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November 10, 2023

Univent Replacement at Farley Elementary School **SED No. 50-02-01-06-0-003-011**
Univent Replacement at Willow Grove Elementary School **SED No. 50-02-01-06-0-030-016**
MSA File No. 42052

NOTICE TO BIDDERS

Re: ADDENDUM NO. 1

THE FOLLOWING REVISIONS TO THE PROJECT MANUAL AND OR THE DRAWINGS REFERENCED HEREIN SHALL BECOME A PART OF THE CONTRACT DOCUMENTS AND SHALL SUPERSEDE ANY PRIOR OR CONFLICTING INFORMATION.

1) SEALED BIDS will be received until 2:00 P.M. in the office of facilities, on the 16th of November 2023, at the North Rockland Central School District, 65 Chapel Street, Garnerville, NY 10923, at which time and place they will be publicly opened and read. Faxed bids will NOT be accepted. Bids must be in sealed envelope(s) approximately labeled with the following label:
"Farley and Willow Grove HVAC Replacement – General Construction"
"Farley and Willow Grove HVAC Replacement – Electrical Construction"
"Farley and Willow Grove HVAC Replacement – Mechanical Construction"

2) Mechanical equipment has been ordered and will be paid for by the owner. It is the responsibility of the contractor to acquire and coordinate any missing equipment or components. The owner will provide equipment to the mechanical contractor. Attached are proposals from Trane for each school. These proposals are for the contractor's reference.

3) Attached are drawings regarding phasing for UV Replacement at Farley Elementary School. The drawings included are labeled with the following: CONSTRUCTION SEQUENCE PLAN.

4) Alternate No. 104 has been updated to state "Contractor to install one swing set and two add a swing kits with location to be determined in the field by owner. Swing set to be ADA GameTime – Powerscape Swing model number 81598. Add A Bay to be ADA Gametime – Powerscape Swing Add A Bay model number 81599. Swing set and Add A Bays will be provided to the contactor by the owner." Attached cut sheets have been provided for the contractor's reference. Drawing FES-A-000 Cover Sheet has been revised, dated 11-09-23, to reflect this change, see attached. Specification section 003000 Bid Form – General Construction, has been revised dated 11-09-23, to reflect this change, see attached. Specification section 012300 Alternates has been revised, dated 11-09-23, to reflect this change.

5) Alternate No. 204 has been updated to state "Contractor to install one swing set and two add a swing kits with location to be determined in the field by owner. Swing set to be ADA GameTime – Powerscape Swing model number 81598. Swing Add A Bay to be ADA Gametime – Powerscape Swing Add A Bay model number 81599. Swing set and Add A Bays will be provided to the contactor by the owner." Attached cut sheets have been provided for the contractor's reference. Drawing WGES-A-000 Cover Sheet has been revised, dated 11-09-23, to reflect this change, see attached. Specification section 003000 Bid Form – General Construction, has been revised dated 11-09-23, to reflect this change, see attached. Specification section 012300 Alternates has been revised, dated 11-09-23, to reflect this change.

6) Alternate No. 205 has been added to provide ¼" thick solid surface material at all UV's built into case work. Drawing WGES-A-000 has been revised, dated 11-09-23, to reflect this change, see attached. Drawing WGES-A-610 has been revised, dated 11-09-23, to reflect this change, see attached. Specification section 003000 Bid

Form – General Construction, has been revised dated 11-09-23, to reflect this change, see attached. Specification section 012300 Alternates has been revised, dated 11-09-23, to reflect this change.

7) Alternate No. 106 has been added to provide installation for a new canopy. Canopy to be provided to the contractor by the owner. Canopy model number RC201810IN. Attached cut sheets have been provided for the contractor's reference. The General Contractor shall include NYS P.E. signed and sealed drawings for footing design. Drawing FES-A-000 Cover Sheet has been revised, dated 11-09-23, to reflect this change, see attached. Specification section 003000 Bid Form – General Construction, has been revised dated 11-09-23, to reflect this change, see attached. Specification section 012300 Alternates has been revised, dated 11-09-23, to reflect this change.

8) Alternate No. 206 has been added to provide installation for a new canopy. Canopy to be provided to the contractor by the owner. Canopy to be model number RC201810IN. Drawing WGES-A-000 Cover Sheet has been revised, dated 11-09-23, to reflect this change, see attached. Specification section 003000 Bid Form – General Construction, has been revised dated 11-09-23, to reflect this change, see attached. Specification section 012300 Alternates has been revised, dated 11-09-23, to reflect this change.

9) Specification section 011200 Multiple Contract Summary has been revised, dated 11-09-23, see attached.

10) Drawing WGES-S-001 has been revised, dated 11-09-23, see attached. Revisions include updates to the foundation construction notes.

11) Drawing WGES-S-102 has been revised, dated 11-09-23, see attached. Revisions include removal of the chiller dunnage and replacement with a utility pad.

12) Drawing WGES-M-002 has been revised, dated 11-09-23, see attached. Revisions include updates to the chiller acoustic accessories schedule, the split system air conditioning unit schedule, and the cooling coil schedule.

13) Drawing WGES-M-003 has been revised, dated 11-09-23, see attached. Revisions include updates to the air handling unit schedule and coordination with Alternate No. 201.

14) Drawing WGES-E-105 has been revised, dated 11-09-23, see attached. Revisions include updates to the split system air conditioning unit.

15) Drawing WGES-E-400 has been revised, dated 11-09-23, see attached. Revisions include updates to the electrical panel schedules.

16) Drawing FES-S-102 has been revised dated, 11-09-23, see attached. Revisions include updates to the structural roof plans.

17) Drawing FES-M-003 has been revised dated, 11-09-23, see attached. Revisions include updates to the unit ventilator schedule and the ductless heat pump outdoor unit schedule.

18) Drawing FES-M-101 has been revised dated, 11-09-23, see attached. Revisions include updates to the drain piping and the refrigerant piping.

19) Drawing FES-M-102 has been revised dated, 11-09-23, see attached. Revisions include updates to the piping support.

20) Drawing FES-M-104 has been revised dated, 11-09-23, see attached. Revisions include updates to the drain piping and the refrigerant piping.

21) Drawing FES-M-105 has been revised dated, 11-09-23, see attached. Revisions include updates to Outdoor VRF Heat Recovery locations.

22) Drawing FES-M-502 has been revised dated, 11-09-23, see attached. Revisions include new details for rooftop condensate piping support and refrigerant piping detail.

23) Drawing FES-M-503 has been revised, dated 11-09-23, see attached. Revisions include removing details for rooftop condensate piping support and refrigerant piping detail. See Addendum No. 1, item 22.

24) Drawing FES-M-504 has been added to the drawing set, dated 11-09-23, see attached.

25) Drawing FES-E-101 has been revised dated, 11-09-23, see attached. Revisions include updates to the branch controller locations.

26) Drawing FES-E-102 has been revised dated, 11-09-23, see attached. Revisions include updates to the branch controller locations.

27) Drawing FES-E-104 has been revised dated, 11-09-23, see attached. Revisions include updates to the existing panel directories.

28) Drawing FES-E-105 has been revised dated, 11-09-23, see attached. Revisions include updates to the existing panel directories.

29) Drawing FES-E-400 has been revised dated, 11-09-23, see attached. Revisions include updates to the electrical one line diagram and schedule.

30) Drawing FES-E-408 has been revised dated, 11-09-23, see attached. Revisions include updates to the panel schedule.

31) With regard to the unit pricing for the 30ft of pipe and insulation, what is the size of the pipe? 3/4" – 1-1/2"?
Answer: Pipe and insulation to match existing sizes of current pipe and insulation.

32) Farley drawing M002 shows the RTU as being 132 tons and 350 CFM. Do you mean the RTU is a 3 ton?
Answer: RTU-1 and RTU-2 are 12 tons each. Each unit has a total CFM of 5,525 and 1,460 CFM outside air each.

33) How big are the splash blocks? Are they prefabricated or poured concrete.
Answer: The splash blocks are prefabricated. Standard units.

34) It is our understanding that the district has pre-ordered the chillers. Is the district paying for them or is the contractor paying for them? If the district is paying, as we would have to insure the chillers can we get the cost of them?
Answer: The district has pre-ordered and purchased the chillers and unit ventilators for this project. This mechanical equipment will be provided to the contractor by the owner.

35) It states that it is proprietary that we use Siemens Controls with no substitutions. As you know Siemens is not performing on your previous contract (a) Can we use another contractor or (b) If Siemens doesn't perform, we cannot be held liable as a contractor.
Answer: The district cannot accept substitutions. All mechanical equipment shall be connected to the Siemens BMS system. The district can help with scheduling meetings with Siemens.

36) On WGES-D-101 item D5, states it is scuttle for Alt 202. There is no Alt 202 on the bid form.
Answer: Alternate No. 202 is to refurbish existing plenum mounted HVAC unit and provide new access panels

and maintenance platforms for AHU-1 and AHU- 2. This alternate can be found on specification section 003001 M Bid Form – Mechanical.

37) Drawing WGES-A-600, detail 3/WGES-A-600 shows a note for alternate #1. There is no alternate #1 on the bid form.
Answer: Drawing WGES-A-600 has been revised, dated 11-10-23. 1/WGES-A-600 and 3/WHES-A-600 have been revised to state "Alternate 200 includes replacement of existing UV with new UV. Casement modification required for new UV's.

38) Is there any asbestos abatement in the General Construction, HVAC base bid or is the asbestos abatement to be carried in the HVAC allowance #104 only?
Answer: Allowance No. 104 is a hazardous materials removal. All allowances are part of the base bid work and should be accounted for in the mechanical contractor's base bid total. The mechanical contractor is the project coordinator and is responsible for retaining the abatement company. The mechanical contractor shall write in a total amount for abatement provided on specification section 003001 Bid Form – Mechanical, dated 11-09-23.

39) Please provide contact information for the Siemens BMS Controls Systems.
Answer: The district's main contact for the Siemens BMS Controls Systems is Kathleen Wescott. Phone number (973)-396-4052. Email: kathleen.wescott@siemens.com. A scoping meeting will be held with the low bidder, trane, and siemens prior to contract signing.

40) Please provide estimated budget for the mechanical scope for both schools (this is for bonding purposes).
Answer: The estimated budget for the mechanical scope of work for UV Replacement at Willow Grove Elementary School is $2,700,000. The estimated budget for the mechanical scope of work for UV Replacement at Farley Elementary School is $3,600,000.

41) Please advise if the mechanical scopes for both schools will require separate bid bonds or will one bid bond suffice?
Answer: A bid bond will be required for each school.

42) Detail 3/WGES-A-610 is for ¼" solid tops at UV tops. Clearly Alt 5 is for Farley and not Willow Grove. Are there any ¼" solid tops at Willow Grove? Or is it only Farley? Please advise.
Answer: Willow Grove will have ¼" solid surface material at all UV's built into case work. Please see Addendum 1, item 6.

END OF ADDENDUM NO. 1

Trane Omnia Equipment and Controls Proposal

Farley Elementary School

Proposal Prepared For:
North Rockland Central School District
65 Chapel St
Garnerville, NY 10923

Local Trane Office:
Trane U.S. Inc.
19 Chapin Road, Bldg B, Suite 200
Pine Brook, NJ 07058

Local Trane Representatives:
Stav Shadmi
System Sales Account Manager
Cell: (973) 303-8271

Michael Dunham
Applications Engineer
Cell: (862) 235-5122

Omnia Contract Number: B6-uZ0AAK-23-006

Date: November 09, 2023

Prepared For:
North Rockland CSD

Job Name:
North Rockland CSD Farley ES Univent Replacement

Delivery Terms:
Freight Allowed and Prepaid - F.O.B. Factory

Date: November 09, 2023

Proposal Number: B6-240761-22761-1
CRM Number: 7515393

Engineer: GPI Engineering

Payment Terms: Net 30 Days

Trane U.S. Inc. is pleased to provide the following proposal for your review and approval.

This Scope of Work will be executed based on Trane's scope of work proposed herein, which is a clarification of the plans and specifications, and adheres to Trane's "Standard Contract Terms and Conditions" only; any other document and/or contract will not bind and/or supersede these conditions.

This proposal has been developed from the following documentation:

- Plans and Specs prepared by: Greenman Pederson, Inc.
- Mechanical drawings dated 9/14/23
- Specification sections: 230993, 230924, 230923
- Addendums: **Documents not provided to Trane at time of bid. All additional work as a result of these documents that is not listed below is not included from this bid.**
- Additional drawings reviewed: No additional documents provided to Trane at the time of this bid. All additional work as a result of these documents that is not listed below is not included from this bid.

Trane's pricing accounts for the following considerations:

- **Straight Time Labor**
- Trane's Electrical field installation will be performed by: **Union Electrical Contractor**
- Electrical Installation: Refer to Electrical Clarification section below
- **1 Year** parts and labor warranty against defects in material and workmanship on all new, Trane provided, field installed, DDC controllers and components.
- **24 Hours of Technician assistance for integration with the Siemens system.**
- **24 Hours of Commissioning Assistance of 3rd Party Commissioning Agent.**
- Project to be completed by **August 31, 2024**; escalation costs incurred after this date are not included and will be in addition to the Total Net Price(s) stated below. Added costs will depend upon the remaining scope identified at that time.

The following is Trane's scope of work:

1) TRANE BACNET GATEWAY EQUIPMENT:

a) **Trane will provide a BACnet gateway for integration into the existing Siemens Enterprise Level Building Management System. Siemens will be able to communicate with this system via BACnet/IP. Siemens will need to provide pricing to the district to integrate this system into their System.**

b) Trane to setup operator interface for proper interaction with the BAS. User workstation interface will be:
   i) **Owner furnished or provided by Siemens**

c) **Graphics to be provided by Siemens.**

2) ASSOCIATED MECHANICAL EQUIPMENT:

a) (2) Roof Top Units (Horizon) with factory mounted DDC controls. BAS will provide monitoring, control, and alarming of available points and field installation of the following devices:
   i. Room temperature sensor w/ humidity [wireless]
   ii. Return air temperature sensor

iii. CO2 sensor outdoor air [duct]
iv. Powered Exhaust fan interlock
    a. Building pressure sensor
v. Outdoor Airflow Measuring Station
vi. Exhaust Airflow Measuring Station
vii. Expansion DDC Device for Airflow Measuring Stations
viii. Communication bus [wireless – Field installed WCI]

b) **VRF System.** BAS will provide monitoring, control, and alarming of available points.
    i. Includes field installation of the following devices:
        a. CAT-6 Wiring to Centralized Controller. Trane will provide integration to the VRF Centralized Controller via BACnet/IP.
        b. Interlock to **(5)** Outdoor Air-Cooled Condensing Unit(s)

    ii. Low Voltage Daisy Chain Communication Wiring (16Ga TSP) to the following components:
        a. **(60 LEV Controller & 6 VRF Cassettes)** Indoor Unit(s)
        b. **(6)** Branch Controller(s)

    iii. Wiring to the following components associated with **each** (6 Cassettes) Indoor Unit:
        a. Space Thermostat [Furnished by manuf.]

c) (60) Unit Ventilators (UV-X) with factory mounted DDC controllers. BAS will provide monitoring, control, and alarming of available points and field installation of the following devices:
    i. Room temperature sensor [wireless] [stat guard]
    ii. **(1 per UV)** LEV Controller w/ 120V to 208 V Step Up Transformer
    iii. **(4 per UV)** VRF sensors per LEV Control Box. Each sensor shall be wired back to the LEV Control Box. This includes:
        1) **(2)** Air Thermistors
        2) **(2)** Refrigerant sensors
    iv. Interlock between LEV Control Box & UC600 Controller
    v. Hot water control valve whip wiring
    vi. (1) Condensate Pump UV-106 (furnished and installed by others)
    vii. Communication bus [wireless – Factory installed WCI]

3) PROJECT SPECIFIC NOT INCLUDED:

a) Existing Building Management System check out and testing. Testing to be provided by Siemens or others.
b) Graphics. Graphics will be provided by Siemens.
c) Upgrade of existing control systems.
d) Commissioning Assistance for commissioning agent.
e) All work associated with existing building equipment.
f) All work associated with the existing Building Management System.
g) Integration into existing Building Management System. Work to be provided by Siemens.
h) All work associated with pneumatics.
i) All work associated with demolition.
j) All work associated with Exhaust Fans. There is not enough information to properly price this work. All work to be provided by Siemens if this is required.

4) TRANE CLARIFICATIONS:

a) **Project Management, Design Engineering, Field Engineering, and Operator Training Labor:**
    i. Trane has included factory-trained Project Management, Project Engineering, and Field Technician labor required to deliver a functional control system as qualified in this proposal. Mechanical startup is not included unless otherwise specified above.
    ii. Trane to provide factory standard engineered control submittals including product data sheets, and associated mechanical system sequence of operations. Any additional modifications or formatting that is not in the plans and specification are not included in this proposal.
    iii. Project Management and field installation labor will be provided based upon project schedule and mechanical equipment field readiness.

iv. Trane has included an allowance, as stated above, for a field technician to assist the Balancing Contractor (BC) to connect their laptop for hydronic and air systems testing. This assistance includes helping the BC review the site, connect to the network and discover all devices. This assistance **DOES NOT** include a technician to work with the BC as they perform their work. The BC MUST possess their own laptop with a licensed copy of Trane balancing tool software. Contractor MUST provide Trane two weeks' notice for prior to scheduling. Trane will provide Time & Material billing based on published labor rates beyond the allotted allowance hours.

v. Trane to provide O&M manuals and as-built control submittal drawings upon completion of the project

b) **Electrical installation work clarifications:**

i. Trane has included 120 vac power wiring for **(0)** field mounted panels and electronic digital controllers in our scope of work. All other 120 vac end devices and panels are to be installed and wired by Division 26 Project Electrical Contractor, and **are not** included in this proposal.

ii. Trane is excluding power wiring of any kind (not listed above). Including but not limited to equipment, VAV boxes, DDC control panels and 120 vac control valve actuators

iii. BAS control wiring will be installed in EMT conduit in exposed mechanical spaces. For all other locations (i.e. ceilings and walls), wiring shall be installed with properly supported plenum rated cable outside of conduit.

iv. Outdoor control wiring shall be installed in galvanized rigid conduit or outdoor rated EMT that meets the National Electric Code requirements for the location of the project.

v. Trane has not included any labor associated with trenching required for underground conduits

vi. Trane electrical installation labor includes cleanup labor to ensure the work areas are clean of debris at the end of each working day. It has been assumed by Trane, the GC/CM for the project will be providing central collection areas for all project related debris.

c) **Warranty/Service Agreement**

i. Includes a one-year parts & labor warranty against defects in material & workmanship on all new, Trane provided, field-installed, DDC controllers and components. Warranty repair and replacement labor will occur during normal working hours.

ii. Warranty will end 18 months from shipment date or 12 months beginning with the date of beneficial use, whichever comes first.

iii. In the event of construction phasing of this project, each DDC system in a completed Phase will be warranted for 12 months, beginning with the date of beneficial use.

iv. BAS parts & labor warranty applies to field-installed controls only. Please refer to the equipment proposal for warranty coverage of the DDC controls factory supplied with the HVAC equipment.

v. Extended warranties are available upon specific requests

vi. Trane has not included an in-warranty service agreement within this proposal that includes Trane Intelligent Services, and/or Occupancy Adjustment visits to ensure proper operation during the warranty period described above.

d) **Clarifications:**

i. Trane is unable to release control submittals, order any materials or provide field labor until the tax determination for the project has been confirmed. If the project is exempt of taxes, Trane must be given appropriate state exempt forms at the onset of the project

ii. Trane will begin control submittals after the receipt of all approved Trane, non-Trane equipment submittals, and a detailed project schedule.

iii. Trane's BAS proposal and pricing is based upon Trane providing the HVAC equipment, with factory installed & tested controls, as described in this proposal. If non-Trane HVAC equipment is provided, Trane reserves the right to modify this proposal and subsequent pricing based upon the mechanical equipment being provided.

iv. Non-Trane systems being integrated to the BMS will come with the necessary material, labor and technical support to facilitate the integration to the BMS at no cost to Trane.

v. Trane has included our standard start-up and checkout labor practices for this project. Upon requiring coordination, documentation, and/or demonstration of systems performance to a designated Commissioning Agent Trane reserves the right to modify our pricing. A meeting is to be established to outline the method and documentation required for the commissioning work required.

e) **NOT Included:**

i. Providing, wiring, controlling or monitoring of any equipment/devices not included in the above scope

ii. Furnishing of PC or laptop computer for interface with BAS (refer to scope of work above).

iii. Electrical installation labor and material not included in the above scope.

iv. Interfacing to another BAS, to include any third party devices, software/hardware and any associated wiring and labor associated with integration
v. Startup, testing, troubleshooting or commissioning of equipment and devices not furnished by Trane. This includes miscellaneous control wiring provided by Trane for third party items
vi. Furnishing Variable Frequency Drives, starters, HOA switches, disconnects and/or associated electrical power wiring or integration.
vii. Installation of valves, dampers, pipe pressure taps, temperature sensor wells, pressure sensor/switch/transducer line sensor tubing and air flow measuring station
viii. Furnishing of control dampers
ix. Furnishing or installation of manufacturer supplied Boiler equipment, safeties, integral controls, gas train controls emergency shutoff switches, remote components and boiler circulating pumps control and associated wiring
x. Installation and furnishing of Boiler Safety Glass Shutdown and associated wiring
xi. Boiler combustion dampers, control and associated wiring
xii. Humidifier, Steam Generator, associated instruments, safety wiring and associated devices, utility piping, electrical power wiring, remote panel installation, or start-up labor
xiii. Stairwell pressurization control and any associated wiring
xiv. Air compressor and associated field devices with existing pneumatic system
xv. Sales Taxes
xvi. Alternate(s)/Add Alternate(s) are not included in the base scope
xvii. Fire, Smoke and/or Fire/Smoke dampers and any associated wiring
xviii. Exhaust Fans Dampers and associated wiring
xix. Smoke detectors; interface wiring with fire alarm system; smoke purge initiation
xx. Trenching required for underground conduit installation
xxi. Any cost associated with liquidated damages
xxii. Bid, Performance, or Payment Bonds
xxiii. Access doors
xxiv. Calibration certificates for any control devices
xxv. Demolition; excavation, roof penetrations; ceiling tile removal or replacement, cutting, patching and painting
xxvi. Checkout, repair, replacement or warranty of existing equipment
xxvii. Accelerated shipping costs
xxviii. Temporary, Standby or Overtime Labor; *All work figured to be done during normal working hours(7am to 3:30pm)*

Tag Data – Horizon – Outdoor Air Unit (Qty: 2)

Item	Tag(s)	Qty	Description	Model Number
A1	RTU-1, RTU-2	2	Horizon – Outdoor Air Unit	OADG012C1

Product Data – Horizon™ - Outdoor Air Unit (Revision 6)
All Units

Unit Voltage: 208-3-60
Airflow Confiuration: Vertical Discharge/Vertical Return
Indoor Coil Type: DX 6-Row
Reheat: Fin & Tube Modulating HGRH
Compressor: Digital Scroll-1st Circuit Only
Outdoor Coil Type: ASHP Fin & Tube
Heat Type – Primary: Electric – SCR Modulating
Heat Capacity – Primary: 60 kW
Supply Fan Motor Type: Direct Drive w/ Shaft Grounding Ring w/VFD
Exhaust Fan Motor Type: Direct Drive w/Shaft Grounding Ring w/VFD
Fan Piezo Rings: Supply & Exhaust Fan Piezo Rings/Taps
Unit Controls: Single Zone VAV – UC600
Building Interface: BACnet
Filter Options: MERV-8 prefilter, MERV 13 final filter
Damper Options: Modulating OA & RA Dampers w/Economizer
Exhaust Dampers: Gravity Dampers
Condenser Fan Options: Active (VFD) Head Pressure Low Ambient Control
Smoke Detector: Supply & Return Smoke Detector
Hailguards: Hailguards

Convenience Outlet: Convenience Outlet
Cooling Controls: Reliatel
Condensate Overflow Switch
2 Inch Double Wall Construction
Stainless Steel Drip Pan
Supply Discharge Air Sensor (Field Installed by Contractor)
2” Vibration Knockdown Isolation Curb with Rails (Field Installed and Assembled by Contractor)
5-year Compressor Warranty
Startup and 1st Year Labor Warranty by NJ Trane Service

NOT Included: Installation, rigging/receiving, refrigerant piping specialties, seismic restraints, adapter curbs, gas piping specialties, spare parts.

Tag Data - VUVE Unit Ventilator (UV) (Qty: 54)

Item	Tag(s)	Qty	Description	Model Number
B1	UV-750	47	Vertical Unit Ventilator	VUVE07500Z0
B2	UV-1000	6	Vertical Unit Ventilator	VUVE10000Z0

Product Data - VUVE Unit Ventilator (UV)
All Units

Vertical Unit Ventilator
115v/60hz/1ph
Return Air Front/Fresh Air back
DX Cooling with HW Heating
ECM
Non-Fused Disconnect Switch
Factory Installed Heating Control Valve
Double Deflection Grille
Modulating Outside Air Damper
UC400-B with Air-Fi Wireless Sensor
21.25" Depth
Insulated Front Panel
Deluxe Piping Package with Manual Circuit Setter
1" MERV 8 Filter
18-Inch extended piping cabinet for LEV Kit (Field Installed by Contractor)
Startup & 1st Year Labor Warranty by NJ Trane Service

NOT Included: Smoke detectors, crossover piping, wall sleeves, wall boxes, recessing flange, shelving, external vibration isolation, rigging/receiving, subbases, spare parts.

Tag Data - Horizontal Unit Ventilators (Qty: 6)

Item	Tag(s)	Qty	Description	Model Number
C1	UV-750	2	Horizontal Unit Ventilator	HUVC07510
C2	UV-1250	2	Horizontal Unit Ventilator	HUVC07510
C3	UV-2000	2	Horizontal Unit Ventilator	HUVC12510

Product Data - Horizontal Unit Ventilators
All Units

Horizontal Unit Ventilator
120 Volt/60 Hertz/1 Phase Power Supply

1 Row HW coil with 2 Row DX coil
UC400-B with Air-Fi Wireless Sensor
Modulating Outside Air Damper and Actuator
Fresh Air Ducted Upper Back, Return Air Bar Grille Bottom
Double Deflection Grille
Standard Access Panel with Safety Chain
Deluxe Piping Package with Manual Circuit Setter
1" MERV 8 Filter
Non-Fused Disconnect Switch
Factory Installed Heating Control Valve
Startup & 1st Year Labor Warranty by NJ Trane Service

NOT Included: Smoke detectors, crossover piping, wall sleeves, wall boxes, shelving, external vibration isolation, rigging/receiving, subbases, hanging accessories, spare parts.

Tag Data - VRF Outdoor Unit (Qty: 5)

Item	Tag(s)	Qty	Description	Model Number
D1	ACCU-1, ACCU-2	2	VRF Outdoor Unit (JV_ODU)	TURYE4323BN40AN
D2	ACCU-3.1	1	VRF Outdoor Unit (JV_ODU)	TURYE2163BN40AN
D3	ACCU-3.2, ACCU-4	2	VRF Outdoor Unit (JV_ODU)	TURYE2883BN40AN

Product Data - VRF Outdoor Unit
All Units

PH_KIT - Panel Heater Kit (Field Assembled and Installed by Contractor)
LAClg_KIT - Low Ambient Cooling Kit (Field Assembled and Installed by Contractor)

Item: D1 Qty: 2 Tag(s): ACCU-1, ACCU-2

TURYE4323BN40AN VRF Outdoor Unit
(TURYE2163AN40AN, TURYE2163AN40AN; twinning kit)

Item: D2 Qty: 1 Tag(s): ACCU-3.1

TURYE2163BN40AN VRF Outdoor Unit
(TURYE1203AN40AN, TURYE0963AN40AN; twinning kit)

Item: D3 Qty: 2 Tag(s): ACCU-3.2, ACCU-4

TURYE2883BN40AN – VRF Outdoor Unit
(TURYE1443AN40AN, TURYE1443AN40AN; twinning kit)

Tag Data - VRF Branch Controller (Qty: 8)

Item	Tag(s)	Qty	Description	Model Number
E1	BC-1	1	Main Branch Controller	TCMBM1012JA11N4
E2	BC-2	3	Sub-Branch Controller	TCMBS0108KB11N4
E3	BC-3	4	Main Branch Controller	TCMBM1016KA11N4

Product Data - VRF Branch Controller
Item: E1 Qty: 8 Tag(s): VRF Branch Controllers

TCMBM1012JA11N4 - 12 Port Branch Main Branch Controller
TCMBS0108KB11N4 - 8 Port Branch Sub-Branch Controller
TCMBM1016KA11N4 - 4 Port Accessory 16 Branch Main BC
BV58BBSI - Refrigerant Ball Valves
BV38BBSI - Refrigerant Ball Valves

Tag Data - VRF Indoor Unit (Qty: 6)

Item	Tag(s)	Qty	Description	Model Number
F1	FCU-1	6	VRF Cassette Indoor Unit	TPLFYP012FM140A

Product Data - VRF Indoor Unit
Item: E1 Qty: 6 Tag(s): IU-158A, IU-159A, IU-120, IU-128A, IU-128, FCU-128D

TPLFYP012FM140A – VRF Indoor Unit 4-Way Ceiling Cassette
TLP-18FAU - Ceiling Cassette Panel
TAR-40MAAU – Wired Remote Controller
TE-200A – Centralized Controller
TW-50A – Expansion Controller

Tag Data - Linear Expansion Valve Kit (Qty: 60)

Item	Tag(s)	Qty	Description
G1	LEV-1	32	Linear Expansion Valve Kit
G2	LEV-2	26	Linear Expansion Valve Kit
G3	LEV-3	2	Linear Expansion Valve Kit

Product Data - Linear Expansion Valve Kit
All Units

PAC-AH001-1 - LEV Controller

Item: G1 Qty: 32 Tag(s): LEV-1

PAC-LV48AC-1 – 4-ton nominal LEV kit

Item: G2 Qty: 26 Tag(s): LEV-2

PAC-LV24AC-1 – 2-ton nominal LEV kit

Item: G3 Qty: 2 Tag(s): LEV-3

PAC-LV96AC-1 – 8-ton nominal LEV kit

Proposal Clarifications and Exclusions:

- Proposal above does not include rigging and receiving of equipment. North Rockland CSD is responsible for receiving and unloading equipment.
- Proposal above does not include storage of equipment.
- Proposal above does not include extended warranties.
- Proposal above does not include stands, springs, rails, or pads for the VRF outdoor condensing units.
- Proposal above does not include shelving of any kind for the unit ventilators.
- Proposal above does not include VRF line sets. Refrigerant Piping is by the Installing Contractor.
- Proposal above does not include spare filters.
- Confirm Unit Ventilator Heating Control valve is 2 way or 3 ways prior to ordering.
- Installation of all equipment is to be provided by others.
- Please refer to the complete scope for additional exclusions per product type.

Warranty Clarifications:

- 1-year warranty stated in the scope above is from startup which is not to exceed 30 months from shipment.
- 5-year warranty stated in the scope above is from startup which is not to exceed 66 months from shipment.

Not Included: Control integration/wiring, smoke detectors, refrigeration tees, filter boxes, wind baffles, hail/snow guards, flow switches, secondary drain pans, secondary condensate overflow sensors, external condensate pumps (unless otherwise noted), disconnects, refrigerant piping specialties, hangers, refrigerant piping, hose kits/valves, insulation, isolation valves, additional refrigerant, roof rails or curbs, condensing unit mounting brackets, humidity sensors, external vibration isolation, rigging/receiving, spare parts, service labor, installation labor, LEV installation, LEV sensor installation, extended warranty, labor warranty.

Ductless Warranty/Technical Installation Support

A. Site Review by Ductless Technical Specialist
   1. Pre-construction meeting with Trane Ductless Technical Specialist required to review site conditions, installation requirements, best practices, and pre-startup requirements.
   2. At least (1) jobsite review during installation with Trane Ductless Technical Specialist required.
   3. Installing Contractor must provide updated piping layout required to complete the Diamond System Builder design file.
   4. Owner-Training by Trane Service Department is not included unless otherwise noted.

B. VRF City-Multi Start-Up Assistance by Ductless Technical Specialist
   1. **No start-up assistance included on Nv&P-Series Mini-Splits unless otherwise noted.**
   2. Trane will provide Ductless Technical Specialist to supervise Installing Contractor's start-up efforts.
   3. Installing Contractor MUST have technicians on-site to perform mechanical start-up under the supervision of Trane.
   4. Installing Contractor must contact Ductless Technical Specialist to schedule VRF Start-Up Supervision no less than 2 weeks before requested start-up date.
   5. Installing contractor must submit completed Component Location Sheet and Prestart Checklist to Ductless Technical Specialist no later than 3-days prior to requested start-up date.
   6. Installing Contractor must verify system installations meet Trane-Mitsubishi requirements including but not limited to service clearances, pressure tests, vacuum tests, electrical power to units, wiring/piping connections, and refrigerant charge prior to start-up.
   7. No installation labor will be completed by Trane personnel unless otherwise noted.
   8. City Multi and Nv&P-Series Service/Maintenance Tools not included unless otherwise noted.
   9. Any additional labor required from Trane to complete start-up procedure will be billed separately.

   Responsibilities of DTS at Assisted Start-Up:
      1. Start-Up/Commissioning Assistance completed through Maintenance Tool with Installing Contractor
      2. Update Diamond System Builder per marked-up as-built provided by Installing Contractor
      3. Population of TE-200/TW-50 (if applicable)

   Responsibilities of Installing Contractor at Assisted Start-Up:
      1. Electrical Testing on outdoor units
      2. Physical inspection of the outdoor units
      3. Troubleshoot indoor units if there is an issue
      4. Handling of additional refrigerant and adding of trim charge
      5. Setting addresses on indoor unit
      6. Performing of vacuum and pressure tests

C. Warranty
   1. VRF City-Multi Standard Warranty is 1 year parts, 7 year compressor from the time of startup. VRF City-Multi Extended 10-Year Parts/Compressor Warranty will be applied if the following requirements are met:
   2. **Installing Contractor is responsible for completion of Diamond System Builder warranty filing and final submission to METUS Extended Warranty Department.**
   3. Nv&P Series Standard Warranty is 5 year parts, 7 year compressor from the time of startup. Nv&P Series Extended 10-Year Parts/Compressor Warranty will be applied if the product is installed in a residential application and registered within 90 days of installation. See Nv-Series and P-Series Limited Warranty Policies for details.
   4. No labor warranty is included here unless otherwise noted. Please contact your Trane Account Manager for availability.

Supplementary Guidelines

A. Purchasing Contractor and/or Consulting Engineer must validate unit voltages, model numbers, quantities, required accessories, and unit configurations prior to order.
B. Consulting Engineer/Architect and Installing Contractor must approve equipment submittals and system design prior to order, including but not limited to all code/standard compliances, system application (heat pump vs. heat recovery), service clearances, refrigerant concentration compliance, load analysis, unit configuration, and installation requirements.
C. Outdoor condensing units must be installed on stands at a minimum height of 12". Ground installation or raised pads are not acceptable.
D. Insulation is required on all condensate piping and refrigerant piping including liquid lines, low pressure gas lines, and high pressure gas lines.
E. All M-Net Control Wiring must be 16AWG, 2-conductor, stranded, shielded cable (MA controllers allow 22-16AWG wire)
F. All BC-Controllers must have condensate drain line installed.
G. All Linear Expansion Valve kits require 208V/1ph power.
H. Additional units/accessories not included in the scope will be at an additional cost.

Trane Omnia Equipment and Controls Proposal

Willow Grove Elementary School

Proposal Prepared For:
North Rockland Central School District
65 Chapel St
Garnerville, NY 10923

Local Trane Office:
Trane U.S. Inc.
19 Chapin Road, Bldg B, Suite 200
Pine Brook, NJ 07058

Local Trane Representatives:
Stav Shadmi
System Sales Account Manager
Cell: (973) 303-8271

Michael Dunham
Applications Engineer
Cell: (862) 235-5122

Omnia Contract Number: B6-uZ0AAK-23-007

Date: November 09, 2023

Prepared For:
North Rockland CSD

Job Name:
North Rockland CSD Willow Grove ES Univent Replace

Delivery Terms:
Freight Allowed and Prepaid - F.O.B. Factory

Date: November 09, 2023

Proposal Number: B6-240762-22693-3

Payment Terms: Net 30 Days

Trane U.S. Inc. is pleased to provide the following proposal for your review and approval.

This Scope of Work will be executed based on Trane's scope of work proposed herein, which is a clarification of the plans and specifications, and adheres to Trane's "Standard Contract Terms and Conditions" only; any other document and/or contract will not bind and/or supersede these conditions.

Building Automation System

This proposal has been developed from the following documentation:

- Plans and Specs prepared by: **Greenman Pederson, Inc.**
- Mechanical drawings dated 9/14/23
- Specification sections: 230993, 230924, 230923
- Additional drawings reviewed: No additional documents provided to Trane at the time of this bid. All additional work as a result of these documents that is not listed below is not included from this bid.

Trane's pricing accounts for the following considerations:

- **Straight Time Labor**
- Trane's Electrical field installation will be performed by: **Union Electrical Contractor**
- Electrical Installation: Refer to Electrical Clarification section below
- Trane has included our standard controls start-up and checkout labor practices for this project. In addition, Trane has included training, commissioning assistance, and balancing assistance hours stated below. Any time above and beyond must be purchased separately on a T&M basis upon request.
    - **Integration Assistance to Siemens Enterprise Level Building Management System [hours]: 40**
    - Training [hours]: **8**
    - Commissioning Assistance [hours]: **40**
    - Balancing Assistance [hours]: **4**
    - *****Assistance only: Trane Excludes provision of commissioning or balancing agents.**
- **1 Year** parts and labor warranty against defects in material and workmanship on all new, Trane provided, field installed, DDC controllers and components.
- Project to be completed by **August 31, 2024**; escalation costs incurred after this date are not included and will be in addition to the Total Net Price(s) stated below. Added costs will depend upon the remaining scope identified at that time.

The following is Trane's scope of work:

1) TRANE BUILDING AUTOMATION SYSTEM (BAS) FRONT-END EQUIPMENT:

a) **System Level Controller(s) (Trane Tracer SC+) -** Trane to furnish and install system level controller(s) for interaction with the BAS. They will be provided with a web-based communication interface for remote communications by the Owner or Trane field personnel. The Tracer SC+ provides the ability to access the BAS from any standard PC, laptop, or smartphone using standard Web browser software (i.e. Internet Explorer or Google Chrome) and is password protected to ensure authorized access. The Owner is to provide the Local

Area Network or internet connection within 10 feet of the Tracer SC+ panel(s), and a static IP address. **All charges for Internet use to be provided by the Owner and are not included in this proposal.**

NOTE: Siemens will need to provide pricing to the district to integrate this system into their Enterprise Level Building Management System.

b) **Wireless Network -** Trane to furnish and install Wireless Coordinator access points directly connected to the system level controller. WCIs will communicate BACnet wirelessly to individual Direct Digital Controllers throughout the building.

c) Trane to setup operator interface for proper interaction with the BAS. User workstation interface will be:
   i) **Owner furnished**

d) **New Graphics -** Operator interface graphics will be generated for each mechanical system identified below in our scope of work. Operator graphics shall include standard 3-D mechanical system and/or custom floor plan graphics for review of control variables, set points, and alarms. BAS floor plan graphic development is dependent upon Trane receiving completed floor plan drawings in either AutoCAD or PDF formats.

2) ASSOCIATED MECHANICAL EQUIPMENT:

a) (1) Field installed DDC controller to monitor and control Chilled Water System (CH-1). Field installation to include (Shown on mechanical drawing M-401):
   i. Trane Programmable DDC controller
   ii. (1) Chilled water supply temperature sensor
   iii. (1) Chilled water return temperature sensor
   iv. (2) Chilled water differential pressure sensor located 2/3 downstream
   v. (2) Chilled water pump (CHWP-1, 2) control, field installation to include:
      a. Enable/Disable
      b. Status
      c. VFD Speed control
      d. VFD Alarm status
   vi. Communication bus [wired – BACnet]

b) (1) Field installed DDC controller to monitor and control Chilled Water System (CH-2). Field installation to include (Shown on mechanical drawing M-401):
   i. Trane Programmable DDC controller
   ii. (1) Chilled water supply temperature sensor
   iii. (1) Chilled water return temperature sensor
   iv. (2) Chilled water differential pressure sensor located 2/3 downstream
   v. (2) Chilled water pump (CHWP – 3,4) control, field installation to include:
      a. Enable/Disable
      b. Status
      c. VFD Speed control
      d. VFD Alarm status
   vi. Communication bus [wired – BACnet]

c) (2) Interface to Air Cooled Chiller (CH-1, 2) with factory mounted DDC controls. BAS will provide monitoring, control, and alarming of points made available by manufacturer.

d) (1) Field installed DDC controller to monitor and control Boiler System. Field installation to include
   i. Trane programmable DDC Controller
   ii. Outside air humidity sensor
   iii. Outside air temperature sensor
   iv. (2) Heating water supply temperature sensor
   v. (3) Heating water return temperature sensor
   vi. (1) Heating water differential pressure sensor located 2/3 downstream
   vii. (2) Heating water mixing valve, 3-Way
   viii. (1) Unit heater control, to include:
      a. Space temperature sensor [wired]
      b. Fan Start/Stop
      c. Hot water control valve

ix. (1) Combustion air damper interlock wiring (damper to remain)
x. (8) Heating water pump control, to include:
    a. Start/Stop
    b. Status
    c. VFD Speed
    d. VFD General alarm
xi. Boilers control panel to include (Typical of (1) control panels)):
    a. Boiler panel enable
    b. Boiler status
    c. Boiler alarm
    d. Interlocking of Control panel to (2) Boilers
xii. Wiring of miscellaneous Boiler manufacturer furnished field installed control devices to Boiler Control Panel:
    a. Outside Air Temp
    b. (2) Hot Water Temperature Sensors
xiii. Communication bus [wired – BACnet]

a) (1) Air Handling Units (AHU-20) with factory mounted DDC controls. BAS will provide monitoring, control, and alarming of available points and field installation of the following devices:
    i. Space Temperature Sensor [wireless]
    ii. Return air temperature sensor
    iii. Discharge Air Temperature Sensor
    iv. Hot water control valve
    v. Chilled water control valve
    vi. Return smoke detector status (Furnishing and installation Smoke detectors is by others)
    vii. Communication bus [wired – BACnet]

e) (5) Air Handling Units (AHU-X, 1 (on lower level serving band room), 2 & 6 (in elevator machine room)) with field mounted DDC controls. BAS will provide monitoring, control, and alarming of available points and field installation of the following devices:
    i. Trane DDC Controller
    ii. Supply Fan Start/ stop & Status
    iii. Mixed Air Damper [reuse existing]
    iv. Room temperature sensor [wired]
    v. Discharge air temperature sensor
    vi. Return air temperature sensor
    vii. Return air humidity sensor
    viii. Hot water control valve
    ix. Return smoke detector status [reuse existing]
    x. Reterminate DX Condenser interlock
    xi. Communication bus [wired – BACnet]

f) **VRF System.** BAS will provide monitoring, control, and alarming of available points.
    i. Includes field installation of the following devices:
        a. CAT-6 Wiring to Centralized Controller. Trane will provide integration to the VRF Centralized Controller via BACnet/IP.
        b. Interlock to **(5)** Outdoor Air-Cooled Condensing Unit(s) (**Daisy chain Outdoor units to VRF Centralized controller)**

g) **(5) Cooling Coils**. BAS will provide monitoring, control, and alarming of available points in addition to all field installed devices listed below.
    i. (5) LEV Controller with Transformer
    ii. **(5)** LEVs Valves (On DX Coil)
    iii. **(4)** VRF sensors per LEV Control Box. Each sensor shall be wired back to the LEV Control Box.This includes:
        1) **(2)** Air Thermistors
        2) **(2)** Refrigerant sensors
    iv. Interlock between LEV Control Box & UC600 Controller **[AHU 3,4,5,7,8 DDC below]**
    v. Communication wiring from VRF Kit to Remote Condensing Unit (ACCU)

LEV Controllers to have communication daisy chained to VRF Centralized Controller

h) (5) Air Handling Units (AHU-3, 4, 5, 7, 8) with field mounted DDC controls. BAS will provide monitoring, control, and alarming of available points and field installation of the following devices:
   i. Trane DDC Controller
   ii. Supply Fan Start/ stop & Status
   iii. Mixed Air Damper [reuse existing]
   iv. Room temperature sensor [wired]
   v. Discharge air temperature sensor
   vi. Discharge air temperature sensor [downstream of external cooling coil]
   vii. Return air temperature sensor
   viii. Return air humidity sensor
   ix. Hot water control valve
   x. Return smoke detector status
   xi. Communication bus [wired – BACnet]

i) (2) Air Handling Units (AHU-1, 2) **[in hallways]** with field mounted DDC controls. BAS will provide monitoring, control, and alarming of available points and field installation of the following devices:
   i. Trane DDC Controller
   ii. Supply fan
      a. Start/ stop
      b. Status
      c. VFD Speed
   iii. Dirty Filter Switch
   iv. Discharge air temperature sensor
   v. Return air temperature sensor
   vi. Mixed air temperature sensor
   vii. Preheat air temperature sensor
   viii. Freezestat
   ix. Hot water control valve
   x. Chilled water control valve
   xi. Duct static pressure sensor
   xii. High Limit Static Shutdown
   xiii. Mixed Air Damper actuator
   xiv. Exhaust Air Damper actuator
   xv. Outside Air Damper actuator
   xvi. Supply, Return and Outdoor Air Flow Monitoring Station
   xvii. Return smoke detector status (Furnishing and installation Smoke detectors is by others)
   xviii. Communication bus [wired – BACnet]

j) (50) Unit Ventilators (UV-X) with factory mounted DDC controllers. BAS will provide monitoring, control, and alarming of available points and field installation of the following devices:
   i. Room temperature sensor [wireless] [stat guard]
   ii. Hot water control valve
   iii. Chilled water control valve
   iv. Communication bus [wireless – Factory installed WCI]

k) (8) Fan Coil Units (FCU) with field mounted DDC controllers. BAS will provide monitoring, control, and alarming of available points and field installation of the following devices:
   i. Trane DDC Controller
   ii. Room temperature sensor [wireless]
   iii. Supply Fan Start/ stop and Status
   iv. Hot water control valve
   v. Chilled water control valve
   vi. Discharge Air Temperature Sensor
   vii. (1 total) FTR Valve to FCU in Band Office
      a. (1) Wired Space Temperature Sensor
   viii. Communication bus [wireless – Field installed WCI]

l) (17) Terminal Reheat VAV Boxes units with factory mounted DDC controllers. BAS will provide monitoring, control, and alarming of available points, and field installation of the following devices:

i. Room temperature sensor [wireless]
ii. Discharge air temperature sensor
iii. Hot water control valve
iv. (16) Fin tube radiation control valve
    a. (1) Wired room temperature sensor to V-01
v. Communication bus [wireless – Factory installed WCI]
vi. Electrical 120 vac power provided by Project Electrical Contractor

m) (23) Cabinet Unit Heaters (CUH) and (1) Unit Heater (UH) with field retrofit installed DDC controller, BAS will provide monitoring, control, and alarming available points. Field installation of the following devices:
    i. Trane DDC Controller
    ii. Space sensor[wireless]
    iii. Supply Fan Start/ stop and Status
    iv. Hot water control valve
    v. Discharge Air Temperature Sensor (not needed for UH)
    vi. Communication bus [wireless – Field installed WCI]

n) (31) Exhaust fan (EF-x) control to include Start/Stop control and Status monitoring. Installation of the following
    i. (7) Trane DDC Controller and enclosure
    ii. (31) Exhaust fans
        a. Start/ stop
        b. Status
    iii. Communication bus [wireless – Field installed WCI]

o) (4) Field DDC Controllers for (14) FTR Valves, field installation of:
    i. (4) Trane DDC Controller
    ii. (14) FTR Valves
    iii. (4 [1 per DDC]) Space Sensors [Wireless]
    iv. (10) Space Sensors [wired]
    v. Communication bus [wireless – Field installed WCI]

p) BACnet / Modbus Interface / Integration to third party systems. **Communication bus wired to each for monitoring and alarming only. No control to be provided for these systems.**
    i. Fuel Oil Transfer Unit
    ii. Fuel Oil Tank Gauging System

3) PROJECT SPECIFIC NOT INCLUDED:

a) Existing Building Management System check out and testing. Testing to be provided by others.
b) Upgrade of existing control systems.
c) All work associated with existing building equipment that is not listed above.
d) All work associated with pneumatics, including demolition.
e) All work associated with demolition.
f) Integration into existing Building Management System. Work to be provided by Siemens.
g) Furnishing and installation of any devices and wiring for the Fuel Oil System. Trane believes that this is existing to remain and is only providing new communication wiring to the Fuel Oil Transfer Unit and Fuel Oil Tank Gauging System. Trane is providing monitoring and alarming only.

4) TRANE BUILDING AUTOMATION SYSTEM (BAS) CLARIFICATIONS:

a) **Project Management, Design Engineering, Field Engineering, and Operator Training Labor:**
    i. Trane has included factory-trained BAS Project Management, Project Engineering, and Field Technician labor required to deliver a functional control system as qualified in this proposal. Mechanical startup in not included unless otherwise specified above.
    ii. Trane to provide factory standard engineered control submittals including product data sheets, and associated mechanical system sequence of operations. Any additional modifications or formatting that is not in the plans and specification are not included in this proposal.
    iii. Project Management and field installation labor will be provided based upon project schedule and mechanical equipment field readiness.
    iv. Trane has included an allowance, as stated above, for a field technician to assist the Balancing Contractor (BC) to connect their laptop for hydronic and air systems testing. This assistance includes helping the BC review the site, connect to the network and discover all devices. This assistance **DOES**

NOT include a technician to work with the BC as they perform their work. The BC MUST possess their own laptop with a licensed copy of Trane balancing tool software. Contractor MUST provide Trane two weeks' notice for prior to scheduling. Trane will provide Time & Material billing based on published labor rates beyond the allotted allowance hours.

v. Trane to provide O&M manuals and as-built control submittal drawings upon completion of the project
vi. BAS Operator training allowance included as stated above. Additional training support hours are available on a T&M basis upon request. Training to be completed within (3) month of system acceptance.

b) **Electrical installation work clarifications:**

i. Trane has included 120 vac power wiring for **(0)** field mounted panels and electronic digital controllers in our scope of work. All other 120 vac end devices and panels are to be installed and wired by Division 26 Project Electrical Contractor, and **are not** included in this proposal.
ii. Trane is excluding power wiring of any kind (not listed above). Including but not limited to equipment, VAV boxes, DDC control panels and 120 vac control valve actuators
iii. BAS control wiring will be installed in EMT conduit in exposed mechanical spaces. For all other locations (i.e. ceilings and walls), wiring shall be installed with properly supported plenum rated cable outside of conduit.
iv. Outdoor control wiring shall be installed in galvanized rigid conduit or outdoor rated EMT that meets the National Electric Code requirements for the location of the project.
v. Trane has not included any labor associated with trenching required for underground conduits
vi. Trane electrical installation labor includes cleanup labor to ensure the work areas are clean of debris at the end of each working day. It has been assumed by Trane, the GC/CM for the project will be providing central collection areas for all project related debris.

c) **Warranty/Service Agreement**

i. Includes a one-year parts & labor warranty against defects in material & workmanship on all new, Trane provided, field-installed, DDC controllers and components. Warranty repair and replacement labor will occur during normal working hours.
ii. Warranty will end 18 months from shipment date or 12 months beginning with the date of beneficial use, whichever comes first.
iii. In the event of construction phasing of this project, each DDC system in a completed Phase will be warranted for 12 months, beginning with the date of beneficial use.
iv. BAS parts & labor warranty applies to field-installed controls only. Please refer to the equipment proposal for warranty coverage of the DDC controls factory supplied with the HVAC equipment.
v. Extended warranties are available upon specific requests
vi. Trane has not included an in-warranty service agreement within this proposal that includes Trane Intelligent Services, and/or Occupancy Adjustment visits to ensure proper operation during the warranty period described above.

d) **Clarifications:**

i. Trane is unable to release control submittals, order any materials or provide field labor until the tax determination for the project has been confirmed. If the project is exempt of taxes, Trane must be given appropriate state exempt forms at the onset of the project
ii. Trane will begin control submittals after the receipt of all approved Trane, non-Trane equipment submittals, and a detailed project schedule.
iii. Trane's BAS proposal and pricing is based upon Trane providing the HVAC equipment, with factory installed & tested controls, as described in this proposal. If non-Trane HVAC equipment is provided, Trane reserves the right to modify this proposal and subsequent pricing based upon the mechanical equipment being provided.
iv. Non-Trane systems being integrated to the BMS will come with the necessary material, labor and technical support to facilitate the integration to the BMS at no cost to Trane.
v. Trane has included our standard start-up and checkout labor practices for this project. Upon requiring coordination, documentation, and/or demonstration of systems performance to a designated Commissioning Agent Trane reserves the right to modify our pricing. A meeting is to be established to outline the method and documentation required for the commissioning work required.

e) **NOT Included:**

i. Providing, wiring, controlling or monitoring of any equipment/devices not included in the above scope
ii. Furnishing of PC or laptop computer for interface with BAS (refer to scope of work above).
iii. Electrical installation labor and material not included in the above scope.

iv. Interfacing to another BAS, to include any third party devices, software/hardware and any associated wiring and labor associated with integration
v. Startup, testing, troubleshooting or commissioning of equipment and devices not furnished by Trane. This includes miscellaneous control wiring provided by Trane for third party items
vi. Furnishing Variable Frequency Drives, starters, HOA switches, disconnects and/or associated electrical power wiring or integration.
vii. Installation of valves, dampers, pipe pressure taps, temperature sensor wells, pressure sensor/switch/transducer line sensor tubing and air flow measuring station
viii. Furnishing of control dampers
ix. Furnishing or installation of manufacturer supplied Boiler equipment, safeties, integral controls, gas train controls emergency shutoff switches, remote components and boiler circulating pumps control and associated wiring
x. Installation and furnishing of Boiler Safety Glass Shutdown and associated wiring
xi. Boiler combustion dampers, control and associated wiring
xii. Humidifier, Steam Generator, associated instruments, safety wiring and associated devices, utility piping, electrical power wiring, remote panel installation, or start-up labor
xiii. Stairwell pressurization control and any associated wiring
xiv. Air compressor and associated field devices with existing pneumatic system
xv. Sales Taxes
xvi. Alternate(s)/Add Alternate(s) are not included in the base scope
xvii. Fire, Smoke and/or Fire/Smoke dampers and any associated wiring
xviii. Exhaust Fans Dampers and associated wiring
xix. Smoke detectors; interface wiring with fire alarm system; smoke purge initiation
xx. Trenching required for underground conduit installation
xxi. Any cost associated with liquidated damages
xxii. Bid, Performance, or Payment Bonds
xxiii. Access doors
xxiv. Calibration certificates for any control devices
xxv. Demolition; excavation, roof penetrations; ceiling tile removal or replacement, cutting, patching and painting
xxvi. Checkout, repair, replacement or warranty of existing equipment
xxvii. Accelerated shipping costs
xxviii. Temporary, Standby or Overtime Labor; *All work figured to be done during normal working hours(7am to 3:30pm)*

Tag Data - Performance Climate Changer (CSAA) (Qty: 1)

Item	Tag(s)	Qty	Description	Model Number
A1	AHU-20	1	Performance Climate Changer (CSAA)	CSAA025UA

Product Data - Performance Climate Changer (CSAA)
Item: A1 Qty: 1 Tag(s): AHU-20

Unit level options
Indoor Unit
Unit size 25
All Unit Inner Panels – Galvanized
Doors – Both Sides
6 Inch Integral Base Frame
UL listed unit

Controls and VFD/starter
Variable Volume Control System
Symbio Microprocessor Controller
Supply fan VFD

Air mixing section (Pos #1)
Back Outside Air Damper
Bottom Return Air Damper

Filter section (Pos #2)
12 Inch Cartridge MERV 15 Filter (Field Installed by Contractor)
2 Inch Pleated MERV 8 Filter
Bag/Cartridge Filter Frame

Coil section (Pos #3)

Hot Water Heating Coil with Copper Tubes, Aluminum Fins, and Galvanized Steel Casing

Coil section (Pos #4)

Chilled Water Coil with Copper Tubes, Aluminum Fins, and Galvanized Steel Casing

Fan section (Pos #5)

Supply fan
Inverter balance with shaft grounding
VFD

Warranty

Startup & 1 Year Labor Warranty by NJ Trane Service

1. NOT Included: Disconnect, smoke detectors, valves, actuators, piping specialties, spare filters, external vibration isolation, seismic construction/accessories, rigging/receiving, installation, sheave changes, and spare parts.
2. Air handling unit is of modular construction and will ship in five sections.

Tag Data - Performance Climate Changer DX Coil Section (CSAA) (Qty: 5)

Item	Tag(s)	Qty	Description	Model Number
B1	CC-3	1	Performance Climate Changer (CSAA)	CSAA004UA
B2	CC-4	1	Performance Climate Changer (CSAA)	CSAA014UA
B3	CC-5	1	Performance Climate Changer (CSAA)	CSAA014UA
B4	CC-7	1	Performance Climate Changer (CSAA)	CSAA004UA
B5	CC-8	1	Performance Climate Changer (CSAA)	CSAA004UA

Product Data – Performance Climate Changer DX Coil Section Item

All Units

DX Duct Cooling Coil
LEV kits
R-410A Refrigerant
All Unit Inner Panels – Galvanized
2 Inch Double Wall Construction Foam Injected Panels
Galvanized Drain Pan
2.5 Inch Integral Base Frame
Doors – Both Sides Access
Controls/Sensors/End Devices – (Field Installed on Existing AHU by Trane Controls)

NOT Included: Heating section, fan section, filter section, duct connections, flanges, installation, rigging/receiving, refrigerant piping specialties, disconnect, bottom access, hanging accessories, unistrut, actuators, external vibration isolation, spare parts.

Tag Data - VUVE Unit Ventilator (UV) (Qty: 39)

Item	Tag(s)	Qty	Description	Model Number
C1	UV-750	4	Vertical Unit Ventilator	VUVE12500Z0
C2	UV-1000	2	Vertical Unit Ventilator	VUVE12500Z0
C3	UV-1250	28	Vertical Unit Ventilator	VUVE12500Z0
C4	UV-1500	5	Vertical Unit Ventilator	VUVE12500Z0

Product Data - VUVE Unit Ventilator (UV)

All Units

Vertical Unit Ventilator
115v/60hz/1ph
Return Air Front/Fresh Air Back
Chilled Water Cooling with Hot Water Heating
ECM
Non-Fused Disconnect Switch
2-Way Modulating Chilled Water Valve
3-Way Modulating Heating Valve
Double Deflection Discharge Grille
Modulating Outside Air Damper and Actuator
UC400-B with Air-Fi Sensor
21.25” Depth

Insulated Front Panel
Deluxe – Piping Package with Manual Circuit Setter Return
Auxiliary Drain Pan
1" MERV 13 Filter
Startup & 1st Year Labor by NJ Trane Service

NOT Included: Smoke detectors, crossover piping, wall sleeves, wall boxes, recessing flange, shelving, external vibration isolation, rigging/receiving, subbases, spare parts.

Tag Data - Horizontal Unit Ventilators (Qty: 10)

Item	Tag(s)	Qty	Description	Model Number
D1	UV-750	2	Horizontal Unit Ventilator	HUVC15010A
D2	UV-1250	2	Horizontal Unit Ventilator	HUVC15010A
D3	UV-1500	6	Horizontal Unit Ventilator	HUVC15010A

Product Data - Horizontal Unit Ventilators
All Units

Horizontal Unit Ventilator
120 Volt/60 Hertz/1 Phase Power Supply
Chilled Water Cooling and Hot Water Heating
UC400-B with Air-Fi Wireless Sensor
Modulating Outside Air Damper and Actuator
Fresh Air Ducted Upper Back, Return Air Bar Grille Bottom
Double Deflection Grille
Standard Access Panel with Safety Chain
Deluxe - Ball Valve Supply & Manual Circuit Setter Return
1" MERV 8 Filter
Non-Fused Disconnect Switch
2-Way Modulating Chilled Water Valve
3-Way Modulating Heating Valve
Startup & 1st Year Labor Warranty by NJ Trane Service

NOT Included: Smoke detectors, crossover piping, hanging accessories, wall sleeves, wall boxes, recessing flange, shelving, external vibration isolation, rigging/receiving, subbases, spare parts.

Tag Data - Variable Air Volume Single Duct Terminal Units (Qty: 18)

Item	Tag(s)	Qty	Description	Model Number
G1	V-12	8	Variable Air Volume Single Duct Terminal	VCCF12
G2	V-10	9	Variable Air Volume Single Duct Terminal	VCCF10
G3	V-08	1	Variable Air Volume Single Duct Terminal	VCCF08

Product Data - Variable Air Volume Single Duct Terminal Units
All Units

Single Duct VAV Cooling Only Terminal Unit
Foil Faced Insulation - 1" (25 mm)
UC400 DDC-Basic (cooling only)
MSTP Connection
Belimo Actuator
Air - Fi Wireless Sensor
Duct Temperature Sensor
120/24-Volt Transformer
Disconnect Switch
Power Fuse
Digital Display Zone Sensor (Field Installed)
1st Year Labor Warranty by NJ Trane Service

NOT Included: Attenuators, valves, hanging accessories, water piping specialties, external vibration isolation, rigging/receiving, spare parts, startup, service, additional warranty.

Tag Data - BRD – Acoustic Silencers (Qty: 3)

Item	Tag(s)	Qty	Description	Model Number
E1	CH-1	2	Hush Cover Removeable Acoustical Blankets	SC
E2	CH-2	1	Hush Guard/Duct Acoustical Silencers	SM-SB

Product Data – BRD – Acoustic Silencers

Item: E1 Qty: 1 Tag(s): CH-1

Hush Cover Removable Acoustical Blankets
Acoustical Barrier Cover
Complete Coverage of Screw Compressors and Extended Components
Cloth Straps Connection with D Ring and Velcro Fasteners
Stainless Steel Wire Tie Fastenings are Not Acceptable

Item: E2 Qty: 1 Tag(s): CH-2

Hush Guard Acoustical Panels
Hush Duct Acoustical Silencers

NOT Included: External vibration isolation, rails, seismic restraints, seismic certifications, spring deflection, installation, rigging/receiving, structural supports
NOTE: All assembly installation and rigging are done by the contractor. Trane is not including assembly and installation assistance whatsoever.

Tag Data - VRF Outdoor Unit (Qty: 5)

Item	Tag(s)	Qty	Description
F1	AC-3, AC-7, AC-8	3	VRF Outdoor Unit
F2	AC-4, AC-5	2	VRF Outdoor Unit

Product Data - VRF Outdoor Units

All Items

PAC-SPRFCS-118RCW – Filter Drier Kit (Field Installed by Contractor)
LAClg_KIT - Low Ambient Cooling Kit (Field Installed by Contractor)

Item: F1 Qty: 3 Tag(s): AC-3, AC-7, AC-8

TUHYE0963AN40AN - VRF Outdoor Unit

Item: F2 Qty: 2 Tag(s): AC-4, AC-5

TUHYE2403AN40AN - VRF Outdoor Unit

Tag Data - Linear Expansion Valve Kit (Qty: 7)

Item	Tag(s)	Qty	Description
E1	LEV-1	7	Linear Expansion Valve Kits

Product Data - Linear Expansion Valve Kit

Item: E1 Qty: 7 Tag(s): LEV-1

PAC-LV96AC-1 – 8-ton nominal LEV kit for DX Coil section (item B1-B5)
PAC-AH001-1 - LEV Controller
TE-200A – Central Controller

Proposal Clarifications and Exclusions:

- Proposal above does not include rigging and receiving of equipment. North Rockland CSD is responsible for receiving and unloading equipment.
- Proposal above does not include storage of equipment.
- Proposal above does not include extended warranties.
- Proposal above does not include cafeteria AHU installation, assembly or rigging of five modules. Contractor is responsible for full installation.
- Proposal above does not include installation, rigging or assembly of any of the acoustical chiller packages (Item E1-E2)
- Proposal above does not include stands, springs, rails, or pads for the VRF outdoor condensing units.
- Proposal above does not include shelving of any kind for the unit ventilators.
- Proposal above does not include VRF line sets.
- Proposal above does not include spare filters.
- Installation of all equipment is to be provided by others.
- Please refer to the complete scope for additional exclusions per product type.

Warranty Clarifications:

- 1-year warranty stated in the scope above is from startup which is not to exceed 30 months from shipment.
- 5-year warranty stated in the scope above is from startup which is not to exceed 66 months from shipment.

Not Included: Control integration/wiring, smoke detectors, refrigeration tees, filter boxes, wind baffles, hail/snow guards, flow switches, secondary drain pans, secondary condensate overflow sensors, external condensate pumps (unless otherwise noted), disconnects, refrigerant piping specialties, hangers, refrigerant piping, hose kits/valves, insulation, isolation valves, additional refrigerant, roof rails or curbs, condensing unit mounting brackets, humidity sensors, external vibration isolation, rigging/receiving, spare parts, service labor, installation labor, LEV installation, LEV sensor installation, extended warranty, labor warranty.

Ductless Warranty/Technical Installation Support

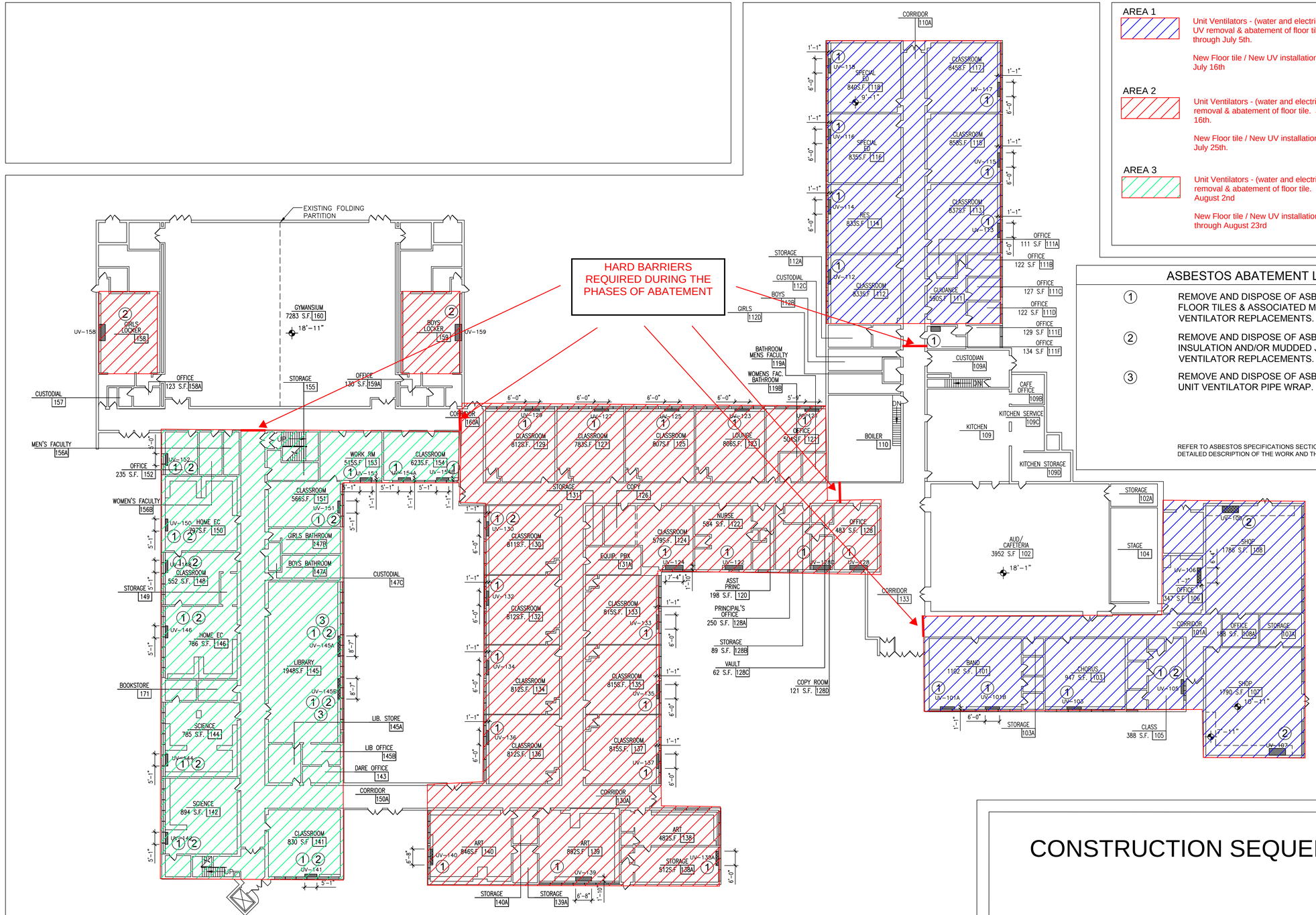
A. Site Review by Ductless Technical Specialist
   1. Pre-construction meeting with Trane Ductless Technical Specialist required to review site conditions, installation requirements, best practices, and pre-startup requirements.
   2. At least (1) jobsite review during installation with Trane Ductless Technical Specialist required.
   3. Installing Contractor must provide updated piping layout required to complete the Diamond System Builder design file.
   4. Owner-Training by Trane Service Department is not included unless otherwise noted.

B. VRF City-Multi Start-Up Assistance by Ductless Technical Specialist
   1. **No start-up assistance included on Nv&P-Series Mini-Splits unless otherwise noted.**
   2. Trane will provide Ductless Technical Specialist to supervise Installing Contractor's start-up efforts.
   3. Installing Contractor MUST have technicians on-site to perform mechanical start-up under the supervision of Trane.
   4. Installing Contractor must contact Ductless Technical Specialist to schedule VRF Start-Up Supervision no less than 2 weeks before requested start-up date.
   5. Installing contractor must submit completed Component Location Sheet and Prestart Checklist to Ductless Technical Specialist no later than 3-days prior to requested start-up date.
   6. Installing Contractor must verify system installations meet Trane-Mitsubishi requirements including but not limited to service clearances, pressure tests, vacuum tests, electrical power to units, wiring/piping connections, and refrigerant charge prior to start-up.
   7. No installation labor will be completed by Trane personnel unless otherwise noted.
   8. City Multi and Nv&P-Series Service/Maintenance Tools not included unless otherwise noted.
   9. Any additional labor required from Trane to complete start-up procedure will be billed separately.

   Responsibilities of DTS at Assisted Start-Up:
      1. Start-Up/Commissioning Assistance completed through Maintenance Tool with Installing Contractor
      2. Update Diamond System Builder per marked-up as-built provided by Installing Contractor
      3. Population of TE-200/TW-50 (if applicable)

   Responsibilities of Installing Contractor at Assisted Start-Up:
      1. Electrical Testing on outdoor units
      2. Physical inspection of the outdoor units
      3. Troubleshoot indoor units if there is an issue
      4. Handling of additional refrigerant and adding of trim charge
      5. Setting addresses on indoor unit
      6. Performing of vacuum and pressure tests

C. Warranty



AREA 1

Unit Ventilators - (water and electrical disconnects) / UV removal & abatement of floor tile. June 27th through July 5th.

New Floor tile / New UV installation - July 8th through July 16th

AREA 2

Unit Ventilators - (water and electrical disconnects / UV removal & abatement of floor tile. July 8th through 16th.

New Floor tile / New UV installation - July 17th through July 25th.

AREA 3

Unit Ventilators - (water and electrical disconnects / UV removal & abatement of floor tile. July 17th through August 2nd

New Floor tile / New UV installation - August 5th through August 23rd

ASBESTOS ABATEMENT LEGEND

1. REMOVE AND DISPOSE OF ASBESTOS CONTAINING (ACM) FLOOR TILES & ASSOCIATED MASTIC TO FACILITATE UNIT VENTILATOR REPLACEMENTS.
2. REMOVE AND DISPOSE OF ASBESTOS CONTAINING PIPE INSULATION AND/OR MUDDED JOINTS TO FACILITATE UNIT VENTILATOR REPLACEMENTS.
3. REMOVE AND DISPOSE OF ASBESTOS CONTAINING INTERNAL UNIT VENTILATOR PIPE WRAP.

REFER TO ASBESTOS SPECIFICATIONS SECTION 020800 - SECTION 3.17 FOR A MORE DETAILED DESCRIPTION OF THE WORK AND THE REQUIREMENTS.

CONSTRUCTION SEQUENCE PLAN

1 FIRST FLOOR ABATEMENT PLAN
SCALE: NTS

PLAN NORTH

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

No.	Date	Revisions
1	01-18-23	BIDDING DOCUMENTS

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT, TO ALTER AN ITEM IN ANY WAY.

Drawn by AM
Checked by RL
Project No. 2052
Scale AS NOTED
Date 01-18-23

Mechanical & Electrical Engineer: GREENMAN PEDERSEN, INC 420 BELLA BOULEVARD MONTEBELLO, NY 10901

Environmental Consultant: Quality Environmental Solutions & Technologies, Inc. 1298 NYS Route 9 Wappingers Falls, NY 12590 Tel: (845) 298-6031

UNIVENT REPLACEMENT AT FARLEY ELEMENTARY SCHOOL
SED# 50-02-01-06-0-003-011
COUNTY OF ROCKLAND
140 ROUTE 210, STONY POINT, NY 10980

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140 Park Avenue New City, NY 10956 Tel 845-708-8200
www.shilale.com

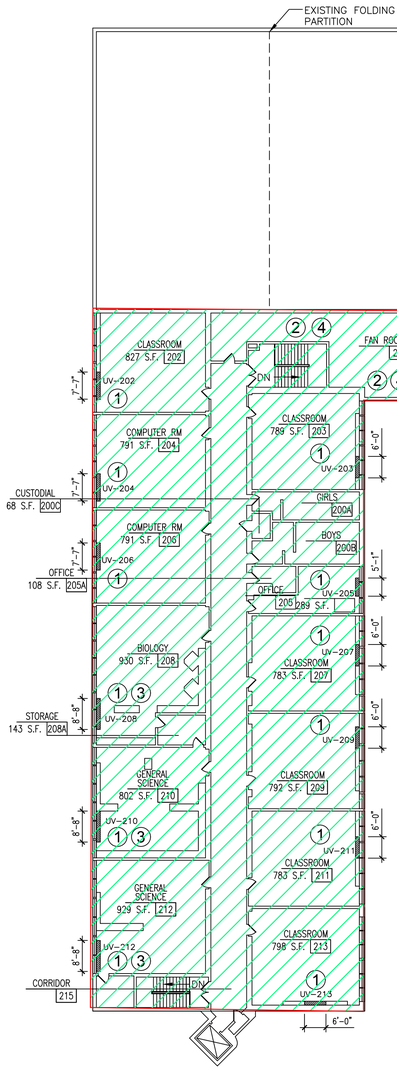
AREA 3

Unit Ventilators - (water and electrical disconnects / UV removal & abatement of floor tile. July 17th through August 2nd

New Floor tile / New UV installation - August 5th through August 23rd

0 1/2 1

IF THIS BAR DOES NOT MEASURE 1, THEN DRAWING IS NOT TO FULL SCALE



ASBESTOS ABATEMENT LEGEND

① REMOVE AND DISPOSE OF ASBESTOS CONTAINING (ACM) FLOOR TILES & ASSOCIATED MASTIC TO FACILITATE UNIT VENTILATOR REPLACEMENTS.

② REMOVE AND DISPOSE OF ASBESTOS CONTAINING PIPE INSULATION AND/OR MUDDED JOINTS TO FACILITATE UNIT VENTILATOR REPLACEMENTS.

③ REMOVE AND DISPOSE OF ASBESTOS CONTAINING INTERNAL UNIT VENTILATOR PIPE WRAP.

④ REMOVE AND DISPOSE OF FIBERGLASS DUCT INSULATION WITH ASBESTOS CONTAINING PIN MASTIC .

REFER TO ASBESTOS SPECIFICATIONS SECTION 020800 - SECTION 3.17 FOR A MORE DETAILED DESCRIPTION OF THE WORK AND THE REQUIREMENTS.

CONSTRUCTION SEQUENCE PLAN

1 SECOND FLOOR ABATEMENT PLAN
SCALE: NTS

PLAN NORTH

No.	Revisions	Date
1	BIDDING DOCUMENTS	01-18-23

STATE OF NEW YORK — ANTHONY MICHAEL SHILALE — LICENSED ARCHITECT — 026780 — REGISTERED ARCHITECT

Drawn by	AM
Checked by	RL
Project No.	4052
Scale	AS NOTED
Date	01-18-23

Mechanical & Electrical Engineer:
GREENMAN PEDERSEN, INC
400 RELLA BOULEVARD
MONTEBELLO, NY 10901

Environmental Consultant:
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KEYED NOTES:

1. VERTICAL UNIT VENTILATOR. REFER TO THE UNIT VENTILATOR SCHEDULE AND DETAILS ON DRAWING FES-M-503.
2. EXISTING 72"x10" (V.I.F.) WALL LOUVER TO REMAIN.
3. EXISTING EXHAUST GRILLES TO REMAIN. INCLUDE THE EXISTING EXHAUST GRILLES IN THE AIR BALANCING REPORT. SIZES ARE AS INDICATED ON PLANS.
4. PROGRAMMABLE ELECTRONIC THERMOSTAT WITH LOCKING GUARD. COORDINATE WITH THE SIEMENS BMS.
5. PROVIDE AN INSECT SCREEN AT THE OA LOUVERS TO PREVENT INFILTRATION OF GRASS CLIPPINGS AND OTHER DEBRIS. SCREEN SHALL HAVE AN ALUMINUM FRAME AND SHALL BE INSTALLED ON THE OUTSIDE OF THE EXISTING LOUVER. CONSTRUCT FROM 0.011" ALUMINUM WITH BRIGHT FINISH AND SS HARDWARE.
6. PROVIDE 72X10 OA LOUVER ABOVE WINDOW.
7. INSTALL ⅜" & ⅝" R WITHIN EXISTING CASEWORK.
8. ¾" & ⅝" R DROP FROM THE CEILING TO BEHIND THE EXISTING CASEWORK. PROVIDE PIPE CHASE AT THE WALL. SEE ARCH.
9. INSTALL ⅜" & ⅝" R ABOVE THE EXISTING CEILING.
10. ¾" & ⅝" R UP TO SECOND FLOOR.
11. ¾" CONDENSATE DRAIN TO SPILLS ONTO SPLASH BLOCK AT GRADE.

BRANCH CIRCUIT CONTROLLERS AND LINE SET MAINS INSTALLATION

SECOND SHIFT MAY 2024 THROUGH JUNE 2024

REFER TO DRAWING FES-M-102

2 FIRST FLOOR KEY PLAN
SCALE: NONE

1 FIRST FLOOR PLAN INSTALLATION - 1
SCALE: 3/32" = 1' - 0"

CONSTRUCTION SEQUENCE PLAN

PLAN NORTH

No.	Date	Revisions
REV 3	09-14-23	BIDDING DOCUMENTS

Drawn by AMW
Checked by PV
Project No. 42052
Scale AS NOTED
Date 7/29/22

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD SUITE 302 SUFFERN, NY 10901
Mechanical & Electrical Engineer:

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Structural Engineer:

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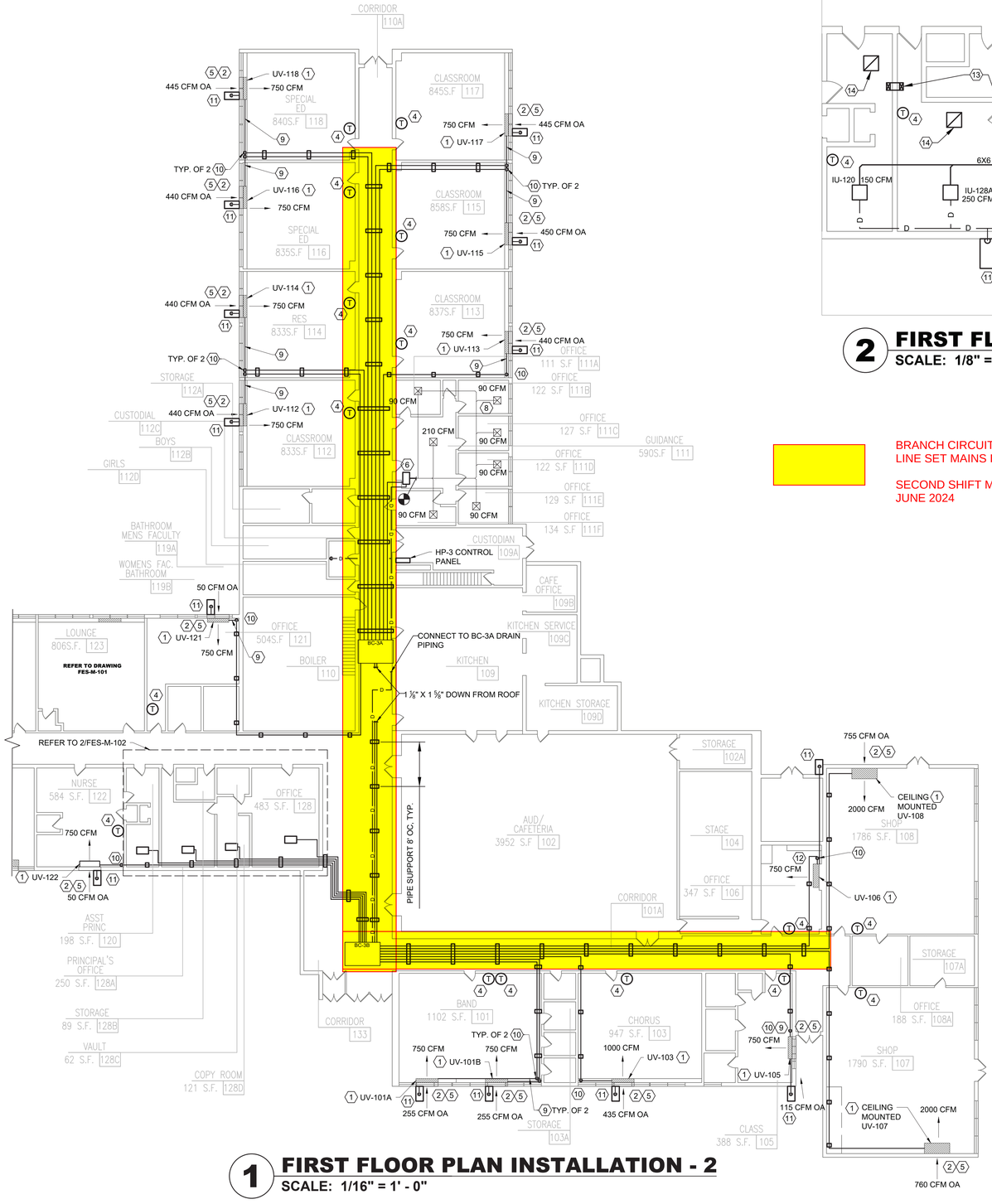
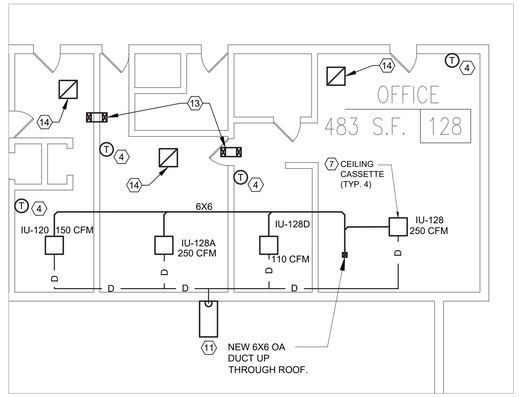


1 FIRST FLOOR PLAN INSTALLATION - 2

SCALE: 1/16" = 1' - 0"



2 FIRST FLOOR PARTIAL PLAN

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

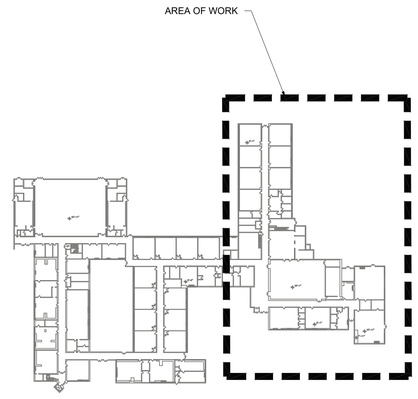
BRANCH CIRCUIT CONTROLLERS AND LINE SET MAINS INSTALLATION

SECOND SHIFT MAY 2024 THROUGH JUNE 2024

KEYED NOTES:

1. VERTICAL UNIT VENTILATOR. REFER TO THE UNIT VENTILATOR SCHEDULE AND DETAILS ON DRAWING FES-M-503.
2. EXISTING 72"x10" (V.I.F.) WALL LOUVER TO REMAIN.
3. EXISTING EXHAUST GRILLES TO REMAIN. INCLUDE THE EXISTING EXHAUST GRILLES IN THE AIR BALANCING REPORT. SIZES ARE AS INDICATED ON PLANS.
4. PROGRAMMABLE ELECTRONIC THERMOSTAT WITH LOCKING GUARD. COORDINATE WITH THE SIEMENS BMS.
5. PROVIDE AN INSECT SCREEN AT THE OA LOUVERS TO PREVENT INFILTRATION OF GRASS CLIPPINGS AND OTHER DEBRIS. SCREEN SHALL HAVE AN ALUMINUM FRAME AND SHALL BE INSTALLED ON THE OUTSIDE OF THE EXISTING LOUVER. CONSTRUCT FROM 0.011" ALUMINUM WITH BRIGHT FINISH AND SS HARDWARE.
6. UV-111 TO TIE INTO THE EXISTING SUPPLY & OUTSIDE AIR DUCTWORK.
7. CEILING CASSETTE AT CEILING.
8. EXISTING CEILING SUPPLY DIFFUSER TO REMAIN. TYPICAL (7).
9. INSTALL ⅜" & ⅝" R WITHIN EXISTING CASEWORK.
10. ⅜" & ⅝" R DROP FROM THE CEILING TO BEHIND THE EXISTING CASEWORK. PROVIDE PIPE CHASE AT THE WALL. SEE ARCH.
11. ¾" CONDENSATE DRAIN TO SPILLS ONTO SPLASH BLOCK AT GRADE.
12. PROVIDE UNIT VENTILATOR WITH CONDENSATE LIFT PUMP.
13. 12"x6" TRANSFER DUCT ABOVE CEILING (PRICE CROSS TALK SILENCER XT OR EQUAL)
14. 24'x24' RG AT CEILING.

CONSTRUCTION SEQUENCE PLAN



3 FIRST FLOOR KEY PLAN

SCALE: NONE

PLAN NORTH

No.	Date	Revisions
REV 3	09-14-23	BIDDING DOCUMENTS
REV 2	06-09-23	SED ADDENDUM #1
REV 1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by AMW
Checked by PV
Project No. 42052
Scale AS NOTED
Date 7/29/22

GREENMAN PEDERSEN, INC
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Mechanical & Electrical Engineer:

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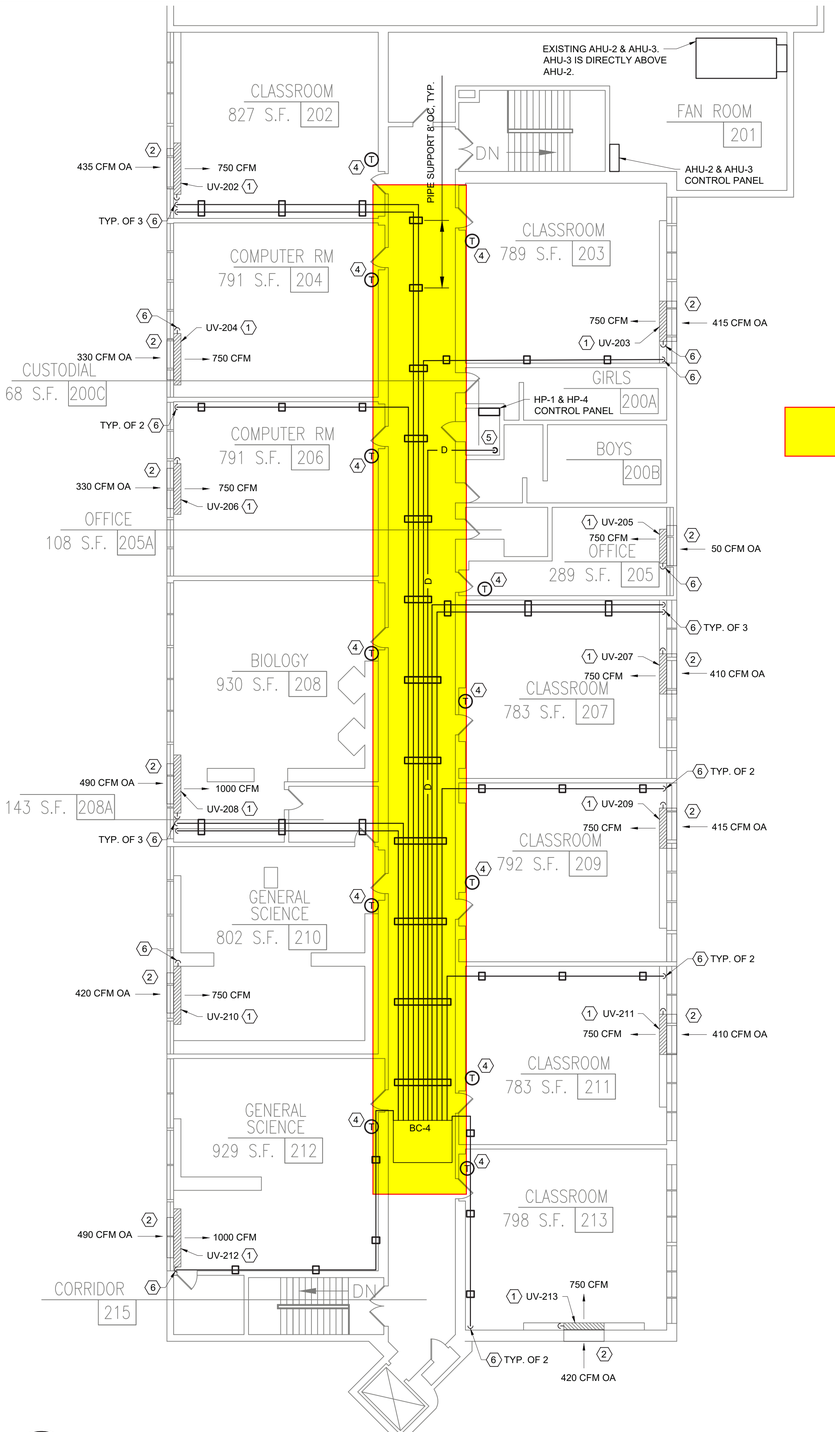


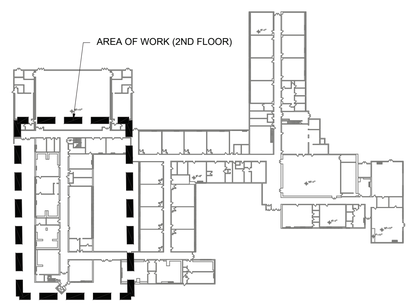
KEYED NOTES:

1. VERTICAL UNIT VENTILATOR OR FCU. REFER TO THE UNIT VENTILATOR SCHEDULE ON FES-M-503 SCHEDULE AND DETAILS ON DRAWING FES-M-501/2.
2. EXISTING 72"x10" (V.I.F.) WALL LOUVER TO REMAIN.
3. EXISTING EXHAUST GRILLES TO REMAIN. INCLUDE THE EXISTING EXHAUST GRILLES IN THE AIR BALANCING REPORT. SIZES ARE AS INDICATED ON PLANS.
4. PROGRAMMABLE ELECTRONIC THERMOSTAT WITH LOCKING GUARD. COORDINATE WITH THE SIEMENS BMS.
5. TERMINATE ¾" CONDENSATE DRAIN AT EXISTING SERVICE SINK.
6. ⅜" & ⅝" R DROP FROM THE CEILING TO BEHIND THE EXISTING CASEWORK. PROVIDE PIPE CHASE AT THE WALL. SEE ARCH.

BRANCH CIRCUIT CONTROLLERS AND LINE SET MAINS INSTALLATION

SECOND SHIFT MAY 2024 THROUGH JUNE 2024

CONSTRUCTION SEQUENCE PLAN



1 SECOND FLOOR PLAN INSTALLATION
SCALE: 3/32" = 1' - 0"

2 SECOND FLOOR KEY PLAN
SCALE: NONE

PLAN NORTH

No.	Date	Revisions
REV 3	09-14-23	BIDDING DOCUMENTS
REV 2	06-09-23	SED ADDENDUM #1
REV 1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by AMW
Checked by PV
Project No. 42052
Scale AS NOTED
Date 7/29/22

Mechanical & Electrical Engineer:
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Structural Engineer:
GREENMAN PEDERSEN, INC
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A1 INSTALL NEW CEILING CASSETTES.

A2 INSTALL NEW CEILING MOUNTED UNIT VENTILATORS.

A3 INSTALL NEW CEILING MOUNTED UNIT VENTILATOR. MODIFY EXT'G CEILING TILE FOR NEW UV. SEE MECHANICAL DWGS FOR DUCTWORK AND SUPPLY REGISTERS TO ADJACENT OFFICES.

A4 AS PER ALTERNATE NO. 101, INSTALL NEW ACT CEILING TILE AND LIGHT FIXTURES IN CORRIDOR.

A5 NEW 36X36 SUPPLY REGISTERS FOR RTU. MODIFY EXISTING CEILING GRID AND LIGHTING TO ACCOMMODATE COAXIAL DIFFUSER.

A6 INSTALL NEW ACOUSTICAL 2x2 CEILING GRID

A7 INSTALL NEW 2x4 CEILING GRID

A8 RE-INSTALL EXISTING SURFACE MOUNTED LIGHT FIXTURES

A9 CLEAN & REPAINT EXISTING SPRAY ON CEILING (PT1 & PRIMER)

A10 REMOVE AND REINSTALL ACT

A11 NEW CEILING HEIGHT TO MATCH EXISTING CEILING HEIGHT

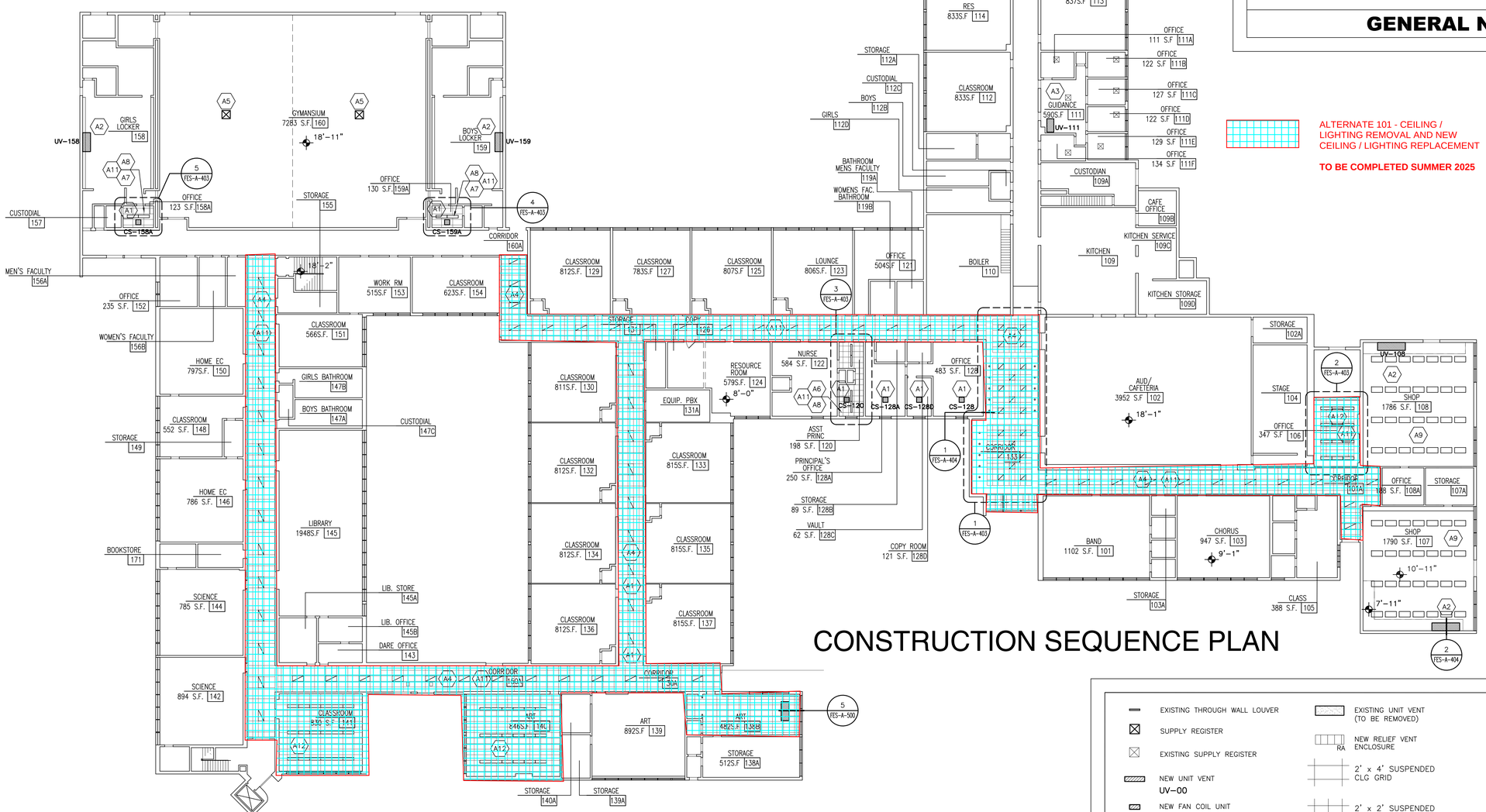
A12 INSTALL NEW 2X4 CEILING GRID, REINSTALL EXT'G SURFACE MOUNTED LIGHTS (AS PER ALT. NO. 101)

KEY NOTES

1. CONTRACTOR SHALL BE REQUIRED TO CORE DRILL ALL HOLES IN WALLS, FLOORS AND CEILINGS TO FACILITATE NEW LINESETS, ELECTRICAL CONDUITS AND CONDENSATE LINES.
2. PATCH EXISTING VCT FLOORING AT BASE UNDER UNI-VENT.
3. PATCH EXISTING PLASTER AT ALL UV LOCATIONS.
4. EXT'G CLG. TILE SHALL BE REMOVED AS REQ'D. TO ALLOW INSTALLATION AND REMOVAL OF HVAC DEVICES, LINESETS, AND ELECTRICAL, AS REQ'D FOR THIS WORK. REINSTALLATION OF ALL CLG'S IS REQ'D. COORDINATION WITH M-101, M-102, M-103, M-104, AND M-105. COORDINATE WITH A-400 SERIES DRAWINGS; REFLECTED CEILING PLANS.
5. FIRE ALARM DEVICES, SECURITY CAMERA, AND OTHER CEILING MOUNTED DEVICES TO BE REMOVED, TEMPORARILY STORED AND RE-INSTALLED.

IF THIS BAR DOES NOT MEASURE 1", THEN DRAWING IS NOT TO FULL SCALE

GENERAL NOTES



ALTERNATE 101 - CEILING / LIGHTING REMOVAL AND NEW CEILING / LIGHTING REPLACEMENT

TO BE COMPLETED SUMMER 2025

CONSTRUCTION SEQUENCE PLAN

1 FIRST FLOOR REFLECTED CEILING PLAN

SCALE: 1"=20'-0"

PLAN NORTH

EXISTING THROUGH WALL LOUVER

SUPPLY REGISTER

EXISTING SUPPLY REGISTER

NEW UNIT VENT UV-00

NEW FAN COIL UNIT FC-00

NEW CASSETTE CS-00

EXISTING UNIT VENT (TO REMAIN)

EXISTING UNIT VENT (TO BE REMOVED)

NEW RELIEF VENT ENCLOSURE (RA)

2' x 4' SUSPENDED CLG GRID

2' x 2' SUSPENDED CLG GRID

REMOVE AND REINSTALL ACT

LEGEND

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM 1
1	01-18-23	BIDDING DOCUMENTS

REG. EXP DATE: 06-30-24

Drawn by MAL
Checked by MS/JC
Project No. 42052
Scale AS NOTED
Date 11-30-22

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT TO ALTER AN ITEM IN ANY WAY.

GREENMAN PEDERSEN, INC
400 RELLA BOULEVARD
MONTEBELLO, NY 10901

Mechanical & Electrical Engineer:

Structural Engineer:

UNIVENT REPLACEMENT AT FARLEY ELEMENTARY SCHOOL
SED# 50-02-01-06-0-003-011
COUNTY OF ROCKLAND
140 ROUTE 210
STONY POINT, NY 10980

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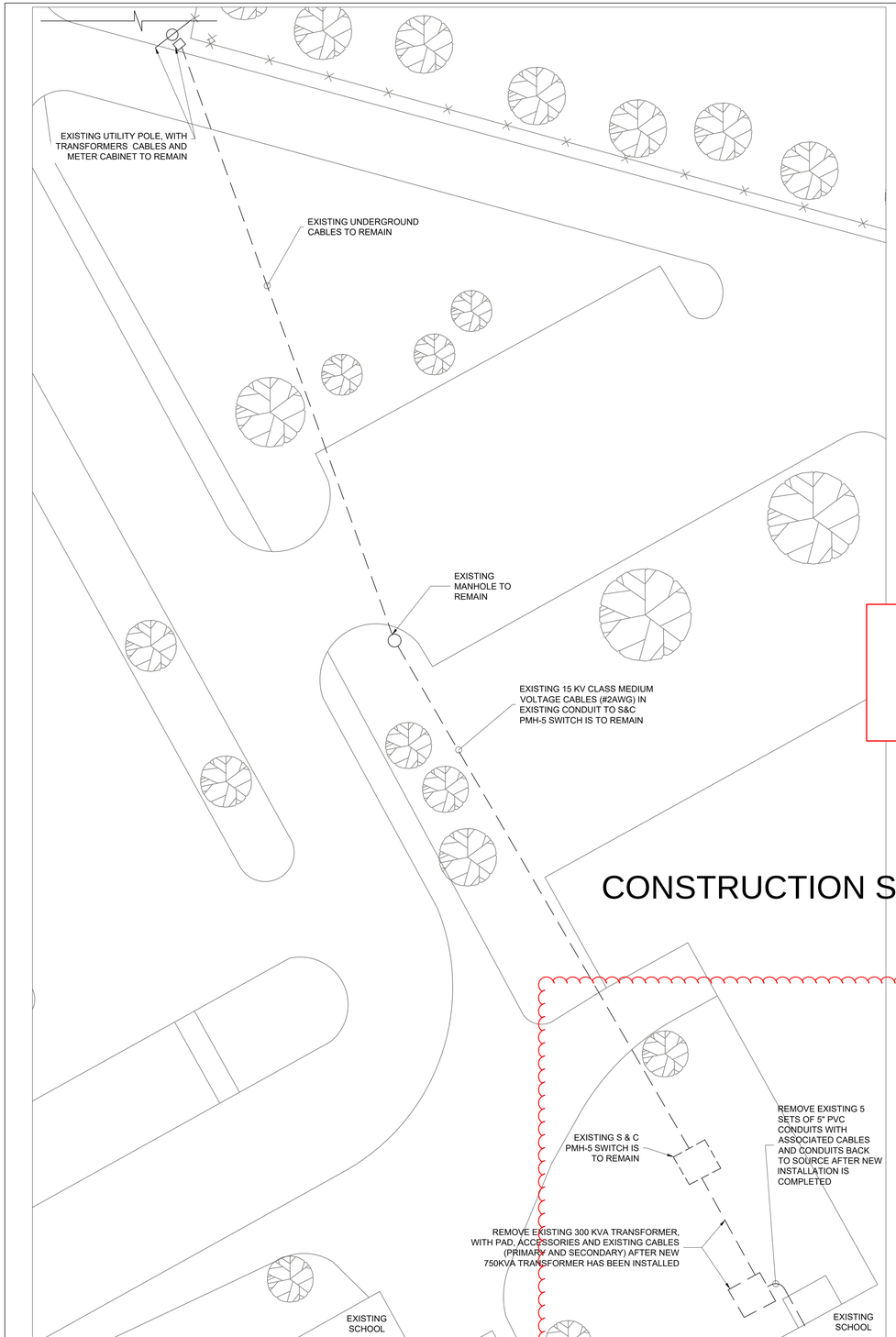
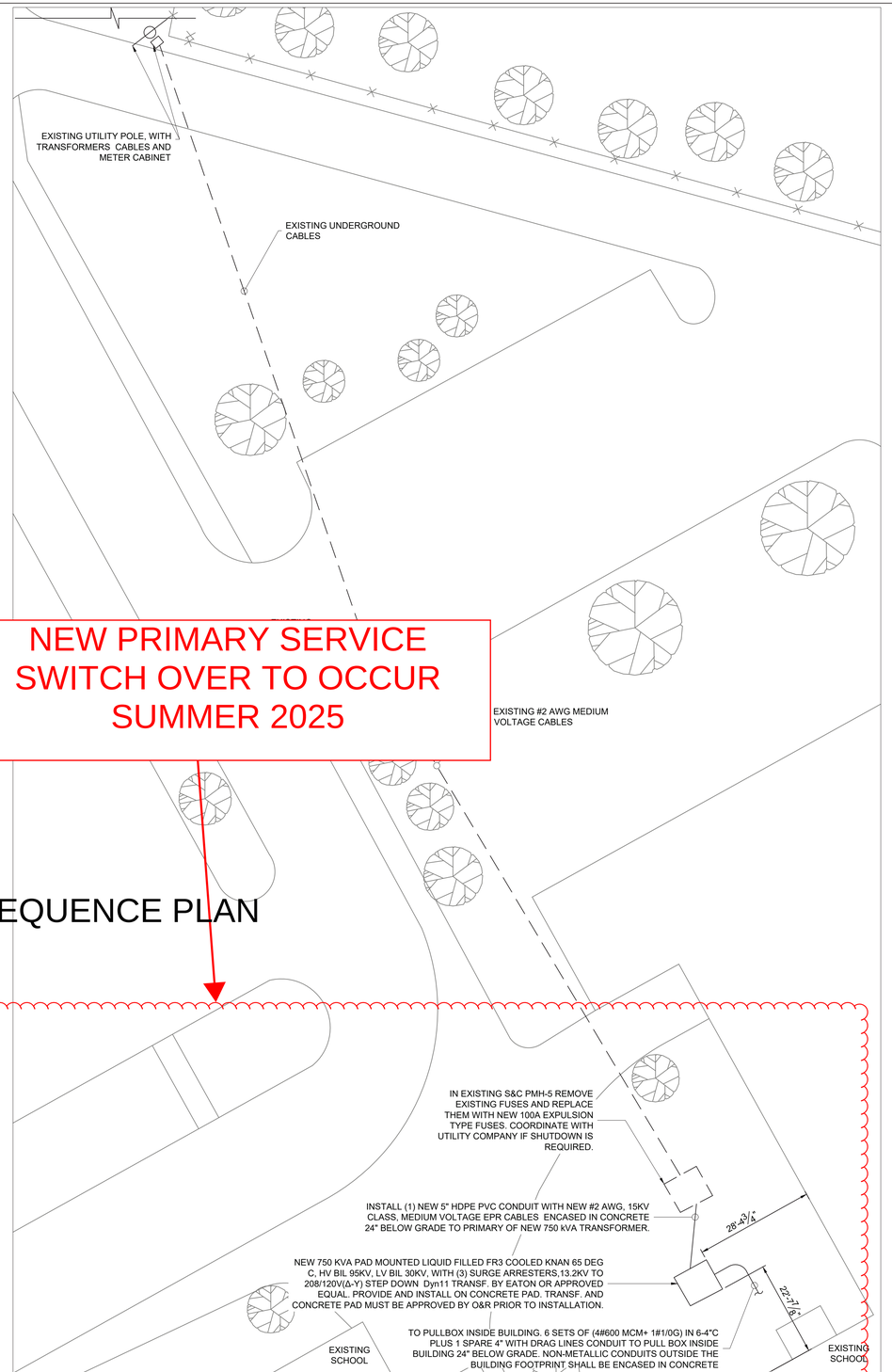


1 **ELECTRICAL SITE DEMOLITION PLAN**
SCALE: 1/16" = 1' - 0"

NEW PRIMARY SERVICE SWITCH OVER TO OCCUR SUMMER 2025

CONSTRUCTION SEQUENCE PLAN



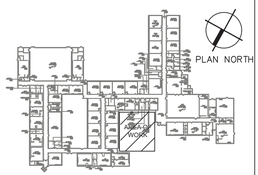
2 **ELECTRICAL SITE INSTALLATION PLAN**
SCALE: 1/16" = 1' - 0"

PLAN NOTES:

1. FOR SYMBOL LIST, GENERAL NOTES AND ABBREVIATIONS REFER TO DWG. E001 & E002.
2. ALL UTILITY WORK SHALL BE PROVIDED AS REQUIRED AND APPROVED BY THE TELEPHONE, AND ELECTRICAL COMPANIES.
3. IMMEDIATELY UPON AWARD OF THE CONTRACT, THE CONTRACTOR SHALL ARRANGE FOR A MEETING THE SITE WITH THE UTILITY COMPANIES TO COORDINATE THE INSTALLATION OF THE NEW SERVICE. ADVISE THE FACILITY AND RESIDENT ENGINEER AT LEAST ONE (1) WEEK IN ADVANCE OF THE MEETING.
4. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE FINAL INSTALLATIONS OF THE BUILDING MAIN ELECTRICAL SERVICE AND FEEDERS TO THE ELECTRICAL SERVICE SWITCH, TRANSFORMER ETC. PROVIDE ALL REQUIREMENTS FOR DEVICES AND COMPONENTS AS PER THE UTILITY COMPANY'S REQUIREMENTS.
5. ALL ELECTRIC SERVICE ENTRANCE CONDUCTORS SHALL BE INSTALLED IN RIGID GALVANIZED CONDUIT INSIDE THE BUILDING FOOT PRINT. CONDUITS OUTSIDE THE BUILDING FOOTPRINT SHALL BE IN HDPE AND ENCASED IN CONCRETE. PROVIDE ADAPTER FITTINGS TO CONVERT FROM HDPE TO RGC BEFORE ENTERING THE BUILDING.
6. ALL SERVICE ENTRANCE CONDUITS ARE TO BE PITCHED AS REQUIRED AND SEALED AT THE POINT OF ENTRY TO THE BUILDING IN ORDER TO AVOID WATER PENETRATION TO THE BUILDING THROUGH THESE CONDUITS.
7. ALL CHARGES BY THE UTILITY COMPANIES IN PERFORMING ANY PART OF THE INSTALLATION FOR THE PROJECT SHALL BE PAID BY THE CONTRACTOR AS PART OF THE CONTRACT.
8. ALL OPENINGS IN THE BUILDING WALLS FOR THE ENTRANCE OF CONDUITS SHALL BE MADE BY THE USE OF SLEEVES, WHICH SHALL BE GROUTED IN PLACE, WATER PROOFED UTILIZING LINK-SEAL "TYPE GASKETING AND VERMIN-PROOFED BY AN APPROVED SEALING COMPOUND EXTENDING 3" INSIDE MOUTH OF CONDUIT. SPARE CONDUITS BEING INSTALLED NOW FOR FUTURE INCOMING SERVICE SHALL BE PLUGGED AND WATERTIGHT.

DEMOLITION NOTES:

1. FOR ELECTRICAL SYMBOLS & LEGENDS, GENERAL NOTES AND ABBREVIATIONS DRAWING LIST REFER TO DWG E001.00
2. MAINTAIN CIRCUIT CONTINUITY TO AREAS NOT AFFECTED BY DEMOLITION.
3. THE CONTRACTOR IS TO COORDINATE ALL SHUTDOWNS AND DISRUPTIONS TO NORMAL SERVICES WITH THE SCHOOLS FIELD REPRESENTATIVE AND THE FACILITY.
4. CONTRACTOR MUST FIELD VERIFY ALL CONNECTIONS PRIOR TO REMOVAL. PROTECT ALL FEEDER AND BRANCH CIRCUITS SERVING OTHER AREAS. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY OUTAGES.



3 **ELECTRICAL KEY PLAN**
SCALE: N.T.S.

No.	Date	Revisions
REV 3	09-14-23	BIDDING DOCUMENTS
REV 2	06-09-23	SED ADDENDUM #1
REV 1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by DK
Checked by SH
Project No. 42052
Scale AS NOTED
Date 7/29/22

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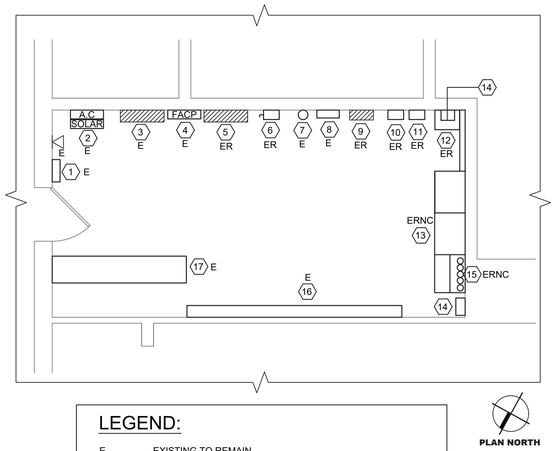


LEGEND:

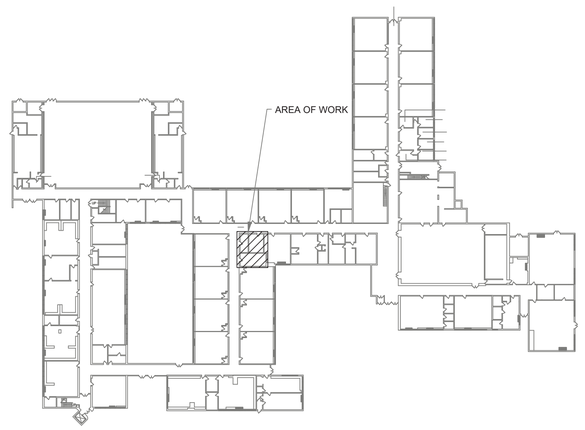
E	EXISTING TO REMAIN
ER	EXISTING TO BE REMOVED
ERR	EXISTING TO BE RELOCATED
ERNC	EXISTING TO BE REMOVED AFTER NEW WORK IS COMPLETED
REL	RELOCATED

NOTES:

1. REFER TO DRAWING E-001 FOR SYMBOL LIST, INSTALLATION NOTES AND ABBREVIATIONS.
2. ALL DEMOLITION SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER ONLY AFTER THE NEW EQUIPMENT HAS BEEN INSTALLED AND THE TRANSFER/CONNECTIONS OF CONDUIT AND CABLES TO THE NEW EQUIPMENT EQUIPMENT MADE.
3. WHERE CONDUITS ARE TO BE REMOVED, ALL EXPOSED CONDUIT SHALL BE DISCONNECTED AND REMOVED AND ALL RECESSED CONDUITS SHALL BE CAPPED OFF AT BOTH ENDS AND SHALL BE ABANDONED IN PLACE.
4. THE ELECTRICAL PANELS AND OTHER DEVICES THAT ARE EXISTING TO REMAIN DURING THE DEMOLITION WORK SHALL BE PROTECTED FROM DAMAGE. SUPPORT ALL ELECTRICAL EQUIPMENT AND DEVICES AS NECESSARY. ALL WORK SHALL COMPLY WITH NEC.
5. WHERE THE WALLS ARE COMING DOWN AS PART OF THE NEW ARCHITECTURAL AND STRUCTURAL CHANGES, ALL ELECTRICAL EQUIPMENT AND DEVICES THAT ARE TO REMAIN SHALL BE TEMPORARILY SUPPORTED BY APPROVED MEANS.
6. WHERE THE FLOORS ARE BEING RAISED AS PART OF THE ARCHITECTURAL AND STRUCTURAL CHANGES, ALL EXISTING TO REMAIN FLOOR MOUNTED ELECTRICAL EQUIPMENT AND DEVICES SHALL BE TEMPORARILY DISCONNECTED. RECONNECT ALL THE EQUIPMENT AND DEVICES AFTER THE NEW WALLS AND FLOORS ARE IN PLACE. WHERE THE FLOORS ARE BEING RAISED AS PART OF THE ARCHITECTURAL AND STRUCTURAL CHANGES, RECONNECT ALL THE EQUIPMENT AND DEVICES AFTER THE NEW WALLS AND FLOORS ARE IN PLACE. THE CODE REQUIRED MOUNTING HEIGHTS SHALL BE MAINTAINED FOR ALL DEVICES.
7. COORDINATE ALL WORK WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
8. ELECTRICAL ROOM SWITCHGEAR AND PANEL LAYOUT IS SUBJECT TO CHANGE PENDING THE PEAK DEMAND OF THE BUILDING AND CLEARANCE VERIFICATION ON THE EXISTING IT EQUIPMENT.

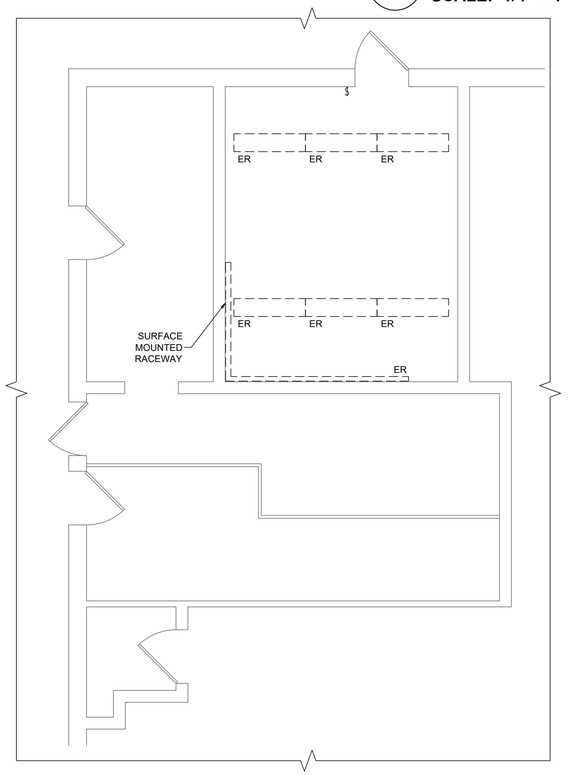
KEY NOTES:

1. EXISTING FIRE ALARM BOOSTER POWER SUPPLY.
2. EXISTING SOLAR RELATED DEVICES.
3. EXISTING PANEL.
4. EXISTING FIRE ALARM CONTROL PANEL.
5. EXISTING PANELBOARD "PP-RTU" TO BE REMOVED, RETAIN EXISTING BRANCH CIRCUITS. INSTALL A PULL BOX IN PLACE OF PANEL PP-RTU AND EXTEND PP-RTU BRANCH CIRCUITS RTU-C-1 (PP-RTU-25,27,29), RTU-D-2 (PP-RTU-26,28,30) TO MDB2-5 AND MDB2-6 RESPECTIVELY. EXTEND THE (2) SINGLE POLE 120V BRANCH CIRCUITS PP-RTU-1 AND PP-RTU-3 TO NEW PANEL PP-1. REFER TO PANEL SCHEDULE PP-1
6. EXISTING 200A DISCONNECT SWITCH FOR PP-RTU.
7. EXISTING EXPOSED CONDUIT.
8. EXISTING FIRE ALARM TELEPHONE LINES.
9. EXISTING PANELBOARD "EX" FOR EXIT LIGHT SHALL BE REMOVED, RETAIN EXISTING BRANCH CIRCUITS. INSTALL A PULL BOX IN PLACE OF PANEL "EX" AND EXTEND CIRCUITS 1,2,3,4 TO NEW PANEL "LP1" IN THE ELECTRICAL ROOM. REFER TO PANEL SCHEDULE "LP1"
10. EXISTING EXIT LIGHT MCB.
11. EXISTING ANCHOR SERVICE EQUIPMENT.
12. EXISTING MAIN DISTRIBUTION PANEL SHALL BE REMOVED, RETAIN EXISTING BRANCH CIRCUITS. INSTALL A PULL BOX IN PLACE OF PANEL OF THE MAIN DISTRIBUTION PANEL AND EXTEND THE EXISTING CIRCUITS TO MDB1,MDB2 AND PANEL PP1 IN THE NEW ELECTRICAL ROOM. CIRCUITS 1,2,3,4 SHALL BE EXTENDED TO PP-1 AND CIRCUITS 5,6,7,8,9,10,11 SHALL BE EXTENDED TO MDB1,MDB2 .
13. EXISTING 1200A, 3 SECTION SWITCHBOARD.
14. EXISTING MCB'S LOCATED ON TOP OF MAIN DISTRIBUTION PANEL AND NEXT TO SERVICE SWITCH. ELECTRICAL CONTRACTOR TO INVESTIGATE THE PURPOSE OF THE MCB'S AND INFORM THE EOR FOR APPROVAL PRIOR TO REMOVAL.
15. EXISTING 5 CONDUITS WITH 1 SPARE TO BE REMOVED. REFER TO FES-E-002.
16. EXISTING TELECOM EQUIPMENT
17. EXISTING TELECOM EQUIPMENTS.

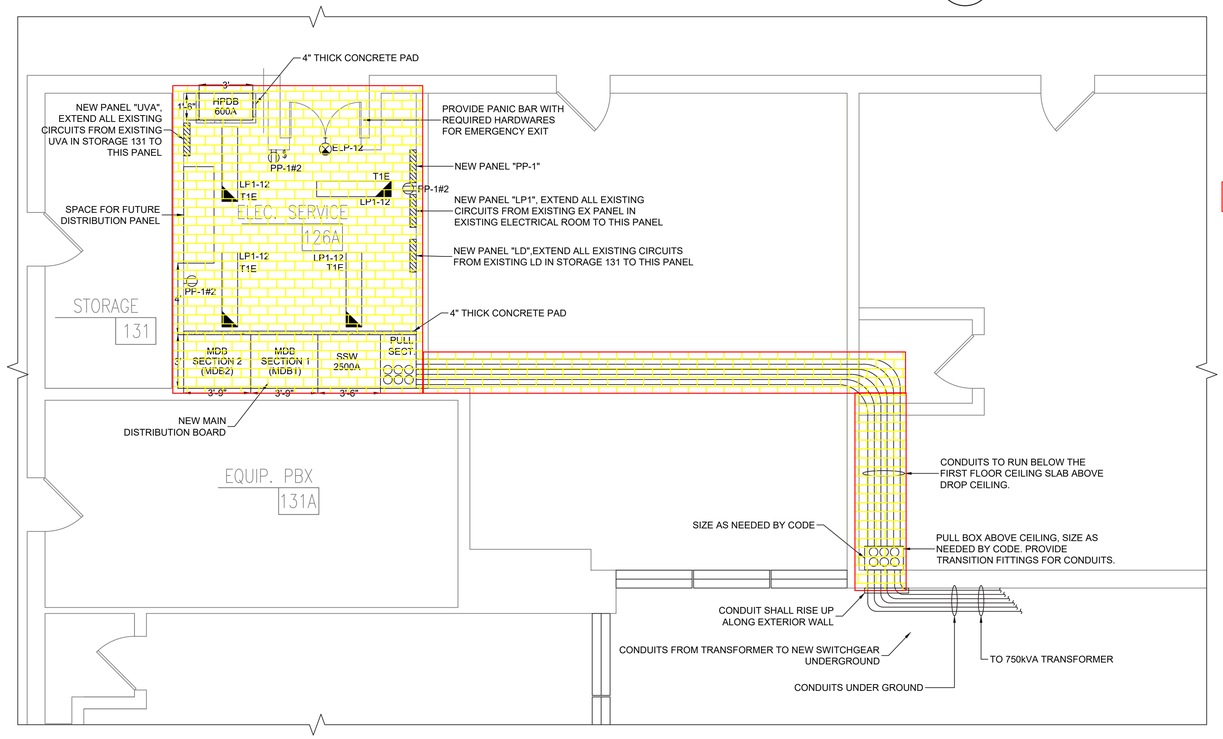


4 ELECTRICAL FIRST FLOOR KEY PLAN
SCALE: 1/64" = 1' - 0"

PLAN NORTH



2 COPY RM DEMOLITION PART PLAN
SCALE: 1/4" = 1' - 0"



3 NEW ELECTRICAL RM PART PLAN
SCALE: 1/4" = 1' - 0"

SERVICE AND NEW MAIN DISTRIBUTIOIN WORK TO BE SCHEDULED ACROSS 2 SUMMERS DUE TO EQUIPMENT LEAD TIMES. FINAL TRANSITION TO NEW SERVICE TO BE SCHEDULED FOR THE SUMMER OF 2025.

CONSTRUCTION SEQUENCE PLAN

No.	Date	Revisions
REV 3	09-14-23	BIDDING DOCUMENTS
REV 2	06-09-23	SED ADDENDUM #1
REV 1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by DK
Checked by SH
Project No. 42052
Scale AS NOTED
Date 7/29/22

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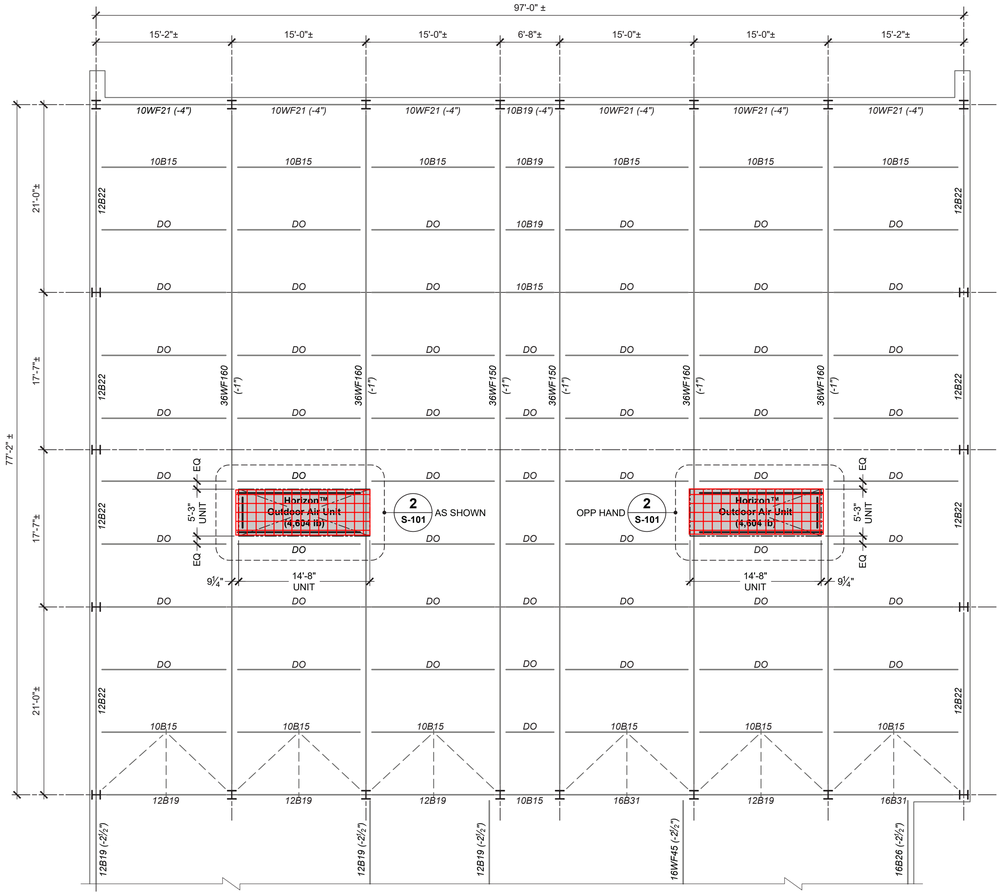


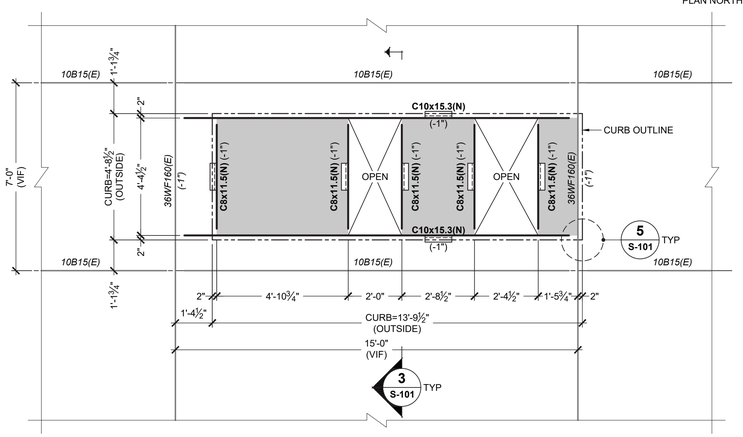
1 EXISTING GYM ROOF FRAMING PLAN

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

PLAN NORTH

NOTES:

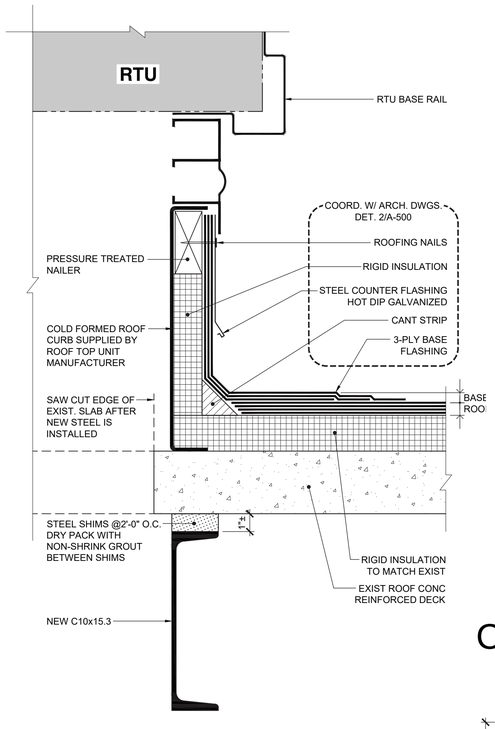
1. PRIOR TO BEGINNING ANY WORK, CONTRACTOR SHALL SURVEY AND CONFIRM EXISTING CONSTRUCTION AND DIMENSIONS. NOTIFY ARCHITECT AND/OR ENGINEER IF THERE ARE ANY DISCREPANCIES.
2. EXISTING ROOF CONSTRUCTION CONSISTS OF LIGHT WEIGHT CONCRETE FILL OVER METAL DECK, SPANNING OVER STRUCTURAL STEEL BEAMS. TOP OF EXISTING STEEL IS AT UNDERSIDE OF EXISTING METAL DECK, U.N.O.
3. COORDINATE LOCATION AND DIMENSIONS OF REQUIRED ROOF OPENING WITH MEP DRAWINGS AND APPROVED MECHANICAL SHOP DRAWINGS.
4. REFER TO DRAWING S-001 FOR GENERAL NOTES.



2 HVAC UNIT INSTALLATION PLAN

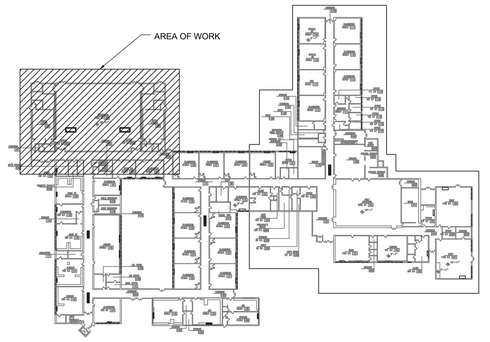
SCALE: 3/8"=1'-0"

PLAN NORTH



4 CURB INSTALLATION DET

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



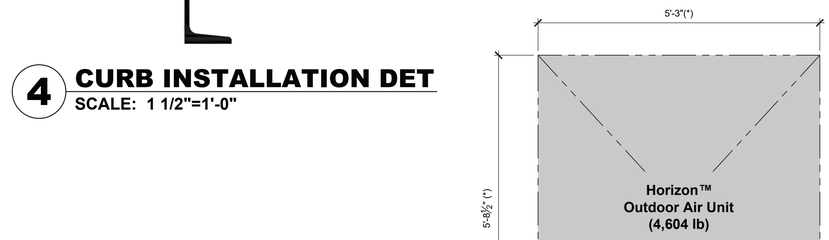
GYMNASIUM ROOF KEY PLAN

PLAN NORTH

STRUCTURAL STEEL REINFORCEMENTS / ROOF PENETRATIONS / CURB INSTLATIONS / RAIL INSTALLATIONS

APRIL 1st THROUGH APRIL 5th

CONSTRUCTION SEQUENCE PLAN



5 CONNECTION DET

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

3 VERTICAL SECTION

SCALE: 3/4"=1'-0"

No.	Date	Revisions
REV 3	09-14-23	BIDDING DOCUMENTS
REV 2	06-09-23	SED ADDENDUM #1
REV 1	12-28-22	BIDDING DOCUMENTS

STATE OF NEW YORK
RONALD ALAN BROKENSHIRE
104873
LICENSED PROFESSIONAL ENGINEER
RONALD A. BROKENSHIRE, P.E.
NY LIC 104873
REG. EXP. DATE: 04-30-24

Drawn by AN
Checked by RAB
Project No. 42052
Scale AS NOTED
Date 7/29/22

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Structural Engineer:

UNIVENT
REPLACEMENT AT
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SED # 50-02-01-06-0-003-011
###
COUNTY OF ROCKLAND

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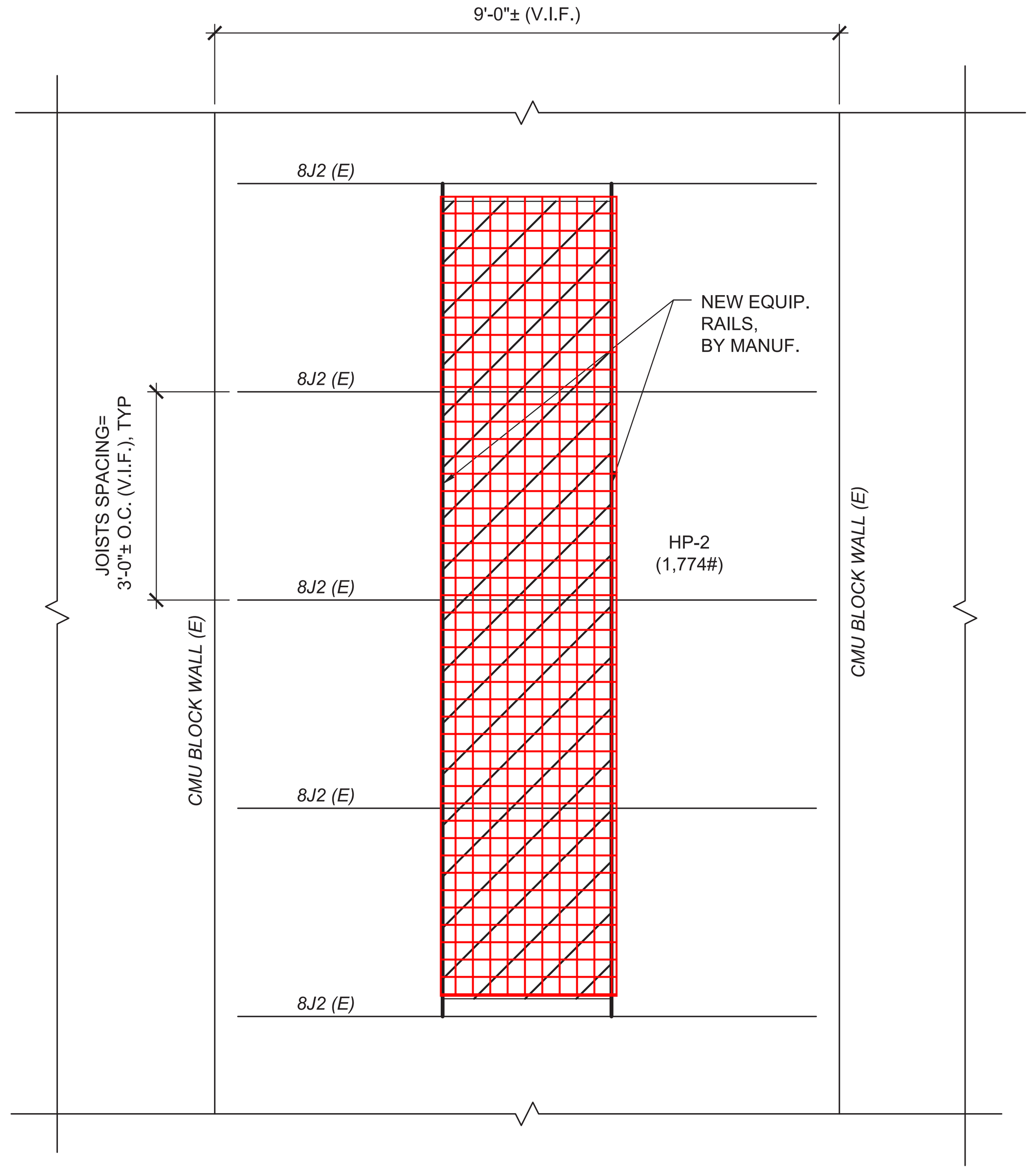
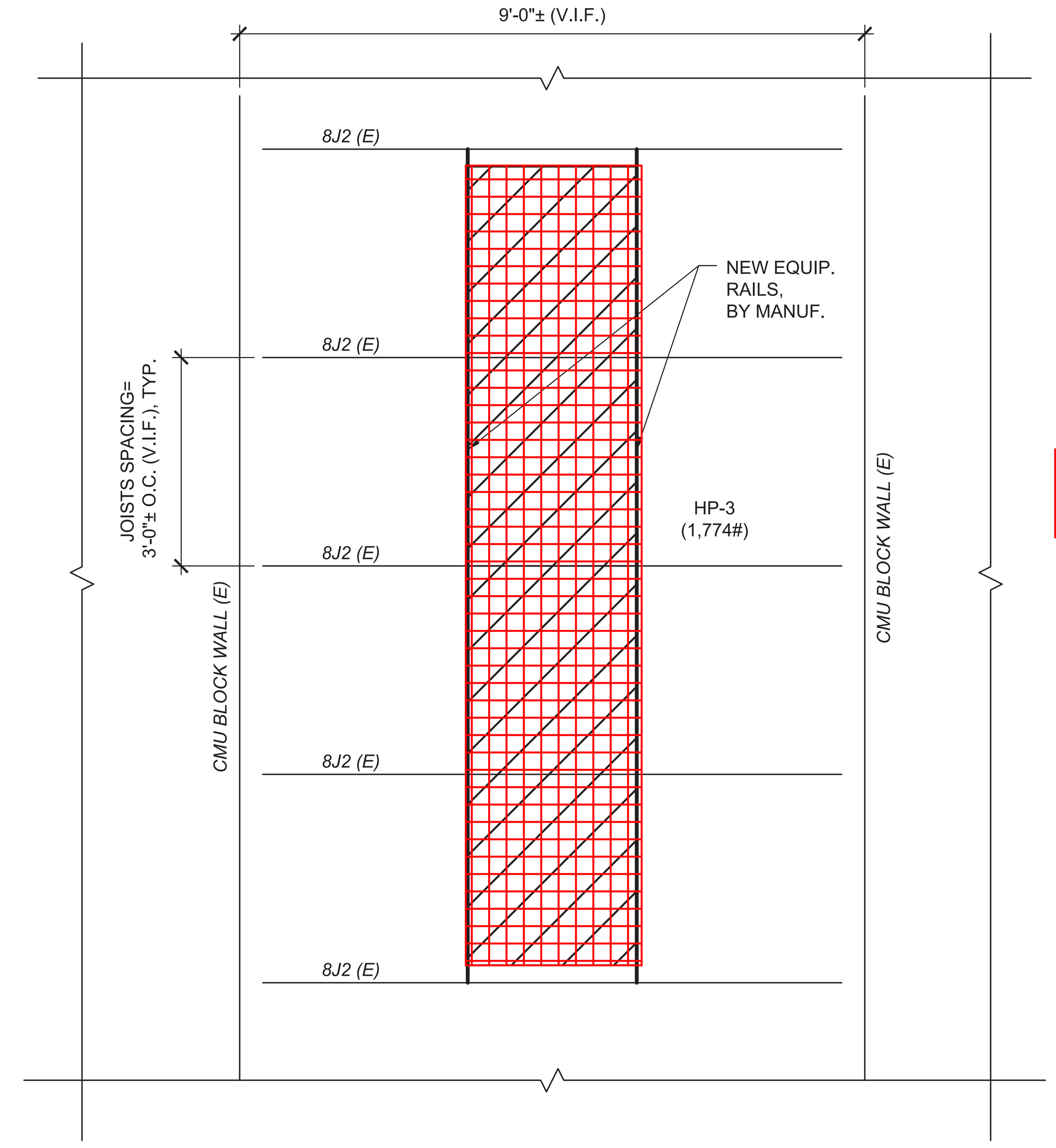
Drawing Title



2 ROOF PART PLAN UNDER HP-2

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

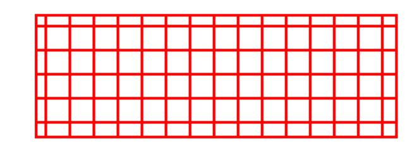


3 ROOF PART PLAN UNDER HP-3

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

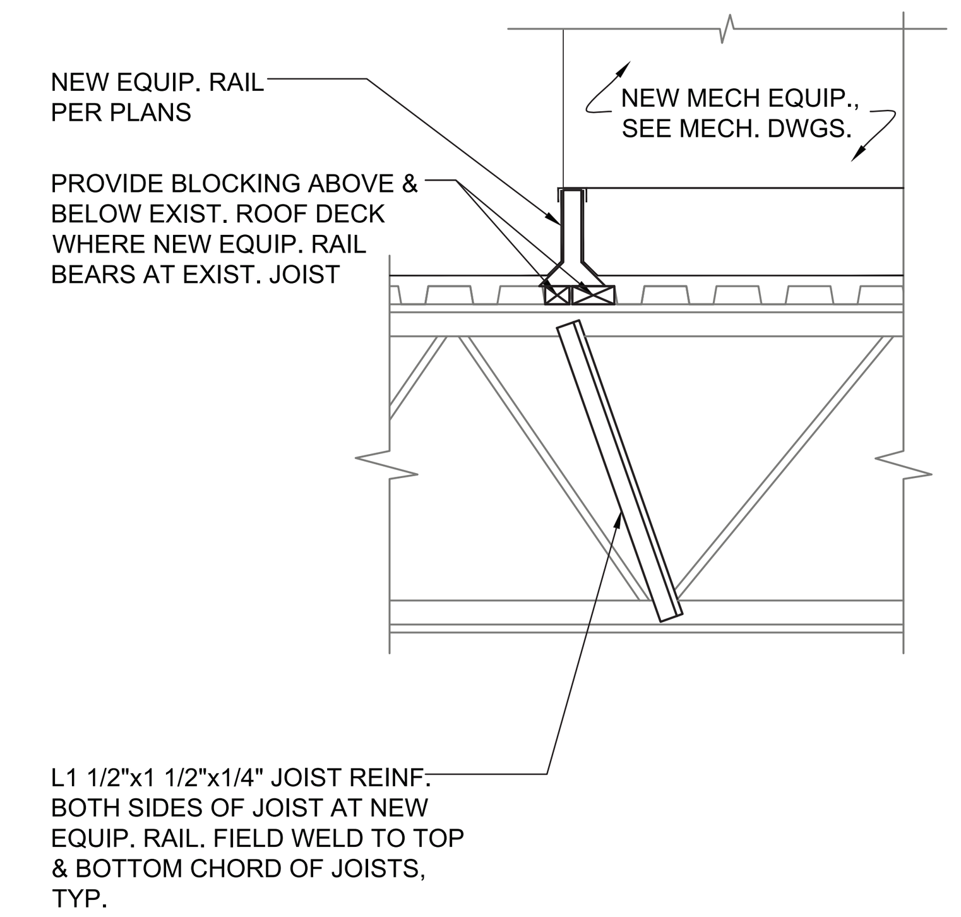
NOTES:

1. ALL UNITS SHALL BE CENTERED ON EXISTING JOISTS.
2. ALL EQUIPMENT RAILS SHALL SPAN OVER FIVE (5) EXISTING JOISTS, MINIMUM.
3. ALL JOISTS SUPPORTING EQUIPMENT RAILS SHALL BE REINFORCED PER DETAIL 5/FES-S-102.
4. ALL DIMENSIONS SHALL BE VERIFIED IN FIELD. NOTIFY ENGINEER OF RECORD IF ANY DISCREPANCIES ARE FOUND.
5. NO OTHER MECHANICAL OR ELECTRICAL UNITS OR EQUIPMENT SHALL BE LOCATED ON JOISTS SUPPORTING THE NEW UNITS.



STRUCTURAL STEEL REINFORCEMENTS / ROOF PENETRATIONS / CURB INSTLATIONS / RAIL INSTALLATIONS

APRIL 1st THROUGH APRIL 5th

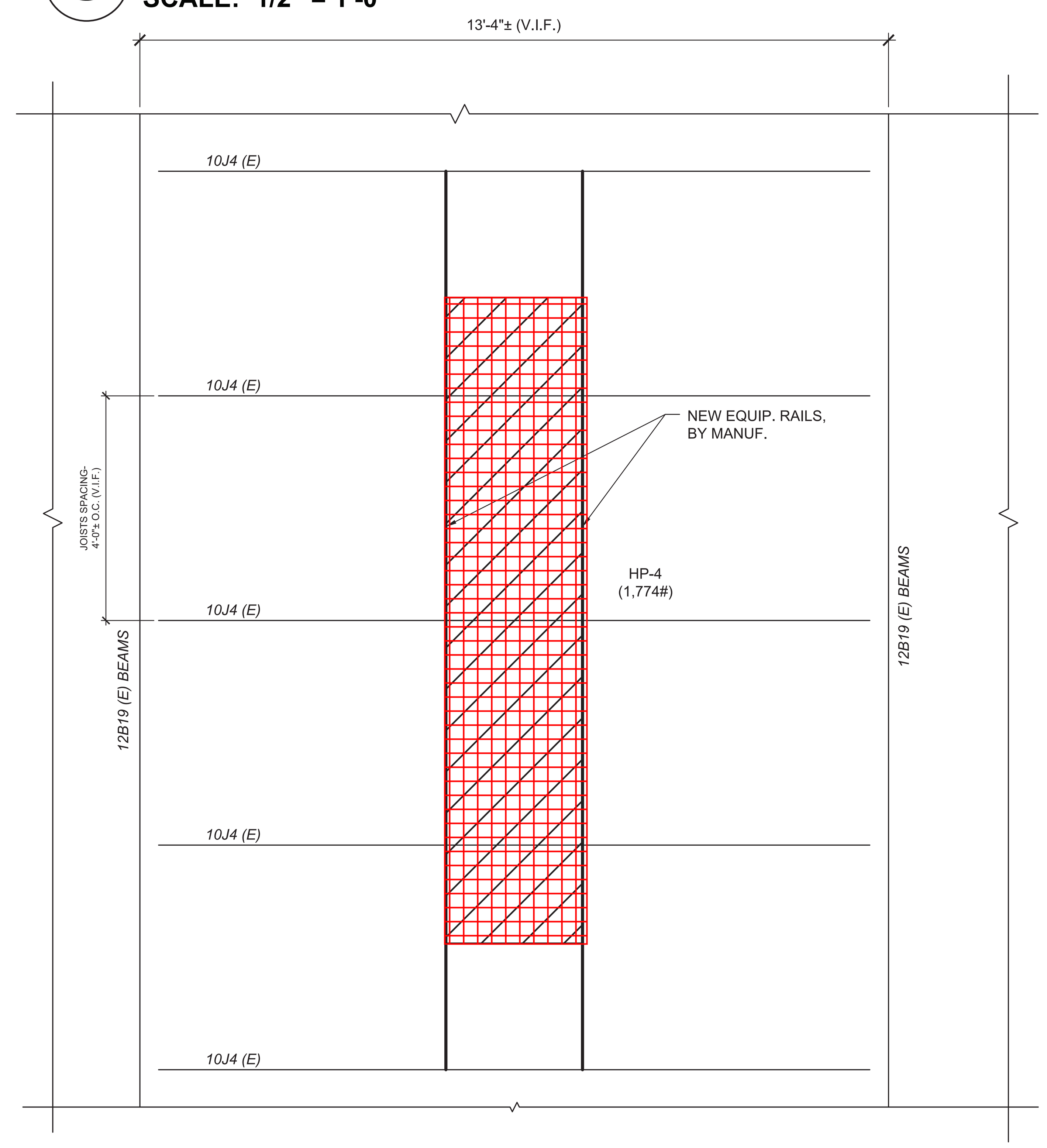


5 TYP. EXIST. JOIST REINF. DETAIL

SCALE: 3/4" = 1'-0"

1 ROOF PART PLAN UNDER HP-1

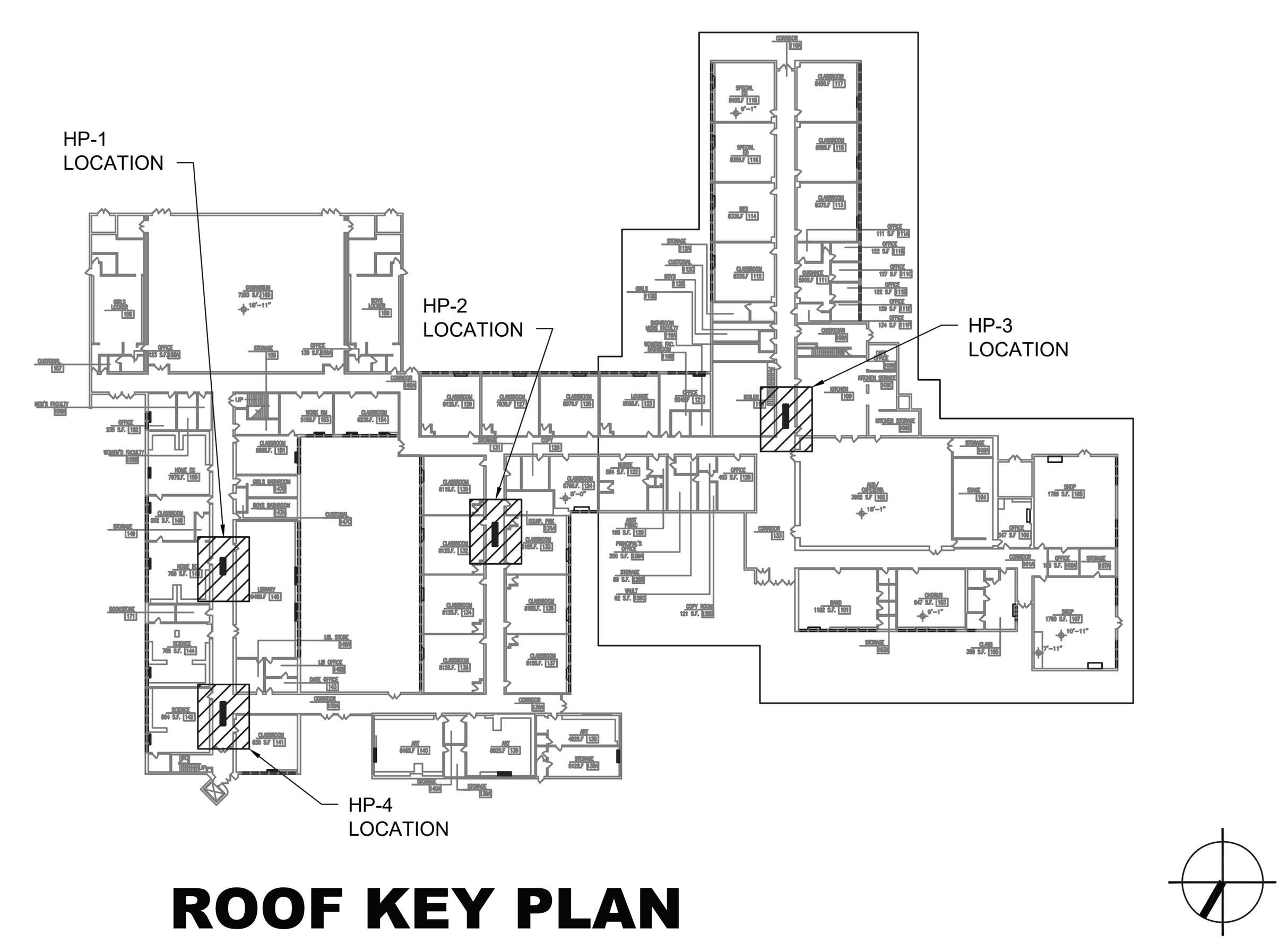
SCALE: 1/2" = 1'-0"



4 ROOF PART PLAN UNDER HP-4

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

CONSTRUCTION SEQUENCE PLAN



ROOF KEY PLAN

No.	Date	Revisions
REV 3	09-14-23	BIDDING DOCUMENTS
REV 2	06-09-23	SED ADDENDUM #1
REV 1	12-28-22	BIDDING DOCUMENTS

RONALD A. BROKENSHIRE, P.E. NY LIC 104873

REG. EXP. DATE: 04-30-24

Drawn by	YAY
Checked by	RAB
Project No.	42052
Scale	AS NOTED
Date	7/29/22

Mechanical & Electrical Engineer: GREENMAN PEDERSEN, INC 2 EXECUTIVE BOULEVARD SUITE 202 SUFFERN, NY 10901

Structural Engineer: GREENMAN PEDERSEN, INC 2 EXECUTIVE BOULEVARD SUITE 202 SUFFERN, NY 10901

UNIVENT REPLACEMENT AT FARLEY ELEMENTARY SCHOOL

SED # 50-02-01-06-0-003-011

COUNTY OF ROCKLAND

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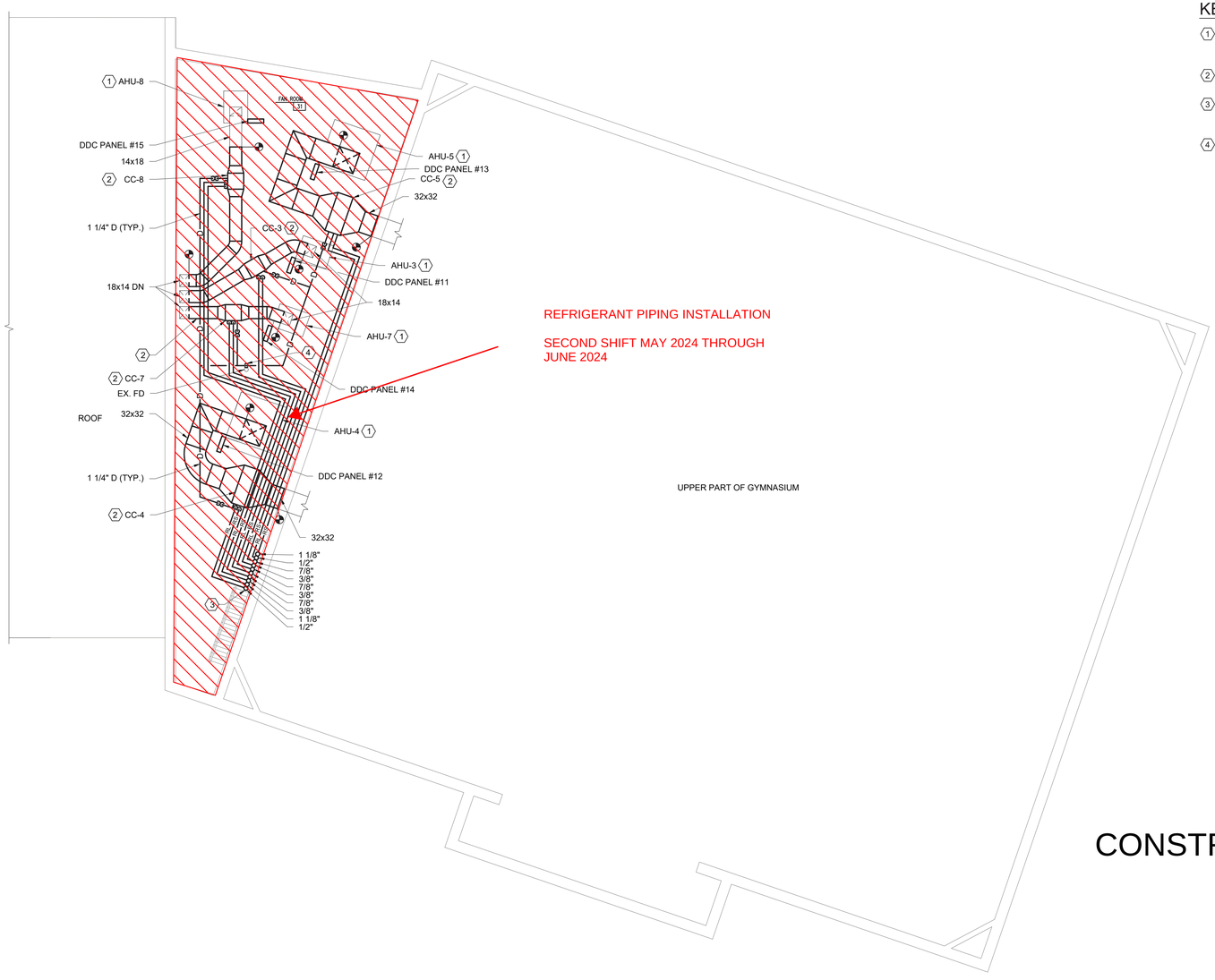
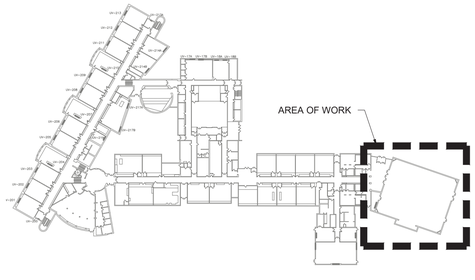


KEYED NOTES:

1. EX. AIR HANDLING UNIT (MCQUAY MODEL LHD). PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS. REFER TO THE CONTROL DIAGRAMS FOR MORE DETAILS.
2. PROVIDE DX COIL IN SUPPLY DUCTWORK AT EXISTING AIR HANDLING UNITS.
3. PROVIDE REFRIGERANT PIPING UP THROUGH THE ROOF TO THE SPLIT SYSTEM AC UNITS AT GRADE BELOW. REFER TO DRAWING WGES-M-111 FOR CONTINUATION.
4. PROVIDE 1 1/4" CONDENSATE DRAIN PIPING TERMINATES AT EXISTING FLOOR DRAIN.

CONSTRUCTION SEQUENCE PLAN



1 UPPER LEVEL FLOOR PLAN INSTALLATION
SCALE: 1/8" = 1' - 0"

2 UPPER LEVEL KEY PLAN
SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by	MEP
Checked by	PV
Project No.	42054
Scale	AS NOTED
Date	09-14-23

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SUFFERN, NY 10901

Structural Engineer:

UNIVENT REPLACEMENT
AT
WILLOW GROVE
ELEMENTARY SCHOOL
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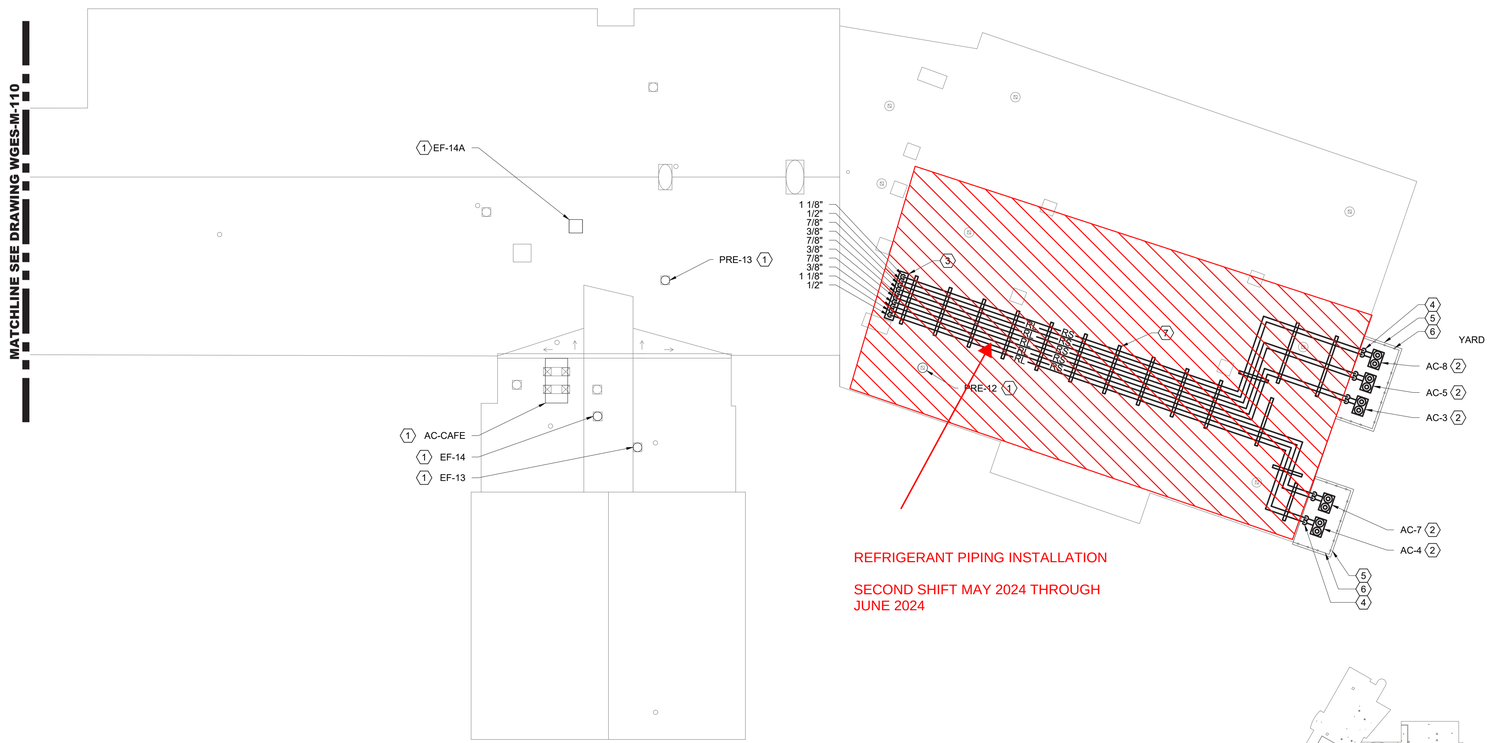
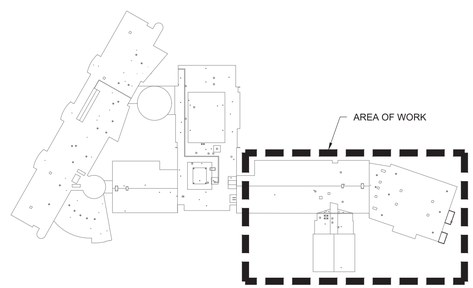
KEYED NOTES:

1. EXISTING MECHANICAL EQUIPMENT. PROVIDE DIRECT DIGITAL CONTROLS INTEGRATED WITH THE BMS. REFER TO THE CONTROL DIAGRAMS FOR MORE DETAILS.
2. PROVIDE SPLIT SYSTEM AIR CONDITIONING UNITS AS SHOWN.
3. PROVIDE ROOF CURB WITH PIPE PORTAL WHERE REFRIGERANT PIPING RUNS DOWN THROUGH THE ROOF. PROVIDE WATERTIGHT PENETRATION COMPATIBLE WITH THE EXISTING ROOFING SYSTEM. SEE DRAWING WGES-M-109 FOR CONTINUATION.
4. PROVIDE THREE (3) SETS 3/8" RL AND 7/8" RS AND TWO (2) SETS 1/2" RL AND 1-1/8" RS. INSTALL WITHIN LINESET COVER ALONG THE WALL AT 10'-0" AFF±. PAINT THE LINESET COVERS TO MATCH THE WALL IN A COLOR TO BE SELECTED BY THE OWNER.
5. PROVIDE CONCRETE PAD AT GRADE TO SUPPORT AC UNITS. VERIFY THE ACTUAL DIMENSIONS AGAINST THE MANUFACTURER'S RECOMMENDED CLEARANCES.
6. CHAIN LINK FENCE ENCLOSURE BY GC. VERIFY THE ACTUAL DIMENSIONS AGAINST THE MANUFACTURER'S RECOMMENDED CLEARANCES.
7. PROVIDE REFRIGERANT PIPING ALONG ROOF WITH CURB SUPPORTS SPACED AT 8'-0" O.C. MAXIMUM. SUPPORTS SHALL BE COMPATIBLE WITH THE EXISTING ROOFING SYSTEM.



CONSTRUCTION SEQUENCE PLAN

1 ROOF LEVEL FLOOR PLAN INSTALLATION
SCALE: 1/16" = 1' - 0"



2 ROOF KEY PLAN
SCALE: NONE

PLAN NORTH

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by MEP
Checked by PV
Project No. 42054
Scale AS NOTED
Date 09-14-23

GREENMAN PEDERSEN, INC
2 RESEARCH BOULEVARD SUITE 302 SUFFERN, NY 10901

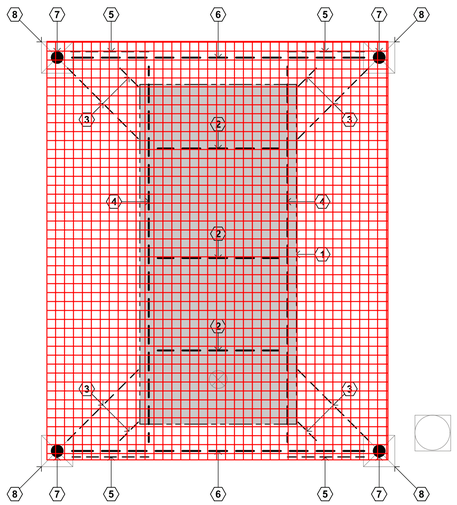
Mechanical & Electrical Engineer:

GREENMAN PEDERSEN, INC
2 RESEARCH BOULEVARD SUITE 302 SUFFERN, NY 10901

Structural Engineer:

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
COUNTY OF ROCKLAND
183 STORMS RD
TOMKINS, NY 10984

MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 845-708-9200
www.shilale.com



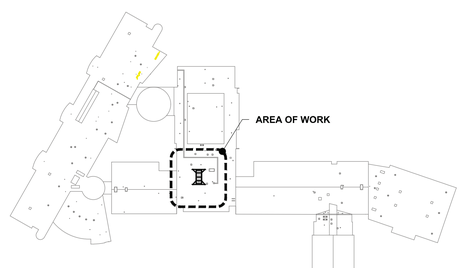
DEMOLITION KEYED NOTES:

1. FOR EXISTING COOLING TOWER DEMOLITION REFER TO MECHANICAL DWG. NO. WGES-M-070.
2. REMOVE EXISTING CHANNELS (C6x8.2).
3. REMOVE EXISTING HORIZONTAL BRACES (L3x3x¼).
4. REMOVE EXISTING SECONDARY BEAMS (10B15).
5. REMOVE EXISTING KNEE BRACES (L3x3x¼).
6. REMOVE EXISTING PRIMARY BEAMS (10WF22).
7. REMOVE EXISTING 3"Ø (NOM.) POSTS DOWN TO ROOF FRAMING CONNECTION. REFER TO DWG. NO. WGES-S-101 FOR CLEANING PROCEDURE.
8. FOR PITCH POCKETS REMOVAL AND SURROUNDING ROOF REPAIR REFER TO ARCHITECTURAL DWGS.

STRUCTURAL STEEL DUNNAGE FOR NEW CHILLER / ROOF PENETRATIONS / CURB INSTLATIONS / RAIL INSTALLATIONS

APRIL 1st THROUGH APRIL 5th

CONSTRUCTION SEQUENCE PLAN



KEY PLAN

PLAN NORTH

1 COOLING TOWER DUNNAGE DEMOLITION

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

0 1/2 1

IF THIS BAR DOES NOT MEASURE 1", THEN DRAWING IS NOT TO FULL SCALE

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REG. EXP. DATE: 04-30-24

Drawn by AN
Checked by RAB
Project No. 42054
Scale AS NOTED
Date 09-14-23

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD
SUITE 302
SUFFERN, NY 10901

Mechanical & Electrical Engineer:

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD
SUITE 302
SUFFERN, NY 10901

Structural Engineer:

UNIVENT REPLACEMENT
AT
WILLOW GROVE
ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
153 ZITOMER RD
TOMKINS, NY 10984
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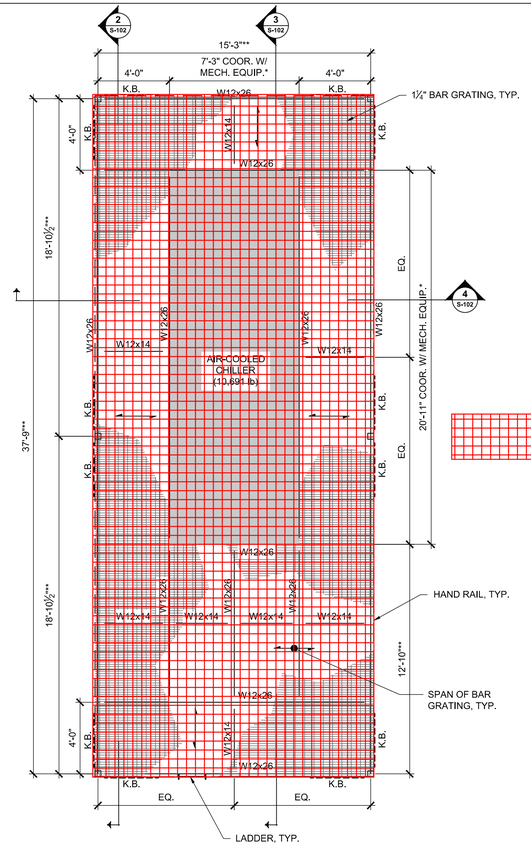
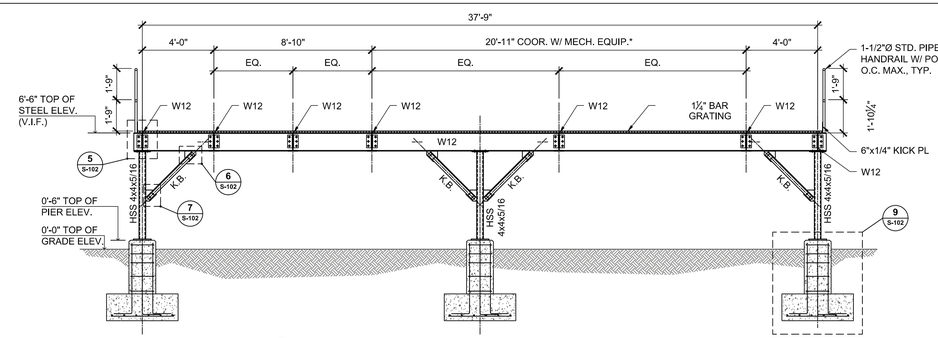


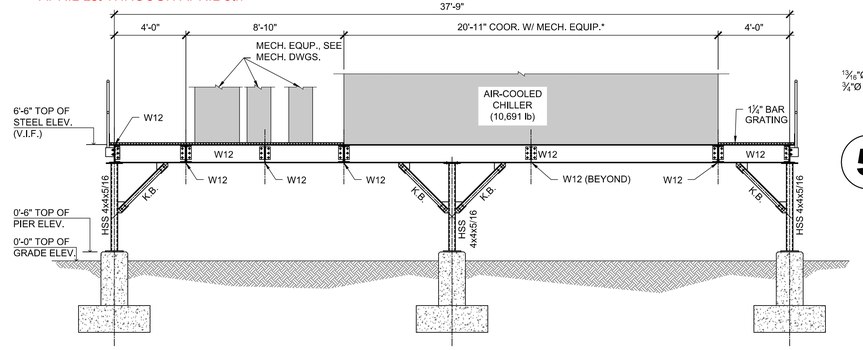
1 GROUND DUNNAGE PLAN INSTALLATION
SCALE: 1/4" = 1'-0"

STRUCTURAL STEEL FOUDNATION AND DUNNAGE FOR NEW CHILLER / ROOF PENETRATIONS / CURB INSTLATIONS / RAIL INSTALLATIONS

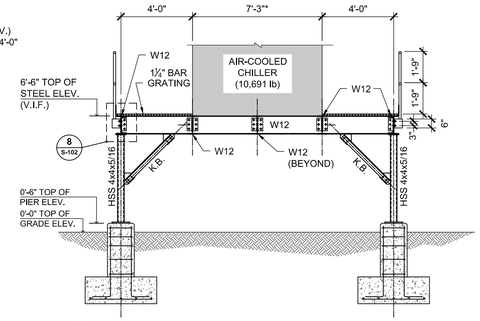
APRIL 1st THROUGH APRIL 5th



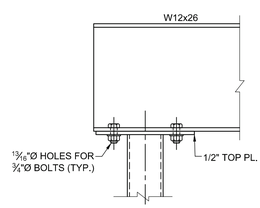
2 LONGITUDINAL SECTION
SCALE: 1/4" = 1'-0"



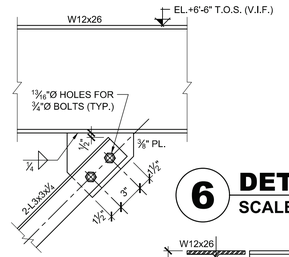
3 LONGITUDINAL SECTION
SCALE: 1/4" = 1'-0"



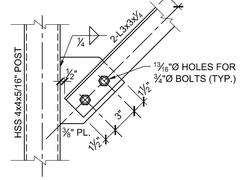
4 TRANSVERSE SECTION
SCALE: 1/4" = 1'-0"



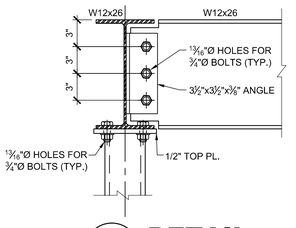
5 DETAIL
SCALE: 1-1/2" = 1'-0"



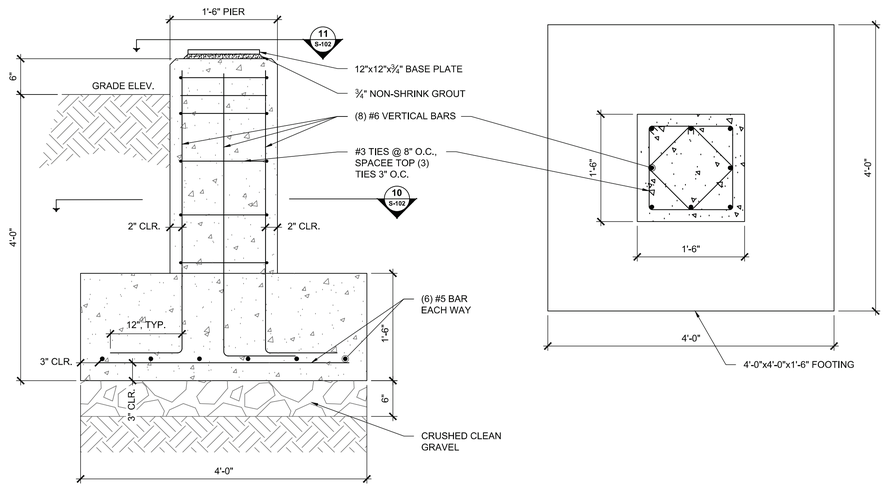
6 DETAIL
SCALE: 1-1/2" = 1'-0"



7 DETAIL
SCALE: 1-1/2" = 1'-0"



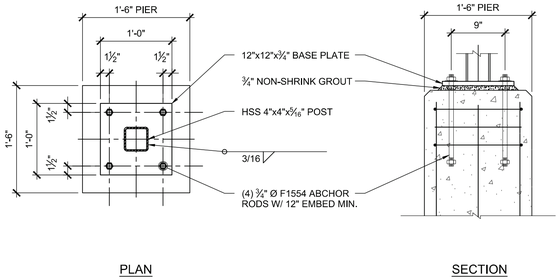
8 DETAIL
SCALE: 1-1/2" = 1'-0"



9 FOUNDATION SECTION DETAIL
SCALE: 1" = 1'-0"

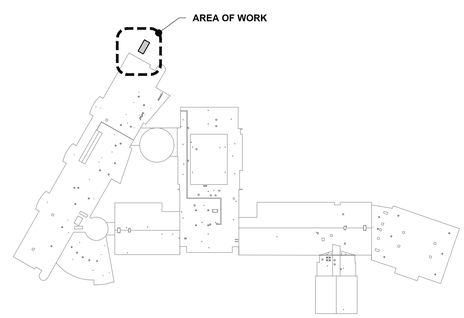
10 FOUNDATION PLAN VIEW
SCALE: 1" = 1'-0"

CONSTRUCTION SEQUENCE PLAN



11 BASE PLATE DETAIL
SCALE: 1" = 1'-0"

- T.O.S. EL. ±6'-6" VERIFY IN FIELD.
- DIMENSIONS DESIGNATED THUS (*) ARE SUBJECT TO COORDINATION WITH UNIT MANUFACTURER.
- DIMENSION DESIGNATED THUS (**) ARE SUBJECT TO COORDINATION BETWEEN CHILLER INSTALLER AND GENERAL CONTRACTOR.
- ALL KNEE BRACES (K.B.) SHALL BE 2-L3X3X¼.
- ALL STEEL EXPOSED TO ELEMENTS SHALL BE HOT-DIP GALVANIZED.



KEY PLAN

PLAN NORTH

1/2 0 1
IF THIS BAR DOES NOT MEASURE 1", THEN DRAWING IS NOT TO FULL SCALE

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

STATE OF NEW YORK RONALD ALAN BROKENSHIRE 104873 LICENSED PROFESSIONAL ENGINEER
RONALD A. BROKENSHIRE, P.E.
NY LIC 104873
REG. EXP. DATE: 04-30-24

Drawn by YAY
Checked by RAB
Project No. 42054
Scale
Date 09-14-23

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD SUITE 302 SUFFERN, NY 10901
Mechanical & Electrical Engineer:

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD SUITE 302 SUFFERN, NY 10901
Structural Engineer:

UNIVENT REPLACEMENT
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153 STORMS RD
THIELLS, NY 10984
COUNTY OF ROCKLAND

MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 845-708-9200
www.shilale.com

EXISTING THROUGH WALL LOUVER

SUPPLY REGISTER

NEW UNIT VENT
UV-00

NEW FAN COIL UNIT
FC-00

NEW CASSETTE
CS-00

EXISTING UNIT VENT (TO REMAIN)

EXISTING UNIT VENT (TO BE REMOVED)

RA NEW RELIEF VENT ENCLOSURE

AREA OF NEW ROOF

NEW CHILLER

OLF / LE LINEAR FEET OF LINE SET ENCLOSURE

LEGEND

A1 INSTALL NEW UNIT VENTILATOR AS PART OF ALTERNATE NO. 200.

A2 INSTALL NEW CEILING MOUNTED UNIT VENTILATOR AS PART OF ALTERNATE NO. 200.

A3 PATCH EXISTING FLOOR AND WALL WHERE EXISTING UV IS REMOVED.

A4 INSTALL NEW WINDOW ASSEMBLY. VERIFY ALL DIMENSIONS IN FIELD. SEE DRAWING WGES-A-510 FOR WINDOW ELEVATIONS AS ALTERNATE NO. 203.

A5 NEW INTAKE TO BE RAISED AWAY FROM GRADE. INSTALL NEW BRICK AND BLOCK WALL BELOW INTAKE. BRICK TO MATCH EXISTING, SEE DETAIL 3/A-101 & 4/A-101. SUBMIT BRICK SAMPLES FOR APPROVALS.

A6 INSTALL NEW SPLIT SYSTEM UNITS, PROVIDE EQUIPMENT SUPPORT RAILS, SEE MEP DRAWINGS & DETAIL 1/WGES-A-500

A7 PROVIDE NEW CHILLER, SEE MEP DRAWINGS

A8 MODIFY EXISTING DUNNAGE AS REQ'D., SEE STRUCTURAL DRAWINGS

A9 PROVIDE PITCH POCKET OR THROUGH ROOF BOOT/FLASHING ASSEMBLY @ ALL PIPE & CONDUIT ROOF PENETRATIONS. NEW ASSEMBLY TO BE COMPATIBLE W. EXISTING ROOFING SYSTEM. SEE DETAIL 2/WGES-A-500

A10 PERFORM MODIFICATIONS TO EXISTING UV AS NOTED ON MECHANICAL DRAWINGS.

Unit Ventilators - (water and electrical disconnects) /
UV removal. June 27th through July 5th.

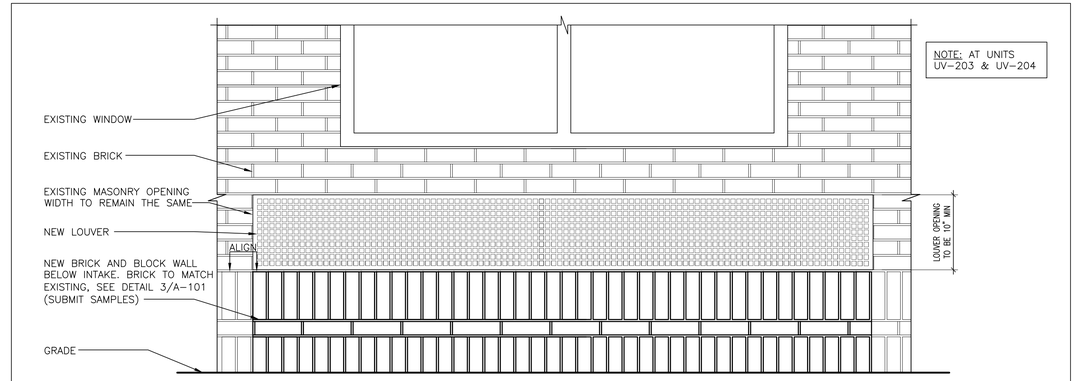
New UV installation July 8th through July 19th.

Removals of existing chillers - April 1st through April 5th.

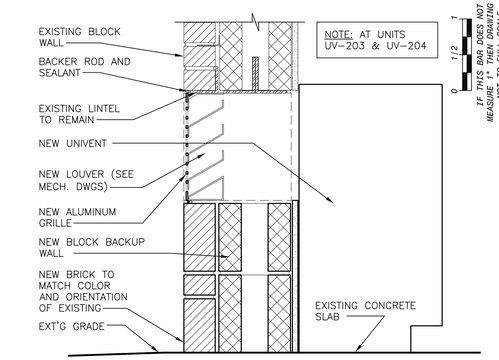
KEY NOTES

1. CONTRACTOR SHALL BE REQUIRED TO CORE DRILL ALL HOLES IN WALLS, FLOORS AND CEILINGS TO FACILITATE NEW CHILLER LINES, CONDUITS AND CONDENSATE LINES. FIRE STOP ALL PENETRATIONS.
2. PATCH EXISTING VCT FLOORING AT BASE UNDER UNI-VENT.
3. PATCH EXISTING PLASTER AND CASE WORK AT ALL UNI-VENT LOCATIONS.

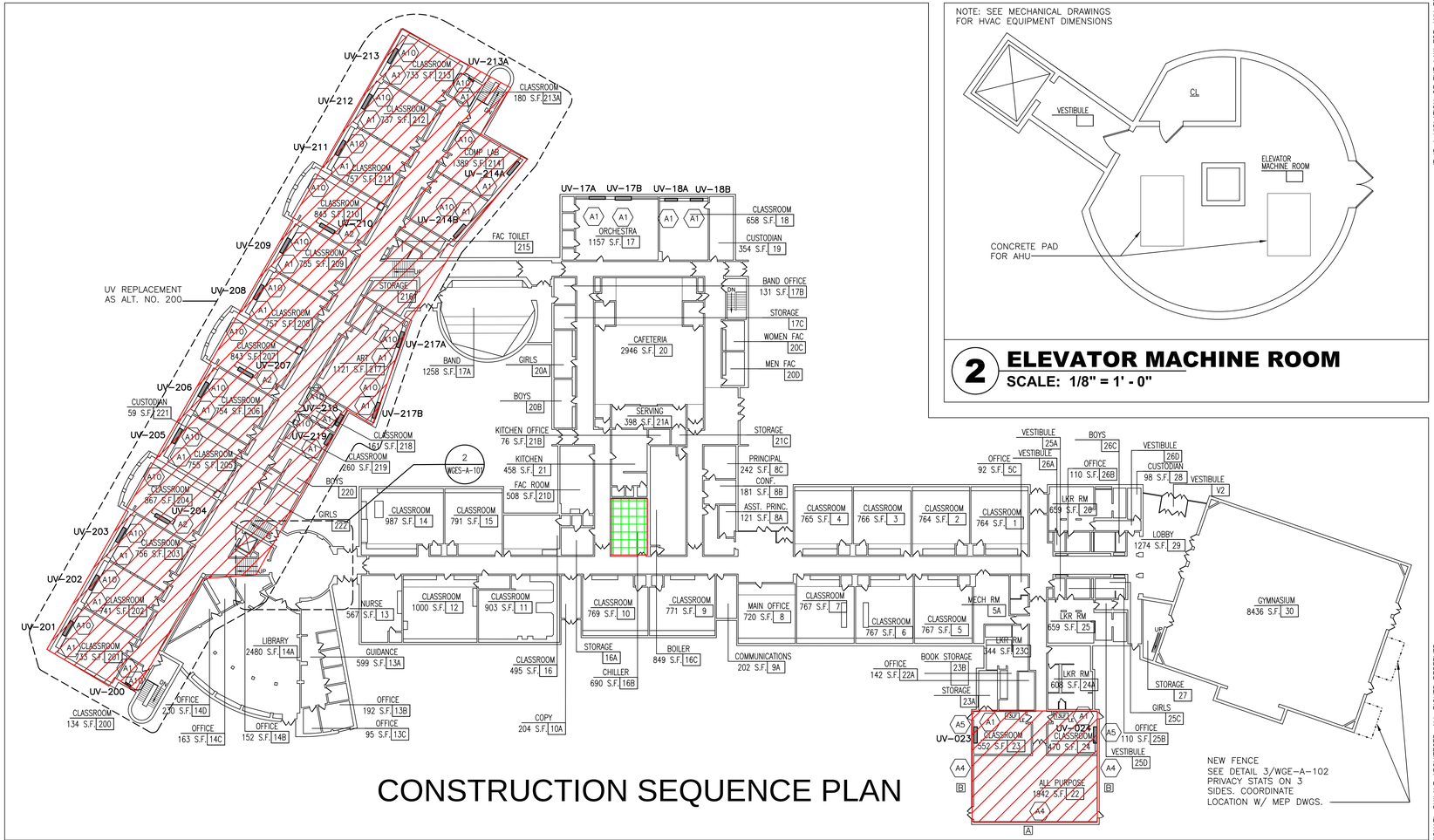
GENERAL NOTES



4 AIR INTAKE ELEVATION
SCALE: 1" = 1'-0"



3 RAISED AIR INTAKE SECTION
SCALE: 1-1/2" = 1'-0"



CONSTRUCTION SEQUENCE PLAN

1 MAIN LEVEL FLOOR PLAN
SCALE: 1" = 30' - 0"

NOTE: SEE MECHANICAL DRAWINGS FOR HVAC EQUIPMENT DIMENSIONS

2 ELEVATOR MACHINE ROOM
SCALE: 1/8" = 1' - 0"

No.	Date	Revisions
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM 1
1	01-18-23	BIDDING DOCUMENTS

REG. EXP DATE: 06-30-24

Drawn by MAL
Checked by MS/JC
Project No. 42054
Scale AS NOTED
Date 07-29-22

GREENMAN PEDERSEN, INC
400 REILLA BOULEVARD
MONTVILLE, NJ 07045

Mechanical & Electrical Engineer:

Structural Engineer:

UNIVENT REPLACEMENT
AT WILLOW GROVE
ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
105 STRYKERS ROAD
PHILLIPSBURG, NJ 08865
COUNTY OF ROCKLAND

MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 845-708-9200
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EXISTING THROUGH WALL LOUVER

SUPPLY REGISTER

NEW UNIT VENT
UV-00

NEW FAN COIL UNIT
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EXISTING UNIT VENT (TO REMAIN)

EXISTING UNIT VENT (TO BE REMOVED)

NEW RELIEF VENT ENCLOSURE
RA

AREA OF NEW ROOF

NEW CHILLER

OLF LE LINEAR FEET OF LINE SET ENCLOSURE

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A7 PROVIDE NEW CHILLER, SEE MEP DRAWINGS

A8 MODIFY EXISTING DUNNAGE AS REQ'D., SEE STRUCTURAL DRAWINGS

A9 PROVIDE PITCH POCKET OR THROUGH ROOF BOOT/FLASHING ASSEMBLY @ ALL PIPE & CONDUIT ROOF PENETRATIONS. NEW ASSEMBLY TO BE COMPATIBLE W. EXISTING ROOFING SYSTEM. SEE DETAIL 2/WGES-A-500

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KEY NOTES

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2. PATCH EXISTING VCT FLOORING AT BASE UNDER UNI-VENT.
3. PATCH EXISTING PLASTER AND CASE WORK AT ALL UNI-VENT LOCATIONS.

GENERAL NOTES

Unit Ventilators - (water and electrical disconnects) / UV removal. July 8th through July 17th.

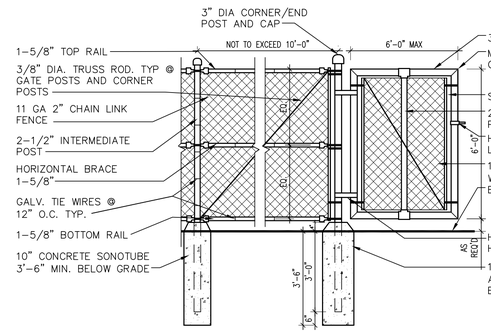
New UV installation July 18th through August 1st.

Chiller foundation and dunnage installation - Spring Break

Chiller installation Mid August 2024, dependent on Chiller delivery

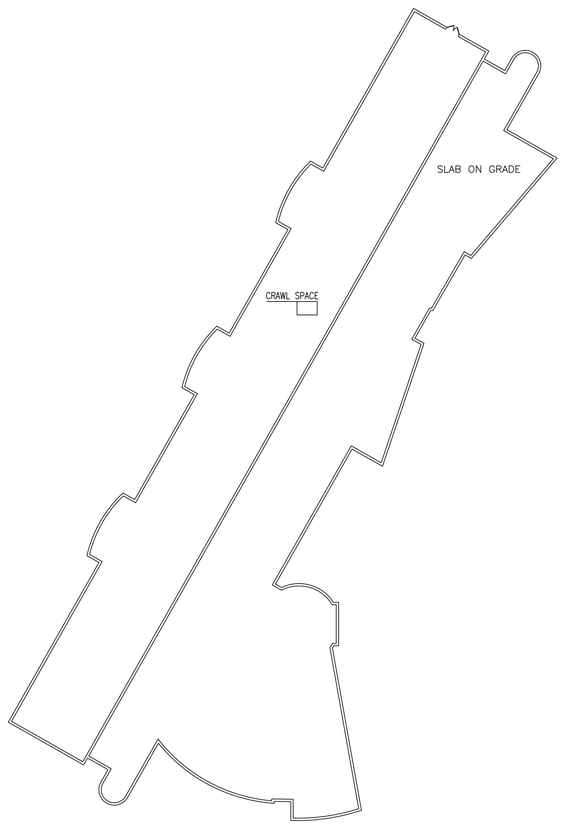
CONSTRUCTION SEQUENCE PLAN

NOTES:
1. ALL WORK SHALL CONFORM TO ASTM F-1553 AND THE CHAIN LINK FENCE MANUFACTURERS INSTITUTE.
2. ALL POSTS AND RAILS SHALL BE GALVANIZED, HIGH STRENGTH STEEL (83000 PSI YIELD STRENGTH). ALL OTHER COMPONENETS AND HARDWARE SHALL BE GALVANIZED UNLESS OTHERWISE NOTED.
3. ALL MESH SHALL RECIEVE A CLASS 2a EXTRUDED BLACK POLYMER COATING WITH ASTM F-668.
4. REFER TO PLANS FOR THE SIZE AND LOCATION OF THE PEDESTRIAN SWING GATE. THE SPECIFIED WIDTH SHALL BE THE CLEAR WIDTH IN THE OPEN POSITION. GATE SHALL INCLUDE A LOCK (WHICH SHALL BE INTEGRATED INTO THE BUILDING'S MASTER KEYING SYSTEM). GATE SHALL ALSO INCLUDE OTHER WEATHER-RATED HARDWARE (INCLUDING AN AUTOMATIC CLOSER, HINGES, LATCHING, WALL STOP, AND OTHER HARDWARE AS REQUIRED FOR PROPER OPERATION OF GATE)
5. INCLUDE CUSTOM PROVISIONS FOR HARDWARE MOUNTING AND LATCHING.
6. INCLUDE CUSTOM PROVISIONS TO PREVENT VANDALS FROM ENTERING FROM THE EXTERIOR SIDE.
7. CONTRACTOR TO REPAIR/PATCH ANY EXISTING CONCRETE/ASPHAULT DAMAGED DURING EXCAVATION OF PIERS/SONOTUBES.
8. PROVIDE EXTERIOR CORNER FENCE POST PROTECTION 36"X36"X6'-0" BY RESILITE MAT COMPANY (800-843-6287), PROVIDE AT 2 LOCATIONS DESIGNATED BY ARCHITECT.

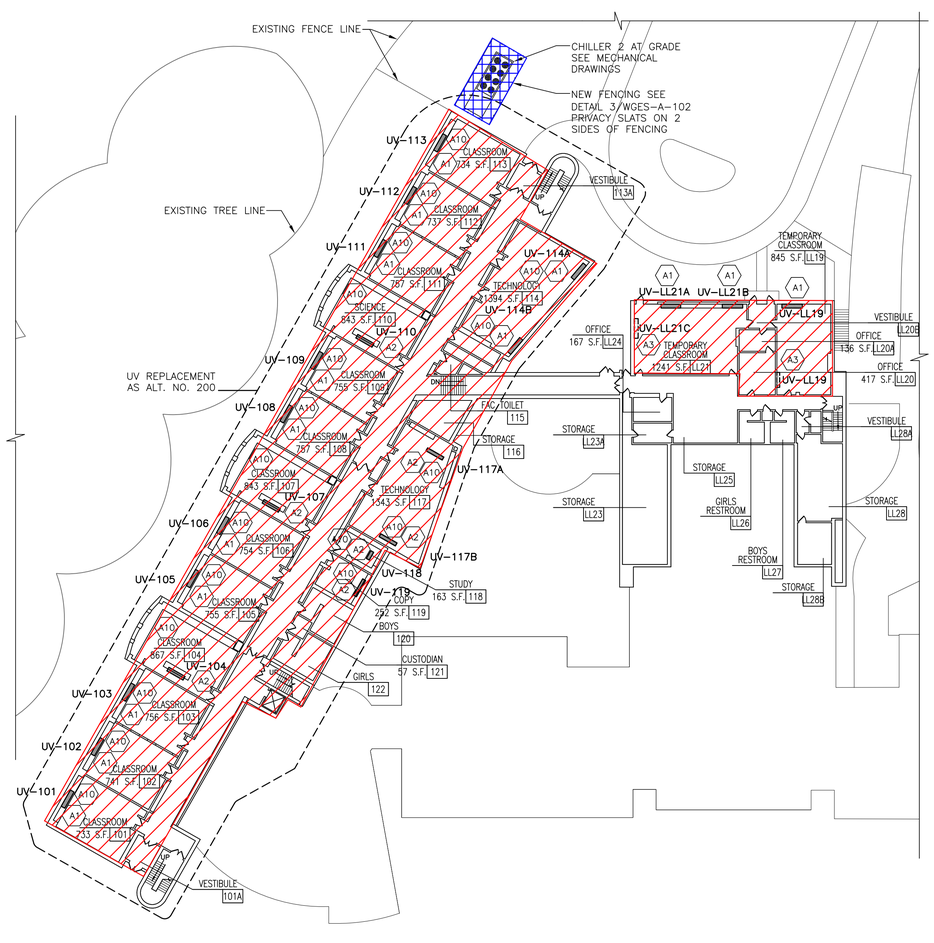


3 FENCING DETAIL
SCALE: 3/8"=1'-0"

NOTE: CHILLER LINES TO BE INSTALLED IN CRAWL SPACE. SEE MECHANICAL DRAWINGS



2 CRAWL SPACE PLAN
SCALE: 1"= 30'- 0"



1 LOWER LEVEL FLOOR PLAN
SCALE: 1"= 30'- 0"

PLAN NORTH

No.	Date	Revisions
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Drawn by MAL
Checked by MS/JC
Project No. 42054
Scale AS NOTED
Date 07-29-22

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT, TO ALTER AN ITEM IN ANY WAY.

GREENMAN PEDERSEN, INC
400 REBEL BOULEVARD
MONTEBELLO, NY 10901

Mechanical & Electrical Engineer:

Structural Engineer:

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
COUNTY OF ROCKLAND
133 STORRS ROAD
STERLING, NY 13564

MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 845-708-9200
www.shilale.com

UNIVENT REPLACEMENT AT FARLEY ELEMENTARY SCHOOL

FARLEY ELEMENTARY SCHOOL
140 ROUTE 210
STONY POINT, NY 10980
SED# 50-02-01-06-0-003-011

OWNER:
NORTH ROCKLAND CENTRAL SCHOOL DISTRICT
65 Chapel Street
Garnerville, NY 10923

ARCHITECT:
MICHAEL SHILALE ARCHITECTS, LLP
140 Park Avenue
New City, NY 10956

PME ENGINEER:
GREENMAN-PEDERSEN, INC.
400 Rella Boulevard, Suite 207
Montabello, NY 10901

MATERIALS LEGEND

- CONCRETE MASONRY UNIT
- BRICK
- RIGID INSULATION
- CONCRETE
- GRAVEL OR STONE
- EARTH
- EIFS
- ASPHALT PAVING
- SAND/MORTAR/GYPSUM BOARD
- STEEL
- ACT
- ROUGH WOOD
- BRONZE

SYMBOLS LEGEND

- (1) DOOR NUMBER
- <1> KEY NOTE
- <1> PARTITION TYPE
- /1\ REVISION NUMBER
- [1] WINDOW TYPE
- (1) MECHANICAL EQUIPMENT
- EXISTING PARTITION
- EXISTING PARTITION TO BE REMOVED
- NEW PARTITION (SEE PARTITION LEGEND A-101)
- NEW DOOR
- EXISTING DOOR
- EXISTING DOOR TO BE REMOVED
- EXISTING WINDOW
- NEW WINDOW
- OFFICE / 100 SF | 101 — ROOM NAME / ROOM NAME/ NUMBER IDENTIFICATION; ROOM NUMBER; ROOM AREA
- 1 / A-100 — DRAWING NUMBER; WALL SECTION/ ELEVATION REFERENCE; SHEET NUMBER
- 1 / A-100 — DETAIL NUMBER; DETAIL REFERENCE; SHEET NUMBER
- 1 — COLUMN LINE DESIGNATION

LIST OF DRAWINGS

DRAWING No.	DRAWING TITLE	DATE
FES-A-000	COVER SHEET	11-09-23
FES-B-100	CODE ANALYSIS	09-14-23
FES-AA-000	ABATEMENT NOTES	01-18-23
FES-AA-100	FIRST FLOOR ABATEMENT PLAN	01-18-23
FES-AA-200	SECOND FLOOR ABATEMENT PLAN	01-18-23
FES-S-001	STRUCTURAL NOTES AND LEGEND ABBREVATIONS	09-14-23
FES-S-101	GYM ROOF FRAMING PLAN AND DETAILS	09-14-23
FES-S-102	ROOF PART PLANS UNDER HP UNITS	11-09-23
FES-D-101	FIRST FLOOR DEMO PLAN	09-14-23
FES-D-102	SECOND FLOOR DEMO PLAN	09-14-23
FES-D-103	ROOF DEMO PLAN	09-14-23
FES-A-101	PROPOSED FIRST FLOOR PLAN	09-14-23
FES-A-102	PROPOSED SECOND FLOOR PLAN	09-14-23
FES-A-103	PROPOSED ROOF PLAN	09-14-23
FES-A-104	PROPOSED ELECTRICAL ROOM PLAN	09-14-23
FES-A-401	FIRST FLOOR REFLECTED CEILING PLAN	09-14-23
FES-A-402	SECOND FLOOR REFLECTED CEILING PLAN	09-14-23
FES-A-403	REFLECTED CEILING PLAN	09-14-23
FES-A-404	REFLECTED CEILING PLAN DETAILS	09-14-23
FES-A-500	ROOF DETAILS	09-14-23
FES-A-600	UV ELEVATIONS	09-14-23
FES-A-601	UV ELEVATIONS	09-14-23
FES-A-602	UV ELEVATIONS	09-14-23
FES-A-610	INTERIOR DETAILS	09-14-23
FES-M-001	MECHANICAL GENERAL NOTES, ABBREVIATIONS, & SYMBOL LIST	09-14-23
FES-M-002	MECHANICAL SCHEDULES -1	09-14-23
FES-M-003	MECHANICAL SCHEDULES -2	11-09-23
FES-M-061	HVAC DEMO FIRST FLOOR PLAN -1	09-14-23
FES-M-062	HVAC DEMO FIRST FLOOR PLAN -2	09-14-23
FES-M-063	HVAC DEMO SECOND FLOOR PLAN	09-14-23
FES-M-064	HVAC DEMO GYMNASIUM PLAN	09-14-23
FES-M-101	HVAC INSTALLATION FIRST FLOOR PLAN -1	11-09-23
FES-M-102	HVAC INSTALLATION FIRST FLOOR PLAN -2	11-09-23
FES-M-103	HVAC INSTALLATION SECOND FLOOR PLAN	09-14-23
FES-M-104	HVAC INSTALLATION GYMNASIUM PLAN	11-09-23
FES-M-105	MECHANICAL ROOF PLAN	11-09-23
FES-M-501	MECHANICAL DETAILS -1	11-09-23
FES-M-502	MECHANICAL DETAILS -2	11-09-23
FES-M-503	MECHANICAL DETAILS -3	11-09-23
FES-M-504	HVAC REFRIGERANT PIPING DIAGRAMS	11-09-23
FES-E-001	ELECTRICAL NOTES & SCHEDULES	09-14-23
FES-E-002	ELECTRICAL SITE PLAN	09-14-23
FES-E-061	ELECTRICAL FIRST FLOOR DEMO PLAN SHEET 1	09-14-23
FES-E-062	ELECTRICAL FIRST FLOOR DEMO PLAN SHEET 2	09-14-23
FES-E-063	ELECTRICAL SECOND FLOOR DEMO PLAN	09-14-23
FES-E-101	ELECTRICAL FIRST FLOOR PLAN -1	11-09-23
FES-E-102	ELECTRICAL FIRST FLOOR PLAN -2	11-09-23
FES-E-103	ELECTRICAL SECOND FLOOR PLAN	09-14-23
FES-E-104	ELECTRICAL ROOF PLAN -1	11-09-23
FES-E-105	ELECTRICAL ROOF PLAN -2	11-09-23
FES-E-106	ELECTRICAL PART PLAN	09-14-23
FES-E-201	ELECTRICAL FIRST FLOOR PART PLAN -1	09-14-23
FES-E-202	ELECTRICAL FIRST FLOOR PLAN -2	09-14-23
FES-E-400	ELECTRICAL ONE LINE DIAGRAM, DISTRIBUTION BOARD SCHEDULE	09-14-23
FES-E-401	ELECTRICAL PANEL SCHEDULES #1	11-09-23
FES-E-402	ELECTRICAL PANEL SCHEDULES #2	09-14-23
FES-E-403	ELECTRICAL PANEL SCHEDULES #3	09-14-23
FES-E-404	ELECTRICAL PANEL SCHEDULES #4	09-14-23
FES-E-405	ELECTRICAL PANEL SCHEDULES #5	09-14-23
FES-E-406	ELECTRICAL PANEL SCHEDULES #6	09-14-23
FES-E-407	ELECTRICAL PANEL SCHEDULES #7	09-14-23
FES-E-408	ELECTRICAL PANEL SCHEDULES #8	11-09-23
FES-E-409	ELECTRICAL PANEL SCHEDULES #9	09-14-23
FES-E-500	ELECTRICAL DETAILS -1	09-14-23
FES-E-501	ELECTRICAL DETAILS -2	09-14-23
FES-E-502	ELECTRICAL DETAILS -3	09-14-23
FES-FA-001	FIRE ALARM GENERAL NOTES, SYMBOL LIST, PART PLAN, & RISER DIAGRAM	09-14-23

1/2" 0 1"
IF THIS BAR DOES NOT MEASURE 1", THEN DRAWING IS NOT TO FULL SCALE

GENERAL NOTES

1. ALL PLAN DIMENSIONS ARE NOMINAL U.O.N. DIMENSIONS TO THE FINISHED FACE OF AN ELEMENT OR WALL WILL BE DESIGNATED WITH AN "F" AS SHOWN.

2. G.C. TO VERIFY ALL DIMENSIONS IN THE FIELD AND IS TO NOTIFY ARCHITECT IF THERE ARE ANY DISCREPANCIES.

UNIT PRICES

UNIT PRICE NO. 100:
PROVIDE A UNIT PRICE TO REPLACE ADDITIONAL EXISTING SUPPLY AND RETURN PIPING AND INSULATION. PRICE IS PER 10 LINEAR FEET. (THIS AMOUNT WILL ADD OR REDUCE ALLOWANCE NO. 100).

UNIT PRICE NO. 101:
PROVIDE A UNIT PRICE FOR THE INSTALLATION OF 10 LF OF LINE SET ENCLOSURE. (THIS AMOUNT WILL ADD OR REDUCE ALLOWANCE NO. 101).

UNIT PRICE NO. 102:
ELECTRICAL CONTRACTOR TO PROVIDE A UNIT PRICE TO RELOCATE AN EXISTING ELECTRICAL DEVICE THAT IS REQUIRED TO BE RELOCATED. PRICE PER 1 DEVICE. (THIS AMOUNT WILL ADD OR REDUCE ALLOWANCE NO. 102).

UNIT PRICE NO. 103:
ELECTRICAL CONTRACTOR TO PROVIDE NEW POWER CONNECTION TO EXISTING UV LOCATION WHERE EXISTING FEEDER CANNOT BE REUSED. PRICE PER 1 FEED. (THIS AMOUNT WILL ADD OR REDUCE ALLOWANCE NO. 103).

ALTERNATES

ALT. NO. 100: REMOVE EXISTING UNUSED FAN GEAR AND DUCTWORK IN FAN ROOM 201. FILL AND CLOSE EXISTING 2 HR BLOCK WALL WITH NEW BLOCK AT OLD DUCT LOCATIONS.

ALT. NO. 101: INCLUDE CEILING AND LIGHTING REPLACEMENT IN CORRIDORS. SEE FES-D-101, FES-D-102, FES-D-105, FES-A-401, FES-A-402, FES-A-403

ALT. NO. 102: REMOVE EXISTING 12"X12" CONCEALED SPLINE CEILING. PROVIDE NEW ACT AND REINSTALL LIGHTING.

4

ALT. NO. 104: CONTRACTOR TO INSTALL ONE SWING SET AND TWO ADD A SWING KITS WITH LOCATION TO BE DETERMINED IN THE FIELD BY OWNER. SWING SET TO BE ADA GAMETIME – POWERSCAPE SWING MODEL # 81598. ADD A BAY TO BE ADA GAMETIME – POWERSCAPE SWING ADD A BAY MODEL # 81599. SWING SET AND ADD A BAYS WILL BE PROVIDED TO THE CONTRACTOR BY THE OWNER.

ALT. NO. 105: PROVIDE 1/4" THICK SOLID SURFACE MATERIAL AT ALL UV'S BUILT INTO CASE WORK.

ALT. NO. 106: PROVIDE INSTALLATION FOR NEW CANOPY. CANOPY TO BE PROVIDED TO THE CONTRACTOR BY THE OWNER. CANOPY MODEL NUMBER RC201810IN. ATTACHED CUT SHEETS HAVE BEEN PROVIDED FOR THE CONTRACTOR'S REFERENCE. G.C. SHALL INCLUDE NYS P.E. SIGNED AND SEALED DRAWINGS FOR FOOTING DESIGN.

ALLOWANCES

ALLOWANCE NO. 100: REPLACE EXISTING SUPPLY AND RETURN PIPING AND INSULATION FOR 30 LINEAR FEET PER EACH UNIT VENTILATOR.

ALLOWANCE NO. 101: CONTRACTOR TO INCLUDE AN ALLOWANCE FOR THE LF OF LINE SET ENCLOSURE NOTED ON THE DRAWINGS.

ALLOWANCE NO. 102: PROVIDE ALLOWANCE FOR THE RELOCATION OF 40 ELECTRICAL DEVICES THAT REQUIRE RELOCATION DUE TO NEW UV SIZE.

ALLOWANCE NO. 103: ELECTRICAL CONTRACTOR TO PROVIDE NEW POWER CONNECTIONS TO 10 EXISTING UV LOCATIONS WHERE EXISTING CANNOT BE REUSED.

ALLOWANCE NO. 104: HAZARDOUS MATERIALS ALLOWANCE.

ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE	ITR	INDIVIDUAL TREATMENT ROOM
A.F.F.	ABOVE FINISH FLOOR	JT	JOINT
ASPH	ASPHALT	LAM	LAMINATE
BLK	BLOCK	LAV	LAVATORY
BLK'G	BLOCKING	LF	LINEAR FEET
BUR	BUILT UP ROOFING	LP	LOW POINT
CLG	CEILING	MAX	MAXIMUM
CONC	CONCRETE	MFR	MANUFACTURER
CONT	CONTINUOUS	MTL	METAL
C.J.	CONTROL JOINT	MIN	MINIMUM
DN	DOWN	MO	MASONRY OPENING
DIA	DIAMETER	N.I.C.	NOT IN CONTRACT
DWG	DRAWING	NO.	NUMBER
E.F.	EACH FACE	OC	ON CENTER
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM	OPN'G	OPENING
E.W.	EACH WAY	PBC	PLUMBING CONTRACTOR
E.W.C.	ELECTRICAL WATER COOLER	PLAS.LAM.	PLASTIC LAMINATE
EL	ELEVATION	PL	PLATE
ELC	ELECTRICAL CONTRACTOR	PLY'D	PLYWOOD
EXIST	EXISTING	RAD	RADIUS
EXP	EXPANSION	REF.CLG.	REFLECTED CEILING
EXT'G	EXISTING	REQ'D	REQUIRED
EXTR	EXTERIOR	RO	ROUGH OPENING
FP	FIREPROOF	SIM	SIMILAR
FIN.	FINISH(ED)	STL	STEEL
GA	GAUGE	SUSP.CLG.	SUSPENDED CEILING
GC	GENERAL CONTRACTOR	T.O.M.	TOP OF MASONRY
GALV	GALVANIZED	T.O.S.	TOP OF STEEL
GL	GLASS	TYP	TYPICAL
GWB	GYPSUM WALL BOARD	U.O.N.	UNLESS OTHERWISE NOTED
HM	HOLLOW METAL	V.I.F.	VERIFY IN FIELD
H.P.	HIGH POINT	VCT	VINYL COMPOSITE TILE
HAC	HEATING & A/C CONTRACTOR	W/	WITH
		WD	WOOD

No.	Date	Revisions
4	11-09-23	ADDENDUM NO. 1
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM 1
1	01-18-23	BIDDING DOCUMENTS

REG. EXP DATE: 06-30-24

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT TO ALTER AN ITEM IN ANY WAY.

Drawn by MAL
Checked by MS/JC
Project No. 42052
Scale AS NOTED
Date 11-30-22

GREENMAN PEDERSEN, INC
400 RELLA BOULEVARD
MONTEBELLO, NY 10901

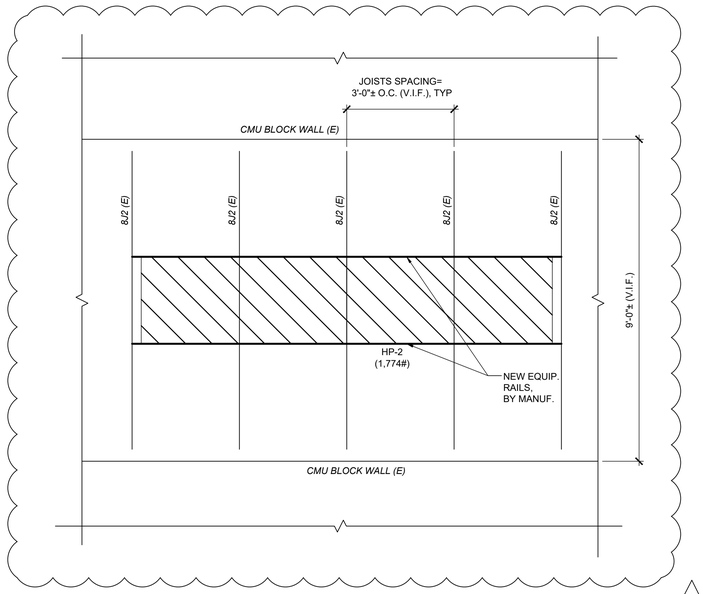
Mechanical & Electrical Engineer: —
Structural Engineer: —

UNIVENT REPLACEMENT AT FARLEY ELEMENTARY SCHOOL
SED# 50-02-01-06-0-003-011
140 ROUTE 210, STONY POINT, NY 10980
COUNTY OF ROCKLAND

MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 845-708-9200
www.shilale.com

Drawing Title: COVER SHEET

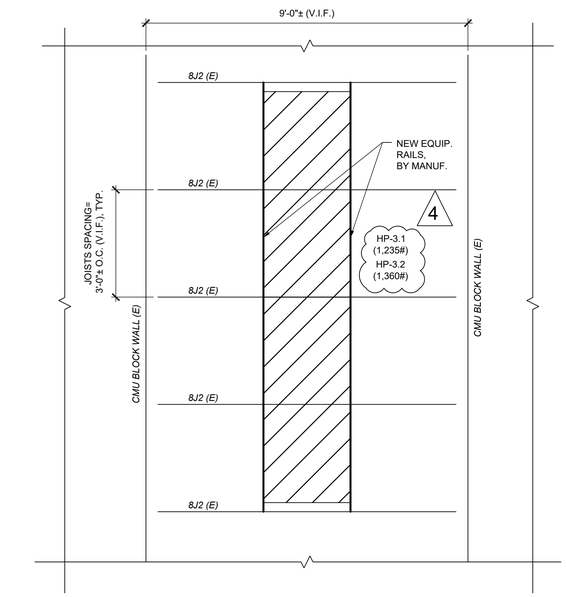
Drawing No. FES-A-000



4

2 ROOF PART PLAN UNDER HP-2

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

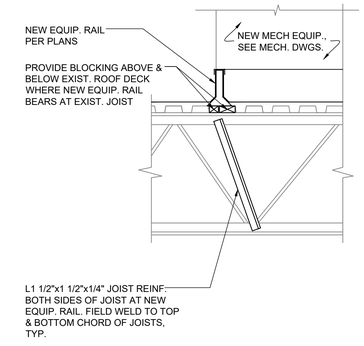


3 ROOF PART PLAN UNDER HP-3.1 & HP3.2

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

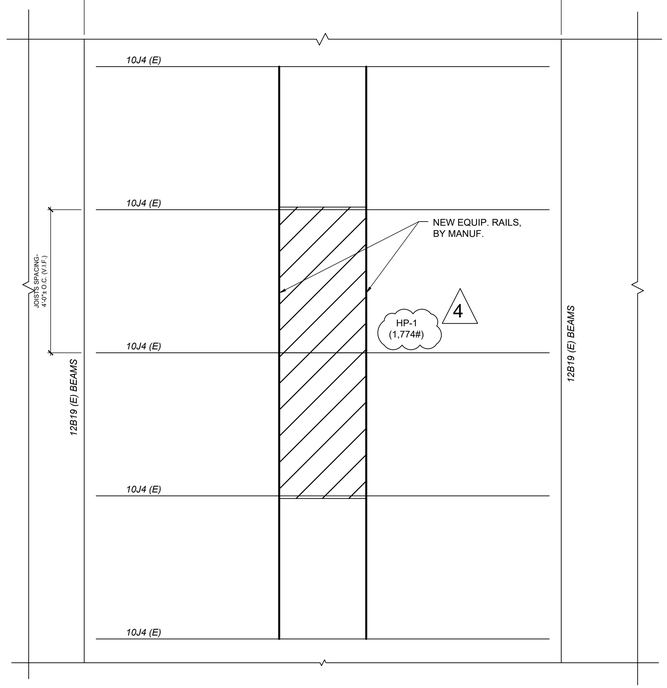
NOTES:

1. ALL UNITS SHALL BE CENTERED ON EXISTING JOISTS.
2. ALL EQUIPMENT RAILS SHALL SPAN OVER FIVE (5) EXISTING JOISTS, MINIMUM.
3. ALL JOISTS SUPPORTING EQUIPMENT RAILS SHALL BE REINFORCED PER DETAIL 5/FES-S-102.
4. ALL DIMENSIONS SHALL BE VERIFIED IN FIELD. NOTIFY ENGINEER OF RECORD IF ANY DISCREPANCIES ARE FOUND.
5. NO OTHER MECHANICAL OR ELECTRICAL UNITS OR EQUIPMENT SHALL BE LOCATED ON JOISTS SUPPORTING THE NEW UNITS.



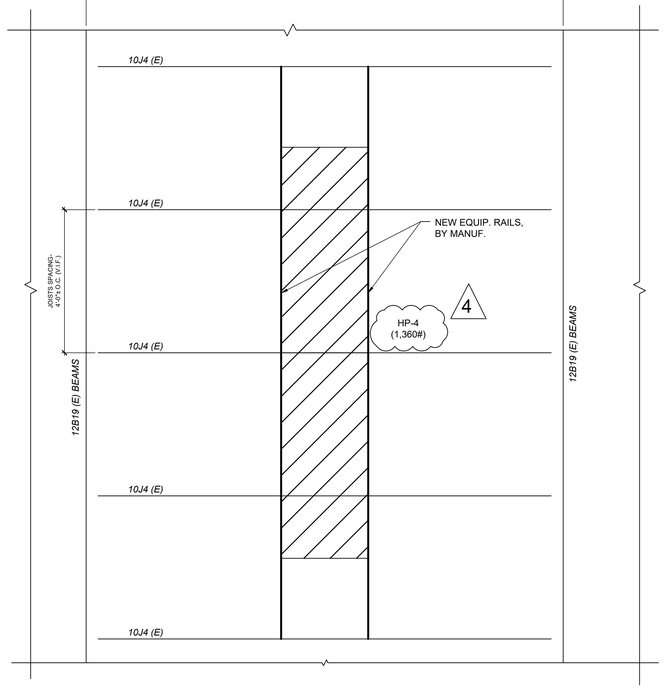
5 TYP. EXIST. JOIST REINF. DETAIL

SCALE: 3/4" = 1'-0"



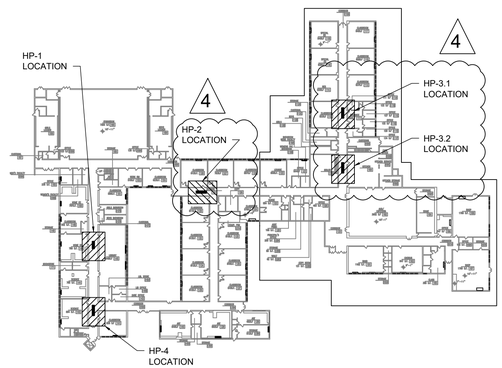
1 ROOF PART PLAN UNDER HP-1

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



4 ROOF PART PLAN UNDER HP-4

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



ROOF KEY PLAN

PLAN NORTH

No.	Date	Revisions
1	12-28-22	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
3	09-14-23	BIDDING DOCUMENTS
4	11-09-23	ADDENDUM #1

STATE OF NEW YORK
RONALD ALAN BROKENSHIRE
104873
LICENSED PROFESSIONAL ENGINEER

RONALD A. BROKENSHIRE, P.E.
NY LIC 104873

Drawn by	YAY
Checked by	RAB
Project No.	42052
Scale	AS NOTED
Date	7/29/22

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD
SUITE 302
SUFFERN, NY 10901

Mechanical & Electrical Engineer:

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD
SUITE 302
SUFFERN, NY 10901

Structural Engineer:

UNIVENT
REPLACEMENT AT
FARLEY ELEMENTARY
SCHOOL

SED # 50-02-01-06-0-003-011
###

COUNTY OF ROCKLAND

MSA
MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 845-708-9200
www.shilale.com

Drawing Title
ROOF PART PLANS UNDER HP UNITS

Drawing No.
FES-S-102

UNIT VENTILATOR SCHEDULE NOTES:

1. PROVIDE WITH CONDENSATE PUMP.
2. ELECTRICAL CONTRACTOR TO PROVIDE ALL UNIT VENTILATORS WITH FACTORY MADE DISCONNECT SWITCH.

UNIT VENTILATOR SCHEDULE

UNIT TAG	ASSOCI-ATED OUTDOOR UNIT	LOCATION	CONFIGURATION	TOTAL SUPPLY AIRFLOW (CFM)	MINIMUM OUTSIDE AIRFLOW		MAXIMUM OUTSIDE AIRFLOW (CFM)	COOLING					HEATING						FILTER	ELECTRICAL			UNIT WEIGHT LBS	UNIT DIMENSIONS (LxH, IN) (V.I.F.)	UNIT DEPTH (IN)	BASIS OF DESIGN	NOTES
					COOLING	HEATING		EADB (°F)	EAWB (°F)	LADB (°F)	LAWB (°F)	MIN TOTAL CAPACITY (BTU/H)	REQUIRED TOTAL CAPACITY (BTU/H)	HEAT PUMP		HOT WATER			MERV	MCA	MAX FUSE SIZE	V/PH/HZ				MODEL NUMBER	
														EADB (°F)	LADB (°F)	EWT (°F)	LWT (°F)	GPM									
UV-141	HP-1	RM 141	VERTICAL	750	435	435	750	82.9	67.0	55	54	22,300	44,200	35.5	90	140	120	4.42	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-142	HP-1	RM 142	VERTICAL	1000	470	470	1000	82.0	67.0	55	54	29,700	51,400	42.4	90	140	120	5.14	13	4.38	16	115/1/60	405	81x30	21.25	TRANE VUVE100	
UV-144	HP-1	RM 144	VERTICAL	750	410	410	750	82.6	67.0	55	54	22,300	42,500	37.6	90	140	120	4.25	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-145A	HP-1	RM 145	VERTICAL	1000	185	185	1000	79.6	67.0	55	54	29,700	32,000	60.3	90	140	120	3.2	13	4.38	16	115/1/60	405	81x30	21.25	TRANE VUVE100	
UV-145B	HP-1	RM 145	VERTICAL	1000	185	185	1000	79.6	67.0	55	54	29,700	32,000	60.3	90	140	120	3.2	13	4.38	16	115/1/60	405	81x30	21.25	TRANE VUVE100	
UV-146	HP-1	RM 146	VERTICAL	750	415	415	750	82.7	67.0	55	54	22,300	42,800	37.1	90	140	120	4.28	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-148	HP-1	RM 148	VERTICAL	750	290	290	750	81.3	67.0	55	54	22,300	34,300	47.6	90	140	120	3.43	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-150	HP-1	RM 150	VERTICAL	750	420	420	750	82.8	67.0	55	54	22,300	43,200	36.7	90	140	120	4.32	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-151	HP-1	RM 151	VERTICAL	750	300	300	750	81.4	67.0	55	54	22,300	35,000	46.8	90	140	120	3.5	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-152	HP-1	RM 152	VERTICAL	750	50	50	750	78.6	67.0	55	54	22,300	18,000	67.8	90	140	120	1.8	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-153	HP-1	RM 153	VERTICAL	750	270	270	750	81.1	67.0	55	54	22,300	33,000	49.3	90	140	120	3.3	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-154A	HP-1	RM 154	VERTICAL	750	165	165	750	79.9	67.0	55	54	22,300	25,800	58.1	90	140	120	2.58	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-154B	HP-1	RM 154	VERTICAL	750	165	165	750	79.9	67.0	55	54	22,300	25,800	58.1	90	140	120	2.58	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-158	HP-1	RM 158	HORIZONTAL	1250	450	450	1250	81.1	67.0	55	54	37,100	54,900	49.3	90	140	120	5.49	13	12	16	115/1/60	435	94.25x38	21.25	TRANE HUVC125	1
UV-123	HP-2	RM 123	VERTICAL	750	80	80	750	78.9	67.0	55	54	22,300	20,000	65.3	90	140	120	2	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-124	HP-2	RM 124	VERTICAL	750	305	305	750	81.5	67.0	55	54	22,300	35,300	46.4	90	140	120	3.53	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-125	HP-2	RM 125	VERTICAL	750	425	425	750	82.8	67.0	55	54	22,300	43,500	36.3	90	140	120	4.35	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-127	HP-2	RM 127	VERTICAL	750	410	410	750	82.6	67.0	55	54	22,300	42,500	37.6	90	140	120	4.25	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-129	HP-2	RM 129	VERTICAL	750	425	425	750	82.8	67.0	55	54	22,300	43,500	36.3	90	140	120	4.35	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-130	HP-2	RM 130	VERTICAL	750	425	425	750	82.8	67.0	55	54	22,300	43,500	36.3	90	140	120	4.35	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-132	HP-2	RM 132	VERTICAL	750	425	425	750	82.8	67.0	55	54	22,300	43,500	36.3	90	140	120	4.35	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-133	HP-2	RM 133	VERTICAL	750	430	430	750	82.9	67.0	55	54	22,300	43,800	35.9	90	140	120	4.38	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-134	HP-2	RM 134	VERTICAL	750	425	425	750	82.8	67.0	55	54	22,300	43,500	36.3	90	140	120	4.35	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-135	HP-2	RM 135	VERTICAL	750	430	430	750	82.9	67.0	55	54	22,300	43,800	35.9	90	140	120	4.38	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-136	HP-2	RM 136	VERTICAL	750	425	425	750	82.8	67.0	55	54	22,300	43,500	36.3	90	140	120	4.35	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-137	HP-2	RM 137	VERTICAL	750	430	430	750	82.9	67.0	55	54	22,300	43,800	35.9	90	140	120	4.38	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-138A	HP-2	RM 138A	VERTICAL	750	255	255	750	80.9	67.0	55	54	22,300	31,900	50.6	90	140	120	3.19	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-138B	HP-2	RM 138B	HORIZONTAL	750	270	270	750	81.1	67.0	55	54	22,300	33,000	49.3	90	140	120	3.3	13	12	16	115/1/60	340	70.25x36	21.25	TRANE HUVC075	1
UV-139	HP-2	RM 139	VERTICAL	1000	470	470	1000	82.0	67.0	55	54	29,700	51,400	42.4	90	140	120	5.14	13	4.38	16	115/1/60	405	81x30	21.25	TRANE VUVE100	
UV-140	HP-2	RM 140	VERTICAL	750	445	445	750	83.0	67.0	55	54	22,300	44,900	34.6	90	140	120	4.49	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-159	HP-1	RM 159	HORIZONTAL	1250	400	400	1250	80.7	67.0	55	54	37,100	51,500	51.8	90	140	120	5.15	13	12	16	115/1/60	435	94.25x38	21.25	TRANE HUVC125	1
UV-101A	HP-3	RM 101	VERTICAL	750	255	255	750	80.9	67.0	55	54	22,300	31,900	50.6	90	140	120	3.19	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-101B	HP-3	RM 101	VERTICAL	750	255	255	750	80.9	67.0	55	54	22,300	31,900	50.6	90	140	120	3.19	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-103	HP-3	RM 103	VERTICAL	1000	435	435	1000	81.7	67.0	55	54	29,700	49,000	44.6	90	140	120	4.9	13	4.38	16	115/1/60	405	81x30	21.25	TRANE VUVE100	
UV-105	HP-3	RM 105	VERTICAL	750	115	115	750	79.3	67.0	55	54	22,300	22,400	62.3	90	140	120	2.24	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-106	HP-3	RM 106	VERTICAL	750	40	40	750	78.5	67.0	55	54	22,300	17,300	68.6	90	140	120	1.73	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	1
UV-107	HP-3	RM 107	HORIZONTAL	2000	760	760	2000	81.2	67.0	55	54	59,400	90,600	48.1	90	140	120	9.06	13	12	16	115/1/60	600	106.25x43	21.25	TRANE HUVC200	1
UV-108	HP-3	RM 108	HORIZONTAL	2000	755	755	2000	81.2	67.0	55	54	59,400	90,300	48.2	90	140	120	9.03	13	12	16	115/1/60	600	106.25x43	21.25	TRANE HUVC200	1
UV-111	HP-3	RM 111	HORIZONTAL	750	250	250	750	80.8	67.0	55	54	22,300	31,600	51.0	90	140	120	3.16	13	12	16	115/1/60	340	70.25x36	21.25	TRANE HUVC075	1
UV-112	HP-3	RM 112	VERTICAL	750	440	440	750	83.0	67.0	55	54	22,300	44,500	35.0	90	140	120	4.45	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-113	HP-3	RM 113	VERTICAL	750	440	440	750	83.0	67.0	55	54	22,300	44,500	35.0	90	140	120	4.45	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-114	HP-3	RM 114	VERTICAL	750	440	440	750	83.0	67.0	55	54	22,300	44,500	35.0	90	140	120	4.45	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-115	HP-3	RM 115	VERTICAL	750	450	450	750	83.1	67.0	55	54	22,300	45,200	34.2	90	140	120	4.52	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-116	HP-3	RM 116	VERTICAL	750	440	440	750	83.0	67.0	55	54	22,300	44,500	35.0	90	140	120	4.45	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-117	HP-3	RM 117	VERTICAL	750	445	445	750	83.0	67.0	55	54	22,300	44,900	34.6	90	140	120	4.49	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-118	HP-3	RM 118	VERTICAL	750	445	445	750	83.0	67.0	55	54	22,300	44,900	34.6	90	140	120	4.49	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-121	HP-3	RM 121	VERTICAL	750	50	50	750	78.6	67.0	55	54	22,300	18,000	67.8	90	140	120	1.8	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
4 UV-122	HP-3	RM 122	VERTICAL	750	60	60	750	78.7	67.0	55	54	22,300	18,700	67.0	90	140	120	1.87	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
IU-120	HP-3	RM 120	CEILING CASSETTE	280	20	20	280	78.6	67.0	55	54	12,000	13,500	67.5	90	N/A	N/A	N/A	13	0.29	15	208/1/160	31.3	22.44x8.2	22.4	TRANE TPLFYP012FM140A	
IU-128	HP-3	RM 128	CEILING CASSETTE	280	35	35	280	79.1	67.0	55	54	12,000	13,500	64.1	90	N/A	N/A	N/A	13	0.29	15	208/1/160	31.3	22.44x8.3	22.4	TRANE TPLFYP012FM140A	
IU-128A	HP-3	RM 122A	CEILING CASSETTE	280	35	35	280	79.1	67.0	55	54	12,000	13,500	64.1	90	N/A	N/A	N/A	13	0.29	15	208/1/160	31.3	22.44x8.4	22.4	TRANE TPLFYP012FM140A	
IU-128D	HP-3	RM 128D	CEILING CASSETTE	280	35	35	280	79.1	67.0	55	54	12,000	13,500	64.1	90	N/A	N/A	N/A	13	0.29	15	208/1/160	31.3	22.44x8.5	22.4	TRANE TPLFYP012FM140A	
IU-158A	HP-1	RM 158A	CEILING CASSETTE	280	35	35	280	79.1	67.0	55	54	12,000	13,500	64.1	90	N/A	N/A	N/A	13	0.29	15	208/1/160	31.3	22.44x8.6	22.4	TRANE TPLFYP012FM140A	
IU-159A	HP-1	RM 159A	CEILING CASSETTE	280	35	35	280	79.1	67.0	55	54	12,000	13,500	64.1	90	N/A	N/A	N/A	13	0.29	15	208/1/160	31.3	22.44x8.7	22.4	TRANE TPLFYP012FM140A	
UV-202	HP-4	RM 202	VERTICAL	750	435	435	750	82.9	67.0	55	54	22,300	44,200	35.5	90	140	120	4.42	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-203	HP-4	RM 203	VERTICAL	750	415	415	750	82.7	67.0	55	54	22,300	42,800	37.1	90	140	120	4.28	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-204	HP-4	RM 204	VERTICAL	750	330	330	750	81.7	67.0	55	54	22,300	37,000	44.3	90	140	120	3.7	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-205	HP-4	RM 205	VERTICAL	750	50	50	750	78.6	67.0	55	54	22,300	18,000	67.8	90	140	120	1.8	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-206	HP-4	RM 206	VERTICAL	750	330	330	750	81.7	67.0	55	54	22,300	37,000	44.3	90	140	120	3.7	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-207	HP-4	RM 207	VERTICAL	750	410	410	750	82.6	67.0	55	54	22,300	42,500	37.6	90	140	120	4.25	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-208	HP-4	RM 208	VERTICAL	1000	490	490	1000	82.2	67.0	55	54	29,700	52,800	41.1	90	140	120	5.28	13	4.38	16	115/1/60	405	81x30	21.25	TRANE VUVE100	
UV-209	HP-4	RM 209	VERTICAL	750	415	415	750	82.7	67.0	55	54	22,300	42,800	37.1	90	140	120	4.28	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-210	HP-4	RM 210	VERTICAL	750	420	420	750	82.8	67.0	55	54	22,300	43,200	36.7	90	140	120	4.32	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-211	HP-4	RM 211	VERTICAL	750	410	410	750	82.6	67.0	55	54	22,300	42,500	37.6	90	140	120	4.25	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	
UV-212	HP-4	RM 212	VERTICAL	1000	490	490	1000	82.2	67.0	55	54	29,700	52,800	41.1	90	140	120	5.28	13	4.38	16	115/1/60	405	81x30	21.25	TRANE VUVE100	
UV-213	HP-4	RM 213	VERTICAL	750	420	420	750	82.6	67.0	55	54	22,300	43,200	36.7	90	140	120	4.32	13	4.38	16	115/1/60	320	69x30	21.25	TRANE VUVE075	

4

DUCTLESS HEAT PUMP OUTDOOR UNIT SCHEDULE

UNIT #	LOCATION	TOTAL COOLING CAPACITY (MBH)	HEATING CAPACITY (MBH)	EER	IEER	REFRIG-ERANT	REFRIG-ERANT SAFETY CLASS	REFRIG CHARGE (LBS)	HEATING TYPE	CONDENSER	COMPRESSOR (QUANTITY)	ELECTRICAL					UNIT WEIGHT (LBS)	BASIS OF DESIGN		REMARKS
										EA DB °F (COOLING/ HEATING)	TYPE	VOLTS	PHASE	Hz	MOCP (A)	MCA (A)		MANUFACTURER	MODEL #	
HP-1	ROOF	432.0	480.0	9.95	15.0	R410A	A1	52.125	HEAT PUMP	95/0	SCROLL (2)	208	3	60	90 / 90	73.0 / 73.0	1,774	TRANE	TURYE4323BN40A(N/B)	SEE NOTES
HP-2	ROOF	432.0	480.0	9.95	15.0	R410A	A1	52.125	HEAT PUMP	95/0	SCROLL (2)	208	3	60	90 / 90	73.0 / 73.0	1,774	TRANE	TURYE4323BN40A(N/B)	SEE NOTES
HP-3.1	ROOF	216.0	243.0	12.85	27.5	R410A	A1	34.375	HEAT PUMP	95/0	SCROLL (2)	208	3	60	60 / 45	41.0 / 31.0	1,235	TRANE	TURYE216BN40A(N/B)	SEE NOTES
HP-3.2	ROOF	288.0	320.0	11.2	23.6	R410A	A1	46.750	HEAT PUMP	95/0	SCROLL (2)	208	3	60	60 / 60	49.0 / 49.0	1,360	TRANE	TURYE2883BN40A(N/B)	SEE NOTES
HP-4	ROOF	288.0	320.0	11.2	23.6	R410A	A1	46.750	HEAT PUMP	95/0	SCROLL (2)	208	3	60	60 / 60	49.0 / 49.0	1,360	TRANE	TURYE2883BN40A(N/B)	SEE NOTES

DUCTLESS SPLIT-SYSTEM OUTDOOR UNIT SCHEDULE NOTES:
1. REFER TO THE DUCTLESS HEAT PUMP INDOOR UNIT SCHEDULE FOR CORRESPONDING INDOOR UNITS. ALL UNITS SHALL BE A PRODUCT OF ONE MANUFACTURER.
2. FURNISH DISCONNECT SWITCH TO BE INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR.
3. PROVIDE STAND ALONE FACTORY INSTALLED DIRECT DIGITAL CONTROLS AS NECESSARY TO SATISFY THE SEQUENCE OF OPERATIONS.
4. PROVIDE VIBRATION ISOLATION.
5. PROVIDE MANUFACTURER'S STANDARD OUTDOOR UNIT DRAIN PAN WITH BASE PAN HEATER AND PIPE TO NEARBY DRAIN.
6. PROVIDE WIND BAFFLE AND OTHER ACCESSORIES AS REQUIRED BY THE MANUFACTURER FOR LOW AMBIENT COOLING AND HEATING TO 0°F OUTDOOR DRY-BULB TEMPERATURE.

VRF HEAT RECOVERY BRANCH CIRCUIT CONTROLLER SCHEDULE

TAG REFERENCE	MODEL NUMBER	TYPE (DOUBLE / MAIN / SUB)	NUMBER OF PORTS	CONNECTED CAPACITY TO BC	VOLTAGE / PHASE	POWER COOLING 208V/230V (KW)	POWER HEATING 208V/230V (KW)	MCA 208/230	NOTES / OPTIONS
BC-1A	TCMBM1016KA11N4	MAIN	16	450,000	208/230V/1-PHASE	0.258/0.333	0.137/0.176	1.6/1.8	1, 2, 3, 4, 5
BC-1B	TCMBS0108KB11N4	SUB	8	108,000	208/230V/1-PHASE	0.122/0.157	0.061/0.078	0.7/0.9	1, 2, 3, 4, 5
BC-2A	TCMBM1016KA11N4	MAIN	16	390,000	208/230V/1-PHASE	0.258/0.333	0.137/0.176	1.6/1.8	1, 2, 3, 4, 5
BC-2B	TCMBS0108KB11N4	SUB	8	96,000	208/230V/1-PHASE	0.122/0.157	0.061/0.078	0.7/0.9	1, 2, 3, 4, 5
BC-2C	TCMBS0108KB11N4	SUB	8	102,000	208/230V/1-PHASE	0.122/0.157	0.061/0.078	0.7/0.9	1, 2, 3, 4, 5
BC-3A	TCMBM1012JA11N4	MAIN	12	243,000	208/230V/1-PHASE	0.198/0.255	0.106/0.137	1.2/1.4	1, 2, 3, 4, 5
BC-3B	TCMBM1016KA11N4	MAIN	16	363,000	208/230V/1-PHASE	0.258/0.333	0.137/0.176	1.6/1.8	1, 2, 3, 4, 5
BC-4	TCMBM1016KA11N4	MAIN	16	339,000	208/230V/1-PHASE	0.258/0.333	0.137/0.176	1.6/1.8	1, 2, 3, 4, 5

BC CONTROLLER SCHEDULE NOTES:
1. INCLUDE DIAMONDBACK BALL VALVES BV-SERIES, 700PSIG WORKING PRESSURE, FULL PORT, 410A RATED.
2. A SUB BC CONTROLLER IS NOT REQUIRED FOR THIS PROJECT. FOR SUB BC CONTROLLER INFO, SEE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
3. PROVIDE REFRIGERATION BALL VALVE-BRAZE/SCHRADER/INSULATED - 3/8" SIZE
4. PROVIDE REFRIGERATION BALL VALVE-BRAZE/SCHRADER/INSULATED - 5/8" SIZE
5. PROVIDE 3/4" NPT DRAIN PIPE TO LOCATIONS SHOWN ON PLANS.

No.	Date	Revisions
4	11-09-23	ADDENDUM #1
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

Drawn by AMW
Checked by PV
Project No. 42052
Scale AS NOTED
Date 7/29/22

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD SUITE 202 SUFFERN, NY 10901
Mechanical & Electrical Engineer:

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD SUITE 202 SUFFERN, NY 10901
Structural Engineer:

UNIVENT REPLACEMENT AT FARLEY ELEMENTARY SCHOOL
SED # 50-02-01-06-0-003-011
COUNTY OF ROCKLAND
###

MHSA
MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 845-768-9200
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Drawing Title
MECHANICAL SCHEDULES - 2

Drawing No.
FES-M-003

KEYED NOTES:

1. VERTICAL UNIT VENTILATOR. REFER TO THE UNIT VENTILATOR SCHEDULE AND DETAILS ON DRAWING FES-M-503.
2. EXISTING 72"x10" (V.I.F.) WALL LOUVER TO REMAIN.
3. EXISTING EXHAUST GRILLES TO REMAIN. INCLUDE THE EXISTING EXHAUST GRILLES IN THE AIR BALANCING REPORT. SIZES ARE AS INDICATED ON PLANS.
4. PROGRAMMABLE ELECTRONIC THERMOSTAT WITH LOCKING GUARD. COORDINATE WITH THE SIEMENS BMS.
5. PROVIDE AN INSECT SCREEN AT THE OA LOUVERS TO PREVENT INFILTRATION OF GRASS CLIPPINGS AND OTHER DEBRIS. SCREEN SHALL HAVE AN ALUMINUM FRAME AND SHALL BE INSTALLED ON THE OUTSIDE OF THE EXISTING LOUVER. CONSTRUCT FROM 0.011" ALUMINUM WITH BRIGHT FINISH AND SS HARDWARE.
6. PROVIDE 72X10 OA LOUVER ABOVE WINDOW.
7. INSTALL ⅜" & ⅝" R WITHIN EXISTING CASEWORK.
8. ¾" & ⅝" R DROP FROM THE CEILING TO BEHIND THE EXISTING CASEWORK. PROVIDE PIPE CHASE AT THE WALL. SEE ARCH.
9. INSTALL ⅜" & ⅝" R ABOVE THE EXISTING CEILING.
10. ¾" & ⅝" R UP TO SECOND FLOOR.
11. ¾" CONDENSATE DRAIN TO SPILLS ONTO SPLASH BLOCK AT GRADE.

1 FIRST FLOOR PLAN INSTALLATION - 1

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

2 FIRST FLOOR KEY PLAN

SCALE: NONE

No.	Date	Revisions
4	11-09-23	ADDENDUM #1
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

Drawn by AMW
Checked by PV
Project No. 42052
Scale AS NOTED
Date 7/29/22

GREENMAN PEDERSEN, INC
2 RESOURCE BOULEVARD
SUITE 302
SUFFERN, NY 10901

Mechanical & Electrical Engineer:

Structural Engineer:

UNIVENT
REPLACEMENT AT
FARLEY ELEMENTARY
SCHOOL

SED # 50-02-01-06-0-003-011

COUNTY OF ROCKLAND

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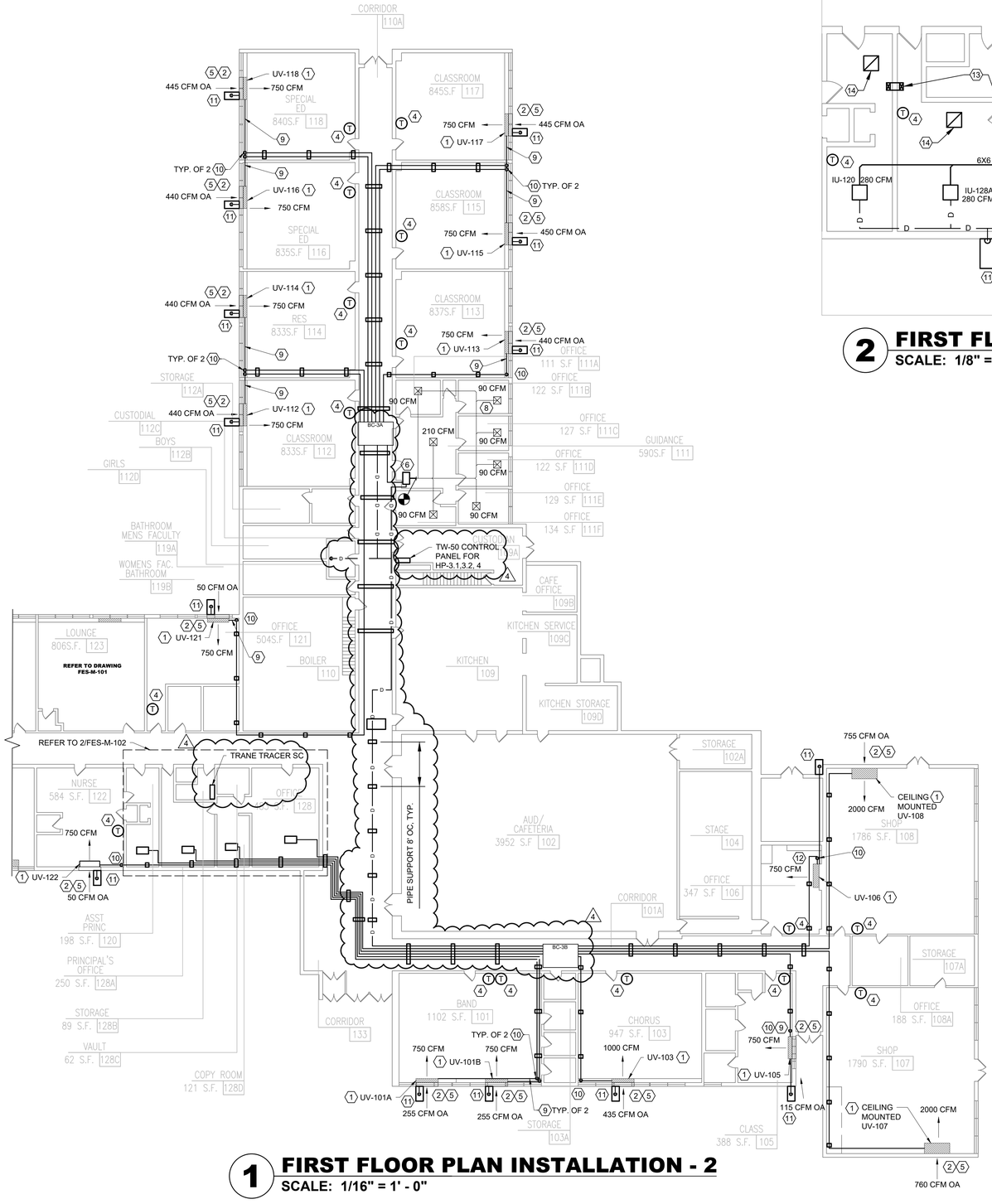
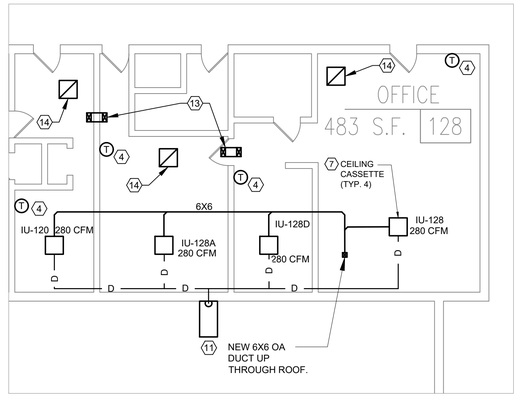
Drawing Title
HVAC INSTALLATION
FIRST FLOOR PLAN - 1

Drawing No.
FES-M-101



1 FIRST FLOOR PLAN INSTALLATION - 2

SCALE: 1/16" = 1' - 0"

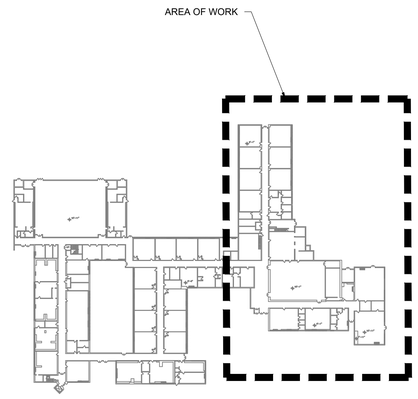


2 FIRST FLOOR PARTIAL PLAN

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

KEYED NOTES:

1. VERTICAL UNIT VENTILATOR. REFER TO THE UNIT VENTILATOR SCHEDULE AND DETAILS ON DRAWING FES-M-503.
2. EXISTING 72"x10" (V.I.F.) WALL LOUVER TO REMAIN.
3. EXISTING EXHAUST GRILLES TO REMAIN. INCLUDE THE EXISTING EXHAUST GRILLES IN THE AIR BALANCING REPORT. SIZES ARE AS INDICATED ON PLANS.
4. PROGRAMMABLE ELECTRONIC THERMOSTAT WITH LOCKING GUARD. COORDINATE WITH THE SIEMENS BMS.
5. PROVIDE AN INSECT SCREEN AT THE OA LOUVERS TO PREVENT INFILTRATION OF GRASS CLIPPINGS AND OTHER DEBRIS. SCREEN SHALL HAVE AN ALUMINUM FRAME AND SHALL BE INSTALLED ON THE OUTSIDE OF THE EXISTING LOUVER. CONSTRUCT FROM 0.011" ALUMINUM WITH BRIGHT FINISH AND SS HARDWARE.
6. UV-111 TO TIE INTO THE EXISTING SUPPLY & OUTSIDE AIR DUCTWORK.
7. CEILING CASSETTE AT CEILING.
8. EXISTING CEILING SUPPLY DIFFUSER TO REMAIN. TYPICAL (7).
9. INSTALL ⅜" & ⅝" R WITHIN EXISTING CASEWORK.
10. ⅜" & ⅝" R DROP FROM THE CEILING TO BEHIND THE EXISTING CASEWORK. PROVIDE PIPE CHASE AT THE WALL. SEE ARCH.
11. ¾" CONDENSATE DRAIN TO SPILLS ONTO SPLASH BLOCK AT GRADE.
12. PROVIDE UNIT VENTILATOR WITH CONDENSATE LIFT PUMP.
13. 12"x6" TRANSFER DUCT ABOVE CEILING (PRICE CROSS TALK SILENCER XT OR EQUAL)
14. 24'x24' RG AT CEILING.



3 FIRST FLOOR KEY PLAN

SCALE: NONE

PLAN NORTH

No.	Date	Revisions
1	12-28-22	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
3	09-14-23	BIDDING DOCUMENTS
4	11-09-23	ADDENDUM #1

Drawn by AMW
Checked by PV
Project No. 42052
Scale AS NOTED
Date 7/29/22

GREENMAN PEDERSEN, INC
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Mechanical & Electrical Engineer:

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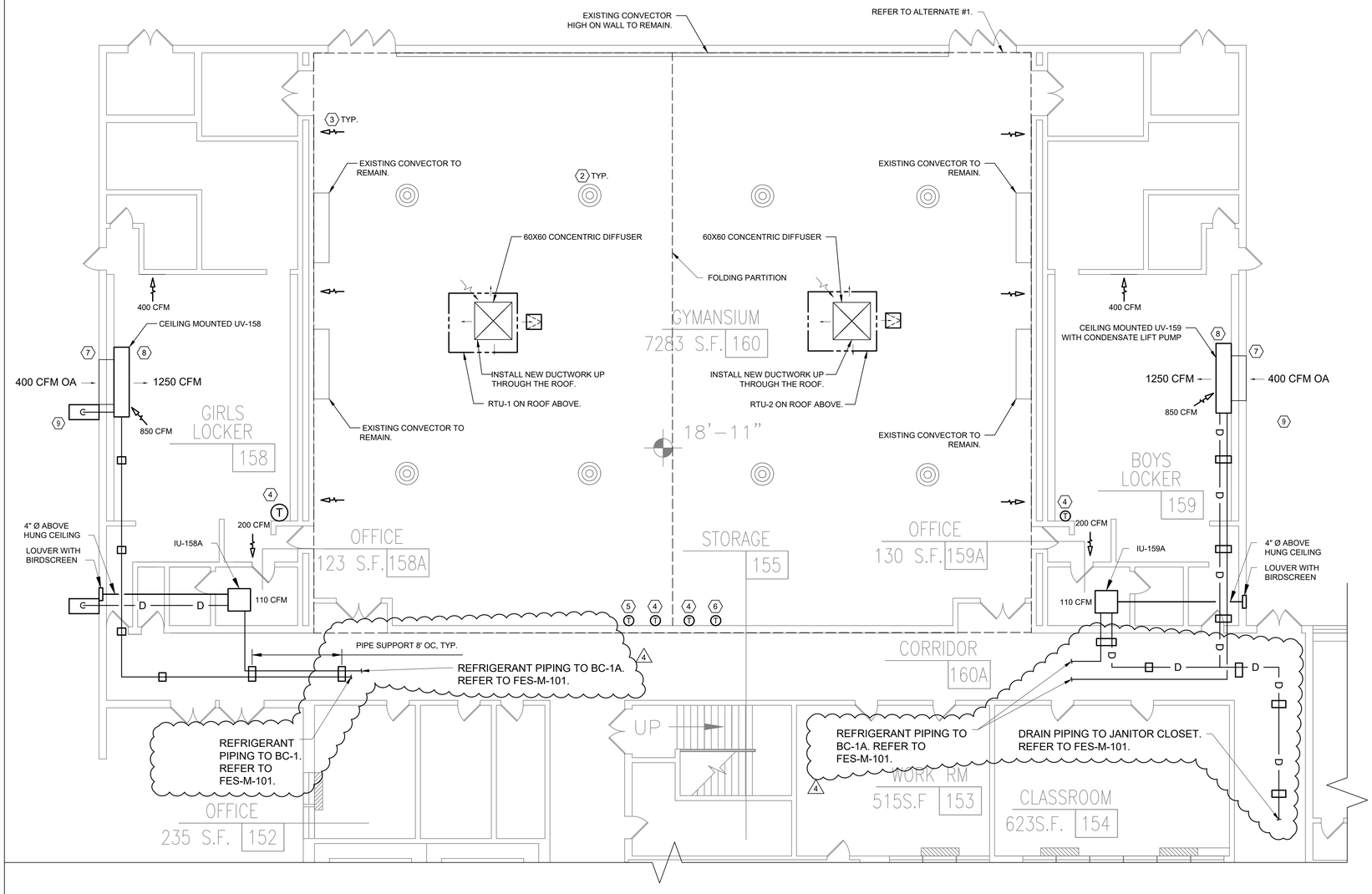
Drawing Title
HVAC INSTALLATION
FIRST FLOOR PLAN - 2

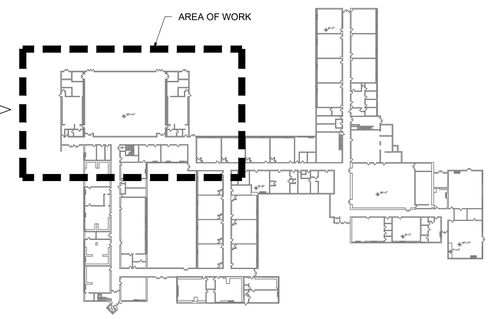
Drawing No.
FES-M-102

KEYED NOTES:

1. 60X60 CONCENTRIC DIFFUSER. REFER TO DETAIL FES-M-501.
2. EXISTING SUPPLY DIFFUSER ABANDONED IN PLACE (TYPICAL FOR 8).
3. EXISTING RETURN GRILLE ABANDONED IN PLACE (TYPICAL FOR 6).
4. EXISTING ELECTRIC THERMOSTAT INTERLOCKED WITH EXISTING CONVECTORS.
5. THERMOSTAT INTERLOCKED WITH RTU-1 ON ROOF ABOVE.
6. THERMOSTAT INTERLOCKED WITH RTU-2 ON ROOF ABOVE.
7. EXISTING 57X10 OA LOUVER.
8. HORIZONTAL UNIT VENTILATOR AT CEILING.
9. ¾" CONDENSATE DRAIN TO SPILLS ONTO SPLASH BLOCK AT GRADE.



1 GYMNASIUM PARTIAL PLAN INSTALLATION
SCALE: 3/32" = 1' - 0"



2 GYMNASIUM KEY PLAN
SCALE: NONE

PLAN NORTH

No.	Date	Revisions
1	12-28-22	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
3	09-14-23	BIDDING DOCUMENTS
4	11-09-23	ADDENDUM #1

Drawn by AMW
Checked by PV
Project No. 42052
Scale AS NOTED
Date 7/29/22

GREENMAN PEDERSEN, INC
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Mechanical & Electrical Engineer:

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Structural Engineer:

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REPLACEMENT AT
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SED # 50-02-01-06-0-003-011
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COUNTY OF ROCKLAND

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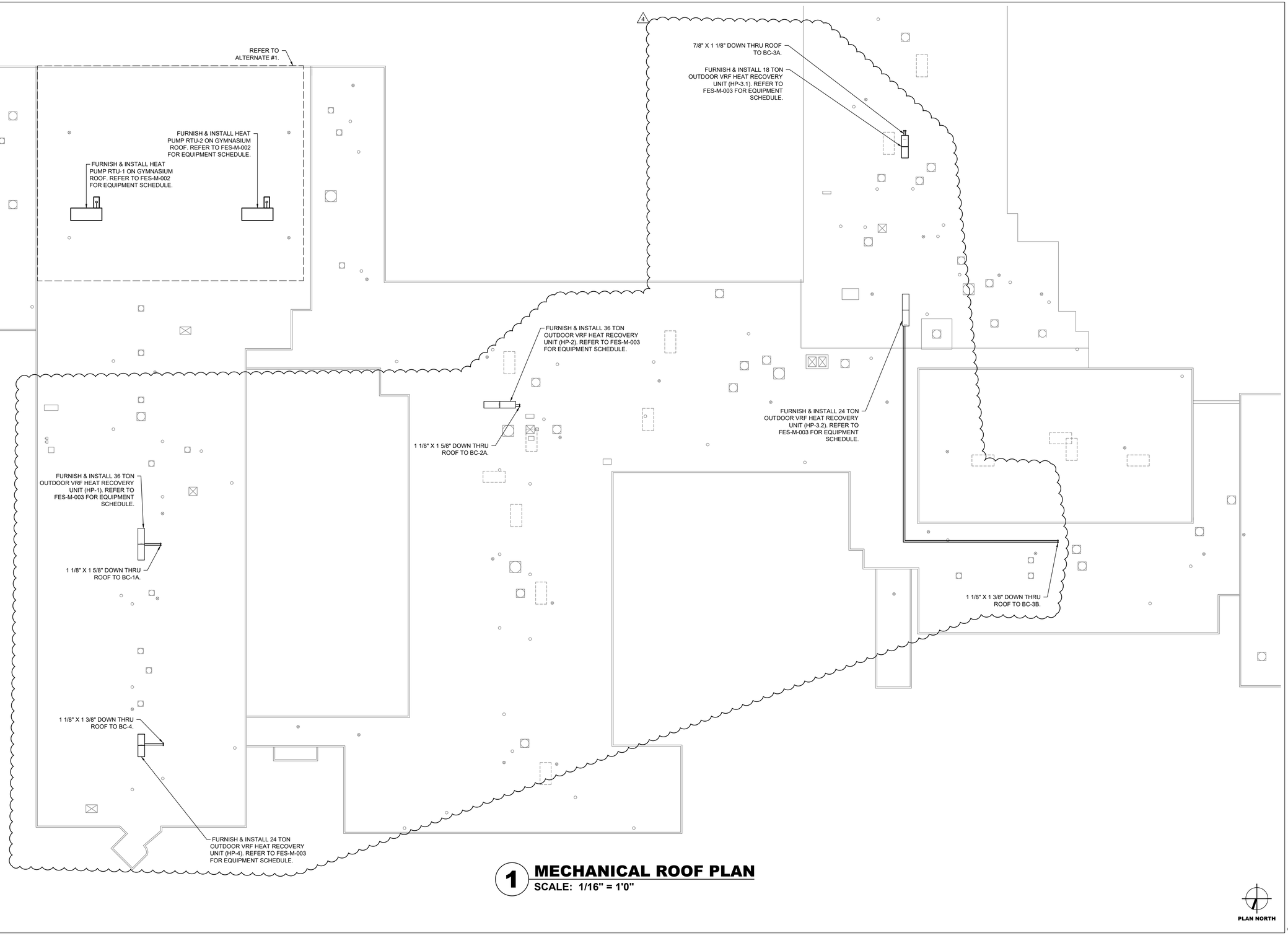
Drawing Title
HVAC INSTALLATION
GYMNASIUM PLAN

Drawing No.
FES-M-104



1 MECHANICAL ROOF PLAN
SCALE: 1/16" = 1'0"

No.	Date	Revisions
1	12-28-22	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
3	09-14-23	BIDDING DOCUMENTS
4	11-09-23	ADDENDUM #1

Drawn by AMW
Checked by PV
Project No. 42052
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Date 7/29/22

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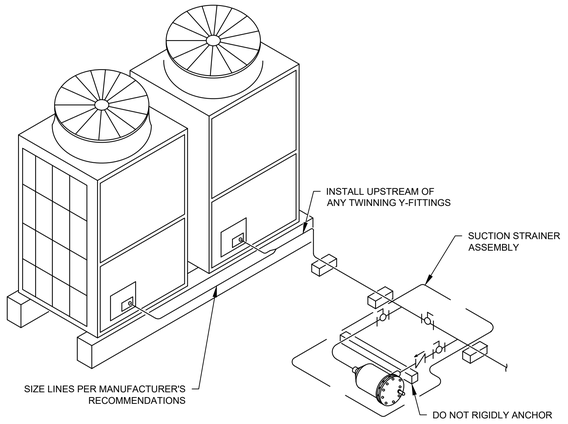
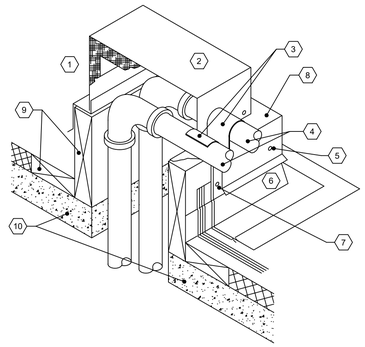
Drawing Title
MECHANICAL ROOF PLAN

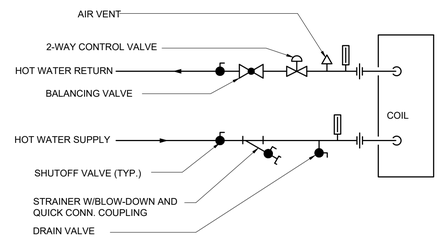
Drawing No.
FES-M-105



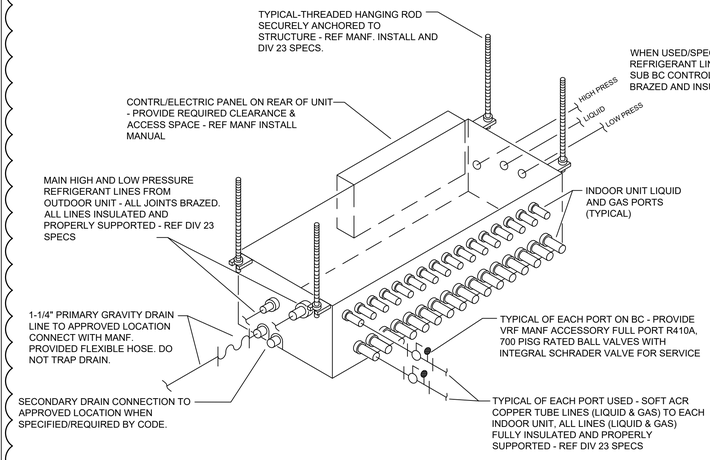
1 PIPING AT HP-1, HP-2, HP-3,1, HP-3.2 & HP-4
SCALE: N.T.S.



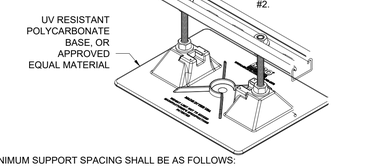
2 ROOFTOP PIPE PENETRATION
SCALE: N.T.S.



3 PIPING AT UNIT VENTILATOR
SCALE: N.T.S.

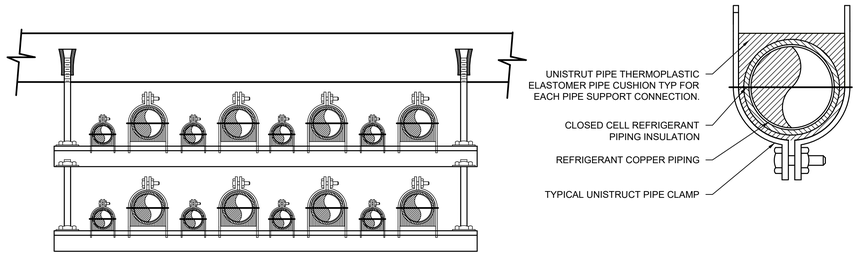


4 BC CONTROLLER DETAIL
SCALE: N.T.S.



NOTES:
1. MINIMUM SUPPORT SPACING SHALL BE AS FOLLOWS:
   a. COPPER TUBE (1 1/4" AND SMALLER): 6'-0" O.C.
   b. COPPER TUBE (1 1/2" AND LARGER): 10'-0" O.C.
   c. PVC: 4'-0" O.C.
   d. FOR SIZES AND MATERIALS NOT LISTED ABOVE, COMPLY WITH 2015 MCNYS 305.4.
2. VERIFY IN FIELD REQUIRED STRUT CHANNEL HEIGHT. SECURE PIPING TO CHANNEL USING CLAMP CONSTRUCTED OF COMPATIBLE MATERIAL.
3. BASIS OF DESIGN: MIRO IND. MODEL 2.5-CS.

5 SUPPORT FOR ROOFTOP CONDENSATE PIPING
SCALE: N.T.S.



6 REFRIGERANT PIPING DETAIL
SCALE: N.T.S. NOTE: PROVIDE SUPPORT 12 FT ON CENTER

No.	Date	Revisions
4	11-09-23	ADDENDUM #1
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

Drawn by	AMW
Checked by	PV
Project No.	42052
Scale	AS NOTED
Date	7/29/22

GREENMAN PEDERSEN, INC
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SUITE 302
SUFFERN, NY 10901
Mechanical & Electrical Engineer:

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COUNTY OF ROCKLAND

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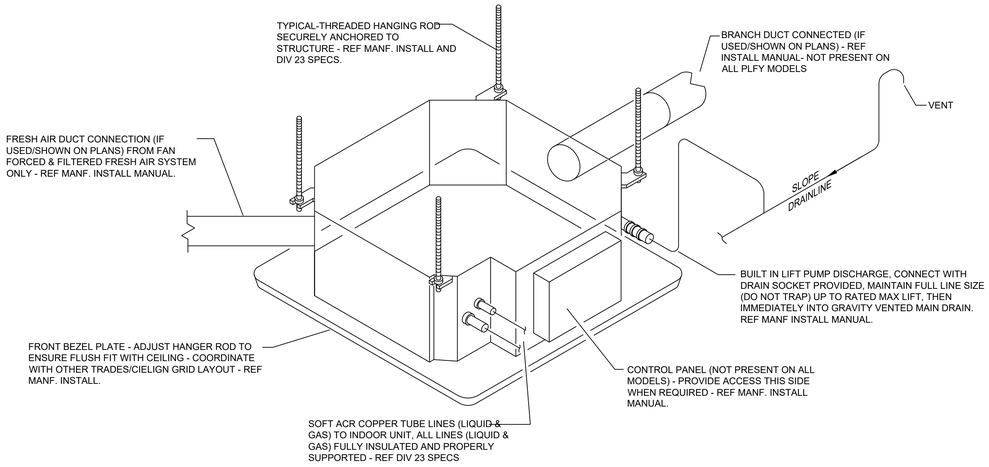
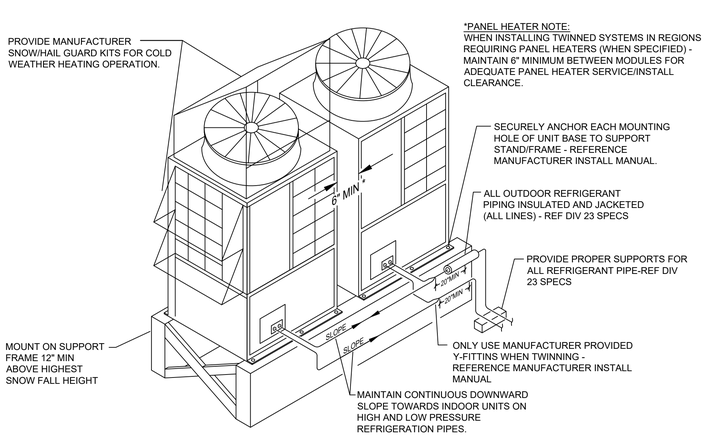
Drawing Title
MECHANICAL DETAILS - 2

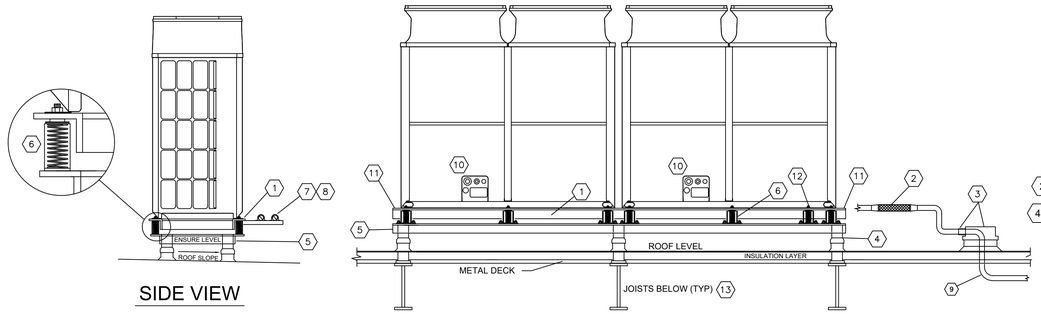
Drawing No.
FES-M-502



1 CEILING CASSETTE INSTALLATION DETAIL
SCALE: N.T.S.



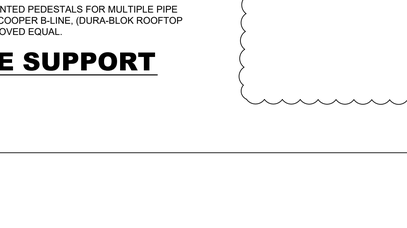
2 VRF OUTDOOR UNIT TWINNING DETAIL
SCALE: N.T.S.



CODED NOTES:

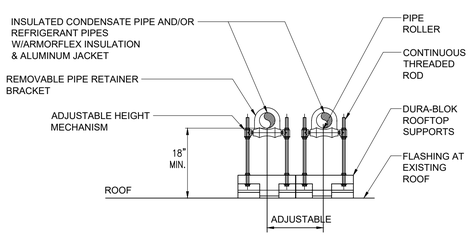
1. PROVIDE STRUCTURAL INTERSTITIAL ANGLE IRON MOUNTING MEMBER OR SIMILAR ATTACHED DIRECTLY TO BOTTOM OF UNIT MOUNTING FLANGE AND PROVIDE CROSS BRACING FOR RIGIDITY. ENSURE IT CARRIES FULL MOUNTING FOOT WIDTH ON UNIT. FINAL SPECIFICATION OF MEMBER BY STRUCTURAL ENGINEER OF RECORD.
2. PROVIDE BRAIDED COPPER FLEXIBLE CONNECTOR, R410A RATED, 650PSI MAX WORKING PRESSURE, PACKLESS INDUSTRIES OR EQUAL ON ALL MAIN PIPING DOWNSTREAM OF TWINNING KITS/CONVERGING FITTINGS PRIOR TO PENETRATION THROUGH ROOF.
3. PIPE ROOF CURB, FLASHED AND SEALED WATER TIGHT, PROVIDE FLEXIBLE WATER TIGHT COLLAR TO ALLOW FOR MOVEMENT WHERE PIPE ENTERS CURB. DO NOT ENTER PIPE CURB FROM VERTICAL DIRECTION.
4. TYPICAL BASE SUPPORT POSTS, SECURELY ANCHORED TO BUILDING STRUCTURE BELOW, QUANTITY, SIZE, AND CARRYING CAPACITY DETERMINED BY STRUCTURAL ENGINEER OF RECORD.
5. STRUCTURAL ANGLE IRON BASE MOUNTING FRAME WITH CROSS MEMBERS FOR RIGIDITY - FINAL SIZING BY STRUCTURAL ENGINEER OF RECORD.
6. VIBRATION SPRING SLR TYPE ISOLATORS (MASON INDUSTRIES OR EQUIV.) WITH RUBBER BASE PADS, SECURELY FASTENED TO STRUCTURAL BASE AND TO VRF UNIT INTERSTITIAL SUPPORT STEEL. SPRING ISOLATOR TO PROVIDE MINIMUM 1" DEFLECTION OR 10 TIMES THE STATIC DEFLECTION OF THE ROOF DECK FROM EQUIPMENT WEIGHT - DETERMINED BY STRUCTURAL ENGINEER OF RECORD. AT A MINIMUM, PROVIDE SPRING ISOLATORS AT EACH EQUIPMENT BASE MOUNTING HOLE LOCATION.
7. IF REQUIRED, ONLY SUPPORT LATERAL PIPE EMANATING FROM VRF UNIT CONNECTIONS BY CROSS MEMBER SUPPORT THAT IS ATTACHED DIRECTLY TO VRF UNIT MOUNTING ANGLE IRON FRAME ABOVE SPRING ISOLATORS. DO NOT ATTACH ANY PIPING TO LOWER FIXED SUPPORT BASE.
8. USE NEOPRENE ISOLATION COLLARS ON PIPE CLAMS WHEN FASTENING PIPING TO SUPPORTS.
9. USE LONG RADIUS SWEEPING COPPER ACR TUBE PIPE BENDS WHERE PIPE ENTERS BUILDING AT FIRST ELBOW INTO CEILING SPACE TO MINIMIZE REFRIGERANT FLOW NOISE AND VIBRATION.
10. ALL ELECTRICAL CONNECTIONS TO UNITS TO BE VIA FLEXIBLE CONDUIT, PROVIDE SUFFICIENT SLACK TO ALLOW FOR UNIT MOVEMENT ON SPRING ISOLATORS.
11. ENSURE CROSS MEMBERS OF INTERSTITIAL FRAME AND BOTTOM SUPPORT FRAME ARE NOT DIRECTLY BELOW ENDS OF MODULES IN ALL LOCATIONS AND DO NOT BLOCK DRAINAGE WEEP HOLES IN BOTTOM OF UNIT CASING, FAILURE TO DO THIS MAY RESULT IN ICE DAMMING/BUILDUP BENEATH UNIT AND SUBSEQUENT BUILDUP OF ICE IN BOTTOM OF UNIT CASING BELOW COIL AND POTENTIAL DAMAGE TO BOTTOM OF COIL.
12. WHEN SELECTING SPRING ISOLATORS ALWAYS CONSIDER WEIGHT DISTRIBUTION BY REFERENCING EQUIPMENT WEIGHT AND CENTER OF GRAVITY. NEAR RIGHT ENDS OF UNITS (VIEWED FROM FRONT PANEL) SPRING WEIGHT CAPACITY MAY BE LARGER. IF HIGHER SPRING WEIGHT CAPACITY IS REQUIRED VS OTHER SPRING LOCATIONS, CONSIDER AN ADDITIONAL SPRING OF EQUAL "K" VALUE (lbs/in) NEAR RIGHT END OF LAST MODULE. IN GENERAL IT IS RECOMMENDED TO SELECT ALL MOUNTING SPRINGS OF EQUIVALENT "K" VALUE (lbs/in).
13. REFER TO THE STRUCTURAL DRAWINGS (SPECIFICALLY S102) FOR INSTALLATION REQUIREMENTS AND DETAILS OF THE EXISTING ROOF STRUCTURE.

3 VRF OUTDOOR UNIT MOUNTING DETAIL
SCALE: N.T.S.



1. VIBRATION ISOLATOR PER SECTION 15504 BOLTED TO STEEL BEAM. PROVIDE ISOLATORS FOR USE OUTDOORS. (TYP OF 4)
2. COUNTER FLASHING OVER TREATED WOOD NAILER
3. GALVANIZED STEEL, MIN. 18 GAGE WITH WELDED SEAMS
4. RAIL
5. MINIMUM 3 5/8"
6. MINIMUM 102" U.O.N.
7. GALVANIZED STEEL BEAM OR STRUT CHANNEL ATTACHED TO RAIL.

4 VRF ROOFTOP SUPPORT RAIL DETAIL
SCALE: N.T.S.



NOTE:
FURNISH AND INSTALL PIPE MOUNTED PEDESTALS FOR MULTIPLE PIPE SUPPORTS MANUFACTURED BY COOPER B-LINE, (DURA-BLOK ROOFTOP SUPPORTS) DB SERIES OR APPROVED EQUAL.

5 ROOF PIPE SUPPORT
SCALE: N.T.S.

No.	Date	Revisions
4	11-09-23	ADDENDUM #1
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

Drawn by AMW
Checked by MEP
Project No. 42052
Scale AS NOTED
Date 7/29/22

GREENMAN PEDERSEN, INC
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Mechanical & Electrical Engineer:

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Structural Engineer:

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COUNTY OF ROCKLAND

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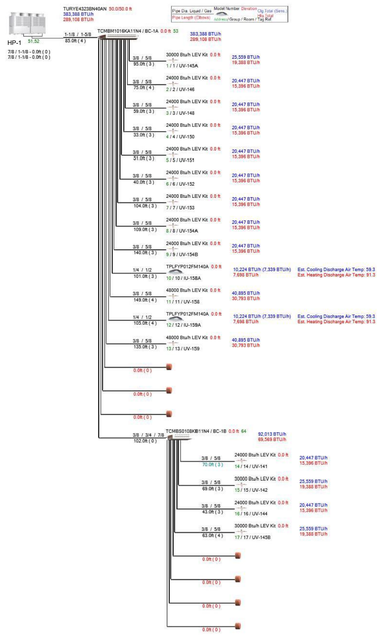
Drawing Title
MECHANICAL DETAILS - 3

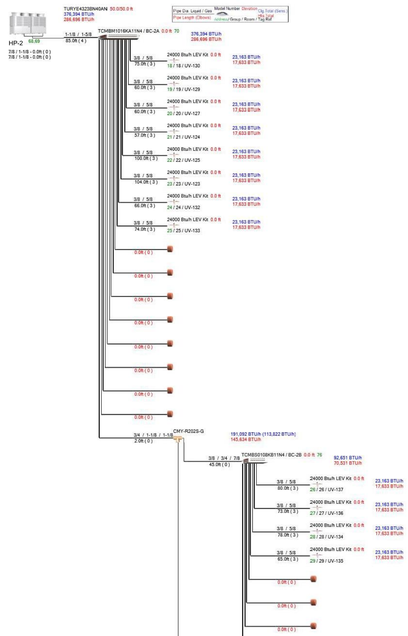
Drawing No.
FES-M-503



1 M-504

HP-1 REFRIGERANT PIPING DIAGRAM

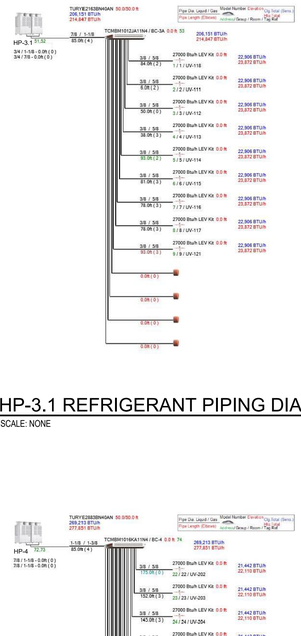
SCALE: NONE



2 M-504

HP-2 REFRIGERANT PIPING DIAGRAM

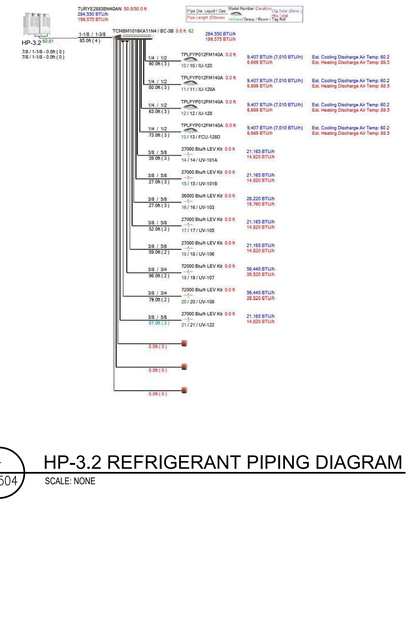
SCALE: NONE



3 M-504

HP-3.1 REFRIGERANT PIPING DIAGRAM

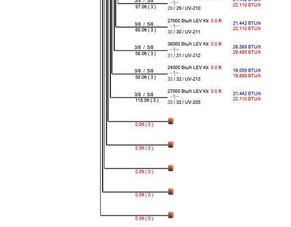
SCALE: NONE



4 M-504

HP-3.2 REFRIGERANT PIPING DIAGRAM

SCALE: NONE



5 M-504

HP-4 REFRIGERANT PIPING DIAGRAM

SCALE: NONE

GENERAL NOTES:

1. MODEL DEPICTS GAS & LIQUID REFRIGERANT PIPING. LARGER PIPE SIZE IS GAS REFRIGERANT PIPING. SMALLER PIPE SIZE IS LIQUID REFRIGERANT PIPING.

4

IF THIS BAR DOES NOT MEASURE 1", THEN DRAWING IS NOT TO FULL SCALE

0 1/2 1

No.	Date	Revisions
4	11-09-23	ADDENDUM #1
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

Drawn by AMW
Checked by PV
Project No. 42052
Scale AS SHOWN
Date 7/29/22

Mechanical & Electrical Engineer:
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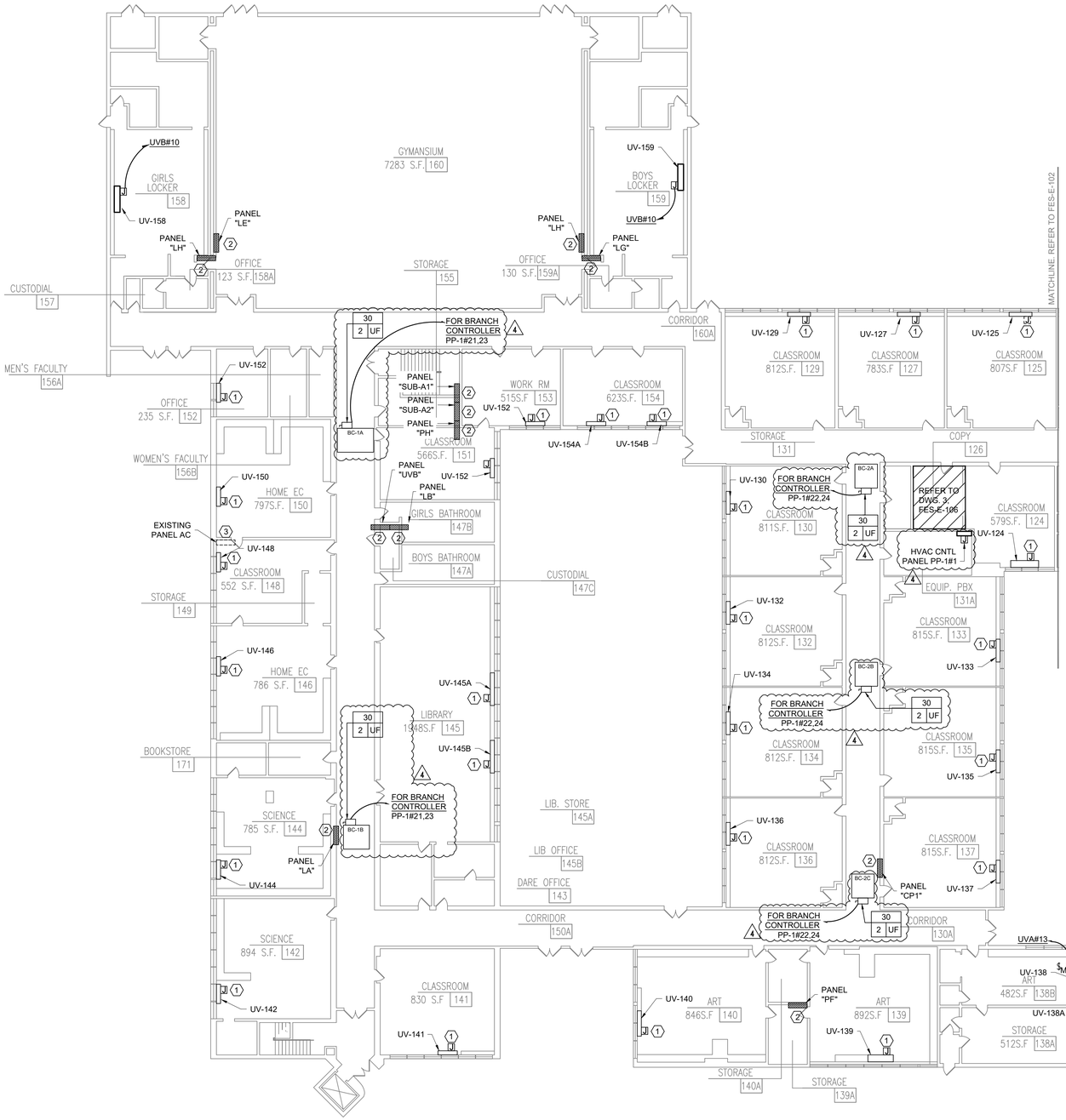
Drawing Title
HVAC REFRIGERANT PIPING DIAGRAMS

Drawing No.
FES-M-504



1 ELECTRICAL FIRST FLOOR PLAN - 1

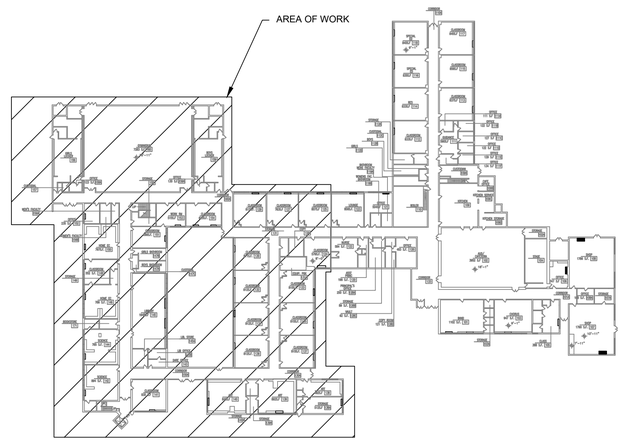
SCALE: 1/16" = 1' - 0"

PLAN NOTES:

1. REFER TO ADDITIONAL INSTALLATION NOTES ON DRAWING E-001.
2. ALL NEW BRANCH CIRCUIT SHALL BE RUN WITH MINIMUM OF 2#12+1#12G IN 3/4" CONDUIT, UNLESS OTHERWISE NOTED. FOR LIGHTING AND POWER BRANCH CIRCUIT, MC CABLE SHALL BE INSTALLED FOR RECESSED INSTALLATION ONLY, EITHER IN NEW WALLS OR ABOVE HUNG CEILING WHERE POSSIBLE. REFER TO PANEL SCHEDULES IN DRAWING E-201 FOR ALL OTHER FEEDER AND BRANCH CIRCUIT SIZE INFORMATION.
3. PROVIDE LABELS ON ALL ELECTRICAL EQUIPMENT INDICATING CIRCUIT ORIGINATION.
4. UPDATE ALL EXISTING PANEL DIRECTORIES AFFECTED BY NEW WORK.
5. CONTRACTOR SHALL PERFORM AMP PROBE READINGS ON EXISTING SERVICE EQUIPMENT BEFORE AND AFTER WORK TO ENSURE EQUIPMENT WILL NOT BE LOADED BEYOND ITS MAX AMPACITY.
6. CONTRACTOR SHALL MAINTAIN CONTINUITY TO ALL EXISTING CIRCUITRY TO REMAIN WHICH ARE AFFECTED BY THE SCOPE OF WORK; CONTRACTOR SHALL FURNISH ALL NECESSARY JUNCTION BOXES, CONDUIT, AND WIRES AS REQUIRED TO KEEP CONTINUITY.
7. REFER TO MECHANICAL PLANS FOR EQUIPMENT TO BE SUPPLIED BY OTHER TRADES AND INSTALLED/WIRED UNDER THIS SECTION. COORDINATE LOCATION OF DEVICES WITH OTHER CONTRACTORS.
8. PROVIDE FIRESTOPPING FOR ALL PENETRATIONS TO MATCH EXISTING FIRE RATING WHERE APPLICABLE. ALL CORE DRILLS SHALL BE VERIFIED BY BUILDING REPRESENTATIVE PRIOR TO COMMENCING WORK. XRAY ALL FLOOR SLABS PRIOR TO ROUGH-INS FOR CORE DRILL WORK.
9. THE CONTRACTOR SHALL FIELD ROUTE FEEDER FOR NEW POWER PANELS. COORDINATE EXACT ROUTING PATH WITH OWNER. SUBMIT A PROPOSED ROUTING PATH TO ENGINEER OF RECORD FOR APPROVAL PRIOR TO RUNNING ANY CONDUIT OR WIRE ASSOCIATED WITH THIS FEEDER.
10. DISCONNECT SWITCH FOR UNIT VENTILATORS IS PROVIDED BY HVAC CONTRACTOR. COORDINATE WITH HVAC CONTRACTOR.
11. ALL GROUNDING SHALL BE PROVIDED BY THE CONTRACTOR AS PER NEC 2017.
12. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENLARGE AND FUR OUT EXISTING OPENING FOR EXISTING PANELS AND WHERE REQUIRED. ACCOMMODATE THE NEW BACK BOXES AND HOUSING OF THE NEW RECESSED MOUNTED PANELS TO BE INSTALLED. THE ELECTRICAL CONTRACTOR SHALL ALSO ENGAGE THE GC TO RESTORE AND FINISH THE WALLS TO MATCH THE SURROUNDING WALLS OF THE AREA.

KEYED NOTES:

1. RECONNECT EXISTING WIRING TO THE NEW UNIT VENTILATORS. EXTEND WIRING AND CONDUIT IF NECESSARY.
2. FURNISH AND INSTALL NEW PANEL TO MATCH EXISTING SIZE AND RATING. RUN NEW FEEDER TO MATCH EXISTING SIZE, IN EXISTING CONDUIT FROM SOURCE. RECONNECT ALL EXISTING BRANCH TO NEW PANEL. REFER TO PANEL SCHEDULE FOR MORE INFORMATION.
3. EXISTING AC PANEL SHALL BE RE-FEED TO MDB2. REFER TO RISER DIAGRAM FOR MORE INFORMATION.



2 ELECTRICAL FIRST FLOOR KEY PLAN

SCALE: 1/64" = 1' - 0"

PLAN NORTH

No.	Date	Revisions
1	12-28-22	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
3	09-14-23	BIDDING DOCUMENTS
4	11-09-23	ADDENDUM #1

Drawn by DK
Checked by SH
Project No. 42052
Scale AS NOTED
Date 7/29/22

GREENMAN PEDERSEN, INC
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Mechanical & Electrical Engineer:

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Structural Engineer:

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SED # 50-02-01-06-0-003-011
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COUNTY OF ROCKLAND

MSA
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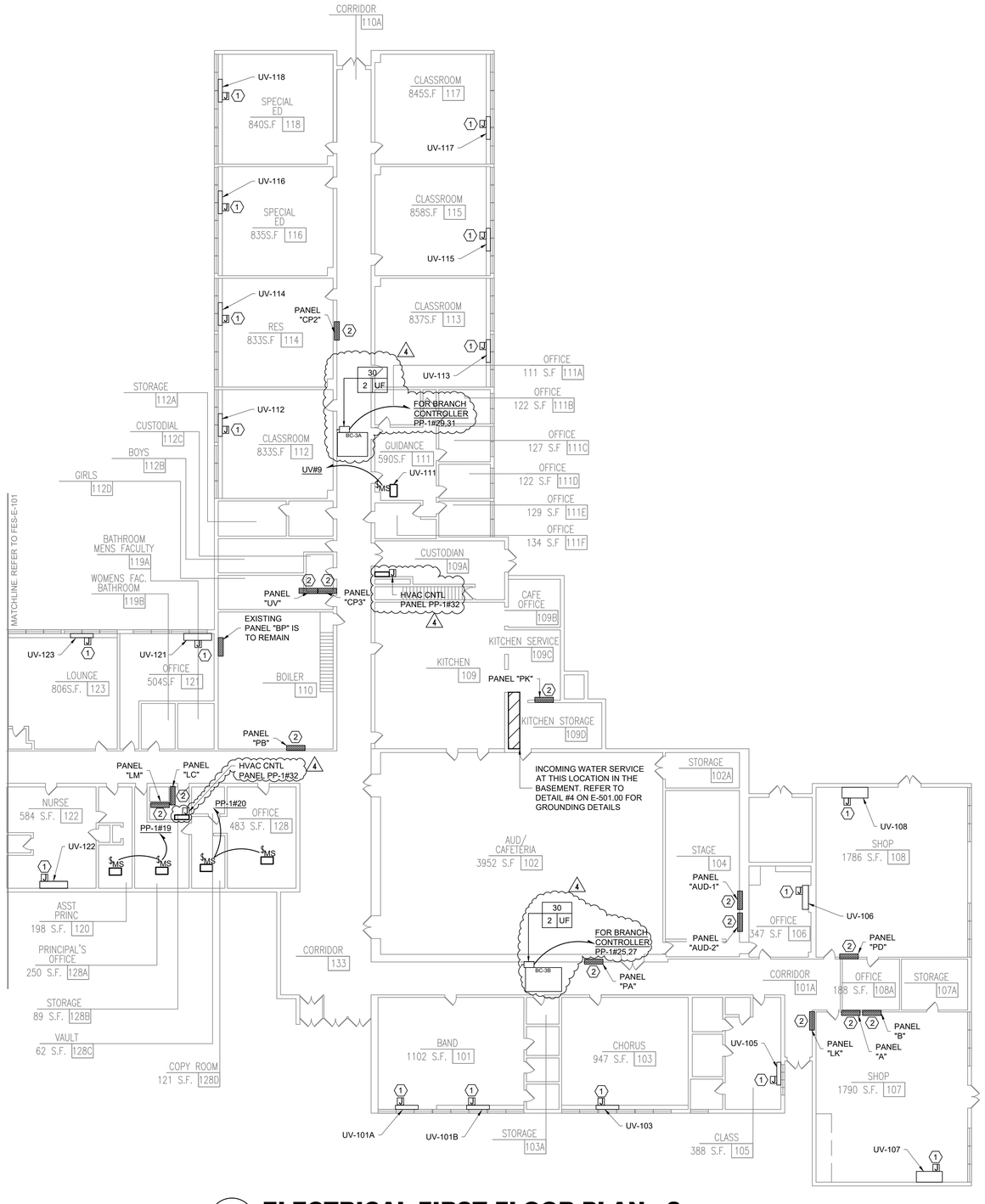
Drawing Title
ELECTRICAL FIRST FLOOR PLAN - 1

Drawing No.
FES-E-101



1 ELECTRICAL FIRST FLOOR PLAN - 2

SCALE: 1/16" = 1' - 0"

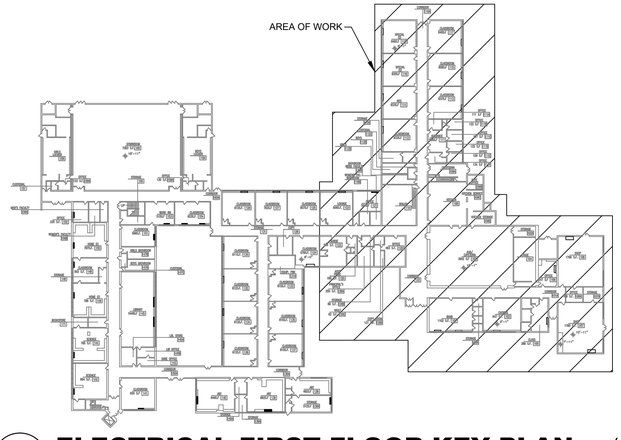
PLAN NOTES:

1. REFER TO ADDITIONAL INSTALLATION NOTES ON DRAWING E-001.
2. ALL NEW BRANCH CIRCUIT SHALL BE RUN WITH MINIMUM OF 2#12+1#12G IN 3/4" CONDUIT, UNLESS OTHERWISE NOTED. FOR LIGHTING AND POWER BRANCH CIRCUIT, MC CABLE SHALL BE INSTALLED FOR RECESSED INSTALLATION ONLY, EITHER IN NEW WALLS OR ABOVE HUNG CEILING WHERE POSSIBLE. REFER TO PANEL SCHEDULES IN DRAWING E-201 FOR ALL OTHER FEEDER AND BRANCH CIRCUIT SIZE INFORMATION.
3. PROVIDE LABELS ON ALL ELECTRICAL EQUIPMENT INDICATING CIRCUIT ORIGINATION.
4. UPDATE ALL EXISTING PANEL DIRECTORIES AFFECTED BY NEW WORK.
5. CONTRACTOR SHALL PERFORM AMP PROBE READINGS ON EXISTING SERVICE EQUIPMENT BEFORE AND AFTER WORK TO ENSURE EQUIPMENT WILL NOT BE LOADED BEYOND ITS MAX AMPACITY.
6. CONTRACTOR SHALL MAINTAIN CONTINUITY TO ALL EXISTING CIRCUITRY TO REMAIN WHICH ARE AFFECTED BY THE SCOPE OF WORK; CONTRACTOR SHALL FURNISH ALL NECESSARY JUNCTION BOXES, CONDUIT, AND WIRES AS REQUIRED TO KEEP CONTINUITY.
7. PROVIDE FIRESTOPPING FOR ALL PENETRATIONS TO MATCH EXISTING FIRE RATING WHERE APPLICABLE. ALL CORE DRILLS SHALL BE VERIFIED BY BUILDING REPRESENTATIVE PRIOR TO COMMENCING WORK. XRAY ALL FLOOR SLABS PRIOR TO ROUGH-INS FOR CORE DRILL WORK.
8. THE CONTRACTOR SHALL FIELD ROUTE FEEDER FOR NEW POWER PANELS. COORDINATE EXACT ROUTING PATH WITH OWNER. SUBMIT A PROPOSED ROUTING PATH TO ENGINEER OF RECORD FOR APPROVAL PRIOR TO RUNNING ANY CONDUIT OR WIRE ASSOCIATED WITH THIS FEEDER.
9. DISCONNECT SWITCH FOR UNIT VENTILATORS IS PROVIDED BY HVAC CONTRACTOR. COORDINATE WITH HVAC CONTRACTOR.
10. ALL GROUNDING SHALL BE PROVIDED BY THE CONTRACTOR AS PER NEC 2017.
11. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENLARGE AND FUR OUT EXISTING OPENING FOR EXISTING PANELS AND WHERE REQUIRED. ACCOMMODATE THE NEW BACK BOXES AND HOUSING OF THE NEW RECESSED MOUNTED PANELS TO BE INSTALLED. THE ELECTRICAL CONTRACTOR SHALL ALSO ENGAGE THE GC TO RESTORE AND FINISH THE WALLS TO MATCH THE SURROUNDING WALLS OF THE AREA.

KEYED NOTES:

(1) RECONNECT EXISTING WIRING TO THE NEW UNIT VENTILATORS. EXTEND WIRING AND CONDUIT IF NECESSARY.

(2) FURNISH AND INSTALL NEW PANEL TO MATCH EXISTING SIZE AND RATING. RUN NEW FEEDER TO MATCH EXISTING SIZE, IN EXISTING CONDUIT FROM SOURCE. RECONNECT ALL EXISTING BRANCH TO NEW PANEL. REFER TO PANEL SCHEDULE FOR MORE INFORMATION.



2 ELECTRICAL FIRST FLOOR KEY PLAN

SCALE: 1/64" = 1' - 0"

PLAN NORTH

No.	Date	Revisions
4	11-09-23	ADDENDUM #1
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

Drawn by DK
Checked by SH
Project No. 42052
Scale AS NOTED
Date 7/29/22

Mechanical & Electrical Engineer: GREENMAN PEDERSEN, INC 2 EXECUTIVE BOULEVARD SUITE 302 SUFFERN, NY 10901

Structural Engineer: GREENMAN PEDERSEN, INC 2 EXECUTIVE BOULEVARD SUITE 302 SUFFERN, NY 10901

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REPLACEMENT AT
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SCHOOL

SED # 50-02-01-06-0-003-011
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COUNTY OF ROCKLAND

MICHAEL SHILALE ARCHITECTS, L.L.P.
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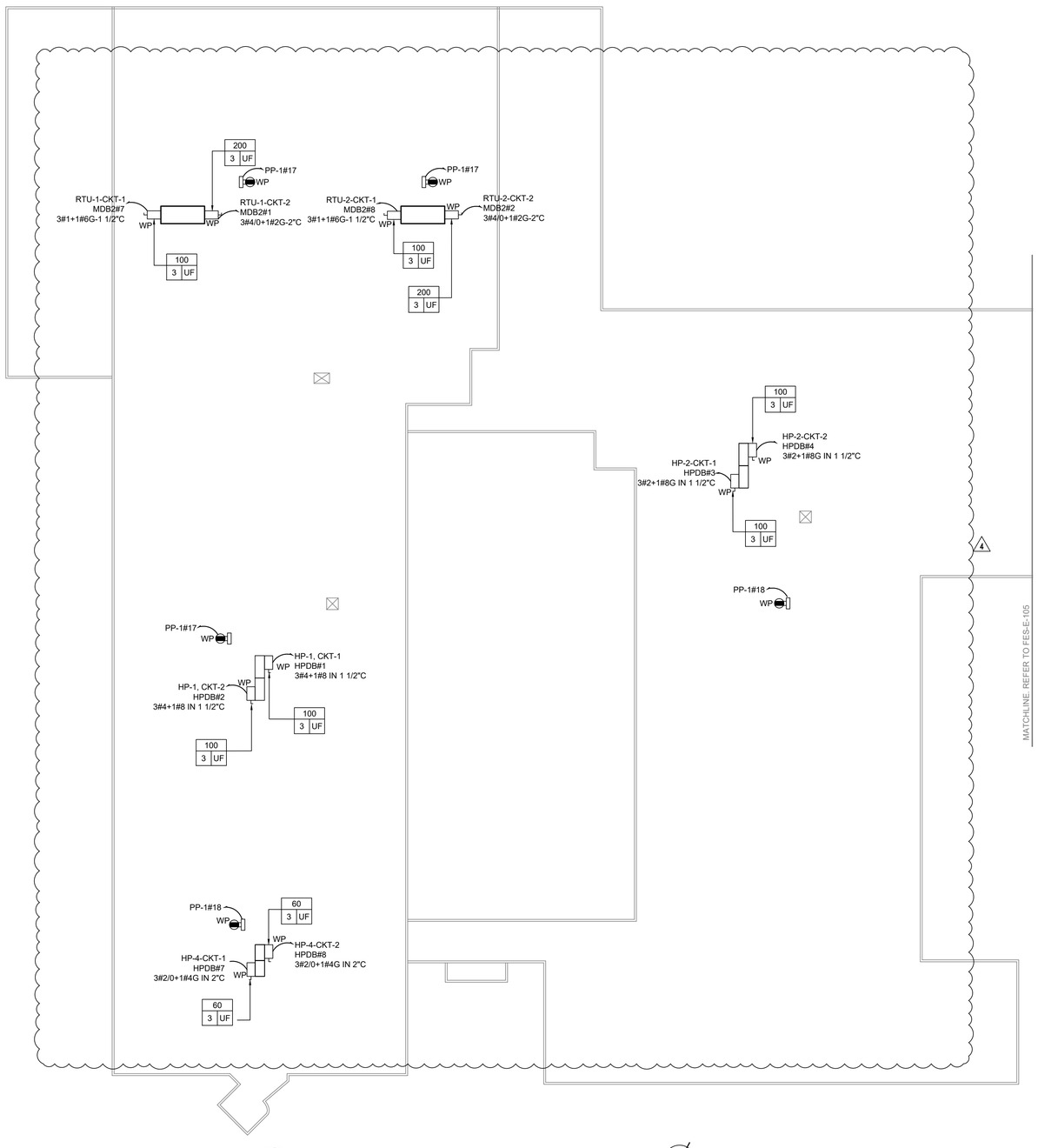
Drawing Title
ELECTRICAL FIRST FLOOR PLAN - 2

Drawing No.
FES-E-102



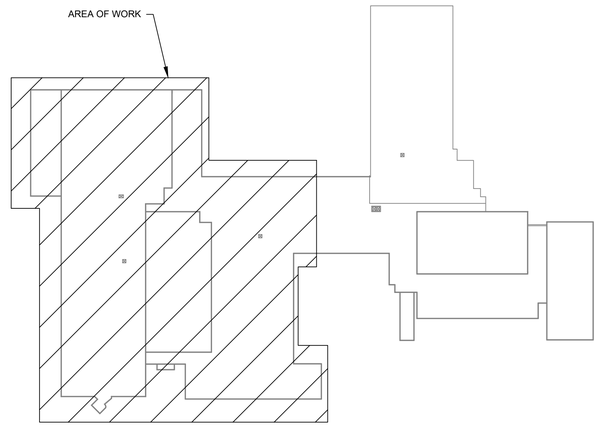
1 ELECTRICAL ROOF PLAN - 1

SCALE: 1/16" = 1' - 0"

PLAN NORTH

PLAN NOTES:

1. REFER TO ADDITIONAL INSTALLATION NOTES ON DRAWING E-001.
2. ALL NEW BRANCH CIRCUIT SHALL BE RUN WITH MINIMUM OF 2#12+1#12G IN 3/4" CONDUIT, UNLESS OTHERWISE NOTED. FOR LIGHTING AND POWER BRANCH CIRCUIT, MC CABLE SHALL BE INSTALLED FOR RECESSED INSTALLATION ONLY, EITHER IN NEW WALLS OR ABOVE HUNG CEILING WHERE POSSIBLE. REFER TO PANEL SCHEDULES IN DRAWING E-201 FOR ALL OTHER FEEDER AND BRANCH CIRCUIT SIZE INFORMATION.
3. PROVIDE LABELS ON ALL ELECTRICAL EQUIPMENT INDICATING CIRCUIT ORIGINATION.
4. UPDATE ALL EXISTING PANEL DIRECTORIES AFFECTED BY NEW WORK.
5. CONTRACTOR SHALL PERFORM AMP PROBE READINGS ON EXISTING SERVICE EQUIPMENT BEFORE AND AFTER WORK TO ENSURE EQUIPMENT WILL NOT BE LOADED BEYOND ITS MAX AMPACITY.
6. CONTRACTOR SHALL MAINTAIN CONTINUITY TO ALL EXISTING CIRCUITRY TO REMAIN WHICH ARE AFFECTED BY THE SCOPE OF WORK; CONTRACTOR SHALL FURNISH ALL NECESSARY JUNCTION BOXES, CONDUIT, AND WIRES AS REQUIRED TO KEEP CONTINUITY.
7. REFER TO MECHANICAL PLANS FOR EQUIPMENT TO BE SUPPLIED BY OTHER TRADES AND INSTALLED/WIRED UNDER THIS SECTION. COORDINATE LOCATION OF DEVICES WITH OTHER CONTRACTORS.
8. PROVIDE FIRESTOPPING FOR ALL PENETRATIONS TO MATCH EXISTING FIRE RATING WHERE APPLICABLE. ALL CORE DRILLS SHALL BE VERIFIED BY BUILDING REPRESENTATIVE PRIOR TO COMMENCING WORK. XRAY ALL FLOOR SLABS PRIOR TO ROUGH-INS FOR CORE DRILL WORK.
9. THE CONTRACTOR SHALL FIELD ROUTE FEEDER FOR NEW POWER PANELS. COORDINATE EXACT ROUTING PATH WITH OWNER. SUBMIT A PROPOSED ROUTING PATH TO ENGINEER OF RECORD FOR APPROVAL PRIOR TO RUNNING ANY CONDUIT OR WIRE ASSOCIATED WITH THIS FEEDER.
10. DISCONNECT SWITCH FOR UNIT VENTILATORS IS PROVIDED BY HVAC CONTRACTOR. COORDINATE WITH HVAC CONTRACTOR.
11. ALL GROUNDING SHALL BE PROVIDED BY THE CONTRACTOR AS PER NEC 2017.
12. ALL EXTERIOR CONDUITS SHALL BE RIGID GALVANIZED CONDUIT.



2 ELECTRICAL ROOF KEY PLAN

SCALE: 1/64" = 1' - 0"

PLAN NORTH

No.	Date	Revisions
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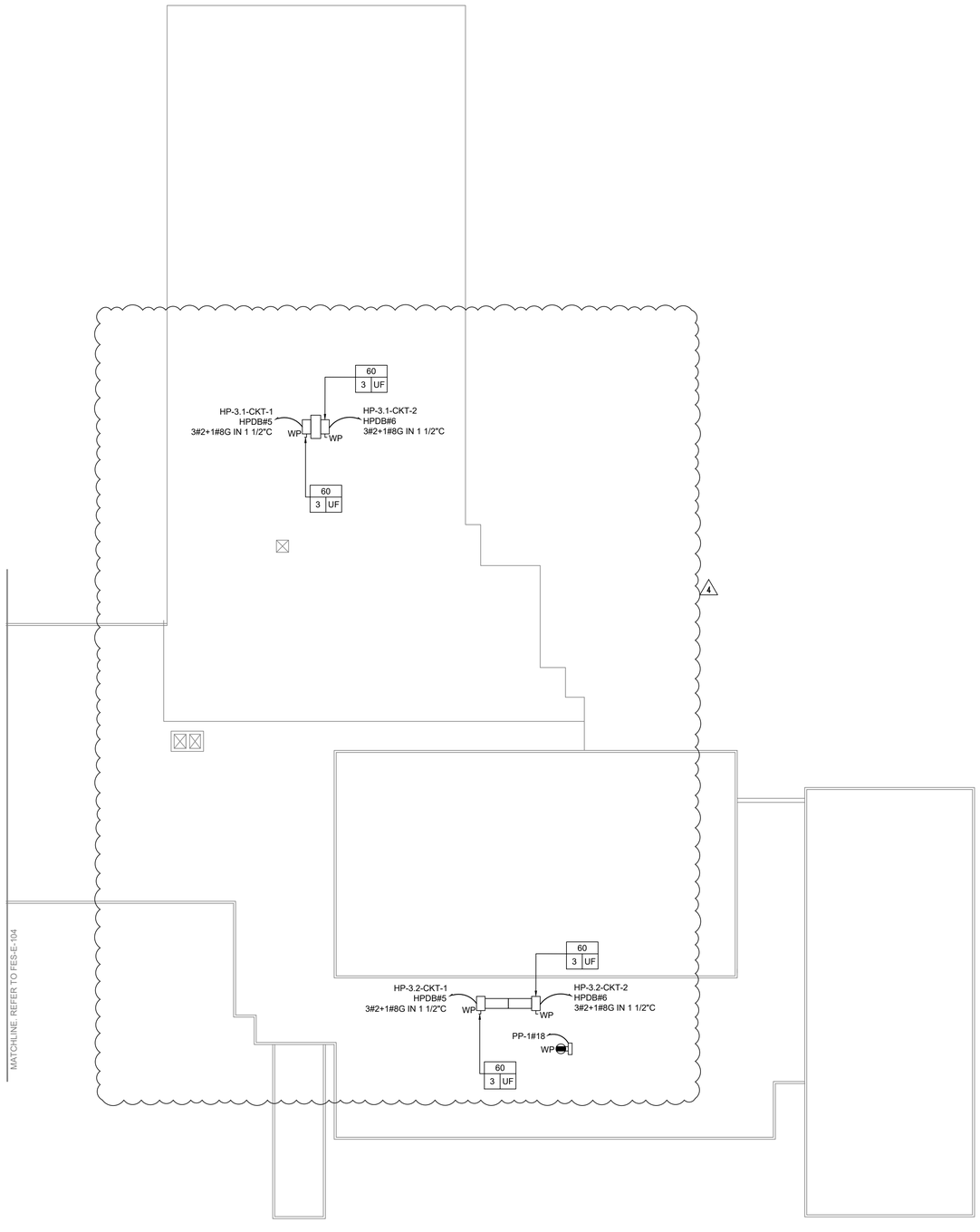
Drawing Title
ELECTRICAL ROOF PLAN - 1

Drawing No.
FES-E-104



1 ELECTRICAL ROOF PLAN - 2

SCALE: 1/16" = 1' - 0"

PLAN NOTES:

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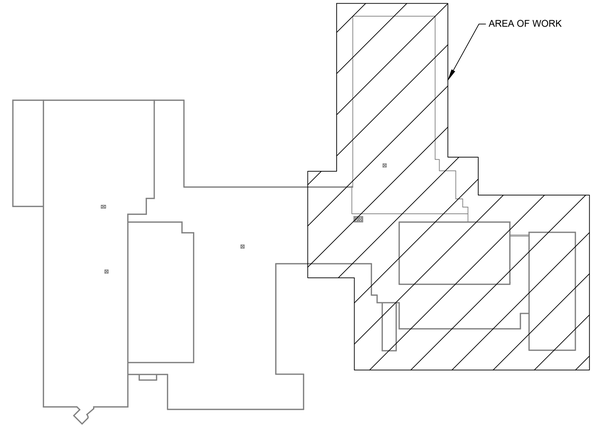
12. ALL EXTERIOR CONDUITS SHALL BE RIGID GALVANIZED CONDUITS.



2 ELECTRICAL ROOF KEY PLAN

SCALE: 1/64" = 1' - 0"

PLAN NORTH

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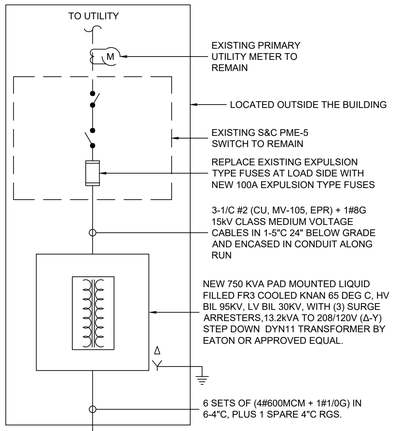
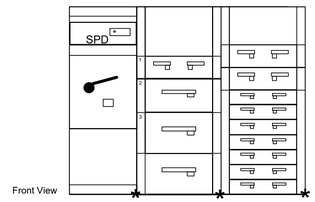
Drawing Title
ELECTRICAL ROOF PLAN - 2

Drawing No.
FES-E-105



1 ELECTRICAL ONE LINE DIAGRAM
SCALE: NTS



2 EATON DISTRIBUTION BOARD ELEVATION
SCALE: NTS

PANEL NOTES:

1. PANEL BOARDS SHALL INCLUDE ALL APPLICALBE UL AND PORODUCT SAFETY LABELS AS REQUIRED BY NEMA PB1 AND UL LISTED STANDARDS.
2. ALL PRODUCTS WHICH ARE NOT VERIFIABLE TO BE UL LISTED WILL NOT BE ACCEPTED.
3. THE ELECTRICAL CONTRACTOR MUST FIELD VERIFY THE EXISTING FEED TO ALL EXISTING PANELS AND INFORM EATON OR APPROVED EQUAL HOW EACH EXISTING PANEL IS BEING FED (i.e. BOTTOM FED OR TOP FED). PRIOR TO ORDERING THE PANEL. SHOULD AN INCORRECTLY FED BE ORDERED THE ELECTRICAL CONTRACTOR SHALL REPLACE THE PANEL AT NO ADDITIONAL COST

ABBREVIATIONS

MDB	MAIN DISTRIBUTION BOARD
AS	AMPERE SWITCH
AF	AMPERE FUSE
SW	SWITCH
EX.	EXISTING

FOR ALL OTHER ABBREVIATIONS REFER DWG E001

NOTES:

1. ALL CIRCUITS, FUSE DISCONNECT SWITCHES ARE THREE (3) POLE U.O.I.
2. FUSE RATING IN AMPS ARE DENOTED BY THE LETTERS "AF" SWITCH RATING IN AMPS ARE DENOTED BY THE LETTERS "AS".
3. FOR FEEDER SIZE TO PANELS AND DISTRIBUTION BOARDS REFER TO DWGS. E401 THRU E409.
4. COORDINATE SPECIFICS OF INCOMING SERVICE REQUIREMENTS WITH O&R IN THE FIELD.
5. ALL THE DESIGNS ARE AS PER EATON OR APPROVED EQUALS RECOMMENDATIONS. FOR EATON'S REP CONTACT - ADRIAN GUBBAY - 732-770-7686.
6. SPD SHALL BE INTEGRALLY MOUNTED IN THE SWITCHBOARD BY THE SAME MANUFACTURER AS THE SWITCHBOARD. SPD SHALL BE PART NUMBER FOR THE SPD SHALL BE EATON - SPD250208Y2C OR EQUAL.
7. PROJECT GOAL IS TO PROVIDE 12 CAL/CM2 FOR ALL VOLTAGES
8. MANUFACTURERS SELECTION OF PRIMARY TYPE OF FUSE SHALL ENSURE COORDINATION WITH TRANSFORMER IN RUSH CURRENT. IF MIS-COORDINATION IS IDENTIFIED THE MANUFACTURER SHALL REPLACE THE DEVICE THAT WILL PROPERLY COORDINATE AT NO ADDITIONAL COST.
9. THE CONTRACTOR SHALL PROVIDE SHORT CIRCUIT AND ARC FLASH STUDIES TO THE EOR PRIOR TO RELEASING THE ELECTRICAL GEAR. THIS INCLUDES THE THE MV AND LV EQUIPMENT.

DIST. BOARD: MDB1 VOLT: 120/208v, 3Ø, 4W. LOC. ELEC RM.
MOUNTING: FLOOR AMP RATING 2500A MAIN: M.L.O
NEW LOAD(A): 1250 AIC RATING 200KA TYPE: NEW
*INDICATES ESTIMATED CONNECTED LOAD OF CKT

CIRCUIT No.	LOAD SVD	POLES	SWITCH	FUSE	LOAD	FEEDERS
1*	EX. SUB DISTR.A&B	3	600	600	420	INSTALL NEW CABLES IN EXISTING CONDUIT MATCH EXISITNG FEEDER AND GROUND WIRE SIZE
2	HPDB	3	600	600	500	2 SETS OF (4#400MCM+1#1/0G) IN 2 (4"C)
3*	EX.PC-PD-LK AREA C	3	400	225	150	INSTALL NEW CABLES IN EXISTING CONDUIT MATCH EXISITNG FEEDER AND GROUND WIRE SIZE
4*	EX.ELEVATOR FEED	3	200	125	90	INSTALL NEW CABLES IN EXISTING CONDUIT MATCH EXISITNG FEEDER AND GROUND WIRE SIZE
5*	EX. ROOF PANEL	3	200	125	90	INSTALL NEW CABLES IN EXISTING CONDUIT MATCH EXISITNG FEEDER AND GROUND WIRE SIZE

DIST. BOARD: HPDB VOLT: 120/208v, 3Ø, 4W. LOC. ELEC RM.
MOUNTING: FLOOR AMP RATING 600A MAIN: M.L.O
DESIGN AMP: 560 AIC RATING 100KA TYPE: NEW

CIRCUIT No.	LOAD SVD	POLES	SWITCH	FUSE	LOAD	FEEDERS
1	HP-1,CKT-1	3	100	90	73	3#1+1#8G-1 1/2"C
2	HP-1,CKT-2	3	100	90	73	3#1+1#8G-1 1/2"C
3	HP-2,CKT-1	3	100	90	73	3#2+1#8G-1 1/2"C
4	HP-2,CKT-2	3	100	90	73	3#2+1#8G-1 1/2"C
5	HP-3.2,CKT-1	3	100	60	49	3#2+1#8G-1 1/2"C
6	HP-3.2,CKT-2	3	100	60	49	3#2+1#8G-1 1/2"C
7	HP-4,CKT-1	3	100	60	49	3#2+1#8G-1 1/2"C
8	HP-4,CKT-2	3	100	60	49	3#2+1#8G-1 1/2"C
9	HP-3.1,CKT-1	3	60	60	41	3#4+1#8G-1 1/2"C
10	HP-3.1,CKT-2	3	60	45	31	3#4+1#8G-1 1/2"C
11	SPARE	3	60			
12	SPARE	3	60			

DIST. BOARD: MDB2 VOLT: 120/208v, 3Ø, 4W. LOC. ELEC. RM.
MOUNTING: FLOOR AMP RATING 2500A MAIN: M.L.O
DESIGN AMP: 983 AIC RATING 200KA TYPE: NEW
*INDICATES ESTIMATED CONNECTED LOAD OF CKT

CIRCUIT No.	LOAD SVD	POLES	SWITCH	FUSE	LOAD	FEEDERS
1	RTU-1,CKT-2	3	200	175	167	5#4/0+1#2G-2"C
2	RTU-2,CKT-2	3	200	175	167	5#4/0+1#2G-2"C
3	SPARE	3	200			
4	SPARE	3	200			
5*	RTU-C-1	3	100	70	50	MATCH EXISITNG AND EXTEND FEEDER FROM EXISITNG PNL PP-RTU TO THIS CIRCUIT.
6*	RTU-D-2	3	100	70	50	MATCH EXISITNG AND EXTEND FEEDER FROM EXISITNG PNL PP-RTU TO THIS CIRCUIT.
7	RTU-1,CKT-1	3	100	80	67	5#1+1#6G-1 1/2"C
8	RTU-2,CKT-1	3	100	80	67	5#1+1#6G-1 1/2"C
9	SPARE	3	100			
10*	PNL UVA	3	100	70	50	4#2+1#8G-1 1/2"C
11*	PNL LD	3	100	70	50	4#2+1#8G-1 1/2"C
12*	EX. LOAD	3	100	70	50	INSTALL NEW CABLES IN EXISITNG CONDUIT MATCH EXISITNG FEEDER AND GROUND WIRE SIZE
13*	PNL LE (EX)	3	100	100	75	INSTALL NEW CABLES IN EXISITNG CONDUIT MATCH EXISITNG FEEDER AND GROUND WIRE SIZE
14*	EX. LOAD	3	100	70	50	INSTALL NEW CABLES IN EXISITNG CONDUIT MATCH EXISITNG FEEDER AND GROUND WIRE SIZE
15*	PNL LC, LM (EX)	3	100	70	50	INSTALL NEW CABLES IN EXISITNG CONDUIT MATCH EXISITNG FEEDER AND GROUND WIRE SIZE
16*	EX. LOAD	3	100	70	50	INSTALL NEW CABLES IN EXISITNG CONDUIT MATCH EXISITNG FEEDER AND GROUND WIRE SIZE
17*	PNL PP-1 + ELP	3	100	100	40	4#2+1#8G-1 1/2"C
18	SPARE	3	100			

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Drawing Title
ELECTRICAL ONE LINE DIAGRAM, DISTRIBUTION BOARD SCHEDULE

Drawing No.
FES-E-400

PANEL SCHEDULE

PANEL NAME:	New Panel "PP-1"	LOCATION:	Elec. Service 126A	MOUNTING:	Surface
VOLTAGE/PHASE:	120/208V, 3 Phase, 4W & G	PANEL (AMP)	100A	FREQUENCY:	60 Hz
PANEL SHORT CIRCUIT RATING(KA):	22 KA	FEEDER SIZE	4#3+1#8G-1 1/2"C	FEEDING SOURCE:	MDB2
MAIN BREAKER TYPE	MLO	MAIN BREAKER RATING (A):	MLO	BRANCH C.B TYPE	MCB

Load Designation	Wiring	C/B (A)	CT NO	Phase Load in VA AØ	BØ	CØ	CT NO	C/B (A)	Wiring	Load Designation
HVAC CONTROL PANEL	2#12+1#12G-3/4"C	20	1	200			2	20	2#12+1#12G-3/4"C	RECPT AT 126A
(EXISTING MDB CKT#1) FAN#7	MATCH EXISTING	20	3				4	20	(EXISTING MDB CKT#2)MATCH EXISTING	FAN#4
			5				6			
			7				8			
(EXISTING MDB CKT#3) EXISTING FAN#3	MATCH EXISTING	20	9				10	20	MATCH EXISTING	(CKT#4) FROM EXIST. MDB. ELEC. CONTRACTOR TO TRACE CIRCUIT AND UPDATE CIRCUIT INFO.
			11				12			
			13				14			
EXIST. CKT FROM PP-RTU	2#12+1#12G-3/4"C	20	15				16	20	2#12+1#12G-3/4"C	EXIST. CKT FROM PP-RTU
STANCION RECEPTACLES	2#10+1#10G-1"C	20	17			360	18	20	2#10+1#10G-1"C	STANCION RECEPTACLES
						180				
FOR CEILING CASSETTE	2#12+1#12G-3/4"C	20	19	480			20	20	2#12+1#12G-3/4"C	FOR CEILING CASSETTE
				480						
BRANCH CONTROLLER	2#12+1#12G-3/4"C	20	21		100		22	20	2#12+1#12G-3/4"C	BRANCH CONTROLLER
			23		100		24			
						100				
BRANCH CONTROLLER	2#12+1#12G-3/4"C	20	25	100			26	20	2#12+1#12G-3/4"C	BRANCH CONTROLLER
			27	100			28			
				100						
BRANCH CONTROLLER	2#12+1#12G-3/4"C	20	29			100	30	20	2#12+1#12G-3/4"C	LTG @ 158A, 159A
			31	100			32	20	2#12+1#12G-3/4"C	HVAC CONTROL PANEL
				100						
SPARE		20	33				34	20		SPARE
SPARE		20	35				36	20		SPARE
SPARE		20	37				38			
SPARE		20	39				40	40	4#6+1#8-1 1/4"C	PANEL "LP1"
SPARE		20	41				42			
CONNECTED LOAD PER PHASE IN VA				1560	400	840				
TOTAL CONNECTED LOAD IN KVA				2.8						
TOTAL DEMAND LOAD IN AMPS				7.77						

PANEL TYPE: NEMA 1 **MOUNTING: SURFACE**
COPPER BUS, EQUIP. GROUND BAR
DOOR: INDOOR TYPE

4

PANEL SCHEDULE

PANEL NAME:	New Panel "LD2"	LOCATION:	Custodial 200C	MOUNTING:	Recessed on Wall
VOLTAGE/PHASE:	120/208V, 3 Phase, 4W & G	PANEL (AMP)	225A	FREQUENCY:	60 Hz
PANEL SHORT CIRCUIT RATING(KA):	22 KA	FEEDER SIZE	4#2+1#6G-2"C	FEEDING SOURCE:	
MAIN BREAKER TYPE	MCB	MAIN BREAKER RATING (A):	70A	BRANCH C.B TYPE	MCB

Load Designation	Wiring	C/B (A)	CT NO	Phase Load in VA AØ	BØ	CØ	CT NO	C/B (A)	Wiring	Load Designation
CORRIDOR LGTS.	EXISTING TO REMAIN	20	1				2	20	EXISTING TO REMAIN	CORRIDOR LGTS.
CEIL. RM. 203	EXISTING TO REMAIN	20	3				4	20	EXISTING TO REMAIN	CEIL. RM. 203
CEIL. RM. 203	EXISTING TO REMAIN	20	5				6	20	EXISTING TO REMAIN	OVERHEAD AND TOILET LIGHTS
CEILING LIGHTS RM. 210	EXISTING TO REMAIN	20	7				8	20	EXISTING TO REMAIN	CEIL. LGTS 206
CEIL. LGTS 206	EXISTING TO REMAIN	20	9				10	20	EXISTING TO REMAIN	CEIL. LGTS 206
CEIL. RM. 203	EXISTING TO REMAIN	20	11				12	20	EXISTING TO REMAIN	CEIL. RM. 203
CEIL. RM. 203	EXISTING TO REMAIN	20	13				14	20	EXISTING TO REMAIN	CEIL. RM. 202
CEIL. RM. 202	EXISTING TO REMAIN	20	15				16	20	EXISTING TO REMAIN	CEIL. RM. 202
RECP. TO RM 203-203	EXISTING TO REMAIN	20	17				18	20	EXISTING TO REMAIN	RECP. TO RM 203-206
REC. ON DEPT. 210	EXISTING TO REMAIN	20	19				20	20	EXISTING TO REMAIN	REC. IN CORRIDOR
CEIL. LGTS 211	EXISTING TO REMAIN	20	21				22	20	EXISTING TO REMAIN	CEIL. LGTS 211
CEIL. LGTS 211	EXISTING TO REMAIN	20	23				24	20	EXISTING TO REMAIN	CEIL. LGTS FAN ROOM
EXISTING LOAD	EXISTING TO REMAIN	20	25				26	20	EXISTING TO REMAIN	REC. IN FAN RM & 204
ROOM 111 LIGHTING	EXISTING TO REMAIN	20	27				28	20	EXISTING TO REMAIN	EXISTING LOAD
EXISTING LOAD	EXISTING TO REMAIN	20	29				30	20	EXISTING TO REMAIN	COMPUTER RECEP.
			31				32	20	EXISTING TO REMAIN	COMPUTER RECEP.
SPARE		20	33				34	20		SPARE
SPARE		20	35				36	20		SPARE
SPARE		20	37				38	20		SPARE
SPARE		20	39				40	20		SPARE
SPARE		20	41				42	20		SPARE
CONNECTED LOAD PER PHASE IN VA				0	0	0				
TOTAL CONNECTED LOAD IN KVA				0						
TOTAL DEMAND LOAD IN AMPS				0.00						

PANEL TYPE: NEMA 1 **MOUNTING: RECESSED**
COPPER BUS, EQUIP. GROUND BAR
DOOR: INDOOR TYPE

PANEL SCHEDULE

PANEL NAME:	New Panel "UVC"	LOCATION:	Custodial 200C	MOUNTING:	Recessed on Wall
VOLTAGE/PHASE:	120/208V, 3 Phase, 4W & G	PANEL (AMP)	100A	FREQUENCY:	60 Hz
PANEL SHORT CIRCUIT RATING(KA):	22 KA	FEEDER SIZE	4#4+1#6G-1 1/2"C	FEEDING SOURCE:	
MAIN BREAKER TYPE	MCB	MAIN BREAKER RATING (A):	40A	BRANCH C.B TYPE	MCB

Load Designation	Wiring	C/B (A)	CT NO	Phase Load in VA AØ	BØ	CØ	CT NO	C/B (A)	Wiring	Load Designation
UNIVENTS RM. 212	MATCH EXISTING	20	1				2	20	MATCH EXISTING	UNIVENTS RM. 214-216
UNIVENTS RM. 217	MATCH EXISTING	20	3				4	20	MATCH EXISTING	UNIVENTS RM. 202-203
UNIVENT RM. 206	MATCH EXISTING	20	5				6	20	MATCH EXISTING	UNIVENTS RM. 204
EXISTING LOAD	MATCH EXISTING	20	7				8	20	MATCH EXISTING	EXISTING LOAD
EXISTING LOAD	MATCH EXISTING	20	9				10	20		SPARE
SPARE		20	11				12	20		SPARE
SPARE		20	13				14	20		SPARE
SPARE		20	15				16	20		SPARE
SPARE		20	17				18	20		SPARE
CONNECTED LOAD PER PHASE IN VA				0	0	0				
TOTAL CONNECTED LOAD IN KVA				0						
TOTAL DEMAND LOAD IN AMPS				0.00						

PANEL TYPE: NEMA 1 **MOUNTING: RECESSED**
COPPER BUS, EQUIP. GROUND BAR
DOOR: INDOOR TYPE
PANEL SHALL BE IN A NEMA-3R ENCLOSURE

PANEL SCHEDULE

PANEL NAME:	NEW PANEL "LP1"	LOCATION:	Elec. Service 126A	MOUNTING:	Surface
VOLTAGE/PHASE:	120/208V, 3 Phase, 4W & G	PANEL (AMP)	100A	FREQUENCY:	60 Hz
PANEL SHORT CIRCUIT RATING(KA):	22 KA	FEEDER SIZE	4#6+1#8G-1 1/4"C	FEEDING SOURCE:	PANEL PP-1
MAIN BREAKER TYPE	MLO	MAIN BREAKER RATING (A):	MLO	BRANCH C.B TYPE	MCB

Load Designation	Wiring	C/B (A)	CT NO	Phase Load in VA AØ	BØ	CØ	CT NO	C/B (A)	Wiring	Load Designation
GYM, LABEL, KITCHEN & NORTH CORRIDORS	EXISTING TO REMAIN	20	1				2	20	EXISTING TO REMAIN	CORR. SOUTH BLDGS
CORR. NEAR ROOM 152	EXISTING TO REMAIN	20	3				4	20	EXISTING TO REMAIN	EXISTING LOAD
CORRIDOR	2#10+1#12G-3/4"C	20	5			400	6	20	2#10+1#12G-3/4"C	CORRIDOR
						400				
CORRIDOR	2#10+1#12G-3/4"C	20	7	400			8	20	2#10+1#12G-3/4"C	CORRIDOR
				400						
CORRIDOR	2#10+1#12G-3/4"C	20	9		400		10	20	2#10+1#12G-3/4"C	CORRIDOR
					400					
CORRIDOR	2#10+1#12G-3/4"C	20	11			400	12	20	2#12+1#12G-3/4"C	ELECTRICAL ROOM
						160				
EXIT LIGHT	2#10+1#12G-3/4"C	20	13	30			14	20		SPARE
EXIT LIGHT	2#10+1#12G-3/4"C	20	15		30		16	20		SPARE
SPARE		20	17				18	20		SPARE
SPARE		20	19				20	20		SPARE
SPARE		20	21				22	20		SPARE
SPARE		20	23				24	20		SPARE
SPARE		20	25				26	20		SPARE
SPARE		20	27				28	20		SPARE
SPARE		20	29				30	20		SPARE
CONNECTED LOAD PER PHASE IN VA				830	830	1360				
TOTAL CONNECTED LOAD IN KVA				3.02						
TOTAL DEMAND LOAD IN AMPS				8.38						

PANEL TYPE: NEMA 1 **MOUNTING: SURFACE**
COPPER BUS, EQUIP. GROUND BAR
DOOR: INDOOR TYPE

PANEL NOTES:

1. PANEL BOARDS SHALL INCLUDE ALL APPLICALBE UL AND PORODUCT SAFETY LABELS AS REQUIRED BY NEMA PB1 AND UL LISTED STANDARDS.
2. ALL PRODUCTS WHICH ARE NOT VERIFIABLE TO BE UL LISTED WILL NOT BE ACCEPTED.
3. THE ELECTRICAL CONTRACTOR MUST FIELD VERIFY THE EXISTING FEED TO ALL EXISITNG PANELS AND INFORM EATON OR APPROVED EQUAL HOW EACH EXISTING PANEL IS FED (i.e. BOTTOM FED OR TOP FED). PRIOR TO ORDERING THE PANEL. SHOULD AN INCORRECTLY FED BE ORDERED THE ELECTRICAL CONTRACTOR SHALL REPLACE THE PANEL AT NO ADDITIONAL COST

No.	Date	Revisions
4	11-09-23	ADDENDUM #1
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

Drawn by DK
Checked by SH
Project No. 42052
Scale AS NOTED
Date 7/29/22

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD SUITE 302 SUFFERN, NY 10901
Mechanical & Electrical Engineer:

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD SUITE 302 SUFFERN, NY 10901
Structural Engineer:

UNIVENT REPLACEMENT AT FARLEY ELEMENTARY SCHOOL
SED # 50-02-01-06-0-003-011
COUNTY OF ROCKLAND

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Drawing Title **ELECTRICAL PANEL SCHEDULES #8**

Drawing No. **FES-E-408**

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL

WILLOW GROVE ELEMENTARY SCHOOL
153 STORRS ROAD
THIELLS, NY 10984
SED# 50-02-01-06-0-030-016

OWNER:
NORTH ROCKLAND CENTRAL SCHOOL DISTRICT
65 Chapel Street
Garnerville, NY 10923

ARCHITECT:
MICHAEL SHILALE ARCHITECTS, LLP
140 Park Avenue
New City, NY 10956

PME ENGINEER:
GREENMAN-PEDERSON, INC.
400 Rella Boulevard, Suite 207
Montabello, NY 10901

MATERIALS LEGEND

- CONCRETE MASONRY UNIT
- BRICK
- RIGID INSULATION
- CONCRETE
- GRAVEL OR STONE
- EARTH
- EIFS
- ASPHALT PAVING
- SAND/MORTAR/GYPSUM BOARD
- STEEL
- ACT
- ROUGH WOOD
- BRONZE

SYMBOLS LEGEND

- 1 — DOOR NUMBER
- 1 — KEY NOTE
- 1 — PARTITION TYPE
- 1 — REVISION NUMBER
- 1 — WINDOW TYPE
- 1 — MECHANICAL EQUIPMENT
- EXISTING PARTITION
- EXISTING PARTITION TO BE REMOVED
- NEW PARTITION (SEE PARTITION LEGEND A-101)
- NEW DOOR
- EXISTING DOOR
- EXISTING DOOR TO BE REMOVED
- EXISTING WINDOW
- NEW WINDOW
- OFFICE / 100 SF / 101 — ROOM NAME / ROOM NAME/NUMBER IDENTIFICATION / ROOM NUMBER / ROOM AREA
- 1 / A-100 — DRAWING NUMBER / WALL SECTION/ELEVATION REFERENCE / SHEET NUMBER
- 1 / A-100 — DETAIL NUMBER / DETAIL REFERENCE / SHEET NUMBER
- 1 — COLUMN LINE DESIGNATION

LIST OF DRAWINGS

DRAWING No.	DRAWING TITLE	DATE
WGES-A-000	COVER SHEET	11-09-23 (4)
WGES-B-100	CODE ANALYSIS	09-14-23 (4)
WGES-S-001	STRUCTURAL GENERAL NOTES	11-09-23 (4)
WGES-S-070	STRUCTURAL ROOF DEMOLITION	09-14-23
WGES-S-101	STRUCTURAL ROOF CONSTRUCTION	09-14-23 (4)
WGES-S-102	STRUCTURAL GROUND CONSTRUCTION	11-09-23 (4)
WGES-D-101	MAIN LEVEL DEMO PLAN	09-14-23
WGES-D-102	LOWER LEVEL DEMO PLAN	09-14-23
WGES-D-103	ROOF DEMO PLAN	09-14-23
WGES-D-610	WINDOW DEMO ELEVATIONS	09-14-23
WGES-A-101	MAIN LEVEL FLOOR PLAN	09-14-23
WGES-A-102	LOWER LEVEL FLOOR PLAN	09-14-23
WGES-A-103	ROOF PLAN	09-14-23
WGES-A-401	MAIN LEVEL REFLECTED CEILING PLAN	09-14-23
WGES-A-402	LOWER LEVEL REFLECTED CEILING PLAN	09-14-23
WGES-A-500	ROOF DETAILS	09-14-23
WGES-A-510	WINDOW ELEVATIONS	09-14-23
WGES-A-511	WINDOW DETAILS	09-14-23 (4)
WGES-A-600	UNIT ELEVATIONS	11-09-23 (4)
WGES-A-601	UNIT ELEVATIONS	09-14-23 (4)
WGES-A-610	INTERIOR DETAILS	11-09-23 (4)
WGES-M-001	MECHANICAL GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS	09-14-23 (4)
WGES-M-002	MECHANICAL SCHEDULES - 1	11-09-23
WGES-M-003	MECHANICAL SCHEDULES - 2	11-09-23
WGES-M-004	MECHANICAL SCHEDULES - 3	09-14-23
WGES-M-005	MECHANICAL SCHEDULES - 4	09-14-23
WGES-M-061	MECHANICAL LOWER LEVEL DEMOLITION - 1	09-14-23
WGES-M-062	MECHANICAL LOWER LEVEL DEMOLITION - 2	09-14-23
WGES-M-063	MECHANICAL LOWER LEVEL DEMOLITION - 3	09-14-23
WGES-M-064	MECHANICAL MAIN LEVEL DEMOLITION - 1	09-14-23
WGES-M-065	MECHANICAL MAIN LEVEL DEMOLITION - 2	09-14-23
WGES-M-066	MECHANICAL MAIN LEVEL DEMOLITION - 3	09-14-23
WGES-M-067	MECHANICAL MAIN LEVEL DEMOLITION - 4	09-14-23
WGES-M-068	MECHANICAL MAIN LEVEL DEMOLITION - 5	09-14-23
WGES-M-069	MECHANICAL UPPER LEVEL DEMOLITION	09-14-23
WGES-M-070	MECHANICAL ROOF PLAN DEMOLITION - 1	09-14-23
WGES-M-071	MECHANICAL ROOF PLAN DEMOLITION - 2	09-14-23
WGES-M-101	MECHANICAL LOWER LEVEL INSTALLATION PLAN - 1	09-14-23
WGES-M-102	MECHANICAL LOWER LEVEL INSTALLATION PLAN - 2	09-14-23
WGES-M-103	MECHANICAL LOWER LEVEL INSTALLATION PLAN - 3	09-14-23
WGES-M-104	MECHANICAL MAIN LEVEL INSTALLATION PLAN - 1	09-14-23
WGES-M-105	MECHANICAL MAIN LEVEL INSTALLATION PLAN - 2	09-14-23
WGES-M-106	MECHANICAL MAIN LEVEL INSTALLATION PLAN - 3	09-14-23
WGES-M-107	MECHANICAL MAIN LEVEL INSTALLATION PLAN - 4	09-14-23
WGES-M-108	MECHANICAL MAIN LEVEL INSTALLATION PLAN - 5	09-14-23
WGES-M-109	MECHANICAL UPPER LEVEL INSTALLATION PLAN	09-14-23
WGES-M-110	MECHANICAL ROOF INSTALLATION PLAN - 1	09-14-23
WGES-M-111	MECHANICAL ROOF INSTALLATION PLAN - 2	09-14-23
WGES-M-112	MECHANICAL CRAWLSPACE INSTALLATION PLAN - 1	09-14-23
WGES-M-113	MECHANICAL CRAWLSPACE INSTALLATION PLAN - 2	09-14-23
WGES-M-201	MECHANICAL ENLARGED INSTALLATION PLANS	09-14-23
WGES-M-301	HVAC PIPING DIAGRAM - DEMOLITION	09-14-23
WGES-M-302	HVAC PIPING DIAGRAM - INSTALLATION	09-14-23
WGES-M-303	CHILLER PIPING DIAGRAMS	09-14-23
WGES-M-304	REFRIGERANT PIPING DIAGRAMS	09-14-23
WGES-M-401	CONTROL DIAGRAMS - 1	09-14-23
WGES-M-402	CONTROL DIAGRAMS - 2	09-14-23
WGES-M-403	CONTROL DIAGRAMS - 3	09-14-23
WGES-M-404	CONTROL DIAGRAMS - 4	09-14-23
WGES-M-501	MECHANICAL DETAILS - 1	09-14-23
WGES-M-502	MECHANICAL DETAILS - 2	09-14-23
WGES-M-503	MECHANICAL DETAILS - 3	09-14-23
WGES-E-001	ELECTRICAL NOTES & SCHEDULES	09-14-23
WGES-E-061	ELECTRICAL LOWER LEVEL DEMO PLAN	09-14-23
WGES-E-062	ELECTRICAL MAIN LEVEL DEMO PLAN - 1	09-14-23
WGES-E-063	ELECTRICAL MAIN LEVEL DEMO PLAN - 2	09-14-23
WGES-E-101	ELECTRICAL LOWER LEVEL PLAN	09-14-23
WGES-E-102	ELECTRICAL MAIN LEVEL PLAN - 1	09-14-23
WGES-E-103	ELECTRICAL MAIN LEVEL PLAN - 2	09-14-23
WGES-E-104	ELECTRICAL ROOF PLAN - 1	09-14-23
WGES-E-105	ELECTRICAL ROOF PLAN - 2	11-09-23 (4)
WGES-E-400	ELECTRICAL SCHEDULES & RISERS	11-09-23
WGES-E-500	ELECTRICAL DETAILS - 1	09-14-23
WGES-E-501	ELECTRICAL DETAILS - 2	09-14-23

GENERAL NOTES

1. ALL PLAN DIMENSIONS ARE NOMINAL U.O.N. DIMENSIONS TO THE FINISHED FACE OF AN ELEMENT OR WALL WILL BE DESIGNATED WITH AN "f" AS SHOWN.

2. G.C. TO VERIFY ALL DIMENSIONS IN THE FIELD AND IS TO NOTIFY ARCHITECT IF THERE ARE ANY DISCREPANCIES.

UNIT PRICES

UNIT PRICE NO. 200:
PROVIDE A PRICE TO REPLACE 10 LINEAR FEET OF EXISTING HEAT OR CHILLED WATER PIPE. (THIS AMOUNT WILL ADD OR REDUCE ALLOWANCE NO. 200).

ALTERNATES

BASE BID: REUSE EXISTING UV'S SPECIFIED FOR REPLACEMENT AS PER ALT. NO. 200. REMOVE EXISTING COIL, FLIP AND CONNECT HEAT & CHILLER LINES TO PROPER COILS. ALL OTHER EXISTING UV'S TO BE REPLACED WITH NEW.

ALT. NO. 200: REPLACE EXISTING UV'S IN LOCATION SPECIFIED ON DRAWINGS WGES-A-100 AND WGES-A-101. SEE PLANS FOR LOCATIONS. INCLUDE AN ALLOWANCE TO REPLACE EXISTING HEAT SUPPLY & RETURN PIPING AND INSULATION FOR 20 LINEAR FEET PER EACH UNIT VENTILATOR TO BE REPLACED.

ALT. NO. 201: REMOVE AND REPLACE CAFETERIA UNIT, SEE MECHANICAL DWGS.

ALT. NO. 202: REFURBISH EXISTING PLENUM MOUNTED HVAC UNIT AND PROVIDE NEW ACCESS PANELS AND MAINTENANCE PLATFORMS FOR AHU-1 AND AHU-2.

ALT. NO. 203: REMOVE EXISTING GLASS BLOCK AND INSTALL NEW WINDOWS.

ALT. NO. 204: CONTRACTOR TO INSTALL ONE SWING SET AND TWO ADD A SWING KITS WITH LOCATION TO BE DETERMINED IN THE FIELD BY OWNER. SWING SET TO BE ADA GAMETIME - POWERSCAPE SWING MODEL # 81598. ADD A BAY TO BE ADA GAMETIME - POWERSCAPE SWING ADD A BAY MODEL # 81599. SWING SET AND ADD A BAYS WILL BE PROVIDED TO THE CONTRACTOR BY THE OWNER.

ALT NO. 205: PROVIDE 1/4" THICK SOLID SURFACE MATERIAL AT ALL UV'S BUILT INTO CASE WORK.

ALT NO. 206: PROVIDE INSTALLATION FOR NEW CANOPY. CANOPY TO BE PROVIDED TO THE CONTRACTOR BY THE OWNER. CANOPY MODEL NUMBER RC201810IN. ATTACHED CUT SHEETS HAVE BEEN PROVIDED FOR THE CONTRACTOR'S REFERENCE. G.C. SHALL INCLUDE NYS P.E. SIGNED AND SEALED DRAWINGS FOR FOOTING DESIGN.

ALLOWANCES

ALLOWANCE NO. 200: REPLACE EXISTING HEAT & CHILLED WATER SUPPLY & RETURN PIPING AND INSULATION FOR 40 LINEAR FEET PER EACH UNIT VENTILATOR TO BE REPLACED.

ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE	ITR	INDIVIDUAL TREATMENT ROOM
A.F.F.	ABOVE FINISH FLOOR	JT	JOINT
ASPH	ASPHALT	LAM	LAMINATE
BLK	BLOCK	LAV	LAVATORY
BLK'G	BLOCKING	LF	LINEAR FEET
BUR	BUILT UP ROOFING	LP	LOW POINT
CLG	CEILING	MAX	MAXIMUM
CONC	CONCRETE	MFR	MANUFACTURER
CONT	CONTINUOUS	MTL	METAL
C.J.	CONTROL JOINT	MIN	MINIMUM
DN	DOWN	MO	MASONRY OPENING
DIA	DIAMETER	N.I.C.	NOT IN CONTRACT
DWG	DRAWING	NO.	NUMBER
E.F.	EACH FACE	OC	ON CENTER
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM	OPN'G	OPENING
E.W.	EACH WAY	PBC	PLUMBING CONTRACTOR
E.W.C.	ELECTRICAL WATER COOLER	PLAS.LAM.	PLASTIC LAMINATE
EL	ELEVATION	PL	PLATE
ELC	ELECTRICAL CONTRACTOR	PLY'D	PLYWOOD
EXIST	EXISTING	RAD	RADIUS
EXP	EXPANSION	REF.CLG.	REFLECTED CEILING
EXT'G	EXISTING	REQ'D	REQUIRED
EXTR	EXTERIOR	RO	ROUGH OPENING
FP	FIREPROOF	SIM	SIMILAR
FIN.	FINISH(ED)	STL	STEEL
GA	GAUGE	SUSP.CLG.	SUSPENDED CEILING
GC	GENERAL CONTRACTOR	T.O.M.	TOP OF MASONRY
GALV	GALVANIZED	T.O.S.	TOP OF STEEL
GL	GLASS	TYP	TYPICAL
GWB	GYPSUM WALL BOARD	U.O.N.	UNLESS OTHERWISE NOTED
HM	HOLLOW METAL	V.I.F.	VERIFY IN FIELD
H.P.	HIGH POINT	VCT	VINYL COMPOSITE TILE
HAC	HEATING & A/C CONTRACTOR	W/	WITH
		WD.	WOOD

IF THIS BAR DOES NOT MEASURE 1", THEN DRAWING IS NOT TO FULL SCALE (0, 1/2, 1)

No.	Date	Revisions
4	11-09-23	ADDENDUM NO. 1
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM 1
1	01-18-23	BIDDING DOCUMENTS

REG. EXP DATE: 06-30-24

Drawn by MAL
Checked by MS/JC
Project No. 42054
Scale AS NOTED
Date 07-29-22

GREENMAN PEDERSEN, INC
400 RELLA BOULEVARD
MONTEBELLO, NY 10901

Mechanical & Electrical Engineer:
Structural Engineer:

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
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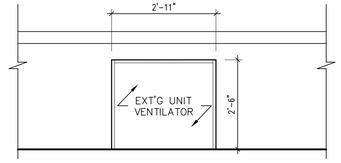
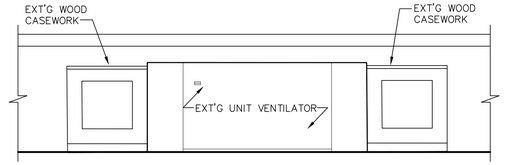
Drawing Title: COVER SHEET
Drawing No.: WGES-A-000



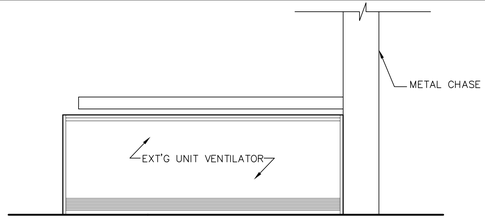
4 EXISTING UNIVENT ELEVATION (TYP.)
SCALE: 1/2" = 1'-0"

1. BASE BID INCLUDES REUSING UV. NO MODIFICATIONS REQUIRED FOR CASEWORK.
2. ALT 200 INCLUDES REPLACEMENT OF EXISTING UV WITH NEW UV. CASEMENT MODIFICATION REQ'D FOR NEW UV'S

4



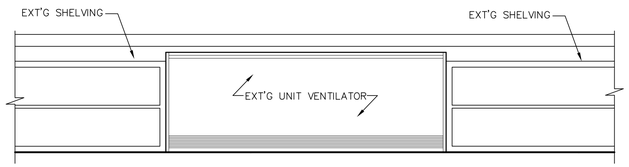
3 EXISTING UNIVENT ELEVATION (W/CASEWORK BOTH SIDES)
SCALE: 1/2" = 1'-0"



2 EXISTING UNIVENT ELEVATION (W/METAL CHASE ONE SIDE)
SCALE: 1/2" = 1'-0"

1. BASE BID INCLUDES REUSING UV. NO MODIFICATIONS REQUIRED FOR CASEWORK.
2. ALT 200 INCLUDES REPLACEMENT OF EXISTING UV WITH NEW UV. CASEMENT MODIFICATION REQ'D FOR NEW UV'S

4



1 EXISTING UNIVENT ELEVATION (W/SHELVING BOTH SIDES)
SCALE: 1/2" = 1'-0"

0 1/2 1
IF THIS BAR DOES NOT MEASURE 1, THEN DRAWING IS NOT TO FULL SCALE

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT, TO ALTER AN ITEM IN ANY WAY.

No.	Date	Revisions
1	01-18-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM 1
3	09-14-23	BIDDING DOCUMENTS
4	11-07-23	ADDENDUM NO. 1

4

REG. EXP DATE: 06-30-24

Drawn by SP
Checked by MS/JC
Project No. 42054
Scale AS NOTED
Date 08-30-21

GREENMAN PEDERSEN, INC
400 RELLA BOULEVARD
MONTEBELLO, NY 10901

Mechanical & Electrical Engineer: - - -
Structural Engineer: - - -

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
COUNTY OF ROCKLAND
TEN STORMS ROAD
NYACK, NY 10960

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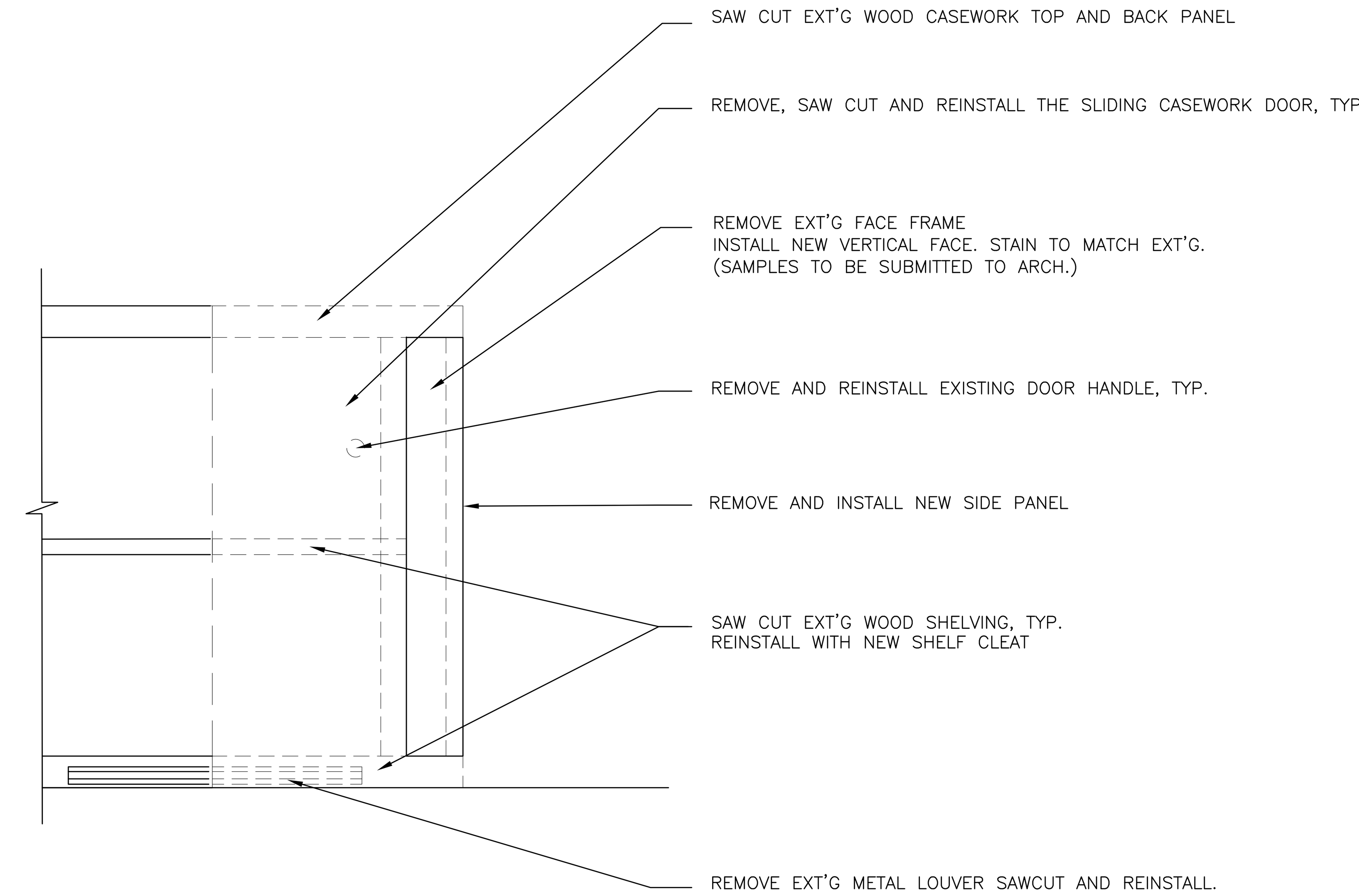
Drawing Title
UV ELEVATIONS

Drawing No.
WGES-A-600

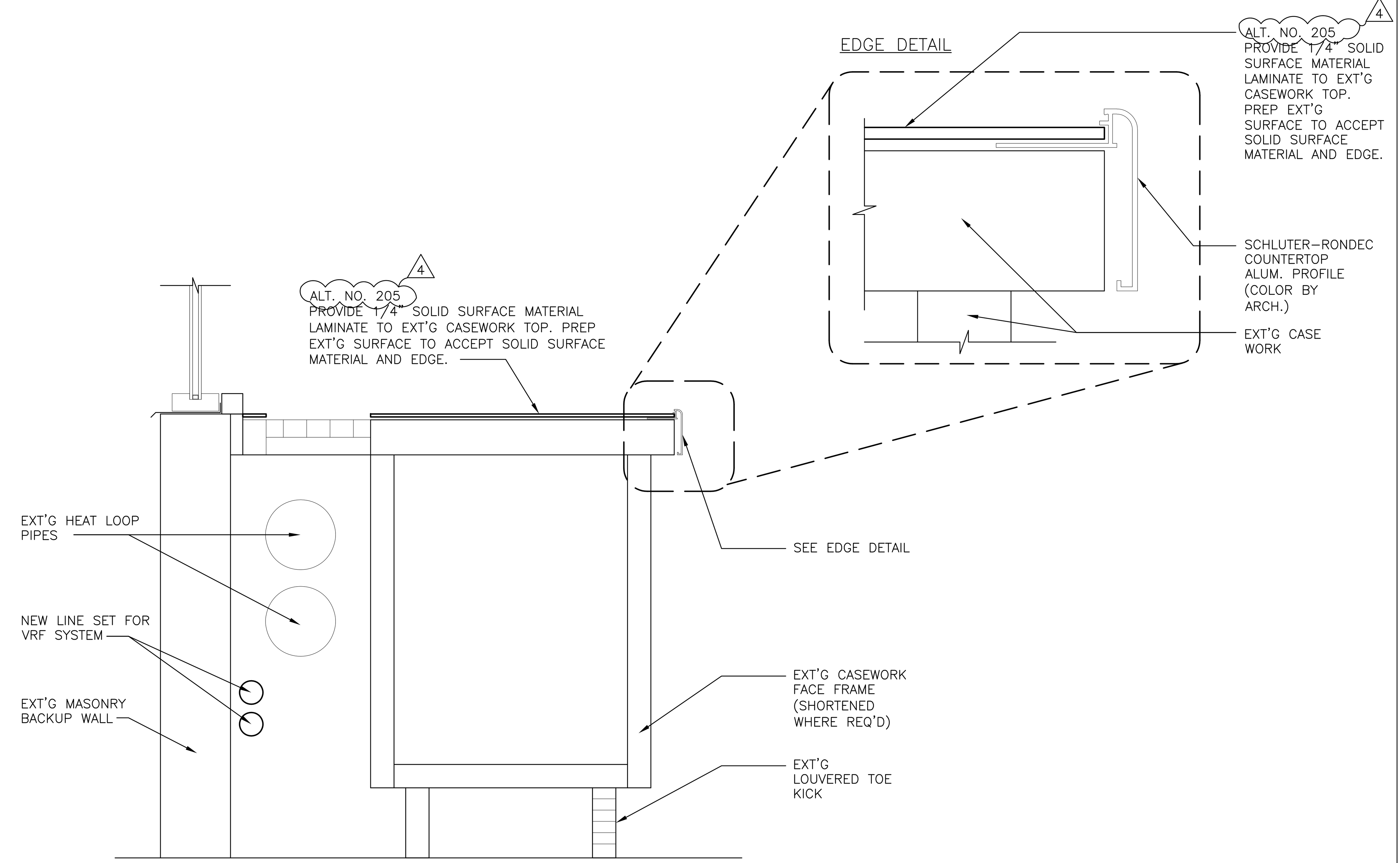


2 EXISTING CASEWORK MODIFICATION DETAIL TYP.

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

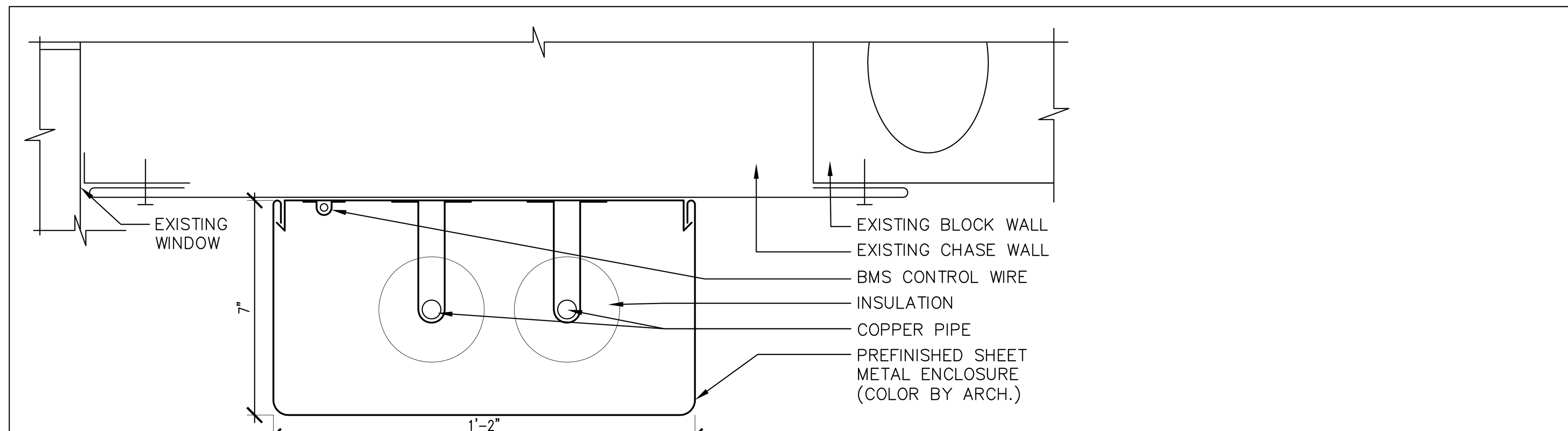
CODE	MATERIAL	MANUFACTURER	PRODUCT	CATALOG NO.	FINISH	COLOR	REMARKS
PT1	LATEX FINISH	BENJAMIN MOORE	REGAL AQUA PEARL	310	EGGSHELL	BY ARCH	(1) COAT PT4, (2) COATS PT1
PT4	LATEX PRIMER	BENJAMIN MOORE	LATEX PRIMER	273	FLAT	BY ARCH	
PT5	LATEX FINISH	BENJAMIN MOORE	DTM ACRYLIC	M29	SEMI-GLOSS	BY ARCH	(3) COAT PT6

FINISH MATERIAL SCHEDULE



3 EXISTING CASEWORK SECTION

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



NOTE: PROVIDE PT1 AT ALL DISTURBED AREAS. COLOR TO MATCH EXISTING. ALL NEW SURFACES TO RECEIVE PT1.

1 LINE SET ENCLOSURE

SCALE: 3" = 1'-0"

0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

No.	Date	Revisions
4	11-09-23	ADDENDUM NO. 1
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM 1
1	01-18-23	BIDDING DOCUMENTS

REG. EXP DATE: 06-30-24

Drawn by JR
Checked by MS/JC
Project No. 42054
Scale AS NOTED
Date 11-30-22

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Drawing Title: INTERIOR DETAILS

Drawing No. WGES-A-610

WATER PUMP SCHEDULE

UNIT #	SERVICE	LOCATION	TYPE	FLUID	PUMP DATA									MOTOR					SPEED CONTROL	BASE DIMENSIONS (LxW, IN)	OPERATING WEIGHT (LBS)	BASIS OF DESIGN	
					IMPELLER DIA. (IN)	CAPACITY (GPM)	TOTAL HEAD (FT H2O)	DUTY POINT POWER (HP)	NPSHr (FT H2O)	PART LOAD EFF. (PLEVv)	DUTY POINT EFF.	MAX. WWP (PSIG)	WATER TEMP. (°F)	TYPE	ENCLOSURE TYPE	HP	RPM	V/PH/Hz				MANUFACTURER	MODEL #
CHWP-1	CHILLED WATER	OUTDOORS	BASE MOUNTED, END SUCTION	30% PROPYLENE GLYCOL	8.625	320	50	6.13	9.2	70.3	67.5	175	44	NEMA PREMIUM, VFD READY	TEFC	7.5	1800	208/3/60	VARIABLE	34x14	367	BELL & GOSSETT	e-1510 2.5BB
CHWP-2	CHILLED WATER	OUTDOORS	BASE MOUNTED, END SUCTION	30% PROPYLENE GLYCOL	8.625	320	50	6.13	9.2	70.3	67.5	175	44	NEMA PREMIUM, VFD READY	TEFC	7.5	1800	208/3/60	VARIABLE	34x14	367	BELL & GOSSETT	e-1510 2.5BB
CHWP-3	CHILLED WATER	CHILLER ROOM	BASE MOUNTED, END SUCTION	30% PROPYLENE GLYCOL	5.25	320	80	9.12	11.8	70.9	72.4	175	44	NEMA PREMIUM, VFD READY	TEFC	10	1800	208/3/60	VARIABLE	34x14	328	BELL & GOSSETT	e-1510 2.5AC
CHWP-4	CHILLED WATER	CHILLER ROOM	BASE MOUNTED, END SUCTION	30% PROPYLENE GLYCOL	5.25	320	80	9.12	11.8	70.9	72.4	175	44	NEMA PREMIUM, VFD READY	TEFC	10	1800	208/3/60	VARIABLE	34x14	328	BELL & GOSSETT	e-1510 2.5AC

NOTES:
1. PROVIDE OPERATIONS AND MAINTENANCE MANUALS.
2. PROVIDE VARIABLE FREQUENCY DRIVE WITH HOA CONTROL.
3. PROVIDE INTERNALLY SELF-FLUSHING MECHANICAL SEALS.

CONDENSATE DRAIN PIPE SIZING SCHEDULE

SIZE (IN)	MAXIMUM CONNECTED COOLING CAPACITY (TONS)
3/4	20
1	40
1 1/4	90
1 1/2	125
2	250

NOTES:
1. SIZE CONDENSATE DRAIN PIPING PER THIS SCHEDULE WHERE NOT OTHERWISE INDICATED IN THE CONTRACT DOCUMENTS.

COOLING COIL SCHEDULE

TAG	SERVICE	REFRIGERANT	TOTAL COOLING CAPACITY (BTU/H)	SENSIBLE COOLING CAPACITY (BTU/H)	SUPPLY AIRFLOW (CFM)	OUTSIDE AIRFLOW (CFM)	PRESS. DROP (IN WC)	EAT (°F DB)	EAT (°F WB)	LAT (°F DB)	LAT (°F WB)	MAX. FACE VELOCITY (FPM)	ROWS	OVERALL DIMENSIONS (WxH)(IN)	BASIS OF DESIGN
CC-3	AHU-3	R-410A	83430	52630	2000	1000	0.5	79.0	67.0	55.0	54.0	550	4	44x29	TRANE CSAA004
CC-4	AHU-4	R-410A	246610	153490	7000	1360	0.5	75.0	65.0	55.0	54.0	550	4	72x41.5	TRANE CSAA014
CC-5	AHU-5	R-410A	246610	153490	7000	1360	0.5	75.0	65.0	55.0	54.0	551	5	72x41.5	TRANE CSAA014
CC-7	AHU-7	R-410A	83430	52630	2000	1000	0.5	79.0	67.0	55.0	54.0	550	4	44x29	TRANE CSAA004
CC-8	AHU-8	R-410A	83430	52630	2000	1000	0.5	79.0	67.0	55.0	54.0	550	4	44x29	TRANE CSAA004

NOTES:
1. THE COILS SHALL BE FACTORY INSTALLED WITHIN A DOUBLE-WALLED, INSULATED HOUSING COMPLETE WITH ACCESS DOORS AND DRAIN PLAN.
2. PROVIDE LINEAR EXPANSION VALVE KITS FOR EACH COIL. THE EXPANSION VALVES SHALL BE A PRODUCT OF THE VRF SYSTEM MANUFACTURER (REFER TO THE SPLIT SYSTEM AIR CONDITIONING UNIT SCHEDULE).
3. PROVIDE WITH INTEGRAL BASE FRAME.
4. PROVIDE AE-200 CONTROLLER OR APPROVED EQUAL.

AIR COOLED WATER CHILLER SCHEDULE

CHILLER TAG		CH-1 AND CH-2
LOCATION		OUTDOORS
DIMENSIONS	LENGTH x WIDTH x HEIGHT (IN)	251 x 89 x 94
	HEIGHT (IN)	94
	OPERATING WEIGHT (LBS)	10691
REFRIGERATION CAPACITY (EACH CHILLER)(TONS)		116.81
COMPRESSORS (EACH MODULE)	QUANTITY	2
	CAPACITY CONTROL	VARIABLE
	RLA EACH	98
EVAPORATOR (TOTAL)	TEMP. ENT F.	54
	TEMP. LVG F.	44
	GPM	320
	MAX. P.D.-FT.	11.6
	FOULING FACTOR	0.0001
	WORKING FLUID	30% GLYCOL
CONDENSER (EACH MODULE)	AMBIENT AIR TEMP. °F	95
	FANS QUANTITY	10
	FANS FLA EACH	2.5
	FAN TYPE	VARIABLE SPEED
ELECTRICAL	VOLTS/PH/HZ	208/3/60
	MCA (A) CIRCUIT #1	310.72
	MOP (A) CIRCUIT #1	500
	MCA (A) CIRCUIT #2	298.56
	MOP (A) CIRCUIT #2	500
REFRIGERANT DATA	REFRIGERANT	R-513A
	REFRIGERANT CHARGE CKT #1 (LB)	86.6
	REFRIGERANT CHARGE CKT #2 (LB)	84.9
	REFRIGERANT SAFETY CLASS	A1
A-WEIGHTED SOUND POWER (DBA AT 30 FEET FULL LOAD)		100
TOTAL SYSTEM EER, FULL LOAD, AHRI (BTU/W)		9.931
TOTAL SYSTEM EER, IPLV (BTU/W)		16.10

REMARKS:
1. PROVIDE OPERATIONS AND MAINTENANCE MANUALS.
2. PROVIDE MANUFACTURER'S STANDARD FREEZE PROTECTION PACKAGE AND SEPARATE 115V POWER SOURCE.
3. PROVIDE CONVENIENCE OUTLET WITH SEPARATE 115V POWER SOURCE.
4. THE POWER CONNECTIONS FOR EACH CIRCUIT SHALL BE PROVIDED IN TWO SEPARATE ENCLOSURES.
5. REFER TO THE CHILLER ACOUSTIC ACCESSORIES SCHEDULE BELOW FOR SOUND ATTENUATION TO BE PROVIDED UNDER THIS CONTRACT.
6. THE CHILLERS HAVE BE PRE-ORDERED (TRANE RTAF130EUAH) BY THE OWNER. INSTALL THE CHILLERS UNDER THIS CONTRACT.

WATER PIPE SIZING SCHEDULE

SIZE (IN)	MATERIAL	MAXIMUM FLOW (GPM)
3/4	TYPE L COPPER	3.5
1	TYPE L COPPER	7.4
1 1/4	TYPE L COPPER	13.2
1 1/2	TYPE L COPPER	21
2	TYPE L COPPER	44
2 1/2	TYPE L COPPER	79
3	SCHEDULE 40 STEEL	131
4	SCHEDULE 40 STEEL	270
6	SCHEDULE 40 STEEL	360
8	SCHEDULE 40 STEEL	620

NOTES:
1. SIZE HOT AND CHILLED WATER PIPING PER THIS SCHEDULE WHERE NOT OTHERWISE INDICATED IN THE CONTRACT DOCUMENTS.

SPLIT SYSTEM AIR CONDITIONING UNIT SCHEDULE

UNIT #	LOCATION	TOTAL COOLING CAPACITY (MBH)	EER	IEER	REFRIGERANT	CONDENSER	COMPRESSOR	ELECTRICAL					UNIT WEIGHT (LBS)	BASIS OF DESIGN	
						EA DB °F (COOLING/ HEATING)	TYPE	VOLTS	PHASE	Hz	MOCP (A)	MCA (A)		MANUFACTURER	MODEL #
AC-3	GRADE	96000	14.7	30.35	R410A	95/0	SCROLL	208	3	60	45	31	622	TRANE	TUHYE0963AN40AN
AC-4	GRADE	240,000	10.6	20.4	R410A	95/0	SCROLL	208	3	60	100	79	874	TRANE	TUHYE2403AN40AN
AC-5	GRADE	240,000	10.6	20.4	R410A	95/0	SCROLL	208	3	60	100	79	874	TRANE	TUHYE2403AN40AN
AC-7	GRADE	96000	14.7	30.35	R410A	95/0	SCROLL	208	3	60	45	31	622	TRANE	TUHYE0963AN40AN
AC-8	GRADE	96000	14.7	30.35	R410A	95/0	SCROLL	208	3	60	45	31	622	TRANE	TUHYE0963AN40AN

NOTES:
1. PROVIDE DISCONNECT SWITCH.
2. PROVIDE LINEAR EXPANSION VALVE KIT FOR CONNECTION TO THE COOLING COILS (PAC-LV OR EQUAL).
3. PROVIDE AHU CONTROLLER (PAC0AH001-1 OR EQUAL).
4. PROVIDE TWINNING KIT WHERE REQUIRED BY THE MANUFACTURER.
5. PROVIDE FILTER DRIER KIT (PAC-SPRFCS OR EQUAL).

CHILLER ACOUSTIC ACCESSORIES

CHILLER TAG #	COMPRESSOR ACOUSTIC BLANKETS		CHILLER NOISE REDUCTION SYSTEM		
	QUANTITY	BASIS OF DESIGN	BASIS OF DESIGN	DIMENSIONS (LxWxH)(IN)	WEIGHT (LBS)
CH-1	2	BRD HUSH COVER	HUSHCORE UNITARY SM-SB	242x98	300
CH-2	2	BRD HUSH COVER	NOT APPLICABLE		

NOTES:
1. THE CHILLERS HAVE BEEN PRE-ORDERED WITHOUT THE ACOUSTIC ACCESSORIES SPECIFIED IN THIS SCHEDULE. COORDINATE WITH THE CHILLER MANUFACTURER AND PROVIDE THE ITEMS LISTED IN THIS SCHEDULE UNDER THIS CONTRACT.
2. PAINT EXPOSED METAL TO MATCH THE CHILLER FINISH.

GLYCOL MAKEUP UNIT

UNIT #	LOCATION	FLOW RATE (GPM)	MAX. PRESS. (PSIG)	TANK SIZE (GAL)	ELECTRICAL					OVERALL DIMENSIONS (LxWxH, IN)	UNIT WEIGHT (LBS)	BASIS OF DESIGN	
					VOLTS	PHASE	Hz	MOP (A)	MCA (A)			MANUFACTURER	MODEL #
MU-1	CHILLER RM	1.4	85	100	115	1	60	15	0.9	33x33x60	900	AXIOM INDUSTRIES	SF-100-PRV-HP-L

NOTES:
1. PROVIDE A PACKAGED MAKE-UP UNIT WHICH SHALL BE CAPABLE OF MAINTAINING THE SYSTEM FILL PRESSURE AT 30 PSIG. PROVIDE A POLYETHYLENE TANK WITH REMOVABLE LID, STRAINER, ISOLATION VALVES, PUMP, CHECK/BALANCING VALVE, EXPANSION TANK, DISCHARGE PRESSURE GAUGE, STEEL PIPING, LOW LEVEL CUT-OUT, AND CONTROL/ALARM PANEL WITH INDICATOR LIGHTS IN A NEMA 4 ENCLOSURE.
2. PROVIDE WITH DUAL PRVS AND CONTROLS CAPABLE OF SUPPLYING TWO SEPARATE SYSTEMS.

CHEMICAL SHOT FEEDER SCHEDULE

UNIT #	SERVICE	LOCATION	TYPE	SIZE (GAL)	MAX. PRESS. (PSIG)	WEIGHT (LBS)	BASIS OF DESIGN	
							MANUFACTURER	MODEL #
CF-1	CHW	OUTDOORS	VERTICAL BY-PASS	5	300	38	NEPTUNE	DBF-5HP
CF-2	CHW	CHILLER RM	VERTICAL BY-PASS	5	300	38	NEPTUNE	DBF-5HP

EXPANSION TANK SCHEDULE

UNIT #	LOCATION	SYSTEM	APPROX. SYSTEM VOLUME (GAL)	SYSTEM TEMP. RANGE		INITIAL TANK PRESS (PSIG)	MIN. VOLUME (GAL)	MIN. ACCEPT-ANCE VOLUME (GAL)	PIPE SIZE TO TANK (IN)	UNIT WEIGHT WHEN FULL (LBS)	BASIS OF DESIGN	
				MIN. (°F)	MAX (°F)						MANUFACTURER	MODEL #
ET-1	OUTDOORS	CHW	2000	40	100	12	50	25	1	700	BELL & GOSSETT	200-L
ET-2	CHILLER RM	CHW	2000	40	100	12	50	25	1	700	BELL & GOSSETT	200-L

NOTES:
1. PROVIDE VERTICAL ASME BLADDER EXPANSION TANK.

VAV BOX SCHEDULE

TAG	SERVICE	INLET SIZE	CFM		MAX NC LEVEL	DESIGN BASIS	REMARKS
			MAX	MIN		TRANE	
V-01	CLASSROOM	12	1520	460	20	VCCF	SEE NOTES
V-02	CLASSROOM	10	1220	365	20	VCCF	SEE NOTES
V-03	CLASSROOM	10	1220	365	20	VCCF	SEE NOTES
V-04	CLASSROOM	10	1220	365	20	VCCF	SEE NOTES
V-05	CLASSROOM	10	1200	360	20	VCCF	SEE NOTES
V-06	CLASSROOM	10	1200	360	20	VCCF	SEE NOTES
V-07	CLASSROOM	10	1200	360	20	VCCF	SEE NOTES
V-08	CLASSROOM	10	1040	315	20	VCCF	SEE NOTES
V-09	CLASSROOM	10	1200	360	20	VCCF	SEE NOTES
V-10	CLASSROOM	10	1340	400	20	VCCF	SEE NOTES
V-11	CLASSROOM	14	2000	600	20	VCCF	SEE NOTES
V-12	CLASSROOM	10	950	285	20	VCCF	SEE NOTES
V-13	CLASSROOM	10	950	285	20	VCCF	SEE NOTES
V-14	CLASSROOM	12	1500	450	20	VCCF	SEE NOTES
V-15	CLASSROOM	10	1140	340	20	VCCF	SEE NOTES
V-16	CLASSROOM	8	400	120	20	VCCF	SEE NOTES
V-21	KITCHEN	14	1990	600	20	VCCF	SEE NOTES
V-21D	FAC ROOM	10	1230	365	20	VCCF	SEE NOTES

NOTES:
1. PROVIDE CONTROLS CABINET WITH CONTROL TRANSFORMER AND 120V TO CONTROL VOLTAGE.
2. PROVIDE REMOVABLE FLOW SENSOR.
3. PROVIDE HANGER BRACKET SUPPORTS, SIDE ACCESS DOOR, FIBER-FREE LINER.

AIR SEPARATOR SCHEDULE

UNIT #	SERVICE	LOCATION	TYPE	AIR SEPARATOR			OPERATING WEIGHT (LBS)	BASIS OF DESIGN	
				SIZE (IN)	FLOW (GPM)	PRESS. DROP (FT H20)		MANUFACTURER	MODEL #
AS-1	CHW	BASEMENT	COALESCING AIR & DIRT	6	320	0.81	366	BELL & GOSSETT	CRSN-6F
AS-2	CHW	BASEMENT	COALESCING AIR & DIRT	6	320	0.81	366	BELL & GOSSETT	CRSN-6F

WATER FILTER SCHEDULE

UNIT #	SERVICE	LOCATION	TYPE	SIZE (IN)	FLOW (GPM)	FILTER MEDIA (MICRON)	BASIS OF DESIGN	
							MANUFACTURER	MODEL #
WF-1	CHW	OUTDOORS	SIDE STREAM	1	10	5	AXIOM INDUSTRIES	SFP-10
WF-2	CHW	CHILLER RM	SIDE STREAM	1	10	5	AXIOM INDUSTRIES	SFP-10

WATER FILTER SCHEDULE NOTES:
1. PROVIDE WITH 304SS FILTER HOUSING WITH BRASS HEAD, SIGHT GLASS, BALL VALVES, BALANCING VALVE, BRASS DRAIN VALVE, AND BRASS NIPPLES. FILTER MEDIA SHALL BE COTTON WOUND WITH TIN CORE (25 MICRON).
2. REPLACE THE FILTER MEDIA WITH A NEW 25 MICRON CARTRIDGE AFTER SYSTEM START-UP AND BALANCING. PROVIDE ATTIC STOCK OF TWO 25 MICRON AND TWO 5 MICRON FILTERS.

No.	Date	Revisions
4	11-09-23	ADDENDUM #1
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by MEP
Checked by PV
Project No. 42054
Scale NTS
Date 09-14-23

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Drawing Title
MECHANICAL SCHEDULES - 1

Drawing No.
WGES-M-002

UNIT VENTILATOR SCHEDULE

UNIT TAG	LOCATION	CONFIGUR-ATION	TOTAL SUPPLY AIRFLOW (CFM)	MINIMUM OUTSIDE AIRFLOW		MAXIMUM OUTSIDE AIRFLOW (CFM)	COOLING									HEATING							FILTER	ELECTRICAL			UNIT WEIGHT LBS	UNIT DIMENSIONS (LxH, IN) (V.I.F.)	UNIT DEPTH (IN)	BASIS OF DESIGN	BASE BID: REPLACE THE COILS FOR THE EXISTING UNIT VENTILATOR IN NORTH WING AS INDICATED BELOW, EXISTING UNIT VENTILATOR TO REMAIN. ALL OTHER UNIT VENTILATORS TO BE REPLACED.			ALTERNATE NO. 200 REPLACE UNIT VENTILATORS IN NORTH WING
				COOLING	HEATING		EADB (°F)	EAWB (°F)	LADB (°F)	LAWB (°F)	EWT	LWT	WATER FLOW (GPM)	WATER PRESS-URE DROP FT H2O	MIN TOTAL CAPACITY (BTU/H)	EADB (°F)	LADB (°F)	EWT	LWT	WATER FLOW (GPM)	WATER PRESS-URE DROP FT H2O	REQUIRED TOTAL CAPACITY (BTU/H)	MERV	MCA	MAX. FUSE SIZE	V/PH/HZ					HANDING OF EX. COIL	HANDING OF NEW COIL	EX. UNIT VENTILATOR MODEL NUMBER (TRANE)	
UV-101	RM 101	VERTICAL	1250	390	390	1250	80.7	69.3	55	54	44	54	7.42	7.0	37,100	52.3	90	180	160	5.08	4.0	50,800	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-102	RM 102	VERTICAL	1250	390	390	1250	80.7	69.3	55	54	44	54	7.42	7.0	37,100	52.3	90	180	160	5.08	4.0	50,800	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-103	RM 103	VERTICAL	1250	405	405	1250	80.8	69.3	55	54	44	54	7.42	7.0	37,100	51.6	90	180	160	5.19	4.0	51,900	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-104	RM 104	HORIZONTAL	1500	460	460	1500	80.6	69.3	55	54	44	54	8.92	7.0	44,600	52.7	90	180	160	6.05	4.0	60,500	13	12	15	115/1/60	500	106.25x39	21.25	TRANE HUVC150	VIF	VIF	HUV_150	REPLACE UNIT VENTILATOR
UV-105	RM 105	VERTICAL	1250	405	405	1250	80.8	69.3	55	54	44	54	7.42	7.0	37,100	51.6	90	180	160	5.19	4.0	51,900	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-106	RM 106	VERTICAL	1250	400	400	1250	80.7	69.3	55	54	44	54	7.42	7.0	37,100	51.8	90	180	160	5.15	4.0	51,500	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-107	RM 107	HORIZONTAL	1500	450	450	1500	80.6	69.2	55	54	44	54	8.92	7.0	44,600	53.1	90	180	160	5.98	4.0	59,800	13	12	15	115/1/60	500	106.25x39	21.25	TRANE HUVC150	VIF	VIF	HUV_150	REPLACE UNIT VENTILATOR
UV-108	RM 108	VERTICAL	1250	405	405	1250	80.8	69.3	55	54	44	54	7.42	7.0	37,100	51.6	90	180	160	5.19	4.0	51,900	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-109	RM 109	VERTICAL	1250	405	405	1500	80.8	69.3	55	54	44	54	7.42	7.0	37,100	51.6	90	180	160	5.19	4.0	51,900	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-110	RM 110	HORIZONTAL	1500	415	415	1250	80.4	69.1	55	54	44	54	8.92	7.0	44,600	54.6	90	180	160	5.74	4.0	57,400	13	12	15	115/1/60	500	106.25x39	21.25	TRANE HUVC150	VIF	VIF	HUV_150	REPLACE UNIT VENTILATOR
UV-111	RM 111	VERTICAL	1250	405	405	1250	80.8	69.3	55	54	44	54	7.42	7.0	37,100	51.6	90	180	160	5.19	4.0	51,900	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-112	RM 112	VERTICAL	1250	390	390	1250	80.7	69.3	55	54	44	54	7.42	7.0	37,100	52.3	90	180	160	5.08	4.0	50,800	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-113	RM 113	VERTICAL	1250	390	390	1250	80.7	69.3	55	54	44	54	7.42	7.0	37,100	52.3	90	180	160	5.08	4.0	50,800	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-114A	RM 114	VERTICAL	1250	365	365	1250	80.5	69.2	55	54	44	54	7.42	7.0	37,100	53.6	90	180	160	4.91	4.0	49,100	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-114B	RM 115	VERTICAL	1250	365	365	1250	80.5	69.2	55	54	44	54	7.42	7.0	37,100	53.6	90	180	160	4.91	4.0	49,100	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-117A	RM 117	HORIZONTAL	1250	280	280	1250	79.9	68.9	55	54	44	54	7.42	7.0	37,100	57.9	90	180	160	4.34	4.0	43,400	13	12	15	115/1/60	435	94.25x38	21.25	TRANE HUVC125	VIF	VIF	HUV_150	REPLACE UNIT VENTILATOR
UV-117B	RM 117	HORIZONTAL	1250	280	280	1250	79.9	68.9	55	54	44	54	7.42	7.0	37,100	57.9	90	180	160	4.34	4.0	43,400	13	12	15	115/1/60	435	94.25x38	21.25	TRANE HUVC125	VIF	VIF	HUV_150	REPLACE UNIT VENTILATOR
UV-118	RM 118	HORIZONTAL	750	90	90	750	79.0	68.5	55	54	44	54	4.46	7.0	22,300	64.4	90	180	160	2.07	4.0	20,700	13	12	15	115/1/60	340	70.25x36	21.25	TRANE HUVC075	VIF	VIF	HUV_150	REPLACE UNIT VENTILATOR
UV-119	RM 119	HORIZONTAL	750	195	195	750	80.2	69.1	55	54	44	54	4.46	7.0	22,300	55.6	90	180	160	2.78	4.0	27,800	13	12	15	115/1/60	340	70.25x36	21.25	TRANE HUVC075	VIF	VIF	HUV_150	REPLACE UNIT VENTILATOR
UV-LL19	RM LL19	VERTICAL	1500	450	450	1250	80.6	69.2	55	54	44	54	8.92	7.0	44,600	53.1	90	180	160	5.98	4.0	59,800	13	8.75	15	115/1/60	470	105x30	21.25	TRANE VUVE150	REPLACE UNIT VENTILATOR			NOT APPLICABLE
UV-LL21A	RM LL21	VERTICAL	1500	325	325	1500	79.8	68.9	55	54	44	54	8.92	7.0	44,600	58.4	90	180	160	5.13	4.0	51,300	13	8.75	15	115/1/60	470	105x30	21.25	TRANE VUVE150	REPLACE UNIT VENTILATOR			NOT APPLICABLE
UV-LL21B	RM LL21	VERTICAL	1500	325	325	1500	79.8	68.9	55	54	44	54	8.92	7.0	44,600	58.4	90	180	160	5.13	5.0	51,300	14	8.75	15	115/1/60	470	105x30	21.25	TRANE VUVE150	REPLACE UNIT VENTILATOR			NOT APPLICABLE
UV-200	RM 200	VERTICAL	750	75	75	750	78.9	68.4	55	54	44	54	4.46	7.0	22,300	65.7	90	180	160	1.97	6.0	19,700	15	4.38	15	115/1/60	320	69x30	21.25	TRANE VUVE075	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-201	RM 201	VERTICAL	1250	390	390	1250	80.7	69.3	55	54	44	54	7.42	7.0	37,100	52.3	90	180	160	5.08	4.0	50,800	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-202	RM 202	VERTICAL	1250	390	390	1250	80.7	69.3	55	54	44	54	7.42	7.0	37,100	52.3	90	180	160	5.08	4.0	50,800	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-203	RM 203	VERTICAL	1250	405	405	1250	80.8	69.3	55	54	44	54	7.42	7.0	37,100	51.6	90	180	160	5.19	4.0	51,900	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-204	RM 204	HORIZONTAL	1500	460	460	1500	80.6	69.3	55	54	44	54	8.92	7.0	44,600	52.7	90	180	160	6.05	4.0	60,500	13	12	15	115/1/60	500	106.25x39	21.25	TRANE HUVC150	VIF	VIF	HUV_150	REPLACE UNIT VENTILATOR
UV-205	RM 205	VERTICAL	1250	405	405	1250	80.8	69.3	55	54	44	54	7.42	7.0	37,100	51.6	90	180	160	5.19	4.0	51,900	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-206	RM 206	VERTICAL	1250	400	400	1250	80.7	69.3	55	54	44	54	7.42	7.0	37,100	51.8	90	180	160	5.15	4.0	51,500	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-207	RM 207	HORIZONTAL	1500	450	450	1500	80.6	69.2	55	54	44	54	8.92	7.0	44,600	53.1	90	180	160	5.98	4.0	59,800	13	12	15	115/1/60	500	106.25x39	21.25	TRANE HUVC150	VIF	VIF	HUV_150	REPLACE UNIT VENTILATOR
UV-208	RM 208	VERTICAL	1250	405	405	1250	80.8	69.3	55	54	44	54	7.42	7.0	37,100	51.6	90	180	160	5.19	4.0	51,900	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-209	RM 209	VERTICAL	1250	405	405	1250	80.8	69.3	55	54	44	54	7.42	7.0	37,100	51.6	90	180	160	5.19	4.0	51,900	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-210	RM 210	HORIZONTAL	1500	450	450	1500	80.6	69.2	55	54	44	54	8.92	7.0	44,600	53.1	90	180	160	5.98	4.0	59,800	13	12	15	115/1/60	500	106.25x39	21.25	TRANE HUVC150	VIF	VIF	HUV_150	REPLACE UNIT VENTILATOR
UV-211	RM 211	VERTICAL	1250	405	405	1250	80.8	69.3	55	54	44	54	7.42	7.0	37,100	51.6	90	180	160	5.19	4.0	51,900	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-212	RM 212	VERTICAL	1250	390	390	1250	80.7	69.3	55	54	44	54	7.42	7.0	37,100	52.3	90	180	160	5.08	4.0	50,800	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-213	RM 213	VERTICAL	1250	390	390	1250	80.7	69.3	55	54	44	54	7.42	7.0	37,100	52.3	90	180	160	5.08	4.0	50,800	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-213A	RM 213A	VERTICAL	750	105	105	750	79.2	68.6	55	54	44	54	4.46	7.0	22,300	63.2	90	180	160	2.17	4.0	21,700	13	4.38	15	115/1/60	320	69x30	21.25	TRANE VUVE075	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-214A	RM 214	VERTICAL	1250	325	325	1250	80.2	69.1	55	54	44	54	7.42	7.0	37,100	55.6	90	180	160	4.64	4.0	46,400	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-214B	RM 214	VERTICAL	1250	280	280	1250	79.9	68.9	55	54	44	54	7.42	7.0	37,100	57.9	90	180	160	4.34	4.0	43,400	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-217A	RM 217	VERTICAL	1250	240	240	1250	79.6	68.8	55	54	44	54	7.42	7.0	37,100	59.9	90	180	160	4.06	4.0	40,600	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-217B	RM 217	VERTICAL	1250	240	240	1250	79.6	68.8	55	54	44	54	7.42	7.0	37,100	59.9	90	180	160	4.06	4.0	40,600	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-218	RM 218	VERTICAL	750	90	90	750	79.0	68.5	55	54	44	54	4.46	7.0	22,300	64.4	90	180	160	2.07	4.0	20,700	13	4.38	15	115/1/60	320	69x30	21.25	TRANE VUVE075	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-219	RM-219	VERTICAL	750	150	150	750	79.7	68.8	55	54	44	54	4.46	7.0	22,300	59.4	90	180	160	2.48	4.0	24,800	13	4.38	15	115/1/60	320	69x30	21.25	TRANE VUVE075	RH COOLING/LH HEATING	LH COOLING/RH HEATING	VUVB12510G0DAD0000011CG100001510	REPLACE UNIT VENTILATOR
UV-17A	RM 17	VERTICAL	1250	270	270	1250	79.8	68.9	55	54	44	54	7.42	7.0	37,100	58.4	90	180	160	4.27	4.0	42,700	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	REPLACE UNIT VENTILATOR			NOT APPLICABLE
UV-17B	RM 17	VERTICAL	1250	270	270	1250	79.8	68.9	55	54	44	54	7.42	7.0	37,100	58.4	90	180	160	4.27	4.0	42,700	13	8.75	15	115/1/60	450	93x30	21.25	TRANE VUVE125	REPLACE UNIT VENTILATOR			NOT APPLICABLE
UV-18A	RM 18	VERTICAL	1000	180	180	1000	79.5	68.7	55	54	44	54	5.94	7.0	29,700	60.7	90	180	160	3.17	4.0	31,700	13	4.38	15	115/1/60	405	81x30	21.25	TRANE VUVE100	REPLACE UNIT VENTILATOR			NOT APPLICABLE
UV-18B	RM 18	VERTICAL	1000	180	180	1000	79.5	68.7	55	54	44	54	5.94	7.0	29,700	60.7	90	180	160	3.17	4.0	31,700	13	4.38	15	115/1/60	405	81x30	21.25	TRANE VUVE100	REPLACE UNIT VENTILATOR			NOT APPLICABLE
UV-23	RM 23	VERTICAL	1500	300	300	1250	79.7	68.8	55	54	44	54	8.92	7.0	44,600	59.4	90	180	160	4.96	4.0	49,600	13	8.75	15	115/1/60	470	105x30	21.25	TRANE VUVE150	REPLACE UNIT VENTILATOR			NOT APPLICABLE
UV-24	RM 24	VERTICAL	1500	165	165	1250	78.9	68.5	55	54	44	54	8.92	7.0	44,600	65.1	90	180	160	4.04	4.0	40,400	13	8.75	15	115/1/60	470	105x30	21.25	TRANE VUVE150	REPLACE UNIT VENTILATOR			NOT APPLICABLE

NOTES:
1. PROVIDE 4-PIPE COIL. VERFIY COIL HANDING IN FIELD FOR EACH UNIT PRIOR TO FABRICATION. INCLUDE COIL HANDING IN THE UNIT VENTILATOR SUBMITTAL.
2. PROVIDE ECM FAN MOTOR AND SZVAV CONTROL.
3. PROVIDE A 3-WAY MODULATING CONTROL VALVE FOR HOT WATER AND A 2-WAY MODULATING CONTROL VALVE FOR CHILLED WATER FOR ALL UNIT VENTILATORS, EXISTING AND NEW.
4. PROVIDE LOW-LEAKGE OUTSIDE AIR DAMPER.
5. PROVIDE ECONOMIZER WITH FAULT DETECTION DIAGNOSIS.
6. UNIT VENTILATORS SHALL BE SELECTED TO MATCH THE FOOTPRINT OF THE EXISTING UNIT VENTILATOR WHEREVER POSSIBLE. VERFIY IN FIELD THE PHYSICAL DIMENSIONS OF ALL EXISTING UNIT VENTILATORS AND SUBMIT FOR APPROVAL PRIOR TO FABRICATION.
7. INCLUDE THE REPLACEMENT OF THE COILS IN THE EXISTING UNIT VENTILATORS AS SCHEDULED ABOVE IN THE BASE BID. PROVIDE AN ALTERNATE PRICE FOR THE REPLACEMENT OF THE UNIT VENTILATOR AS INDICATED IN THE SCHEDULE.
8. PROVIDE WITH SIEMENS CONTROLS.
9. PROVIDE WITH AN INTERNAL DISCONNECT SWITCH.

AIR HANDLING UNIT SCHEDULE

UNIT #	LOCATION / AREA SERVED	SUPPLY AIRFLOW (CFM)	OUTSIDE AIRFLOW (CFM)	OA DCV MIN (CFM)	SUPPLY FAN					HOT WATER PREHEAT COIL								CHILLED WATER COOLING COIL										FILTER					ELECTRICAL			UNIT WEIGHT (LBS)	BASIS OF DESIGN
					EXTERNAL STATIC PRESSURE (IN WC)	MOTOR HP	SPEED CONTROL	DRIVE TYPE	HOUSING TYPE	FACE VELOCITY (FPM)	PRESSURE DROP (IN WC)	MINIMUM CAPACITY (BTU/H)	WATER FLOW RATE (GPM)	WATER PRESS DROP (FT)	EWT (°F)	LWT (°F)	EAT DB (°F)	LAT DB (°F)	FACE VELOCITY (FPM)	PRESSURE DROP (IN WC)	MINIMUM CAPACITY (BTU/H)	WATER FLOW RATE (GPM)	WATER PRESS DROP (FT)	EWT (°F)	LWT (°F)	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	MERV	TYPE	PRESSURE DROP, CLEAN (IN WC)	PRESSURE DROP, MID-LIFE (IN WC)	PRESSURE DROP, DIRTY (IN WC)	MCA	MAX FUSE SIZE	VOLT/PH/HZ		
AHU-20	CAFETERIA	11,000	2,990	180	2.0	2X10	VARIABLE	DIRECT	PLENUM	500	1.0	376,600	37.7	5	180	160	58.3	90	500	1.0	363,000	72.6	10	54	44	76	65	55	55	13	12" CARTRIDGE	0.14	0.57	1.00	31.5	45	208/3/60	3500	TRANE CSAA, SIZE 25

ALT. NO. 201

AIR HANDLING UNIT SCHEDULE NOTES:
1. PROVIDE A VARIABLE FREQUENCY DRIVE FOR SUPPLY FAN CONTROL, DISCONNECT SWITCH, AND CONTROLS.
2. PROVIDE BASE RAIL AND MOUNTING HARDWARE AS REQUIRED FOR MOUNTING ON VIBRATION ISOLATORS.
3. EACH SECTION SHALL BE PROVIDED WITH AN ACCESS DOOR. VERIFY ACCESS DOOR LOCATIONS AND CONFIGURATIONS IN FIELD AND SUBMIT FOR APPROVAL PRIOR TO FABRICATION AND INSTALLATION.
4. AHUS SHALL BE CUSTOM FABRICATED AND SHIPPED KNOCKED DOWN TO FIT THROUGH EXISTING BUILDING OPENINGS (36" WIDE x 80" HIGH EXISTING DOORWAYS TO BE VIF).
5. PROVIDE WITH THE FOLLOWING SECTIONS AT A MINIMUM: MIXING SECTION, FILTER SECTION, PREHEAT COIL, ACCESS SECTION, COOLING COIL, ACCESS SECTION, FAN SECTION.
6. PROVIDE SCHEDULED OCCUPANCY DEMAND CONTROLLED VENTILATION.
7. REPLACE AHU-20 PER THE SCHEDULE UNDER ALTERNATE NO. 201. RETROFIT CONTROLS AND PIPING TO THE COILS UNDER THE BASE BID.

No.	Date	Revisions
4	11-09-23	ADDENDUM #1
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by MEP
Checked by PV
Project No. 42054
Scale NTS
Date 09-14-23

Mechanical & Electrical Engineer:
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Structural Engineer:
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UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL
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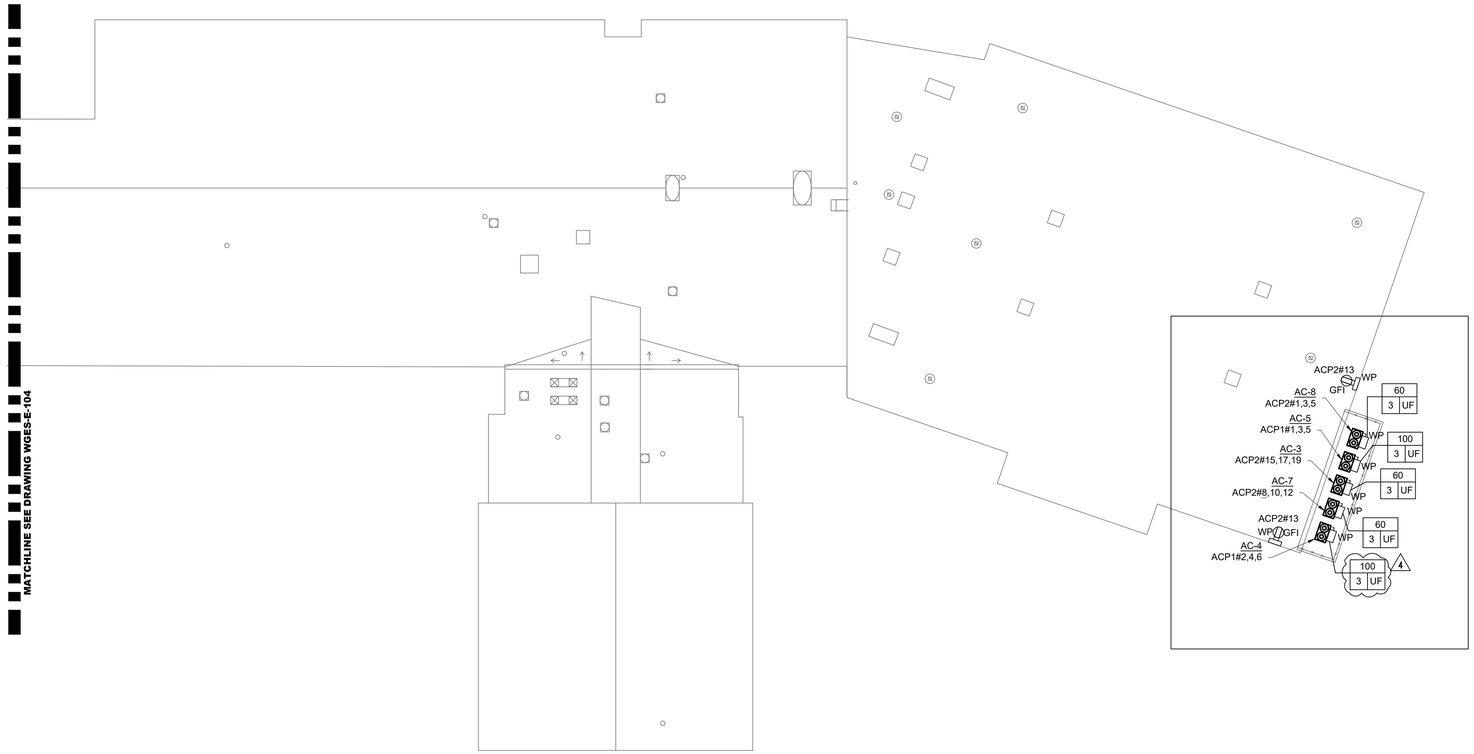
Drawing Title
MECHANICAL SCHEDULES - 2

Drawing No.
WGES-M-003

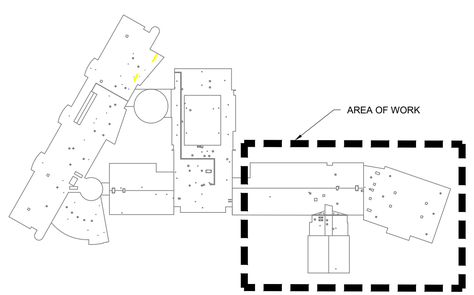


1 ELECTRICAL ROOF PLAN - 2

SCALE: 1/16" = 1' - 0"

PLAN NOTES:

1. REFER TO ADDITIONAL INSTALLATION NOTES ON DRAWING E-001.
2. ALL NEW BRANCH CIRCUIT SHALL BE RUN WITH MINIMUM OF 2#12+1#12G IN 3/4" CONDUIT, UNLESS OTHERWISE NOTED. FOR LIGHTING AND POWER BRANCH CIRCUIT, MC CABLE SHALL BE INSTALLED FOR RECESSED INSTALLATION ONLY, EITHER IN NEW WALLS OR ABOVE HUNG CEILING WHERE POSSIBLE. REFER TO PANEL SCHEDULES IN DRAWING E-201 FOR ALL OTHER FEEDER AND BRANCH CIRCUIT SIZE INFORMATION.
3. PROVIDE LABELS ON ALL ELECTRICAL EQUIPMENT INDICATING CIRCUIT ORIGINATION.
4. INVESTIGATE ALL EXISTING BRANCH CIRCUITS AND UPDATE ALL EXISTING PANEL DIRECTORIES AFFECTED BY NEW WORK.
5. CONTRACTOR SHALL PERFORM AMP PROBE READINGS ON EXISTING SERVICE EQUIPMENT BEFORE AND AFTER WORK TO ENSURE EQUIPMENT WILL NOT BE LOADED BEYOND ITS MAX AMPACITY.
6. CONTRACTOR SHALL MAINTAIN CONTINUITY TO ALL EXISTING CIRCUITRY TO REMAIN WHICH ARE AFFECTED BY THE SCOPE OF WORK; CONTRACTOR SHALL FURNISH ALL NECESSARY JUNCTION BOXES, CONDUIT, AND WIRES AS REQUIRED TO KEEP CONTINUITY.
7. REFER TO MECHANICAL PLANS FOR EQUIPMENT TO BE SUPPLIED BY OTHER TRADES AND INSTALLED/WIRED UNDER THIS SECTION. COORDINATE LOCATION OF DEVICES WITH OTHER CONTRACTORS.
8. PROVIDE FIRESTOPPING FOR ALL PENETRATIONS TO MATCH EXISTING FIRE RATING WHERE APPLICABLE. ALL CORE DRILLS SHALL BE VERIFIED BY BUILDING REPRESENTATIVE PRIOR TO COMMENCING WORK. XRAY ALL FLOOR SLABS PRIOR TO ROUGH-INS FOR CORE DRILL WORK.
9. THE CONTRACTOR SHALL FIELD ROUTE FEEDER FOR NEW POWER PANELS. COORDINATE EXACT ROUTING PATH WITH OWNER. SUBMIT A PROPOSED ROUTING PATH TO ENGINEER OF RECORD FOR APPROVAL PRIOR TO RUNNING ANY CONDUIT OR WIRE ASSOCIATED WITH THIS FEEDER.
10. DISCONNECT SWITCH FOR UNIT VENTILATORS IS PROVIDED BY HVAC CONTRACTOR. COORDINATE WITH HVAC CONTRACTOR.
11. ALL GROUNDING SHALL BE PROVIDED BY THE CONTRACTOR AS PER NEC 2017.



2 ROOF KEY PLAN

SCALE: NTS

No.	Date	Revisions
4	11-09-23	ADDENDUM #1
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

REG. EXP. DATE: 04-30-24

Drawn by DK
Checked by SH
Project No. 42054
Scale
Date 09-14-23

GREENMAN PEDERSEN, INC
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REPLACEMENT AT
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SCHOOL
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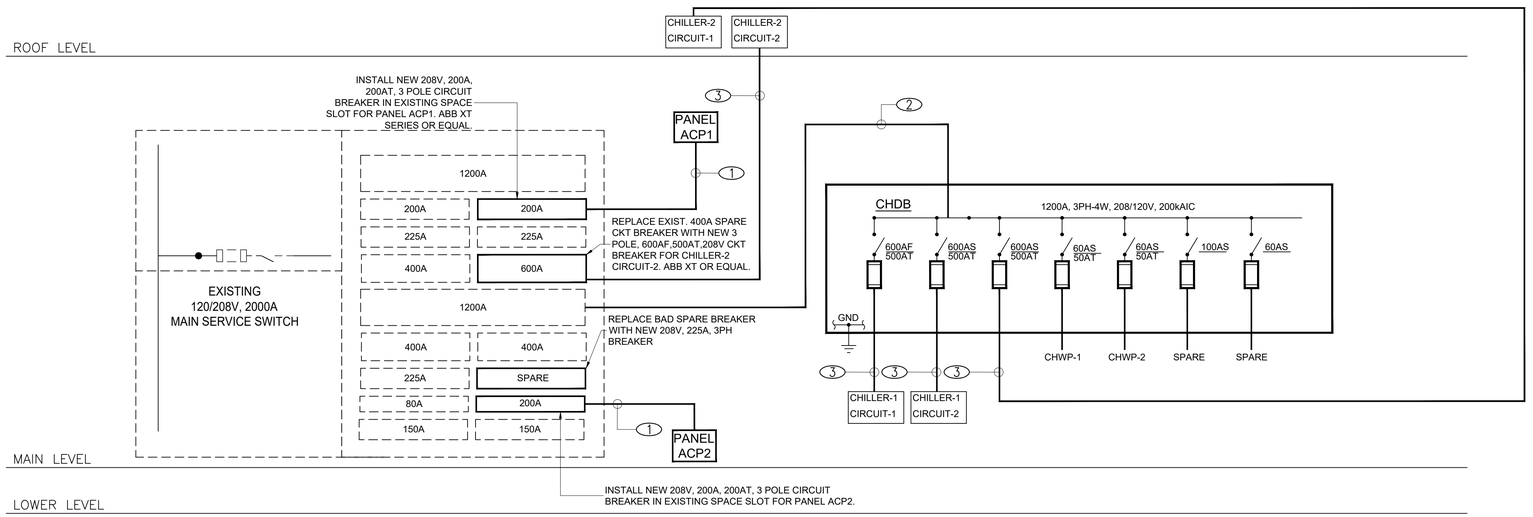
Drawing Title
ELECTRICAL ROOF PLAN - 2

Drawing No.
WGES-E-105



1 ELECTRICAL POWER RISER DIAGRAM

SCALE: N.T.S.

NOTES:

1. ALL EXTERIOR WIRING SHALL BE INSTALLED WITHIN RIGID GALVANIZED STEEL CONDUIT.
2. ALL NEW EQUIPMENT LOCATED OUTDOORS SHALL BE IN NEMA 3R ENCLOSURES.
3. PROVIDE AND INSTALL ALL PULL/JUNCTION BOXES FOR A CODE COMPLIANT INSTALLATION IN A NEAT AND WORKMANLIKE MANNER. ALL BOXES SHALL BE PROPERLY SIZED AS REQUIRED BY NEC.
4. PROVIDE TEMPORARY POWER AS REQUIRED TO MINIMIZE DISRUPTION AND ANY DOWNTIME FOR THE FACILITY OPERATION.
5. RUN ALL WIRING IN CONDUITS TERMINATED WITH BUSHINGS.

WIRE SIZE LEGEND:

(1)	4#300MCM, 1#2G IN 3" C
(2)	3 SETS OF 4#600MCM, 1#2/0G IN EXISTING (3) 4" C
(3)	2 SETS OF 3#350MCM, 1#1/0G IN (2) 3" C

LEGEND:

- - - - - EXISTING TO REMAIN

——— NEW

PANEL SCHEDULE

PANEL NAME:	ACP1	LOCATION:	STORAGE	MOUNTING:	SURFACE
VOLTAGE/PHASE:	120/208V, 3 Phase, 4W & G	PANEL (AMP)	200A	FREQUENCY:	60 Hz
PANEL SHORT CIRCUIT RATING(KA):	22 KA	FEEDER SIZE	4#300MCM + 1#2G IN 3"C	FEEDING SOURCE:	EXISTING SWITCHBOARD - NEW 200A CIRCUIT BREAKER
MAIN BREAKER TYPE	MLO	MAIN BREAKER RATING (A):	MLO	BRANCH C.B TYPE	MCB

Load Designation	Wiring & Conduit	C/B (A)	CT NO	AØ	BØ	CØ	CT NO	C/B (A)	Wiring & Conduit	Load Designation
				Phase Load in VA						
AC-5	3#2+1#8G-1 1/2"RGC	100	1	9480			2	100	3#2+1#8G-1 1/2"RGC	AC-4
			3	9480			4			
			5		9480		6			
SPARE		80	7		9480		8	60	3#3+1#8G-1 1/4"EMT	CHWP-4
			9	3864			10			
			11		3864		12			
SPARE		60	13			3864	14	20		SPARE
			15				16	20		SPARE
			17				18	20		SPARE
SPARE		20	19				20	20		SPARE
SPARE		20	21				22	20		SPARE
SPARE		20	23				24	20		SPARE
SPACE			25				26			SPACE
SPACE			27				28			SPACE
SPACE			29				30			SPACE
CONNECTED LOAD PER PHASE IN VA				22824	22824	22824				
TOTAL CONNECTED LOAD IN KVA				68.472						
TOTAL CONNECTED LOAD IN AMPS				190.06						

PANEL TYPE: NEMA 1 MOUNTING: SURFACE
COPPER BUS, EQUIP. GROUND BAR
DOOR: INDOOR TYPE

PANEL SCHEDULE

PANEL NAME:	ACP2	LOCATION:	STORAGE	MOUNTING:	SURFACE
VOLTAGE/PHASE:	120/208V, 3 Phase, 4W & G	PANEL (AMP)	200A	FREQUENCY:	60 Hz
PANEL SHORT CIRCUIT RATING(KA):	22 KA	FEEDER SIZE	4#300MCM + 1 # 2G IN 3"C	FEEDING SOURCE:	EXISITNG MAIN SWITCHBOARD - NEW 200A CIRCUIT BREAKER
MAIN BREAKER TYPE	MLO	MAIN BREAKER RATING (A):	MLO	BRANCH C.B TYPE	MCB

Load Designation	Wiring & Conduit	C/B (A)	CT NO	AØ	BØ	CØ	CT NO	C/B (A)	Wiring & Conduit	Load Designation
				Phase Load in VA						
AC-8	3#6+1#8G-1"RGC	45	1	3720			2	45	3#2+1#8G-1 1/4"EMT	AHU-20
			3	3780			4			
			5		3720		6			
CHWP-3	3#3+1#8G-1 1/4" EMT	60	7	3864	3780		8	45	3#6+1#8G-1"RGC	AC-7
			9	3720			10			
			11		3864		12			
MAINT. REC	2#12+1#12G-3/4"C	20	13	540			14	60		SPARE
AC-3	3#6+1#8G-1"RGC	45	15		3720		16			
			17			3720	18			
			19	3720			20			
SPARE		20	21				22	45		SPARE
SPARE		20	23				24			
SPACE			25				26			SPACE
SPACE			27				28			SPACE
SPACE			29				30			SPACE
CONNECTED LOAD PER PHASE IN VA				19344	18804	18804				
TOTAL CONNECTED LOAD IN KVA				56.952						
TOTAL CONNECTED LOAD IN AMPS				158.09						

PANEL TYPE: NEMA 1 MOUNTING: SURFACE
COPPER BUS, EQUIP. GROUND BAR
DOOR: INDOOR TYPE

4

DIST. BOARD: CHDB VOLT: 120/208v, 3Ø, 4W. LOC. EX. MECH RM.

MOUNTING: FLOOR AMP RATING: 1200 MAIN: M.L.O

DESIGN AMP: 969 AIC RATING: 65kA TYPE: NEW

CIRCUIT No.	LOAD SVD	POLES	FRAME (A)	TRIP (A)	LOAD (A)	FEEDERS
1	CHILLER-1 CIRCUIT 1	3	600	500	310	2 SETS OF (3#350MCM+1#1/0G) IN 2-3"C
2	CHILLER-1 CIRCUIT 2	3	600	500	298	2 SETS OF (3#350MCM+1#1/0G) IN 2-3"C
3	CHILLER-2 CIRCUIT-1	3	600	500	310	2 SETS OF (3#350MCM+1#1/0G) IN 2-3"C
4	CHWP-1	3	60	50	25	3#2+1#8G IN 1 1/4"C
5	CHWP-2	3	60	50	25	3#2+1#8G IN 1 1/4"C
6	SPARE	3	100			
7	SPARE	3	60			

2 ELECTRICAL PANEL SCHEDULES

SCALE: N.T.S.

No.	Revisions	Date
4	ADDENDUM #1	11-09-23
3	BIDDING DOCUMENTS	09-14-23
2	SED ADDENDUM #1	06-09-23
1	BIDDING DOCUMENTS	12-28-22

REG. EXP. DATE: 04-30-24

Drawn by DK
Checked by SH
Project No. 42054
Scale NTS
Date 09-14-23

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD SUITE 302 SUFFERN, NY 10901
Mechanical & Electrical Engineer:

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD SUITE 302 SUFFERN, NY 10901
Structural Engineer:

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL

SED# 50-02-01-06-0-030-016

COUNTY OF ROCKLAND

155 STORIES RD TUXEDO, NY 10984

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Drawing Title
ELECTRICAL SCHEDULES & RISER

Drawing No.
WGES-E-400

GENERAL NOTES:

1. THE STRUCTURES HAVE BEEN DESIGNED IN COMPLIANCE WITH THE REQUIREMENTS OF 2020 BUILDING CODE OF NEW YORK STATE AND ASCE/SEI 7-16 "MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES".
2. CONTRACTOR AND SUBCONTRACTOR SHALL BE LICENSED BY NEW YORK STATE WHERE REQUIRED TO PERFORM THE SPECIFIED WORK. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY TO ERECT / INSTALL ALL STRUCTURES AND ACCESSORIES AS REQUIRED IN ACCORDANCE WITH PLANS AND SPECIFICATIONS.
3. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, REGULATIONS, AND ORDERS OF ANY PUBLIC AUTHORITY BEARING ON THE PERFORMANCE OF THE WORK INDICATED IN THE CONTRACT DOCUMENTS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS, APPROVALS, AS WELL AS THEIR ASSOCIATED FEES, EXCEPT WHERE SPECIFIED AND AGREED UPON ELSEWHERE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ARRANGING HOISTING FACILITIES FOR HANDLING MATERIALS AND REMOVAL OF DEBRIS.
6. THE CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIAR WITH CONDITIONS THEREON AND TO DETERMINE THE EXTENT OF ALL FACILITIES AND SERVICES REQUIRED TO PERFORM THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
7. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH OTHER CONSTRUCTION DOCUMENTS. STRUCTURAL WORK SHALL BE COORDINATED WITH OTHER TRADES. ANY DISCREPANCIES IN THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND/OR ENGINEER FOR CLARIFICATION BEFORE COMMENCING THE WORK.
8. THE CONTRACTOR SHALL MAINTAIN ONE COPY OF THE LATEST CONTRACT DOCUMENTS INCLUDING ALL CHANGES AT THE JOB SITE FOR THE USE OF THE ARCHITECT & ENGINEER.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACTS AND OMISSIONS OF ALL THEIR EMPLOYEES AND ALL SUBCONTRACTORS, THEIR AGENTS AND EMPLOYEES, AND ALL OTHER PERSONS PERFORMING ANY OF THE WORK FOR THE CONTRACTOR.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE INCURRED ANYWHERE WITHIN THE BOUNDARIES OF THE PROPERTY, AND ANY DAMAGE SHALL BE PROMPTLY REPAIRED TO ORIGINAL CONDITION TO THE SATISFACTION OF THE CLIENT'S REPRESENTATIVE AND/OR ARCHITECT AT NO COST TO THE CLIENT.
11. DURING THE COURSE OF THE WORK, THE CONTRACTOR SHALL REGULARLY REMOVE ALL UNUSED MATERIAL, RUBBISH AND DEBRIS FROM THE PROPERTY AND BROOM CLEAN DAILY. THE SITE AND PREMISES SHALL BE KEPT REASONABLY CLEAN, NEAT AND ORDERLY.
12. THE CONTRACTOR SHALL CONTROL CLEANING OPERATIONS TO PREVENT DIRT OR DUST FROM LEAVING THE JOB SITE AND INFILTRATING AREAS NOT INVOLVED IN THE PROJECT.
13. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS PRIOR TO SUBMITTING BIDS AND SHOP DRAWINGS AND/OR FABRICATION AND SHALL REPORT ANY DEVIATIONS OF DIMENSIONS, DISCREPANCIES AND/OR CONDITIONS WHICH WOULD INTERFERE WITH THE COMPLETION OF THE WORK TO THE ARCHITECT AND/OR ENGINEER OF RECORD FOR RESOLUTION AND BEFORE PERFORMING THE WORK. COMMENCEMENT OF THE WORK SHALL SIGNIFY ACCEPTANCE OF ANY AND ALL JOB SITE CONDITIONS.
14. WHEN "APPROVED EQUAL", "EQUAL TO", "APPROVED ALTERNATE", OR WHERE OTHER QUALIFYING TERMS ARE USED, SUBSTITUTIONS SHALL BE BASED SOLELY UPON THE REVIEW AND APPROVAL OF THE ARCHITECT AND/OR ENGINEER. THE BURDEN OF PROOF THAT A PRODUCT OR SYSTEM MEETS OR EXCEEDS THAT WHICH WAS SPECIFIED LIES ENTIRELY ON THE CONTRACTOR.
15. NOTATIONS ON ANY PLAN, ELEVATION, SECTION, OR DETAIL ARE APPLICABLE TO ALL PLANS, ELEVATIONS, SECTIONS, AND DETAILS. IF A CONFLICT ARISES ENGINEER AND/OR ARCHITECT OF RECORD SHALL BE INFORMED TO CLARIFY.
16. DO NOT SCALE DRAWINGS, USE DIMENSIONAL NOTATION ONLY.
17. LARGE SCALE DRAWINGS (I.E. SECTIONS, DETAILS, ETC.) TAKE PRECEDENCE OVER SMALL SCALE DRAWINGS. TYPICAL SECTIONS AND DETAILS SHOWN ON THE DRAWINGS SHALL APPLY TO ALL SIMILAR CONDITIONS.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION.
19. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE & STABILITY OF ALL STRUCTURES UNDER RENOVATION/CONSTRUCTION FOR THE WHOLE DURATION OF CONSTRUCTION.

CONCRETE NOTES:

1. DESIGN OF REINFORCED CONCRETE MEMBERS ARE IN ACCORDANCE WITH THE PROVISIONS OF THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-14), AND THE NEW YORK STATE BUILDING CODE 2020 EDITION SECTIONS BC 1901 AND 1906.
2. ALL EXTERIOR CONCRETE PADS SHALL BE NORMAL WEIGHT CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, AND WITH A MAXIMUM WATER TO CEMENT RATIO OF 0.40. MAXIMUM CONCRETE SLUMP SHALL BE 4".
3. ALL EXPOSED CONCRETE SHALL BE AIR ENTRAINED, 5% TO 7% BY VOLUME.
4. PROPORTION, BATCH, AND MIX CONCRETE IN ACCORDANCE WITH SECTION BC 1903 OF THE 2020 NYS BUILDING CODE. MIXES SHALL HAVE INCLUDED ALL ADMIXTURES THAT WILL BE USED DURING THIS CONSTRUCTION.
5. ROUGHENED SURFACE AT INTERFACE OF SEPARATE CONCRETE POURS (JOINTS) SHALL BE PREPARED AS FOLLOWS:
   a. ROUGHEN SURFACE TO A FULL AMPLITUDE OF APPROXIMATELY ¼" WITH STIFF BROOM AFTER INITIAL SET.
   b. BEFORE PLACING FRESH CONCRETE, CLEAN SURFACE AND REMOVE LAITANCE WITH WIRE BRUSH.
   c. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, WET SURFACE AND REMOVE STANDING WATER.
6. ALL EMBEDDED STEEL SHALL BE ASTM A36. ALUMINUM INSERTS ARE NOT PERMITTED.

CONCRETE REINFORCEMENT NOTES:

1. ALL REINFORCING SHALL BE WELDED WIRE FABRIC AND CONFIRM TO ASTM A1064.
2. PROVIDE WIRE FABRIC MESH IN FLAT SHEETS NOT ROLLS.
3. WIRE FABRIC REINFORCING SHALL LAP 6" MINIMUM AND BE SECURELY WIRED AT EACH SIDE AND END.
4. PROVIDE CHAIRS FOR SUPPORT OF ALL REINFORCEMENT. LIFTING OF BARS OR MESH DURING PLACEMENT OF CONCRETE IS NOT PERMITTED.
5. PLACE WIRE FABRIC MESH 2" FROM TOP OF SLAB ELEVATION.
6. REINFORCED CONCRETE STRUCTURES SHALL MEET ALL THE REQUIREMENTS OF 2020 NYS BUILDING CODE CHAPTER 19 RELATED TO STRUCTURAL INTEGRITY.

FOUNDATION CONSTRUCTION NOTES:

1. FOUNDATIONS FOR THIS PROJECT CONSIST OF SPREAD FOOTINGS DESIGNED TO BEAR ON STRUCTURALLY ENGINEERED COMPACTED FILL PLACED OVER UNDISTURBED VIRGIN SOIL HAVING A PRESUMED ALLOWABLE BEARING CAPACITY OF 1 TON PER SQUARE FOOT. A GEOTECHNICAL ENGINEER LICENSED IN THE STATE OF NEW YORK SHALL INSPECT AND VERIFY CAPACITY OF FOOTING SUBGRADE PRIOR TO PLACING FOOTING.
2. DESIGN, FURNISH, AND PLACE ALL TEMPORARY OR PERMANENT SUPPORTS, WHETHER SHORING, SHEETING, OR BRACING, SO THAT NO HORIZONTAL MOVEMENT OR VERTICAL SETTLEMENT OCCURS TO EXISTING STRUCTURES, STREETS, OR UTILITIES ADJACENT TO PROJECT SITE.
3. CONTROL SURFACE AND SUBSURFACE WATER DURING CONSTRUCTION SO THAT FOUNDATION WORK WILL BE PERFORMED IN DRY CONDITIONS AND ON UNDISTURBED SOIL.
4. EXCAVATIONS FOR FOUNDATIONS SHALL BE FINISHED BY HAND.
5. FOUNDATION CONCRETE SHALL NOT BE PLACED IN WATER OR ON FROZEN GROUND.
6. ALL STRUCTURAL COMPACTED FILL SHALL CONSIST OF CLEAN, WELL- GRADED GRANULAR MATERIAL CONTAINING NO MORE THAN 12% NOR LESS THAN 5% BY WEIGHT OF MATERIAL PASSING THE #200 SIEVE. MATERIAL SHALL BE FREE FROM CLAY LUMPS, ORGANICS AND DELETERIOUS MATERIAL. EXISTING ON SITE FILL/EXCAVATED MATERIAL MAY BE USED FOR BACKFILLING PROVIDED IT IS INSPECTED BY THE SOILS ENGINEER AND MEETS THE CRITERIA ABOVE.
7. ALL STRUCTURAL COMPACTED FILL AND BACKFILL SHALL BE PLACED IN 12" MAXIMUM LOOSE LIFTS AND COMPACTED WITH A HEAVY VIBRATORY COMPACTOR TO AT LEAST 95% OF THE MAXIMUM MODIFIED PROCTOR DENSITY AS PER ASTM D-1557 UNDER THE SUPERVISION OF A LICENSED SOILS ENGINEER.
8. ALL FILL AND BACKFILL SHALL BE PLACED ON VIRGIN SOIL THAT DOES NOT CONTAIN ANY ORGANIC MATERIAL. STRIP ALL TOP SOIL AS REQUIRED. PRIOR TO PLACING FILL OR BACKFILL, PROOF-COMPACT SUBGRADE WITH A HEAVY VIBRATORY COMPACTOR TO AT LEAST 95% OF THE MAXIMUM MODIFIED PROCTOR DENSITY AS PER ASTM D-1557 UNDER THE SUPERVISION OF A LICENSED SOILS ENGINEER.
9. CRUSHED STONE SHALL HAVE A GRADATION CONFORMING TO ASTM C33 NO. 57 STONE. CRUSHED STONE SHALL CONTAIN NO CLAY, SILT, OR ORGANIC MATERIAL.
10. NO FOOTINGS SHALL BE PLACED ABOVE 1 VERTICAL ON 2 HORIZONTAL SLOPE EXTENDED FROM THE CLOSEST EDGE OF ANY UNDISTURBED SOIL OR OTHER FOUNDATION STRUCTURE.

4

MISCELLANEOUS STRUCTURAL STEEL:

1. STRUCTURAL STEEL DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO THE AISC STEEL CONSTRUCTION MANUAL, 15TH EDITION, ANSI/AISC 360-16 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AND ANSI/AISC 303-16 "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".
2. MATERIALS SHALL CONFORM TO THE STANDARDS LISTED:
   a. W-SHAPES: ASTM A992
   b. PLATES, ANGLES AND CHANNELS: ASTM A36
   c. COLD-FORMED HSS: ASTM A500 GRADE B
   d. ANCHOR RODS: ASTM F1554, GRADE 36
   e. STRUCTURAL BOLTS: ASTM A325
3. WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY STANDARD D1.1. ELECTRODES FOR SHOP AND FIELD WELDS SHALL CONFORM TO AWS, CLASS E70XX, LOW HYDROGEN.
4. SPLICING OF STRUCTURAL STEEL MEMBERS WHERE NOT DETAILED ON THE CONTRACT DOCUMENTS IS PROHIBITED WITHOUT THE PRIOR APPROVAL OF THE EoR AS FOR LOCATION, TYPE OF SPLICE AND CONNECTION TO BE MADE.
5. THE CONTRACTOR SHALL NOTIFY EoR OF ANY MISFABRICATED STRUCTURAL STEEL OR JOISTS PRIOR TO ERECTION OF SAME.
6. PENETRATIONS SHALL NOT BE CUT IN STRUCTURAL STEEL MEMBERS UNLESS SO INDICATED IN THE DRAWINGS OR AS APPROVED BY THE ENGINEER OF RECORD.
7. FILLET WELDS SHALL BE A MINIMUM OF 3/16".
8. ALL STEEL MEMBERS AND CONNECTIONS EXPOSED TO THE WEATHER SHALL BE HOT DIP GALVANIZED. STEEL MEMBERS, FABRICATIONS AND ASSEMBLIES INDICATED ON THE DRAWINGS TO BE GALVANIZED SHALL BE GALVANIZED AFTER FABRICATION BY HOT DIP PROCESS IN ACCORDANCE WITH ASTM A123. WEIGHT OF ZINC COATING TO CONFORM TO THE REQUIREMENTS SPECIFIED UNDER "WEIGHT OF COATING" IN ASTM A123 OR ASTM A386, AS APPLICABLE.
9. USE 3/8" MINIMUM GUSSET PLATE THICKNESS, UNLESS OTHERWISE NOTED.

STRUCTURAL STABILITY NOTE:

THE STRUCTURES SHALL BE ADEQUATELY GUYED AND BRACED TO MAINTAIN SAFETY AND ALIGNMENT DURING ALL PHASES OF CONSTRUCTION. SUCH GUYING AND BRACING SHALL REMAIN IN PLACE UNTIL THE STRUCTURE HAS REACHED ADEQUATE STRENGTH AND/OR ALL PERMANENT BRACING IS IN PLACE. ENSURE THAT CONSTRUCTION OPERATIONS AND PROCEDURES IMPOSE NO LOADING GREATER THAN THE DESIGN LOADS ON ANY MEMBER.

SUBMITTALS REQUIRED:

1. THE FOLLOWING ITEMS REQUIRE SUBMITTAL OF SHOP AND ERECTION DRAWINGS FOR REVIEW:
   a. STRUCTURAL STEEL
   b. CONCRETE MIX DESIGN
   c. REINFORCING LAYOUT

SPECIAL AND PROGRESS INSPECTIONS:

SPECIAL & PROGRESS INSPECTIONS REQUIRED BY THE 2020 BUILDING CODE OF NEW YORK STATE SHALL BE PERFORMED BY A TESTING AGENCY ENGAGED BY THE CONSTRUCTION MANAGER AT THEIR EXPENSE (NOT TO BE PERFORMED BY THE ENGINEER OF RECORD, EXCEPT FINAL INSPECTION) FOR THE FOLLOWING ITEMS:

INSPECTION	REF. STANDARD	BC REF.
STEEL CONSTRUCTION:		
• HIGH-STRENGTH BOLTS, NUTS, AND WASHERS MATERIAL VERIFICATION	ANSI/AISC 360-16: Table N5.6-1	1705.2.1
• HIGH-STRENGTH BOLTING	ANSI/AISC 360-16: Table N5.6-2 & Table N5.6-3	
• MATERIAL VERIFICATION OF STRUCTURAL STEEL	ANSI/AISC 360-16: N5.1, N5.2	
• MATERIAL VERIFICATION OF WELD FILLER MATERIALS	ANSI/AISC 360-16: Table N5.4-1	
• INSPECTION OF WELDING	ANSI/AISC 360-16: Table N5.4-2 & Table N5.4-3	
• WELDER QUALIFICATION/CERTIFICATION AND WELDING PROCEDURES VERIFICATION	ANSI/AISC 360-16: Table N5.4-1	
CONCRETE CONSTRUCTION:		
• INSPECTION OF REINFORCING STEEL AND PLACEMENT VERIFICATION	ACI 318 Ch. 20, 25.2, 25.3, 26.6.1-26.6.3	1905, Table 1705.3 and 1908.4
• INSPECTION OF ANCHORS CAST IN CONCRETE	ACI 318: 17.8.2	Table 1705.3
• INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS	ACI 318: 17.8.2.4 ACI 381: 17.8.2	Table 1705.3
• VERIFYING USE OF REQUIRED DESIGN MIX	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1 1904.2 1908.2, 1908.3 Table 1705.3
• PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TEST, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMP. OF THE CONCRETE	ASTM C172, ASTM C31, ACI 318: 26.4, 26.12	1908.10 Table 1705.3
• INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	ACI 318: 26.5	1908.6 1908.7 1908.8, Table 1705.3
• VERIFICATION OF THE MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	ACI 318: 26.5.3 - 26.5.5	1908.9, Table 1705.3
• FORMWORK INSPECTION FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	ACI 318: Ch. 26.11.1.2(b)	Table 1705.3
SOILS:		
• VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE DESIGN BEARING CAPACITY		1705.6 Table 1705.6
• VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH ANDHAVE REACHED PROPER MATERIAL		
FINAL INSPECTION:		

GENERAL LEGEND & ABBREVIATIONS:

W6x20	NEW STEEL MEMBER DESIGNATION (ON FRAMING PLANS & ELEVATIONS ONLY)
W10x22	EXISTING STEEL MEMBER DESIGNATION (ON FRAMING PLANS & ELEVATIONS ONLY)
———	NEW STRUCTURAL STEEL
– – – – – –	EXISTING STRUCTURAL STEEL
B.O.S.	BOTTOM OF STEEL
T.O.C.	TOP OF CONCRETE
T.O.G.	TOP OF GRATING
T.O.R.	TOP OF RAIL
T.O.S.	TOP OF STEEL
EL.	ELEVATION
E.S.	EACH SIDE
F.S.	FAR SIDE
N.S.	NEAR SIDE
(E)	EXISTING
(N)	NEW
℄	CENTERLINE
PL.	PLATE
DN	DOWN
EQ	EQUAL
OPP	OPPOSITE HAND
SIM	SIMILAR
TYP	TYPICAL
V.I.F.	VERIFY IN FIELD

DESIGN LOADS

1. RISK CATEGORY — III
2. ROOF LIVE LOAD — 20 PSF
3. WIND LOAD PARAMETERS:
   a. BASIC WIND SPEED — 122 MPH
   b. EXPOSURE CATEGORY — C
4. SEISMIC LOAD PARAMETERS:
   a. Ss — 0.261
   b. S1 — 0.061
   c. SDS — 0.300
   d. SD1 — 0.097
   e. SITE CLASS — D
   f. IMPORTANCE FACTOR — 1.25
   g. SEISMIC DESIGN CATEGORY — B
5. SNOW LOAD PARAMETERS:
   a. GROUND SNOW LOAD — 30 PSF
   b. IMPORTANCE FACTOR — 1.1
   c. EXPOSURE FACTOR — 1.0
   d. TEMPERATURE FACTOR — 1.2
   e. ROOF SLOPE FACTOR — 1.0

0 1/2 1
IF THIS BAR DOES NOT MEASURE 1", THEN DRAWING IS NOT TO FULL SCALE

No.	Date	Revisions
4	11-09-23	ADDENDUM #1
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

STATE OF NEW YORK
RONALD ALAN BROKENSHIRE
LICENSED PROFESSIONAL ENGINEER
104873
RONALD A. BROKENSHIRE, P.E.
NY LIC 104873
REG. EXP. DATE: 04-30-24

Drawn by	AN
Checked by	RAB
Project No.	42054
Scale	AS NOTED
Date	09-14-23

GREENMAN PEDERSEN, INC
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SUITE 302
SUFFERN, NY 10901
Mechanical & Electrical Engineer:

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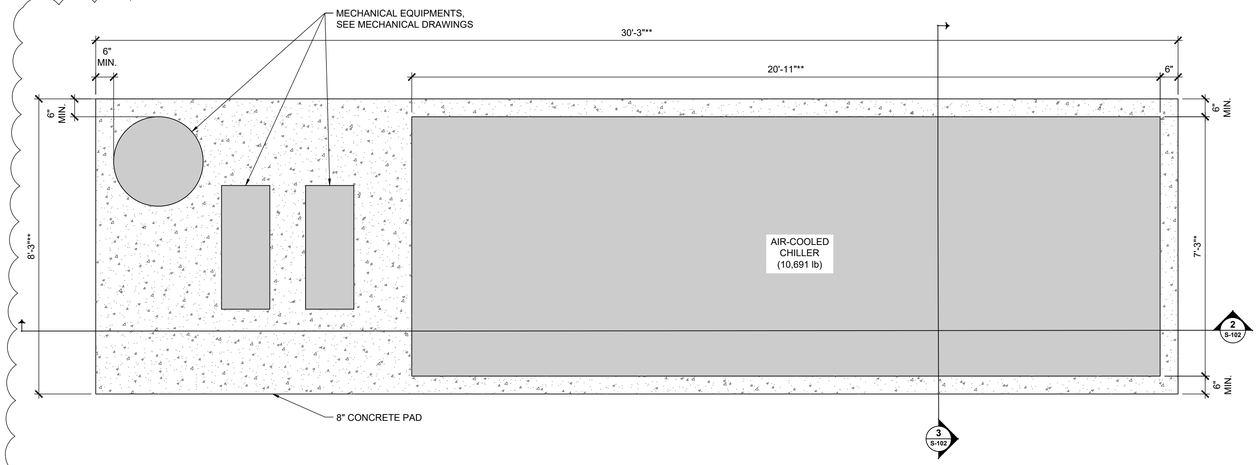
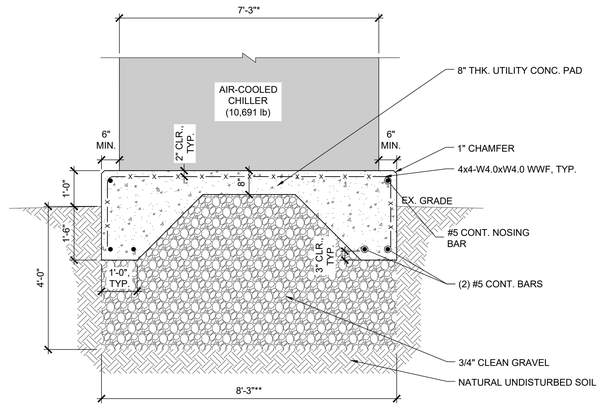
Drawing Title
STRUCTURAL GENERAL NOTES

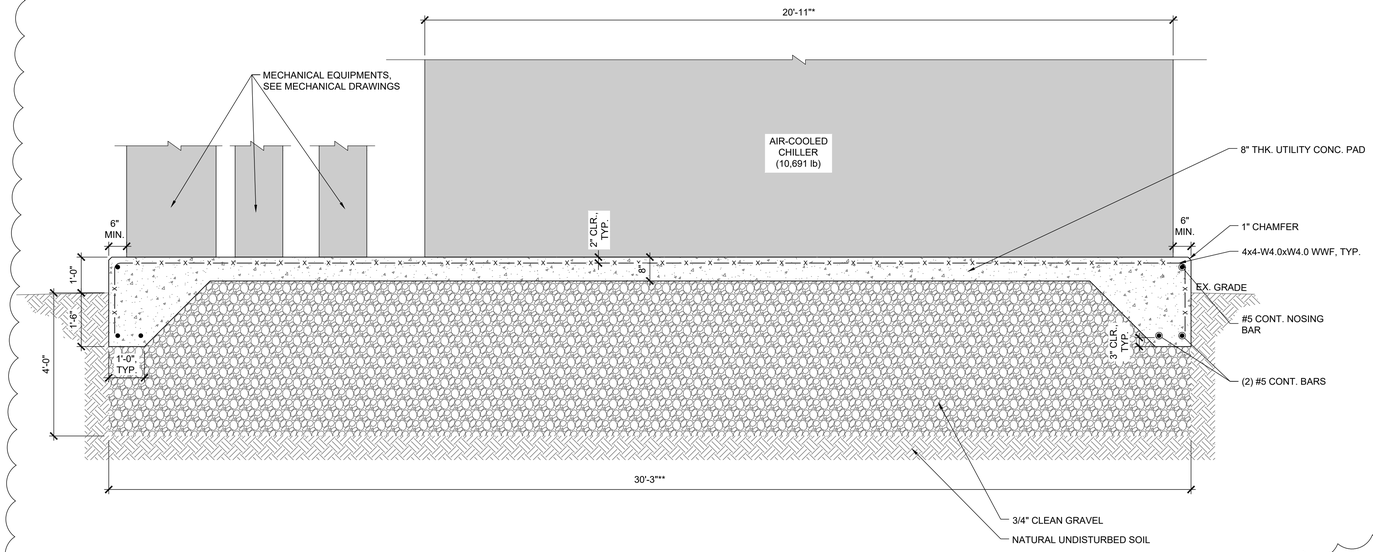
Drawing No.
WGES-S-001



1 UTILITY PAD PLAN
SCALE: 1/2" = 1'-0"



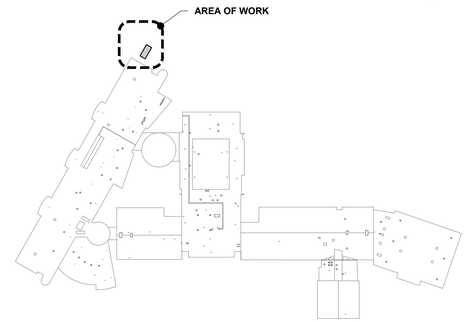
2 SECTION
SCALE: 1/2" = 1'-0"



3 SECTION
SCALE: 1/2" = 1'-0"

NOTES:

- DIMENSIONS DESIGNATED THUS (*) ARE SUBJECT TO COORDINATION WITH UNIT MANUFACTURER.
- DIMENSION DESIGNATED THUS (**) ARE SUBJECT TO COORDINATION BETWEEN CHILLER INSTALLER AND GENERAL CONTRACTOR.
- UTILITY EQUIPMENTS SIZES AND EXACT LOCATIONS TO BE COORDINATED WITH MECHANICAL DRAWINGS AND EQUIPMENTS MANUFACTURERS.
- SEE ARCHITECTURAL DRAWINGS FOR CHAIN LINK FENCE DETAILS AND LOCATION.



KEY PLAN

PLAN NORTH

Drawing Title: **STRUCTURAL GROUND CONSTRUCTION**

Drawing No. **WGES-S-102**

1/2" 0 1
IF THIS BAR DOES NOT MEASURE 1", THEN DRAWING IS NOT TO FULL SCALE

No.	Date	Revisions
4	11-09-23	ADDENDUM #1
3	09-14-23	BIDDING DOCUMENTS
2	06-09-23	SED ADDENDUM #1
1	12-28-22	BIDDING DOCUMENTS

STATE OF NEW YORK
RONALD ALAN BROKENSHIRE
104873
LICENSED PROFESSIONAL ENGINEER
RONALD A. BROKENSHIRE, P.E.
NY LIC 104873
REG. EXP. DATE: 04-30-24

Drawn by YAY
Checked by RAB
Project No. 42054
Scale
Date 09-14-23

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD
SUITE 302
SUFFERN, NY 10901
Mechanical & Electrical Engineer:

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD
SUITE 302
SUFFERN, NY 10901
Structural Engineer:

UNIVENT REPLACEMENT AT WILLOW GROVE ELEMENTARY SCHOOL
SED# 50-02-01-06-0-030-016
COUNTY OF ROCKLAND
185 STORRS RD
THIELLS, NY 10984

MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 845-708-9200
www.shilale.com

PART 1 - GENERAL

1.01 GENERAL

A. Pursuant to, and in compliance with, your Advertisement for Bids and the Information to Bidders relative thereto and all of the Contract Documents, including any Addenda issued by the Architect and mailed to the undersigned prior to the opening Bids, whether received by the undersigned or not, we

_____
(CONTRACTOR NAME)

hereby proposes to furnish all plant, labor, supplies, materials, and equipment for Univent Replacement at Farley Elementary School and Willow Grove Elementary School – General Construction, as required by and in strict accord with the applicable provisions of the Drawings and Specifications entitled "Univent Replacement at Farley Elementary School and Willow Grove Elementary School – General Construction at North Rockland High School, 106 Hammond Rd, Thiells, NY 10984 for the North Rockland Central School District, 65 Chapel Street, Garnerville, NY 10923 ", all to the satisfaction and approval of the Architect and the Owner in accordance with the terms and conditions of the Contract Documents for the following prices:

1._____Dollars
(Write out in words)
(_____) Base Bid for all work.

_____ Consecutive Calendar Days for substantial completion _____with base bid.

The undersigned further proposes and agrees hereby to commence work with an adequate force and equipment immediately after being notified in writing to do so, and to achieve substantial completion for all work as required by the plans and specifications within the number of consecutive calendar days as itemized above.

Univent Replacement at Farley Elementary School and Willow Grove Elementary School – General Construction

Univent Replacement a Farley Elementary School
(If only this project is awarded to the General Contractor) ($_____)

Willow Grove Elementary School
(If only this project is awarded to the General Contractor) ($_____)

Farley Elementary School and Willow Grove Elementary School
(If both projects are awarded to one General Contractor)
(Any saving of scale should be reflected in this total)
Total Project General Construction ($_____)

B. ALTERNATES

The undersigned further proposes and agrees that, should any of the following alternates be accepted and included in the Contract, the amount of the Base Bid, is hereto stated, shall be increased or decreased by the amounts indicated below.

Alternate No. 102 – Remove existing 12"X12" concealed spline ceiling. Provide new ACT ceiling and reinstall lighting.

Farley Elementary School ($_____)

Alternate No. 104 – Contractor to install one swing set and two add a swing kits with location to be determined in the field by owner. Swing set to be ADA GameTime – Powerscape Swing model number 81598. Add A Bay to be ADA Gametime – Powerscape Swing Add A Bay model number 81599. Swing set and Add A Bays will be provided to the contactor by the owner.

Farley Elementary School ($_____)

Alternate No. 105 – Provide ¼' thick soild surface material at all UV's built into case work.

Farley Elementary School ($_____)

Alternate No. 106 – Provide installation for a new canopy. Canopy to be provided to the contractor by the owner. Canopy model number RC201810IN. Attached cut sheets have been provided for the contractors reference. General Contractor shall include NYS P.E. signed and sealed drawing for footing design.

Farley Elementary School ($_____)

Alternate No. 203 – Remove existing glass block and install new windows.

Willow Grove Elementary School ($_____)

Alternate No. 204 – Contractor to install one swing set and two add a swing kits with location to be determined in the field by owner. Swing set to be ADA GameTime – Powerscape Swing model number 81598. Add A Bay to be ADA Gametime – Powerscape Swing Add A Bay model number 81599. Swing set and Add A Bays will be provided to the contactor by the owner.

Willow Grove Elementary School ($_____)

Alternate No. 205 – Provide ¼" thick solid surface material at all UV's built into case work.

Willow Grove Elementary School ($_____)

Alternate No. 206 - Provide installation for a new canopy. Canopy to be provided to the contractor by the owner. Canopy model number RC201810IN. Attached cut sheets have been provided for the contractors reference. General Contractor shall include NYS P.E. signed and sealed drawing for footing design.

Willow Grove Elementary School ($_____)

C. ALLOWANCES

The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents.

Allowance No. 101 – Contractor to include an allowance for the LF of line set enclosure noted on the drawings.

Farley Elementary School ($_____)

1.02 TIME OF COMPLETION

A. (Farley ES): It is agreed by the undersigned that after receipt of Notice of Award and a consummation of a Contract Agreement in accord with the terms of the Contract Documents, contractor will start work on June 27th, 2024. Partial substantial completion will be August 23rd, 2024. The punch list work will be completed by September 23rd, 2024 and performed after school hours. Final substantial completion by August 22nd, 2025.

B. (Willow Grove ES): It is agreed by the undersigned that after receipt of Notice of Award and a consummation of a Contract Agreement in accord with the terms of the Contract Documents, contractor will start work on June 20th,2024. Substantial completion will be August 19th,2024. The punch list work will be completed by September 19th, 2024 and performed after school hours.

1.03 BID SECURITY

A. Attached hereto is Bid Security in the amount of five percent (5%) of the Base Bid.

1.04 UNIT PRICES

A. For work to be supplied or omitted at the price rate stipulated herein should the volume of work be increased, the following unit prices will be established as the limitations for such items of work, and each unit price shall include material, labor and services of each and everything necessary or required to complete for like work in kind, quality and function.

Unit Price No. 101 – Provide a unit price for the installation of 10 linear feet of line set enclosure. (This amount will add or reduce Allowance No. 101).

Farley Elementary School ($_____)

1.06 NON-COLLUSIVE BIDDING CERTIFICATION

A. By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of knowledge and belief:

1. The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor.

2. Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and

3. No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not submit a bid for the purpose of restricting competition.

Resolved that _____
(Name of Individual)
be authorized to sign and submit the bid or proposal of this corporation for the following project
_____and to include in such bid or proposal the certificate as to non-collusion required by Section One Hundred Three (d) (103d) of the General Municipal Law as the act and deed of such corporation, and for any inaccuracies or misstatements in such certificate this corporate bidder shall be liable under the penalty of perjury.

The foregoing is a true and correct cop of the resolution by
_____
Corporation at a meeting of its Board of Directors held on the
_____day of_____, 20_____.

(SEAL OF THE CORPORATION)

_____
Secretary

1.07 ACCEPTANCE

A. When this Proposal is accepted, the undersigned agrees to enter into Contract with the Owner as provided in the Form of Agreement.

1.08 AFFIRMS

A. The undersigned affirms and agrees that this Proposal is a firm one which remains in effect and will be irrevocable for a period of forty-five (45) days after opening of Bids.

1.09 TYPE OF BUSINESS

A. The undersigned hereby represents that it is a_____
(Corporation, Partnership, or an Individual). If a corporation, then the undersigned further represents that it is duly qualified as a corporation under laws of New York State and it is authorized to do business in this State.

1.10 PLACE OF BUSINESS

A. The following is the name and address of the person to whom all notices required in the connection with this Proposal may be telephoned, mailed, or delivered.

_____
(Name)

_____
(Address)

_____
(Telephone)

1.11 EXECUTION OF CONTRACT

A. When written Notice of Acceptance of the Proposal is mailed or delivered to the undersigned within forty-five (45) days after the opening of Bids, or anytime thereafter should the Proposal not be withdrawn, the undersigned, within ten (10) days, will execute the Form of Agreement with the Owner.

1.12 ADDENDA

A. Any Addenda issued by the Architect and mailed or delivered to the undersigned prior to the Bid opening date shall become part of the Contract Documents. The Bidder shall enter on this list any addenda issued after this Form of Proposal has been received and shall fill in the addenda number and date.

Addendum #_____	Dated_____
Addendum #_____	Dated_____
Addendum #_____	Dated_____
Addendum #_____	Dated_____
Addendum #_____	Dated_____
Addendum #_____	Dated_____

1.13 ASBESTOS

A. The Contractor certifies that no asbestos or asbestos-containing material will be incorporated into the Work of this Contract.

(Sign Bid Here)

Dated_____, 20_____ _____
Legal Name of Person, Partnership
or Corporation

By _____

Title _____

Address _____

_____

_____

PART 1 - GENERAL

1.01 GENERAL

A. Pursuant to, and in compliance with, your Advertisement for Bids and the Information to Bidders relative thereto and all of the Contract Documents, including any Addenda issued by the Architect and mailed to the undersigned prior to the opening Bids, whether received by the undersigned or not, we

_____
(CONTRACTOR NAME)

hereby proposes to furnish all plant, labor, supplies, materials, and equipment for Univent Replacement at Farley Elementary School and Willow Grove Elementary School – Mechanical Construction, as required by and in strict accord with the applicable provisions of the Drawings and Specifications entitled "Univent Replacement at Farley Elementary School and Willow Grove Elementary School – Mechanical at North Rockland High School, 106 Hammond Rd, Thiells, NY 10984 for the North Rockland Central School District, 65 Chapel Street, Garnerville, NY 10923", all to the satisfaction and approval of the Architect and the Owner in accordance with the terms and conditions of the Contract Documents for the following prices:

1._____Dollars
(Write out in words)
(_____) Base Bid for all work.

_____ Consecutive Calendar Days for substantial completion _____with base bid.

The undersigned further proposes and agrees hereby to commence work with an adequate force and equipment immediately after being notified in writing to do so, and to achieve substantial completion for all work as required by the plans and specifications within the number of consecutive calendar days as itemized above.

Univent Replacement at Farley Elementary School and Willow Grove Elementary School – Mechanical Construction

Univent Replacement a Farley Elementary School
(If only this project is awarded to the Mechanical Contractor) ($_____)

Willow Grove Elementary School
(If only this project is awarded to the Mechanical Contractor) ($_____)

Farley Elementary School and Willow Grove Elementary School
(If both projects are awarded to one Mechanical Contractor)
(Any saving of scale should be reflected in this total)
Total Project Mechanical Construction ($_____)

B. ALTERNATES

The undersigned further proposes and agrees that, should any of the following alternates be accepted and included in the Contract, the amount of the Base Bid, is hereto stated, shall be increased or decreased by the amounts indicated below.

Alternate No. 100 – Remove existing unused fan gear and ductwork in fan room 201. Fill and close existing 2 HR block wall with new block at old duct locations.

Farley Elementary School ($_____)

Alternate No. 200 – Replace existing unit ventilators in location specified on drawings WGES-A-100 and WGES-A-101. See plans for locations. Include an allowance to replace existing heat supply & return piping and insulation for 20 linear feet per each unit ventilator to be replaced.

Willow Grove Elementary School ($_____)

Alternate No. 201 – Remove and replace cafeteria unit, see mechanical drawings.

Willow Grove Elementary School ($_____)

Alternate No. 202 – Refurbish existing plenum mounted HVAC unit and provide new access panels and maintenance platforms for AHU-1 and AHU-2.

Willow Grove Elementary School ($_____)

C. ALLOWANCES

The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents.

Allowance No. 100 – Replace existing supply and return piping and insulation for 30 linear feet per each unit ventilator.
(Number of UV's X 30 linear feet = Total linear feet in Allowance No. 100)
(To be modified by Unit Price No. 100)

Allowance No. 104 – Hazardous materials allowance.

Farley Elementary School ($_____)

Allowance No. 200 – Replace existing heat & chilled water supply & return piping and insulation for 40 linear feet per each unit ventilator to be replaced as per base bid.
(Number of UV's X 40 linear feet = Total linear feet in Allowance No. 200)
(To be modified by Unit Price No. 200)

1.02 TIME OF COMPLETION

A. (Farley ES): It is agreed by the undersigned that after receipt of Notice of Award and a consummation of a Contract Agreement in accord with the terms of the Contract Documents, contractor will start work on June 27th, 2024. Partial substantial completion will be August 23rd, 2024. The punch list work will be completed by September 23rd, 2024 and performed after school hours. Final substantial completion by August 22nd, 2025.

(Willow Grove ES): It is agreed by the undersigned that after receipt of Notice of Award and a consummation of a Contract Agreement in accord with the terms of the Contract Documents, contractor will start work on June 20th, 2024. Substantial completion will be August 19th, 2024. The punch list work will be completed by September 19th, 2024 and performed after school hours.

1.03 BID SECURITY

A. Attached hereto is Bid Security in the amount of five percent (5%) of the Base Bid.

1.04 UNIT PRICES

A. For work to be supplied or omitted at the price rate stipulated herein should the volume of work be increased, the following unit prices will be established as the limitations for such items of work, and each unit price shall include material, labor and services of each and everything necessary or required to complete for like work in kind, quality and function.

Unit Price No. 100 – Provide a unit price to replace additional existing supply and return piping and insulation. Price is per 10 linear feet. (This amount will add or reduce Allowance No. 100).

Farley Elementary School ($_____)

Unit Price No. 200 – Provide unit price to replace 10 linear feet of existing heat or chilled water pipe (This amount will add or reduce Allowance No. 200).

Willow Grove Elementary School ($_____)

1.06 NON-COLLUSIVE BIDDING CERTIFICATION

A. By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of knowledge and belief:

1. The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor.

2. Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and

3. No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not submit a bid for the purpose of restricting competition.

Resolved that _____
(Name of Individual)
be authorized to sign and submit the bid or proposal of this corporation for the following project _____and to include in such bid or proposal the certificate as to non-collusion required by Section One Hundred Three (d) (103d) of the General Municipal Law as the act and deed of such corporation, and for any inaccuracies or misstatements in such certificate this corporate bidder shall be liable under the penalty of perjury.

The foregoing is a true and correct cop of the resolution by
_____
Corporation at a meeting of its Board of Directors held on the
_____day of_____, 20_____.

(SEAL OF THE CORPORATION)

_____
Secretary

1.07 ACCEPTANCE

A. When this Proposal is accepted, the undersigned agrees to enter into Contract with the Owner as provided in the Form of Agreement.

1.08 AFFIRMS

A. The undersigned affirms and agrees that this Proposal is a firm one which remains in effect and will be irrevocable for a period of forty-five (45) days after opening of Bids.

1.09 TYPE OF BUSINESS

A. The undersigned hereby represents that it is a_____
(Corporation, Partnership, or an Individual). If a Corporation, then the undersigned further represents that it is duly qualified as a Corporation under laws of New York State and it is authorized to do business in this State.

1.10 PLACE OF BUSINESS

A. The following is the name and address of the person to whom all notices required in the connection with this Proposal may be telephoned, mailed or delivered.

_____
(Name)

_____
(Address)

_____
(Telephone)

1.11 EXECUTION OF CONTRACT

A. When written Notice of Acceptance of the Proposal is mailed or delivered to the undersigned within forty-five (45) days after the opening of Bids, or anytime thereafter should the Proposal not be withdrawn, the undersigned, within ten (10) days, will execute the Form of Agreement with the Owner.

1.12 ADDENDA

A. Any Addenda issued by the Architect and mailed or delivered to the undersigned prior to the Bid opening date shall become part of the Contract Documents. The Bidder shall enter on this list any addenda issued after this Form of Proposal has been received and shall fill in the addenda number and date.

Addendum #_____	Dated_____
Addendum #_____	Dated_____
Addendum #_____	Dated_____
Addendum #_____	Dated_____
Addendum #_____	Dated_____
Addendum #_____	Dated_____

1.13 ASBESTOS

A. The Contractor certifies that no asbestos or asbestos-containing material will be incorporated into the Work of this Contract.

(Sign Bid Here)

Dated_____, 20_____ _____
Legal Name of Person, Partnership
or Corporation

By _____

Title _____

Address _____

_____
_____

PART 1 - GENERAL

1.01 GENERAL

A. Pursuant to, and in compliance with, your Advertisement for Bids and the Information to Bidders relative thereto and all of the Contract Documents, including any Addenda issued by the Architect and mailed to the undersigned prior to the opening Bids, whether received by the undersigned or not, we

_____
(CONTRACTOR NAME)

hereby proposes to furnish all plant, labor, supplies, materials and equipment for Univent Replacement at Farley Elementary School and Willow Grove Elementary School - Electrical Construction as required by and in strict accord with the applicable provisions of the Drawings and Specifications entitled "Univent Replacement at Farley Elementary School and Willow Grove Elementary School – Electrical at 106 Hammond Rd, Thiells, NY 10984 for the North Rockland Central School District, 65 Chapel Street, Garnerville, NY 10923 ", all to the satisfaction and approval of the Architect and the Owner in accordance with the terms and conditions of the Contract Documents for the following prices:

1._____Dollars
(Write out in words)
(_____) Base Bid for all work.

_____ Consecutive Calendar Days for substantial completion _____with base bid.

The undersigned further proposes and agrees hereby to commence work with an adequate force and equipment immediately after being notified in writing to do so, and to achieve substantial completion for all work as required by the plans and specifications within the number of consecutive calendar days as itemized above.

Univent Replacement at Farley Elementary School and Willow Grove Elementary School – Electrical Construction
Univent Replacement a Farley Elementary School
(If only this project is awarded to the Electrical Contractor) ($_____)

Willow Grove Elementary School
(If only this project is awarded to the Electrical Contractor) ($_____)

Farley Elementary School and Willow Grove Elementary School
(If both projects are awarded to one Electrical Contractor)
(Any saving of scale should be reflected in this total)
($_____)

Total Project Electrical ($_____)

B. ALTERNATES

The undersigned further proposes and agrees that, should any of the following alternates be accepted and included in the Contract, the amount of the Base Bid, is hereto stated, shall be increased or decreased by the amounts indicated below.

Alternate No. 101 – Include ceiling and lighting replacement in corridors. See drawings FES-D-101, FES-D-102, FES-D-105, FES-A-401, FES-A-402, FES-A-403.

Farley Elementary School ($_____)

C. ALLOWANCES

The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents.

Allowance No. 102 – Provide an Allowance for the relocation of 40 electrical devices that require relocation due to new UV size.

Farley Elementary School ($_____)

Allowance No. 103 – Electrical contractor to provide new power connections to 10 existing UV locations where existing cannot be reused.

Willow Grove Elementary School ($_____)

1.02 TIME OF COMPLETION

A. (Farley ES): It is agreed by the undersigned that after receipt of Notice of Award and a consummation of a Contract Agreement in accord with the terms of the Contract Documents, contractor will start work on June 27th, 2024. Partial substantial completion will be August 23rd, 2024. The punch list work will be completed by September 23rd, 2024 and performed after school hours. Final substantial completion by August 22nd, 2025.

B. (Willow Grove ES): It is agreed by the undersigned that after receipt of Notice of Award and a consummation of a Contract Agreement in accord with the terms of the Contract Documents, contractor will start work on June 20th, 2024. Substantial completion will be August 19th, 2024. The punch list work will be completed by September 19th, 2024 and performed after school hours.

1.03 BID SECURITY

A. Attached hereto is Bid Security in the amount of five percent (5%) of the Base Bid.

1.04 UNIT PRICES

For work to be supplied or omitted at the price rate stipulated herein should the volume of work be increased, the following unit prices will be established as the limitations for such items of work, and each unit price shall include material, labor and services of each and everything necessary or required to complete for like work in kind, quality and function.

Unit Price No. 102 – Electrical Contractor to provide a unit price to relocate an existing electrical device that is required to be relocated. Price per 1 device. (This amount will add or reduce Allowance No. 102).

Farley Elementary School ($_____)

Unit Price No. 103 – electrical Contractor to provide a unit price for a new power connection to existing UV location where an existing feeder cannot be reused. Price per 1 feed. (This amount will add or reduce Allowance No. 103).

Willow Grove Elementary School ($_____)

1.06 NON-COLLUSIVE BIDDING CERTIFICATION

A. By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of knowledge and belief:

1. The prices in this bid have been arrived at independently without collusion, consultation, communication, or

agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor.

2. Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and

3. No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not submit a bid for the purpose of restricting competition.

Resolved that _____
(Name of Individual)
be authorized to sign and submit the bid or proposal of this corporation for the following project
_____and to include in such bid or proposal the certificate as to non-collusion required by Section One Hundred Three (d) (103d) of the General Municipal Law as the act and deed of such corporation, and for any inaccuracies or misstatements in such certificate this corporate bidder shall be liable under the penalty of perjury.

The foregoing is a true and correct cop of the resolution by
_____
Corporation at a meeting of its Board of Directors held on the
_____day of_____, 20_____.

(SEAL OF THE CORPORATION)

_____
Secretary

1.07 ACCEPTANCE

A. When this Proposal is accepted, the undersigned agrees to enter into Contract with the Owner as provided in the Form of Agreement.

1.08 AFFIRMS

A. The undersigned affirms and agrees that this Proposal is a firm one which remains in effect and will be irrevocable for a period of forty-five (45) days after opening of Bids.

1.09 TYPE OF BUSINESS

A. The undersigned hereby represents that it is a_____
(Corporation, Partnership, or an Individual). If a Corporation, then the undersigned further represents that it is duly qualified as a Corporation under laws of New York State and it is authorized to do business in this State.

1.10 PLACE OF BUSINESS

A. The following is the name and address of the person to whom all notices required in the connection with this Proposal may be telephoned, mailed or delivered.

_____
(Name)

_____
(Address)

_____

(Telephone)

1.11 EXECUTION OF CONTRACT

A. When written Notice of Acceptance of the Proposal is mailed or delivered to the undersigned within forty-five (45) days after the opening of Bids, or anytime thereafter should the Proposal not be withdrawn, the undersigned, within ten (10) days, will execute the Form of Agreement with the Owner.

1.12 ADDENDA

A. Any Addenda issued by the Architect and mailed or delivered to the undersigned prior to the Bid opening date shall become part of the Contract Documents. The Bidder shall enter on this list any addenda issued after this Form of Proposal has been received and shall fill in the addenda number and date.

Addendum #_____	Dated_____
Addendum #_____	Dated_____
Addendum #_____	Dated_____
Addendum #_____	Dated_____
Addendum #_____	Dated_____
Addendum #_____	Dated_____

1.13 ASBESTOS

A. The Contractor certifies that no asbestos or asbestos-containing material will be incorporated into the Work of this Contract.

(Sign Bid Here)

Dated_____, 20_____ _____
Legal Name of Person, Partnership
or Corporation

By _____

Title _____

Address _____

_____

SECTION 011200 - MULTIPLE CONTRACT SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes a summary of each contract, including responsibilities for coordination and temporary facilities and controls.

B. Specific requirements for Work of each contract are also indicated in individual Specification Sections and on Drawings.

C. Related Requirements:

1. Section 011000 "Summary" for the Work covered by the Contract Documents, restrictions on use of Project site, phased construction, coordination with occupants, and work restrictions.
2. Section 013100 "Project Management and Coordination" for general coordination requirements.

1.3 DEFINITIONS

A. Permanent Enclosure: As determined by Architect, the condition at which roofing is insulated and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures equivalent in weather protection to permanent construction.

1.4 PROJECT COORDINATOR

A. Project coordinator shall be responsible for coordination between the General Construction Contract, Plumbing Contract, HVAC Contract, Electrical Contract,.

1. HVAC Contractor will act as Project Coordinator.

1.5 COORDINATION ACTIVITIES

A. Coordination activities of Project coordinator include, but are not limited to, the following:

1. Provide overall coordination of the Work.
2. Coordinate shared access to workspaces.
3. Coordinate product selections for compatibility.
4. Provide overall coordination of temporary facilities and controls.
5. Coordinate, schedule, and approve interruptions of permanent and temporary utilities, including those necessary to make connections for temporary services.
6. Coordinate construction and operations of the Work with work performed by each Contract and Owner's construction forces and separate contracts.
7. Prepare coordination drawings in collaboration with each contractor to coordinate work by more than one contract.
8. Coordinate sequencing and scheduling of the Work. Include the following:

a. Initial Coordination Meeting: At earliest possible date, arrange and conduct a meeting with contractors for sequencing and coordinating the Work; negotiate reasonable adjustments to schedules.
b. Prepare a combined contractors' construction schedule for entire Project. Base schedule on preliminary construction schedule. Secure time commitments for performing critical construction activities from contractors. Show activities of each contract on a separate sheet. Prepare a simplified summary sheet indicating combined construction activities of contracts.

1) Submit schedules for approval.
2) Distribute copies of approved schedules to contractors.

9. Provide photographic documentation.
10. Provide quality-assurance and quality-control services specified in Section 014000 "Quality Requirements."
11. Coordinate sequence of activities to accommodate tests and inspections, and coordinate schedule of tests and inspections.
12. Provide information necessary to adjust, move, or relocate existing utility structures affected by construction.
13. Locate existing permanent benchmarks, control points, and similar reference points, and establish permanent benchmarks on Project site.
14. Provide field surveys of in-progress construction and site work and final property survey.
15. Provide progress cleaning of common areas and coordinate progress cleaning of areas or pieces of equipment where more than one contractor has worked.
16. Coordinate cutting and patching.
17. Coordinate protection of the Work.
18. Coordinate firestopping.
19. Coordinate completion of interrelated punch list items.
20. Coordinate preparation of Project record documents if information from more than one contractor is to be integrated with information from other contractors to form one combined record.
21. Print and submit record documents if installations by more than one contractor are indicated on the same contract drawing or shop drawing.
22. Collect record Specification Sections from contractors, collate Sections into numeric order, and submit complete set.
23. Coordinate preparation of operation and maintenance manuals if information from more than one contractor is to be integrated with information from other contractors to form one combined record.

B. Responsibilities of Project coordinator for temporary facilities and controls include, but are not limited to, the following:

1. Provide common-use field office for use by all personnel engaged in construction activities.

1.6 GENERAL REQUIREMENTS OF CONTRACTS

A. Extent of Contract: Unless the Agreement contains a more specific description of the Work of each Contract, requirements indicated on Drawings and in Specification Sections determine which contract includes a specific element of Project.

1. Unless otherwise indicated, the work described in this Section for each contract shall be complete systems and assemblies, including products, components, accessories, and installation required by the Contract Documents.
2. Trenches and other excavation for the work of each contract shall be the work of each contract for its own work.
3. Blocking, backing panels, sleeves, and metal fabrication supports for the work of each contract shall be the work of each contract for its own work.
4. Furnishing of access panels for the work of each contract shall be the work of each contract for its own work. Installation of access panels shall be the work of the General Construction Contract.
5. Equipment pads for the work of each contract shall be the work of each contract for its own work.
6. Roof-mounted equipment curbs for the work of each contract shall be the work of each contract for its own work.
7. Painting for the work of each contract shall be the work of each contract for its own work.
8. Cutting and Patching: Each contract shall perform its own cutting; patching shall be under the General Construction Contract.

9. Through-penetration firestopping for the work of each contract shall be provided by each contract for its own work.
10. Contractors' Startup Construction Schedule: Within five working days after startup horizontal bar-chart-type construction schedule submittal has been received from Project coordinator, submit a matching startup horizontal bar-chart schedule showing construction operations sequenced and coordinated with overall construction.

B. Substitutions: Each contractor shall cooperate with other contractors involved to coordinate approved substitutions with remainder of the work.

1. Project coordinator shall coordinate substitutions.

C. Temporary Facilities and Controls: In addition to specific responsibilities for temporary facilities and controls indicated in this Section and in Section 015000 "Temporary Facilities and Controls," each contractor is responsible for the following:

1. Installation, operation, maintenance, and removal of each temporary facility necessary for its own normal construction activity, and costs and use charges associated with each facility, except as otherwise provided for in this Section.
2. Plug-in electric power cords and extension cords, supplementary plug-in task lighting, and special lighting necessary exclusively for its own activities.
3. Its own field office, complete with necessary furniture, utilities, and telephone service.
4. Its own storage and fabrication sheds.
5. Temporary enclosures for its own construction activities.
6. Staging and scaffolding for its own construction activities.
7. General hoisting facilities for its own construction activities, up to 2 tons (2000 kg).
8. Waste disposal facilities, including collection and legal disposal of its own hazardous, dangerous, unsanitary, or other harmful waste materials.
9. Progress cleaning of work areas affected by its operations on a daily basis.
10. Secure lockup of its own tools, materials, and equipment.
11. Construction aids and miscellaneous services and facilities necessary exclusively for its own construction activities.

D. Temporary Heating, Cooling, and Ventilation: Project coordinator] is responsible for temporary heating, cooling, and ventilation, including utility-use charges, temporary meters, and temporary connections.

E. Use Charges: Comply with the following:
1. Water Service: Include the cost for water service, whether metered or otherwise, for water used by all entities engaged in construction activities at Project site in the General Construction Contract.
2. Electric Power Service: Include the cost for electric power service, whether metered or otherwise, for electricity used by all entities engaged in construction activities at Project site in the General Construction Contract.

1.7 GENERAL CONSTRUCTION CONTRACT

A. Supply all necessary materials, labor, services, equipment, and tools required to perform the following site General Construction, work for the UV Replacement and Rooftop HVAC Units. All work to be installed in strict accordance with Specifications and Drawings.

B. Supply all necessary materials, equipment, devices and labor for implementation and up-keep of site safety as it relates to this scope of work, to meet or exceed OSHA and / or safety agencies having jurisdiction on this project. Any and all costs resulting from OSHA sited violations will be the complete responsibility of this subcontractor.

C. This project is a prevailing wage project, and it is the responsibility of this sub-contractor to ensure that all of the latest rules and regulations published by the NYS Department of Labor, Wage and Workplace Standards Division, Public Contract Compliance Unit are strictly followed and adhered to. In the events of an audit conduct by the NYS Department of Labor, this sub-contractor will be responsible for any and all costs associated with the audit and the Departments' final decision.

D. Work in the General Construction Contract includes, but is not limited to, the following:
1. Ceiling tile removal and installation. Provide replacement tiles and grid if damaged during removal.
2. Supply/install all materials, labor, equipment, and tools for installation of metal stud partition/soffits and masonry walls.
3. Supply/install all enclosures to encase new line sets, pipes, and electrical cables.
4. Supply all materials, labor, equipment, and tools to install and finish gypsum at newly constructed metal stud chases, wall area, and masonry walls. Finish and paint all new surfaces, and any damaged existing surfaces.
5. Supply all materials, labor, equipment, and tools to install all access panels, patch and paint all disturbed areas.
6. Supply and install all necessary blocking, anchors, and hangers to support and secure ductwork, and roof curbs.
7. Supply all materials, labor, equipment, and tools to modify/construct all interior walls, gypsum and masonry patching and paint as required. All case work modifications required for UV installation, including solid surface installation.
8. File, pay for, and obtain all required permits, inspections and approvals.
9. Schedule and perform all inspections required by this scope of work.
10. Removal and disposal of daily generated debris. Upon completion of this contractor's work, all excess materials and debris in the building and site are to be removed and disposed of promptly.
11. Fabricate, install, and paint all line set enclosures.
12. This is a prevailing wage project.
13. Structural steel work for installation of roof top chiller and VRF equipment, concrete pad and fence for ground mounted chiller.

1.8 PLUMBING CONTRACT – VOID, NOT IN CONTRACT

1.9 HVAC CONTRACT

A. Supply all necessary materials, labor, services, equipment and tools required to perform the following site electrical work for the UV Replacement and Rooftop HVAC Units. All work to be installed in strict accordance with Specifications and Drawings.

B. Supply all necessary materials, equipment, devices and labor for implementation and up-keep of site safety as it relates to this scope of work, to meet or exceed OSHA and / or safety agencies having jurisdiction on this project. Any and all costs resulting from OSHA sited violations will be the complete responsibility of this subcontractor

C. This project is a prevailing wage project and it is the responsibility of this sub-contractor to ensure that all of the latest rules and regulations published by the NYS Department of Labor, Wage and Workplace Standards Division, Public Contract Compliance Unit are strictly followed and adhered to. In the events of an audit conduct by the NYS Department of Labor, this sub-contractor will be responsible for any and all costs associated with the audit and the Departments' final decision.

D. Work in the HVAC Contract includes, but is not limited to, the following:
1. The remaining work not identified as work under other contracts.
2. Curbs, RTUs/UV's/VRFs, chillers and accessories to be hoisted onto the roof or required floor level.
3. Assemble roof curbs and dunnage, set in place, anchor, and flash to roof structure. (structural steel by GC)
4. Cut and patch roofing. Willow Grove roof has a Tremco warranty. The contractor shall comply with Tremco standards to extend the warranty to modified areas. Farley has an older BUR roof any work performed shall meet Tremco 20 years warranty requirements.
5. Supply and install galvanized supply and return curb transitions.
6. Install RTUs onto curbs and weather-tight.
7. Install all RTU accessories, including filters.
8. Replace/modify UV's and new cabinets, associated ductwork work and pipe, insulation all new lines.

9. Install thermostats connect to BMS and make connections at RTUs and UV's.
10. Program thermostats for heat, cooling, and occupied & unoccupied times.
11. Make all supply and return ductwork connections.
12. Start up and test RTUs/UV's for heat. Cooling and fresh air where applicable.
13. Adjust all volume dampers and diffusers to provide proper air flow.
14. Make all ductwork connections for fans.
15. Test all fans.
16. Balance system as per specifications.
17. File, pay for, and obtain all required permit, inspections, and approvals.
18. Schedule and perform all inspections required by this scope of work.
19. Removal and disposal of daily generated debris.
20. Demolition of existing system that are being replaced.
21. Upon completion of this contractor's work, all excess materials and debris in the building and site are to be removed and disposed of promptly.
22. Integrate with current BMS system.
23. This is a prevailing wage project.
24. Installation of duct smoke detectors, provided by the Electrical Engineer.

E. Temporary facilities and controls in the HVAC Contract include, but are not limited to, the following:

1. Temporary facilities and controls that are not otherwise specifically assigned to the Plumbing Contract.
2. Temporary enclosure for building exterior.
3. Temporary roads and paved areas.
4. Project identification and temporary signs.
5. General waste disposal facilities.
6. Temporary fire-protection facilities.
7. Barricades, warning signs, and lights.
8. Site enclosure fence.
9. Security enclosure and lockup.
10. Environmental protection.
11. Restoration of Owner's existing facilities used as temporary facilities.

1.10 ELECTRICAL CONTRACT

A. Supply all necessary materials, labor, services, equipment and tools required to perform the following site electrical work for the UV Replacement and Rooftop HVAC Units. All work to be installed in strict accordance with Specifications and Drawings.

B. Supply all necessary materials, equipment, devices and labor for implementation and up-keep of site safety as it relates to this scope of work, to meet or exceed OSHA and / or safety agencies having jurisdiction on this project. Any and all costs resulting from OSHA sited violations will be the complete responsibility of this subcontractor

C. This project is a prevailing wage project, and it is the responsibility of this sub-contractor to ensure that all of the latest rules and regulations published by the NYS Department of Labor, Wage and Workplace Standards Division, Public Contract Compliance Unit are strictly followed and adhered to. In the events of an audit conduct by the NYS Department of Labor, this sub-contractor will be responsible for any and all costs associated with the audit and the Departments' final decision.

D. Work in the Electrical Contract includes, but is not limited to, the following:
1. Supply and install all electrical materials, devices, and equipment for the RTU, UV, heat pumps, chillers.
2. Supply and install complete electrical service from source to new RTU's, heat pumps.
3. Supply and install complete electrical service from source to new RTU Condenser units.
4. Supply and install RTU disconnects and make electrical connections.
5. Supply and install RTU maintenance receptacles and make electrical connections.
6. Excavation, backfill, site restoration for all electrical conduits.
7. Concrete pads required for electrical equipment.
8. Disconnect and reconnect electrical connection to UV's.

9. Supply and install all electrical materials, devices, and equipment for electrical service upgrade at Farley School.
10. Coordination with utility company for service upgrade.
11. Test all site installed systems.
12. Test all factory installed systems.
13. File and obtain and pay for all required permits, inspections, and approval.
14. Schedule and perform all inspections required by this scope of work.
15. Start up RTUs/UV's
16. Supply, install and coordinate fire alarm wiring and devices. Provide duct detectors to HVAC Contractor for installation.
17. Removal and disposal of daily generated debris.
18. Upon completion of this contractor's work, all excess materials and debris in the building, connecting link and site are to be removed and disposed of promptly, and site restored to original condition.
19. This is a prevailing wage project.

E. Temporary facilities and controls in the Electrical Contract include, but are not limited to, the following:

1. Electric power service and distribution.
2. Electrical connections to existing systems and temporary facilities and controls furnished by the General Construction Contract, Plumbing Contract, HVAC Contract, Electrical Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011200

SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if the Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternates into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include, as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation, whether or not indicated as part of alternate.

B. Execute accepted alternates under the same conditions as other Work of the Contract.

C. Schedule: A Part 3 "Schedule of Alternates" Article is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Alternate No. 100 (Farley ES) : Remove existing unused fan gear and ductwork in fan room 201. Fill and close existing 2 HR block wall with new block at old duct locations.

B. Alternate No. 101 (Farley ES): Include ceiling and lighting replacement in corridors. See drawings FES-D-101, FES-D-102, FES-D-105, FES-A-401, FES-A-402, FES-A-403.

C. Alternate No. 102 (Farley ES): Remove existing 12"x12" concealed spline ceiling, provide new ACT and reinstall lighting.

D. Alternate No. 104 (Farley ES): Contractor to install one swing set and two add a swing kits with location to be determined in the field by owner. Swing set to be ADA GameTime – Powerscape Swing model number 81598. Add A Bay to be ADA Gametime – Powerscape Swing Add A Bay model number 81599. Swing set and Add A Bays will be provided to the contactor by the owner.

E. Alternate No. 105 (Farley ES): Provide ¼" thick solid surface material at all UV's built into case work.

F. Alternate No. 106 (Farley ES): Provide installation for a new canopy. Canopy to be provided to the contractor by the owner. Canopy model number RC201810IN. Attached cut sheets have been provided for the contractors reference. General Contractor shall include NYS P.E. signed and sealed drawing for footing design.

G. Alternate No. 200 (Willow Grove ES): Replace existing UV's in location specified on drawings WGES-A-100 and WGES-A-101. See plans for locations. Include an allowance to replace existing heat supply & return piping and insulation for 20 linear feet per each unit ventilator to be replaced.

H. Alternate No. 201 (Willow Grove ES): Remove and replace cafeteria unit, see mechanical drawings.

I. Alternate No. 202 (Willow Grove ES): Refurbish existing plenum mounted HVAC unit and provide new access panels and maintenance platforms for AHU-1 and AHU-2.

J. Alternate No. 203 (Willow Grove ES): Remove existing glass block and install new windows

K. Alternate No. 204 (Willow Grove ES): Contractor to install one swing set with location to be determined in the field by Owner. Swing set to be GameTime ADA PowerScape 10847. Swing set will be provided to the contractor by the owner.

L. Alternate No. 205 (Willow Grove ES): Provide ¼" thick solid surface material at all UV's built into case work.

M. Alternate No. 206 (Willow Grove ES): Provide installation for a new canopy. Canopy to be provided to the contractor by the owner. Canopy model number RC201810IN. Attached cut sheets have been provided for the contractors reference. General Contractor shall include NYS P.E. signed and sealed drawing for footing design.

END OF SECTION 012300

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GameTime® A PLAYCORE Company

1-800-235-2440

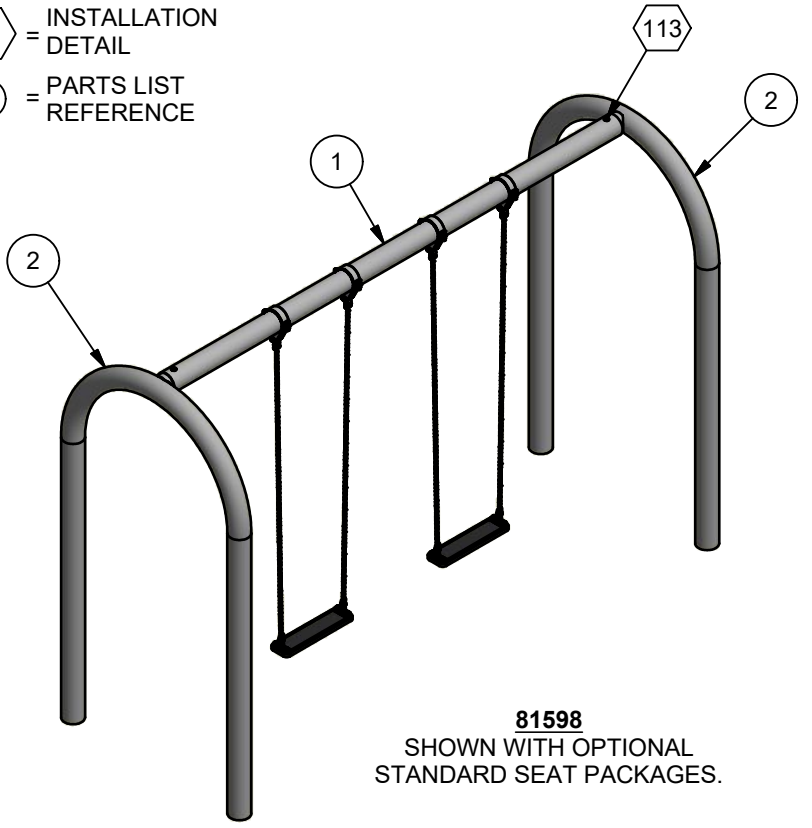
ISSUED/REVISED: 3/28/2022

81598 TWO-PLACE SWING

= INSTALLATION DETAIL

= PARTS LIST REFERENCE

FREESTANDING 81598
ADD-A-BAY 81599

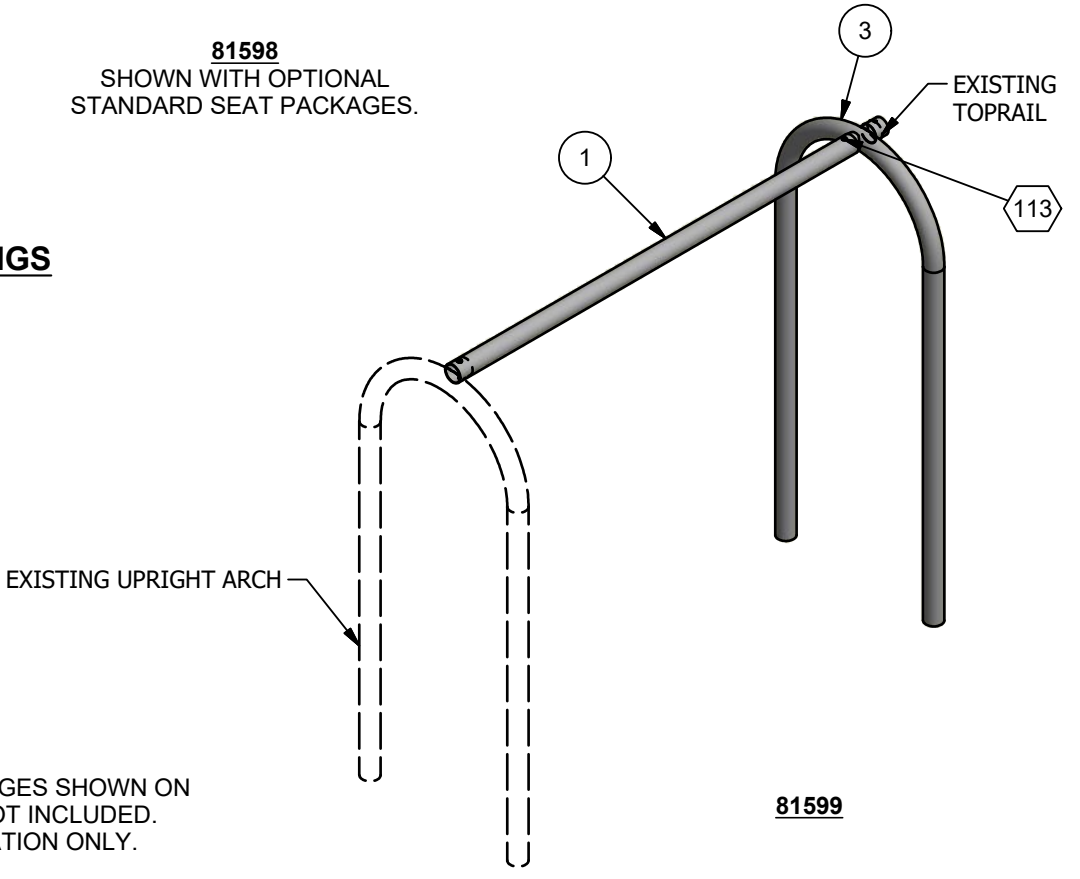


81598
SHOWN WITH OPTIONAL STANDARD SEAT PACKAGES.

INSTALLATION INSTRUCTIONS

1.) Before assembling this equipment, read the enclosed INSTALLER INSTRUCTIONS in the installation booklet; follow all the instructions during installation.
2.) Assemble parts as shown in the ASSEMBLY DRAIWNG. Refer to the assembly details for the specific hardware required in each connection.

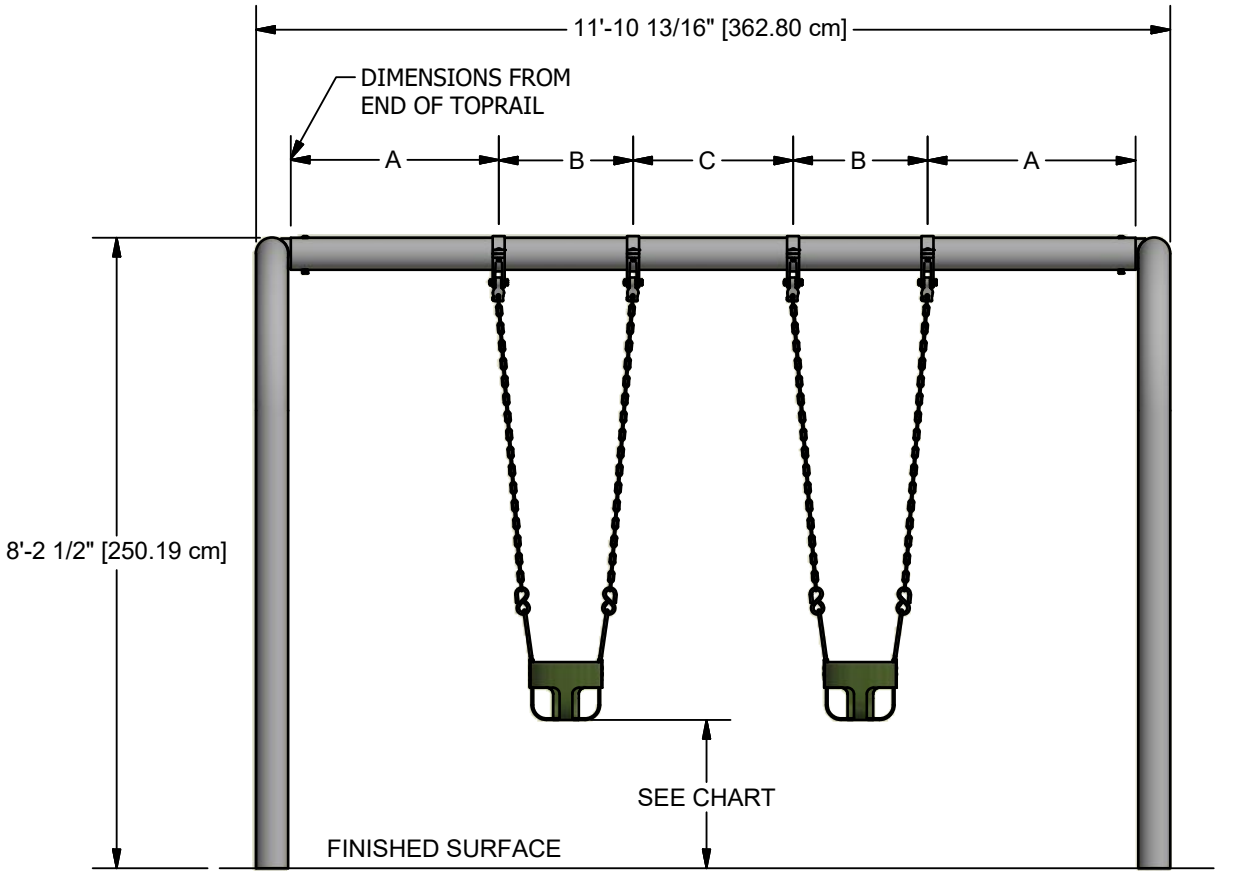
ASSEMBLY DRAWINGS



81599

NOTE: SWING SEAT PACKAGES SHOWN ON ASSEMBLY DRAWING NOT INCLUDED. SHOWN FOR ILLUSTRATION ONLY.

TOPRAIL DIMENSIONS	
DIM A	2'-8 1/2" [82.55 cm]
DIM B	1'-9" [53.34 cm]
DIM C	2'-1" [62.50 cm]

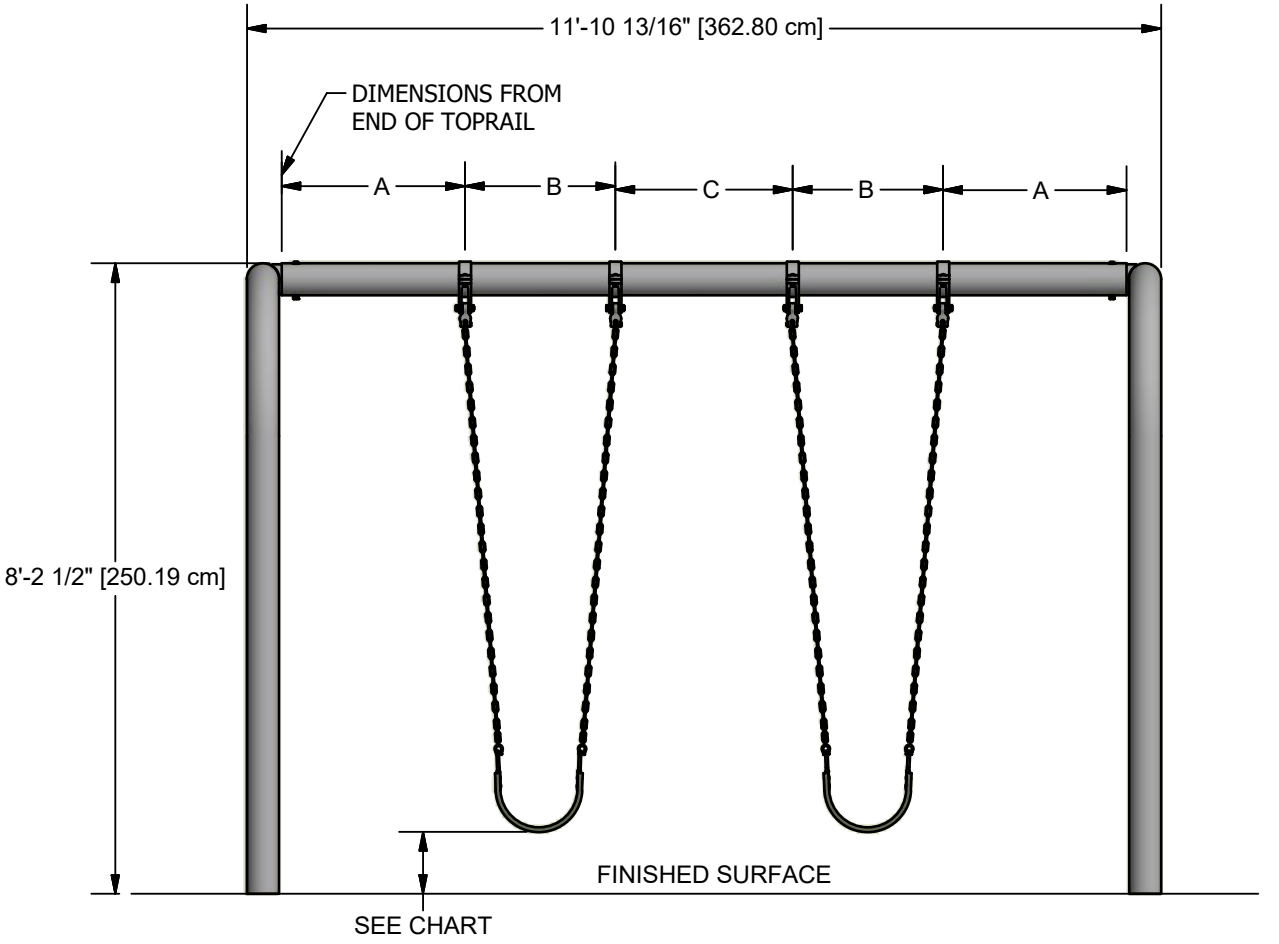


81598 SHOWN (81599 SIMILAR)
WITH OPTIONAL ENCLOSED TOT
SEAT PACKAGES (NOT INCLUDED)

DIMENSION FROM UNDERSIDE OF SEAT TO PROTECTIVE SURFACING		
STANDARD	**MIN.**	**MAX.**
CANADIAN	BELT & SUPER SEAT - 300mm [11.81"] ENCLOSED TOT SEAT - 600mm [23.62"]	N/A
ASTM	BELT & SUPER SEAT - 12" [305mm] ENCLOSED TOT SEAT - 24" [610mm]	N/A
BS EN	350 mm [13.77"]	N/A
CPSC	BELT & SUPER SEAT - 12" [305mm] ENCLOSED TOT SEAT - 24" [610mm]	N/A

MEASURED WHEN OCCUPIED BY MAXIMUM USERS

TOPRAIL DIMENSIONS	
DIM A	2'-4 5/8" [72.76 cm]
DIM B	1'-11 1/2" [59.69 cm]
DIM C	2'-3 11/16" [70.38 cm]



81598 SHOWN (81599 SIMILAR)
WITH OPTIONAL STANDARD
SEAT PACKAGES (NOT INCLUDED)

DIMENSION FROM UNDERSIDE OF SEAT TO PROTECTIVE SURFACING		
STANDARD	**MIN.**	**MAX.**
CANADIAN	BELT & SUPER SEAT - 300mm [11.81"] ENCLOSED TOT SEAT - 600mm [23.62"]	N/A
ASTM	BELT & SUPER SEAT - 12" [305mm] ENCLOSED TOT SEAT - 24" [610mm]	N/A
BS EN	350 mm [13.77"]	N/A
CPSC	BELT & SUPER SEAT - 12" [305mm] ENCLOSED TOT SEAT - 24" [610mm]	N/A

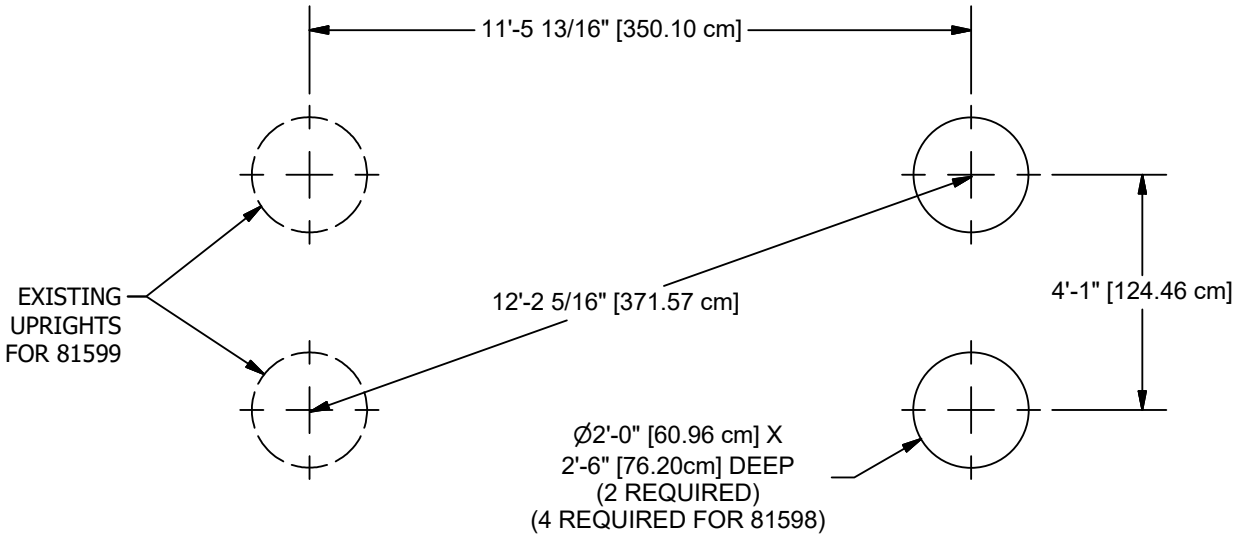
MEASURED WHEN OCCUPIED BY MAXIMUM USERS

Parts List				
ITEM	DESCRIPTION	81598	81599	PART NUMBER
1	TOPRAIL	1	1	208808
2	ARCH END UPRIGHT ASSEMBLY	2	0	147006
3	MULTI-BAY ARCH UPRIGHT ASSEMBLY	0	1	147009
	HARDWARE COMPLETE	1	1	147013
	1/2" x 5 1/2" B.H.C.S.	2	2	811071*
	1/2" LOCKWASHER	4	4	817342*
	1/2" HEX NUT	2	2	804055*

Unless Otherwise Specified, All Units of Measure are Each
** Included in Hardware*

Warning: During Installation, Hardware And Small Parts Are Choking Hazards For Young Children. Store Unused Parts Appropriately Until Assembly Is Completed. Once Assembly Is Completed, Remove Any Unused Parts From The Play Environment And Dispose/Save Them In A Secure Location.

Note: Peen Tee-Nuts and Flatwashers to match radius of pipe after assembly is complete.
Note: Loctite (supplied by others) should be used on any non-patch hardware.



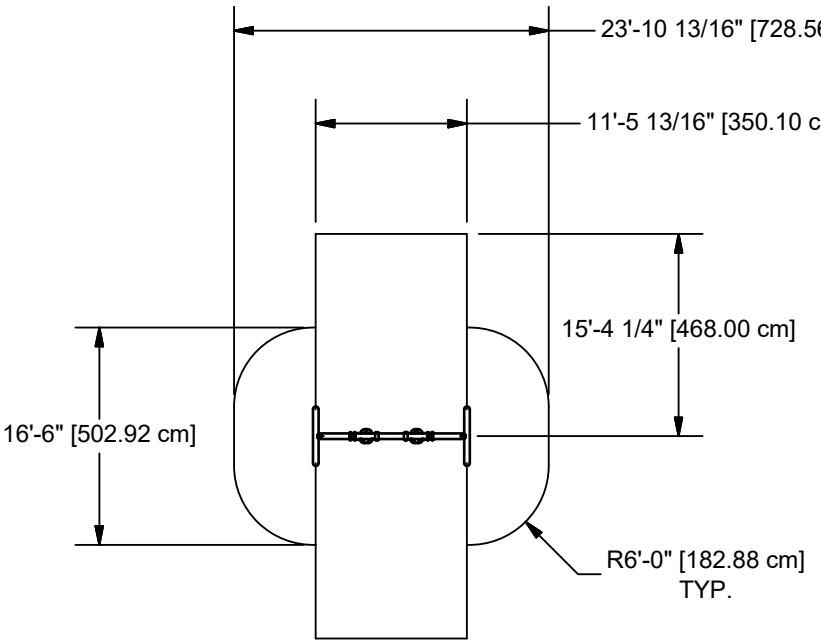
GROUND PLAN

CONCRETE REQUIRED -81598
.68 CUBIC YARDS
[.52 CUBIC METERS]

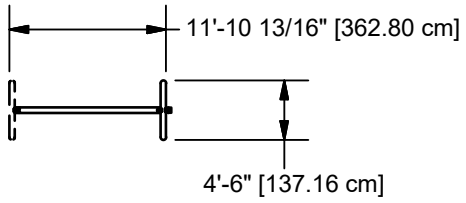
CONCRETE REQUIRED - 81599
.34 CUBIC YARDS
[.26 CUBIC METERS]

NOTE: HOLE DEPTHS INDICATED ON ALL GROUND PLANS ARE MEASURED FROM THE FINISHED SURFACE. SEE DETAIL 005. ALL FOOTING DIMENSIONS ARE BASED ON LEVEL FINISHED SURFACE.

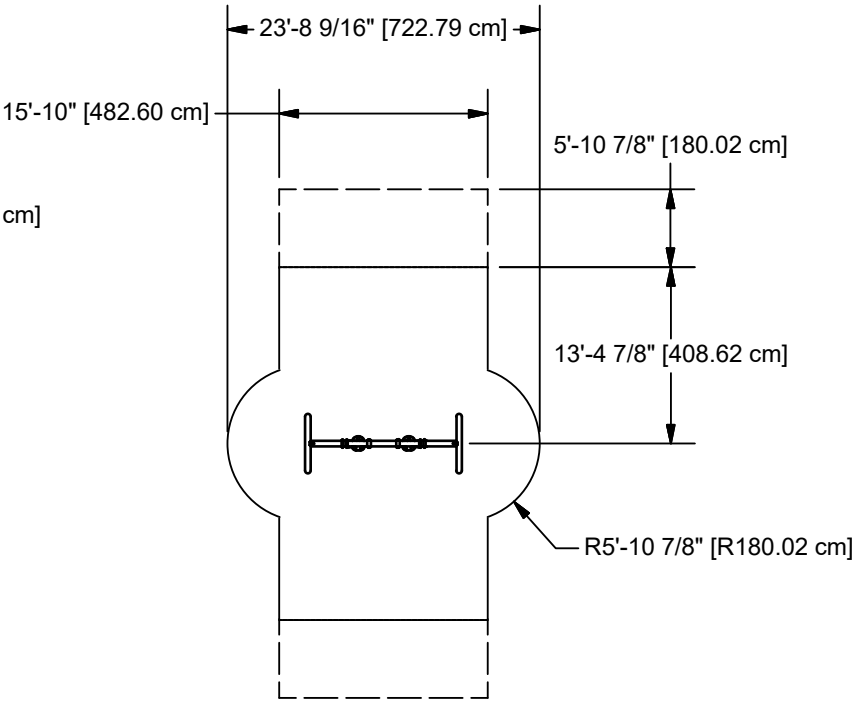
TOP VIEWS



81598



81599



81598 (CSA 0NLY)

NOTE:
1. OWNER/OPERATOR SHALL INSTALL AND MAINTAIN PROTECTIVE SURFACING WITHIN THE USE ZONE (U.S.) OR PROTECTIVE SURFACING ZONE (CANADA) OF ALL PLAY EQUIPMENT TO COMPLY WITH ASTM F-1292 AND ASTM F-1487 (U.S.) or CAN/CSA-Z-614 (CANADA).
2. SOLID OUTSIDE BORDER REPRESENTS MINIMUM REQUIRED ASTM USE ZONE AND CSA PROTECTIVE SURFACING ZONE FOR SWING FRAME SHOWN.
3. DASHED LINES REPRESENT CSA *NO ENCROACHMENT* ZONE (CANADA ONLY).
4. *EACH ADDITIONAL CONNECTED SWING FRAME BAY INCREASES THE USE ZONE SURFACING, AND *NO ENCROACHMENT* ZONE DIMENSIONS BY 11'-5 13/16" [3.79M].

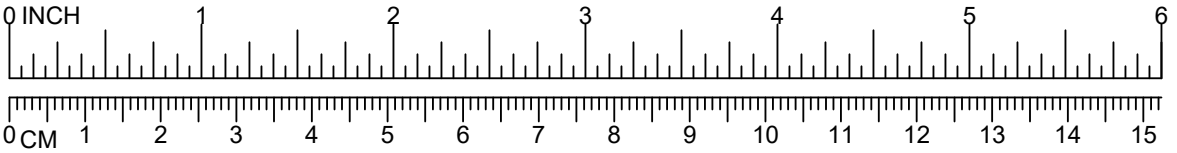
DETAILS -for-
81598 & 81599

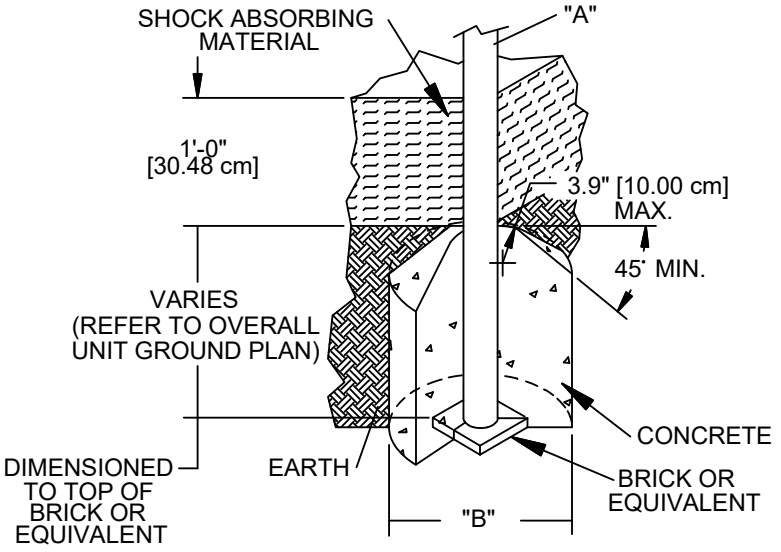
IMPORTANT

TO REDUCE THE RISK OF CLOTHING ENTANGLEMENT IN COMPLIANCE WITH ASTM F1487, ANY BOLT END PROTRUDING MORE THAN TWO FULL THREADS BEYOND THE FACE OF THE NUT SHALL BE CUT-OFF FLUSH, FILED SMOOTH AND TREATED TO PREVENT CORROSION.

NOTE: LOCTITE (SUPPLIED BY OTHERS) SHOULD BE USED ON ALL THREADED HARDWARE.

NOTE: AFTER ASSEMBLY IS COMPLETE, PEEN TEE-NUTS AND FLATWASHERS TO MATCH RADIUS OF PIPE.



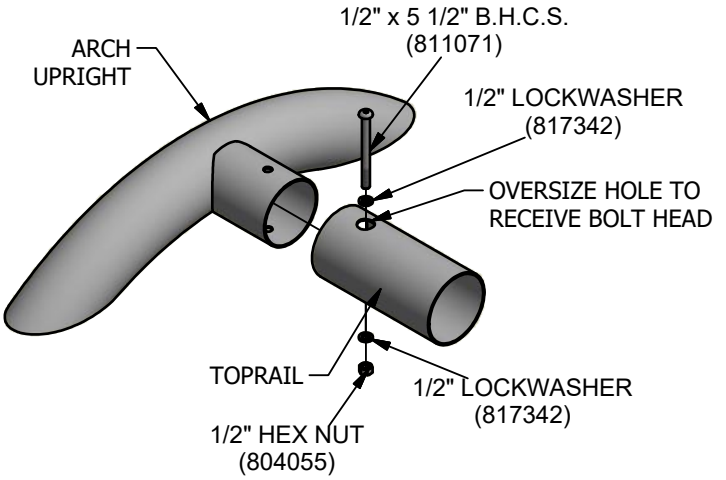


DIA. "A" (PIPE SIZE)	DIA. "B" (FOOTING SIZE)
1 1/16" [2.70 cm]	1'-2" [35.56 cm]
1 5/16" [3.33 cm]	1'-2" [35.56 cm]
1 5/8" [4.13 cm]	1'-2" [35.56 cm]
1 7/8" [4.83 cm]	1'-2" [35.56 cm]
2 3/8" [6.03 cm]	1'-2" [35.56 cm]
3 1/2" [8.89 cm]	1'-6" [45.72 cm]
ARCH SWING	
5" [12.70 cm]	2'-0" [60.96 cm]

NOTES:
-SLOPED FOOTING IS A REQUIREMENT OF EUROPEAN STANDARD EN1176-1 ONLY
-SUGGESTED MINIMUM CONCRETE RATING: 3000 PSI

005

SHOCK ABSORBING PROPERTIES OF SURFACING MATERIALS VARY. IF YOU DETERMINE THAT LESS THAN 1'-0" [30.48cm] OF SURFACING IS REQUIRED, MAKE UP THE DIFFERENCE IN ELEVATION WITH EARTH, BEFORE APPLYING SURFACING.



Model Number: 81598

PowerScape Swing

PowerScape Swing Frame holds up to two swing seats per bay. PowerScape products are designed for maximum durability, making this the perfect swing set for schools, parks, and other large youth organizations with high volume play. Swing seats are sold separately.

FEATURES AND BENEFITS:

- PowerScape Line is designed for maximum durability compared to competing play systems
- Promotes social interaction and processing sensory information
- Increases spatial awareness and helps develop gross and fine motor skills
- Enhances core strength

SPECIFICATIONS

Model Number:	81598
Fall Height:	8' (2.44 m)
Use Zone:	31'-0" x 24'-0" (9.45m x 7.31m)

GameTime offers a limited lifetime warranty on uprights, hardware, and connections. Visit gametime.com/warranty for full warranty information.

Model Number: 81599

PowerScape Swing Add-A-Bay

Our PowerScape Swing holds two swing seats per bay. It complements virtually any style, theme, or design. Swing seats are sold separately.

FEATURES AND BENEFITS:

- Creates soothing vestibular movement
- Highly customizable
- Compliments any theme
- Constructed with durable materials

SPECIFICATIONS

Model Number:	81599
Fall Height:	8' (2.44 m)
Use Zone:	31'-0" x 23'-0" (9.45m x 7.01m)

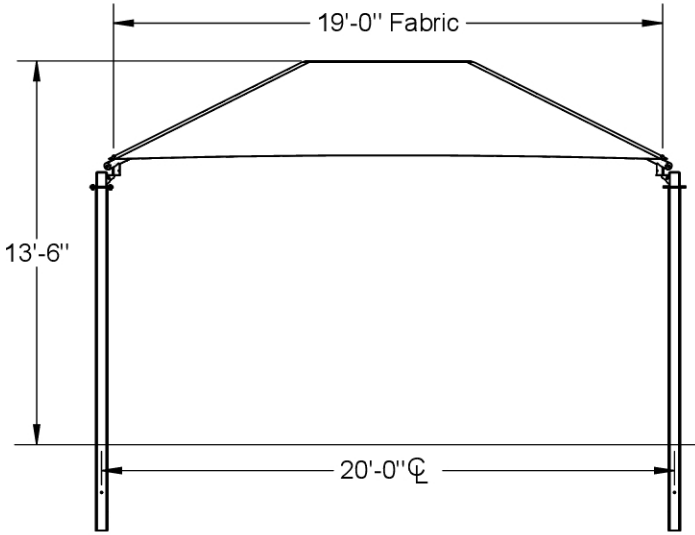
GameTime offers a limited lifetime warranty on uprights, hardware, and connections. Visit gametime.com/warranty for full warranty information.

CANTILEVER/ CAR PARKING SHADE

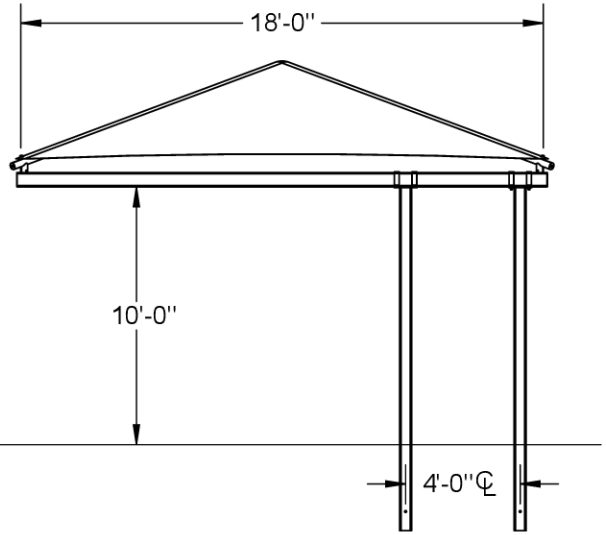
20’ x 18’ x 10’

MODEL #:
RC201810IG (With Glide Elbows)
RC201810IN (Without Glide Elbows)

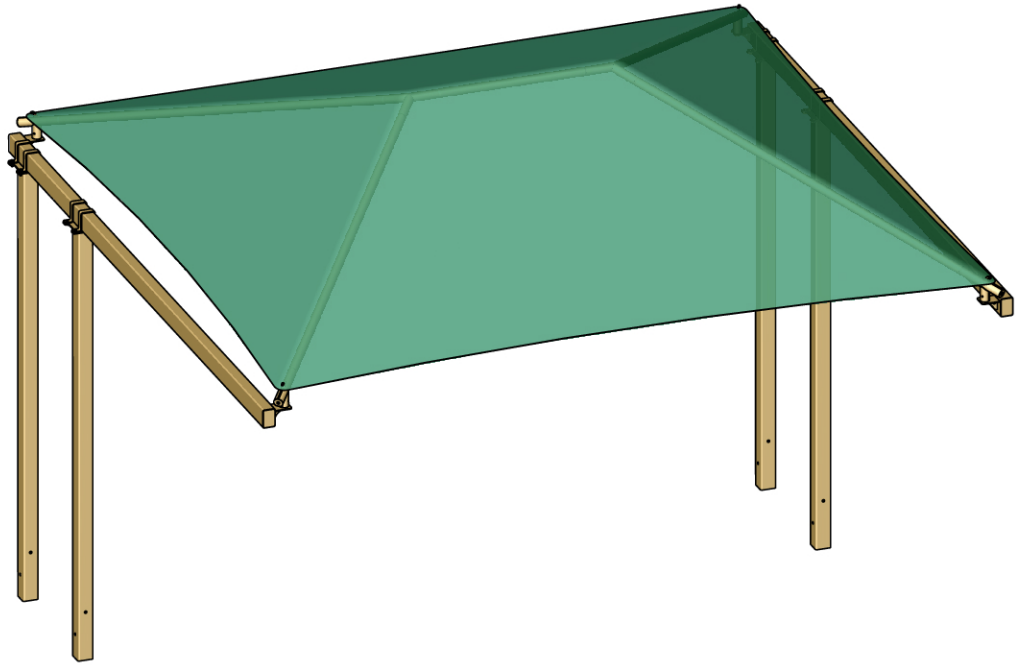
REF.#	PART DESCRIPTION	QTY.
1	5" Sq. Surface Mount Column x1/4"	4
2	4" x 6" Beam With Platform Caps x1/4"	2
3	Ø2 7/8" Angled Elbow x11. ga	4
4	Ø2 7/8" Hip Rafter w/ Swaged End	4
5	Ø2 7/8" Ridge Pole w/ Swaged Ends	1
6	Ø2 7/8" Rectangle "Y" Connection	2
7	Fabric Cover With Cable Insert	1
8	Frame Hardware Kit	1

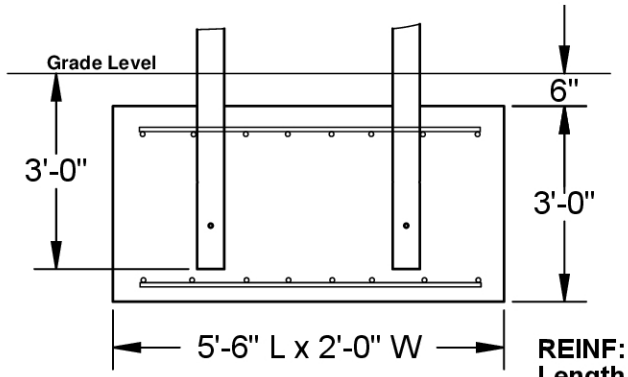


FRONT ELEVATION



END ELEVATION





REINF:
Length: (2)#5 x 60"
Width: (7)#5 x 18"

FOOTING DETAIL

***Footing design based on 1500 PSF soil bearing pressure.**

These drawings are for reference only and should not be used as construction details. Materials, fasteners, and foundations are subject to change if professionally sealed engineering drawings are required. Designed for 93 MPH Basic Wind Speed.