Project Information

2020 NYStretch Energy Code - 90.1 (2016) Standard Energy Code: UNIVENT REPLACEMENT STONY POINT ELEMENTARY SCHOOL Project Title: Thiells, New York Location: Climate Zone:

Project Type: Alteration

Construction Site: Owner/Agent: Designer/Contractor: GREENMAN-PEDERSEN INC 7 GURNEE DR NORTH ROCKLAND CENTRAL STONY POINT, NY 10980 SCHOOL DISTRICT 2 EXECUTIVE BLVD 65 CHAPEL STREET SUFFERN, NY 10901 GARNERVILLE, NY 10923 845-368-4050

845-942-3000

Mechanical Systems List

Quantity System Type & Description

2 ACCU-1A, ACCU-1B VRF Condensing Unit, Air Cooled w/ Heat Recovery Heat Pump Heating Mode: Capacity = 264 kBtu/h, Proposed Efficiency = 3.44 COP, Required Efficiency = 3.20 COP

> Proposed Efficiency = 9.60 EER, Required Efficiency = 9.30 EER Proposed Part Load Efficiency = 20.25 IEER, Required Part Load Efficiency = 12.50 IEER Fan System: None

SYSTEM VERIFICATION REQUIRED.

Cooling Mode: Capacity = 295 kBtu/h,

1 ACCU-2 VRF Condensing Unit, Air Cooled w/ Heat Recovery Heat Pump Heating Mode: Capacity = 288 kBtu/h, Proposed Efficiency = 3.36 COP, Required Efficiency = 3.20 COP Cooling Mode: Capacity = 320 kBtu/h, Proposed Efficiency = 9.35 EER, Required Efficiency = 9.30 EER Proposed Part Load Efficiency = 20.10 IEER, Required Part Load Efficiency = 12.50 IEER Fan System: None

SYSTEM VERIFICATION REQUIRED.

1 ACCU-3A VRF Condensing Unit, Air Cooled w/ Heat Recovery Heat Pump Heating Mode: Capacity = 216 kBtu/h, Proposed Efficiency = 3.65 COP, Required Efficiency = 3.20 COP Cooling Mode: Capacity = 243 kBtu/h, Proposed Efficiency = 10.15 EER, Required Efficiency = 9.30 EER

Proposed Part Load Efficiency = 20.40 IEER, Required Part Load Efficiency = 12.50 IEER Fan System: None

Proposed Part Load Efficiency = 23.35 IEER, Required Part Load Efficiency = 14.40 IEER

Report date: 04/08/24

Page 1 of 8

SYSTEM VERIFICATION REQUIRED.

1 ACCU-3B VRF Condensing Unit, Air Cooled w/ Heat Recovery Heat Pump Heating Mode: Capacity = 96 kBtu/h, Proposed Efficiency = 4.10 COP, Required Efficiency = 3.30 COP Cooling Mode: Capacity = 108 kBtu/h, Proposed Efficiency = 11.85 EER, Required Efficiency = 10.80 EER

> Fan System: None SYSTEM VERIFICATION REQUIRED.

Project Title: UNIVENT REPLACEMENT STONY POINT ELEMENTARY SCHOOL Data filename:

QuantitySystem Type & Description

2 ACCU-4, ACCU-5 VRF Condensing Unit, Air Cooled w/ Heat Recovery Heat Pump

Heating Mode: Capacity = 192 kBtu/h, Proposed Efficiency = 3.83 COP, Required Efficiency = 3.20 COP Cooling Mode: Capacity = 215 kBtu/h,

Proposed Efficiency = 11.15 EER, Required Efficiency = 10.40 EER Proposed Part Load Efficiency = 21.45 IEER, Required Part Load Efficiency = 13.70 IEER Fan System: None

SYSTEM VERIFICATION REQUIRED.

ACCU-6 VRF Condensing Unit, Air Cooled w/ Heat Recovery Heat Pump Heating Mode: Capacity = 216 kBtu/h, Proposed Efficiency = 3.73 COP, Required Efficiency = 3.20 COP

Cooling Mode: Capacity = 243 kBtu/h, Proposed Efficiency = 10.45 EER, Required Efficiency = 9.30 EER Proposed Part Load Efficiency = 20.90 IEER, Required Part Load Efficiency = 12.50 IEER Fan System: None

SYSTEM VERIFICATION REQUIRED.

4 Ceiling Cassette, 15 MBH Cooling: 4 each - VRF Zone Fan Unit, Capacity = 15 kBtu/h

No minimum efficiency requirement applies SYSTEM VERIFICATION REQUIRED.

10 Ceiling Cassette, 12 MBH Cooling: 10 each - VRF Zone Fan Unit, Capacity = 12 kBtu/h

No minimum efficiency requirement applies SYSTEM VERIFICATION REQUIRED.

SYSTEM VERIFICATION REQUIRED.

2 Ceiling Cassette, 6 MBH Cooling: 2 each - VRF Zone Fan Unit, Capacity = 6 kBtu/h No minimum efficiency requirement applies

Mechanical Compliance Statement

Additional Comments/Assumptions:

Compliance Statement: The proposed mechanical alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2020 NYStretch Energy Code - 90.1 (2016) Standard requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Project Title: UNIVENT REPLACEMENT STONY POINT ELEMENTARY SCHOOL Report date: 04/08/24 Data filename: Page 2 of 8

COM*check* **Software Version COM***checkWeb* **Inspection Checklist**

Energy Code: 2020 NYStretch Energy Code - 90.1 (2016) Standard Requirements: 100.0% were addressed directly in the COM*check* software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
4.2.2, 6.4.4.2.1, 6.7.2 [PR2] ¹	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met. Location on plans/spec: M-001
4.2.2, 8.7 [PR6] ²	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the electrical systems and equipment and document where exceptions are claimed. Feeder connectors sized in accordance with approved plans and branch circuits sized for maximum drop of 5%.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
6.7.2.4 [PR5] ¹	Detailed instructions for HVAC systems commissioning included on the plans or specifications for projects >=50,000 ft2.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met. Location on plans/spec: M-001

Additional Comments/Assumptions:

Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
[FO9] ³	Freeze protection and snow/ice melting system sensors for future	□Complies □Does Not	Exception: Requirement does not apply.
	connection to controls.	□Not Observable □Not Applicable	

Additional Comments/Assumptions:

Data filename:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3) Project Title: UNIVENT REPLACEMENT STONY POINT ELEMENTARY SCHOOL Report date: 04/08/24

Inspection.

Page 3 of 8

Where piping is installed in or

under a slab, verification may

need to occur during Foundation

Mechanical Rough-In

Inspection

6.4.1.4, HVAC equipment efficiency

6.4.3.4.1 Stair and elevator shaft vents

automatically close.

6.4.3.4.2, Outdoor air and exhaust systems

6.4.3.4.3 have motorized dampers that

where allowed.

6.4.3.4.5 Enclosed parking garage

verified. Non-NAECA HVAC

equipment labeled as meeting 90.1.

have motorized dampers that

automatically shut when not in

rates. Check gravity dampers

use and meet maximum leakage

& Req.ID

6.4.1.5

Project Title: UNIVENT REPLACEMENT STONY POINT ELEMENTARY SCHOOL Data filename: Page 4 of 8

[ME39]³ ventilation has automatic does not apply. \square Does Not contaminant detection and □Not Observable capacity to stage or modulate □Not Applicable fans to 50% or less of design 6.4.3.4.4 Ventilation fans >0.75 hp have Requirement will be met. [ME5]³ automatic controls to shut off fan \square Does Not when not required. □Not Observable □Not Applicable 6.4.3.8 Demand control ventilation \square Complies Requirement will be met. provided for spaces >500 ft2 and □Does Not Location on plans/spec: >25 people/1000 ft2 occupant □Not Observable SPES M-005 density and served by systems □Not Applicable with air side economizer, auto modulating outside air damper control, or design airflow >3,000 6.5.3.2.1 DX cooling systems >= 75 kBtu/h ∐Complies □ Requirement will be met. [ME40]² (>= 65 kBtu/h effective 1/2016) □Does Not and chilled-water and Not Observable

Not Applicable

Location on plans/spec:

SPES M-005 evaporative cooling fan motor hp □Not Applicable $>= \frac{1}{4}$ designed to vary supply See the Mechanical Systems list fan airflow as a function of load and comply with operational Requirement will be met. 6.4.4.1.1 Insulation exposed to weather protected from damage. \square Does Not Insulation outside of the □Not Observable conditioned space and associated □Not Applicable with cooling systems is vapor 6.4.4.1.2 HVAC ducts and plenums Requirement will be met. insulated per Table 6.8.2. Where □Does Not ducts or plenums are installed in ☐Not Observable or under a slab, verification may ☐Not Applicable need to occur during Foundation 6.4.4.1.3 HVAC piping insulation thickness. _____ in. Requirement will be met. ☐ Complies

Plans Verified Field Verified

Value

_lComplies

□Does Not

□Not Observable

□Not Applicable

□Not Observable

□Not Applicable

□Not Applicable

 \square Does Not

☐Complies

□Does Not

See the Mechanical Systems list

Exception: Requirement

Requirement will be met.

Exception: Requirement

does not apply.

□Not Observable SPES M-004

Efficiency:____

Value

Efficiency:____

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3) Report date: 04/08/24

 \square Does Not

□Not Observable

□Not Applicable

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.4.4.1.4 [ME41] ³	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.			☐Complies ☐Does Not	Exception: Requirement does not apply.
	pariels flave insulation >= K-5.5.			□Not Observable □Not Applicable	
6.4.4.2.1 [ME10] ²	Ducts and plenums having pressure class ratings are Seal Class A construction.			☐Complies ☐Does Not	Reguirement will be met.
	Class A Collstituction.			□Not Observable □Not Applicable	
6.8.1-15, 6.8.1-16	Electrically operated DX-DOAS units meet requirements per			☐Complies ☐Does Not	Exception: Requirement does not apply.
[ME110] ²	Tables 6.8.1-15 or 6.8.1-16.			□Not Observable □Not Applicable	
6.4.4.2.2 [ME11] ³	Ductwork operating >3 in. water column requires air leakage			☐Complies ☐Does Not	Exception: Requirement does not apply.
	testing.			□Not Observable □Not Applicable	
6.5.2.3 [ME19] ³	Dehumidification controls provided to prevent reheating,			☐Complies ☐Does Not	Requirement will be met.
	recooling, mixing of hot and cold airstreams or concurrent heating and cooling of the same airstream.			□Not Observable □Not Applicable	
6.5.2.4.1 [ME68] ³	Humidifiers with airstream mounted preheating jackets have			□Complies □Does Not	Exception: Requirement does not apply.
	preheat auto-shutoff value set to activate when humidification is not required.			□Not Observable □Not Applicable	
6.5.2.4.2 [ME69] ³	Humidification system dispersion tube hot surfaces in the			☐Complies ☐Does Not	Exception: Requirement does not apply.
	airstreams of ducts or air- handling units insulated >= R- 0.5.			□Not Observable □Not Applicable	
6.5.2.5 [ME70] ³	Preheat coils controlled to stop heat output whenever			☐Complies ☐Does Not	Requirement will be met.
	mechanical cooling, including economizer operation, is active.			□Not Observable □Not Applicable	
6.5.2.6 [ME106] ³	Units that provide ventilation air to multiple zones and operate in			☐Complies ☐Does Not	Requirement will be met.
	conjunction with zone heating and cooling systems are prevented from using heating or heat recovery to warm supply air above 60°F when representative building loads or outdoor air temperature indicate that most zones demand cooling.			□Not Observable □Not Applicable	
6.5.4.7 [ME107] ³	Chilled-water cooling coils provide a 15°F or higher			□Complies □Does Not	Exception: Requirement does not apply.
	temperature difference between leaving and entering water temperatures and a minimum of 57°F leaving water temperature at design conditions			□Not Observable □Not Applicable	
6.5.3.3 [ME42]³	Multiple zone VAV systems with DDC of individual zone boxes			☐Complies ☐Does Not	Exception: Requirement does not apply.
	have static pressure setpoint reset controls.			□Not Observable □Not Applicable	See the Mechanical Systems list for values.

	1 High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)	
Project Title: Data filename:	UNIVENT REPLACEMENT STONY PO	TNIC	ELEMENTARY SCHOOL		•	t date: 04/08/24 Page 5 of 8

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.4.2 [ME25] ³	HVAC pumping systems with >= 3 control values designed for variable fluid flow (see section details).			☐Complies ☐Does Not ☐Not Observable	Exception: Requirement does not apply.
6.5.6.1 [ME56] ¹	Exhaust air energy recovery on systems meeting Tables 6.5.6.1-1, and 6.5.6.1-2.			□Not Applicable □Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.5.7.2.1 [ME32] ²	Kitchen hoods >5,000 cfm have make up air >=50% of exhaust air volume.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.5.7.2.4 [ME49] ³	Approved field test used to evaluate design air flow rates and demonstrate proper capture and containment of kitchen exhaust systems.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.5.8.1 [ME34] ²	Unenclosed spaces that are heated use only radiant heat.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.4.3.9 [ME63] ²	Heating for vestibules and air curtains with integral heating include automatic controls that shut off the heating system when outdoor air temperatures > 45F. Vestibule heating and cooling systems controlled by a thermostat in the vestibule with heating setpoint <= 60F and cooling setpoint >= 80F.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
6.5.10 [ME73] ³	Doors separating conditioned space from the outdoors have controls that disable/reset heating and cooling system when open.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Alteration project to existing building.
6.4.5 [ME123] ³	Site-assembled or site- constructed walk-in coolers and freezers conform to section details.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.

	1 High Impact (Tier 1) 2 Medium Impact (Tier 2	2) 3 Low Impact (Tier 3)
Project Title: Data filename:	UNIVENT REPLACEMENT STONY POINT ELEMENTARY SCHOOL	Report date: 04/08/24 Page 6 of 8

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
8.4.2 [EL10] ²	At least 50% of all 125 volt 15- and 20-Amp receptacles are controlled by an automatic control device.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Exception: Requirement does not apply.
	New buildings have electrical energy use measurement devices installed. Where tenant spaces exist, each tenant is monitored separately. In buildings with a digital control system the energy use is transmitted to to control system and displayed graphically.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Exception: Requirement does not apply.
10.4.1 [EL9] ²	Electric motors meet requirements where applicable.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C408.2.5. 1 [FI7] ³	Mechanical systems, Renewable Systems, and SWH Commissioning: Furnished HVAC as-built drawings submitted within 90 days of system acceptance. See section details.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

	1 High Impact (Tier 1)	2 Medium Impact (Tier 2)	3 Low Impact (Tier 3)
Project Title: Data filename:	UNIVENT REPLACEMENT STONY POI	NT ELEMENTARY SCHOOL	Report date: 04/08/24 Page 7 of 8

Section #	Final Inspection	Complies?	Comments/Assumptions
& Req.ID		По !!	
6.4.3.1.2 [FI3] ³	Thermostatic controls have a 5 °F deadband.	□Complies □Does Not	Requirement will be met.
		□Not Observable	
		□Not Applicable	
6.4.3.2	Temperature controls have setpoint	Complies	Requirement will be met.
[FI20] ³	overlap restrictions.	□Does Not	
		□Not Observable □Not Applicable	
6.4.3.3.1	HVAC systems equipped with at least		Requirement will be met.
[FI21] ³		□Does Not	
		□Not Observable	
		□Not Applicable	
6.4.3.3.2 [FI22] ³		□Complies □Does Not	Requirement will be met.
	required for maintenance.	□Not Observable	
		□Not Applicable	
6.4.3.5	Heat pump controls prevent	☐Complies	Requirement will be met.
[FI5] ³	supplemental electric resistance heat from coming on when not needed.	□Does Not	Location on plans/spec: SPES M-005
	-	□Not Observable	Location on plans/spec. 31 L3 M-003
5.43.5		□Not Applicable	Denoting a section of the section
6.4.3.6 [FI6] ³	When humidification and dehumidification are provided to a	□Complies □Does Not	Requirement will be met.
	zone, simultaneous operation is	□Not Observable	
	prohibited. Humidity control prohibits the use of fossil fuel or electricity to	□Not Applicable	
	produce RH $>$ 30% in the warmest	 	
	zone humidified and RH < 60% in the coldest zone dehumidified.	 	
6.7.2.1	Furnished HVAC as-built drawings	☐Complies	Requirement will be met.
[FI7] ³	submitted within 90 days of system	□Does Not	·
	acceptance.	□Not Observable	
6722	Francish ad OSM are areals for IDVAC	□Not Applicable	Parada and a What are a
6.7.2.2 [FI8] ³	Furnished O&M manuals for HVAC systems within 90 days of system	□Complies □Does Not	Requirement will be met.
	acceptance.	□Not Observable	
		\square Not Applicable	
6.7.2.3		Complies	Requirement will be met.
[FI9] ¹	balancing report is provided for HVAC systems serving zones >5,000 ft2 of	□Does Not	
	conditioned area.	□Not Observable	
6.7.2.4	HVAC control systems have been	□Not Applicable □Complies	Requirement will be met.
[FI10] ¹	tested to ensure proper operation,	Does Not	in the state of th
	calibration and adjustment of controls.	□Not Observable	
		□Not Applicable	
10.4.3		Complies	Exception: Requirement does not apply.
[FI24] ²	proper lighting, ventilation power, and standby mode.	1	
	,	□Not Observable □Not Applicable	
C408.2.4			Requirement will be met.
[FI29] ¹	Systems, and SWH Commissioning:	Does Not	in a second transfer of the second se
	Preliminary commissioning report completed and certified by registered	□Not Observable	
	design professional or approved	□Not Applicable	
	agency. See section details.	1	

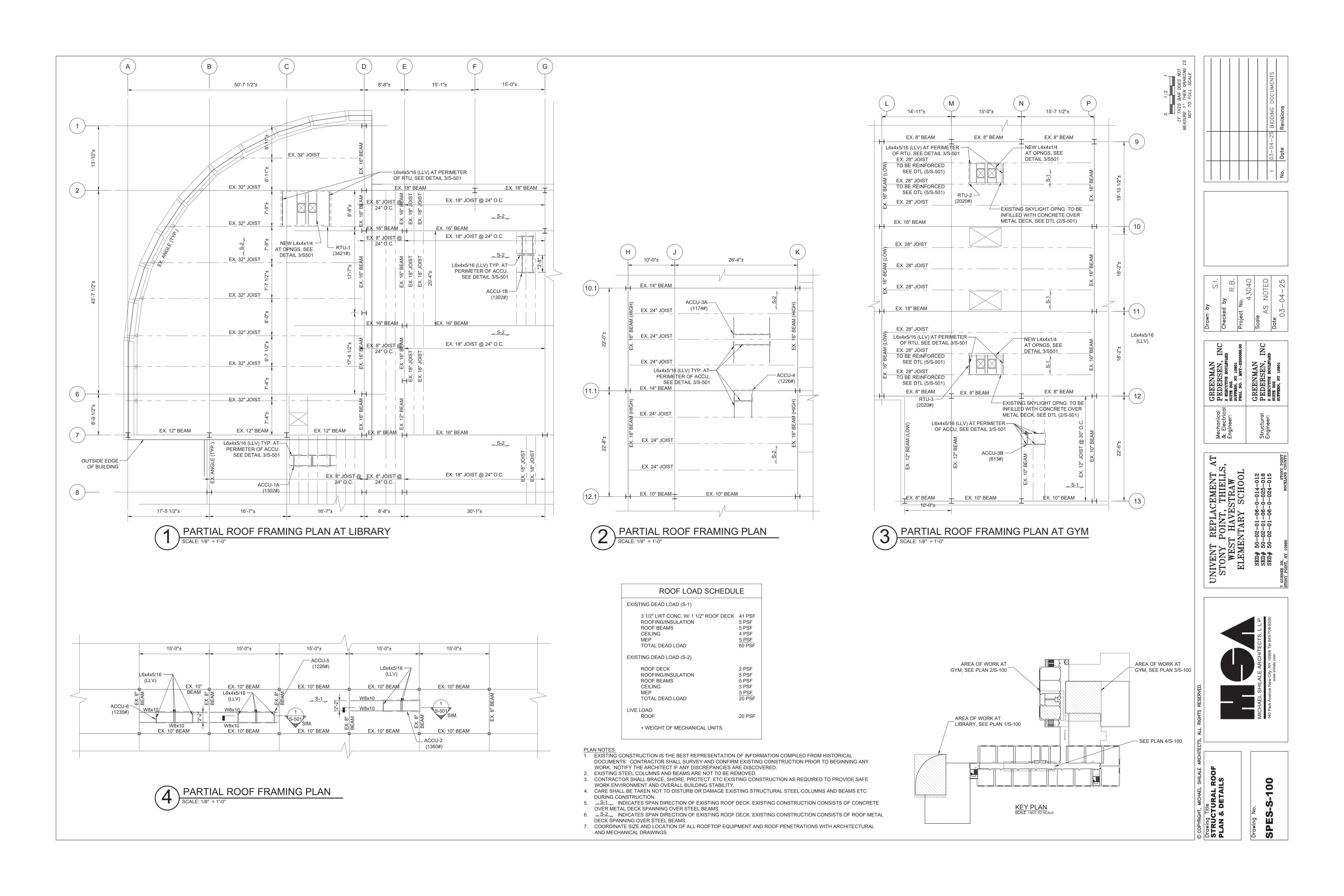
1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3) Project Title: UNIVENT REPLACEMENT STONY POINT ELEMENTARY SCHOOL Report date: 04/08/24 Data filename: Page 8 of 8

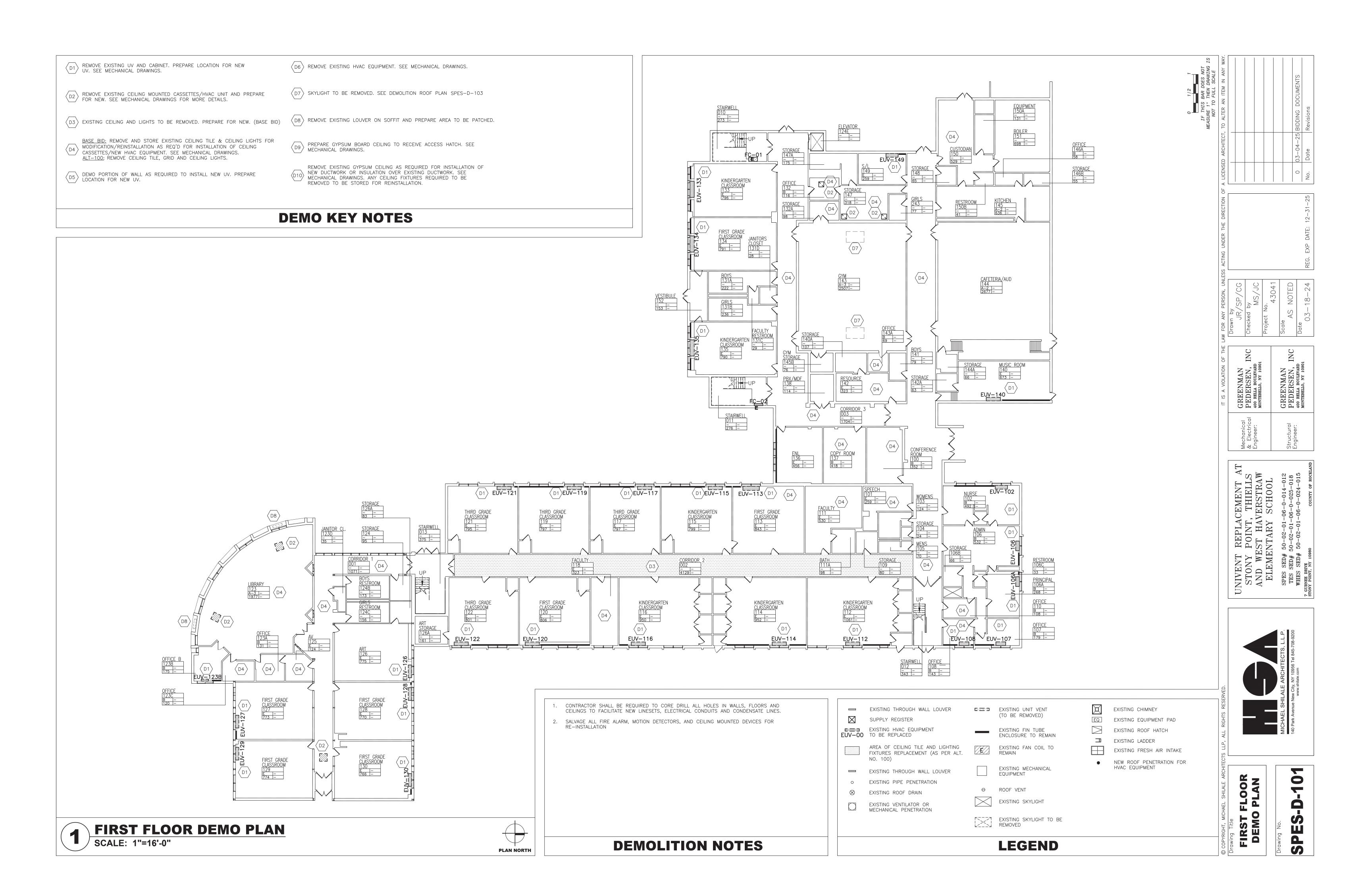
_

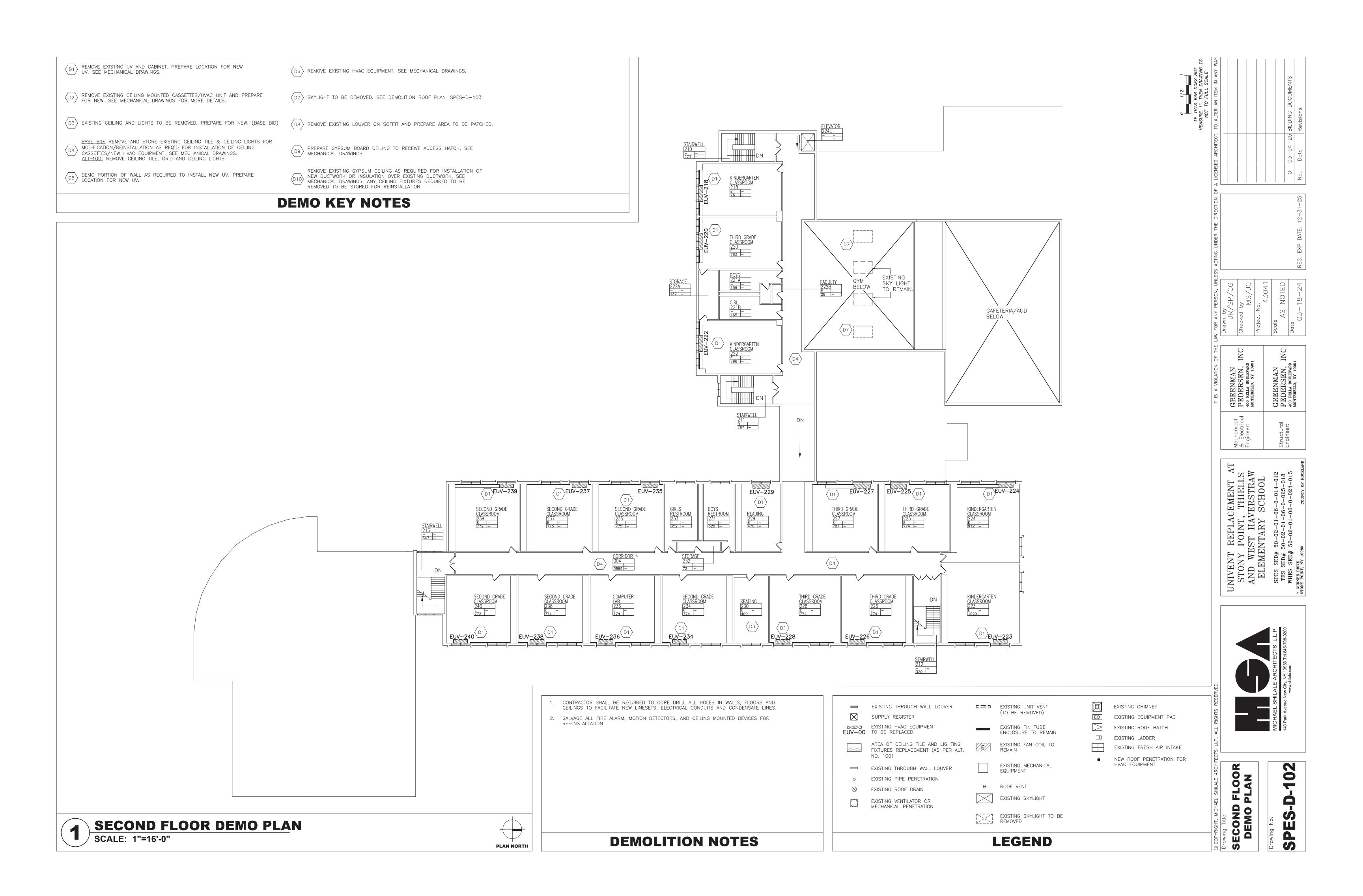
	Н		43040		TED		C
 by		<u>o</u>	43		AS NOTED		2
necked by		oject No.		o)	AS		70
ခြ		اچّ		ale		ate	

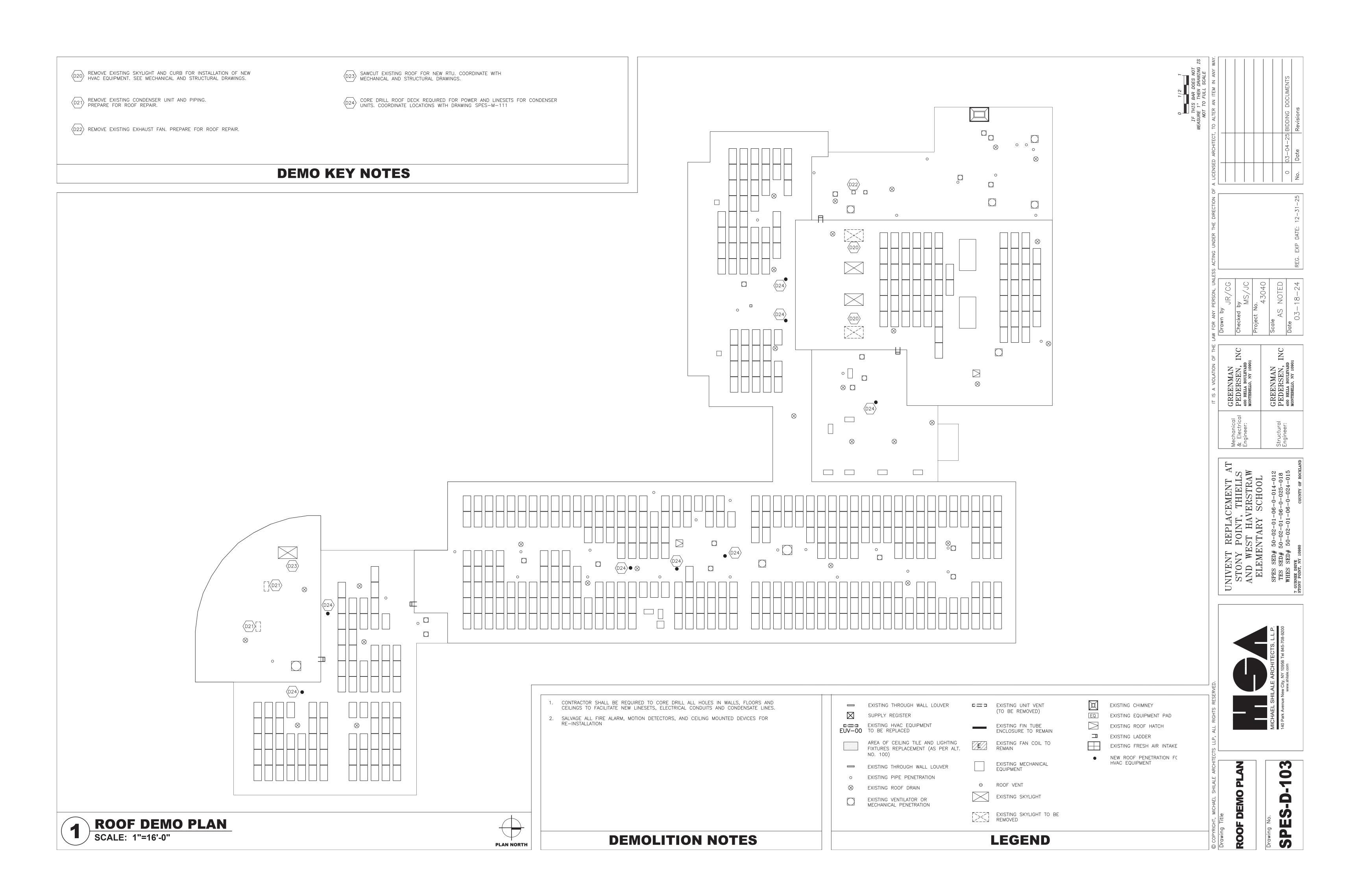
NIVENT REPLACEMENT A STONY POINT, THIELLS, WEST HAVESTRAW ELEMENTARY SCHOOL

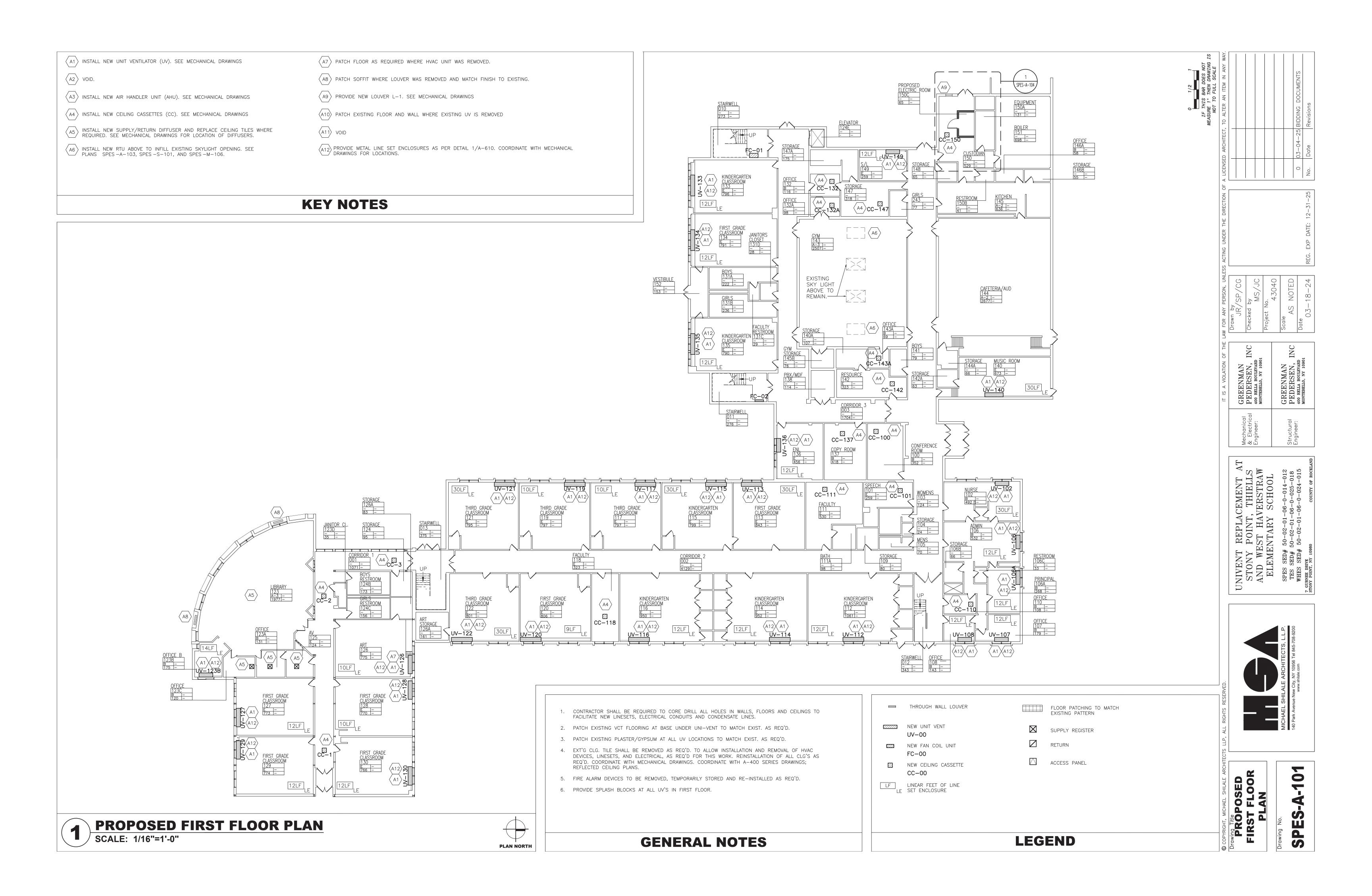


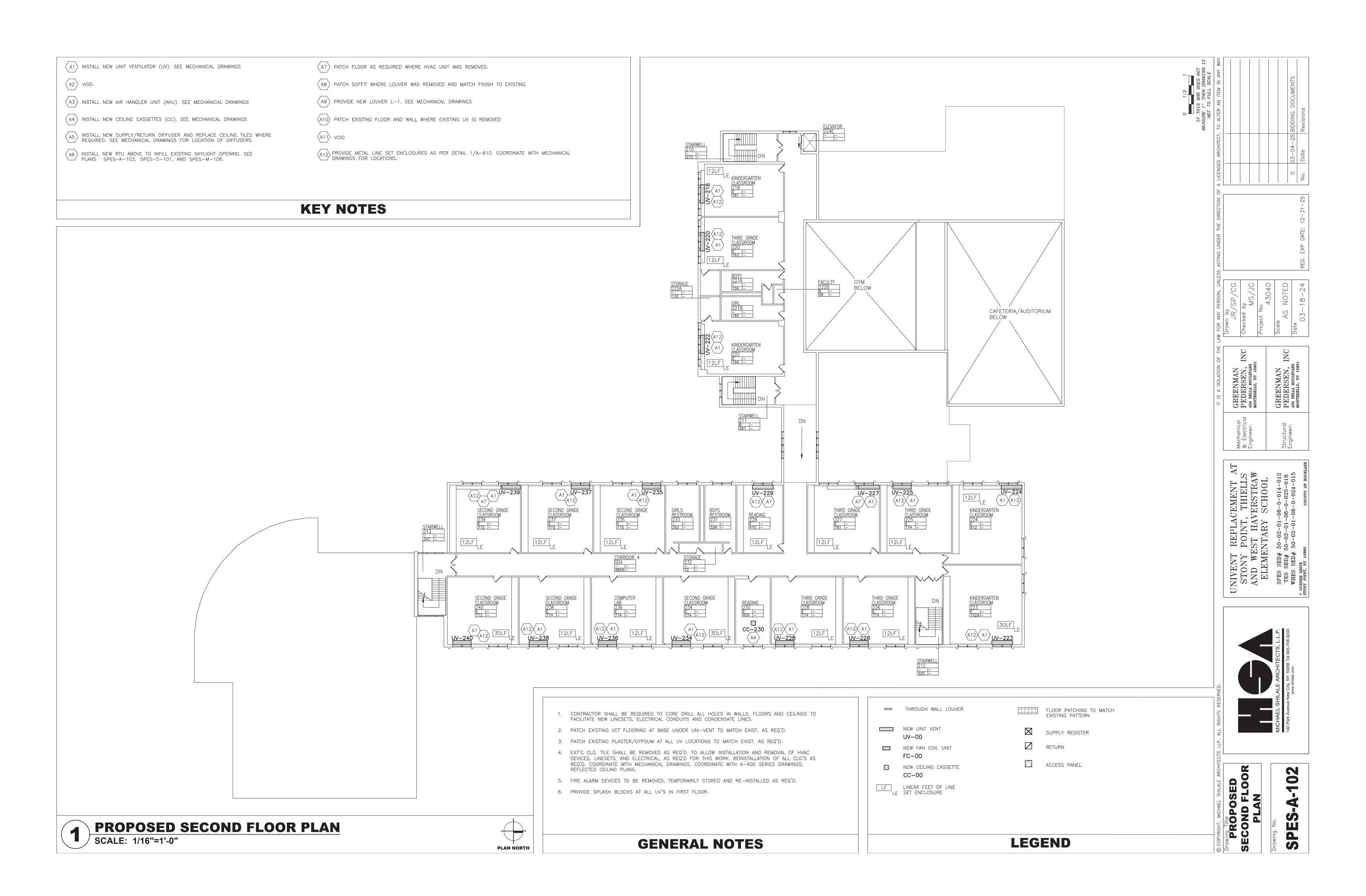


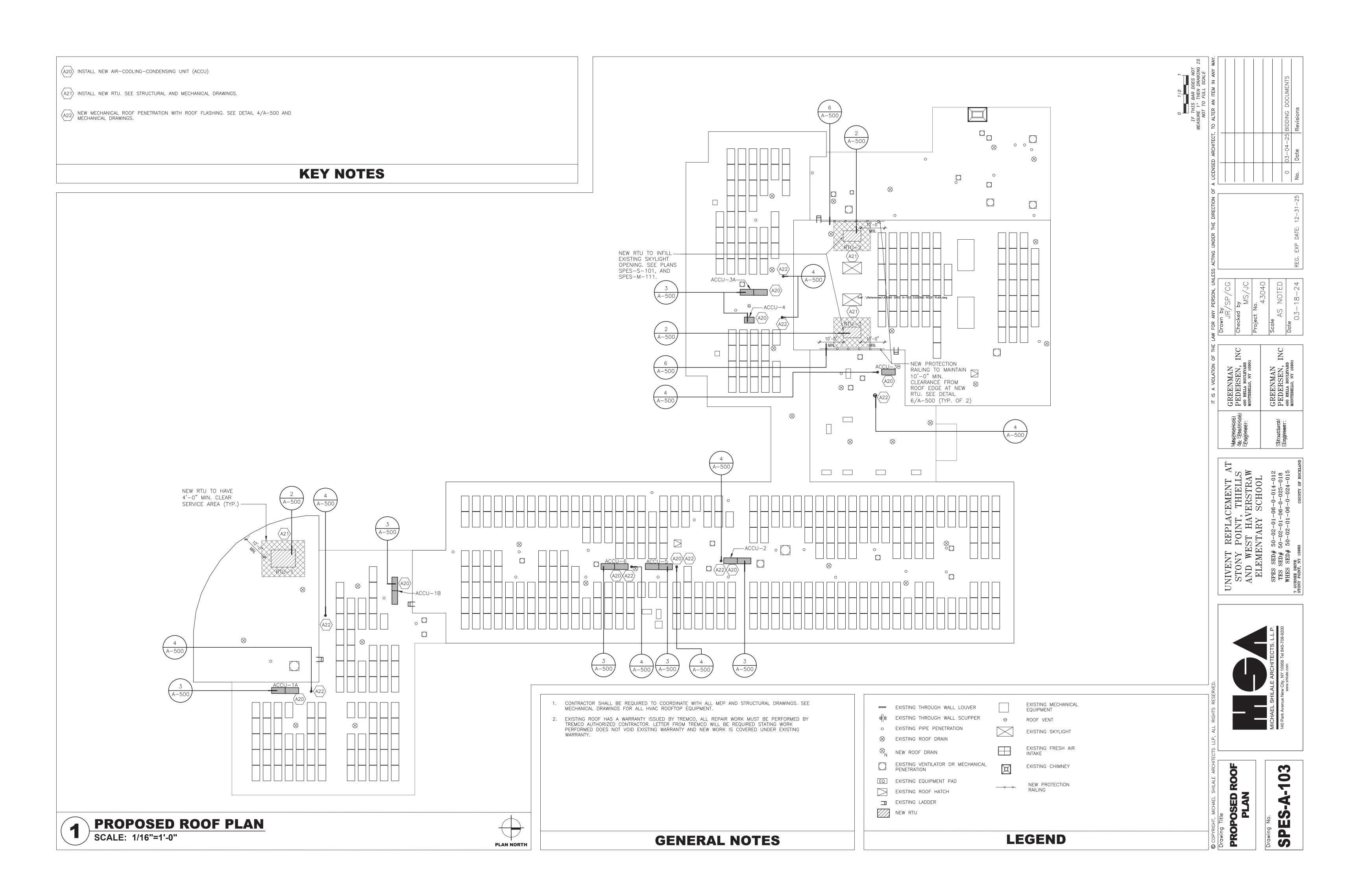


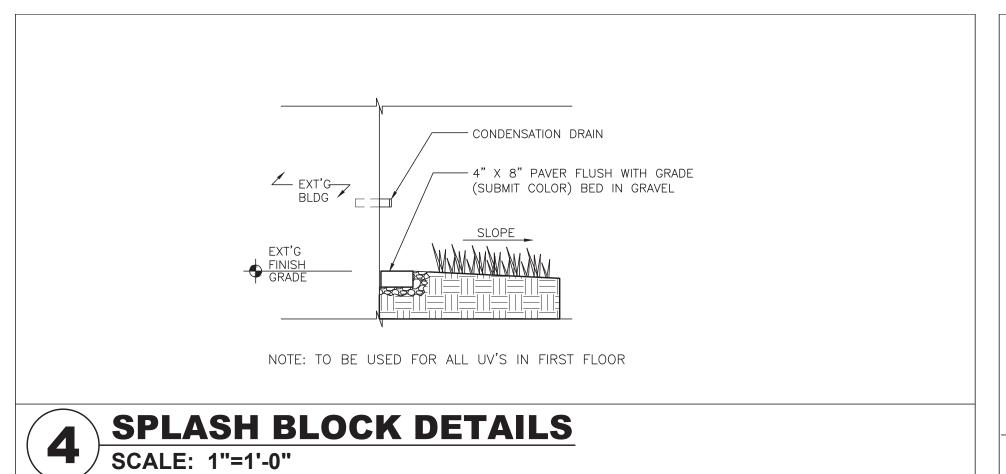


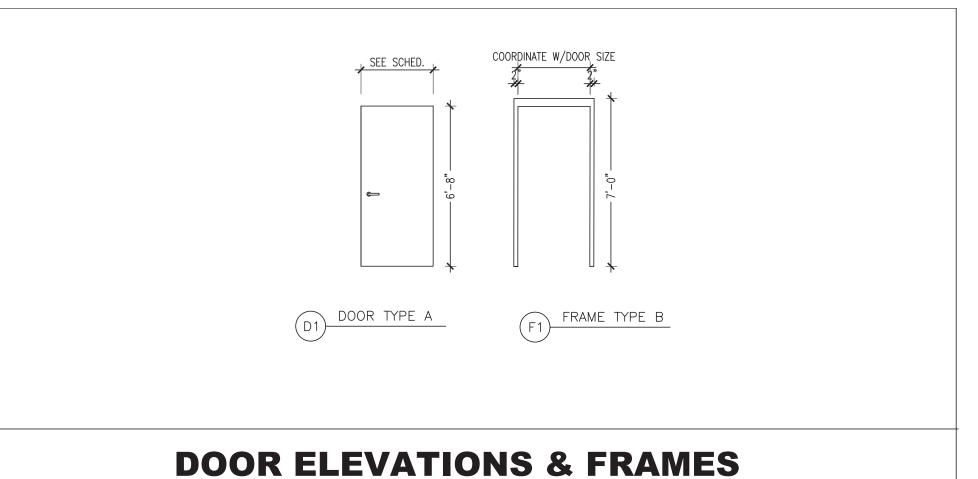


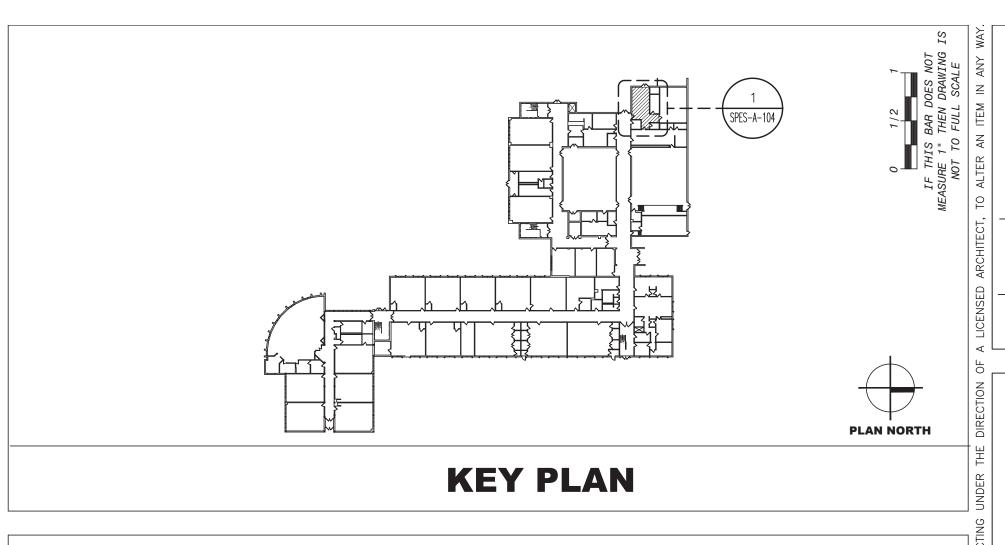


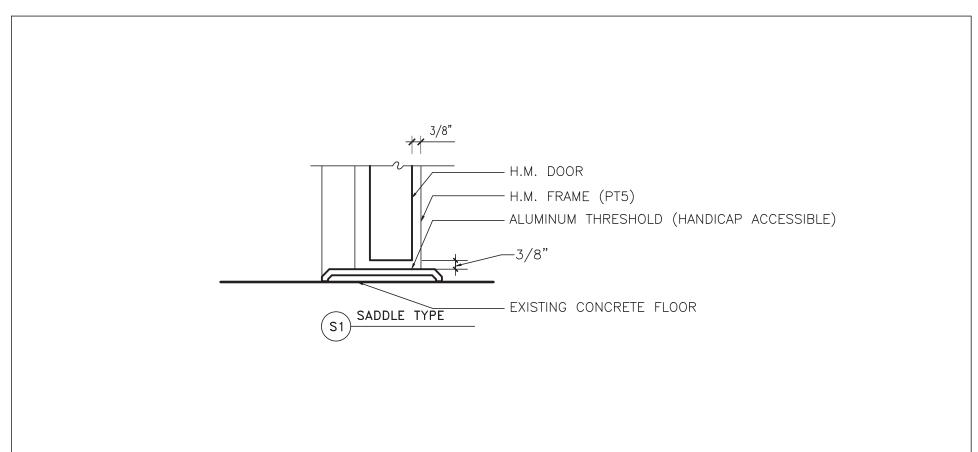


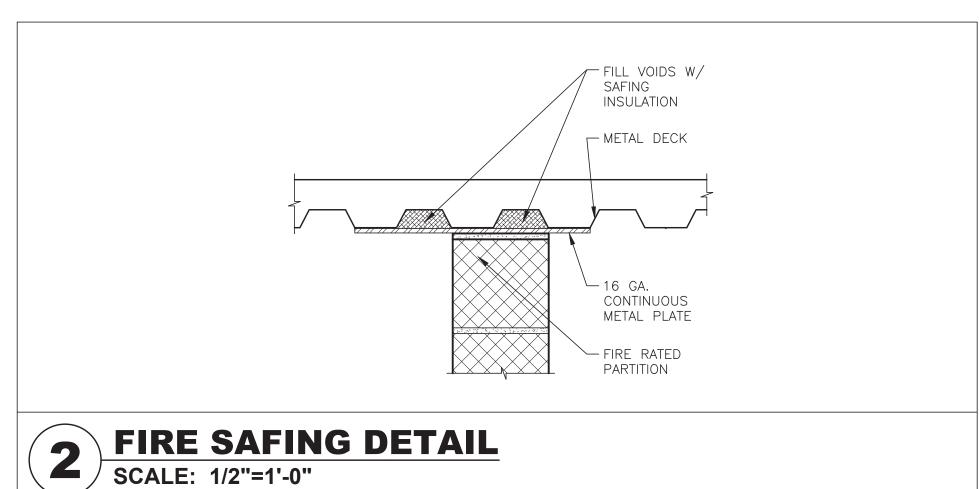


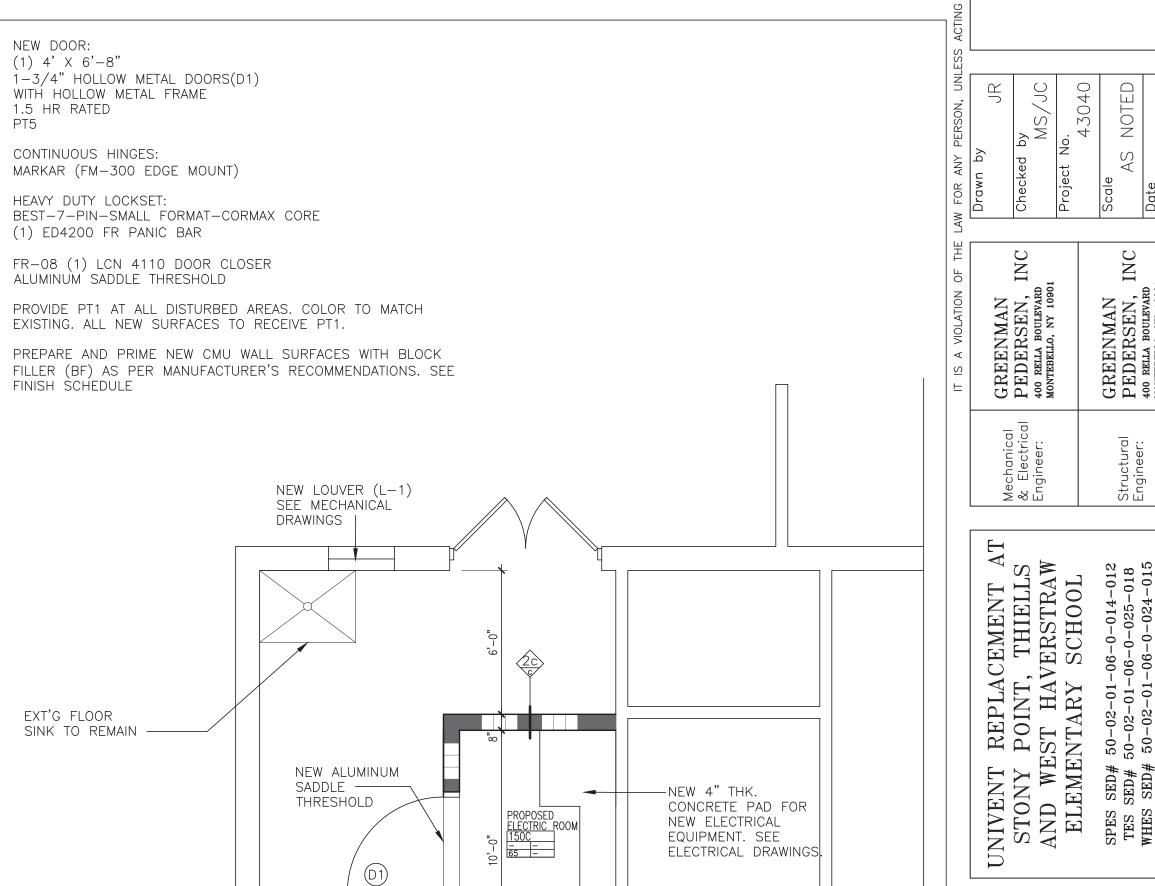




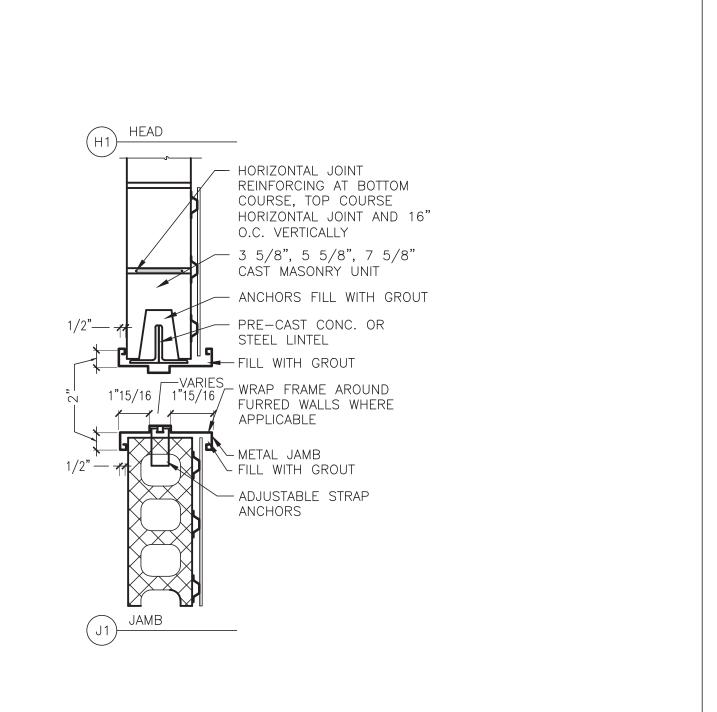


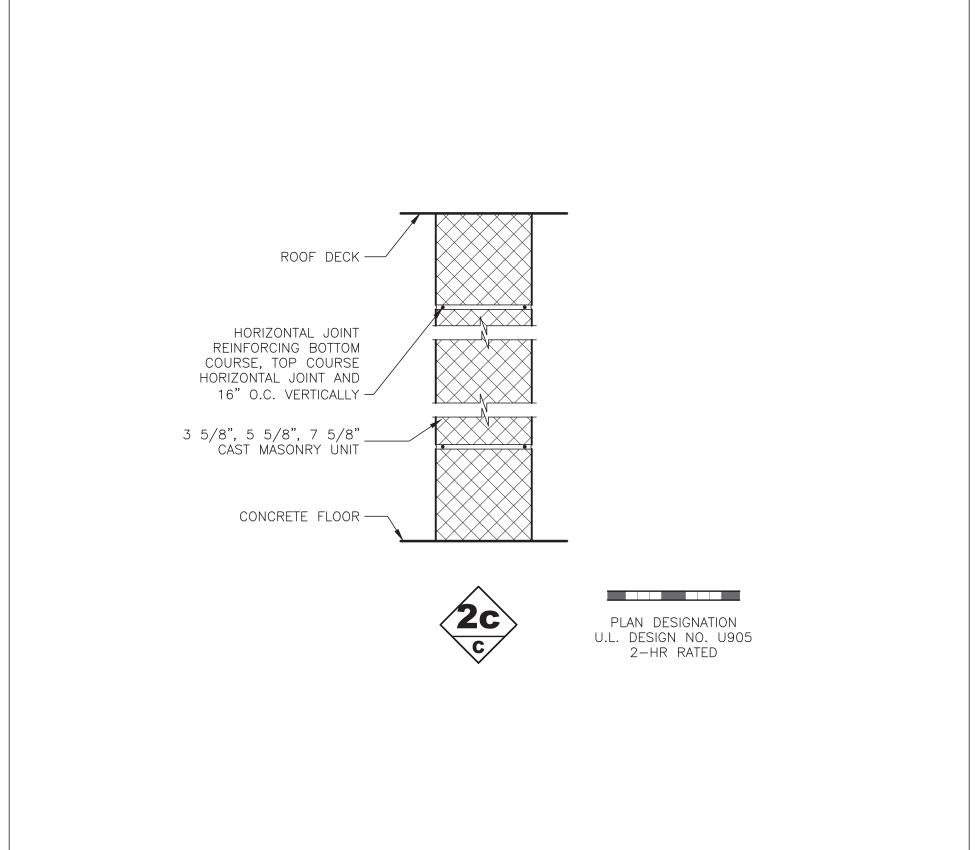


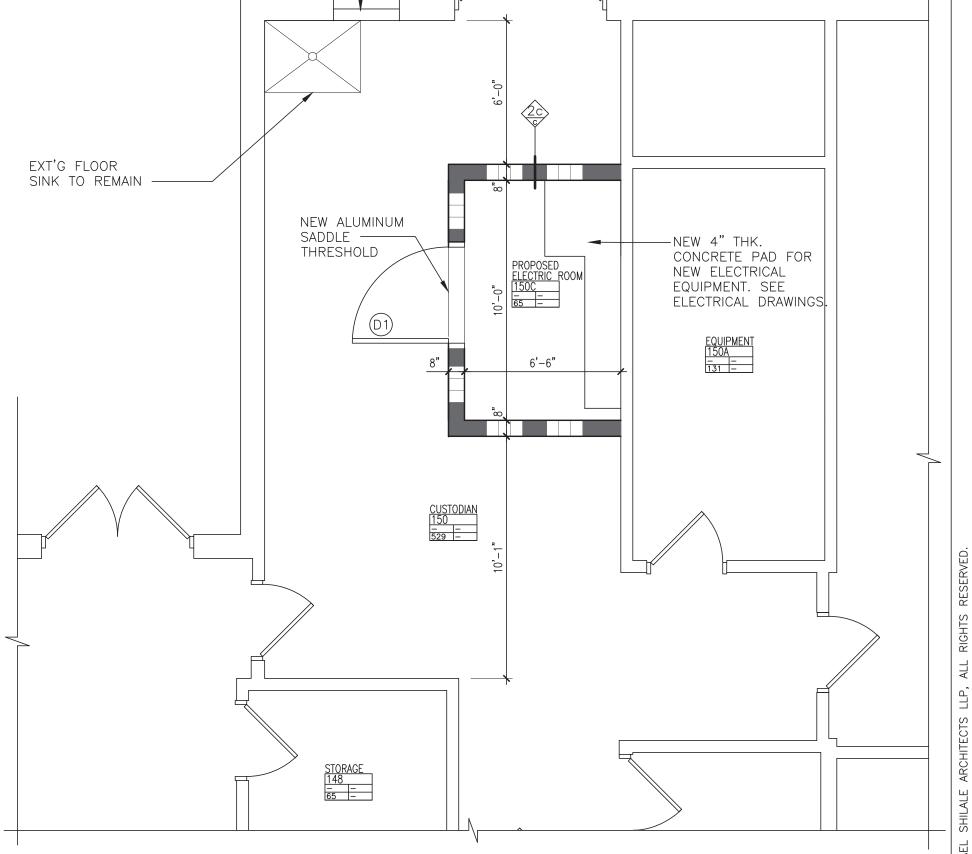




DOOR SADDLE DETAILS







PROPOSED ELECTRICAL RM PLAN

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







SPES-A-104

GREENMAN
PEDERSEN,
400 RELIA BOULEVARD
MONTEBELLO, NY 10901

