 2#12 & 1#12G, 3/4" C TO FEED EXHAUST FANS. PROVIDE FLUSH WALL MOUNTED 120V, 20A RATED OCCUPANCY SWITCH FOR EACH FAN.
- CIRCUIT TO UPS.
- ELECTRIC PROJECTOR SCREEN BY ELECTRIC CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE ELECTRICAL CONNECTIONS. COORDINATE EXACT LOCATIONS WITH ARCHITECTURAL PLANS.
- PROVIDE FLOOR BOX MANUFACTURED BY LEGRAND WIREMOLD CATALOG NO. RFB4. PROVIDE (2) DUPLEX RECEPTACLE BRACKETS MANUFACTURED BY LEGRAND WIREMOLD CATALOG NO. RFBOR. PROVIDE (2) COMMUNICATION BRACKETS MANUFACTURED BY LEGRAND WIREMOLD CATALOG NO. DTB-2-4TKO. PROVIDE FLOORPORT FLANGE COVER MANUFACTURED BY LEGRAND WIREMOLD CATALOG NO. FTBCTCS. COORDINATE WITH FURNITURE CONNECTION PRIOR TO ORDERING COVERS.
- 3/4" CONDUIT BELOW FLOOR. RISE IN WALL TO ABOVE ACCESSIBLE CEILING.
- COORDINATE EXACT LOCATION WITH NYSP-TYCO.
- HARDWIRED CONNECTION FOR PAPER TOWEL DISPENSER. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS.
- HARDWIRED CONNECTION TO SECURITY EQUIPMENT. REFER TO NYSP-TYCO REFERENCE DRAWINGS FOR SECURITY EQUIPMENT REQUIREMENTS.
- (1) 1" EMPTY CONDUIT FOR FUTURE LIFT TO PANEL LMPD.

GENERAL NOTES:

- WORK SHOWN ON THESE DRAWINGS IS THE FULL RESPONSIBILITY OF ELECTRICAL CONTRACTOR, EXCEPT FOR: WORK CLEARLY & SPECIFICALLY SHOWN ON THE REFERENCE DRAWINGS, REFERENCE SPECIFICATIONS, & REFERENCE BILL OF MATERIALS TO BE DONE BY RELATED NYSP-ADT REFERENCE CONTRACT. PROVIDE THE CONDUIT SYSTEM (CONDUIT BOXES, FITTINGS, PULL STRINGS, J-HOOKS, ETC.) FOR NYSP-ADT REFERENCE CONTRACT SECURITY WIRING. PROVIDE ALL SECURITY RELATED OPTICAL FIBER IN COORDINATION WITH THE REFERENCE NYSP-ADT CONTRACT (INCLUDING TERMINATION THEREOF).
- MOUNT ALL DISCONNECT SWITCHES ON OUTSIDE EQUIPMENT OR ON STANCHIONS BEHIND EQUIPMENT, OR FREE STANDING. DO NOT MOUNT ON BUILDING.

THE FIELD INVESTIGATION UNIT BUILDING IS PURSUING LEED CERTIFICATION RATING OF SILVER. REFER TO SPECIFICATION 018113. LEED DOCUMENTATION REQUIREMENTS

CONSULTANT
TRAUTMAN ASSOCIATES
ARCHITECTS / ENGINEERS
470 FRANKLIN STREET
BUFFALO, NY 14202

MEP CONSULTANT
Lakhani & Jordan Engineers, P.C.
315 Madison Avenue, 10th Floor, New York, N.Y. 10017
Tel: (212) 338-8020 Fax: (212) 338-8030

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CONTRACT: **ELECTRICAL**
TITLE: **PROVIDE STATE POLICE FORENSIC IDENTIFICATION UNIT BUILDING, HEADQUARTERS ADDITION AND COLD STORAGE BUILDING**
LOCATION: **TROOP "E" HEADQUARTERS 1569 ROCHESTER ROAD CANANDAIGUA, NEW YORK**
CLIENT: **NEW YORK STATE POLICE TROOP E**

MARK	DATE	DESCRIPTION
△	02/10/2016	ADDENDUM #3
	08/27/2015	BID DOCUMENTS
PROJECT NUMBER:	44559- E	
DESIGNED BY:	RP	
DRAWN BY:	MY	
FIELD CHECK:	TJ	
APPROVED:	TJ	
SHEET TITLE:	POWER PLAN	
DRAWING NUMBER:	E-100	F
SHEET	190	OF 256

REVISED DRAWING
02/10/2016

WARNING:
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ELECTRICAL

TITLE:
PROVIDE STATE POLICE FORENSIC IDENTIFICATION UNIT BUILDING, HEADQUARTERS ADDITION AND COLD STORAGE BUILDING

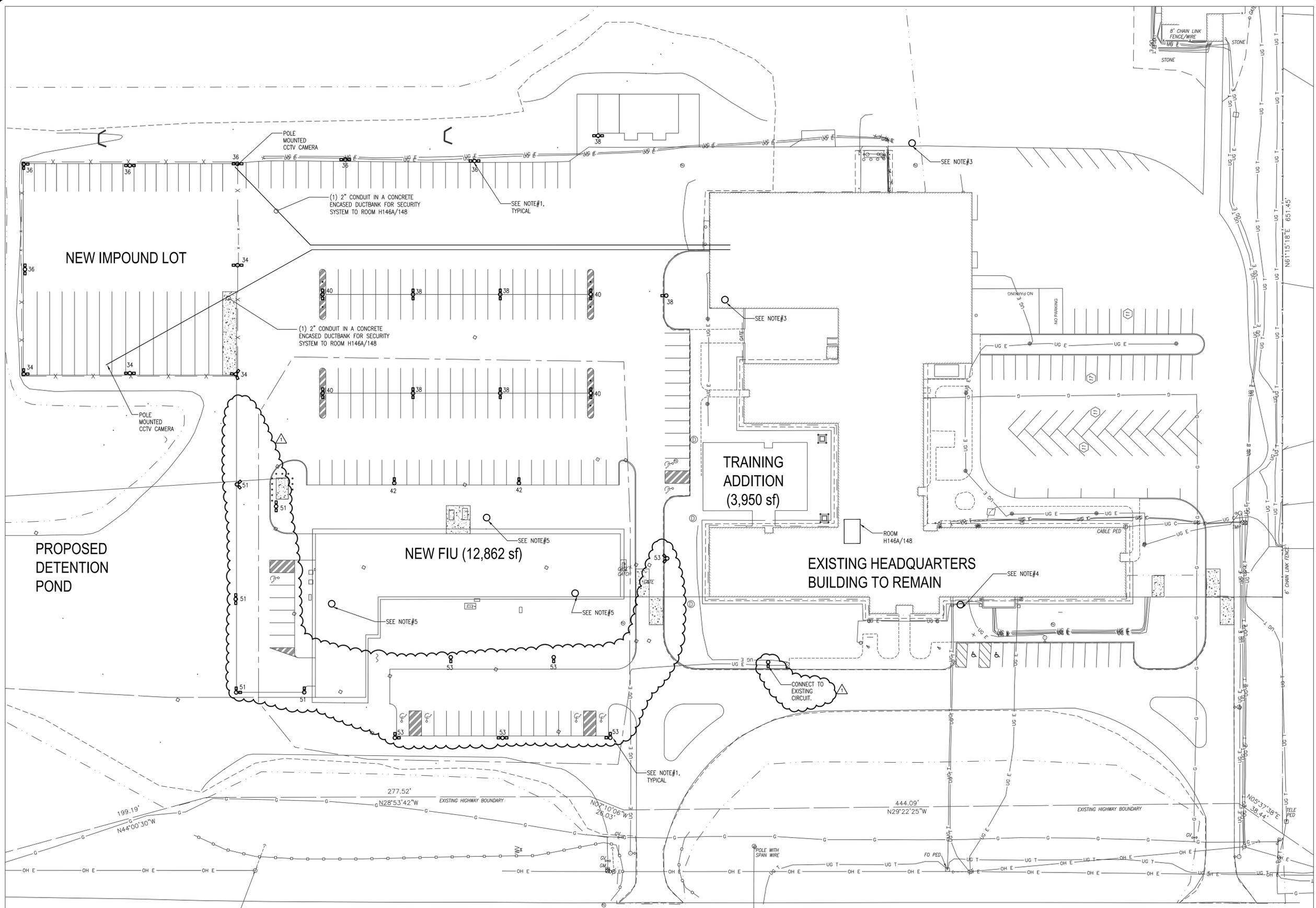
LOCATION:
TROOP "E" HEADQUARTERS
1569 ROCHESTER ROAD
CANANDAIGUA, NEW YORK

CLIENT:
NEW YORK STATE POLICE
TROOP E

MARK	DATE	DESCRIPTION
△	02/10/2016	ADDENDUM #3
	08/27/2015	BID DOCUMENTS
PROJECT NUMBER: 44559- E		
DESIGNED BY: RP		
DRAWN BY: MY		
FIELD CHECK: TJ		
APPROVED: TJ		
SHEET TITLE:		

SITE LIGHTING AND SECURITY PLAN

DESIGNED BY: RP
DRAWN BY: MY
FIELD CHECK: TJ
APPROVED: TJ



1 SITE LIGHTING AND SECURITY PLAN
1/32" = 1'-0"

- NOTES:**
1. REFER TO "C" CONTRACT DRAWINGS FOR SITE LIGHT FIXTURE SCHEDULE, DETAIL, ETC AND PROVIDE ALL WORK. PROVIDE PHOTOCELL FOR EACH FIXTURE TO CONTROL. CONNECT FIXTURES TO PANEL P1, UTILIZE THREE CIRCUITS.
 2. PROVIDE OPENING, FIRE PROOFING, AND WATER PROOFING IN EXISTING FOUNDATION WALL AS REQUIRED TO INSTALL CONDUITS.
 3. BUILDING MOUNTED SECURITY CAMERA CIRCUIT TO PANEL G1.
 4. BUILDING MOUNTED SECURITY CAMERA CIRCUIT TO PANEL PP-2.
 5. BUILDING MOUNTED SECURITY CAMERAS ON FIU CIRCUIT TO PANEL P1

REVISED DRAWING
02/10/2016

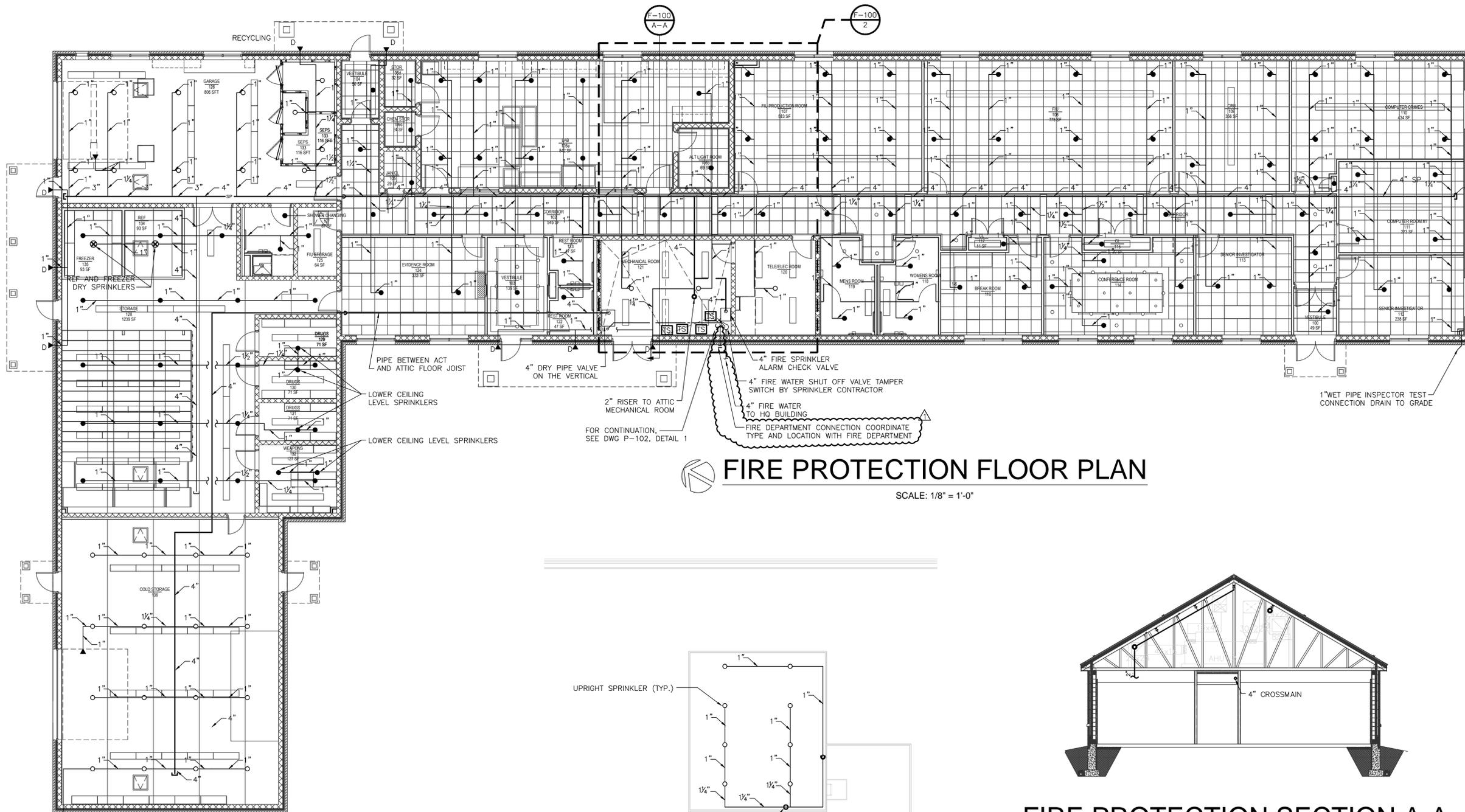
GENERAL DRAWING NOTE

1. CEILINGS, FIXTURES AND EQUIPMENT SPECIFIED FROM ABOVE MAY BE SUPPORTED BY EITHER THE BOTTOM CHORD OF THE TRUSSES OR THE FIRE RATED HORIZONTAL ASSEMBLY. EACH CONTRACTOR SHALL PROVIDE ANY ADDITIONAL SUPPORTS, HANGERS, ETC., REQUIRED TO PERFORM THEIR WORK AND SHALL COORDINATE WITH THE DIRECTOR'S REPRESENTATIVE TO ASSURE ALL ITEMS WHICH PENETRATE THE FIRE RATED HORIZONTAL ASSEMBLY HAVE BEEN INSTALLED PRIOR TO THE INSTALLATION OF THE FIRE RATED HORIZONTAL ASSEMBLY. THE FIRE RATED HORIZONTAL ASSEMBLY SHALL BE PROVIDED WITH OPENINGS AROUND PENETRATIONS, WHICH ARE THE APPROPRIATE SIZE FOR THE REQUIRED FIRE STOPPING SYSTEM. FIRE STOPPING OF THE PENETRATIONS SHALL BE PROVIDED BY THE CONTRACTOR REQUIRING THE PENETRATION AND SUCH CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE THE REQUIRED OPENING SIZES TO THE DIRECTOR'S REPRESENTATIVE FOR COORDINATION WITH THE FIRE RATED HORIZONTAL ASSEMBLY WORK.
2. PIPING EXPOSED IN ROOMS 133, 126, 134, 135, 128, AND 136

KEYED NOTES

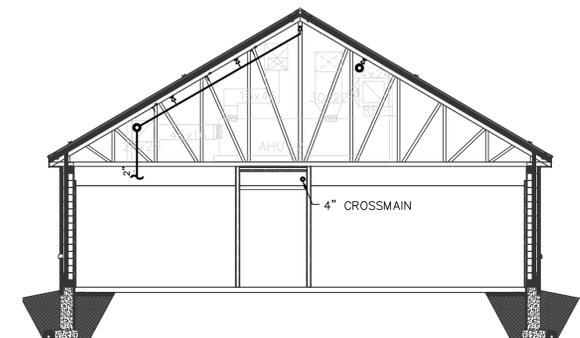
1. PROTECTION OF STORAGE IS BASED ON THE FOLLOWING CRITERIA:
 1. MAXIMUM STORAGE HEIGHT OF 10 FT
 2. MISCELLANEOUS STORAGE COMMODITY TYPE CLASS II
 3. SPRINKLER DISCHARGE OF 0.2 GPM OVER 1500 FT²
 4. TOTAL HOSE ALLOWANCE OF 250 GPM
 5. ORDINARY TEMPERATURE RATED SPRINKLERS
2. PROTECTION OF COLD STORAGE IS BASED ON THE FOLLOWING CRITERIA:
 1. MAXIMUM STORAGE HEIGHT OF 10 FT
 2. MISCELLANEOUS STORAGE COMMODITY TYPE CLASS II
 3. SPRINKLER DISCHARGE OF 0.2 GPM OVER 1950 FT²
 4. TOTAL HOSE ALLOWANCE OF 250 GPM
 5. ORDINARY TEMPERATURE RATED SPRINKLERS

THE FIELD INVESTIGATION UNIT BUILDING IS PURSUING LEED CERTIFICATION RATING OF SILVER. REFER TO SPECIFICATION 018113. LEED DOCUMENTATION REQUIREMENTS



FIRE PROTECTION FLOOR PLAN

SCALE: 1/8" = 1'-0"



FIRE PROTECTION SECTION A-A

SCALE: 1/8" = 1'-0"

FIRE PROTECTION ATTIC MECH. ROOM

SCALE: 1/8" = 1'-0"

WARNING:
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CONTRACT: FIRE PROTECTION

TITLE:
PROVIDE STATE POLICE FORENSIC IDENTIFICATION UNIT BUILDING, HEADQUARTERS ADDITION AND COLD STORAGE BUILDING

LOCATION:
TROOP "E" HEADQUARTERS
1569 ROCHESTER ROAD
CANANDAIGUA, NEW YORK

CLIENT:
NEW YORK STATE POLICE
TROOP E

MARK	DATE	DESCRIPTION
▲	02/10/2016	ADDENDUM #3
	08/27/2015	BID DOCUMENTS
PROJECT NUMBER:	44559- FP	
DESIGNED BY:	VT	
DRAWN BY:	SM	
FIELD CHECK:	VT	
APPROVED:	TJ	
SHEET TITLE:		

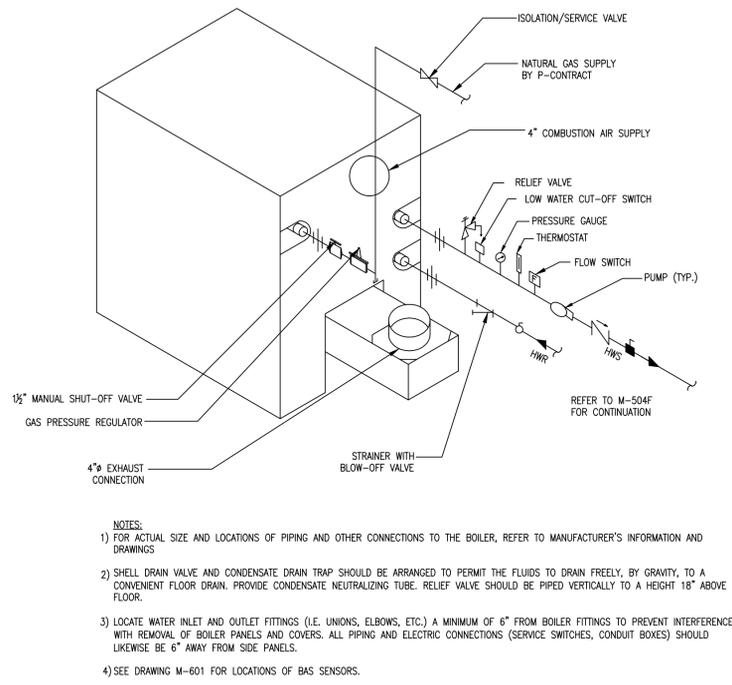
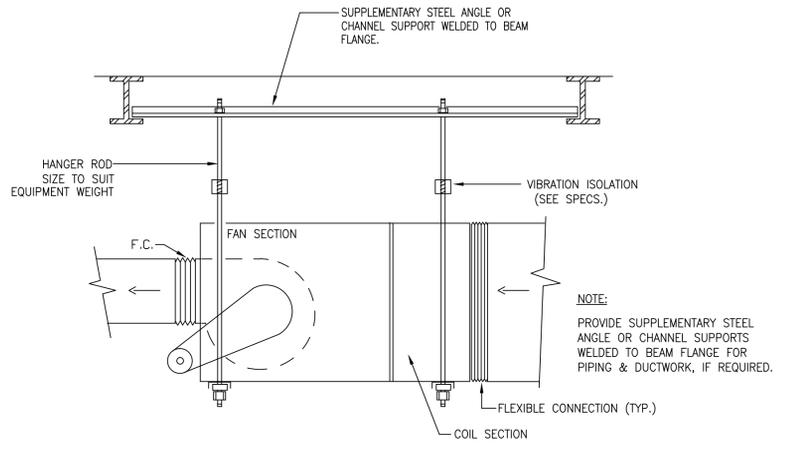
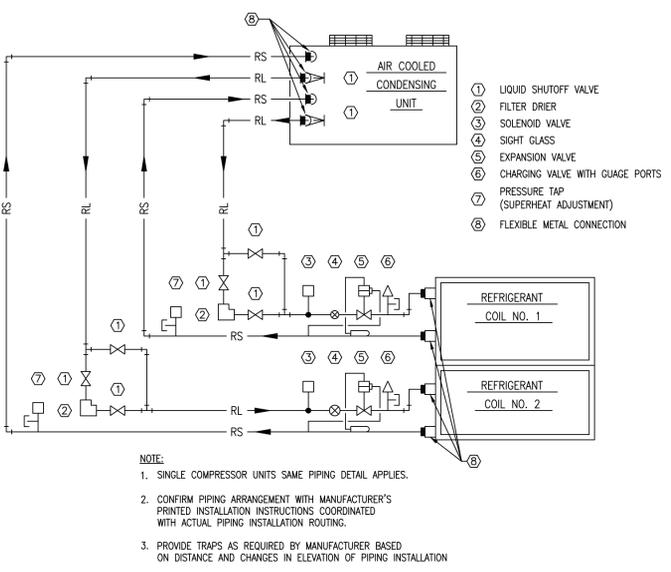
FLOOR PLANS

DRAWING NUMBER:
F-100 F

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CONTRACT: **HVAC**
 TITLE: **PROVIDE STATE POLICE FORENSIC IDENTIFICATION UNIT BUILDING, HEADQUARTERS ADDITION AND COLD STORAGE BUILDING**
 LOCATION: **TROOP "E" HEADQUARTERS 1569 ROCHESTER ROAD CANANDAIGUA, NEW YORK**
 CLIENT: **NEW YORK STATE POLICE TROOP E**

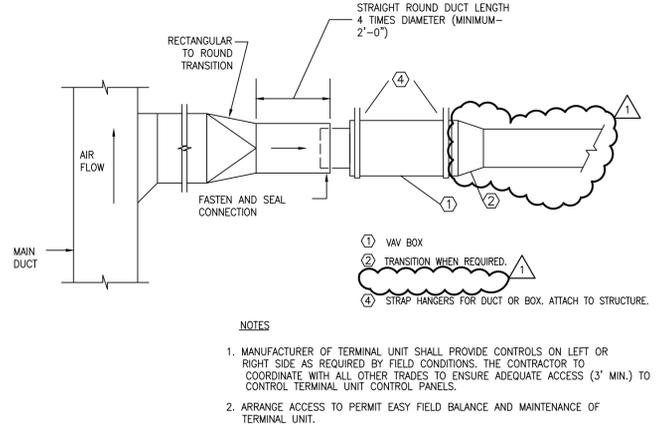
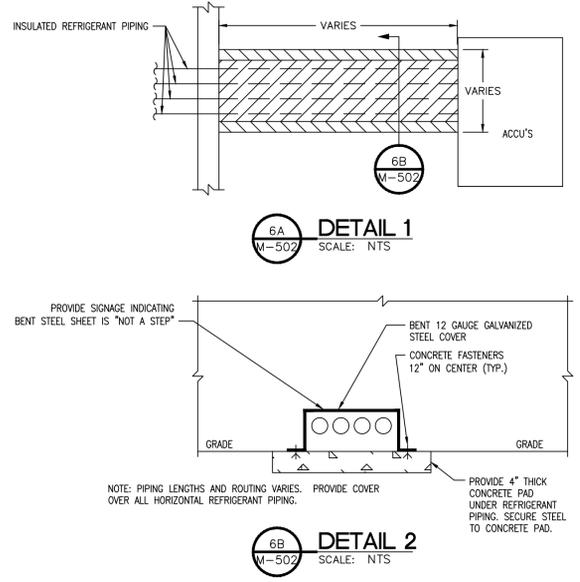
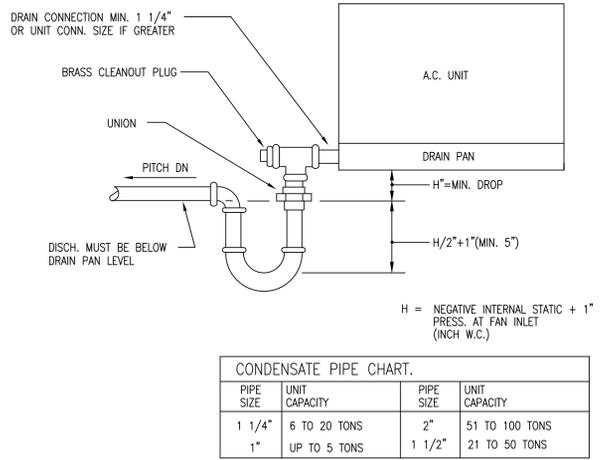
PROJECT NUMBER:	44559- M	
DESIGNED BY:	VT	
DRAWN BY:	SM	
FIELD CHECK:	VT	
APPROVED:	HL	
SHEET TITLE:	HVAC DETAILS-II	
DRAWING NUMBER:	M-502	F



1/M502 AHU REFRIGERANT PIPING DUAL COMPRESSORS (N.T.S.)

2/M502 SUSPENDED AIR HANDLING UNIT DETAIL (AHU-3 ONLY) (N.T.S.)

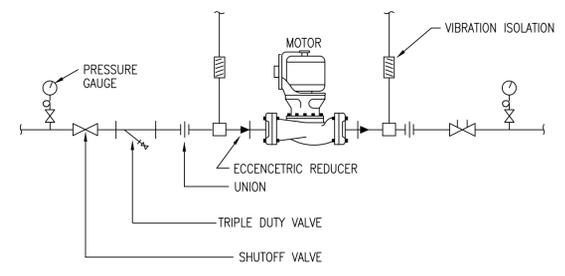
3/M502 BOILER PIPING SCHEMATIC (N.T.S.)



4/M502 CONDENSATE DRAIN PIPING DRAW THRU UNIT (N.T.S.)

6/M502 REFRIGERANT PIPING COVER DETAIL (N.T.S.)

7/M502 VAV BOX DUCT CONNECTIONS (N.T.S.)

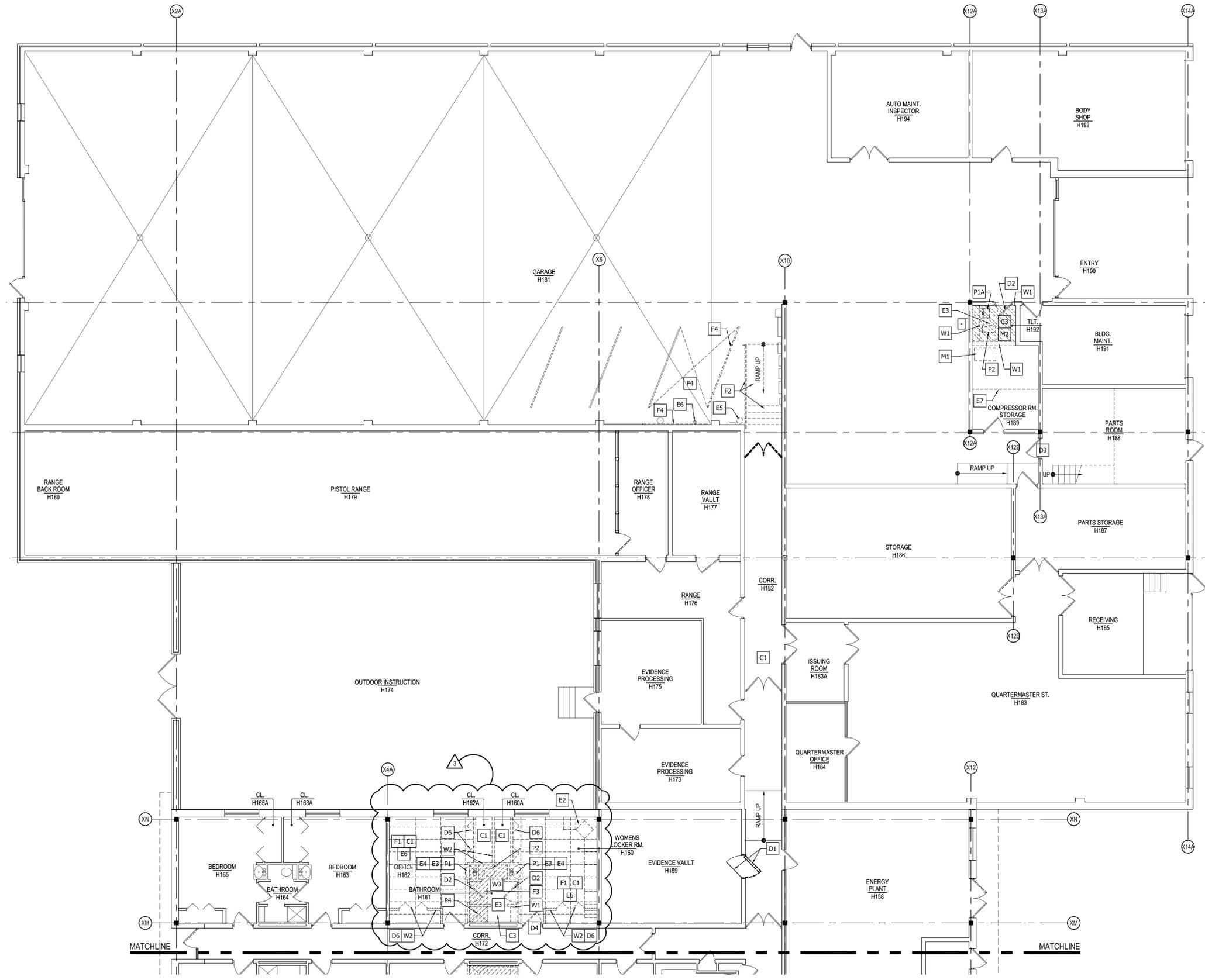


5/M502 IN-LINE PUMP DETAIL (N.T.S.)

REVISED DRAWING
 02/10/2016

36x24 PLOT SHEET

Feb 10, 2016 - 1:02pm
 H:\NS Office of General Services\2063 State Police FIU Fac\Arch\HQ Adm\2063_A-103_REV.dwg
 36x24 PLOT SHEET



1 PARTIAL FIRST FLOOR REMOVALS PLAN
 1/8" = 1'-0"

GENERAL REMOVAL NOTES

1. THE REMOVAL PLAN MAY NOT INDICATE THE FULL SCOPE OF REMOVAL WORK. CONTRACTOR IS RESPONSIBLE FOR ALL REMOVALS, CUTTING AND PATCHING NECESSARY TO PREPARE ALL AREAS AND SURFACES FOR WORK TO BE PROVIDED.
2. ALL REMOVAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTION 017329 REMOVALS, CUTTING AND PATCHING.
3. ALL HAZARDOUS MATERIALS TO BE ABATED PRIOR TO THE COMMENCEMENT OF ANY WORK. REFER TO ABATEMENT DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
4. ALL INDICATED FLOOR FINISHES, INCLUDING ANY ADHESIVES AND/OR BONDING AGENTS SHALL BE REMOVED DOWN TO THE EXISTING CONCRETE SLAB. THE EXISTING CONCRETE SLAB SHALL BE PREPARED TO ACCEPT FINISHES AS INDICATED ON THE ROOM FINISH SCHEDULE.
5. ALL REMOVED DOOR HARDWARE SHALL BE TURNED OVER TO THE FACILITY.
6. REFER TO REFLECTED CEILING PLANS, DRAWINGS A-107H, A-108H, A-109H FOR ADDITIONAL INFORMATION.
7. ALL INDICATED CEILING FINISHES SHALL BE REMOVED ENTIRELY INCLUDING BUT NOT LIMITED TO FINISH CEILING, CEILING SUPPORT FRAMING AND HANGERS. COORDINATE WORK WITH ELECTRICAL DRAWINGS FOR REMOVAL OF ELECTRICAL DEVICES.
8. COORDINATE ALL REMOVAL WORK WITH WORK TO BE PROVIDED BY EACH CONTRACTOR.

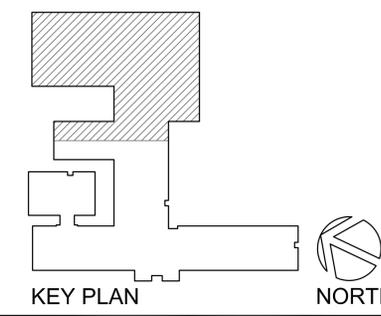
REMOVAL NOTES:

- C1. EXISTING ACOUSTICAL CEILING SYSTEM TO BE REMOVED IN ITS ENTIRETY INCLUDING ALL ASSOCIATED ACCESSORIES. COORD. WITH MEP DRAWINGS.
- C2. NOTE NOT USED.
- C3. EXISTING PLASTER CEILING SYSTEM TO BE REMOVED IN ITS ENTIRETY INCLUDING ALL ASSOCIATED ACCESSORIES. COORD. WITH MEP DRAWINGS.
- D1. REMOVE EXISTING VAULT DOOR, HINGES AND HARDWARE. PREPARE EXISTING CAGE DOOR TO REMAIN FOR NEW CARD READER - COORD. WITH MEP AND SECURITY DRAWINGS.
- D2. REMOVE EXISTING H.M. DOOR, METAL FRAME AND HARDWARE.
- D3. REMOVE EXISTING DOOR MORTISE LOCKSET AND NECESSARY HARDWARE TO PREPARE DOOR FOR NEW OPEN ASSIST HARDWARE.
- D4. REMOVE EXISTING H.M. DOOR, TRANSOM, METAL FRAME AND HARDWARE.
- D5. NOTE NOT USED.
- D6. REMOVE EXISTING WOOD DOOR, FRAME AND HARDWARE.
- E1. NOTE NOT USED.
- E2. REMOVE EXISTING LOCKERS AND ACCESSORIES IN THEIR ENTIRETY. TURN OVER TO FACILITY.
- E3. REMOVE ALL EXISTING TOILET AND BATHROOM ACCESSORIES. PATCH AND REPAIR AS REQUIRED FOR NEW WORK.
- E4. REMOVE EXISTING CABINET AND ASSOCIATED COMPONENTS IN ITS ENTIRETY.
- E5. REMOVE EXISTING FIRE EXTINGUISHER, SIGN AND ASSOCIATED COMPONENTS. PREPARE TO RELOCATE PER NEW WORK.
- E6. REMOVE EXISTING ELECTRICAL OUTLET AND PREPARE TO RELOCATE AS NECESSARY TO ACCOMMODATE NEW WORK. COORD. WITH MEP DRAWINGS.
- E7. REMOVE EXISTING WOOD FRAME LOFT PLATFORM AND COMPONENTS IN ITS ENTIRETY TO ACCOMMODATE NEW WORK.
- F1. REMOVE ENTIRE VINYL ASBESTOS TILE FLOORING AND WALL BASE WITHIN THE ROOM. REFER TO ABATEMENT DRAWINGS.
- F2. REMOVE EXISTING WOOD RAMP WITH CONCRETE STAIR UNDERNEATH AND METAL RAILING SYSTEM IN THEIR ENTIRETY.
- F3. SAWCUT AND REMOVE PORTION OF EXISTING CONCRETE FLOOR SLAB AS REQUIRED FOR WORK TO BE PROVIDED BY 'P' CONTRACTOR. COORDINATE WITH MEP DRAWINGS.
- F4. EXISTING PARKING SPACE TO BE DELETED. REMOVE EXISTING STRIPPING DESIGNATION AND CUT BACK EXISTING WALL ATTACHED WOOD BUMPER (10'-8" LENGTH). PATCH, REPAIR AND PAINT.
- P1. EXISTING LAVATORY, MIRROR AND ASSOCIATED PIPING TO BE REMOVED AND CAPPED BY 'P' CONTRACTOR.
- P1A. EXISTING LAVATORY, MIRROR AND ASSOCIATED PIPING TO BE REMOVED. REWORK EXISTING PLUMBING TO ACCOMMODATE NEW WORK. COORDINATE WITH MEP DRAWINGS.
- P2. EXISTING TOILET AND ASSOCIATED PIPING TO BE REMOVED AND CAPPED BY 'P' CONTRACTOR. COORDINATE WITH MEP DRAWINGS.
- W1. REMOVE EXISTING CMU WALL CONSTRUCTION AND ALL ASSOCIATED ACCESSORIES IN THEIR ENTIRETY.
- W2. REMOVE EXISTING GYPSUM WALL BOARD, METAL STUDS AND ALL ASSOCIATED ACCESSORIES IN THEIR ENTIRETY.
- W3. REMOVE EXISTING CERAMIC TILE WAINSCOT IN ENTIRE ROOM.
- M1. EXISTING COMPRESSOR AND ASSOCIATED COMPONENTS TO BE REMOVED. PREPARE FOR RELOCATION. COORDINATE WITH MEP DRAWINGS.
- M2. REMOVE EXISTING ELECTRICAL AND LIGHTING SYSTEMS AND ASSOCIATED WIRING AND COMPONENTS IN THEIR ENTIRETY. COORDINATE WITH 'E' CONTRACTOR AND MEP DRAWINGS.

SYMBOLS LEGEND

- REMOVE EXISTING CONCRETE FLOOR SLAB OR PORTION OF EXISTING CONCRETE FLOOR SLAB - COORD. WITH ALL TRADES
- REMOVE EXISTING CEILING OR PORTION OF EXISTING CEILING - COORD. WITH ALL TRADES

REVISE DRAWING
 02/10/2016



NEW YORK STATE OFFICE OF GENERAL SERVICES
 DESIGN & CONSTRUCTION

CONSULTANT
TRAUTMAN ASSOCIATES
 ARCHITECTS / ENGINEERS
 470 FRANKLIN STREET
 BUFFALO, NY 14202

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CONTRACT: **CONSTRUCTION**

TITLE: **PROVIDE STATE POLICE FORENSIC IDENTIFICATION UNIT BUILDING, HEADQUARTERS ADDITION AND COLD STORAGE BUILDING**

LOCATION: **TROOP "E" HEADQUARTERS
 1569 ROCHESTER ROAD
 CANANDAIGUA, NEW YORK**

CLIENT: **NEW YORK STATE POLICE
 TROOP E**

MARK	DATE	DESCRIPTION
	08/27/2015	BID DOCUMENT

PROJECT NUMBER: **44559 - C**

DESIGNED BY: RHR
 DRAWN BY: DAG
 FIELD CHECK:
 APPROVED:

SHEET TITLE:
**PARTIAL FIRST FLOOR
 REMOVAL PLAN**

DRAWING NUMBER:
A-103 **H**

SHEET 61 OF 256

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CONTRACT: **HVAC**
TITLE: **PROVIDE STATE POLICE FORENSIC IDENTIFICATION UNIT BUILDING, HEADQUARTERS ADDITION AND COLD STORAGE BUILDING**
LOCATION: **TROOP "E" HEADQUARTERS 1569 ROCHESTER ROAD CANANDAIGUA, NEW YORK**
CLIENT: **NEW YORK STATE POLICE TROOP E**

MARK	DATE	DESCRIPTION
	02/10/2016	ADDENDUM #3
	08/27/2015	BID DOCUMENTS
PROJECT NUMBER:	44559- M	
DESIGNED BY:	PHP	
DRAWN BY:	MS	
FIELD CHECK:	PHP	
APPROVED:	HL	
SHEET TITLE:		

SYMBOLS LIST, ABBREVIATIONS AND GENERAL NOTES

DRAWING NUMBER: **M-001** **H**

SHEET 122 OF 256

HVAC ABBREVIATIONS

AC	AIR CONDITIONING UNIT
ACCU	AIR COOLED CONDENSING UNIT
AFF	ABOVE FINISHED FLOOR
CFM	CUBIC FEET PER MINUTE
CUH	CABINET UNIT HEATER
D	DRAIN
DEG	DEGREE
DWG	DRAWING
DX	DIRECT EXPANSION COOLING COIL
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EFF	EFFICIENCY
FC	FLEXIBLE CONNECTION
FD	FIRE DAMPER
FLR	FLOOR
FPM	FEET PER MINUTE
FSD	COMBINATION FIRE SMOKE DAMPER
GPM	GALLONS PER MINUTE
HC	HEATING COIL
HP	HORSE POWER
M	MOTORIZED DAMPER
MAX	MAXIMUM
MBH	1000 BTU/HR
MC	MECHANICAL CONTRACTOR
MER	MECHANICAL EQUIPMENT ROOM
MFGR	MANUFACTURER
MIN	MINIMUM
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
R.A.	RETURN AIR
RF	RETURN FAN
RPM	REVOLUTIONS PER MINUTE
S.A.	SUPPLY AIR
SD	SMOKE DAMPER
SQ. FT	SQUARE FEET
TYP	TYPICAL
T	THERMOSTAT/TEMPERATURE SENSOR
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
W	WIDTH

ABBREVIATIONS AND SYMBOLS

DUCTWORK	
	SUPPLY DUCT (UP & DOWN)
	EXHAUSTOR / RETURN / OUT SIDE AIR INTAKE DUCT (UP & DOWN)
	CONNECT NEW WORK TO EXISTING
	NEW WORK
	EXISTING WORK OR EQUIPMENT TO REMAIN
	EXISTING WORK OR EQUIPMENT TO BE REMOVED
	FLEXIBLE CONNECTION
	VANED ELBOW, PROVIDE ALL ELBOWS WITH VANES EVEN IF SYMBOL MISSING
	VANED ELBOW (SHORT RADIUS)
	STANDARD RADIUS ELBOW
	MANUAL VOLUME DAMPER
	DOOR UNDERCUT
	FIRE DAMPER AND ACCESS DOOR
	INCLINED RISE, IN DIRECTION OF AIR FLOW
	INCLINED DROP, IN DIRECTION OF AIR FLOW
	CEILING DIFFUSER (100 CFM) 4 WAY
	BLANKED ONE SIDE IN FIELD
	CEILING REGISTER (CEILING GRILLE)
	ROOF MOUNTED EXHAUST FAN
	ROOF MOUNTED GRAVITY VENTILATOR (AIR INTAKE/EXHAUST)
	TOP REGISTER (TOP GRILLE)
	UNDER CUT DOOR
	LOUVER IN DOOR
	DEMOLITION KEY NOTE
	DUAL TEMPERATURE WATER SUPPLY
	DUAL TEMPERATURE WATER RETURN
	VENT LINE
	DRAIN
	DIRECTION OF FLOW
	CAP OR BLANK OFF
	CONTROL PANEL WITH THERMOSTAT/SENSOR
	VAV BOX W/ H.W. REHEAT COIL
	IN LINE FAN
	POINT OF DISCONNECTION AND / OR EQUIPMENT REMOVAL
	POINT OF CONNECTION AND / OR EQUIPMENT INSTALLATION
	CO2 SENSOR

DEMOLITION NOTES:

- ALL CUTTING AND PATCHING TO BE PERFORMED BY THIS CONTRACTOR.
- ALL DUCT SUPPORTS SHALL BE PROVIDED BY THIS CONTRACTOR.
- THE CONTRACTOR SHALL RESTORE TO ORIGINAL CONDITION ALL EXISTING PIPING, DUCTS, EQUIPMENT, ACCESSORIES, AND WIRING WHICH HAD BEEN MOVED, RELOCATED OR OTHERWISE MODIFIED IN ORDER TO COMPLETE INSTALLATION OF THIS SPECIFIED WORK.
- ALL NEW PIPING OR DUCTWORK TO BE CONNECTED TO EXISTING SHALL MATCH EXISTING MATERIAL AND PIPE SCHEDULE OR DUCT THICKNESS.
- REMOVE OR RELOCATE ANY EXISTING PIPING, DUCTWORK OR ELECTRICAL CONDUITS THAT INTERFERE WITH THE INSTALLATION OF NEW WORK. INSTALL NEW PIPING DUCTWORK OR ELECTRICAL CONDUITS IN PLACE OF THAT WHICH HAS BEEN REMOVED OR RELOCATED AFTER NEW WORK IS ACCOMPLISHED, TEST ALL NEW PIPING AND DUCTWORK AND REBALANCE TO DESIGN VALUES.
- FIELD COORDINATE EXACT POINTS OF DEMOLITION AND POINTS OF CONNECTION.
- PROVIDE TEMPORARY WORK, DUCTWORK, PIPING WITH VALVES, CAPS, DAMPERS AS REQUIRED TO KEEP EXISTING SPACES AND SYSTEMS IN OPERATION DURING CONSTRUCTION. COORDINATE WITH DIRECTOR'S DESIGNATED REPRESENTATIVE.
- REMOVE, RELOCATE EXISTING WORK AND RECONNECT EXISTING WORK WITH NEW MATERIAL, INSULATION, SUPPORTS, ACCESSORIES AS REQUIRED FOR INSTALLATION OF NEW WORK. RAISE, LOWER EXISTING DUCTS, PIPES, CONDUITS, PROVIDE OFFSETS AND INCLUDE ALL WORK IN BID PRICE.
- CAP ALL UNUSED PIPES WATERTIGHT.
- PATCH EXISTING INSULATION WHERE EXISTING INSULATION IS DAMAGED OR MISSING. COORDINATE LOCATION WITH DIRECTOR'S REPRESENTATIVE.
- ALL UNUSED WORK, DUCTS, PIPING SHALL BE REMOVED WHETHER SPECIFICALLY IDENTIFIED FOR REMOVAL OR NOT, COMPLETE WITH ASSOCIATED BRANCHES, SUPPORTS, ACCESSORIES, CONTROLS.
- PROVIDE TEMPORARY WEATHER PROTECTION OF LOUVERS AND DUCT TERMINATIONS DURING CONSTRUCTION.

HVAC GENERAL NOTES

- ELBOWS ON ALL PIPING 1" AND LARGER SHALL BE LONG RADIUS ELBOWS.
- COORDINATE THE INSTALLATION OF POWERED EQUIPMENT AND TEMPERATURE CONTROL WORK WITH ELECTRICAL CONTRACTOR.
- UNLESS SHOWN OTHERWISE PROVIDE 24" DEEP PLENUMS BEHIND ALL 24" OR WIDER LOUVERS HAVING DUCT CONNECTIONS. PROVIDE 12" DEEP PLENUMS BEHIND ALL LOUVERS LESS THAN 24" WIDE HAVING DUCT CONNECTIONS.
- PROVIDE DUCT ACCESS DOORS FOR ACCESS TO SMOKE DETECTORS. (FURNISHED BY ELECTRIC CONTRACTOR.) INSTALL DETECTORS IN DUCT WHERE INDICATED BY DETAILS.
- PROVIDE ALL RADIUS DUCT ELBOWS WITH CENTERLINE RADIUS EQUAL TO 1-1/2 TIMES THE RADIUS DEPTH. PROVIDE ALL SQUARE DUCT ELBOWS WITH TURNING VANES. (VOLUME DAMPERS REQUIRED AT ALL BRANCH CONNECTIONS.)
- PROVIDE FLEXIBLE VIBRATION ISOLATORS AT PIPING CONNECTIONS TO AHU COILS AND CONDENSING UNITS.
- DUCTWORK AND PIPING ABOVE CEILINGS MAY BE RUN BETWEEN STRUCTURAL STEEL. MINIMIZE ELEVATION CHANGES WHERE POSSIBLE.
- ALL INTAKE AND EXHAUST LOUVERS (PROVIDED BY CONSTRUCTION CONTRACTOR), SHALL BE NO LESS THAN 2'-0" ABOVE THE FINISHED GRADE. COORDINATE SIZE AND LOCATIONS OF WALL AND ROOF OPENINGS WITH CONSTRUCTION CONTRACTOR.
- UNLESS OTHERWISE SPECIFIED OR SUPPORTED FROM THE FLOOR, THE MECHANICAL EQUIPMENT SHALL BE SUPPORTED FROM BUILDING STEEL. PROVIDE INTERMEDIATE STEEL TO SPAN BETWEEN BUILDING STEEL. REFER TO SPECIFICATION SECTION 055000. DESIGN TO SAFETY FACTOR OF 5. SUBMIT SHOP DRAWING OF UPPER SUPPORT PRIOR TO INSTALLING MECHANICAL EQUIPMENT.
- VOLUME DAMPERS ARE REQUIRED AT ALL BRANCH TAKE-OFFS AS SHOWN ON THE " TYPICAL BRANCH TAKE-OFF DETAIL". ADDITIONALLY, VOLUME DAMPERS ARE REQUIRED IN LOCATIONS SHOWN ON PLANS.
- DIFFUSERS AND REGISTERS SHALL NOT EXCEED A VALUE OF 22 NOISE CRITERIA (NC), WITH SOUND PRESSURE LEVELS BASED ON A 10 FT x 8 FT ROOM ABSORPTION. STATIC PRESSURE SHALL NOT EXCEED 0.08 INCHES OF WATER. SIZES SHOWN ON REGISTER AND DIFFUSER SCHEDULE ARE NECK SIZES.
- ALL BRANCH RUNOUTS FROM ROUND DUCT MAINS SHALL HAVE CONICAL TAKE-OFFS.
- ALL SUPPLY AIR ROUND DUCT FITTINGS SHALL BE LONG RADIUS ELBOWS, Y-TEES, OR THEY SHALL BE MITERED WITH TURNING VANES.
- THE HVAC CONTRACTOR SHALL PROVIDE TEMPORARY PIPING AND/OR DUCTWORK CONNECTIONS TO MAINTAIN OPERATIONS OF THE HVAC SYSTEMS DURING CONSTRUCTION. INTERRUPTIONS OF SERVICES SHALL BE COORDINATED WITH THE DIRECTOR'S REPRESENTATIVE. THE DURATION OF INTERRUPTIONS TO THE HVAC SYSTEM SHALL BE HELD TO A MINIMUM. THE TIMING OF INTERRUPTIONS SHALL BE SCHEDULED TO CAUSE THE LEAST POSSIBLE IMPACT ON NEW YORK STATE POLICE OPERATIONS.
- BUILDING HAS A SEISMIC DESIGN CATEGORY OF C, OCCUPANCY CATEGORY IV, AND HAS AN IMPORTANCE FACTOR OF 1.5. ALL BUILDING SYSTEMS MUST BE SEISMICALLY BRACED. REFER TO SPECIFICATIONS FOR REQUIREMENTS. THE CONTRACTOR TO RETAIN AN INDEPENDENT NYS LICENSED ENGINEER TO DESIGN THE CONNECTIONS AND BRACING FOR ALL EQUIPMENT ATTACHED TO THE STRUCTURE.
- COORDINATE LOCATIONS OF EXTERIOR DISCONNECT SWITCHES WITH DIRECTOR'S REPRESENTATIVE PRIOR TO INSTALLATION.
- COORDINATE SCHEDULING OF WORK WITH PHASING PLAN.
- REFER ABATEMENT DRWG FOR HAZARDOUS MATERIAL. MATERIALS IDENTIFIED AS HAZARDOUS MATERIALS ARE TO BE REMOVED BY ABATEMENT CONTRACTOR. COORDINATE REMOVALS WITH ABATEMENT CONTRACTOR.
- PROVIDE FIRESTOPPING AT DUCT, PIPE AND CONDUIT PENETRATIONS THROUGH FIRE RATED CONSTRUCTIONS.

AIR OUTLET AND INLET SYMBOLS:

	CEILING DIFFUSER
	CEILING RETURN / EXHAUST
8ϕ	ROUND DUCT SIZE
12x8	RECTANGULAR DUCT SIZE. FIRST NUMBER INDICATES SIZE FOR SIDE SHOWN
	DIRECTION OF AIR FLOW
(xxx)	DENOTES CFM REQUIRED AT INLET/OUTLET

ROOF TOP UNIT SCHEDULE

TAG	CFM	OA CFM	E.S.P. (IN. W.G.)	SUPPLY FAN DATA				RETURN FAN DATA				CONDENSER FAN			COMPR. MOTOR DATA			ENERGY RECOVERY SUMMER (COOLING)				ENERGY RECOVERY WINTER (HEATING)				HEATING SECTION			HEAT RECOVERY WHEEL			COOLING SECTION			MOTOR CONTROLLERS			ELECTRICAL DATA				MANUFACTURER & MODEL NO.	REMARKS	
				FAN TYPE & DIAMETER	HP/BHP	V/PH/Hz	RPM	FAN TYPE & DIAMETER	HP/BHP	V/PH/Hz	RPM	QTY	HP	V/PH/Hz	RPM	QTY	RLA (1)	RLA (2)	V/PH/Hz	ENT. AIR TEMP (DB/WB)	LVG. AIR TEMP (DB/WB)	COOLING CAPACITY (MBH)	ENERGY RECOVERED (MBH)	ENT. AIR TEMP (DB/WB)	LVG. AIR TEMP (DB/WB)	HEATING INPUT (MBH)	GAS PRES. (IN. W.C.)	HEATING CAPACITY (MBH)	ENERGY RECOVERED (MBH)	TAG	POWER (HP)	V/φ/Hz	QTY.	POWER (HP)	V/φ/Hz	SECTION TAG	TYPE	NEMA SIZE	FLA	MCA	MOCP			V/1φ/Hz
RTU-1	3600	1720	1.5	BI/22"	5/3.12	208/3/60	1760	PF BI/18.5"	2/1.52	208/3/60	1760	2	.33	208/1/60	1080	2	16.9	15.6	208/3/60	77.5/64	53.8/52.6	128	56.7	75/62	66.8/56.9	195	6.5-11	156	132.27	NG-1	0.09	208/1/60	1	0.05	208/1/60	DX-1	AS-PWM	1	63	67	80	208/3/60	AAON: RN-011-8-0-EB09-3F9	-

PROVIDE:

1) DUCT CONNECTIONS AND TRANSITION FROM ROOFTOP UNIT TO SUPPLY AND RETURN CEILING MOUNTED DUCTWORK. 4) VFD FOR SUPPLY AND RETURN FANS.

2) DDC CONTROLS SUITABLE FOR INTEGRATION INTO BMS (BACNET COMPATIBLE) SYSTEM. 5) ENERGY RECOVERY WHEEL.

3) 24" HIGH ROOF CURB.

AIR DISTRIBUTION DEVICES SCHEDULE

SYMBOL	TYPE	CFM RANGE	FACE SIZE		NECK SIZE	PD	BASIS OF DESIGN	NOTES
			WIDTH	LENGTH				
S-1	SQUARE LOUVERED DIFFUSER	0-120	18"	18"	6"φ	.069	TITUS TDV	WITH OBD, 24"X24" LAY-IN MODULE
		121-200	18"	18"	8"φ	.067	TITUS TDV	WITH OBD, 24"X24" LAY-IN MODULE
		201-275	18"	18"	10"φ	.045	TITUS TDV	WITH OBD, 24"X24" LAY-IN MODULE
		276-470	18"	18"	12"φ	.048	TITUS TDV	WITH OBD, 24"X24" LAY-IN MODULE
S-2	DIRECT MOUNT FOR EXPOSED DUCT	300	7 3/4"	19 1/2"	6X18	.016	TITUS S300FL	WITH AIR SCOOP DAMPER SET AT 45 DEGREES
S-3	LINEAR BAR REGISTER	0-70	7 3/4"	7 3/4"	6X6	.016	TITUS 301 FL	WITH OBD
S-4	DIRECT MOUNT FOR EXPOSED DUCT	500	11 3/4"	19 3/4"	10X18	.042	TITUS 300RL	WITH OBD, DIRECT MOUNT
S-5	SQUARE LOUVERED DIFFUSER	200-275	18"	18"	10"φ	.045	TITUS TDV	WITH OBD, SURFACE MOUNT
R-1	PERFORATED GRILLE	0-120	24"	24"	6"φ	.13	TITUS PAR	WITH OBD
		121-200	24"	24"	8"φ	.13	TITUS PAR	WITH OBD
		201-320	24"	24"	10"φ	.13	TITUS PAR	WITH OBD
		321-470	24"	24"	12"φ	.13	TITUS PAR	WITH OBD
R-2/E-2	DUCT MOUNTED REGISTER	0-335	7 3/4"	19 1/2"	6X18	.022	TITUS S301FL	WITH AIR SCOOP DAMPER SET AT 45 DEGREES
R-3	CEILING REGISTER	0-200	7 5/8"	11 5/8"	10X6	.073	TITUS 350RL	WITH OBD, 45 DEGREE DEFLECTION
R-4	DIRECT MOUNT FOR EXPOSED DUCT	1000	17 3/4"	19 3/4"	16X18	.073	TITUS 350RL	WITH OBD, DIRECT MOUNT
E-1	CEILING REGISTER	0-200	7 5/8"	11 5/8"	10X6	.073	TITUS 350RL-SS	WITH OBD, 45 DEGREE DEFLECTION, STAINLESS STEEL
E-3	CEILING GRILLE	0-150	9 3/4"	9 3/4"	8X8	.018	TITUS 350RL	WITH OBD, SURFACE MOUNT
		300-400	13 3/4"	13 3/4"	12X12	.040	TITUS 350RL	WITH OBD, SURFACE MOUNT
		500-700	18 3/4"	13 3/4"	18X12	.032	TITUS 350RL	WITH OBD, SURFACE MOUNT

VAV BOX SCHEDULE

TAG	SIZE	TYPE	MAXIMUM PRIMARY CFM	MINIMUM PRIMARY CFM	MAX DIMENSIONS (LxWxH)	MANUFACTURER & MODEL NO.	ELECTRIC DUCT HEATER				REMARKS	
							UNIT	LOCATION	CAPACITY	V/φ/Hz		
VAV-1	12	SINGLE DUCT	1745	350	16"x16"x15"	TITUS MODEL DESV	EDH-1	SEE PLANS	5 kW	208/3/60	GREENHECK-- 'IDHC'	-
VAV-2	08	SINGLE DUCT	770	155	16"x12"x10"	TITUS MODEL DESV	EDH-2	SEE PLANS	2 kW	208/3/60	GREENHECK-- 'IDHC'	-
VAV-3	07	SINGLE DUCT	560	112	16"x12"x10"	TITUS MODEL DESV	EDH-3	SEE PLANS	1.5 kW	208/3/60	GREENHECK-- 'IDHC'	-
VAV-4	09	SINGLE DUCT	925	185	16"x14"x12.5"	TITUS MODEL DESV	EDH-4	SEE PLANS	2.5 kW	208/3/60	GREENHECK-- 'IDHC'	-

PROVIDE:
(1) DUCT STAT WITH EACH DUCT HEATER. (2) DUCT HEATERS TO BE FLANGED MOUNTING TYPE. (3) ACCESS DOOR

FAN SCHEDULE

TAG	LOCATION	SERVICE	TYPE	CFM	FAN DIA. (IN.)	E.S.P. (IN. W.G.)	Hp	FAN MOTOR DATA				MOTOR CONTROLLER			MANUFACTURER & MODEL NO.	REMARKS
								RPM	BHP	VOLT	PHASE	TYPE	NEMA SIZE			
EF-1	ROOF	HA104 AND HA102	POWER ROOF VENT.	800	10	0.25	1/6	1751	0.15	115	1	B	0	COOK 100 ACE-B	FAN OPERATION BY TIME SCHEDULE FOR RTU-1	
EF-2	WOMENS LOCKER BATHROOM	WOMENS LOCKER BATHROOM	CEILING EXHAUST	100	10	0.125	1/6	1550	0.1	115	1	-	-	PENN BARRY - ZEPHYR Z6S	(1) (3) (4) (5) (6) (7) (8)	
EF-3	WOMENS LOCKER BATHROOM	WOMENS LOCKER BATHROOM	CEILING EXHAUST	150	10	0.125	1/4	1200	0.16	115	1	-	-	PENN BARRY - ZEPHYR ZJ1	(1) (3) (4) (5) (6) (7) (8)	
EF-4	REPAIR BAYS - TOILET	REPAIR BAYS - TOILET	CEILING EXHAUST	100	10	0.125	1/6	1550	0.1	115	1	-	-	PENN BARRY - ZEPHYR Z6S	(1) (3) (4) (5) (6) (7) (8)	
EF-5	BATHROOM - H170	BATHROOM - H170	CEILING EXHAUST	150	10	0.125	1/4	1200	0.16	115	1	-	-	PENN BARRY - ZEPHYR ZJ1	(1) (3) (4) (5) (6) (7) (8)	

PROVIDE:
(1) PROVIDE MOTORIZED BACK DRAFT DAMPERS FOR ALL EXHAUST FANS. (2) 24" HIGH ROOF CURB. (3) DISCONNECT SWITCH. (4) MOTOR STARTER. (5) ACCESS DOOR FOR MOTORIZED DAMPER. (6) STEEL GRILLES; COORDINATE WITH ARCHITECT FOR FINISH. (7) VIBRATION ISOLATOR AS PER MFR. RECOMMENDATIONS. (8) SPEED CONTROLLER.

FAN COIL SCHEDULE

TAG	LOCATION	TYPE	CFM	O.A. CFM	HEATING COIL				COOLING COIL				FAN MOTOR DATA				E.S.P. (IN. W.G.)	MANUFACTURER & MODEL NO.	REMARKS								
					MBH	GPM	E.A.T. (°F)	L.A.T. (°F)	E.W.T. (°F)	L.W.T. (°F)	W.P.D. (°F)	ROWS	TOTAL MBH	SENSIBLE MBH	GPM	E.A.T. (°F)				L.A.T. (°F)	E.W.T. (°F)	L.W.T. (°F)	W.P.D. (°F)	ROWS	WATTS	VOLT	PHASE
FC-A	DETECTION ROOM	HORIZONTAL CONCEALED	200	40	20.5	1.0	60	154	180	140	1.77	4	5.2	4.24	1.0	75	54.4	45	51	2.18	4	60	115	1	.15	TRANE FCCB020	

NOTES:
1. PROVIDE DUAL TEMPERATURE COIL.
2. PROVIDE PIPING PACKAGE. VERIFY RIGHT-HAND AND LEFT-HAND IN FIELD.
3. PROVIDE SECONDARY DRAIN PAN AND OVERFLOW SENSOR.

SPLIT SYSTEM AIR CONDITIONING UNIT

AIR HANDLER										CONDENSING UNIT										REMARKS
UNIT NO.	SERVICE	TYPE	FAN CFM	COOLING (BTU)	REF LINE SIZES		ELEC. SUPPLY			UNIT NO.	CAPACITY (BTU)	MIN. SEER	FAN (HP)	MCA	MFS	ELEC. SUPPLY				
					LIQUID	SUCTION	VOLTS	PHASE	HZ							VOLTS	PHASE	HZ		
AC-1	COMPUTER RM	WALL MOUNTED AIR CONDITIONING UNIT	350	16,200	1/4"	3/8"	208	1	60	ACCU-1	16,200	16.0	-	14	15	208	1	60	MITSUBISHI: MSZ-A17NA INDOOR UNIT MUZ-A17NA OUTDOOR UNIT	

NOTES:
1.) PROVIDE LOW AMBIENT CONTROLS TO OPERATE AT TEMPERATURE DOWN TO 0°
2.) PROVIDE CONDENSATE PUMP CP-1. " LITTLE GIANT" 2.5 GPM, 10' FT HEAD, 120/1/60, CONTRACTOR TO EXTEND DRAIN TO DRAIN PIPING IN ROOM
3.) SIZE OF REFRIGERANT PIPING AND HOOK-UP ARRANGEMENT SHALL BE COORDINATED W/AC UNIT MANUFACTURER. PROVIDE ACTUAL PIPING LAYOUT
4.) NON FUSED DISCONNECT SWITCH BY CONTRACTOR
5.) PROVIDE 24" HEIGHT ROOF CURB FOR ROOF MOUNTED CONDENSING UNIT
6.) INDOOR AC UNIT TO BE POWERED FROM OUTDOOR ACCU UNIT.

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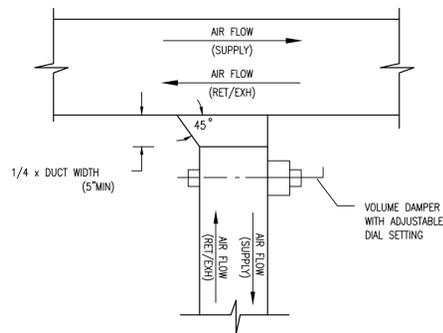
CONTRACT: **HVAC**

TITLE: **PROVIDE STATE POLICE FORENSIC IDENTIFICATION UNIT BUILDING, HEADQUARTERS ADDITION AND COLD STORAGE BUILDING**

LOCATION: **TROOP "E" HEADQUARTERS
1569 ROCHESTER ROAD
CANANDAIGUA, NEW YORK**

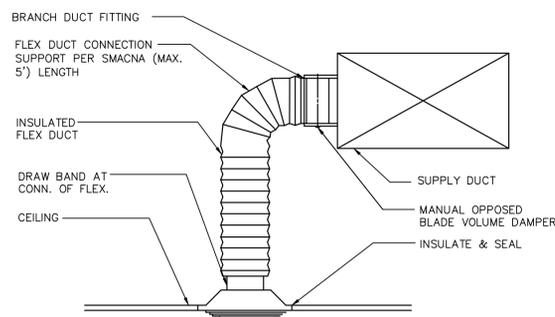
CLIENT: **NEW YORK STATE POLICE
TROOP E**

MARK	DATE	DESCRIPTION
△	02/10/2016	ADDENDUM #3
	08/27/2015	BID DOCUMENTS
PROJECT NUMBER:	44559- M	
DESIGNED BY:	PHP	
DRAWN BY:	MS	
FIELD CHECK:	PHP	
APPROVED:	HL	
SHEET TITLE:	SCHEDULES	



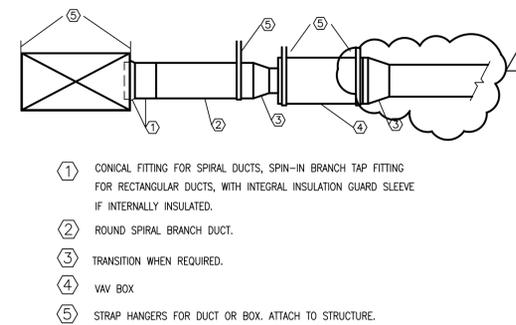
DUCT BRANCH TAKE-OFF FOR LOW PRESSURE DUCTWORK

(N.T.S.)



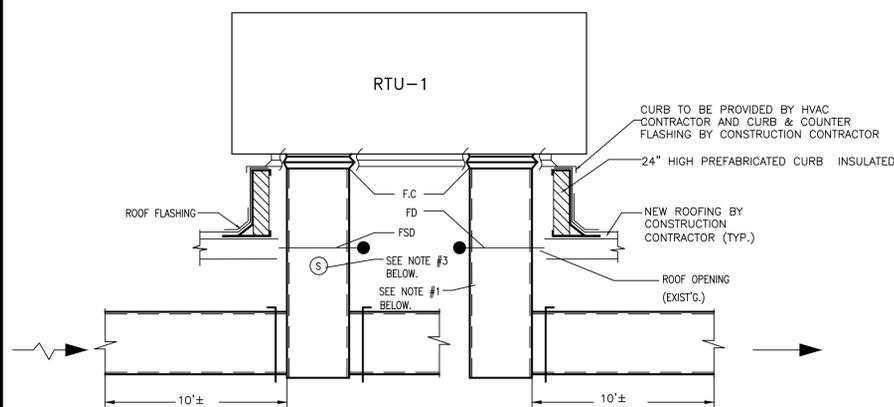
TYPICAL DUCT DIFFUSER CONNECTION DETAIL

(N.T.S.)



VAV BOX DUCT CONNECTIONS

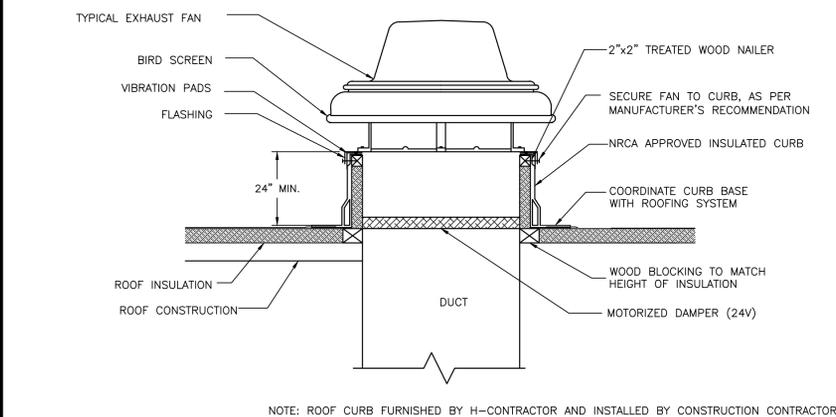
(N.T.S.)



- NOTES:
1. PROVIDE DOUBLE WALL DUCT WITH 1" ACOUSTICAL LINING ON SUPPLY AND RETURN DUCTWORK FOR 20' LENGTH EACH DUCT.
 2. PROVIDE ACCESS DOORS AS REQUIRED & AS SPECIFIED
 3. DUCT SMOKE DETECTOR IN RETURN AIR DUCT.

ROOF TOP UNIT DETAIL

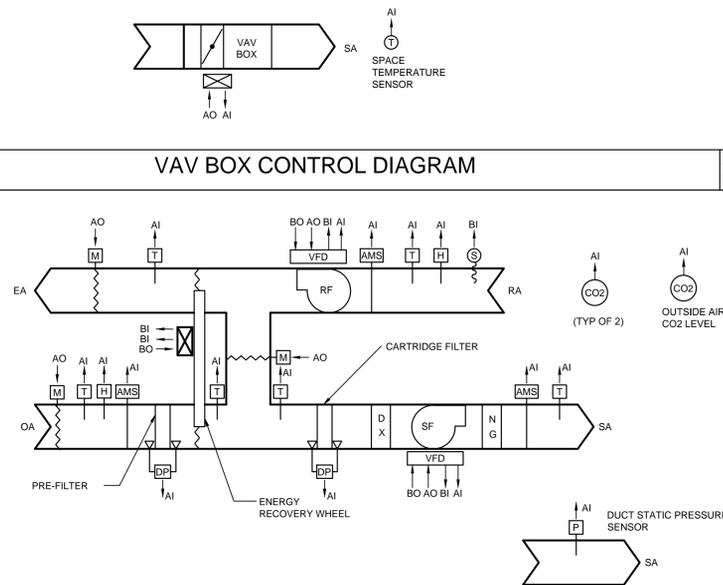
(N.T.S.)



NOTE: ROOF CURB FURNISHED BY H-CONTRACTOR AND INSTALLED BY CONSTRUCTION CONTRACTOR

TYPICAL ROOF FAN DETAIL

(N.T.S.)

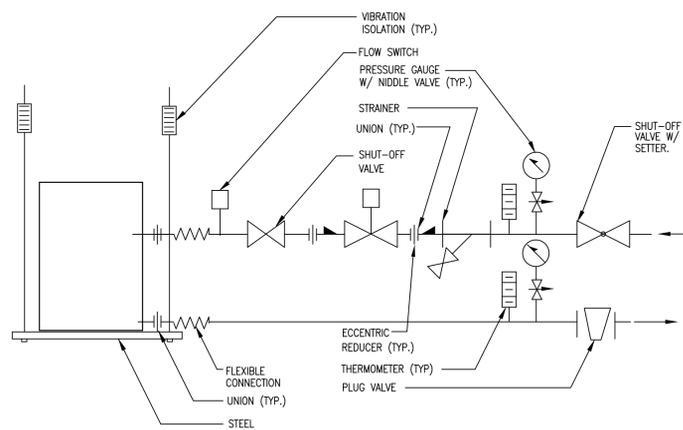


VAV BOX CONTROL DIAGRAM

(N.T.S.)

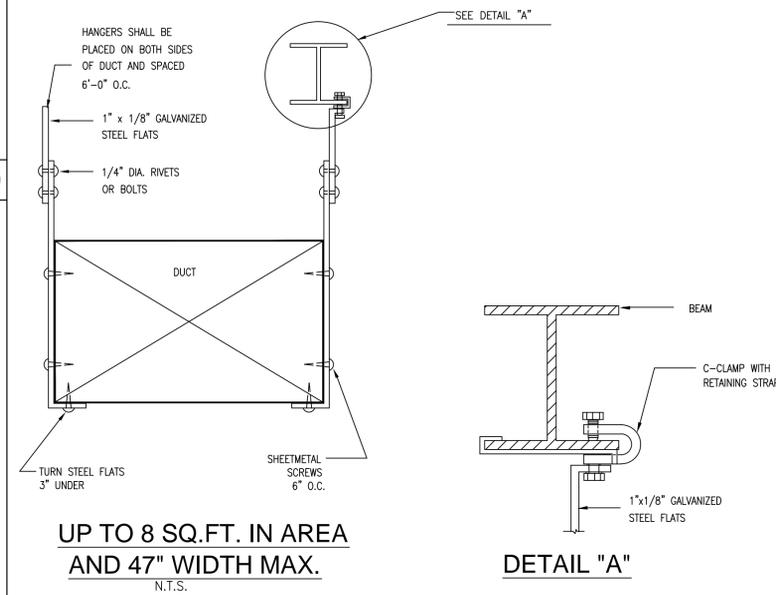
RTU-1 CONTROL DIAGRAM

(N.T.S.)



CEILING HUNG FAN COIL PIPING DETAIL (2-PIPE)

(N.T.S.)



UP TO 8 SQ.FT. IN AREA AND 47" WIDTH MAX. N.T.S.

OVER 8 SQ.FT. IN AREA AND OVER 47" WIDE N.T.S.

METHOD OF SUPPORTING DUCTS

(N.T.S.)

REVISED DRAWING 02/10/2016

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CONTRACT: HVAC

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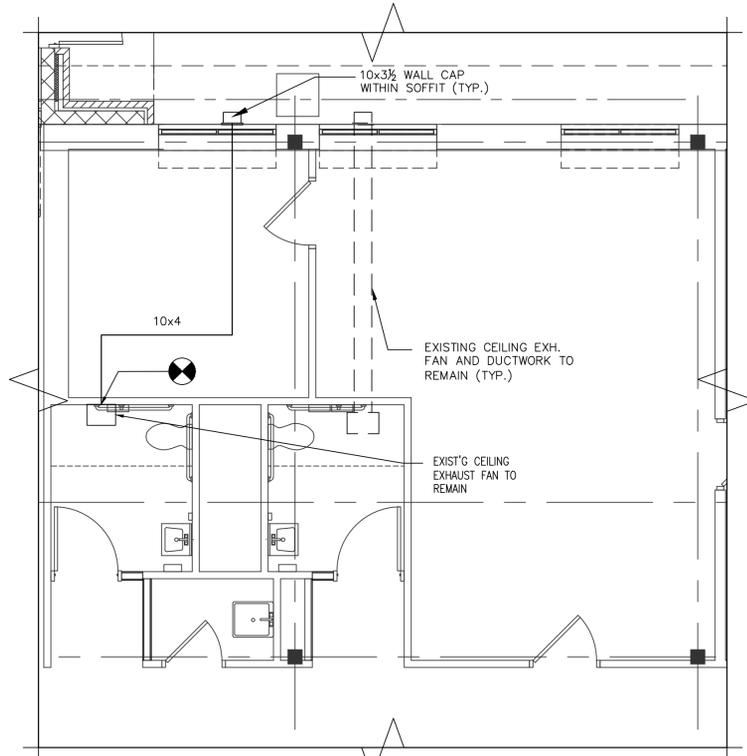
LOCATION: TROOP "E" HEADQUARTERS 1569 ROCHESTER ROAD CANANDAIGUA, NEW YORK

CLIENT: NEW YORK STATE POLICE TROOP E

MARK	DATE	DESCRIPTION
1	02/10/2016	ADDENDUM #3
	08/27/2015	BID DOCUMENTS
PROJECT NUMBER:	44559- M	
DESIGNED BY:	PHP	
DRAWN BY:	MS	
FIELD CHECK:	PHP	
APPROVED:	HL	
SHEET TITLE:	HVAC DETAILS - I	
DRAWING NUMBER:	M-301	H

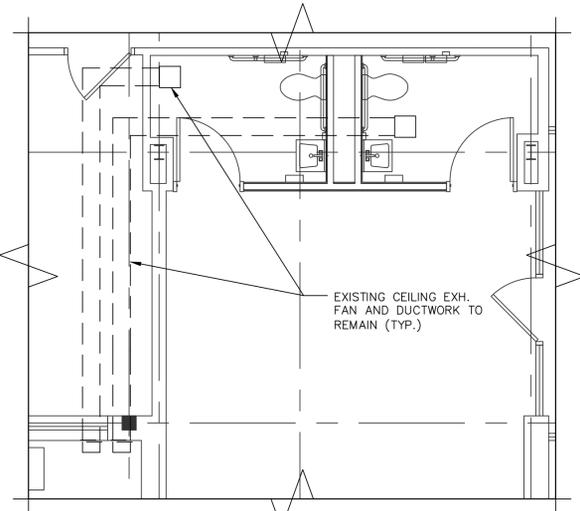
HVAC DETAILS - I

PROJECT NUMBER: 44559- M



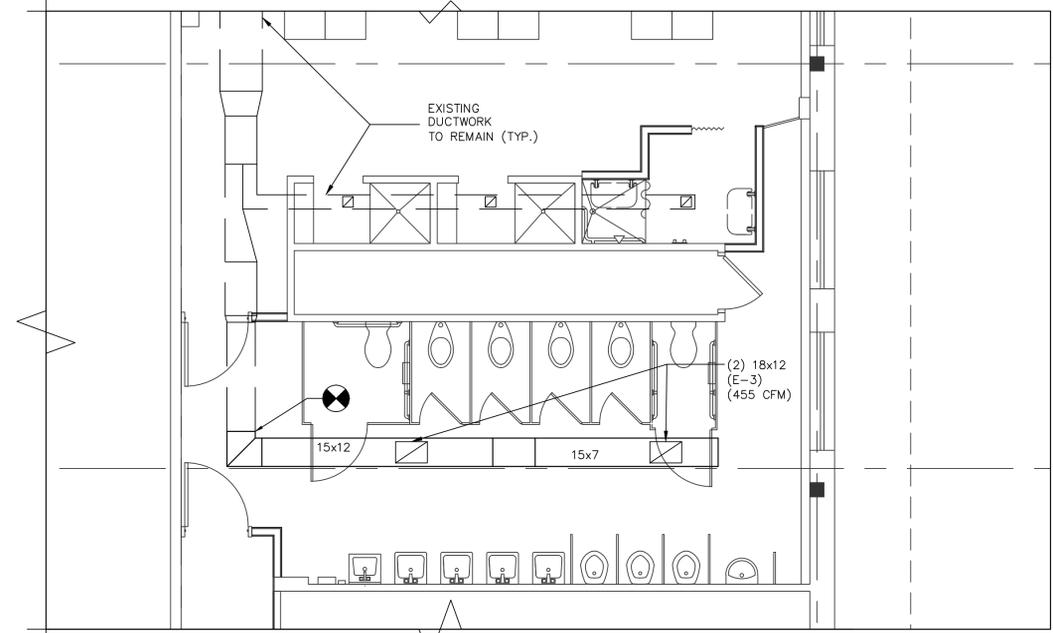
DETAIL 1 - TOILET PART PLAN

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



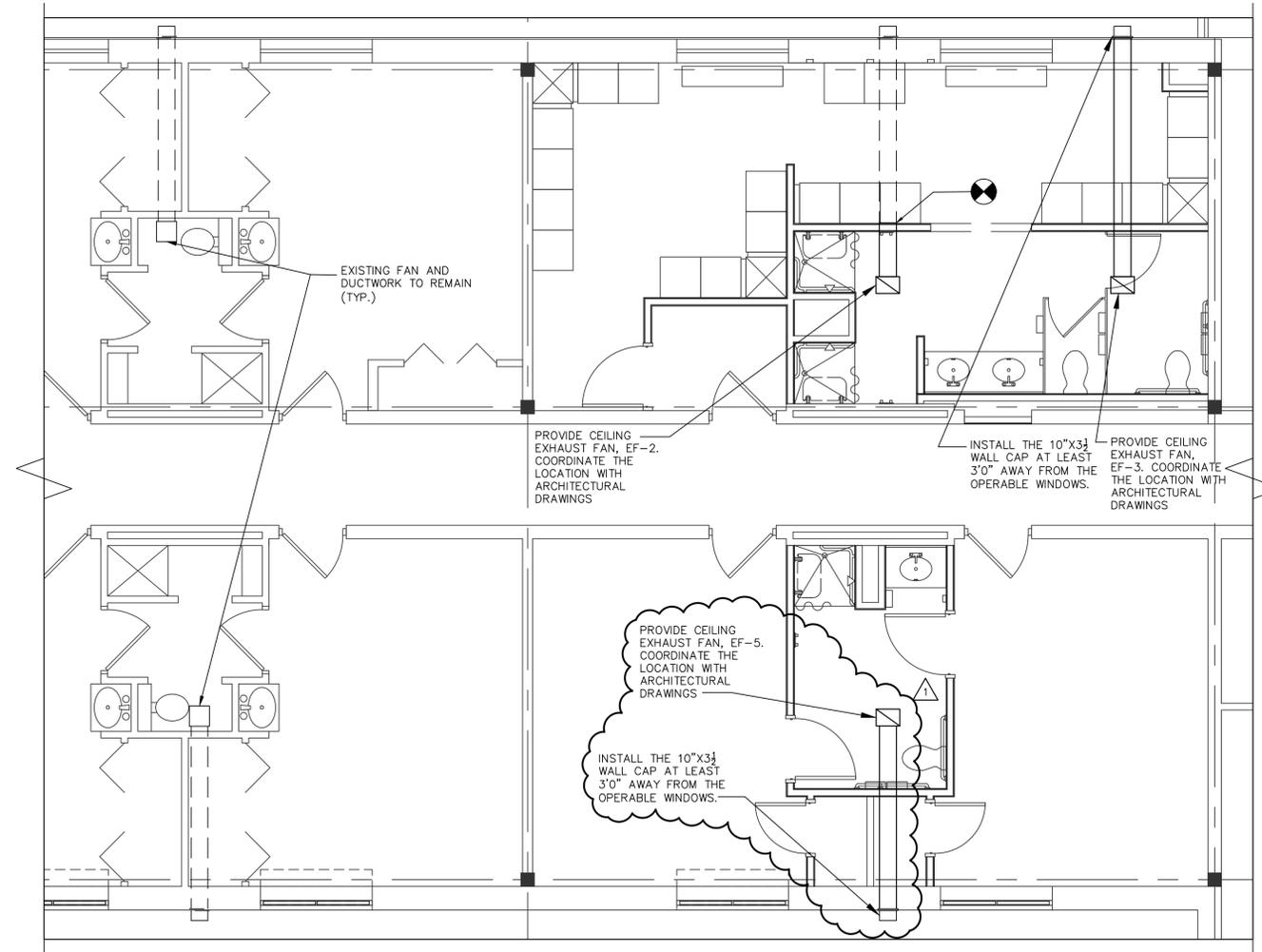
DETAIL 2 - TOILET PART PLAN

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



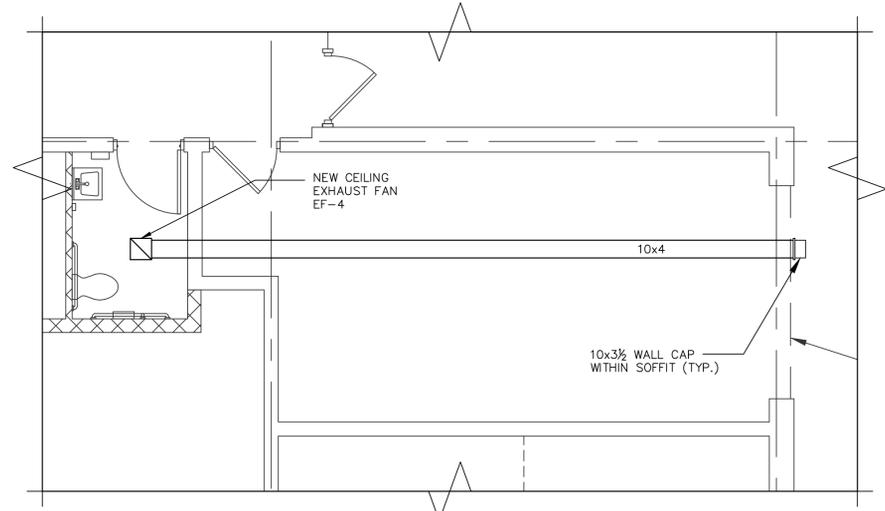
DETAIL 3 - TOILET PART PLAN

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



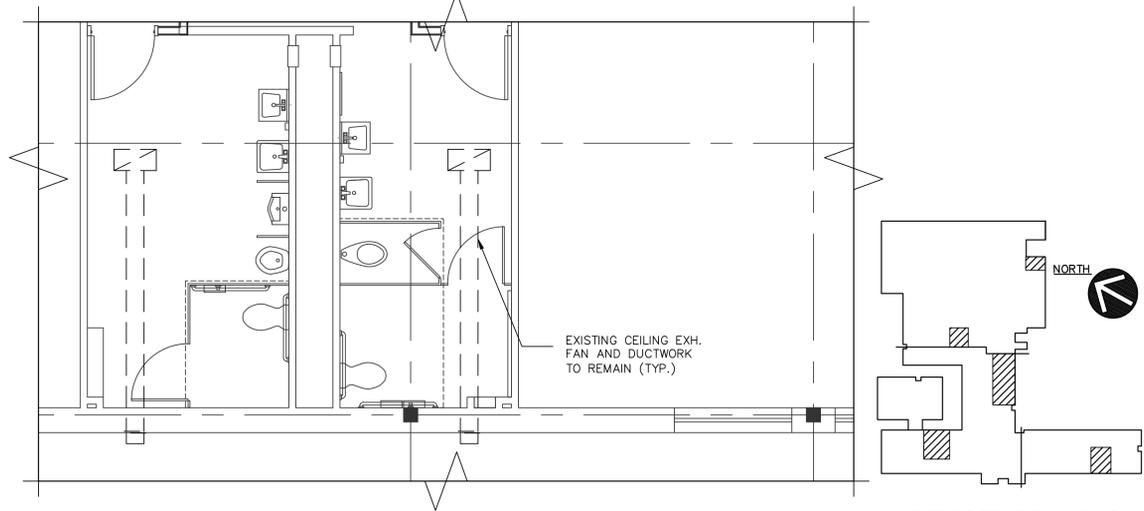
DETAIL 4 - TOILET PART PLAN

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



DETAIL 5 - TOILET PART PLAN

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



DETAIL 6 - TOILET PART PLAN

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

REVISED DRAWING
02/10/2016

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MARK	DATE	DESCRIPTION
▲	02/10/2016	ADDENDUM #3
	08/27/2015	BID DOCUMENTS

PROJECT NUMBER: **44559- M**

DESIGNED BY: VT

DRAWN BY: SM

FIELD CHECK: VT

APPROVED: HL

SHEET TITLE:

FIRST FLOOR NEW WORK - ADA PART PLANS

DRAWING NUMBER: **M-401**

H