



Office of General Services

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

ADDENDUM NO. 4 TO PROJECT NO. 47328

CONSTRUCTION, HVAC, PLUMBING AND ELECTRICAL WORK REPLACE EMERGENCY GENERATOR ADAM C. POWELL STATE OFFICE BUILDING 163 W 125TH ST NEW YORK, NY

September 20, 2024

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.

HVAC WORK SPECIFICATIONS

1. SECTION 260523 WIRING FOR MOTORS AND MOTOR CONTROLLERS: Add the accompanying Section (pages 260523-1 through 260523-15) to the Project Manual.

ELECTRICAL WORK SPECIFICATIONS

2. SECTION 260523 WIRING FOR MOTORS AND MOTOR CONTROLLERS: Discard the Section bound in the Project Manual and substitute the accompanying Section (pages 260523 – 1 thru 260523 – 2) noted “REVISED 09/20/24”.

CONSTRUCTION DRAWINGS

3. Drawing Nos. H-001 and H-100:
 - a. Hazardous Material Abatement Keynotes, Add Note AA6 to Read:
“AA6. Remove and dispose of roofing to top of structural roof deck as asbestos containing material on the 2nd and 19th floor roofs. Save and reuse any existing ballast. Typ. for 52 sq. ft. Refer to drawings A-102 and A-119 for details.”
4. Revised Drawing:
 - a. Drawing No. A-500 noted “REVISED DRAWING 09/20/2024” accompanies this Addendum and supersedes the same numbered originally issued drawing.

HVAC DRAWINGS

5. Drawing No. M-100:
 - a. Keynotes – Alterations, Add the following text to Note 2:
“‘EF-G’ Exhaust Fan Unit, In-line type. BOD: Greenheck Model Model: VAB-48F21-II-500. Vane Axial Belt Drive. CFM: 48,500. Total External Static Pressure: 3.0 (in. mercury). Power Requirements: 50HP. 460V. 3Ph. 60hz. Min. Circuit Breaker: 150 Amp. or Approved Equal.”
6. Revised Drawing:
 - a. Drawing No. M-102 noted “REVISED DRAWING 09/20/2024” accompanies this Addendum and supersedes the same numbered originally issued drawing.

PLUMBING DRAWINGS

7. Revised Drawing:
 - a. Drawing No. P-099, noted “REVISED DRAWING 09/20/2024” accompany this Addendum and supersede the same numbered originally issued drawing.

ELECTRICAL DRAWINGS

8. Revised Drawings:
 - a. Drawing Nos. E-102 and E-600, noted “REVISED DRAWING 09/20/2024” accompany this Addendum and supersede the same numbered originally issued drawings.

END OF ADDENDUM

Brady M. Sherlock, P.E.
Director, Division of Design
Design & Construction

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 ITCSN, 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. 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. Existing Construction:
 - a. Run conduit in existing chases and hung ceilings.
 - b. If conduit cannot be installed concealed due to conditions encountered in the building, report such conditions and await approval in writing before proceeding.
 - 3. New Construction:
 - a. Run conduit in the ceilings, walls, and partitions.
 - 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 for Prefabricated Walk-In Refrigeration Boxes:
1. Run box wiring in conduit. Run conduit exposed on exterior of box unless project conditions require conduit to be run exposed on interior of box.
 - a. Install rigid ferrous metal conduit where the metal surfaces are galvanized steel.
 - b. Install rigid stainless steel conduit where the metal surfaces are stainless steel.
 2. Create a thermal break where penetrating the box by installing maximum of 12 inches of Schedule 40 high density polyethylene conduit within the conduit run at the penetration.
 3. Install equipment grounding conductor in each conduit.
 4. Seal raceway as specified for raceways exposed to different temperatures.
- G. Conduits in Heating Tunnels: Install rigid ferrous metal conduit exposed in the tunnel and run conduit to avoid manhole entrances and other obstructions.
- H. 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.
- I. 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.

- J. 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.

K. 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.

09/20/24

END OF SECTION

SECTION 260523

WIRING FOR MOTORS AND MOTOR CONTROLLERS

PART 1 GENERAL

1.01 PRODUCTS INSTALLED BUT FURNISHED BY OTHERS

- A. The following items will be furnished under related contracts for installation, and connection to power wiring.
 - 1. Motor controllers for all Contracts.
 - 2. Line voltage thermostats for HVAC Work Contract.

1.02 SUBMITTALS

- A. Not Required. (Related contractors will deliver 2 copies of approved wiring diagrams required for power wiring and connections under the Electrical Work Contract).

PART 2 PRODUCTS

2.01 POWER WIRING

- A. Materials: As specified in other Electrical Sections.

2.02 NAMEPLATES

- A. General: Precision engrave letters and numbers with uniform margins, character size minimum 3/16 inch high.
 - 1. Phenolic: Two color laminated engravers stock, 1/16 inch minimum thickness, machine engraved to expose inner core color (white).
 - 2. Aluminum: Standard aluminum alloy plate stock, minimum .032 inches thick, engraved areas enamel filled or background enameled with natural aluminum engraved characters.
 - 3. Materials for Outdoor Applications: As recommended by nameplate manufacturer to suit environmental conditions.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Power Wiring: Provide power wiring and connections for equipment installed under related contracts. Exception:
 - 1. Where a power source has been provided under this Contract and it is indicated that a related trade contractor is required to provide the power wiring from the power source to the equipment.

REVISED 09/20/24

- B. Control Equipment: Set and connect the items to power wiring, listed under 1.01 - PRODUCTS INSTALLED BUT FURNISHED BY OTHERS.
- C. Control Wiring: Not included in Electrical Work Contract. (Provided by related contractors).
- D. Nameplates: Identify each motor controller, indicating motor controlled:
 - 1. NEMA 1 Enclosures: Rivet or bolt nameplate to the cover.
 - 2. NEMA 12 Enclosures: Rivet or bolt and gasket nameplate to the cover.
 - 3. NEMA 3R, 4, 4X, 7, 9 Enclosures: Attach nameplates to the cover using adhesive specifically designed for the purpose, or mount nameplate on wall or other conspicuous location adjacent to switch. Do not penetrate enclosure with fasteners.

END OF SECTION

CONSULTANTS

C&S COMPANIES
C&S Engineers, Inc.
499 Col. Eileen Collins Blvd.
Syracuse, New York
NYS CERTIFICATE OF AUTHORIZATION NUMBER 0012365

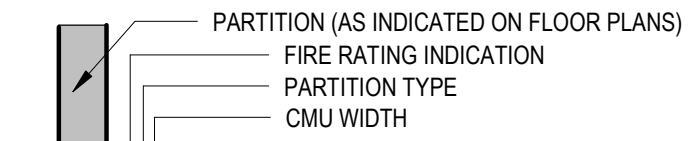
FOIT ALBERT
Foit-Albert Associates
295 Main St., Suite 200
Buffalo, New York
NYS CERTIFICATE OF AUTHORIZATION NUMBER 0018046

PARTITION TYPE GENERAL NOTES

1. THE "PARTITION TYPE TAG" ILLUSTRATED BELOW, INDICATES THE ASSEMBLY OF THE COMPLETE EXTENT OF EACH PARTITION INDICATED BY THE TAG ON THE FLOOR PLANS, AND OTHER DRAWINGS IN THE PROJECT DOCUMENTS.
2. REFER TO PARTITION TYPE DETAILS INDICATED BY THE "PARTITION TYPE" CHARACTER ON THE TAG
EXAMPLE: PARTITION TAG ID "M" = REFERENCE TO DETAIL "TYPE M"
3. REFER TO THE "FIRE RATING LEGEND" BELOW FOR THE FIRE-RESISTANCE CLASSIFICATION NOTED BY THE "FIRE RATING IDENTIFICATION" ON THE TAG
EXAMPLE: "Z" = 120 MIN FIRE-RESISTANCE RATED PARTITION ASSEMBLY.
4. THE "CMU NOM WIDTH" CHARACTER ON THE TAG, AND AS SHOWN ON PARTITION TYPE DETAILS, INDICATES THE METAL STUD OR CMU NOM WIDTH
EXAMPLE: "8" = 8 INCH CMU WALL THICKNESS, NOM.

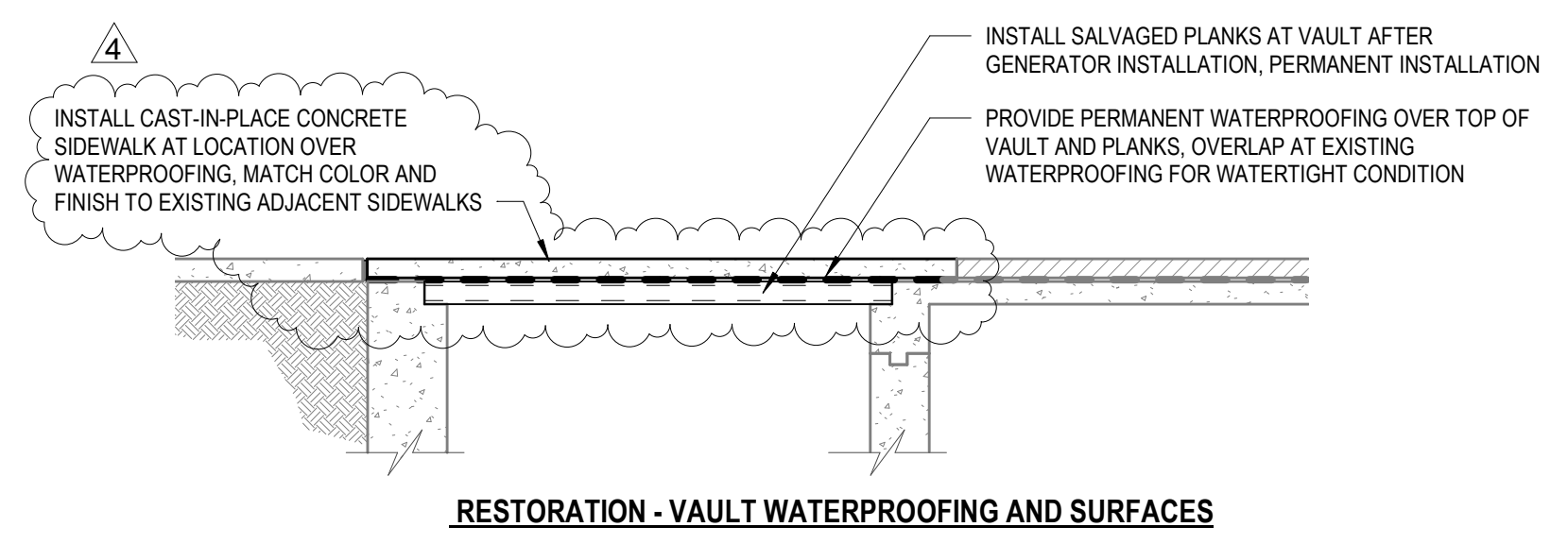
GENERAL NOTES - IBC SEISMIC CATEGORY A-C:
A. ALL CMU PARTITION TYPES SHALL COMPLY WITH PARTITION TYPE GENERAL NOTES, AND "CMU LINTEL SCHEDULE" FOR MIN CMU REINFORCING AND LIMITING LINTEL SPANS.
B. ALL CMU PARTITION TYPES SHALL COMPLY WITH PARTITION TYPE GENERAL NOTES, AND REINFORCING AS INDICATED ON THE STRUCTURAL DRAWINGS, UON.

PARTITION TYPE TAG

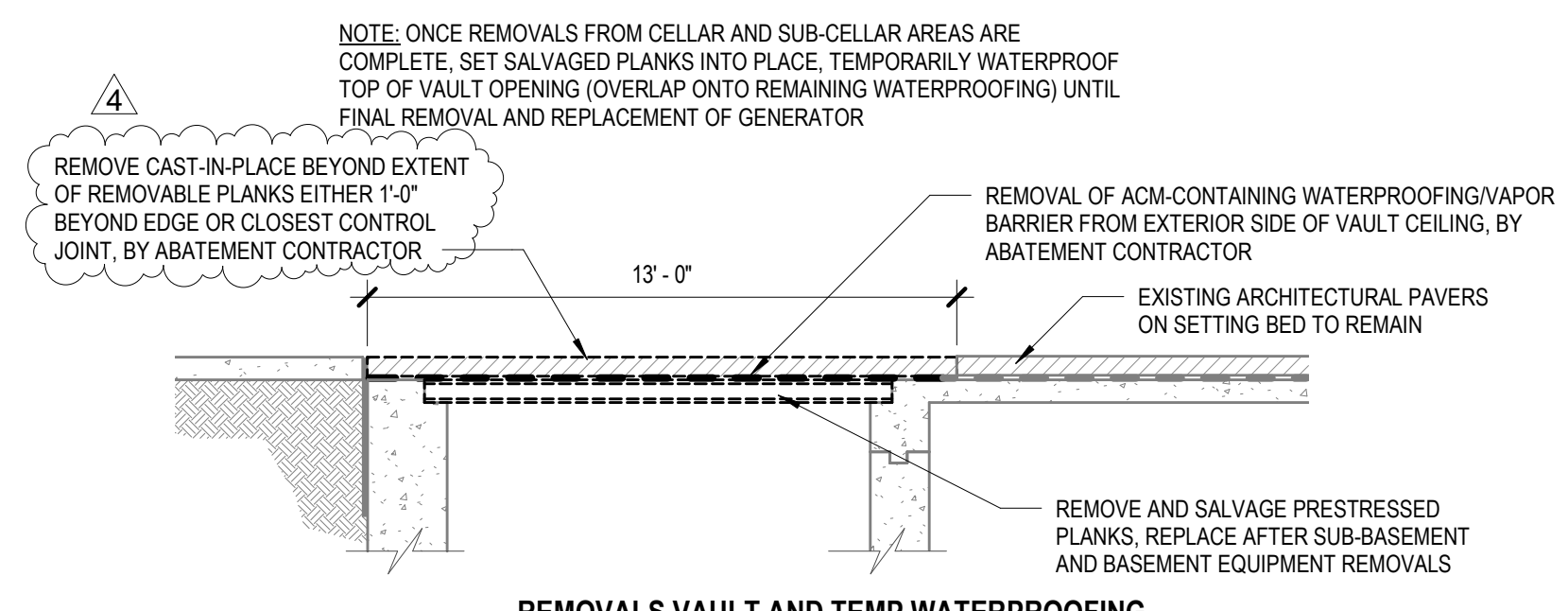


FIRE RATING LEGEND

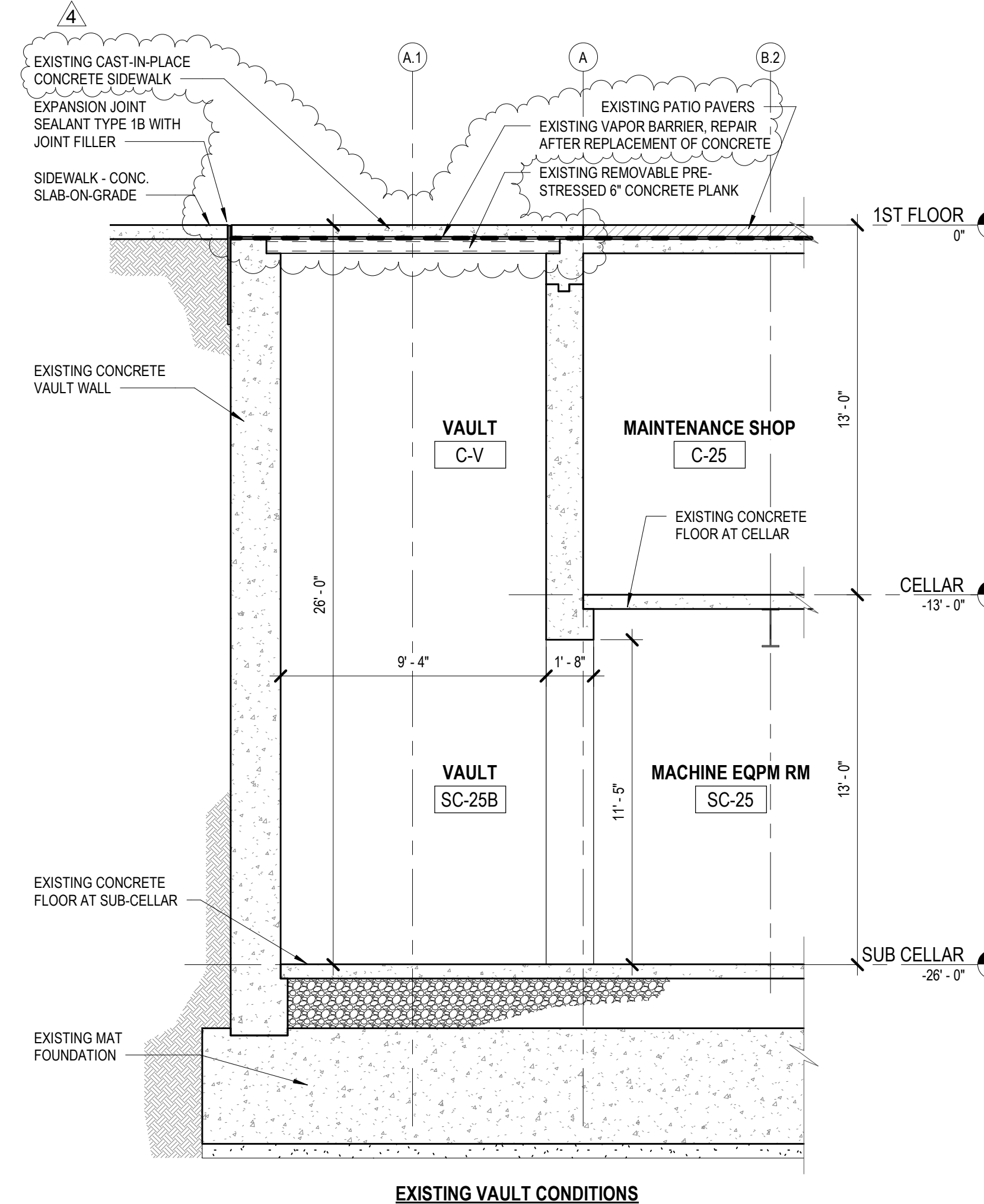
THE COMPLETE ASSEMBLY OF EACH PARTITION WITH A FIRE RATING INDICATION SYMBOL, SHOWN ON THE TAG, SHALL COMPLY WITH ALL REQUIREMENTS OF THE FIRE-RESISTANCE RATING CLASSIFICATION.
SYMBOL: RATING CLASSIFICATION
<OMITTED> NON-RATED PARTITION, UON
Z 120 MIN FIRE-RESISTANCE RATED FIRE BARRIER



RESTORATION - VAULT WATERPROOFING AND SURFACES

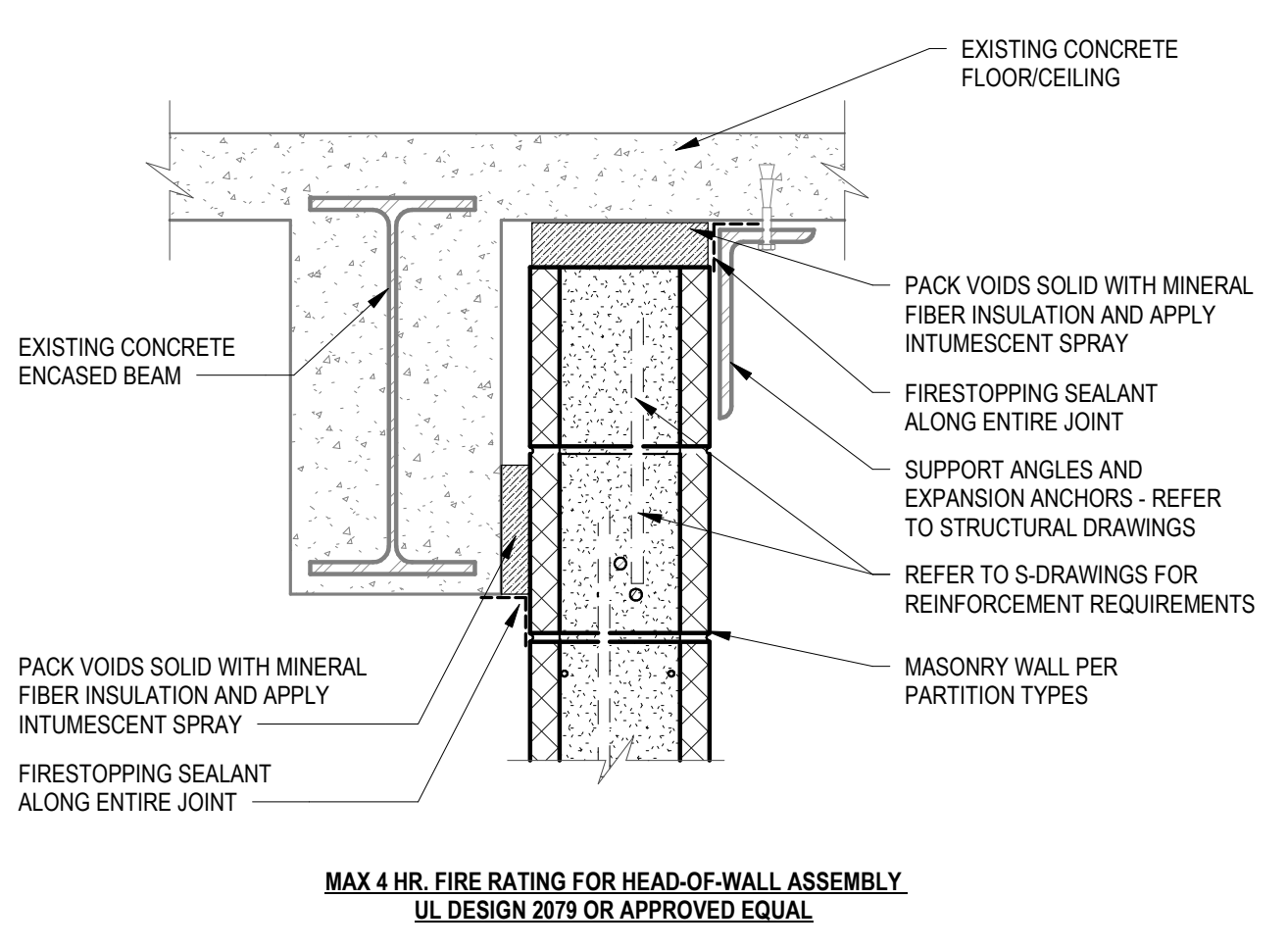


REMOVALS VAULT AND TEMP WATERPROOFING



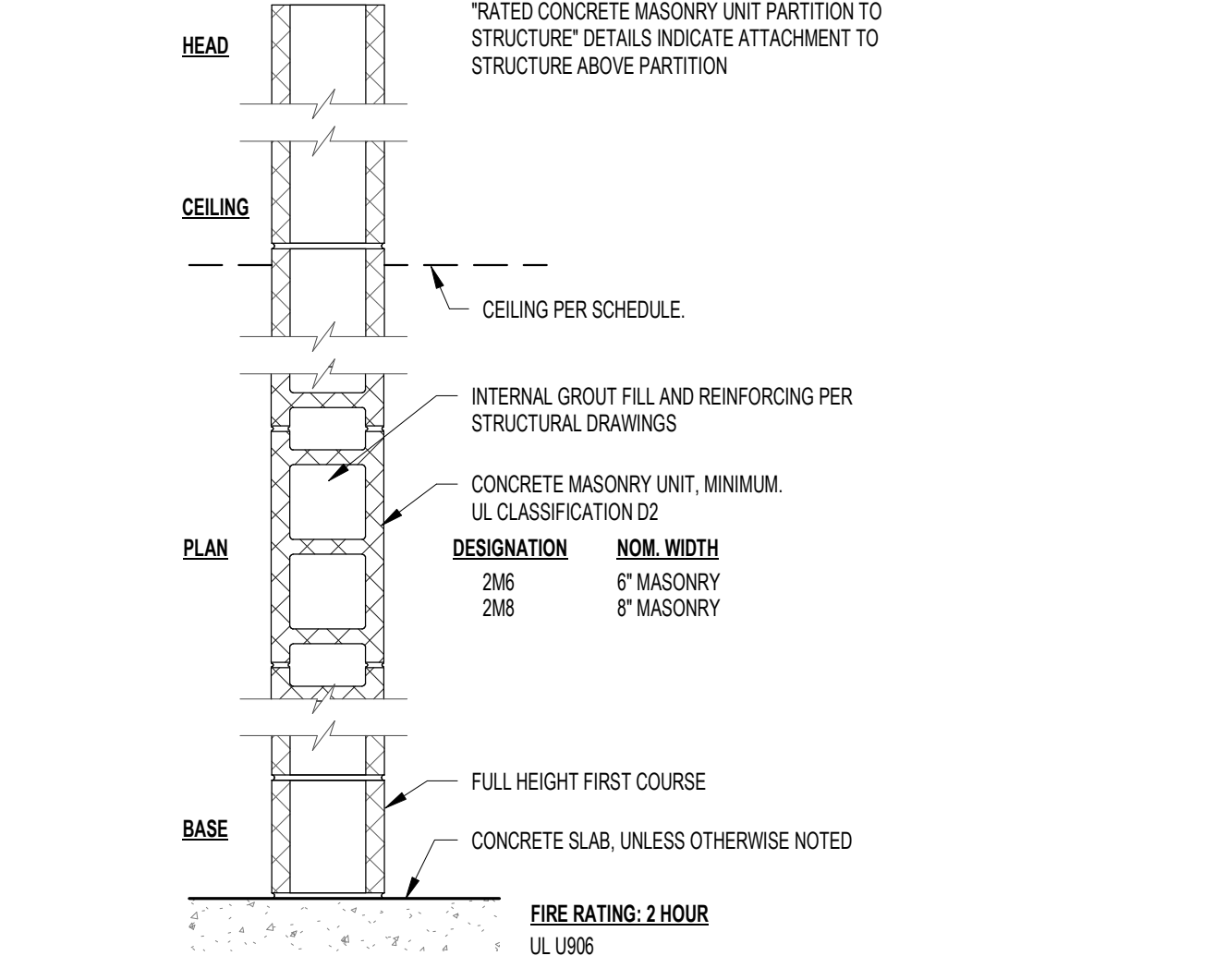
EXISTING VAULT CONDITIONS

SECTION - VAULT SC-25B
1/4" = 1'-0"

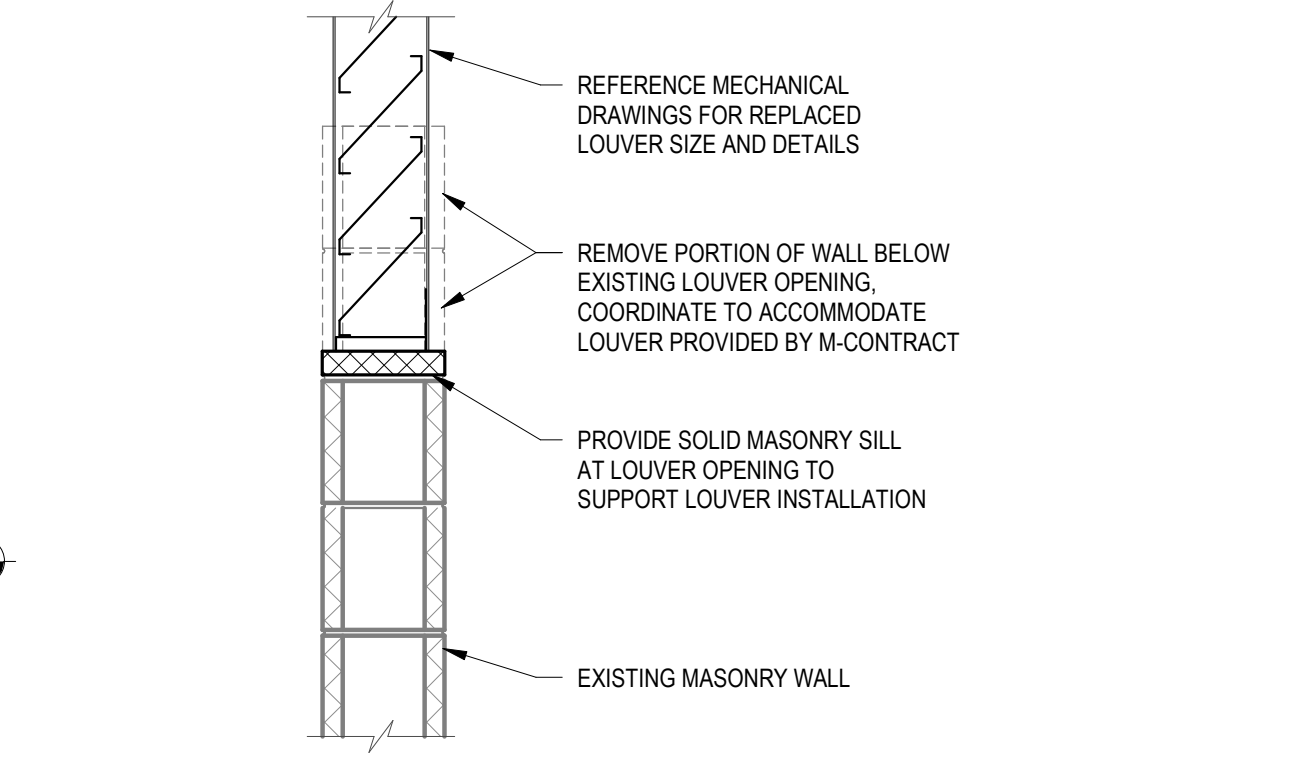


MAX 4 HR. FIRE RATING FOR HEAD-OF-WALL ASSEMBLY
UL DESIGN 2078 OR APPROVED EQUAL

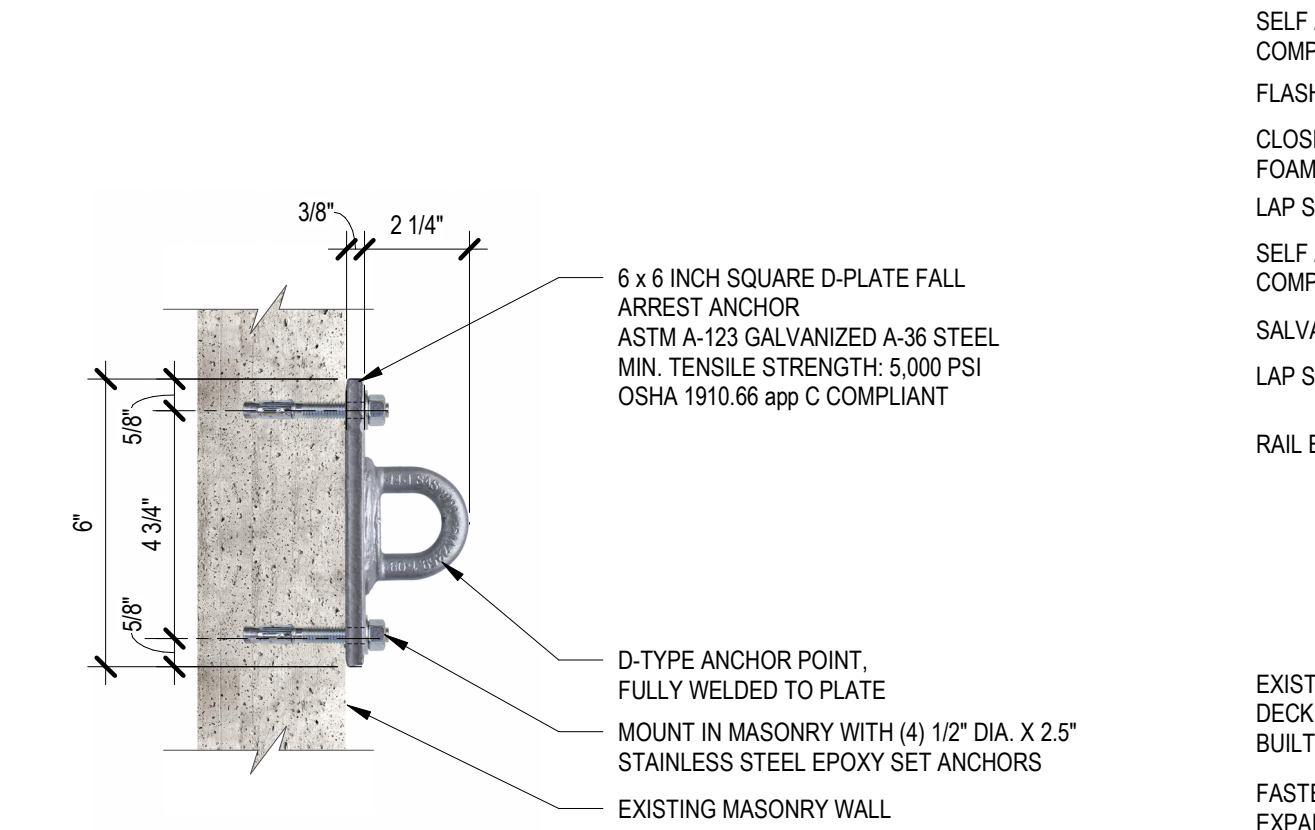
DETAIL - HEAD OF CMU PARTITION
1 1/2" = 1'-0"



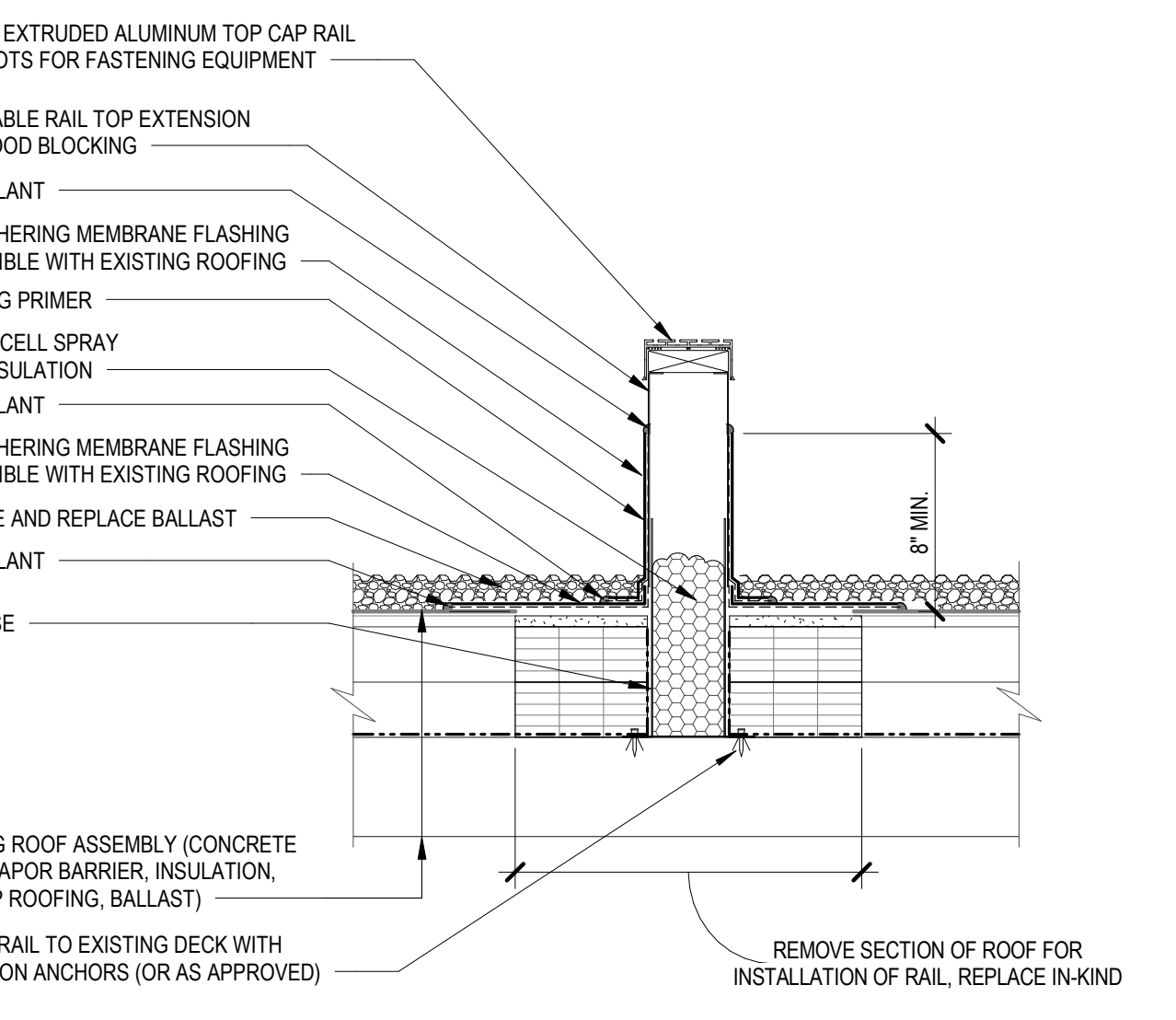
TYPE 2M - MASONRY WALL - 2 HR. RATED
1" = 1'-0"



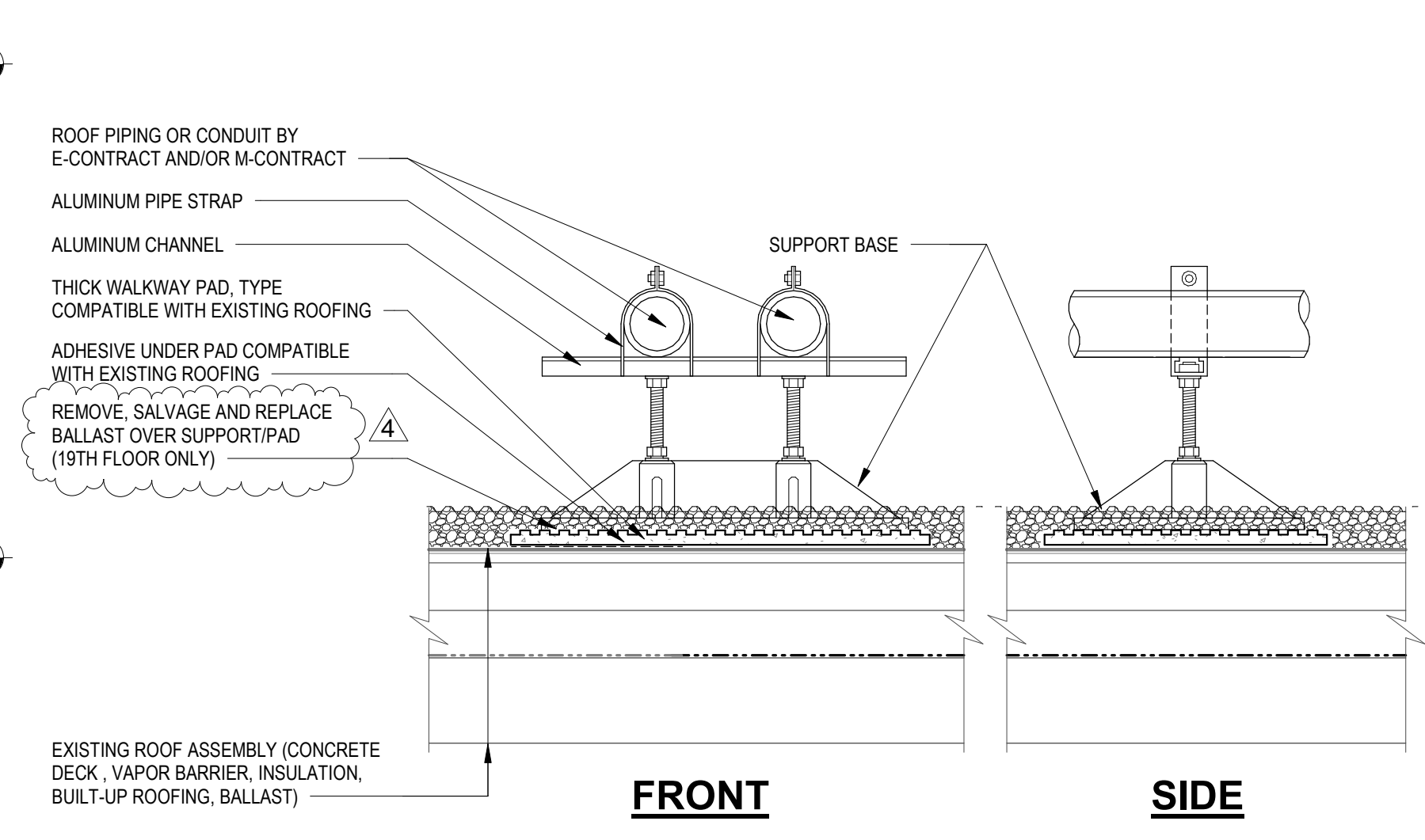
DETAIL - LOUVER OPENING MODIFICATION
1" = 1'-0"



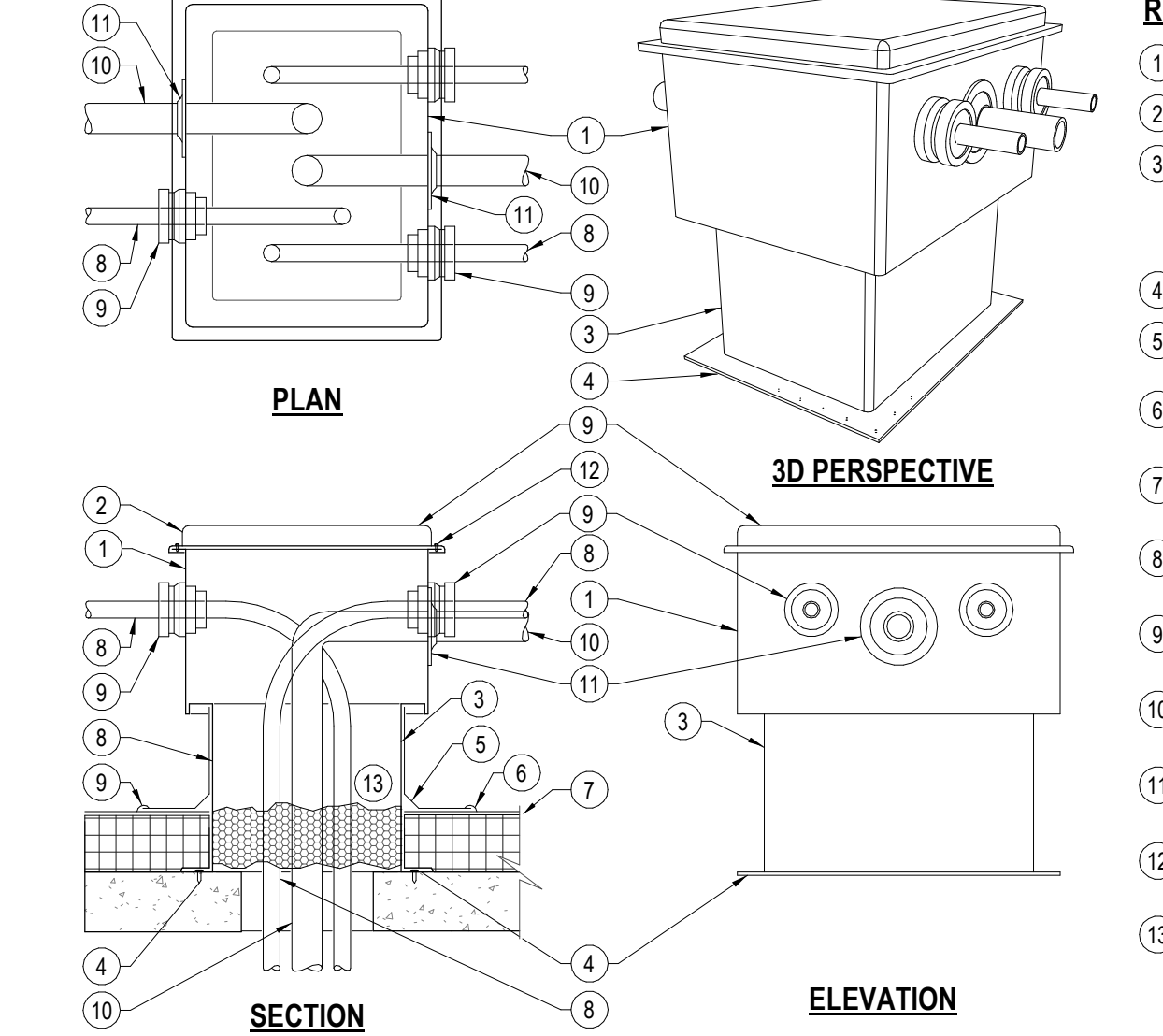
DETAIL - FALL ARREST
3" = 1'-0"



DETAIL - ROOF EQUIPMENT RAIL
1 1/2" = 1'-0"



DETAIL - ROOF PIPE/CONDUIT SUPPORT
1 1/2" = 1'-0"



DETAIL - ROOF PENETRATION HOUSING
1/8" = 1'-0"

- ROOF PENETRATION HOUSING NOTES:**
1. PRE-MANUFACTURED ROOF PENETRATION HOUSING
 2. MATCHING WIND RATED ALUMINUM COVER
 3. MATCHING ALUMINUM CURB 14" HIGH MIN. CURB MUST BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS
 4. CURB FLANGE, FASTEN TO ROOF DECK
 5. FLASHING MEMBRANE CURB TIE-IN DETAIL AS COMPATIBLE WITH ROOFING TYPE AND WARRANTY
 6. CONTINUOUS SEALANT PER ROOF TYPE
 7. ROOF ASSEMBLY, REF. ROOF PLAN AND TYPES
 8. CONDUIT, PIPE, REFRIGERANT LINE, ETC. SIZES FROM 0.25" THRU 1.90" O.D.
 9. EXIT SEALS FOR SIZES FROM 0.25" THRU 1.90" O.D.
 10. CONDUIT, PIPE, REFRIGERANT LINE, ETC. SIZES FROM 1.90" THRU 15" O.D.
 11. EXIT SEAL FOR SIZES FROM 1.90" THRU 15" O.D.
 12. VANDAL RESISTANT STAINLESS STEEL SCREWS
 13. CLOSED CELL SPRAY FOAM INSULATION WITH IGNITION COATING, MIN R-30 THICKNESS TO CLOSE GAP

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.



REGISTRATION EXPIRES: 04/30/2025

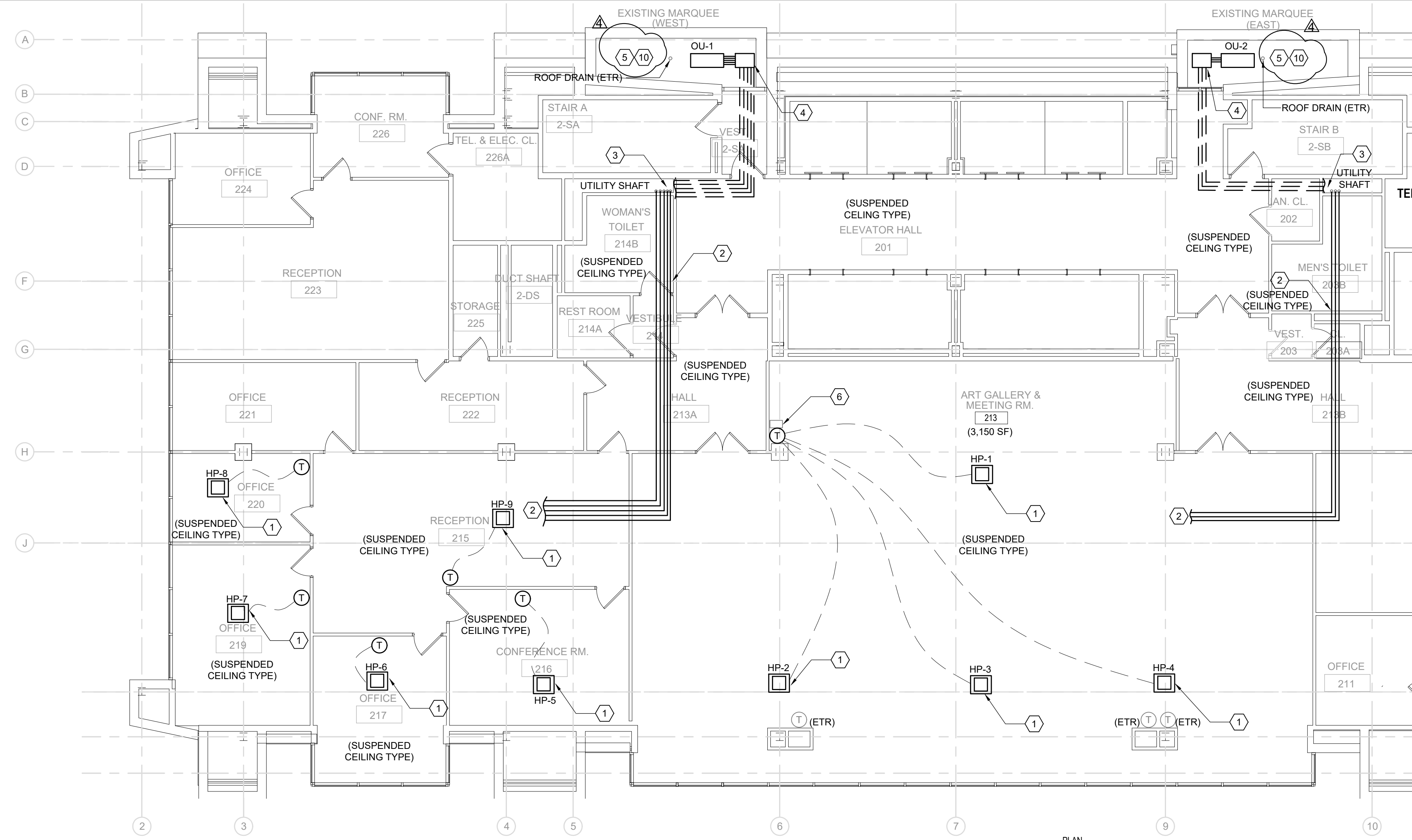
CONTRACT:
CONSTRUCTION

TITLE:
REPLACE EMERGENCY GENERATOR

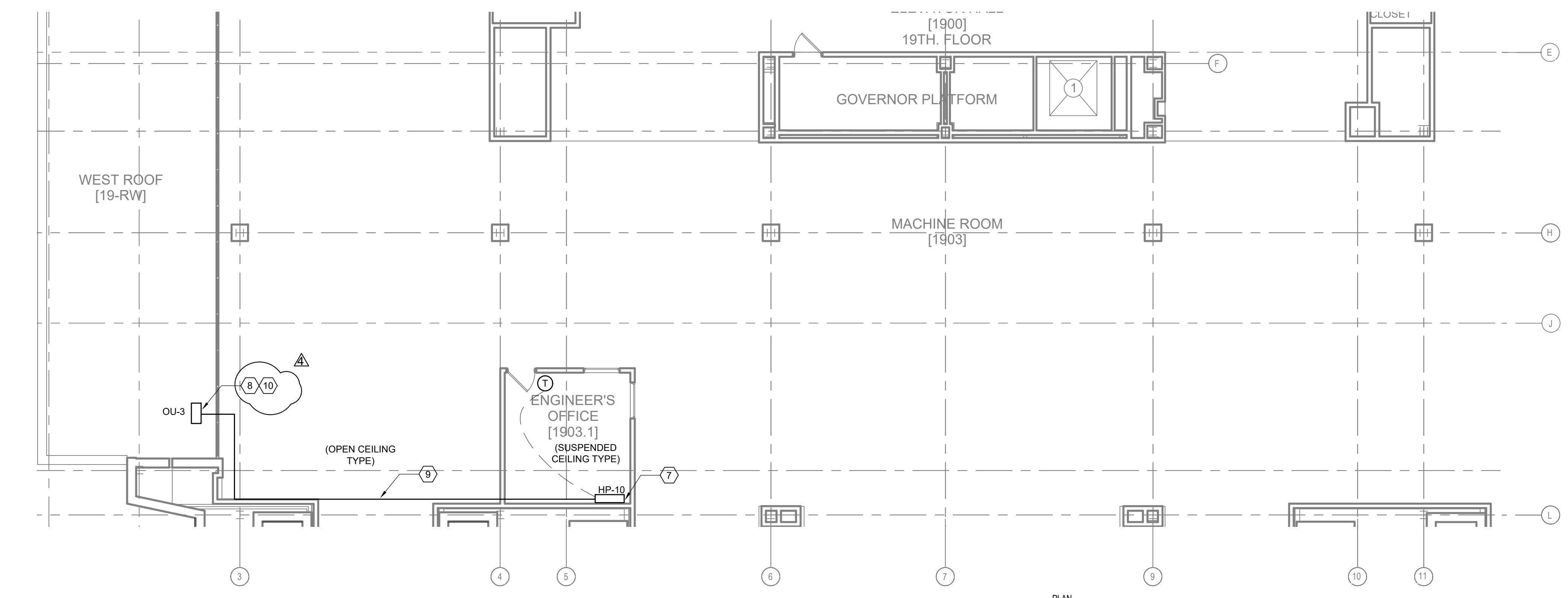
LOCATION:
ADAM C. POWELL STATE OFFICE BLDG.
163 W 125TH ST
NEW YORK, NY

CLIENT:
OFFICE OF GENERAL SERVICES

MARK	DATE	DESCRIPTION
4	09/20/2024	ADDENDUM 4
	05/22/2024	BID DOCUMENTS
PROJECT NUMBER:	47328-C	
DESIGNED BY:	M. BRAY	
DRAWN BY:	M. BRAY	
FIELD CHECK:		
APPROVED:	B. BIXBY	
SHEET TITLE:	DETAILS	
DRAWING NUMBER:	A-500	



1 2ND. PARTIAL FLOOR PLAN - MECHANICAL
M-102 1/8" = 1'-0"



2 19TH. PARTIAL FLOOR PLAN - MECHANICAL
M-102 1/8" = 1'-0"

ALTERATIONS GENERAL NOTES

- A. COORDINATE WITH FINAL SELECTION OF EQUIPMENT FOR A FULL INSTALLATION AND IMPLEMENTATION OF ALL SYSTEM ACCESSORIES, DEVICES AND PROVISIONS.
- B. PROVIDE FIRE STOPPING MATERIAL AT ALL FIRE RATED FLOOR AND WALL ASSEMBLY SYSTEMS. WHERE FIRE STOPPING HAS BEEN REMOVED, RESTORE IN KIND. FIRE RATING IS 2HR.
- C. COORDINATE ALL EXISTING WALL AND FLOOR PENETRATIONS, ROOF SUPPORT SYSTEMS WITH CONTRACT-C.
- D. PROVIDE ACOUSTICAL CEILING TILES AS REQUIRED ON EACH SPACE. CUT AND ADJUST CEILING SYSTEM AS REQUIRED (TYPICAL OF 9 LOCATIONS) FOR HVAC CEILING UNIT INSTALLATION. COORDINATE WITH CONTRACT-C.
- E. EXAMINE ALL DRAWINGS AND SPECIFICATIONS AND COORDINATE WORK WITH ALL OTHER CONTRACTORS, AND DISCIPLINES.
- F. MULTIPLE INDOOR UNITS ARE CONNECTED TO A SINGLE OUTDOOR UNIT. PROVIDE ALL CONDUITS AND CONDUCTORS BETWEEN INDOOR AND OUTDOOR UNITS. ALL CONTROL WIRING, INCLUDING THERMOSTAT WIRING AND RACEWAYS. ALL TERMINATIONS CONNECTIONS BETWEEN THE OUTDOOR AND INDOOR UNIT(S). FINAL WIRE SIZING SHALL COMPLY WITH THE MANUFACTURER'S SPECIFICATIONS. EXPOSED RACEWAY(S) TO MATCH COLOR AND WALL FINISHES.

KEYNOTES - ALTERATIONS

- AS INDICATED BY: (#)
- 1. PROVIDE CEILING MOUNT HEAT PUMP CASSETTE, INCLUDING PROPER AND INDEPENDENT SUPPORTING RODS. VERIFY BEST POSITION IN EXISTING SUSPENDED CEILING SYSTEM. COORDINATE WITH EXISTING LUMINAIRES, HVAC DIFFUSERS AND ABOVE CEILING UTILITIES. REFER TO SCHEDULE FOR TYPE, SPECIFICATION. PROVIDE ALL PIPING, INSULATION, DRAIN PIPE TERMINATION AND WIRING TO RESPECTIVE THERMOSTAT (TYPICAL). ROUTE INSULATED CONDENSATE LINE TO NEAREST FLOOR DRAIN OR MOP SINK LOCATION. REFER TO MECHANICAL EQUIPMENT SCHEDULE ON SHEET M-501.
 - 2. PROVIDE HEAT PUMP ASSOCIATED REFRIGERANT PIPING (SUPPLY/RETURN LOOP) ABOVE 2ND. FLOOR CEILING TO EXTERIOR CONDENSING UNIT(S). REMOVE AND REINSTALL CEILING PANELS AND REPLACE AS NEEDED. PROVIDE ALL PIPING SUPPORTS, WALL/CEILING PENETRATIONS, INCLUDING FIRE RATED MATERIALS AND ENCLOSURES.
 - 3. REFRIGERANT PIPING PATH ENTERING EXISTING UTILITY SHAFT, ROUTE PIPE DOWN TO FIRST FLOOR CEILING CAVITY AND TERMINATE AT ROOF BALCONY LOCATION AS SHOWN. APPROXIMATED HEIGHT ON FIRST FLOOR: 38-FT. FROM FINISHED FLOOR. REFER TO DETAIL 1/M-001.
 - 4. ROOF PENETRATION PIPE PORTAL BY CONTRACT-C.
 - 5. OUTDOOR MARQUEE ROOF AREA ACCESSED THROUGH EXISTING WINDOW. PROVIDE CONDENSING UNIT(S) AS INDICATED, MAINTAINING CLEARANCES AND ACCESS TO MAINTENANCE. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR ROOF SUPPORTS. ANCHOR UNITS SECURELY TO ROOF RAIL SUPPORTS. VERTICAL STACKING OF UNITS (IF ANY) MUST BE VERIFIED BY PROJECT ARCHITECT/ENGINEER PRIOR TO FINAL INSTALLATION.
 - 6. EXISTING TO REMAIN (ETR) MANUAL THERMOSTAT FOR AC-UNIT (I.D. 1S4) SERVING THE ART GALLERY AND MEETING ROOM. HEAT PUMP SYSTEM AND EXISTING A/C UNIT TO OPERATE UNDER OPTIONAL/STANDBY POWER ONLY. COORDINATE FINAL EQUIPMENT CONTROLS, PROGRAMMING AND TEMPERATURE SET-POINTS WITH DIRECTOR'S REPRESENTATIVE. COORDINATE FINAL AND OPTIMAL LOCATION OF HEAT PUMP THERMOSTAT(S), INCLUDING ASSOCIATED CABLING AND RACEWAYS.
 - 7. PROVIDE WALL MOUNT HEAT PUMP UNIT AND ASSOCIATED OUTDOOR CONDENSING UNIT. PROVIDE ALL PIPING, INSULATION, DRAIN PIPE TERMINATION, AND WIRING TO RESPECTIVE THERMOSTAT (TYPICAL). ROUTE INSULATED CONDENSATE LINE TO NEAREST FLOOR DRAIN OR MOP SINK LOCATION. REFER TO MECHANICAL EQUIPMENT SCHEDULE ON DRAWING M-501.
 - 8. OUTDOOR CONDENSING UNIT. COORDINATE WITH A-SERIES DRAWINGS FOR ROOF SUPPORTS. ANCHOR UNITS SECURELY TO ROOF RAIL SUPPORTS. REFER TO DETAIL 3/M-001.
 - 9. REFRIGERANT LINE ROUTING. PROVIDE SUPPORTS AND WALL PENETRATIONS AS REQUIRED. RESTORE AND PAINT TO EXISTING COLOR AND FINISHES.
 - 10. PROVIDE SNOW-MELT PRODUCT (APPROXIMATELY 25 FEET AT EACH LOCATION FROM FLOOR DRAIN TO OUTDOOR UNIT AND PERIMETER OF UNIT). SELF-REGULATING HEATING CABLE, AND ALL CONTROL WIRING AS ASSOCIATED RACEWAY(S), J-BOXES. REFER TO SPECIFICATION SECTION 230533.



C&S Engineers, Inc.
499 Col. Eileen Collins Blvd.
Syracuse, New York.

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CONTRACT: HVAC

TITLE: REPLACE EMERGENCY GENERATOR

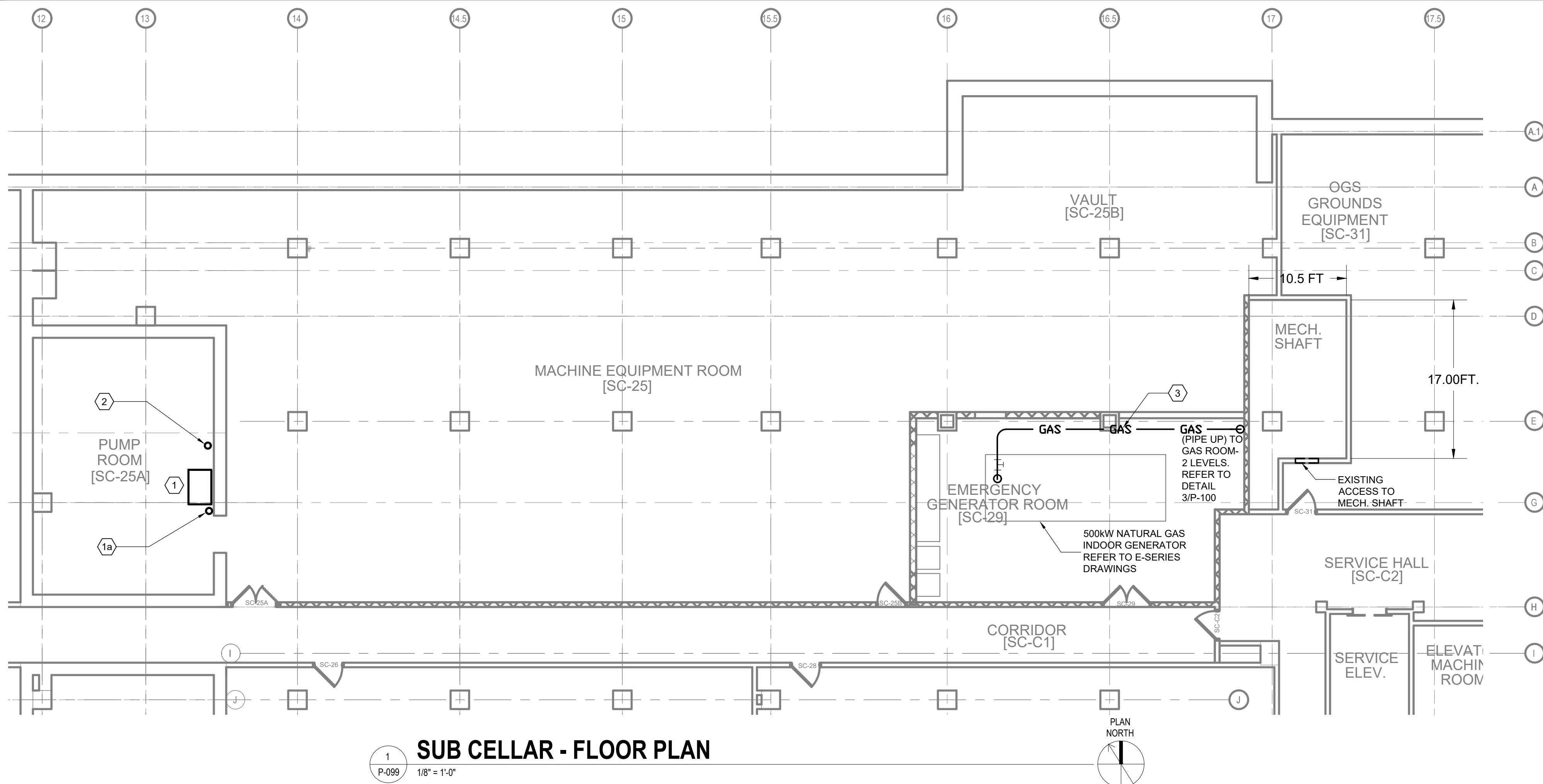
LOCATION: ADAM C. POWELL STATE OFFICE BLDG.
163 W 125TH ST
NEW YORK, NY

CLIENT: OFFICE OF GENERAL SERVICES

MARK	DATE	DESCRIPTION
4	09/20/2024	ADDENDUM 4
	05/22/2024	BID DOCUMENT
PROJECT NUMBER:		47328-H
DESIGNED BY:		J.DIPASQUALE/A.PLAZOLA
DRAWN BY:		A. DIAZ
FIELD CHECK:		
APPROVED:		A. PLAZOLA

SHEET TITLE:
2ND. AND 19TH. FLOORS PARTIAL PLAN- ALTERATIONS

DRAWING NUMBER:
M-102



ALTERATIONS GENERAL NOTES

- A. COORDINATE WITH FINAL SELECTION OF EQUIPMENT FOR A FULL INSTALLATION AND IMPLEMENTATION OF ALL SYSTEM ACCESSORIES, DEVICES AND PROVISIONS.
- B. PROVIDE FIRE STOPPING MATERIAL AT ALL FIRE RATED FLOOR AND WALL ASSEMBLY SYSTEMS. WHERE FIRE STOPPING HAS BEEN REMOVED, RESTORE IN KIND. FIRE RATINGS IS 2HR. EXISTING EXTERIOR GAS METER ROOM HAS A FIRE RATING OF 3HR.
- C. GAS PIPE LINES TO BE PAINTED AS REQUIRED. REFER TO SPECIFICATION SECTIONS IN CONTRACT-P.
- D. EXAMINE ALL DRAWINGS AND SPECIFICATIONS AND COORDINATE WORK WITH ALL OTHER CONTRACTS/DISCIPLINES.

KEYNOTES - ALTERATIONS

- AS INDICATED BY: (A)
1. FIRE SPRINKLER CONTRACTOR (UNDER CONTRACT-P) TO PROVIDE FIRE PUMP CONTROLLER/AUTOMATIC TRANSFER SWITCH UNIT AS SPECIFIED IN SECTION 213900. PROVIDE ALL SETTINGS, PROGRAMMING AND TESTING AS DESCRIBED IN SPECIFICATION SECTION 213000, INCLUDING TESTING TO INTERCONNECTION(S) TO EXISTING FIRE ALARM SYSTEM. REFERENCE NOTE - EXISTING FIRE PUMP- 125 HP, 230/460V, 3-PHASE, 93.03KW, 60 HZ, 284/142 FLA. FP / ATS CONTROLLER: EATON EPCT FIRE-T80 LARGE HP, TYPE 3R OR APPROVED EQUIVALENT.
 - 1a. EXTEND AND RECONNECT WATER SENSING COPPER LINE(S) WITH REQUIRED VALVES, GAUGES TO NEW FIRE PUMP CONTROLLER/AUTOMATIC TRANSFER SWITCH. RUN PIPING TO FLOOR DRAIN LOCATION AND JOCKEY-PUMP.
 2. RELOCATE WATER LINE DROP AND HOSE BIB UPON WATER HEATER TANK REMOVAL. COORDINATE FINAL LOCATION IN FIELD. RELOCATE NO MORE THAN 10.0 FT. FROM ORIGINAL POSITION AND HEIGHT. EXTEND PIPING, PROVIDE SUPPORTS AND ACCESSORIES. MATCH TO EXISTING SIZE AND TYPE. REFER TO DETAIL 2/P-099.
 3. PROVIDE DEDICATED GAS LINE 5-INCH. (6,100 - 8,900 CUBIC-FEET/HOUR - CFH). ROUTE VERTICALLY TWO LEVELS, ATTACHED TO THE EXTERIOR WALL OF THE MECHANICAL SHAFT. PROVIDE CONCRETE SLAB CORE DRILLING AND PIPING SUPPORTS AS REQUIRED. PROVIDE 10-INCH WATER GAUGE (W.G.) MIN. GAS PRESSURE. COORDINATE WITH CON EDISON (UTILITY CO.) FINAL REQUIREMENTS. REFER TO DETAIL 2/P-099 AND SHEET P-001. GAS LINE TO BE PAINTED TO YELLOW COLOR.
 4. PROVIDE INCOMING GAS LINE AND GAS METER ASSEMBLY. PROVIDE 10 INCH. W.G. MIN. GAS PRESSURE. COORDINATE METER AND REGULATOR INSTALLATION WITH CON EDISON (UTILITY). VERIFY PRESSURE REQUIREMENTS AND ESTABLISH FINAL SETTINGS.
 5. PROVIDE 5.0 INCH. SUPPLY GAS LINE, INCLUDE WALL AND FLOOR PENETRATIONS, SEALING AND FIRE STOPPING AS REQUIRED. SUSPEND FROM OPEN CEILING STRUCTURE AT GAS METER ROOM. REFER TO 1/P-100. APPROXIMATED LINEAR LENGTH 100 FT. FIELD VERIFY FINAL ROUTE.
 6. DEDICATED INCOMING 2-INCH. HIGH PRESSURE GAS SERVICE PROVIDED BY UTILITY COMPANY (CON EDISON) UP TO THE PROPERTY LIMIT (PL) AS INDICATED. CONTRACT-P TO PROVIDE AND COORDINATE FROM THIS POINT AND DOWNSTREAM. PROVIDE BUILDING FOUNDATION CORE DRILLING AS REQUIRED, INCLUDING PIPE SLEEVE, WATER-PROOF AND SEALING MATERIALS. COORDINATE AND REFER TO H-SERIES DRAWINGS FOR LIMITED SCOPE ONCE THE EXCAVATION AND TRENCHING IS PERFORMED.
 7. POINT OF CONNECTION FOR DEDICATED GENERATOR GAS LINE AS INDICATED. COORDINATE WITH CON EDISON AND CONTRACT-C FOR FINAL PROVISIONS. EXTEND PROVISIONS UP TO 5-FT. FROM WALL FOUNDATION TO ACCOMPLISH CONNECTIONS. REFER TO DETAIL 3/P-001.
 8. CONTRACT-P TO PROVIDE 2-INCH. HIGH PRESSURE LINE (COLD ROLLED DOUBLE WALL TYPE-50 PSI). SUSPEND AND SUPPORT PIPE THRU CELLAR LEVEL AND OPEN CEILING STRUCTURE. PROVIDE WALL AND FLOOR PENETRATIONS, SEALING AND FIRE STOPPING AS REQUIRED. FIELD VERIFY FINAL PIPE ROUTE AND MOUNTING HEIGHT. COORDINATE PIPE PATH WITH EXISTING OVERHEAD UTILITIES.
 9. POINT OF ENTRY (POE). CONTRACT-P TO PROVIDE AN ENTIRE GAS METER ASSEMBLY, INCLUDING ALL ACCESSORIES, VALVE PROVISIONS, PIPING INSTALLATION AND SUPPORTS AS REQUIRED. REFER TO DETAIL 2/P-001.

DESIGN & CONSTRUCTION

CONSULTANTS

C&S COMPANIES **ODD**
gug!u66!lug™

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NY STATE CERTIFICATE OF AUTHORIZATION
NUMBER 039212

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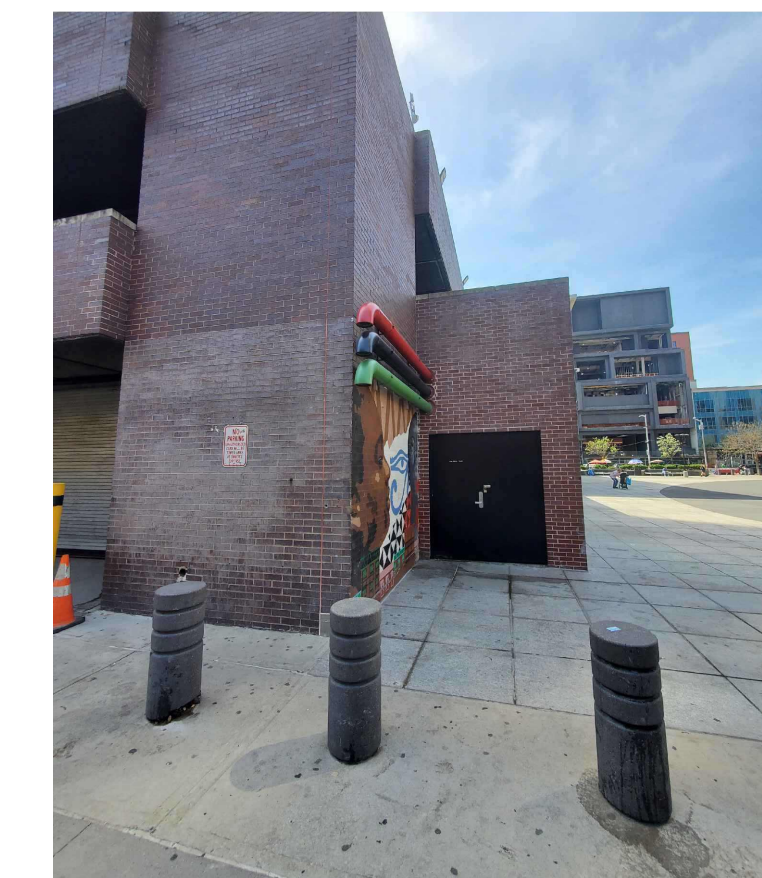
REGISTRATION EXPIRES:
12/31/2024

CONTRACT: **PLUMBING**

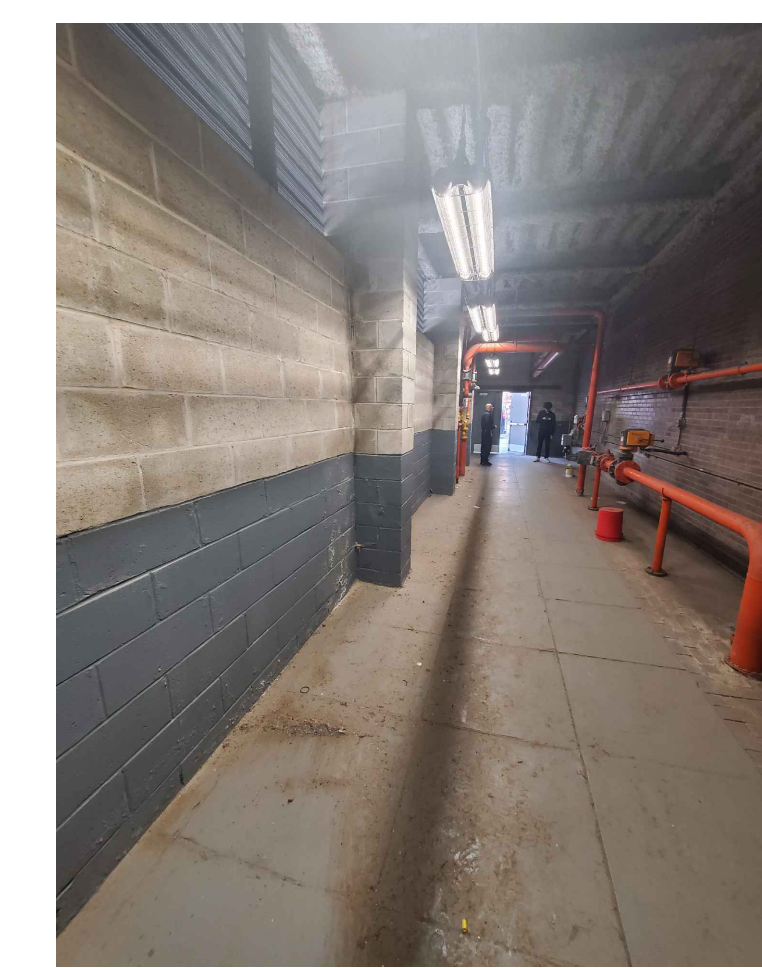
TITLE: **REPLACE EMERGENCY GENERATOR**

LOCATION: **ADAM C. POWELL STATE OFFICE BLDG.
163 W 125TH ST
NEW YORK, NY**

CLIENT: **OFFICE OF GENERAL SERVICES**



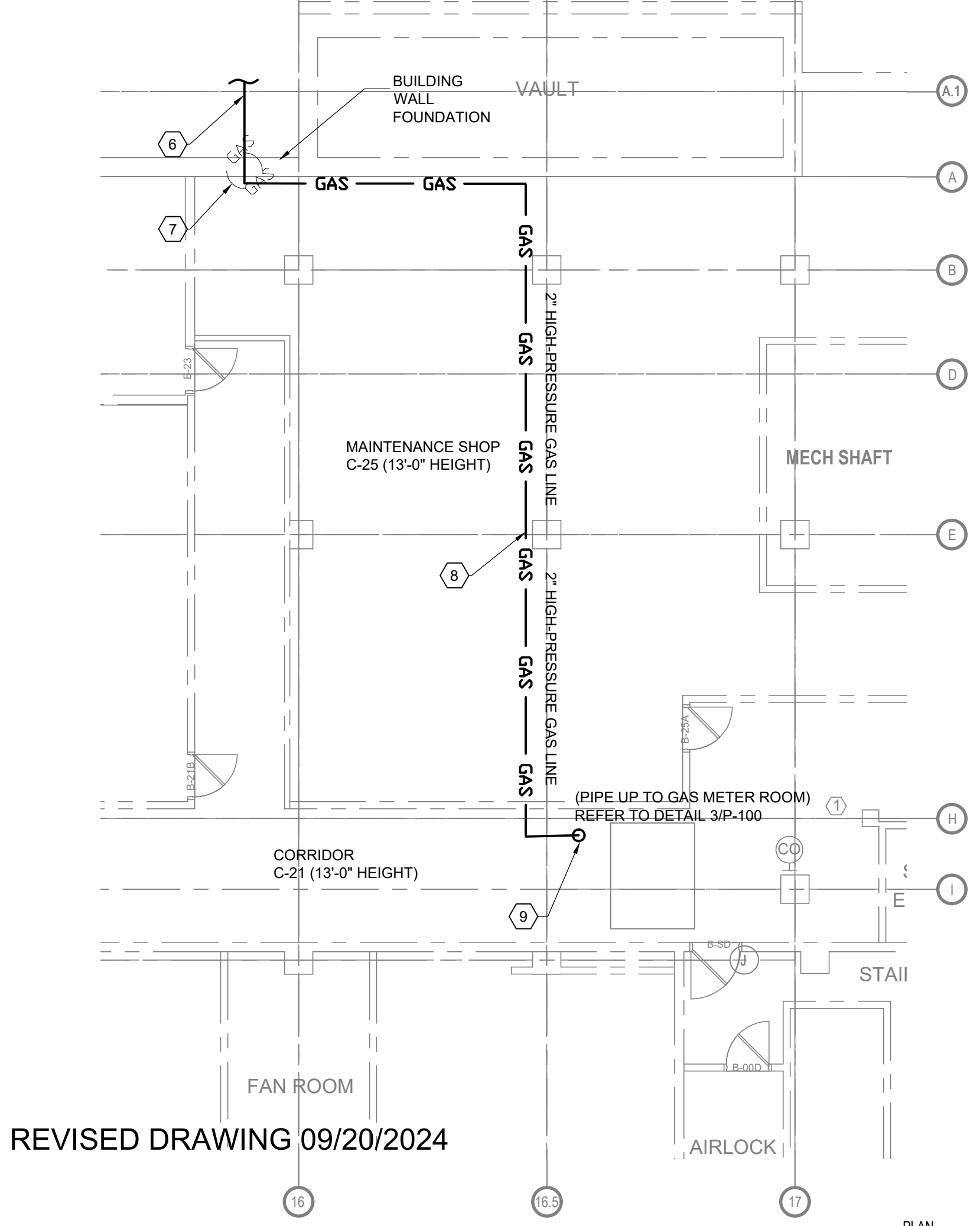
EXTERIOR - SOUTH VIEW



INDOOR - NORTH VIEW

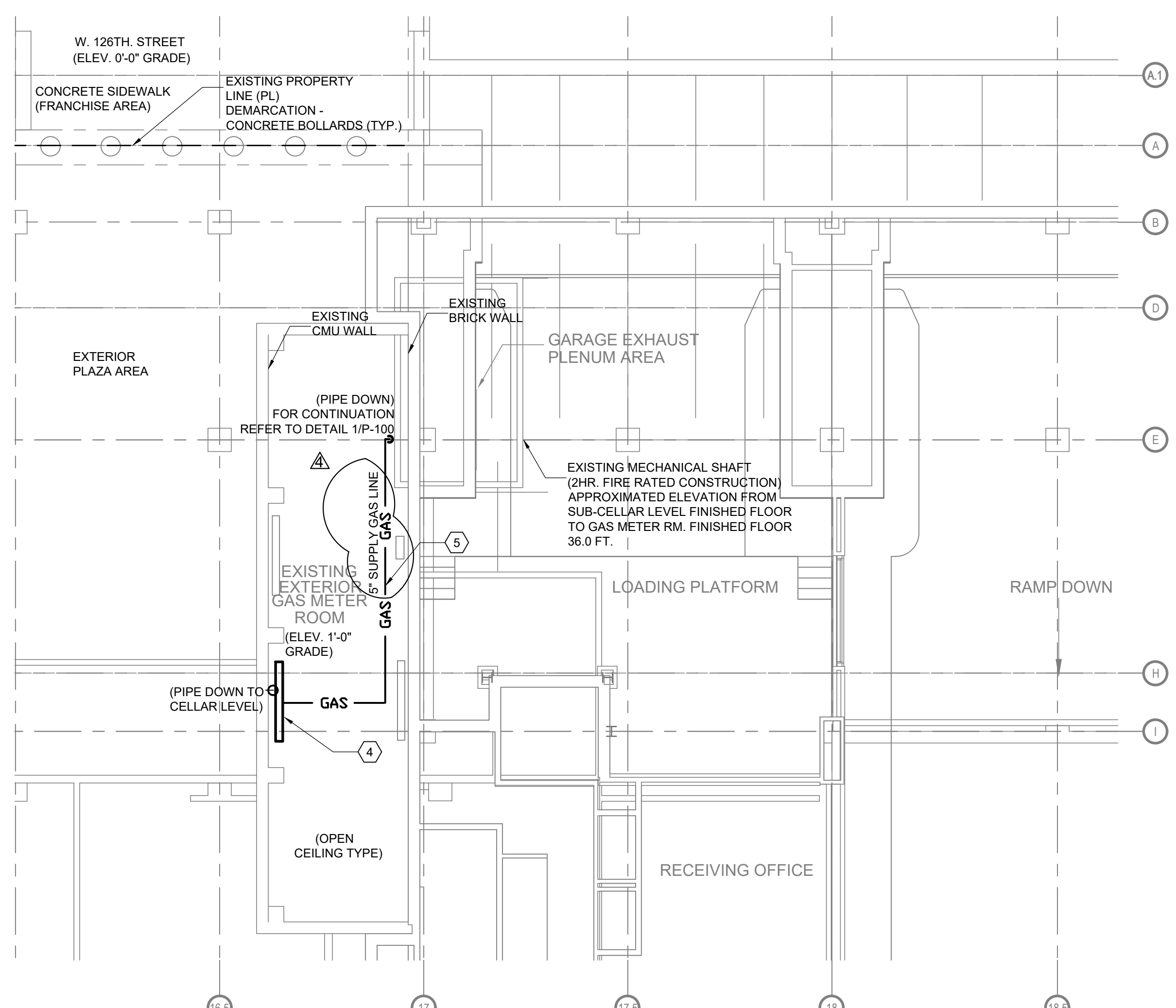
4
P-099
SCALE: NONE

EXISTING GAS METER ROOM - PHOTOGRAPHIC REF.



2
P-099
1/8" = 1'-0"

PARTIAL CELLAR LEVEL PLAN - PLUMBING

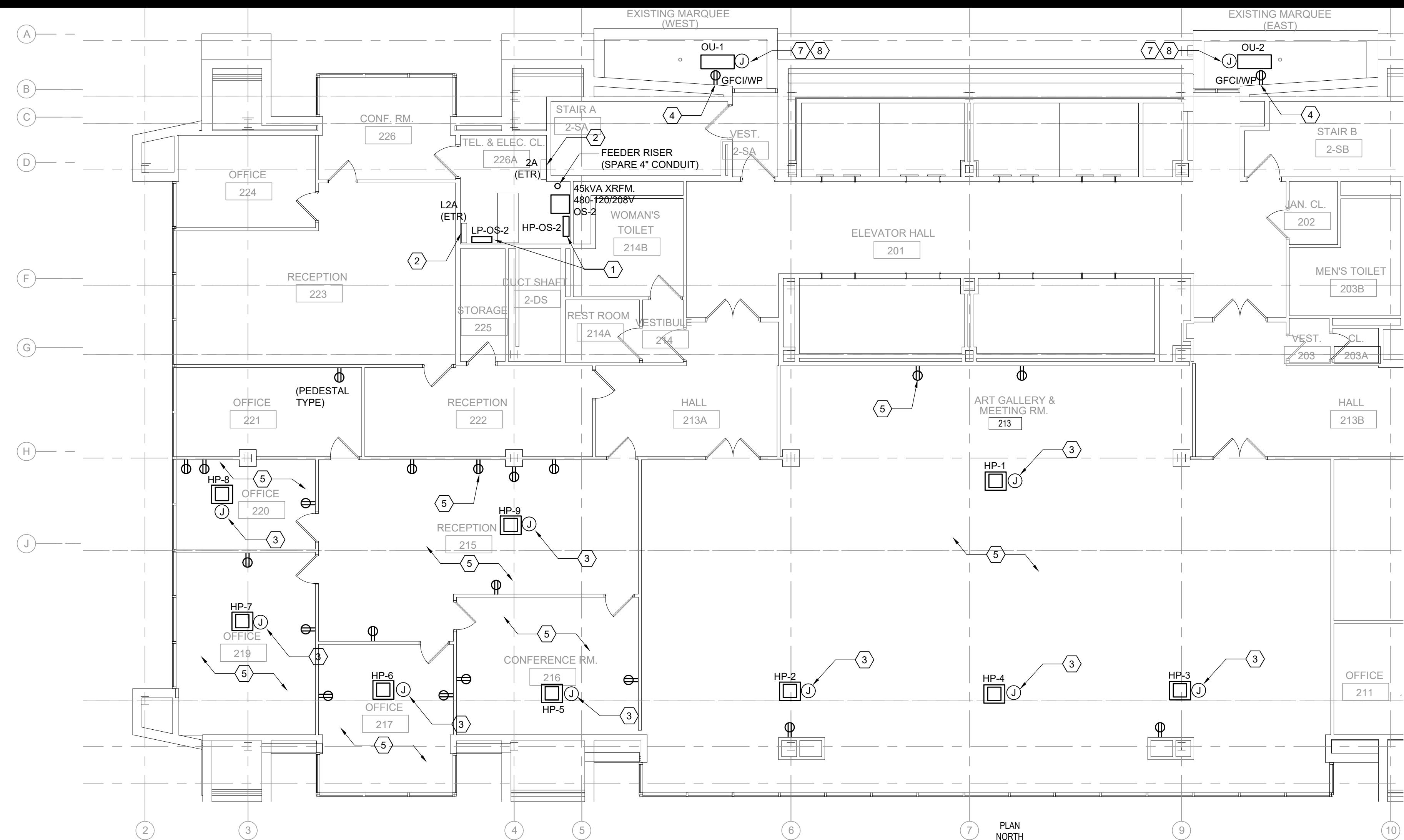


3
P-099
1/8" = 1'-0"

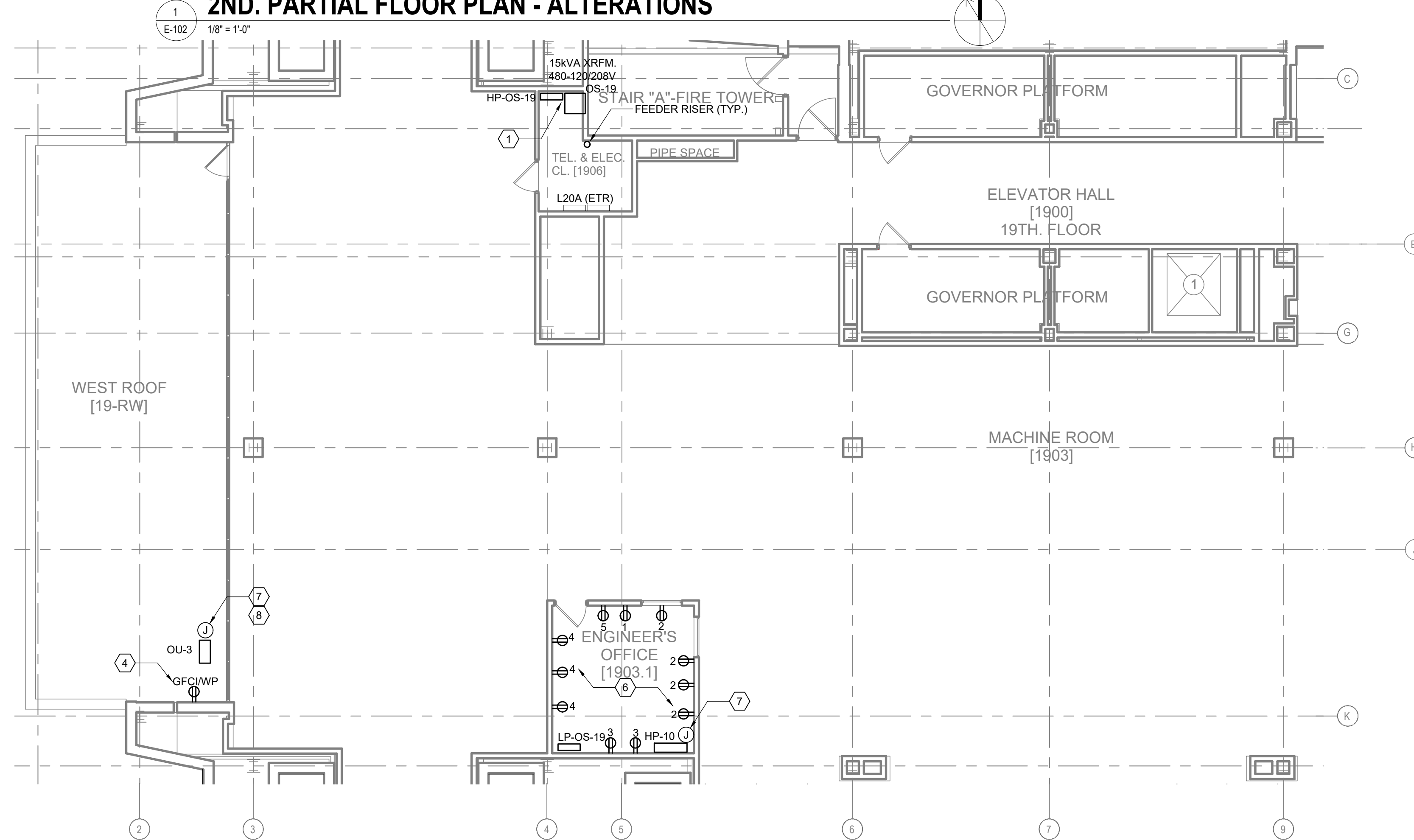
PARTIAL SITE PLAN - PLUMBING

REVISED DRAWING 09/20/2024

4	09/20/2024	ADDENDUM 4
	05/22/2024	BID DOCUMENT
MARK	DATE	DESCRIPTION
PROJECT NUMBER:	47328-P	
DESIGNED BY:	J.DIPASQUALE/A.PLAZOLA	
DRAWN BY:	A. DIAZ	
FIELD CHECK:		
APPROVED:	A. PLAZOLA	
SHEET TITLE:		
SUB-CELLAR, CELLAR AND SITE PARTIAL PLAN- ALTERATIONS		
DRAWING NUMBER:		
P-099		
SHEET 21 of 37		



2ND. PARTIAL FLOOR PLAN - ALTERATIONS



19TH. PARTIAL FLOOR PLAN - ALTERATIONS

ALTERATIONS GENERAL NOTES

- A. PROVIDE FIRE-STOPPING MATERIAL AT ALL FIRE RATED FLOOR AND WALL ASSEMBLY SYSTEMS, WHERE FIRE-STOPPING HAS BEEN REMOVED, RESTORE IN KIND, FIRE RATING IS 2HR.
- B. COORDINATE ALL EXISTING WALL AND FLOOR PENETRATIONS AS PART OF C-CONTRACT.
- C. EXAMINE ALL DRAWINGS AND SPECIFICATIONS AND COORDINATE WORK WITH ALL OTHER CONTRACTS/DISCIPLINES.
- D. REMOVE AND REINSTALL ACOUSTICAL TILES FOR THE INSTALLATION OF BRANCH CIRCUITS. REPLACE TILES THAT ARE DAMAGED IN THE PROCESS.
- E. MULTIPLE INDOOR UNITS ARE CONNECTED TO A SINGLE OUTDOOR UNIT(S) AS SHOWN. PROVIDE SINGLE POINT OF POWER CONNECTION TO OUTDOOR UNITS, UNLESS OTHERWISE DIRECTED.
- F. ALL CONDUITS AND CONDUCTORS BETWEEN INDOOR AND OUTDOOR UNIT(S), INCLUDING CONTROL WIRING, THERMOSTAT WIRING AND RACEWAYS, AS ALL TERMINATIONS AND CONNECTIONS BETWEEN THE OUTDOOR AND INDOOR UNITS ARE BY H-CONTRACT.

KEYNOTES - ALTERATIONS

- AS INDICATED BY: (#)
- 1. PROVIDE EQUIPMENT AS SHOWN. SURFACE MOUNT PANELBOARD AND CEILING MOUNT DRY TYPE TRANSFORMER, PROVIDE ALL SUPPORTS AND ANCHORING. REFER TO SINGLE LINE DIAGRAM AND PANELBOARD SCHEDULES. EXTEND CONDUIT(S) AND INCOMING FEEDER FOR CONNECTION AND TERMINATIONS. PROVIDE SECONDARY FEEDERS ACCORDINGLY.
 - 2.1 NORMAL LIGHTING CIRCUITS 1P-20AMP, 208/120V (TYPICAL); TRANSFER AND EXTEND CIRCUITS TO PANEL LP-OS-2 TO HAVE 100% LIGHTING UNDER OPTIONAL/STANDBY POWER.
 - 2.2 NORMAL RECEPTACLE CIRCUITS -1P-120V (TYPICAL OF 6); TRANSFER AND EXTEND CIRCUITS TO PANEL LP-OS-2.
 - 3. PROVIDE POWER CIRCUITRY TO CEILING MOUNT HEAT PUMP CASSETTE AND ASSOCIATED EXTERIOR CONDENSING/OUTDOOR UNIT(S), INCLUDING INTERFACED WIRING. REFER TO ELECTRICAL EQUIPMENT SCHEDULE FOR DETAILS.
 - 4. PROVIDE 120V WEATHERPROOF AND GFCI RECEPTACLE DEVICE (TYPICAL). RUN DEDICATED CIRCUITS, 2#10 AWG, 1-#10 GND IN 3/4" CONDUIT ORIGINATED FROM INDICATED PANELBOARDS IN SCHEDULES. COORDINATE WITH CONTRACTS C AND H. FIELD VERIFY FINAL ROUTE AND PROVIDE PENETRATIONS.
 - 5. TRACE AND SELECT EXISTING 120V CIRCUITS; DISCONNECT AND REPLACE EXISTING RECEPTACLE DEVICES (TYP. OF 20) AND FACEPLATES BY EMERGENCY TYPE (RED COLOR CODED, REFER TO SPEC. SECTIONS). IDENTIFY AND LABEL EACH RECEPTACLE AS "OPTIONAL/STANDBY EM POWER-CKT-#". FED FROM THE PANELBOARD "LP-OS-2". RECEPTACLE(S) SHOWN FOR REFERENCE PURPOSES. THESE LOADS/ASSOCIATED CIRCUITS HAVE BEEN RECLASSIFIED AS OPTIONAL/STANDBY POWER, COORDINATE WITH E-SERIES DRAWINGS. INTERCEPT AND CONVERT A TOTAL OF TWENTY (20) RECEPTACLES WITH A MINIMUM OF (2) DEVICES PER INDICATED ROOM OR SPACE.
 - 6. TRACE EXISTING CIRCUITS SERVING THE ENGINEER'S OFFICE. DISCONNECT AND REMOVE ALL 120V CIRCUITS FROM IDENTIFIED SOURCE (PANEL L20PA), INCLUDING RECEPTACLES, BOXES, EXPOSED RACEWAY WITHIN ROOM. PROVIDE NEW 120V CIRCUITS (MIN. #12 AWG) FROM NEW PANELBOARD LP-OS-19. PROVIDE NEW RECEPTACLE DEVICES AS EMERGENCY TYPE (RED COLOR CODED, REFER TO SPEC. SECTIONS). IDENTIFY AND LABEL EACH RECEPTACLE AS "OPTIONAL/STANDBY EM POWER-CKT-#". FED FROM PANELBOARD "LP-OS-19". PROVIDE ONE (1) 120V LIGHTING CIRCUIT TO EXISTING LED LIGHTS AND LIGHT SWITCH. THESE LOADS HAVE BEEN RECLASSIFIED AS OPTIONAL/STANDBY POWER, COORDINATE WITH E-SERIES DRAWINGS. EXISTING CEILING TO REMAIN AS IS.
 - 7. PROVIDE POWER CIRCUITRY TO EXTERIOR CONDENSING UNIT AND ASSOCIATED HEAT PUMP. FIELD VERIFY FINAL EXPOSED CONDUIT ROUTES AND FOLLOW REFRIGERANT PIPING PATHWAY(S). REFER TO ELECTRICAL EQUIPMENT SCHEDULE FOR DETAILS.
 - 8. PROVIDE CIRCUIT BREAKER(S) AND EM CIRCUITRY (MIN. #10AWG) TO SNOW-MELT PRODUCT. SELF-REGULATING HEATING CABLE AND ALL CONTROL WIRING PROVIDED BY H-CONTRACT.

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NUMBER 039212

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REGISTRATION EXPIRES: 12/31/2024

CONTRACT: ELECTRICAL

TITLE: REPLACE EMERGENCY GENERATOR

LOCATION: ADAM C. POWELL STATE OFFICE BLDG. 163 W 125TH ST NEW YORK, NY

CLIENT: OFFICE OF GENERAL SERVICES

MARK	DATE	DESCRIPTION
4	09/20/2024	ADDENDUM 4
1	09/09/2024	ADDENDUM 1
	05/22/2024	BID DOCUMENT

PROJECT NUMBER: 47328-E

DESIGNED BY: J.DIPASQUALE/A.PLAZOLA

DRAWN BY: A. DIAZ

FIELD CHECK:

APPROVED: A. PLAZOLA

SHEET TITLE: 2ND. AND 19TH. FLOORS PARTIAL PLAN- ALTERATIONS

DRAWING NUMBER: E-102

SHEET 33 OF 37

DESIGN & CONSTRUCTION

CONSULTANTS



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NYS CERTIFICATE OF AUTHORIZATION NUMBER 0012365

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REGISTRATION EXPIRES: 07/31/2026

CONTRACT:

ELECTRICAL

TITLE:
REPLACE EMERGENCY GENERATOR

LOCATION:
ADAM C. POWELL OFFICE BLDG.
163 W 125TH ST
NEW YORK, NY

CLIENT:
OFFICE OF GENERAL SERVICES

MARK	DATE	DESCRIPTION
4	09/20/2024	ADDENDUM 4
2	09/13/2024	ADDENDUM 2
1	09/09/2024	ADDENDUM 1
	05/22/2024	BID DOCUMENTS

PROJECT NUMBER: **47328-E**
DESIGNED BY: B. PETERS, P.E.
DRAWN BY: D. LYONS
FIELD CHECK:
APPROVED: D. OBRIST, P.E.

SHEET TITLE:
ELECTRICAL SINGLE LINE DIAGRAM - STANDBY SYSTEM

DRAWING NUMBER:
E-600

TRANSFORMER SCHEDULE

MARK	KVA	PRIMARY 480V DELTA 3 PHASE, 3 WIRE		SECONDARY 208/120V, 3 PHASE, 4 WIRE				GROUNDING ELECTRODE CONDUCTOR	SYSTEM BONDING JUMPER	SUPPLY SIDE EQUIP BONDING JUMPER		
		O/C PROT	FEEDER NO.*	FEEDER			CONDUIT SIZE					
				PHASE	NEUTRAL	CONDUIT SIZE						
T15	15	25/3**	3**	50/3	1	3-#6	1-#6	1-1/4"	1-#8	1/2"	1-#8	1-#8
T45	45	70/3**	7**	150/3	1	3-#1/0	1-#1/0	2"	1-#6	1/2"	1-#6	1-#6

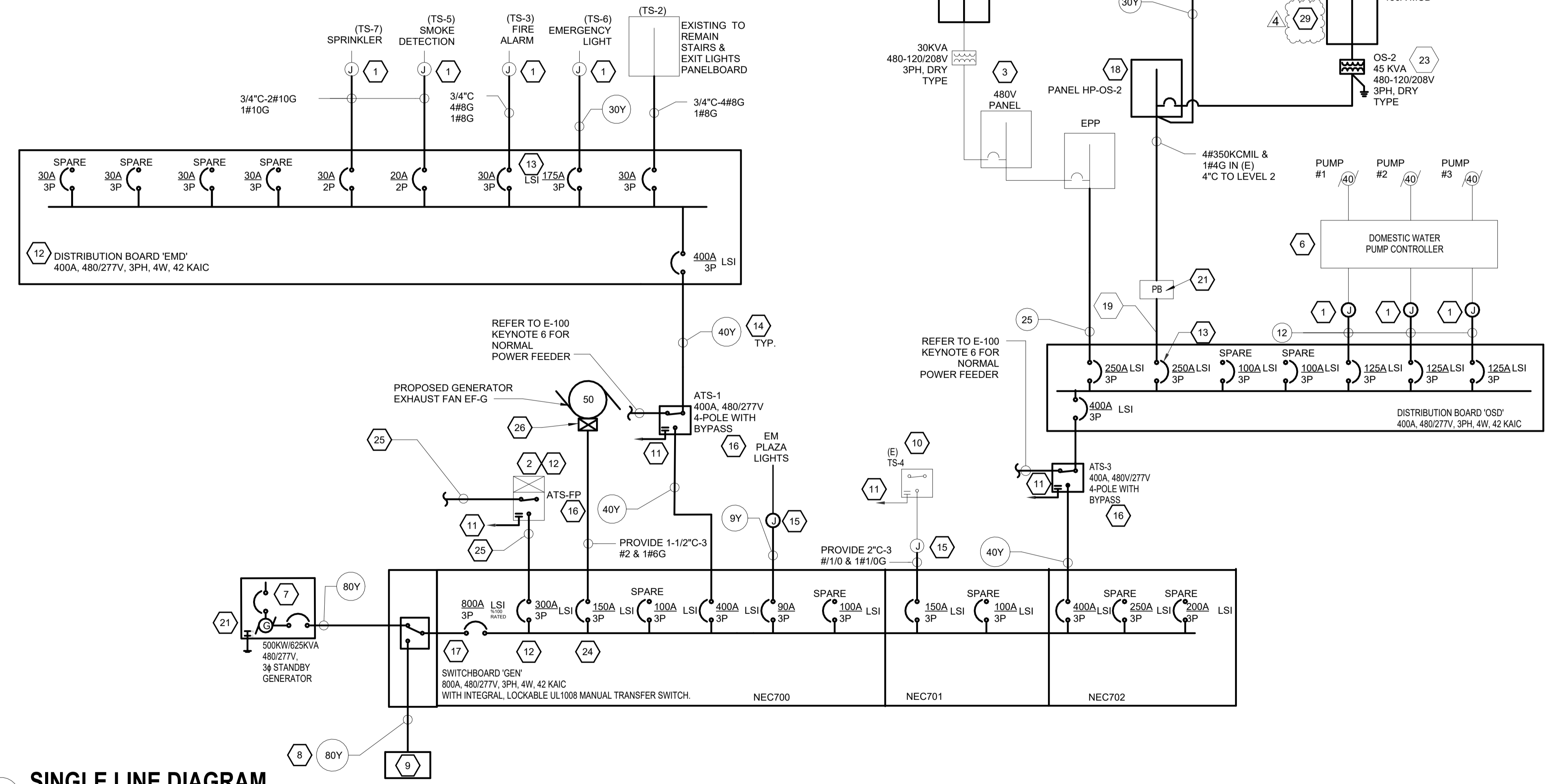
* REFER TO FEEDER SCHEDULE
** SQUARE D TRANSFORMERS MAY REQUIRE LARGER PRIMARY O/C PROTECTION AND FEEDER SIZE. CONSULT WITH MANUFACTURER PRIOR TO SUBMITTING SQUARE D.

FEEDER SCHEDULE

MARK	AMPACITY	NUMBER OF SETS	CONDUCTOR SIZES (AWG OR KCMIL)	NEUTRAL	EQ GND	CONDUIT SIZE
3	30	1	3-#10		1-#10	3/4"
3Y	30	1	3-#10	1-#10	1-#10	3/4"
7	70	1	3-#4		1-#8	1-1/4"
7Y	70	1	3-#4	1-#4	1-#8	1-1/2"
9	90	1	3-#2		1-#8	1-1/2"
9Y	90	1	3-#2	1-#2	1-#8	2"
12	125	1	3-#1		1-#6	2"
12Y	125	1	3-#1	1-#1	1-#6	2"
15	150	1	3-#1/0		1-#6	2"
15Y	150	1	3-#1/0	1-#1/0	1-#6	2"
22	225	1	3-#4/0		1-#4	2-1/2"
22Y	225	1	3-#4/0	1-#4/0	1-#4	3"
25	250	1	3-250		1-#4	3"
25Y	250	1	3-250	1-250	1-#4	3"
30	300	1	3-350		1-#4	3"
30Y	300	1	3-350	1-350	1-#4	4"
40	400	2	3-#3/0		1-#3	2-1/2"
40Y	400	2	3-#3/0	1-#3/0	1-#3	2-1/2"
80	800	3	3-300		1-#1/0	3"
80Y	800	3	3-300	1-300	1-#1/0	4"

- ALTERATIONS - KEYNOTES**
- INTERCEPT EXISTING CIRCUIT IN MAIN ELECTRICAL ROOM. IF APPLICABLE, TRANSFER SWITCH TO BE REMOVED SHOWN IN PARENTHESES.
 - FIRE PUMP/ATS CONTROLLER BY P-CONTRACT. PROVIDE ALL ELECTRICAL CONNECTIONS. REFER TO POWER PLANS FOR CONNECTIONS TO EXISTING 125 HP FIRE PUMP (230/480V, 95.0 KW, 60 HZ, 234/142 FLA), EXISTING 2 HP JOCKEY PUMP, AND EXISTING FIRE ALARM SYSTEM.
 - REFER TO POWER PLANS FOR CUTOVER INFORMATION FOR AC UNIT 1S4.
 - REFER TO POWER PLANS FOR BRANCH CKT CUTOVERS.
 - PROVIDE FEEDER AND HARDWIRED CONNECTION TO EXISTING SUPPLY FAN 10-S-8. REFER TO DRAWING E-103 FOR FEEDER SIZE.
 - EXISTING CONTROLLER ENSURES THAT ONLY ONE PUMP RUNS AT A TIME.
 - PROVIDE 100%-RATED 800A CIRCUIT BREAKER WITH INTERLOCK PER SPECIFICATIONS FOR 100%-RATED, RADIATOR-MOUNTED LOAD BANK AND SEPARATE 100%-RATED 800A CIRCUIT BREAKER TO SERVE LOAD.
 - PROVIDE START-STOP CIRCUITS FROM ATS-1, ATS-3, ATS-FP AND TS-4 COMBINED IN (1) 3/4" CONDUIT. MONITOR START-STOP WIRING CONDITION AND ENSURE THAT GENERATOR WILL RECEIVE SIGNAL TO START IN THE EVENT THAT CONTROL WIRING IS BROKEN, DISCONNECTED OR SHORTED.
 - UL-LISTED GENERATOR CONNECTOR CABINET: WALL-MOUNTED, 480/277V, 3PH, 4W, LONG BARREL COMPRESSION LUGS, MALE CAMLOCK CONNECTORS IN SECURITY CABINET WITH 20A TERMINAL STRIP FOR START-STOP CIRCUITS IN NEMA-3R IN-USE ENCLOSURE. BERTHOLD ELECTRIC COMPANY W-68-6-C-M-4-13 OR APPROVED EQUIVALENT. REFER TO SITE PLAN FOR LOCATION.
 - PROVIDE SOURCE 2 CONNECTION TO EXISTING 800A, 480V, 3-POLE ATS WITH BYPASS. COORDINATE CUTOVER TO GENERATOR WITH DIRECTOR'S REPRESENTATIVE AND ELEVATOR CONTRACTOR. SOURCE 1 AND LOAD FEEDERS ARE EXISTING TO REMAIN. PROVIDE 3/4" CONDUIT AND START-STOP CIRCUITS TO GENERATOR AND GENERATOR CONNECTOR CABINET.
 - PROVIDE WITH TRANSIENT VOLTAGE SURGE PROTECTION. REFER TO PANELBOARD SPECIFICATION. RECONNECT PANELBOARD TO EXISTING FEEDER. ASSUME 2"C-4#2 AWG.
 - 400A FRAME.
 - REFER TO FEEDER SCHEDULE.
 - INTERCEPT EXISTING CIRCUIT IN GENERATOR ROOM.
 - PROVIDE WITH METERING CAPABILITY PER SPECIFICATIONS.
 - PROVIDE WITH INTEGRAL WEAM SYSTEM FOR OCS MONITORING PER SPECIFICATIONS.
 - PROVIDE 150A, 480/277V, 3P PANELBOARD WITH DOUBLE LUGS AND MAIN BREAKER THAT CAN ACCOMMODATE 350 KCMIL.
 - PROVIDE 4" CONDUIT WITH CONDUCTORS TO EXISTING PULL BOX IN MAIN ELECTRICAL ROOM.
 - PROVIDE 100A, 480/277V PANELBOARD.
 - REFER TO KEYNOTE 6 ON DRAWING E-100.
 - BOND THE GROUND TO THE BUILDING'S EXISTING ELECTRODE SYSTEM PER NEC 250.52 AND NEC TABLE 250.66. BOND THE NEUTRAL TO GROUND TO PROVIDE A SEPARATELY DERIVED SYSTEM.
 - REFER TO TRANSFORMER SCHEDULE FOR CONDUIT, CONDUCTOR, AND GROUNDING INFORMATION.
 - PROVIDE ALERT AT GENERATOR ANNUNCIATOR PANELS FOR CIRCUIT BREAKERS IN OPEN POSITION.
 - PROVIDE 2-HOUR RATED FEEDER SYSTEM TO FIRE PUMP CONTROLLER. 4" UL-2196-COMPLIANT CONDUIT WITH 3#4/0 & 1#6 RHW-2 CONDUCTORS. WHERE ANY ADDITIONAL PULL POINTS ARE REQUIRED, PROVIDE SIMILARLY RATED CONDUIT BODIES BY SAME MANUFACTURER TO MAINTAIN 2-HOUR RATED FEEDER SYSTEM.
 - NEMA SIZE 3 STARTER, PROVIDED BY H-CONTRACTOR.
 - PROVIDE WIREWAY FOR TAP CONDUCTORS IN 10TH FLOOR ELECTRICAL ROOM.
 - PROVIDE TAP FEEDER ON LINE SIDE OF DISCONNECT SWITCH TO MATCH LOAD SIDE FEEDER. INSTALL DISCONNECT SWITCH WITHIN 25 FEET OF WIREWAY.
 - PROVIDE WITH TRANSIENT VOLTAGE SURGE PROTECTION. REFER TO PANELBOARD SPECIFICATION.

- ALTERATIONS GENERAL SHEET NOTES**
- PROPOSED WORK IN BOLD.
 - REFER TO POWER PLANS FOR NORMAL POWER FEEDERS AND CUTOVER LOCATIONS.
 - REFER TO REMOVAL FLOOR PLANS FOR LOCATIONS OF CIRCUITS AND FEEDERS TO BE REMOVED.
 - AVAILABLE FAULT CURRENT INDICATED ON SINGLE LINE DIAGRAM WHERE PRELIMINARY CALCULATIONS EXCEED 10 KAIC.
 - REFER TO TRANSFORMER SCHEDULE FOR TRANSFORMER INFORMATION.



SINGLE LINE DIAGRAM
NOT TO SCALE