ADJACENT LANDOWNERS

MAP ID	PARCEL NUMBER	OWNER NAME	OWNER ADDRESS
1	90.2-3-48	LONSTEIN	
2	90.2-3-53.2	LONSTEIN	(TO BE VERIFIED
3	91.21-1-117.5	S. MAIN LLC	WITH VILLAGE/COUNTRY
4	91.21-1-2	DUQUE BROCHERO	ASSESSORS OFFICE)
5	91.21-1-23.2	LONNY DISTRIBUTORS	

PROPERTY INFORMATION

ZONE CLASSIFICATION	B-3 HIGHWAY BUSINESS
TAX MAP PARCEL No	91.21-1-21.1,22.1,22.2
TOTAL ACREAGE	3.871 ACRES
WATER SUPPLY	VILLAGE WATER
SEWAGE DISPOSAL	VILLAGE SANITARY
PREDOMINANT SOIL TYPE	SEE TEST HOLE DATA

BULK REGULATIONS

CATEGORY	REQUIRED	PROPOSED
MINIMUM AREA:	5,000 SF	168,784 SF (3.87 AC)
MINIMUM LOT WIDTH (FT)	50 FT	969.67 FT
MINIMUM STREET FRONTAGE (FT)	50 FT	479 FT
MINIMUM FRONT YARD (FT) FROM: COUNTY/STATE HIGHWAY	25 FT	70 FT
MINIMUM SIDE YARD (FT)	12 FT	35 FT
MINIMUM REAR YARD (FT)	12 FT	148.4 FT
MAXIMUM BUILDING HEIGHT (STORIES / FT)	2.5 / 35 FT	2 / 50 FT*
MAXIMUM LOT COVERAGE (PERCENT)	40% OF 168,784 (67,513.6 SF)	10.56% (14,065 SF)

PARKING CALCULATIONS

PROPOSED FIREHOUSE.

1. PARKING PER SCHEDULE:			
TRUCK BAYS & STORAGE:	9,997 SF / 2,550	=	3.99
OFFICE / ADMINISTRATIVE / SUPPORT:	9,768 SF / 300	=	32.56
TRAINING / MEZZANINE:	672 SF / 500	=	1.34
ASSEMBLY:	120 SEAT / 4	=	30.0
SUBTOTAL:		=	67.89
ACCESSORY STORAGE BUILDING			
STORAGE USE:	2,473 SF 2,500	=	0.98
TOTAL PARKING REQUIRED:	68.87	=	69 CARS
TOTAL PARKING PROVIDED		=	**74 CARS**

NOTE: THERE SHALL BE NO CARS PARKED ON UN-DESIGNATED PARKING SPACES, ON THE LANDSCAPED ISLANDS, WITHIN MANEUVERING AISLES OR WITHIN FIRE LANES

ELLENVILLE FIRE DISTRICT
PROPOSED NEW FIREHOUSE FACILITY
203 S. MAIN ST (ROUTE 209) ELLENVILLE, NY

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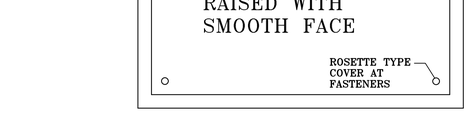
PLAQUE DETAIL

NOT TO SCALE



GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL WHERE DIRECTED, 24" X 36" BRONZE PLAQUE. TEXT CONTENT, FD LOGO & LAYOUT OF INFORMATION SHALL BE PROVIDED BY OWNER.

LOCATION MAP

SCALE: 1" = 400'-0"

N

DATE	ISSUED
03-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

REGISTERED ARCHITECT DAVID F. SENDLEWSKI 026168 STATE OF NEW YORK

SENDLEWSKI ARCHITECTS, P.C.
ARCHITECTS - PLANNERS
215 ROANOKE AVENUE
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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

COVER SHEET

PROJECT No. 2501

CHECKED BY: MFS

DRAWING:

0-0

CODE REVIEW SUMMARY OF NYSBC 2025 APPLICABLE CODE SECTIONS

CHAPTER NUMBER	CODE SECTION	CODE SECTION NOTES
CHAPTER 3: OCCUPANCY CLASSIFICATION REFER ADDITIONALLY TO TECHNICAL BULLETIN TB-2010-BCNYS OCTOBER 31, 2017, 19 NYCRR 1221-BUILDING CONSTRUCTION	303.4 ASSEMBLY GROUP A-3 INCLUDE THE FIRST FLOOR COMMUNITY ROOM (136 OCCUPANTS) AND SECOND FLOOR TRAINING AREA (77 OCCUPANTS)	406.6.1 HEIGHT AND FIRE AREA LIMITED TO SECTIONS 504 HEIGHT (MAXIMUM 75') & 506 AREA (MAXIMUM 78,000 SF)
	304.1 BUSINESS GROUP B OCCUPANCIES (CIVIC ADMINISTRATION INCLUDES ALL OTHER AREAS NOT SPECIFICALLY IDENTIFIED AS A-3, S-1 OR S-2)	
	311.2 LOW-HAZARD STORAGE S-2 OCCUPANCIES INCLUDE APPARATUS BAY AND ANCILLARY AREAS ACCESSIBLE THERFROM ON THE FIRST FLOOR AND SECOND FLOOR (INCLUDES ATTIC AREA)	
CHAPTER 4: SPECIAL REQUIREMENTS BASED ON OCCUPANCY	406.6.1 HEIGHT AND FIRE AREA LIMITED TO SECTIONS 504 HEIGHT (MAXIMUM 75') & 506 AREA (MAXIMUM 78,000 SF)	406.6.1 HEIGHT AND FIRE AREA LIMITED TO SECTIONS 504 HEIGHT (MAXIMUM 75') & 506 AREA (MAXIMUM 78,000 SF)
	406.6.2 MECHANICAL VENTILATION SYSTEM TO COMPLY WITH CHAPTERS 4 & 5 OF THE INTERNATIONAL MECHANICAL CODE	406.6.1 HEIGHT AND FIRE AREA LIMITED TO SECTIONS 504 HEIGHT (MAXIMUM 75') & 506 AREA (MAXIMUM 78,000 SF)
	406.6.3 AUTOMATIC SPRINKLER SYSTEM IS REQUIRED PER 903.2.10, ITEM 2 WHERE THE GARAGE IS LOCATED BETWEEN OTHER GROUPS	406.6.1 HEIGHT AND FIRE AREA LIMITED TO SECTIONS 504 HEIGHT (MAXIMUM 75') & 506 AREA (MAXIMUM 78,000 SF)
CHAPTER 5: HEIGHT & FIRE AREAS	502.1 ADDRESS IDENTIFICATION REQUIRED	ADDRESS IS ON FRONT OF BUILDING IN COMPLIANCE WITH REQUIREMENTS (4" HIGH, 1/2" STROKE WIDTH)
	504.2 BUILDING IS A MIXED OCCUPANCY IN ACCORDANCE WITH SECTION 508	NO INDIVIDUAL OCCUPANCIES EXCEED HEIGHT AND STORY LIMITS
	505.2 MEZZANINE	COMPLIES WITH ALL SECTIONS INCLUDING AREA LIMITATION (1/3 OF BAY), MEANS OF EGRESS (PER CHAPTER 10) AND OPENNESS (BOTH OPEN AND ENCLOSED PORTIONS > 10 OCCUPANTS)
	504.3 HEIGHT (PER TABLE 504 AND MOST RESTRICTIVE OCCUPANCY)	75 FT BASED ON ALL OCCUPANCIES WITH SPRINKLER SYSTEM
	506.2.2 ALLOWABLE AREA (PER 508.3.2 FOR NON-SEPARATED OCCUPANCIES)	BUILDING IS A NON-SEPARATED OCCUPANCY INDIVIDUALLY CLASSIFIED PER CHAPTER 3
	508.3.3 NO SEPARATION REQUIRED BETWEEN OCCUPANCIES	SECTION 420.3: FLOOR ASSEMBLIES TO BER PER SECTION 711 (711.2.1 FLOOR TO BE NON-COMBUSTIBLE, 711.2.3 NO VERTICAL OPENINGS PERMITTED). SECTION 420.4: AUTOMATIC SPRINKLER SYSTEM TO BE PROVIDED PER SECTION 903.2.8. SECTION 420.5: FIRE ALARM SYSTEM TO BE PER SECTION 907.2.9 (AN AUTOMATIC SPRINKLER IS TO BE PROVIDED THROUGHOUT THE FACILITY PER SECTION 903.3. ALSO PER SECTION 903.2.4 SPRINKLER SYSTEM IS REQUIRED FOR S-1 OCCUPANCIES OVER 5,000 SF FOR STORAGE OF COMMERCIAL MOTOR VEHICLES. SECTION 711.2.3: SUPPORTING CONSTRUCTION NOT REQUIRED TO BE FIRE RESISTANCE RATED PER EXCEPTION 2.
	SECTION 508.3.2 AREA IS LIMITED TO THE AREA OF THE MOST RESTRICTIVE USE	PER TABLE 506.2 ALLOWABLE AREA FACTOR ASSEMBLY A-3 ALLOWS 28,500 SF UNDER TYPE IIIB CONSTRUCTION
	SECTION 509 INCIDENTAL USES	THERE ARE NO AREAS WITHIN THE FACILITY THAT QUALIFIES AS AN INCIDENTAL USE

CHAPTER NUMBER	CODE SECTION	CODE SECTION NOTES
CHAPTER 6: TYPES OF CONSTRUCTION	TABLE 601 - FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS	ALL BUILDING ELEMENTS ARE REQUIRED TO HAVE A FIRE RESISTANCE RATING OF ZERO (0) HOURS
	SECTION 602.2 BUILDING IS TYPE IIB CONSTRUCTION PER TABLE 601 EXCEPT AS PERMITTED ON SECTION 603	PERMITTED COMBUSTIBLE MATERIALS INCLUDE: PER SECTION 603.1.1 (1.13) FIRE RETARDANT WOOD IS PERMITTED FOR ROOF DECKING UTILIZED ON THIS PROJECT. PER SECTION 603.1 EXCEPTION 4, ROOF COVERING USED CAN BE CLASSIFIED AS A, B OR C. PER SECTION 603.1 EXCEPTION 5, FLOOR FINISH SHALL BE PER 804 (SEE 804.4.2 EXCEPTION WITH SPRINKLERS, CLASS II MATERIALS ARE PERMITTED THROUGHOUT). PER SECTION 603.1 EXCEPTION MILLWORK, DOORS AND FRAMES PER SECTION 603.1 EXCEPTION 7, WALL & CEILING FINISHES PER SECTION 803 (TABLE 803.13, ALL AREAS ARE ALLOWED TO BE CLASS C FINISH EXCEPT FOR INTERIOR STAIRWAYS AND EXIT SHALL BE CLASS). PER SECTION 603.1 EXCEPTION 14, BLOCKING
CHAPTER 7: FIRE & SMOKE PROTECTION FEATURES	SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS	ALL MATERIALS SHALL BE TESTED IN ACCORDANCE WITH 703.2.1, 703.2.2 & 703.2.3
	SECTION 704 FIRE-RESISTANCE OF STRUCTURAL MEMBERS	NOT APPLICABLE WITH TYPE IIB CONSTRUCTION
	SECTION 705 EXTERIOR WALLS	SECTION 705.2 EXTERIOR WALL PROJECTIONS TO COMPLY WITH SECTION 1405.1.1 FOR TYPE II CONSTRUCTION PER TABLE 705.5, DISTANCE SEPARATIONS EXCEED 30 FEET. NO RATING IS REQUIRED ON EXTERIOR WALLS (TABLE 601)
	SECTION 706 FIRE WALLS	NOT APPLICABLE
	SECTION 707 FIRE BARRIERS	NOT APPLICABLE - NO SEPARATED FIRE AREAS
	SECTION 708 FIRE PARTITIONS	SECTION 708.1.2: CORRIDOR WALLS ARE NOT REQUIRED TO BE RATED PER TABLE 1020.2
	SECTION 709 SMOKE BARRIERS	NOT APPLICABLE
	SECTION 710 SMOKE PARTITIONS	NOT APPLICABLE
	SECTION 711 FLOOR AND ROOF ASSEMBLIES	PER SECTIONS 711.1 & 711.3, FLOOR ASSEMBLIES SHALL BE OF MATERIALS PERMITTED BY THE TYPE OF CONSTRUCTION (TYPE IIB NON-COMBUSTIBLE, 0 FIRE RATING)
	SECTION 714 PENETRATIONS	NON-COMBUSTIBLE PENETRATIONS ARE PERMITTED THROUGH NON RATED ASSEMBLIES WITH ANNULAR SPACE FILLED WITH APPROVED THROUGH-PENETRATION FIRE STOPPING. PRODUCT SPECIFIED IS 3M FIRE BARRIER 3000wt AND FIP I-STOP
	SECTION 715 JOINTS AND VOIDS	NOT APPLICABLE
	SECTION 716 OPENING PROTECTIVES	CORRIDOR AND PARTITION VISION PANELS IN DOORS SHALL MEET NFPA 252, UL10B OR UL 10C, 20 MINUTES RATED FOR MAXIMUM SIZE TESTED. STAIR ENCLOSURE DOOR VISION PANELS SHALL MEET ASTM 119 OR UL 263, 90 MINUTES RATED AND LIMITED TO 100 SQ. IN (5"x20).

CHAPTER NUMBER	CODE SECTION	CODE SECTION NOTES
CHAPTER 7: FIRE & SMOKE PROTECTION FEATURES (CONTINUED)	SECTION 717 DUCTS AND TRANSFER OPENINGS (717.6.3 FOR NON-RATED ASSEMBLIES)	DUCTS MAY PASS THROUGH WALLS WITH ANNULAR SPACES PROTECTED BY AN APPROVED FIRESTOP SYSTEM. PRODUCT USED FOR THIS PROJECT IS 3M FIP I-STOP FOR WELL PENETRATIONS. DUCTS MAY PASS THROUGH FLOORS CONNECTING TWO LEVELS WITH ANNULAR SPACE PROTECTED BY AN APPROVED FIRESTOP SYSTEM. PRODUCT USED FOR THIS PROJECT SHALL BE 3M FIP I-STOP FOR FLOOR PENETRATIONS.
	SECTION 718 CONCEALED SPACES	SECTON 718.2.3 FIRE BLOCKING SHALL BE PROVIDED BETWEEN VERTICAL WALL SPACES AND HORIZONTAL (PENUM) CONCEALED SPACES. ALL WALLS SHALL EXTEND TO DECK ABOVE OR SHALL HAVE THE TOP PLATE/TRACK SEALED WITH 5/8" GYP. BOARD. SECTION 718.3 & 718.4 DRAFT BLOCKING IS NOT REQUIRED BASED ON SPRINKLER SYSTEM.
	SECTION 719 FIRE RESISTANCE FOR PLASTER	NOT APPLICABLE
	SECTION 720 THERMAL AND SOUND INSULATING MATERIALS	SECTION 720.2 CONCEALED INSULATION IS TO HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT MORE THAN 450.
	SECTION 721 PRESCRIPTIVE FIRE RESISTANCE	NOT APPLICABLE
	SECTION 722 CALCULATED FIRE RESISTANCE	NOT APPLICABLE
CHAPTER 8: INTERIOR FINISHES	SECTION 803 WALL AND CEILING FINISHES	TABLE 803.13 ALLL ROOMS AND ENCLOSED SPACES FOR A-3, B & S-2 OCCUPANCY WITH SPRINKLERS ARE PERMITTED TO BE CLASS C, FLAME SPREAD 76-200, SMOKE DEVELOPED 0-450. STAIRWAYS AND EXITS THROUGHOUT BUILDING ARE REQUIRED TO BE CLASS B (CLASS C PERMITTED AT R-2 OCCUPANCY BUT NOT UTILIZED).
	SECTION 808 ACOUSTICAL CEILING SYSTEMS	SECTION 808.1.1.1 SUSPENDED ACOUSTICAL CEILINGS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C635 &C636
CHAPTER 9: FIRE PROTECTION AND LIFE SAFETY		
CHAPTER 10: MEANS OF EGRESS	SECTION 1004 OCCUPANT LOAD	REFER TO CODE DRAWINGS 2 THRU 4 FOR CALCULATIONS
	SECTION 1005 MEANS OF EGRESS SIZING	SECTION 1005.3.1 STAIRWAYS: MINIMUM STAIR WIDTH IS 30 INCHES 1005.3.2 OTHER EGRESS COMPONENTS: MINIMUM WIDTH IS 34.4 INCHES BASED ON FIRST FLOOR OCCUPANCY (60" MIN. PROVIDED).
	SECTION 1006 NUMBER OF EXITS AND ACCESS DOORWAYS	SECTION 1006.2.1 & TABLE 1006.2.1: 2 EXITS REQUIRED MINIMUM BASED ON OCCUPANT LOAD UNDER 500.
	SECTION 1019 EXIT ACCESS STAIRWAYS AND RAMPS	SECTION 1019.3 PER EXCEPTION 1, STAIRWAY A IS ATMOSPHERICALLY COMMUNICATED BETWEEN TWO FLOORS AND IS NOT REQUIRED TO BE AN ENCLOSED SHAFT.
CHAPTER 11: ACCESSIBILITY	SECTION 1102 COMPLIANCE	SECTION 1103.1: THE BUILDING IS FULLY ACCESSIBLE AND COMPLIANT INCLUDING ACCESSIBLE ROUTES AND ALL COMPONENTS.
	SECTION 1112 SIGNAGE	ALL INTERIOR AND EXTERIOR SIGNAGE SHALL COMPLY WITH THE PROVISIONS OF 1112.1 THROUGH 1112.4

DATE	ISSUED
03-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

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(631) 727-5362

PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

CODE SUMMARY

PROJECT No. 2501

CHECKED BY:

DRAWING:

CODE-1

CODE REVIEW SUMMARY OF APPLICABLE CODE SECTIONS (CONTINUED)

CHAPTER NUMBER	CODE SECTION	CODE SECTION NOTES
CHAPTER 12: INTERIOR ENVIRONMENT	FACILITY IS TO BE IN COMPLIANCE WITH SECTIONS 1201 THROUGH 1204	REFER TO MEP DOCUMENTS
CHAPTER 13: ENERGY EFFICIENCY	FACILITY IS TO BE IN COMPLIANCE WITH THE NYSECCC 2025	REFER TO COMCHECK REPORT THIS DRAWING FOR COMPLIANCE
CHAPTER 14: EXTERIOR WALLS	SECTION 1402 PERFORMANCE REQUIREMENTS	SECTION 1402.2 EXTERIOR WALLS ARE TO COMPLY WITH WATER RESISTANT BARRIER BEHIND EXTERIOR VENEER SECTION 1402.5.5 FOAM PLASTIC INSULATION IS TO BE IN COMPLIANCE WITH SECTION 2603.
CHAPTER 15: ROOF ASSEMBLIES	ALL ROOF ASSEMBLIES ARE TO MEET THE REQUIREMENTS OF SECTIONS 1502, 1503 & 1504 RESPECTIVELY.	
CHAPTER 16: STRUCTURAL DESIGN	THE FACILITY IS DESIGNED TO MEET THE REQUIREMENTS OF CHAPTER 16	REFER TO S DRAWINGS FOR COMPLIANCE
CHAPTER 17: SPECIAL INSPECTIONS & TESTS	INSPECTIONS SHALL BE CONDUCTED PER THE TOWN INSPECTION CHECKLIST ISSUED WITH THE PERMIT. OWNER PROVIDED THIRD PARTY SUBSOIL COMPACTION AND CONCRETE STRENGTH TESTS ARE TO BE CONDUCTED.	
CHAPTER 18: SOILS & FOUNDATIONS	TEST HOLES WERE PROVIDED BY SOIL MECHANICS ON FEBRUARY 27th 2026. ALL FOOTINGS SHALL REST ON UNDISTURBED 1-TON SOIL.	REFER TO PROJECT STRUCTURAL NOTES ON DRAWING S-5
CHAPTER 19: CONCRETE	ALL CONCRETE SHALL COMPLY WITH ACI 301-99	REFER TO DRAWING S-5 FOR CHAPTER 19 SPECIFIC COMPLIANCE
CHAPTER 21: MASONRY	ALL MASONRY SHALL COMPLY WITH ARTICLE 2.3 OF TMS 602	REFER TO DRAWING S-5 FOR CHAPTER 21 SPECIFIC COMPLIANCE
CHAPTER 22: STEEL	ALL MASONRY SHALL COMPLY WITH ARTICLE 2.3 OF TMS 602	REFER TO DRAWING S-5 FOR CHAPTER 22 SPECIFIC COMPLIANCE
CHAPTER 24: GLASS AND GLAZING	ALL GLAZINGS SHALL COMPLY WITH SECTION 2403 (GENERAL REQUIREMENTS)	
CHAPTER 24: GYPSUM PRODUCTS	ALL GYPSUM SHALL COMPLY WITH SECTION 2502 (GENERAL REQUIREMENTS)	
CHAPTER 26: PLASTIC	SECTION 2603 FOAM PLASTIC INSULATION	SECTION 2603.1.1 SPRAY-APPLIED FOAM PLASTIC IS TO COMPLY WITH ICC 1100. SECTION 2603.3: MANUFACTURED INSULATION ASSEMBLIES ARE TO HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 75 AND A SMOKE SPREAD INDEX OF NOT MORE THAN 450. SECTION 2603.4: A MINIMUM 1/2" GYPSUM WALL BOARD OR EQUIVALENT MATERIAL SHALL BE REQUIRED TO SEPARATE FOAM INSULATION BEING USED FOR THERMAL ENVELOPE.
CHAPTER 27: ELECTRICAL	ALL ELECTRICAL WORK SHALL MEET THE REQUIREMENTS OF THE IEC	REFER TO THE ELECTRICAL DRAWINGS FOR COMPLIANCE
CHAPTER 28: MECHANICAL	ALL MECHANICAL WORK SHALL MEET THE REQUIREMENTS OF THE IMC	REFER TO THE MECHANICAL DRAWINGS FOR COMPLIANCE
CHAPTER 29: PLUMBING	ALL PLUMBING WORK SHALL MEET THE REQUIREMENTS OF THE IPC	REFER TO THE PLUMBING DRAWINGS FOR COMPLIANCE
CHAPTER 30: ELEVATORS	SECTION 3006 ELEVATOR LOBBIES AND HOISTWAY DOOR PROTECTION	SECTION 3006.2: HOISTWAY PROTECTION IS NOT REQUIRED PER EXCEPTION 1, WHERE A SPRINKLER SYSTEM IS PROVIDED THROUGHOUT. SECTION 3006.2.1: CORRIDOR AT ELEVATOR LOBBY IS NOT REQUIRED TO BE RATED PER 1020.2 FOR A, B & S OCCUPANCIES ACCESSED FROM SAID CORRIDORS.
CHAPTER 33: SAFEGUARDS DURING CONSTRUCTION	CONTRACTOR(S) ARE REQUIRED TO COMPLY WITH ANY AND ALL SAFEGUARDS AND OSHA REQUIREMENTS, INCLUDING WEEKLY JOBSITE SAFETY MEETINGS	

TABLE R301.2(1)
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOAD	WIND DESIGN				SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP	ICE BARRIER UNDERLAYMENT REQUIRED	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP
	SPEED (MPH)	TOPOGRAPHIC EFFECTS	SPECIAL WIND REGION	WIND-BORNE DEBRIS ZONE		WEATHERING	FROST LINE DEPTH	TERMITE					
60 PSF	115	NO	NO	NO	B	SEVERE	36" BELOW GRADE	MOD-HEAVY	10	YES	N/A	599	

Envelope Compliance Certificate

Project Information

Energy Code:	2025 Energy Conservation Construction Code of New York State
Project Title:	Ellenville FD - New Firehouse Facility
Location:	Ellenville, New York
Climate Zone:	6a
Project Type:	New Construction
Vertical Glazing / Wall Area:	0.074
Skylight / Roof Area	0.001
Project Sub Type:	New Building/Complete

Construction Site:
203 S. Main Street
Ellenville , New York 12428

Owner/Agent:
Ellenville Fire District
Ellenville , New York 12428

Designer/Contractor:
Martin F Sendlewski
Sendlewski Architects PC
215 Roanoke Avenue
Riverhead , New York 11901
631-727-5352
mfs@firehouseplanner.com

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor
Roof:Roof (Flat), Insulation Entirely Above Deck, [Bldg. Use 1 - Fire Station]	1845	---	33.00	0.030	0.029
Roof:Roof (Sloped), Non-Wood Joist/Rafter/Truss, [Bldg. Use 1 - Fire Station]	11068	56.00	0.00	0.027	0.019
Skylight:Skylight, Metal Frame, Perf. Specs.: Product ID , SHGC 0.27, VT 0.41, [Bldg. Use 1 - Fire Station] (b)	13	---	---	0.290	0.480
Floor:Floor, Unheated Slab-On-Grade, Horizontal with vertical 2 ft., [Bldg. Use 1 - Fire Station] (c)	607	---	20.00	0.690	0.510
NORTH					
Ext Wall:Ext Wall (North), Metal Frame, 16" o.c., [Bldg. Use 1 - Fire Station]	2931	21.00	10.00	0.051	0.047
Window:Window (North), Wood Frame, Perf. Specs.: Product ID , SHGC 0.27, PF 0.30, VT 0.46, [Bldg. Use 1 - Fire Station] (b)	216	---	---	0.290	0.270
Door:Door (Storefront), Perf. Specs.: Product ID , SHGC 0.29, PF 0.10, VT 0.40, [Bldg. Use 1 - Fire Station] (b)	52	---	---	0.190	0.630
EAST					
Ext Wall:Ext Wall (East), Metal Frame, 16" o.c., [Bldg. Use 1 - Fire Station]	2760	21.00	10.00	0.051	0.047
Window:Window (East), Wood Frame, Perf. Specs.: Product ID , SHGC 0.27, PF 0.30, VT 0.46, [Bldg. Use 1 - Fire Station] (b)	228	---	---	0.290	0.270
Door:Door (Storefront - East), Perf. Specs.: Product ID , SHGC 0.29, PF 1.00, VT 0.40, [Bldg. Use 1 - Fire Station] (b)	68	---	---	0.190	0.630
Door:Door (OHD), Insulated Metal, Garage door < 14% glazing, [Bldg. Use 1 - Fire Station]	1124	---	---	0.190	0.310
SOUTH					
Ext Wall:Ext Wall (South), Metal Frame, 16" o.c., [Bldg. Use 1 - Fire Station]	2931	21.00	10.00	0.051	0.047
Window:Window (South), Wood Frame, Perf. Specs.: Product ID , SHGC 0.27, PF 0.30, VT 0.46, [Bldg. Use 1 - Fire Station] (b)	114	---	---	0.290	0.270
Door:Door (Rollup), Insulated Metal, Garage door < 14% glazing, [Bldg. Use 1 - Fire Station]	53	---	---	0.160	0.310
Door:Door (HM), Insulated Metal, Swinging, [Bldg. Use 1 - Fire Station]	133	---	---	0.190	0.370
WEST					
Ext Wall:Ext Wall (West), Metal Frame, 16" o.c., [Bldg. Use 1 - Fire Station]	2760	21.00	10.00	0.051	0.047
Window:Window (West), Wood Frame, Perf. Specs.: Product ID , SHGC 0.27, PF 0.30, VT 0.46, [Bldg. Use 1 - Fire Station] (b)	141	---	---	0.290	0.270
Door:Door (West - Glass), Perf. Specs.: Product ID , SHGC 0.29, PF 1.00, VT 0.40, [Bldg. Use 1 - Fire Station] (b)	21	---	---	0.190	0.420
Door:Door (HM - Rear), Insulated Metal, Swinging, [Bldg. Use 1 - Fire Station]	49	---	---	0.160	0.370
Door:Door (OHD - Rear), Insulated Metal, Garage door < 14% glazing, [Bldg. Use 1 - Fire Station]	562	---	---	0.190	0.310

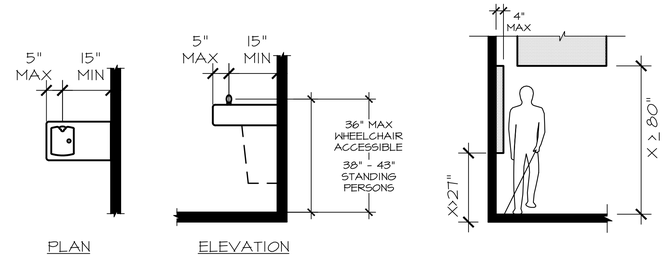
(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.
(b) Fenestration product performance must be certified in accordance with NFRC and requires supporting documentation.
(c) Slab-On-Grade proposed and budget U-factors shown in table are F-factors.

Envelope PASSES: Design 3% better than code

Envelope Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 2025 Energy Conservation Construction Code of New York State requirements in COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title **Signature** **Date**



ADULT DRINKING FOUNTAIN SPOUT LOCATION — LIMITS OF PROTRUDING OBJECTS

TABLE 403.5 - CLEAR WIDTH OF AN ACCESSIBLE ROUTE

SEGMENT LENGTH	MINIMUM SEGMENT WIDTH
< 24 INCHES (610 MM)	32 INCHES (815 MM) [*]
> 24 INCHES (610 MM)	36 INCHES (915 MM)

[*]: CONSECUTIVE SEGMENTS OF 32 INCHES (815 MM) WIDE MUST BE SEPARATED BY A ROUTE SEGMENT 48 INCHES (1220 MM) LONG MINIMUM AND 36 INCHES (9115 MM) WIDE MINIMUM.

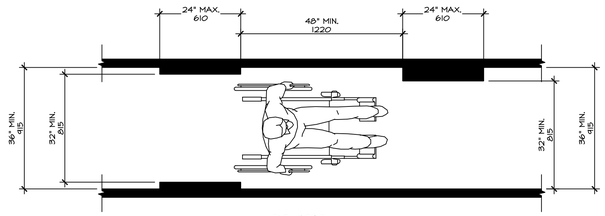


FIG. 403.5
CLEAR WIDTH OF AN ACCESSIBLE ROUTE

TABLE 404.2.4.2 - MANEUVERING CLEARANCES FOR SLIDING AND FOLDING DOORS

APPROACH DIRECTION	MINIMUM CLEARANCES	
	Perpendicular to Door (1)	Parallel to Door
From front	48 inches (1220 mm)	0 inches (0 mm)
From hinge side	42 inches (1065 mm)	54 inches (1370 mm) (2)
From latch side	42 inches (1065 mm)	24 inches (610 mm) (2)

(1) MANEUVERING SPACE SHALL INCLUDE FULL WIDTH OF DOORWAY.
(2) FROM THE LATCH SIDE TOWARD THE APPROACH DIRECTION.

TABLE 404.2.4.1 - MANEUVERING CLEARANCES FOR MANUAL SWINGING DOORS

TYPE OF USE		MINIMUM CLEARANCES	
Approach Direction	Door Side	Perpendicular to Door (1)	Beyond Latch Parallel to Door
From front	Pull	60 inches (1525 mm)	18 inches (455 mm)
From front	Push	48 inches (1220 mm)	18 inches (455 mm)
From Hinge	Pull	60 inches (1525 mm) 54 inches (1370 mm)	18 inches (455 mm) 42 inches (1065 mm)
From Hinge	Push	42 inches (1065 mm) (3)	54 inches (1370 mm)
From latch	Pull	48 inches (1220 mm) (4)	24 inches (610 mm)
From latch	Push	42 inches (1065 mm) (4)	24 inches (610 mm)

(1) MANEUVERING SPACE SHALL INCLUDE FULL WIDTH OF DOORWAY.
(2) ADD 12 INCHES (305 MM) IF CLOSER AND LATCH PROVIDED
(3) ADD 6 INCHES (150 MM) IF CLOSER AND LATCH PROVIDED.
(4) ADD 6 INCHES (150 MM) IF CLOSER PROVIDED.

DATE	ISSUED
03-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

SENDLEWSKI ARCHITECTS, P.C.
ARCHITECTS - PLANNERS
215 ROANOKE AVENUE
RIVERHEAD, NY 11901
MFS@FIREHOUSEPLANNER.COM
(631) 727-5362

PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

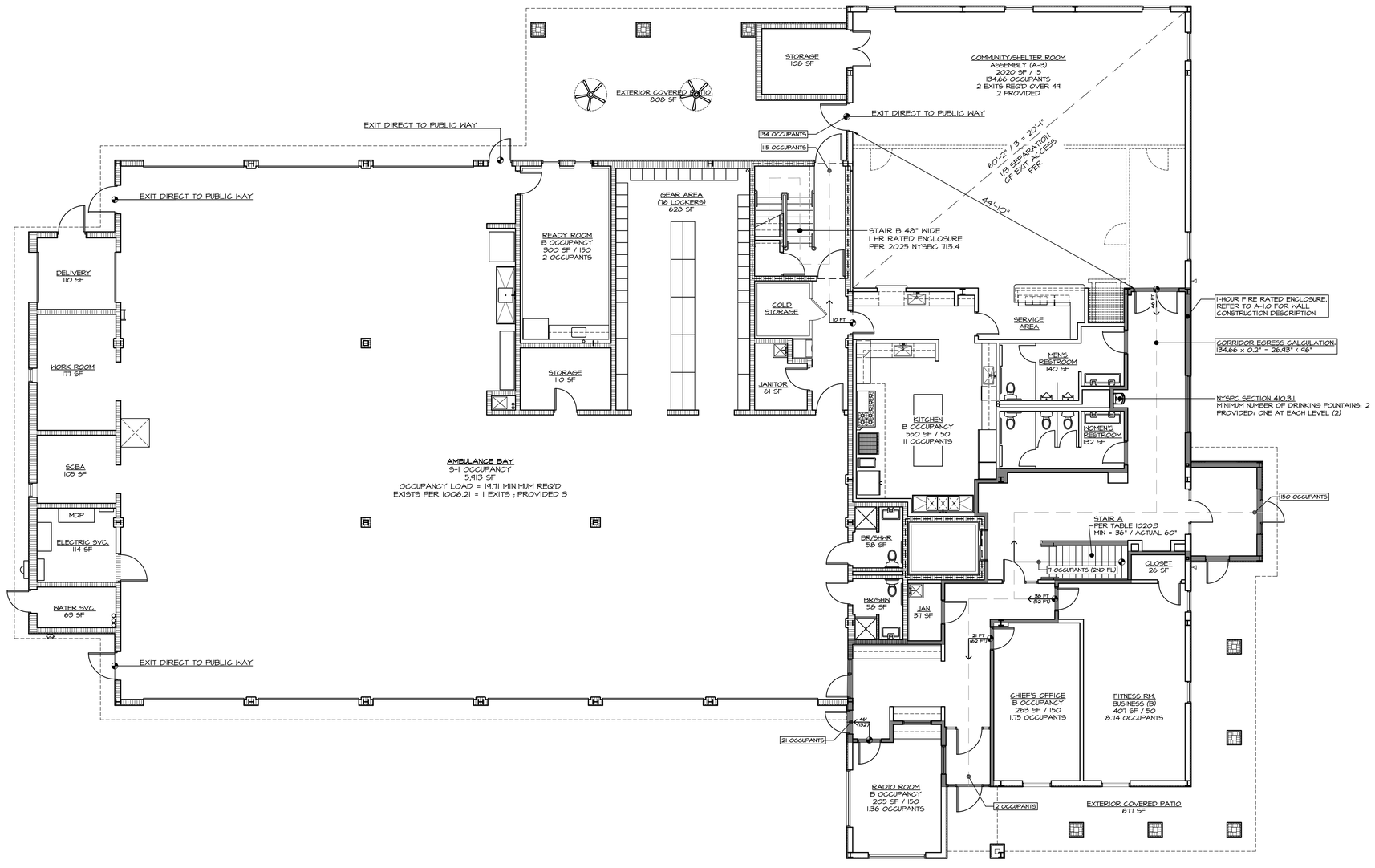
CODE SUMMARY AND ENERGY CODE INFORMATION

PROJECT No. 2501

CHECKED BY:

DRAWING:

CODE-2



FIRST FLOOR CODE PLAN (14,065 S.F.) (1,485 SQ.FT. COVERED PATIO AREAS)

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

FIRST FLOOR CODE INFORMATION

CODE ITEMS SPECIFIC TO FIRST FLOOR

OCCUPANCY CLASSIFICATION:
A - ASSEMBLY 3
B - BUSINESS
S-1 - MODERATE HAZARD STORAGE
S-2 - LOW HAZARD STORAGE

CONSTRUCTION: TYPE II B
FIRE RATING REQ'D = 0 HR (SEE 508.3.3)

MAXIMUM UNSEPERATED FIRE AREA PER TABLE 506.2
(MOST RESTRICTIVE) = 69,000 S.F

ACTUAL FIRE AREA = 11,585 S.F.
(OCCUPANCY LOADS PER TABLE 1004.5)

STORAGE S-1= 5,913 / 300 = 19,71

STORAGE S-2 = 1,307 / 500 = 2.61

ASSEMBLY 3 = 2,020 / 15 = 134.66

BUSINESS B = 2,345 / 150 = 15.63

TOTAL = 172.61 = 172 OCCUPANTS

SECTION 1006.3.3 (TABLE 1006.3.3)
MINIMUM NUMBER OF EXITS PER STORY
171 > 500 = 2 MINIMUM; 7 PROVIDED

SECTION 1017.1 (TABLE 1017.2)
EXIT ACESS TRAVEL DISTANCE

MOST RESTRICTIVE OCCUPANCY = ASSEMBY
MAX. ALLOWABLE TRAVEL DISTANCE = 250 FT

ACTUAL MAXIMUM TRAVEL DISTANCE = 132 FT

EGRESS LEGEND

- POINT OF ENTRY TO COMMON EGRESS
- 38 FT (52 FT) — DISTANCE TO PUBLIC WAY (ALT. DIST. TO PUBLIC WAY)
- XX OCCUPANTS — TOTAL UTILIZATION OF EGRESS POINT
- COMMON PATH OF EGRESS
- 1-HOUR FIRE RATED SHAFT
- 1-HOUR FIRE RATED EXIT ENCLOSURE

DATE	ISSUED
03-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

SENDLEWSKI ARCHITECTS, P.C.
ARCHITECTS - PLANNERS
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RIVERHEAD, NY 11901
MFS@FIREHOUSEPLANNER.COM
(631) 727-5362

PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

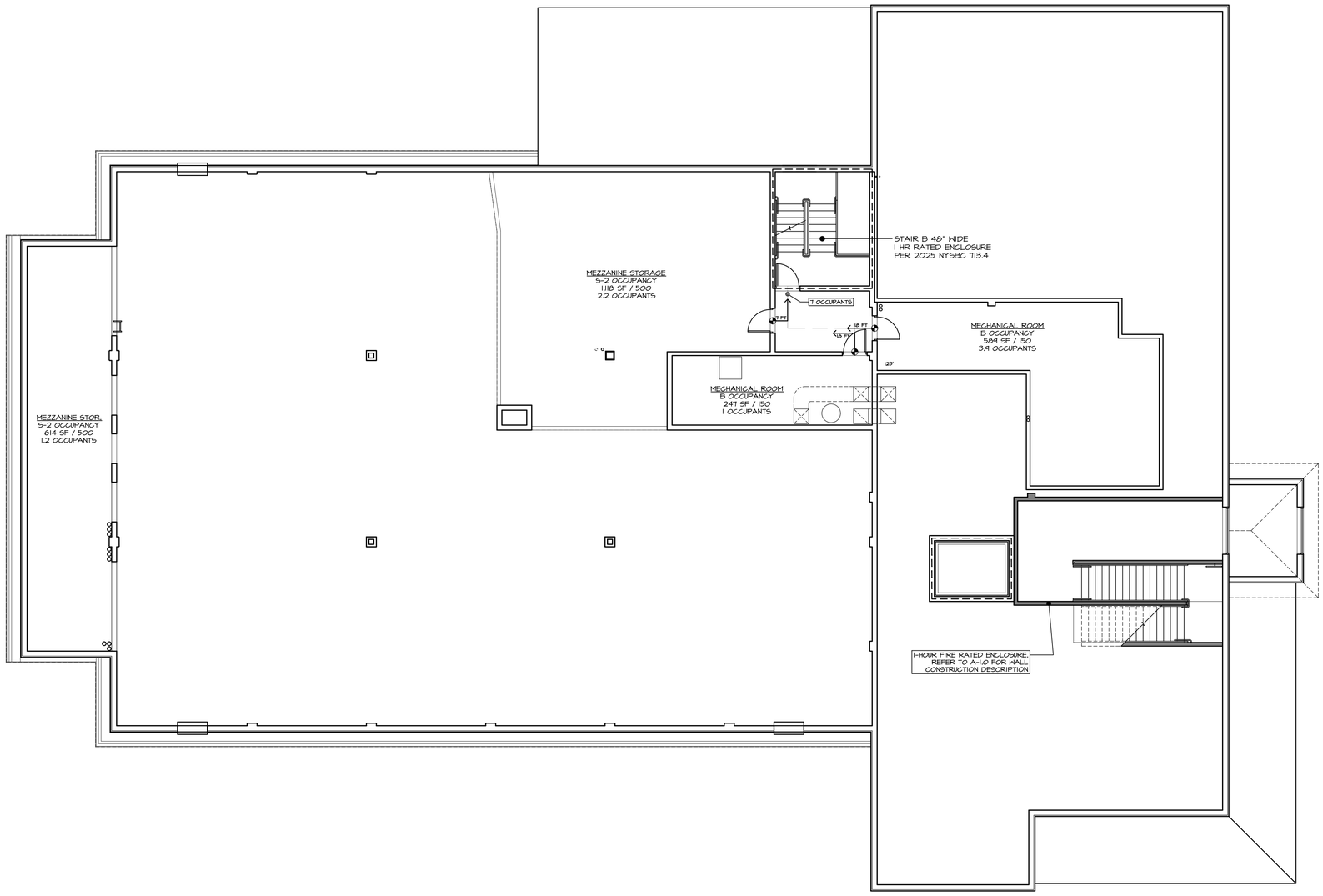
FIRST FLOOR CODE PLAN

PROJECT No. 2501

CHECKED BY:

DRAWING:

CODE-3



MEZZANINE CODE PLAN (3,181 S.F.)

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

MEZZANINE CODE INFORMATION (INC. w/ FIRST FL.)

CODE ITEMS SPECIFIC TO FIRST FLOOR

OCCUPANCY CLASSIFICATION:
B - BUSINESS
S-2 - LOW HAZARD STORAGE

CONSTRUCTION: TYPE II B
FIRE RATING REQ'D = 0 HR (SEE 508.3.3)

MAXIMUM UNSEPERATED FIRE AREA PER TABLE 506.2
(MOST RESTRICTIVE) = 69,000 S.F

ACTUAL FIRE AREA = 2,568 S.F.
(OCCUPANCY LOADS PER TABLE 1004.5)

STORAGE S-2 = 1,732 / 500 = 3.46

BUSINESS B = 836 / 150 = 5.57

TOTAL = 9.03 = **9 OCCUPANTS**

SECTION 1006.3.3 (TABLE 1006.3.3)
MINIMUM NUMBER OF EXITS PER STORY
171 > 500 = 2 MINIMUM; 1 PROVIDED

SECTION 1017.1 (TABLE 1017.2)
EXIT ACESS TRAVEL DISTANCE

MOST RESTRICTIVE OCCUPANCY = ASSEMBY
MAX. ALLOWABLE TRAVEL DISTANCE = 250 FT

ACTUAL MAXIMUM TRAVEL DISTANCE = 18 FT

EGRESS LEGEND

- POINT OF ENTRY TO COMMON EGRESS
- 38 FT (52 FT) — DISTANCE TO PUBLIC WAY (ALT. DIST. TO PUBLIC WAY)
- XX OCCUPANTS — TOTAL UTILIZATION OF EGRESS POINT
- COMMON PATH OF EGRESS
- 1-HOUR FIRE RATED SHAFT
- 1-HOUR FIRE RATED EXIT ENCLOSURE

DATE	ISSUED
03-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

SENDLEWSKI ARCHITECTS, P.C.
ARCHITECTS - PLANNERS
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RIVERHEAD, NY 11901
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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

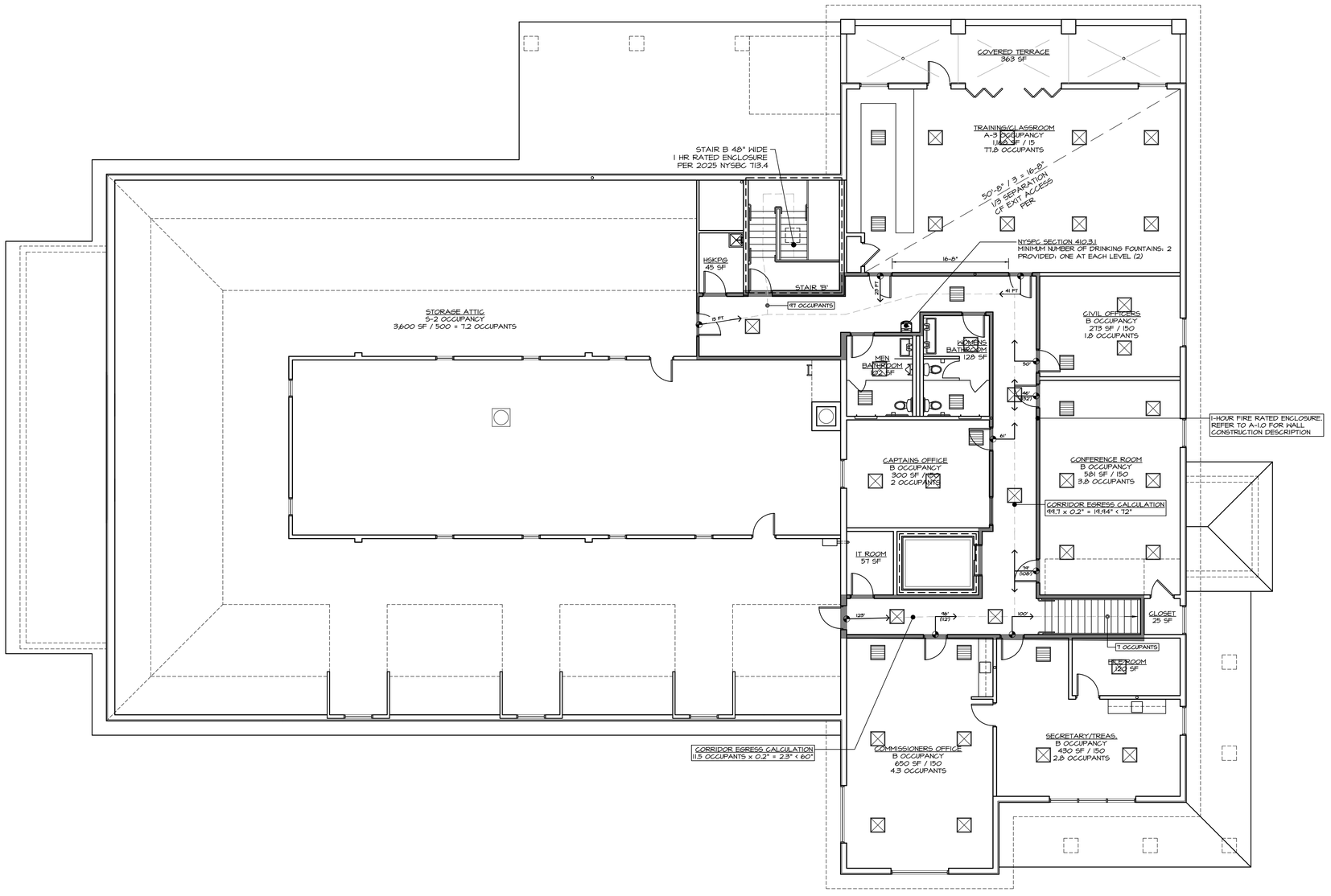
MEZZANINE CODE PLAN

PROJECT No. 2501

CHECKED BY:

DRAWING:

CODE-4



SECOND FLOOR CODE PLAN (10,919 S.F.) (363 SQ.FT. EXTERIOR COVERED AREA)

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

SECOND FLOOR CODE INFORMATION

CODE ITEMS SPECIFIC TO FIRST FLOOR

OCCUPANCY CLASSIFICATION:
A - ASSEMBLY 3
B - BUSINESS
S-2 - LOW HAZARD STORAGE

CONSTRUCTION: TYPE II B
FIRE RATING REQ'D = 0 HR (SEE 508.3.3)

MAXIMUM UNSEPERATED FIRE AREA PER TABLE 506.2
(MOST RESTRICTIVE) = 69,000 S.F

ACTUAL FIRE AREA = 11,585 S.F.
(OCCUPANCY LOADS PER TABLE 1004.5)

STORAGE S-2 = 3,600 / 500 = 7.2

ASSEMBLY 3 = 1,168 / 15 = 77.8

BUSINESS B = 2654 / 150 = 15.63

TOTAL = 100.63 = 100 OCCUPANTS

SECTION 1006.3.3 (TABLE 1006.3.3)
MINIMUM NUMBER OF EXITS PER STORY
171 > 500 = 2 MINIMUM; 2 PROVIDED

SECTION 1017.1 (TABLE 1017.2)
EXIT ACCESS TRAVEL DISTANCE

MOST RESTRICTIVE OCCUPANCY = ASSEMBLY
MAX. ALLOWABLE TRAVEL DISTANCE = 250 FT

ACTUAL MAXIMUM TRAVEL DISTANCE = 123 FT

EGRESS LEGEND

- POINT OF ENTRY TO COMMON EGRESS
- 38 FT (52 FT) — DISTANCE TO PUBLIC WAY (ALT. DIST. TO PUBLIC WAY)
- XX OCCUPANTS — TOTAL UTILIZATION OF EGRESS POINT
- COMMON PATH OF EGRESS
- 1-HOUR FIRE RATED SHAFT
- 1-HOUR FIRE RATED EXIT ENCLOSURE

DATE	ISSUED
03-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

SENDLEWSKI ARCHITECTS, P.C.
ARCHITECTS - PLANNERS
215 ROANOKE AVENUE
RIVERHEAD, NY 11901
MFS@FIREHOUSEPLANNER.COM
(631) 727-5362

PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

SECOND FLOOR CODE PLAN

PROJECT No. 2501

CHECKED BY:

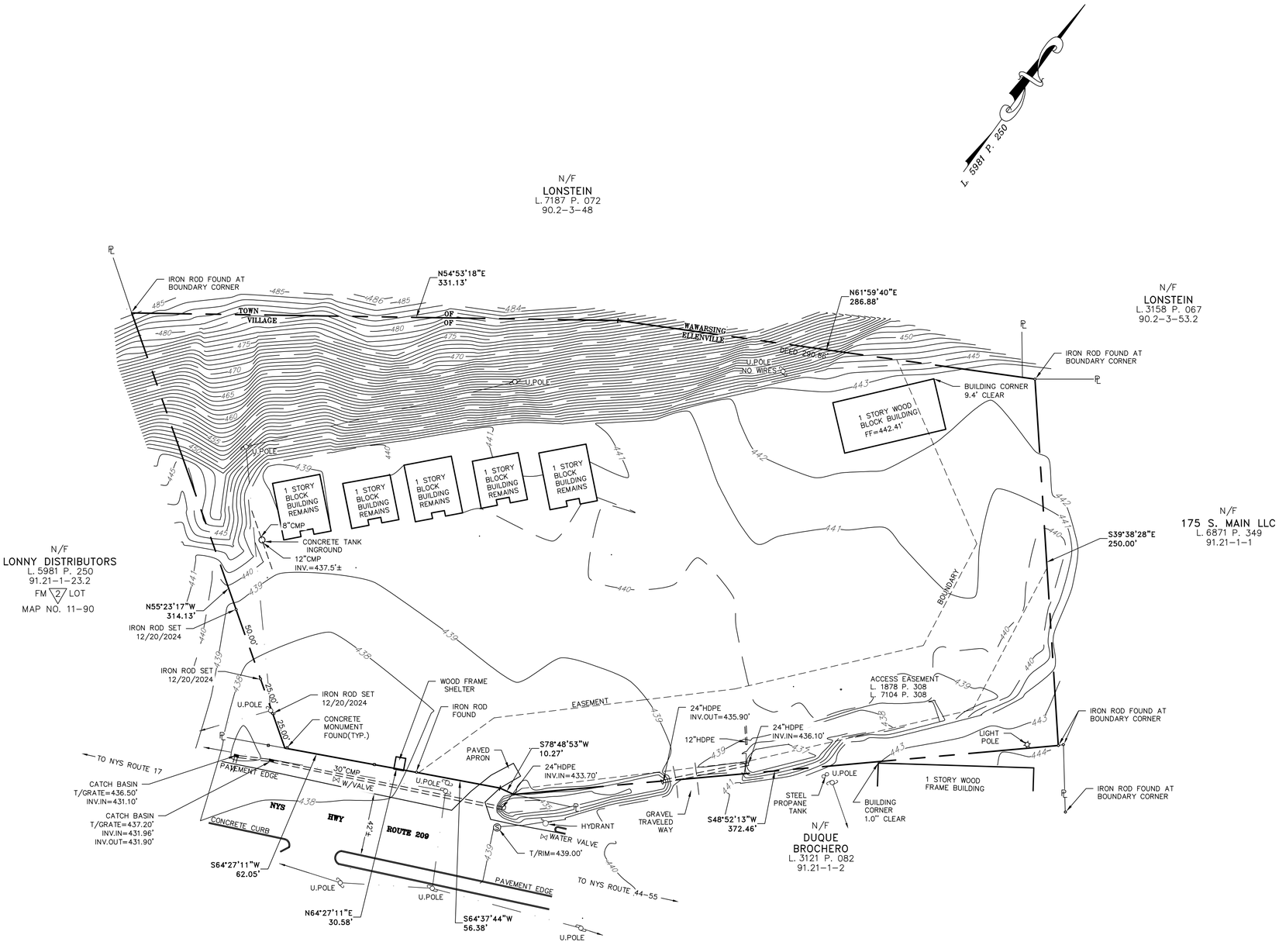
DRAWING:

CODE-5

NOTES:

1. THIS PROPERTY AND SURVEY ARE SUBJECT TO ANY FINDINGS OF A CURRENT TITLE SEARCH.
2. EASEMENTS, UTILITIES OR RIGHT-OF-WAYS ON OR UNDER THESE LANDS AND NOT VISIBLE AT THE TIME OF SURVEY ARE NOT SHOWN.
3. TOPOGRAPHY AS SHOWN IS THE RESULT OF FIELD SURVEY, CONTOUR ELEVATIONS ARE NAVD 88 ESTABLISHED BY GPS READING.
3. REFERENCES:
   MAP ENTITLED "SURVEY/TWO LOT SUBDIVISION PREPARED FOR FU GUANG LI AND LAPMAN LEE, VILLAGE OF ELLENVILLE, ULSTER COUNTY, NEW YORK'" DATED MAY 3, 2011, LAST REVISED MAY 23, 2011, FILED IN THE ULSTER COUNTY CLERK'S OFFICE ON JUNE 30, 2011, AS MAP NO. 11-90. PREPARED BY TIMOTHY M. MCCABE, LS, PC, ELLENVILLE, NEW YORK.

   MAP ENTITLED "SURVEY MAP OF A 7.47 ACRE PARCEL OF LAND TO BE CONVEYED TO 175 MAIN STREET LLC, SITUATE IN THE VILLAGE OF ELLENVILLE, TOWN OF WAWARSING, COUNTY OF ULSTER, STATE OF NEW YORK," DATED MARCH 31, 2021. PREPARED BY ANTHONY F. SICILIANO, LS PC, GRAHAMSVILLE, NEW YORK.



RECORD OWNER:

ELLENVILLE FIRE DISTRICT
7025 ROUTE 52 WEST
GREENFIELD PARK, NEW YORK 12435
91.21-1-21.1, 22.1, 22.2
L. 7314 P. 308

AREA:

TOTAL
3.871±AC.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

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UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A PROFESSIONAL LAND SURVEYORS SEAL IS A VIOLATION OF SECTION 7209, SUBDIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.

ONLY COPIES OF THE ORIGINAL OF THIS SURVEY MARKED WITH AN ORIGINAL OF THE LAND SURVEYORS STAMP AND/OR EMBOSSED SEAL SHALL BE CONSIDERED TO BE VALID TRUE COPIES.

CERTIFICATIONS SHALL RUN ONLY TO THE PERSON FOR WHOM THE SURVEY IS PREPARED. CERTIFICATIONS ARE NOT TRANSFERABLE.

CERTIFICATION:

I HEREBY CERTIFY TO THE PARTIES OF INTEREST LISTED BELOW THAT THIS MAP SHOWS THE RESULTS OF AN ACTUAL FIELD SURVEY COMPLETED ON MAY 13, 2023, AND UPDATED ON APRIL 2, 2024.

ELLENVILLE FIRE DISTRICT

BY: _____
TIMOTHY M. McCABE, L.S.
NEW YORK STATE LICENSE NO. 50266

TIMOTHY M. McCABE, L.S., P.C.
1 CLIFFORD ST., P.O. BOX 747, ELLENVILLE, N.Y. 12428 TEL (845) 647-4717

SURVEY
PREPARED FOR

ELLENVILLE FIRE DISTRICT

VILLAGE OF ELLEVILLE
ULSTER COUNTY, NEW YORK

Date:	MAY 22, 2024
Revisions:	JULY 15, 2024 lotconsolidationplan DECEMBER 20, 2024 topo
CAD File:	230190-SVY2.DWG
Layout:	SURVEY
Sheet No.:	1 OF 1
Drawn By:	TMM
Checked By:	
Scale:	1" = 40'
Tax Map No.:	
Drawing No.:	B - 23 - 0190

B-1

(EL. 438.2'±) GROUND SURFACE

1	1	6/11/13/18	14"	DARK BRN. SANDY-SILT, TR. WOOD, ROOTS, GRAVEL, ROCK FRAGMENTS (ML) (FILL)
	2	14/14/12/12	14"	BRN. FINE SANDY - SILT, TR. ROOTS, GRAVEL (ML) (FILL)
5	3	4/4/4/4	20"	LIGHT GRAY-BRN.- FINE SANDY SILT, (ML) (5)
	4	4/8/8/10	22"	GRAY BRN. SILTY - SAND, TR. GRAVEL, ROCK FRAGMENTS (SM) (4)
10	5	9/14/14/11	15"	GRAY BRN. SILTY - SAND, TR. CLAY, GRAVEL, ROCK FRAGMENTS (SM) (4)
	6	10/20/35/26	16"	
	7	10/10/10/16	14"	
15	8	15/18/20/20	16"	
	9	20/14/15/16	18"	
20	10	20/20/20/20	17"	
	11	20/20/20/18	18"	
	12	17/16/16/16	16"	
25	13	20/20/20/20	18"	
	14	20/20/20/21	17"	

FEB. 27, 2026
PERCHED WATER
8'-0"±
12:30 PM

END OF BORING 28'-0"

FEET	NO	SB	REC	CLASSIFICATION

B-2

(EL. 439.8'±) GROUND SURFACE

1	1	11/16/19/35	18"	LIGHT BRN.-BRN.- SILTY SAND, TR. ROOTS, GRAVEL, ROCK FRAGMENTS (SM) (FILL)
	2	30/30/31/31	21"	GRAY-LIGHT BRN.-BRN. - SILTY - SAND, TR. GRAVEL, ROCK FRAGMENTS (SM) (FILL)
5	3	28/20/13/6	20"	LIGHT BRN.-BRN.- SILTY SAND, TR. CLAY, GRAVEL, ROCK FRAGMENTS (SM) (FILL)
	4	5/11/11/12	23"	LIGHT GRAY-BRN. - FINE SANDY SILT, (ML) (5)
10	5	9/9/40/45	19"	GRAY BRN. SILTY - SAND, TR. CLAY, GRAVEL, ROCK FRAGMENTS (SM) (4)
	6	40/34/45/29	18"	
	7	69/81/84/100/2"	13"	

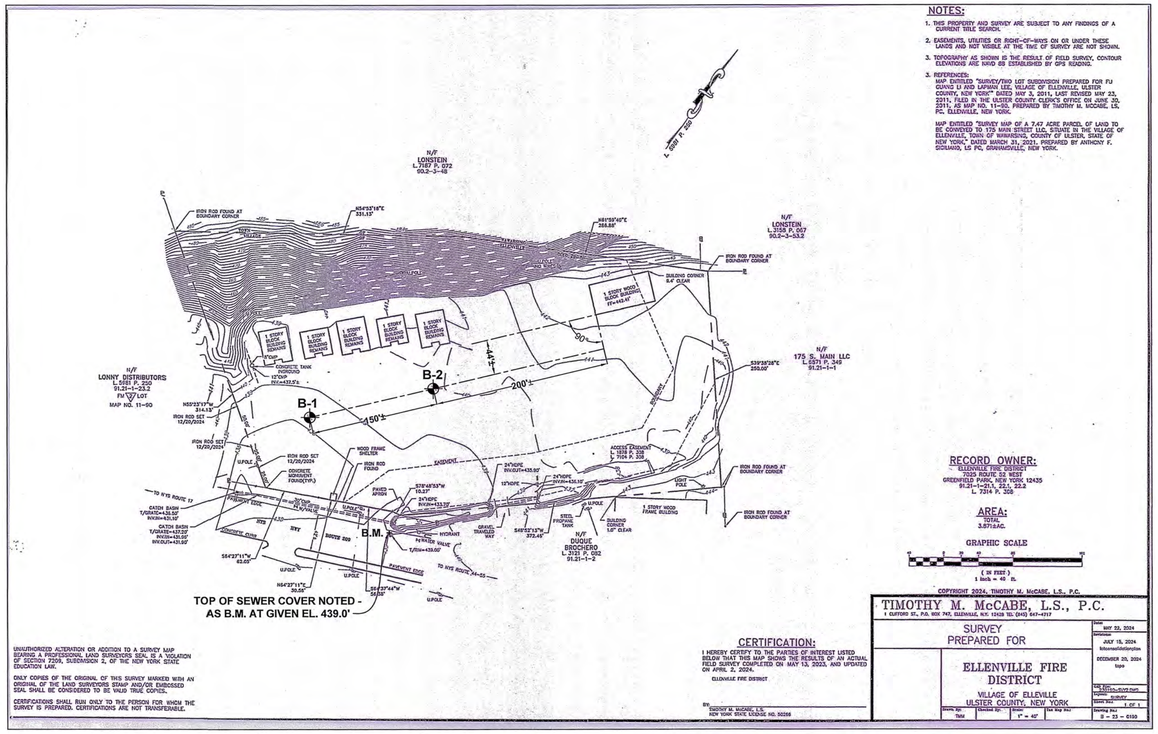
FEB. 27, 2026
PERCHED WATER
4'-0"±
12:06 PM

SPOON REFUSAL 13'-8"

FEET	NO	SB	REC	CLASSIFICATION

NOTES

1. SOIL DESCRIPTIONS ARE BY VISUAL EXAMINATION OF SOIL SAMPLES RECOVERED DURING DRILLING OPERATIONS.
2. SOIL DESCRIPTIONS ARE IN ACCORD WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM.
3. GROUND WATER TABLE WAS MEASURED INSIDE THE DRILL CASING AT THE COMPLETION OF EACH SOIL TEST BORING DRILLED.
4. GROUND WATER TABLE WHERE ENCOUNTERED AT THIS SITE IS PERCHED AND NOT CONSIDERED RELIABLE.
5. SOIL STRATIFICATIONS ARE ACCURATE TO WITHIN TWO FEET VERTICALLY.
6. SOIL SAMPLES FOR BORING B-1 AND B-2 WERE OBTAINED USING A STANDARD 2" O.D. SPLIT SPOON SAMPLER ADVANCED INTO THE SOIL-FORMATION VIA THE USE OF A MOTORIZED TRIPOD MOUNTED ROPE AND CATHEAD 140 lb. HAMMER AND A 30 INCH. DROP.
7. SOIL TEST BORING GROUND SURFACE ELEVATIONS SHOWN WAS REFERENCED TO TOP OF SEWER COVER AT GIVEN B.M. EL. 439.0'.
8. SOIL TEST BORINGS DRILLED IN ACCORD WITH THE NEW YORK STATE BUILDING CODE.



UNIFIED SOIL CLASSIFICATION

SOIL GROUPS	TYPICAL NAMES AND SOIL SYMBOLS
GW	WELL GRADED GRAVELS, GRAVEL SAND MIXTURES, LITTLE OR NO FINES
GP	POORLY GRADED GRAVELS OR GRAVEL SAND MIXTURES. LITTLE OR NO FINES
GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURE
GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURE
SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
SP	POORLY GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES
SM	SILTY SANDS, SAND - SILT MIXTURES
SC	CLAYEY SANDS, SAND - CLAY MIXTURES
ML	INORGANIC SILTS, VERY FINE SANDS, CLAYEY SILTS, SLIGHT PLASTICITY
CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS SANDY CLAYS, SILTY CLAYS
OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
Pt	PEAT AND OTHER HIGHLY ORGANIC SOILS

ALLOWABLE FOUNDATION & LATERAL PRESSURES, N.Y.S. BLDG. CODE TABLE 1804.2

CLASS OF MATERIALS	ALLOWABLE FOUNDATION PRESSURE (PSF)[d]	LATERAL BEARING (PSF/F BELOW NATURAL GRADE)[d]	LATERAL SLIDING	
			COEFFICIENT OF FRICTION[a]	RESISTANCE (PSF)[b]
1. CRYSTALLINE BEDROCK	12,000	1,200	0.70	-
2. SEDIMENTARY & FOLIATED ROCK	4,000	400	0.35	-
3. SANDY GRAVEL &/OR GRAVEL (GW & GP)	3,000	200	0.35	-
4. SAND, SILTY SAND, CLAYEY SAND, SILTY GRAVEL, & CLAYEY GRAVEL (SW, SP, SM, SC, GM, &GC)	2,000	150	0.25	-
5. CLAY, SANDY CLAY, SILTY CLAY, CLAYEY SILT, SILT, & SANDY SILT (CL, ML, MH, & CH)	1,500[c]	100	-	130

FOR SI: 1 POUND PER SQUARE FOOT = 0.0479 kPa, 1 POUND PER SQUARE FOOT = 0.157 kPa/m.

a. COEFFICIENT TO BE MULTIPLIED BY THE DEAD LOAD.

b. LATERAL SLIDING RESISTANCE VALUE TO BE MULTIPLIED BY THE CONTACT AREA, AS LIMITED BY SECTION 1804.3.

c. WHERE THE CODE ENFORCEMENT OFFICIAL DETERMINES THAT IN-PLACE SOILS WITH AN ALLOWABLE BEARING CAPACITY OF LESS THAN 1,500 PSF ARE LIKELY TO BE PRESENT AT THE SITE, THE ALLOWABLE BEARING CAPACITY SHALL BE DETERMINED BY A SOILS INVESTIGATION.

d. AN INCREASE OF ONE-THIRD IS PERMITTED WHEN USING THE ALTERNATE LOAD COMBINATIONS IN SECTION 1605.3.2 THAT INCLUDE WIND OR EARTHQUAKE LOADS.

COMPACTION RELATED TO SPOON BLOWS PER FOOT

SAND		SILT & CLAY	
LOOSE	15 OR LESS	SOFT	10 OR LESS
MEDIUM	16 TO 39	MEDIUM	11 TO 29
DENSE	40 OR MORE	HARD	30 OR MORE

" N " STANDARD PENETRATION TEST (2" SPOON, 140lb HAMMER, 30" FALL)

N=17 BLOWS PER FOOT — SPOON BLOW COUNT IS GENERALLY SHOWN IN 6" INCREMENTS FOR 2' DRIVE

TO OBTAIN BLOWS PER FOOT (N) USE THE 2ND & 3RD 6" INCREMENT

	ROTARY CASING	EXTRA HEAVY CASING	SAMPLE SPOON
SIZES, INCHES	2.5		2.0
HAMMER WEIGHT, POUNDS			140
HAMMER FALL, INCHES			30

CB - CASING BLOWSPER 1 FOOT DRIVE
SB - SPOON BLOWS PER 6 INCH DRIVE
P - PUSHED BY WEIGHT OF HAMMER
WOR - WEIGHT OF ROD
UD - UNDISTURBED SOIL SAMPLE
NO - SAMPLE NUMBER
FEET - DEPTH FROM GND. SUR. NOTED AT EACH 5'
WOH - WEIGHT OF HAMMER (INCLUDES ROD)

THE LIABILITY OF SOIL MECHANICS DRILLING CORP., ITS OFFICERS OR EMPLOYEES, FOR ERRORS, OMISSIONS OR NEGLIGENCE RESULTING IN PERSONAL INJURIES, PROPERTY DAMAGE OR ANY CONSEQUENTIAL DAMAGES, IS LIMITED TO THE AMOUNT OF THE FEE PAID FOR THIS REPORT. THE RETENTION OR USE OF ANY PART OF THIS REPORT WILL CONSTITUTE AN ACCEPTANCE OF THIS LIMITED LIABILITY. IF THIS IS UNACCEPTABLE, THE CLIENT MUST NOTIFY SOIL MECHANICS DRILLING CORP. IN WRITING BY CERTIFIED MAIL, WITHIN SEVEN DAYS FROM THE DATE OF RECEIPT. THE FEE CHARGED FOR THIS REPORT IS BASED ON THIS LIMITATION OF LIABILITY WHICH IS THE ESSENCE OF THIS AGREEMENT.IF THE CLIENT WANTS A HIGHER LIMITATION OF LIABILITY, SOIL MECHANICS DRILLING CORP., WILL NEGOTIATE ONE, BASED UPON A HIGHER FEE BEING CHARGED FOR THE ADDITIONAL ASSUMPTION OF LIABILITY. SOIL MECHANICS DRILLING CORP., ITS OFFICERS OR EMPLOYEES, HAVE NO LIABILITY OR RESPONSIBILITY TO PERSONS OTHER THAN THE CLIENT FOR WHOM THIS REPORT WAS PREPARED. ANYONE, OTHER THAN OUR CLIENT, RELIES ON THIS REPORT AT THEIR OWN RISK.

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3770 MERRICK ROAD * SEAFORD, NEW YORK 11783 * 516

SUBSURFACE INVESTIGATION
VILLAGE OF ELLENVILLE FIRE DEPARTMENT
203 SOUTH MAIN STREET AKA U.S. RTE. 209
ULSTER COUNTY, ELLENVILLE, NEW YORK

VERTICAL BORING SCALE:	DRAWING DATE:			DRAWING NUMBER
1/2" = 1'-0" UNLESS NOTED OTHERWISE	MARCH 4, 2026			26R037.2
DATE OF BORINGS: FEBRUARY 27, 2026	DRAWN BY: NAR	CHECKED BY: SHL	REVISED DATE:	SHEET 1 OF 1

STATE OF NEW YORK — STEVEN H. LAWINSKI — 090361 — LICENSED PROFESSIONAL ENGINEER

Z: 26RDWGS/26R037.2

PHASE 1 MAIN PARKING:

1. PROVIDE SILT FENCE WITH SILT SOCK AROUND PERIMITER OF WORK AREA.

2. PROVIDE 6' CHAIN LINK FENCE SECURITY ENCLOSURE AROUND ENTIRE WORK AREA.

3. PROVIDE ROLLING 6'-0A HIGH X 25' WIDE GATE #1 AS CONSTRUCTION ENTRANCE.

4. PROVIDE ROLLING 6'-0A HIGH X 25' WIDE GATE #2 AS SECONDARY ENTRANCE.

5. PROVIDE 25' X 80' (WITH RIGHT TURN) STABILIZED CONSTRUCTION ENTRANCE.

6. PROVIDE 25' X 50' STABILIZED CONSTRUCTION ENTRANCE.

7. LOCATION OF CONSTRUCTION TRAILER WITH SWPPP INSPECTION RECORDS.

8. LOCATION OF TWO (2) PORTABLE LAVATORIES.

9. DRAINAGE AREA (+/- 8,400 SQ. FT.) TO BE EXCAVATED TO ELEVATION 434.5 TO REMOVE ALL FILL MATERIAL FROM AVERAGE ELEVATION 440.5 (AVERAGE 6') = 1,866 CU. YD. PAVED AREAS OF 33,400 SQ. FT. TO BE EXCAVATED TO ELEVATION 436.5 (AVERAGE 3.0') = 3,711 CU. YD.

10. REFER TO DRAINAGE PLAN SP-3 FOR DRAINAGE AND RELATED IMPROVEMENTS TO BE INSTALLED IN THIS AREA. FINISH 2A WEARING COURSE OF PAVEMENT TO BE COMPLETED AFTER ALL PHASES ARE COMPLETED.

11. PROVIDE INLET PROTECTION AT NEW DRAIN.

12. PROVIDE TEMPORARY DRAINAGE SWALE WITH SILT SOCK AT PERIMITER (TWO LOCATIONS).

13. TEMPORARY STOCKPILE LOCATION (REFER TO DETAIL).

14. COORDINATE INSTALLATION WITH PLUMBING CONTRACTOR FOR INSTALLATION OF WATER AND SEWER LINES TO BE INSTALLED DURING THIS PHASE.

15. COORDINATE WITH ELECTRICAL CONTRACTOR FOR SITE LIGHTING CONDUIT AND CONCRETE BASES TO BE INSTALLED DURING THIS PHASE.

16. EXISTING 24A HDPE PIPIE TO BE EXCAVATED AND TRACED BACK ONTO SITE AND MAINTAINED. IF REQUIRED, PIPE SHALL BE REROUTED AROUND NEW DRAINAGE PER UNIT PRICE.

17. EXISTING CONCRETE TANK AND RELATED PIPING TO BE EXCAVATED AND EXPOSED IN EACH DIRECTION AND MAINTAINED.

PHASE 2 BUILDING FOUNDATION:

1. ENTIRE AREA OF BUILDING FOUNDATION (14,000 SQ. FT.) TO BE EXCAVATED TO BOTTOM OF FOOTING ELEVATION 431.5 TO REMOVE ALL FILL MATERIAL FROM AVERAGE ELEVATION 434.0 (AVERAGE 7.5') = 3,884 CU. YD.

2. COORDINATE INSTALLATION OF ALL PLUMBING AND UNDERSLAB ELECTRIC DURING CONSTRUCTION.

PHASE 3 NORTH DRAINAGE:

1. ENTIRE AREA (9,400 SQ. FT.) TO BE EXCAVATED TO ELEVATION 432.0 REMOVE ALL FILL MATERIAL FROM AVERAGE ELEVATION 439.5 (AVERAGE 7.5') = 261 CU. YD.

2. COORDINATE INSTALLATION OF ALL PLUMBING AND UNDERSLAB ELECTRIC DURING CONSTRUCTION.

3. REFER TO DRAINAGE PLAN SP-3 FOR DRAINAGE AND RELATED IMPROVEMENTS TO BE INSTALLED IN THIS AREA. FINISH 2A WEARING COURSE OF PAVEMENT TO BE COMPLETED AFTER ALL PHASES ARE COMPLETED.

PHASE 4 FRONT DRAINAGE AND APRON IMPROVEMENTS:

1. ENTIRE AREA (3,750 SQ. FT.) TO BE EXCAVATED TO ELEVATION 432.0 TO REMOVE ALL FILL MATERIAL FROM AVERAGE ELEVATION 438.0 (AVERAGE 6.0') = 3,055 CU. YD.

2. COORDINATE INSTALLATION OF ALL PLUMBING AND ELECTRIC UNDERGROUND UTILITIES DURING CONSTRUCTION.

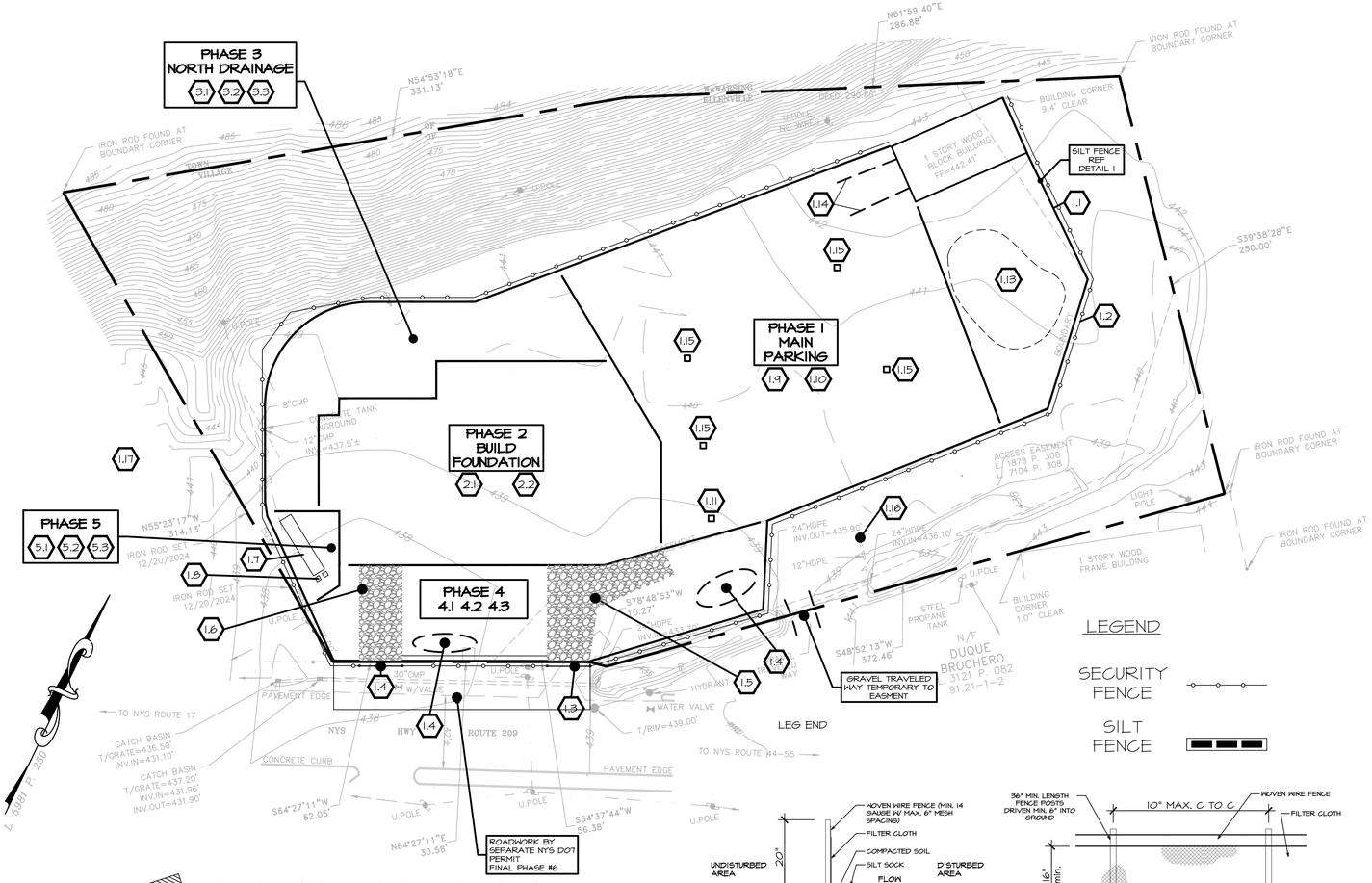
3. REFER TO DRAINAGE PLAN SP-3 FOR DRAINAGE AND RELATED IMPROVEMENTS. APRON INSTALLATION TO BE FIELD COORDINATED.

PHASE 5 TRAILER AND FIELD OFFICE AREA:

1. ENTIRE AREA 3,000 SQ. FT.) TO BE EXCAVATED TO ELEVATION 432.0 TO REMOVE ALL FILL MATERIAL FROM AVERAGE ELEVATION 438.0 (AVERAGE 6.0') = 667 CU. YD.

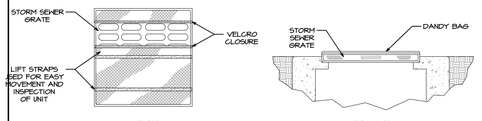
2. COORDINATE INSTALLATION OF ALL PLUMBING AND ELECTRIC UNDERGROUND UTILITIES DURING CONSTRUCTION.

3. REFER TO DRAINAGE PLAN SP-3 FOR DRAINAGE AND RELATED IMPROVEMENTS.



EXISTING SITE SURVEY

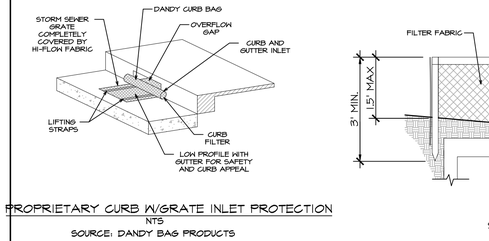
SCALE: 1" = 40'-0"



PROPRIETARY FLUSH INLET PROTECTION

NTS

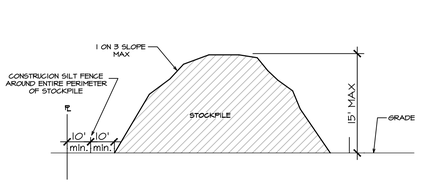
SOURCE: DANDY BAG PRODUCTS



PROPRIETARY CURB W/GRATE INLET PROTECTION

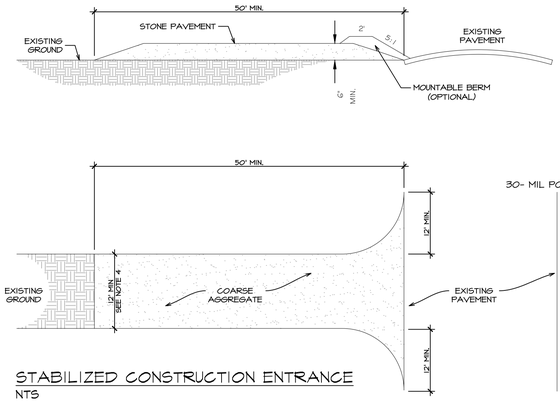
NTS

SOURCE: DANDY BAG PRODUCTS



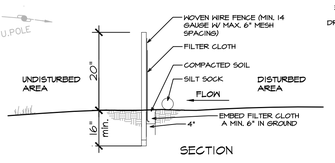
TEMPORARY STOCKPILE

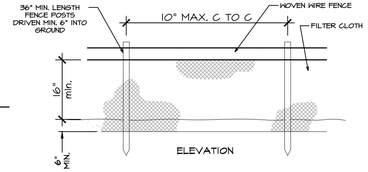
NTS



STABILIZED CONSTRUCTION ENTRANCE

NTS

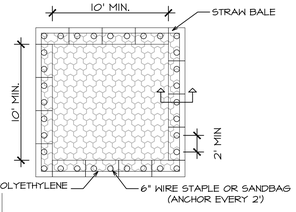




SILT FENCE

NTS

SOURCE: NY STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL



LEGEND

SECURITY FENCE

SILT FENCE

SITE DESCRIPTION

THE PROJECT CONSTRUCTION ACTIVITY INCLUDES THE CLEARING, GRADING, STABILIZATION, CONSTRUCTION AND DEVELOPMENT OF AN FIRE HOUSE FACILITY SITE PLAN, UTILIZING A PORTION OF THE PROPERTY, ALONG WITH THE ASSOCIATED STORM DRAINAGE COLLECTION SYSTEM AND PUBLIC UTILITIES REQUIRED FOR SUSTAINABILITY. ALL IMPROVEMENTS TO CONFORM WITH STATE, COUNTY AND LOCAL STANDARDS AND SPECIFICATIONS.

GENERAL POLLUTION CONTROL MEASURES

IN ACCORDANCE WITH THE PROVISIONS OF THE NYSDEC GENERAL STORM WATER PERMIT, STORM WATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL MEASURES INCLUDING BUT NOT LIMITED TO, THE FOLLOWING SHALL BE EMPLOYED DURING CONSTRUCTION.

1. EXISTING VEGETATION TO REMAIN SHALL BE PROTECTED (BY INSTALLATION OF CONSTRUCTION OF CONSTRUCTION FENCE OR OTHER APPROVED MEANS) AND SHALL REMAIN UNDISTURBED.

2. CLEARING AND GRADING SHALL BE SCHEDULED SO AS TO MINIMIZE THE EXTENT OF EXPOSED, GRADED AND STRIPPED. AREAS TO SHALL BE KEPT STABILIZED THROUGH THE USE OF TEMPORARY SEEDING AS REQUIRED. SEED MIXTURES SHALL BE IN ACCORDANCE WITH SOIL CONSERVATION SERVICE RECOMMENDATIONS. IN AREAS WHERE SOIL DISTURBANCE IS HAS TEMPORARY OR PERMANENTLY CEASED, TEMPORARY AND/OR IMPLEMENTED SOIL STABILIZATION WITHIN SEVEN DAYS.

3. THE LENGTH AND STEEPING OF CLEARED SLOPES SHALL BE MINIMIZED TO REDUCE THE RUNOFF VELOCITIES. RUNOFF SHALL BE DIVERTED AWAY FROM THE CLEARED SLOPES.

4. SEDIMENT SHALL BE TRAPPED ON THE SITE AND NOT PERMITTED TO ENTER ADJACENT PROPERTIES OR PUBLIC ROADS OR DRAINAGE SYSTEMS. SEDIMENT BARRIERS SHALL BE INSTALLED ALONG THE LIMITS DISTURBANCE PRIOR TO THE START OF CONSTRUCTION AND SHALL BE MAINTAINED UNTIL THE SITE HAS BEEN PERMANENTLY STABILIZED.

5. A STABILIZED CONSTRUCTION ENTRANCE SHALL BE MAINTAINED TO PREVENT SOIL AND LOOSE DEBRIS FROM BEING TRACKED ONTO LOCAL ROADS. THE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED UNTIL THE SITE HAS BEEN PERMANENTLY STABILIZED.

6. ALL RUNOFF SHALL BE RETAINED ON-SITE IN ACCORDANCE WITH REGULATIONS AND APPROVALS. DRAINAGE INLETS INSTALLED ON-SITE SHALL BE PROTECTED FROM SEDIMENT BUILDUP THROUGH THE USE OF APPROPRIATE INLET PROTECTION.

7. THE FOLLOWING MEANS SHALL BE USED TO CONTROL DUST DURING CONSTRUCTION. A. WATER-DOWN ACCESS WAYS, STOCKPILES, AND MATERIAL PRIOR TO LOADING. B. LIMIT ON-SITE VEHICULAR SPEEDS TO 5 MPH; C. PROPERLY COVER TUCKS CARTING LOOSE MATERIAL AND CONSTRUCTION DEBRIS.

8. SEDIMENT BARRIERS AND OTHER EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL UPLAND DISTURBED AREAS ARE PERMANENTLY STABILIZED. FOLLOWING PERMANENT STABILIZATION, PAVED AREAS SHALL BE CLEANED OF SOIL AND DEBRIS AND DRAINAGE SYSTEMS SHALL BE CLEANED AND FLUSHED AS NECESSARY.

9. PROPER MAINTENANCE OF EROSION CONTROL MEASURES IS TO BE PREFORMED AS INDICATED BY PERIODIC INSPECTION AND AFTER HEAVY OR PROLONGED STORMS. MAINTENANCE MEASURES ARE TO INCLUDE, BUT ARE NOT LIMITED TO, CLEANING OF RECHARGE BASINS, SEDIMENT TRAPS AND DRYWELLS, CLEANING AND REPAIR OF SEDIMENT BARRIERS, REPAIR OF BERMS AND RUNOFF DIVERTERS, AND CLEANING AND REPAIR OF INLET PROTECTION DEVICES.

10. DURING CONSTRUCTION, THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL REGULATIONS CONCERNING THE DISPOSAL OF SOLID WASTE AND DEBRIS AND TOXIC AND HAZARDOUS WASTE, AS WELL AS SANITARY SEWER AND SEPTIC SYSTEM REGULATIONS.

11. CONCRETE WASH-OUT OF READY-MIX TRUCKS IS NOT ENCOURAGED AT THIS SITE. IF WASH-OUT MUST TAKE PLACE, THE PRACTICE SHALL UTILIZE THE DESIGNATED WASH-OUT FACILITY PROVIDED.

1. MAINTAINING TEMPORARY CONCRETE WASHOUT FACILITIES SHALL INCLUDE REMOVING AND HARDENED CONCRETE AND/OR SLURRY AND RETURNING THE FACILITIES TO A FUNCTIONAL CONDITION.

2. FACILITY SHALL BE CLEANED OR RECONSTRUCTED IN A NEW AREA ONCE WASHOUT AREA BECOMES TWO-THIRD FULL.

12. UNLESS OTHERWISE DIRECTED BY THE OWNER, THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE NECESSARY RECORDS OF THE CONSTRUCTION ACTIVITIES, PREPARATION OF INSPECTION REPORTS, AND REPORTING RELEASE OF POLLUTANTS TO THE PROPER AUTHORITIES AS NECESSARY TO COMPLY WITH THE NYSDEC GENERAL STORMWATER PERMIT. THE CONTRACTOR SHALL REPORT ANY REQUIRED MODIFICATIONS TO THE SWPPP NECESSITATED BY FIELD CONDITIONS OR CONSTRUCTION ACTIVITIES TO THE ENGINEER FOR REVISION OF THE SWPPP WHERE APPROPRIATE.

CONST. ENT. NOTES NOTES

1. STONE SIZE- USE 2" STONE, OR A RECYCLED CONCRETE EQUIVALENT.
2. LENGTH- NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS- NOT LESS THAN 6".
4. WIDTH- 12' MINIMUM BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE EGRESS OR EGRESS OCCURS.
5. FILTER CLOTH- WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
6. SURFACE WATER- ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCES. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAUNTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. ALL SEDIMENT SPILLED DROPPED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.
8.PERIODIC INSPECTION AND MAINTENANCE SHALL BE REMOVED EVERY (1) CALENDAR DAYS.

STOCKPILE NOTES

1. PROTECTION OF STOCKPILES IS A YEAR-ROUND REQUIREMENT.
2. STOCKPILES SHALL BE LOCATED A MINIMUM OF 50FT . FROM CONCENTRATED STORMWATER FLOWS, AND INLETS
3. WIND EROSION CONTROL PRACTICES SHALL BE ON ALL STOCKPILES AS APPROPRIATE.
4. REPAIR AND/OR REPLACE PERIMETER CONTROLS AS NEEDED, OR AS DIRECTED BY ENGINEER.
5. SEDIMENTS SHALL BE REMOVED WHEN SEDIMENTS ACCUMULATIONS REACHES ONE-THIRD (⅓) OF THE BARRIER HEIGHT.

INLET NOTES

1. FILTER FABRIC SHALL HAVE AN EOS OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY HILL NEED TO BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE 2" X 4" HOOD OR EQUIVALENT, METAL WITH A MINIMUM LENGTH OF 3 FT.
4. SPACE STAKES EVENLY AROUND INLET 3 FT APART AND DRIVE A MINIMUM 18 INCHES DEEP. BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED.IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2"X 4" HOOD FRAME BE COMPLETED AROUND THE CREST.
7. USE PROPRIETY INLET PROTECTION FOR INLETS IN PAVED AREAS.

GENERAL NOTES:

1. PROPERTY AREA = 3.811 ACRES
2. TOTAL SITE DISTURBANCE APPROX. 2.25 ACRES
3. THE BASE INFORMATION FOR THIS MAP WAS PROVIDED BY THE SURVEYOR
4. CONSTRUCTION ENTRANCES TO BE UTILIZED AT ANY LOCATIONS WHERE CONSTRUCTION VEHICLES WILL REGULARLY ENTER THE PROPERTY
5. SILT FENCING TO BE INSTALLED AT THE LOCATIONS INDICATED ON THE PLAN PRIOR TO ANY GROUND DISTURBANCE, IN THEIR RESPECTIVE PHASE AREAS OF CONSTRUCTION AND NOT REMOVE UNTIL DIRECTED BY THE QUALIFIED INSPECTOR.
6. DATUM - ASSUMED TO BE NAVD (MSL 1988)

SILT BARRIER SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTEN SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POST SHALL BE STEEL, EITHER "T" OR "U" TYPE, OR HARDWOOD.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WERE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO (2) SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI, 100X, STABILINKA T140N, OR APPROVED EQUAL.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR EQUAL APPROVED.
5. MAINTENANCE SHALL BE PREFORMED AS NEEDED AND MATERIAL WHEN BULGES DEVELOP IN THE SILT FENCE.
6. HAY BALES MAY BE USED IN LIEU OF WIRE BACKING FOR STABILITY.

DATE	ISSUED
03-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

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(631) 727-5362

PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
293 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

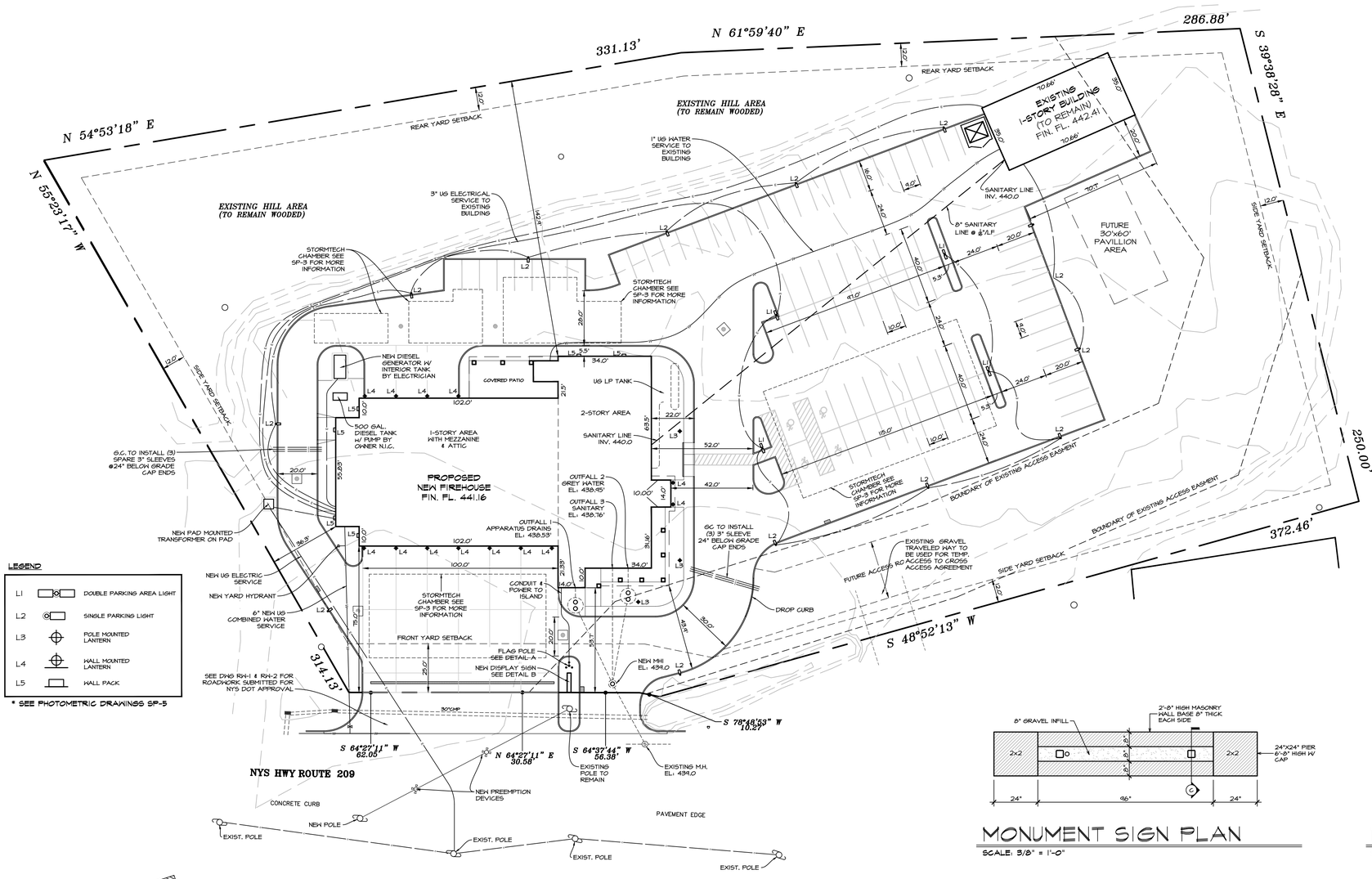
SITE STAGING & SWPPP

PROJECT No. 2501

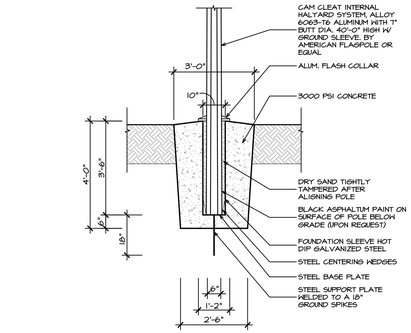
CHECKED BY: **MFS**

DRAWING:

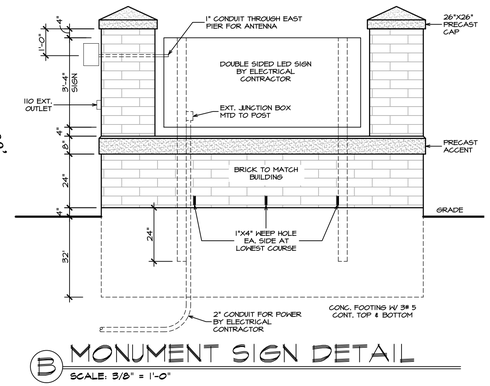
ECS-1



SITE DEVELOPMENT & UTILITY PLAN
SCALE: 1" = 30'-0"

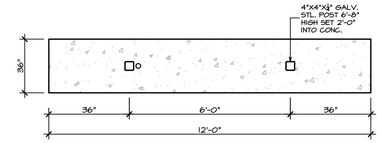


A FLAG POLE DETAIL
SCALE: 3/8" = 1'-0"

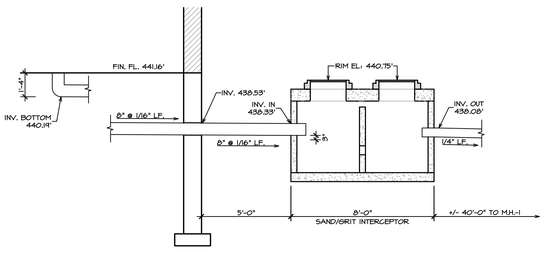


B MONUMENT SIGN DETAIL
SCALE: 3/8" = 1'-0"

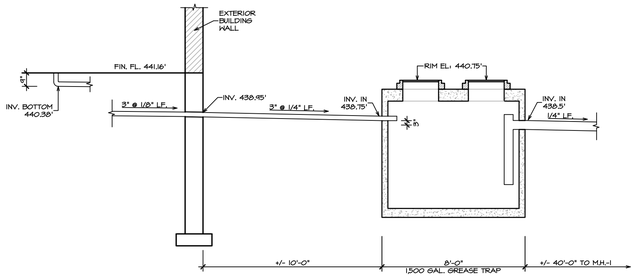
MONUMENT SIGN PLAN
SCALE: 3/8" = 1'-0"



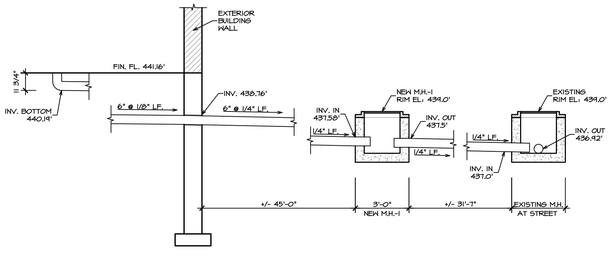
MONUMENT SIGN FOUNDATION
SCALE: 3/8" = 1'-0"



OUTFALL 1 APPARATUS DRAINS
SCALE: 1/4" = 1'-0"



OUTFALL 2 GREY WATER
SCALE: 1/4" = 1'-0"



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

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

SITE DEVELOPMENT UTILITY PLAN & SANITARY CONNECTION DETAILS

PROJECT No. 2501

CHECKED BY:

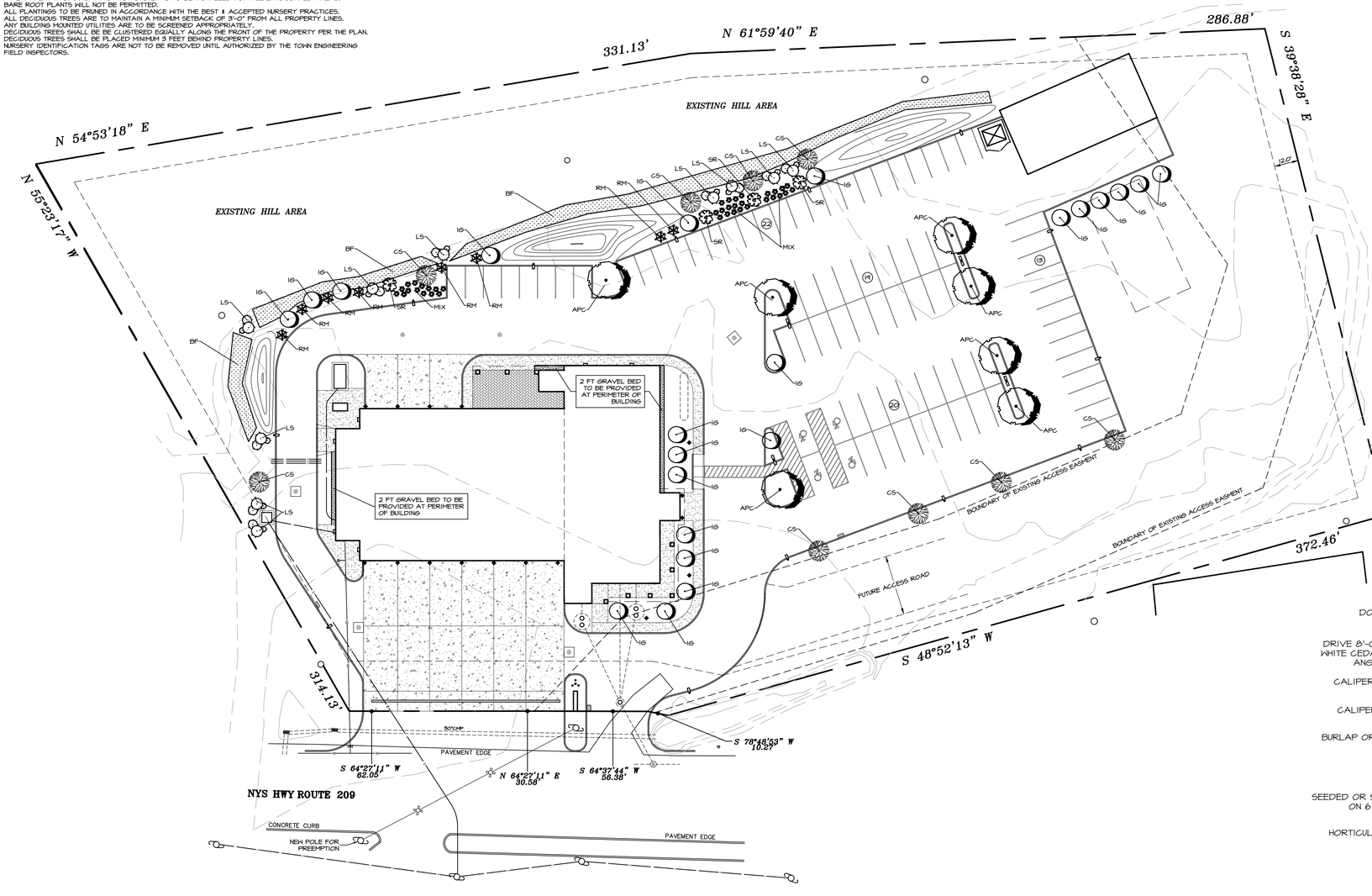
DRAWING:

SP-1

LANDSCAPING TABLE

SYMBOL	KEY	BOTANICAL NAME	COMMON NAME	TYPE	COUNT	PLANTING DIA.	SPACING	MAT. HEIGHT	SPREAD DIA.
	APC	ACER PLATANOIDES	CRIMSON KING MAPLE	DECIDUOUS TREE	7	25 GAL.	30 FT	40 FT	35 FT
	CS	AMELANCHIER CANADENSIS	CANADIAN SERVICEBERRY	DECIDUOUS TREE/SHRUB	9	25 GAL.	15 FT	25-30 FT	15-20 FT
	RM	RHODODENDRON MAXIMUM	GREAT LAUREL	SHRUB	8	10 GAL.	6 FT	5-15 FT	5-12 FT
	SR	ROSA PALUSTRIS	SWAMP ROSE	SHRUB	4	10 GAL.	6 FT	3-6 FT	7 FT
	IG	ILEX GLABRA	INKBERRY HOLLY	EVERGREEN SHRUB	24	7 GAL.	4 FT	5-8 FT	8 FT
	LS	LOBELIA SIPHILITICA	GREAT BLUE LOBELIA	GROUND COVER	30	5 GAL.	1 FT	2-3 FT	1-2 FT
	MIX	CLETHRA ALNIFOLIA CANNINGHAM WHITE RHODODENDRON RED SPRITE WINTERBERRY HUMMINGBIRD SUMMERSWEET		SHRUB MIX	37	5 GAL.	4 FT	1 FT	3 FT
	IG	PTERIDIUM AQUILNUM	BRACKEN FERN	GROUND COVER	AS REQ'D	5 GAL.	5 FT	3-4 FT	4-5 FT

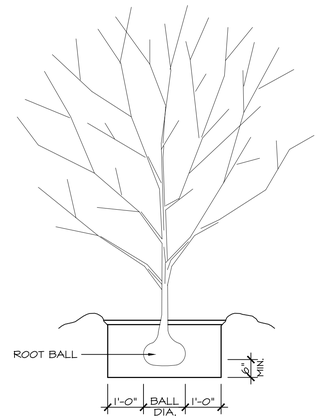
LANDSCAPING NOTES:
1. A PERMANENT IN-GROUND IRRIGATION SYSTEM IS TO BE INSTALLED FOR ALL LANDSCAPED AREAS.
2. BARE ROOT PLANTS WILL NOT BE PERMITTED.
3. ALL PLANTINGS TO BE PRUNED IN ACCORDANCE WITH THE BEST & ACCEPTED NURSERY PRACTICES.
4. ALL DECIDUOUS TREES ARE TO MAINTAIN A MINIMUM SETBACK OF 3'-0" FROM ALL PROPERTY LINES.
5. ANY BUILDING MOUNTED UTILITIES ARE TO BE SCREENED APPROPRIATELY.
6. DECIDUOUS TREES SHALL BE BE CLUSTERED EQUALLY ALONG THE FRONT OF THE PROPERTY PER THE PLAN.
7. DECIDUOUS TREES SHALL BE PLACED MINIMUM 3 FEET BEHIND PROPERTY LINES.
8. NURSERY IDENTIFICATION TAGS ARE NOT TO BE REMOVED UNTIL AUTHORIZED BY THE TOWN ENGINEERING FIELD INSPECTORS.



LANDSCAPING PLAN

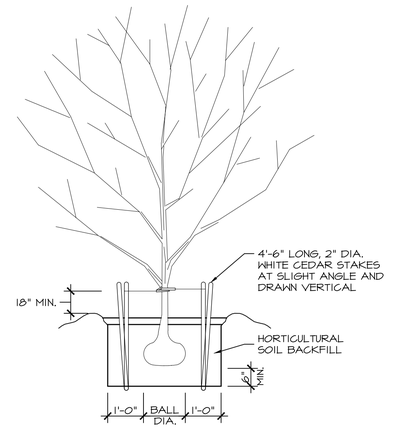
SCALE: 1" = 30'-0"

1. FOR EXTERIOR BUILDING CONCRETE LAY-OUT, CURB AND TRENCH DRAIN DETAILS SEE DRAWINGS SP-4.1 & SP-4.2
2. FOR SITE DETAILS, SUCH AS PARKING STRIPPING LAY-OUT, CONCRETE RAMP, SIGNAGE, AND DUMPSTER ENCLOSURE PLAN AND SECTION SEE DRAWING SP-4.3



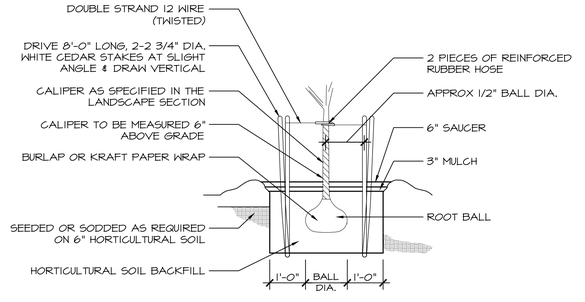
PLANTING BED

SCALE: N.T.S



MINOR TREE

SCALE: N.T.S



MAJOR TREE

SCALE: N.T.S

PLANTING DETAILS

1. BARE ROOT PLANTS WILL NOT BE PERMITTED
2. ALL PLANTINGS TO BE PRUNED IN ACCORDANCE WITH THE BEST & ACCEPTED NURSERY PRACTICES

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ELLENVILLE, NY 12428

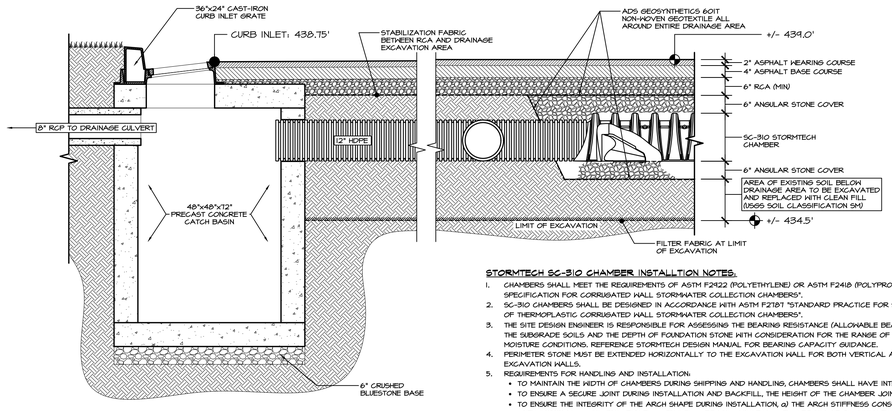
SITE LANDSCAPING PLAN

PROJECT No. 2501

CHECKED BY:

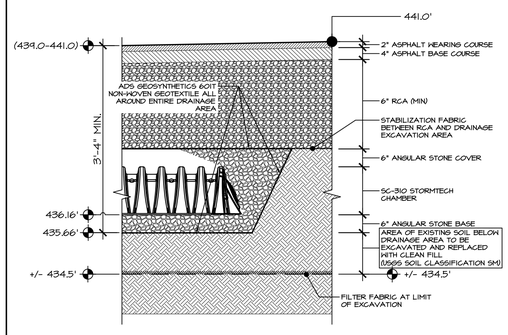
DRAWING:

SP-2



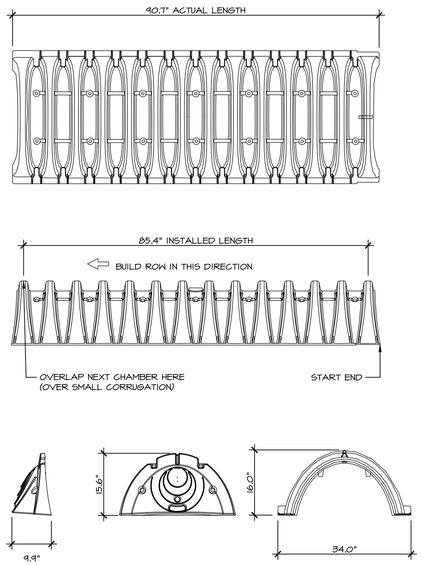
DRAINAGE AREA "B" DETAIL @ C. BASIN

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



DRAINAGE AREA "B" END TRENCH DETAIL

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

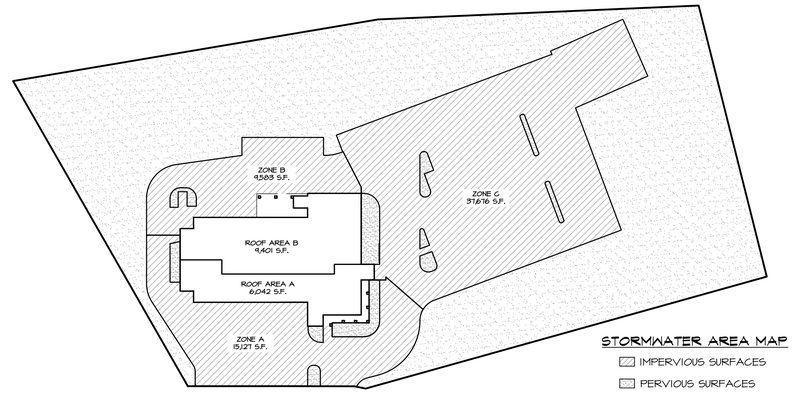


STORMTECH CHAMBER DETAILS

SCALE:NTS

STORMTECH SC-310 CHAMBER INSTALLTION NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED HALL STORMWATER COLLECTION CHAMBERS".
2. SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED HALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION HALL FOR BOTH VERTICAL AND SLOPED EXCAVATION HALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2" (50 mm).
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.9 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 325 LBS/FT/% AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.



STORMWATER AREA MAP

IMPERVIOUS SURFACES

PERVIOUS SURFACES

STORMWATER DRAINAGE CALCULATIONS

STORM WATER AREA "A"

IMPERVIOUS AREA:
15,127 SF x 2,736/12 x 100/100 = 3,448.86 CF

ROOF AREA:
6,042 SF x 2,736/12 x 100/100 = 1,377.58 CF

PERVIOUS AREA:
1,534 SF x 2,736/12 x 20/100 = 70.71 CF
TOTAL= 4,846.71 CF

USE STORMTECH SC-310 CHAMBERS @ 31.0 CF/UNIT

4,846.71 CF / 31 CF = 157.4 CHAMBERS REQ'D

USE (158) STORMTECH SC-310 CHAMBERS x 31.0 CF = 5,208 CF

STORM WATER AREA B

IMPERVIOUS AREA:
9,583 SF x 2,736/12 x 100/100 = 2,184.92 CF

ROOF AREA:
9,401 SF x 2,736/12 x 100/100 = 2,143.43 CF

PERVIOUS AREA:
252 SF x 2,736/12 x 20/100 = 11.49 CF
TOTAL= 4,339.84 CF

USE STORMTECH SC-310 CHAMBERS @ 31.0 CF/UNIT

4,339.84 CF / 31 CF = 139.9 CHAMBERS REQ'D

USE (140) STORMTECH SC-310 CHAMBERS x 31.0 CF = 4,340 CF

STORM WATER AREA C

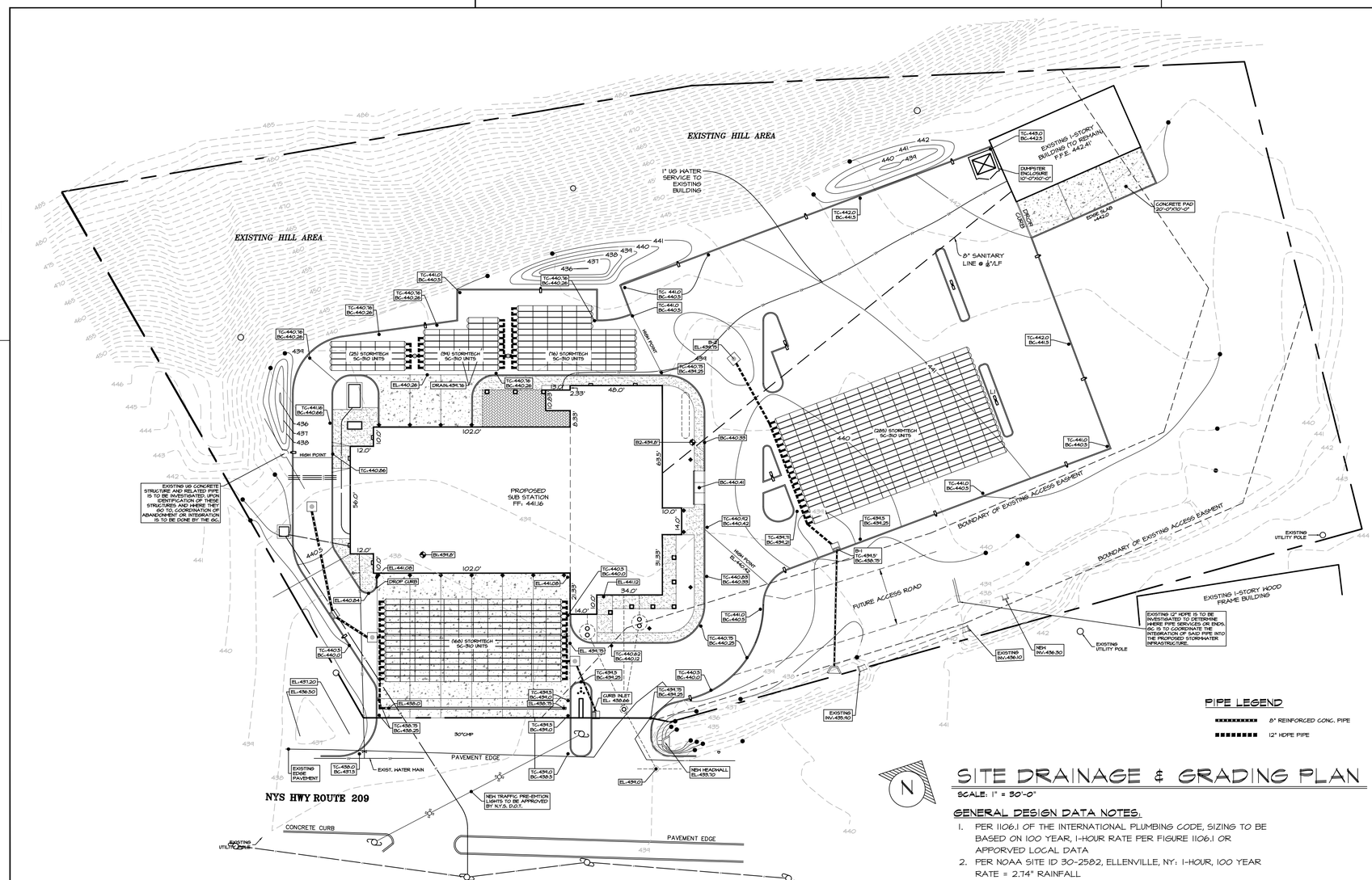
IMPERVIOUS AREA:
31,676 SF x 2,736/12 x 100/100 = 8,540.13 CF

PERVIOUS AREA:
1,502 SF x 2,736/12 x 20/100 = 86.64 CF
TOTAL= 8,676.71 CF

USE STORMTECH SC-310 CHAMBERS @ 31.0 CF/UNIT

8,676.71 CF / 31 CF = 279.89 CHAMBERS REQ'D

USE (285) STORMTECH SC-310 CHAMBERS x 31.0 CF = 8,835 CF



PIPE LEGEND

8" REINFORCED CONC. PIPE

12" HDPE PIPE

SITE DRAINAGE & GRADING PLAN

SCALE: 1" = 30'-0"

GENERAL DESIGN DATA NOTES:

1. PER 1106.1 OF THE INTERNATIONAL PLUMBING CODE, SIZING TO BE BASED ON 100 YEAR, 1-HOUR RATE PER FIGURE 1106.1 OR APPORVED LOCAL DATA
2. PER NOAA SITE ID 30-2582, ELLENVILLE, NY: 1-HOUR, 100 YEAR RATE = 2.74" RAINFALL

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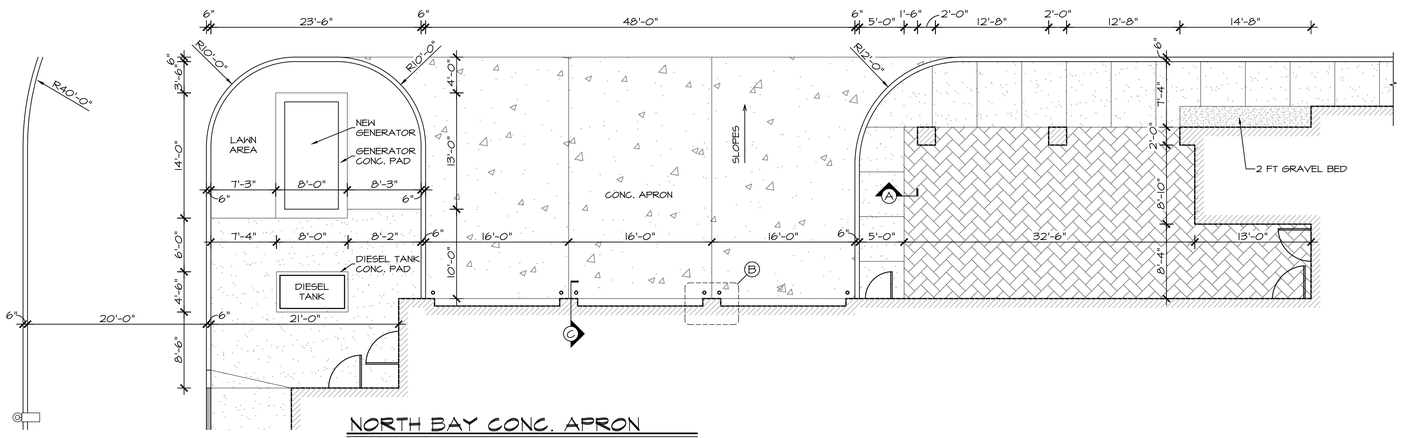
SITE DRAINAGE AND GRADING PLAN

PROJECT No. 2501

CHECKED BY:

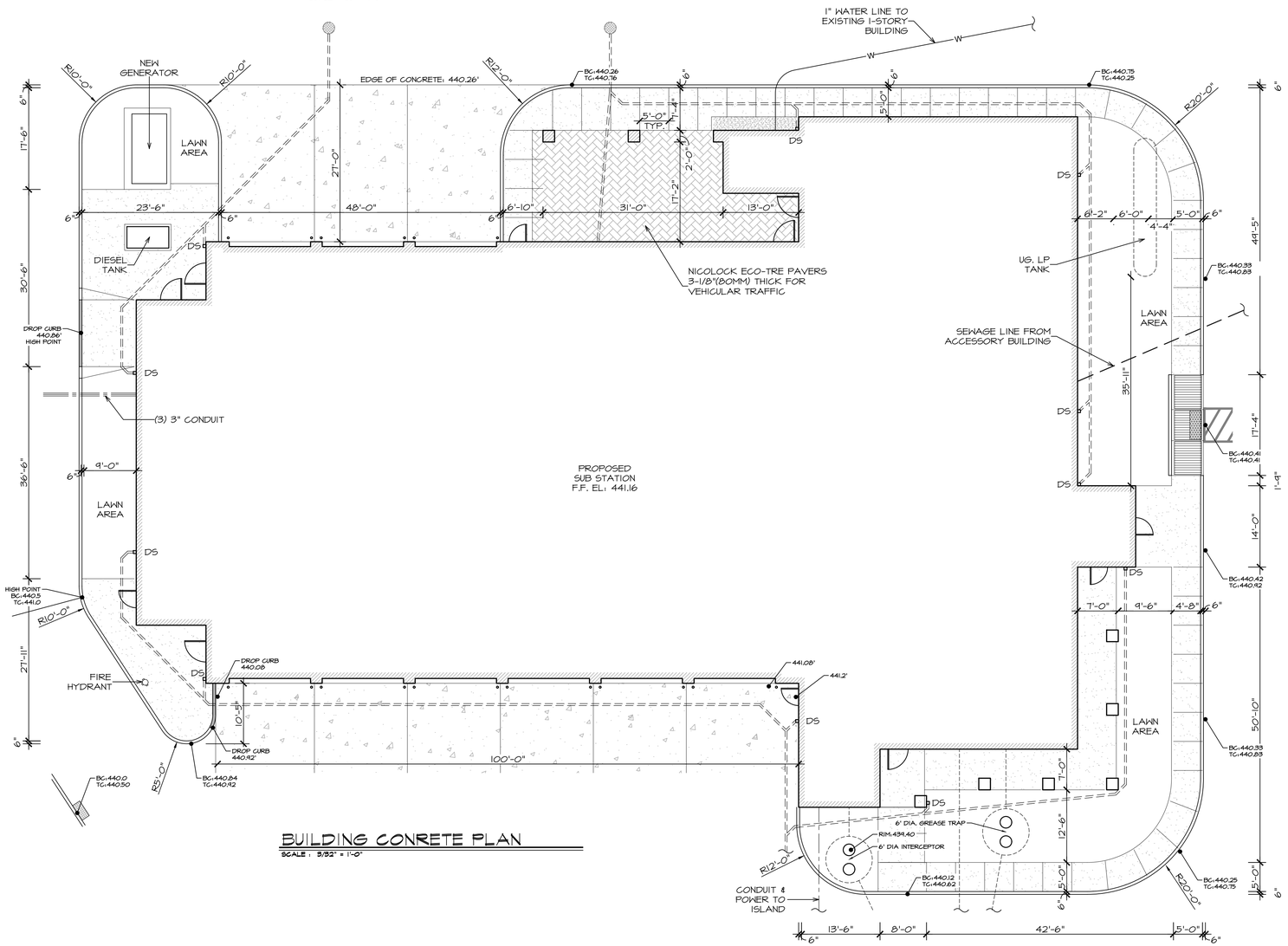
DRAWING:

SP-3



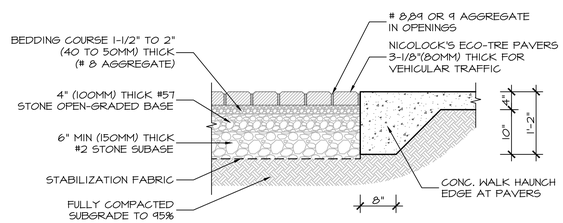
NORTH BAY CONC. APRON

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



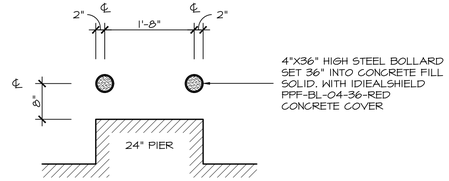
BUILDING CONRETE PLAN

SCALE : 5/32" = 1'-0"



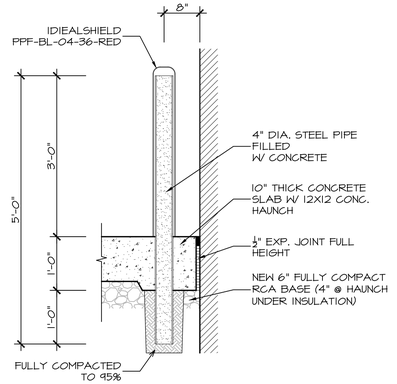
A PAVER DETAIL

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



B BOLLARDS LAY-OUT

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



C BOLLARD DETAIL

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

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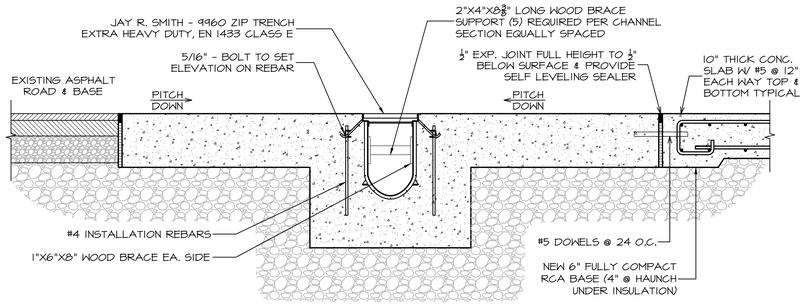
SITE CONCRETE AND HARDSCAPE PLANS

PROJECT No. 2501

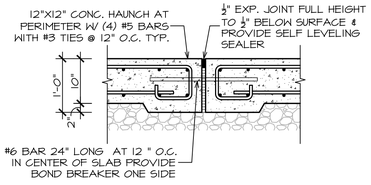
CHECKED BY:

DRAWING:

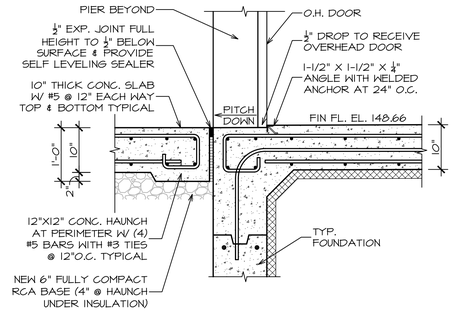
SP-4.1



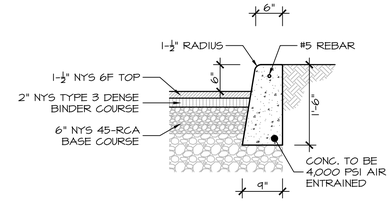
A APRON/HAUNCH DETAIL
SCALE : 3/4" = 1'-0"



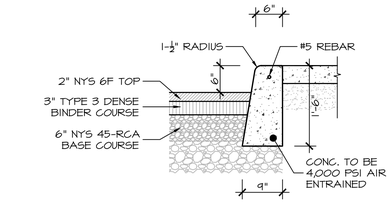
B APRON/HAUNCH DETAIL
SCALE : 3/4" = 1'-0"



C APRON/HAUNCH DETAIL @ O.H.D.
SCALE : 3/4" = 1'-0"

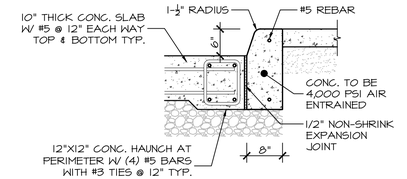


1 CURB DETAIL
SCALE : 3/4" = 1'-0"

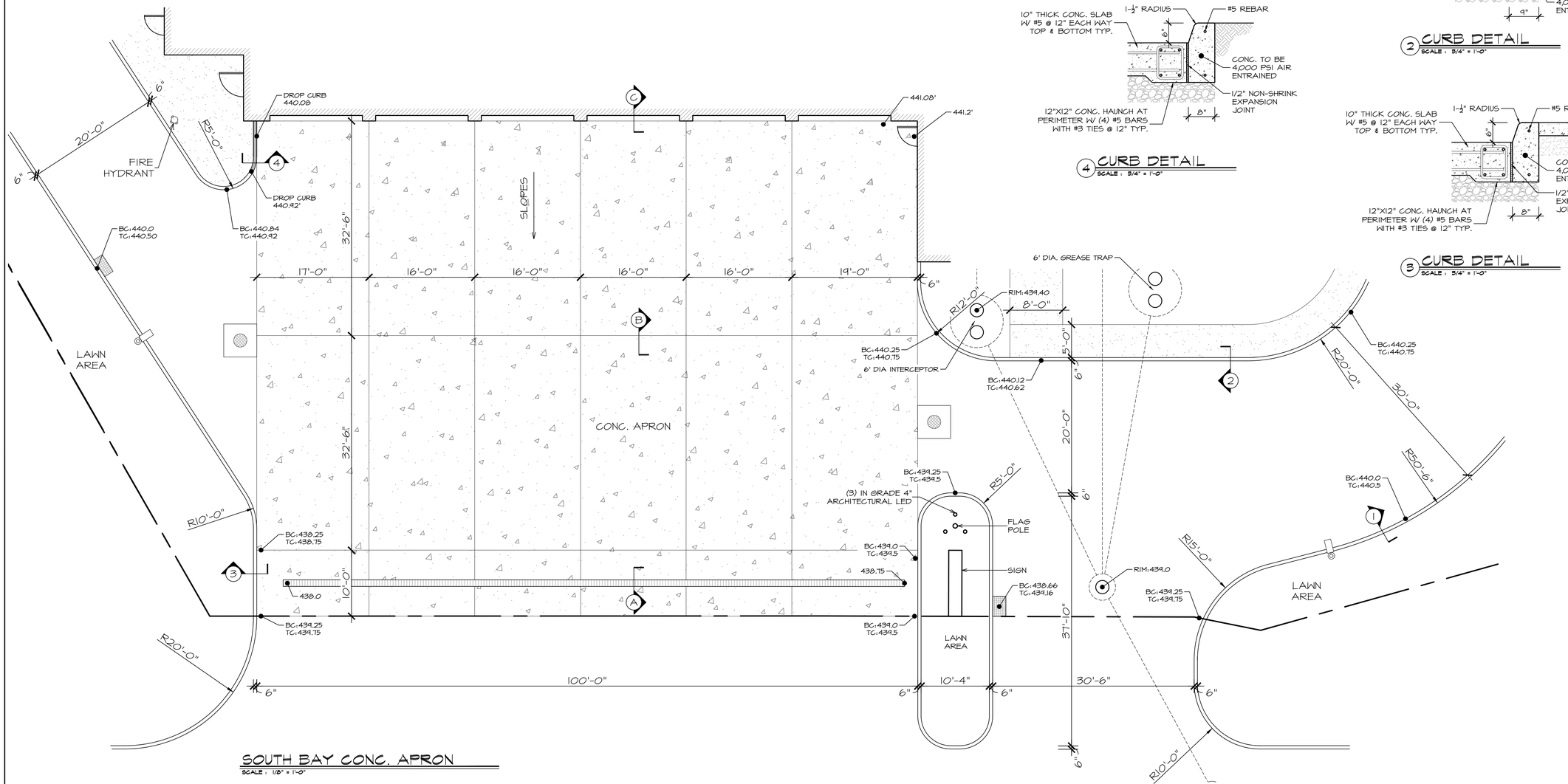


2 CURB DETAIL
SCALE : 3/4" = 1'-0"

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



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



SOUTH BAY CONC. APRON
SCALE : 1/8" = 1'-0"

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SITE CONCRETE AND HARDSCAPE PLANS

PROJECT No. 2501

CHECKED BY:

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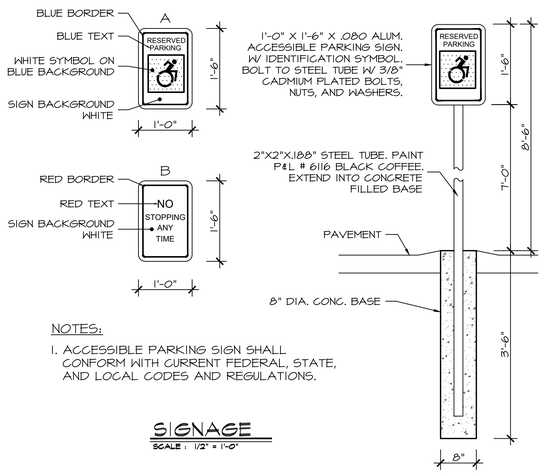
SP-4.2

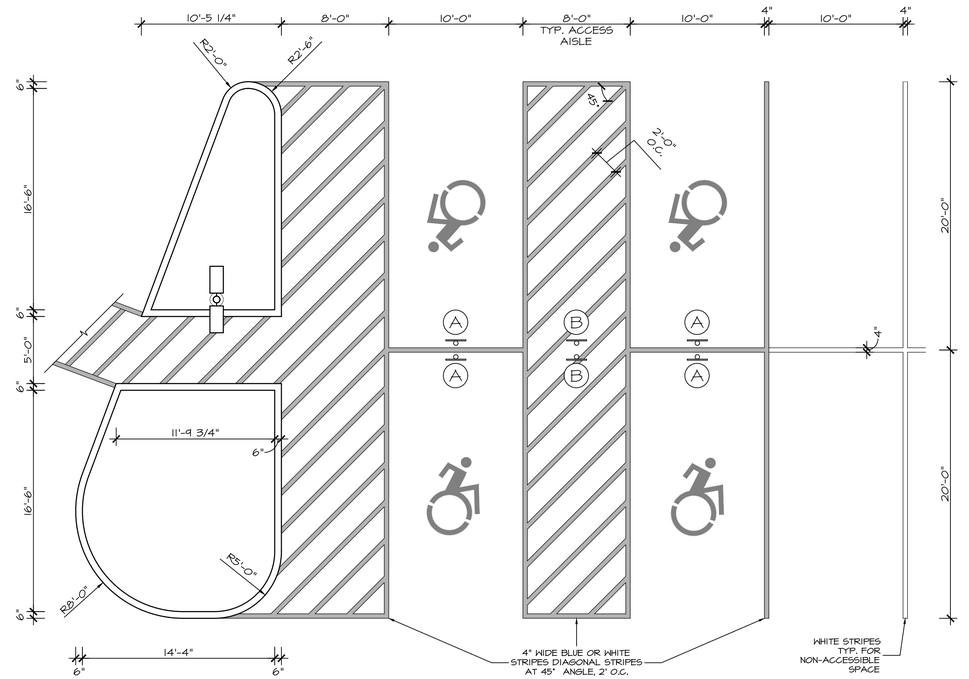


NOTES:

1. ACCESSIBLE PARKING SIGN SHALL CONFORM WITH CURRENT FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS.

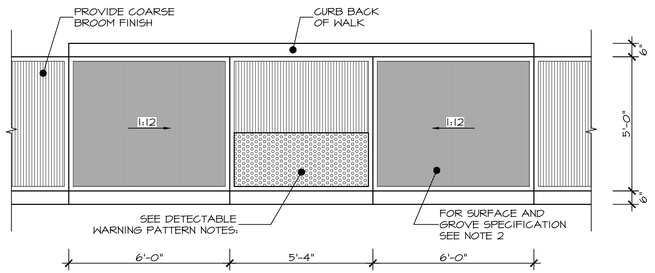
SIGNAGE

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



HANDICAP / PARKING STRIPING DETAIL

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

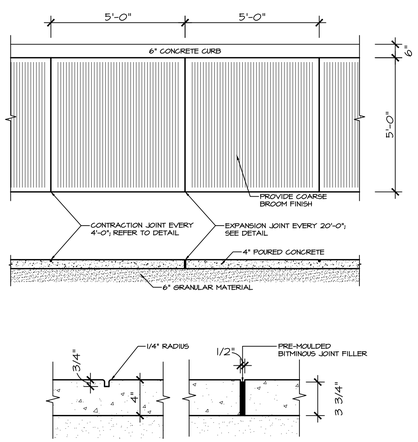


CURB RAMP NOTES:

1. THE MINIMUM WIDTH FOR SIDEWALK CURB RAMPS IS 5'-0"
2. THE RUNNING SLOPE OF A CURB RAMP SHALL BE 1:20 (5%) MINIMUM (PREFERRED) AND 1:12 (8.33%) MAXIMUM.
3. WHERE THE SLOPE OF THE ROADWAY EXCEEDS 8.33% THE CURB RAMP LENGTH IS THE LENGTH NECESSARY TO MEET THE EXISTING SIDEWALK. IT IS NOT NECESSARY THAT THE RAMP LENGTH EXCEED 15'-0"
4. THE CROSS SLOPE OF CURB RAMPS SHOULD BE AS FLAT AS POSSIBLE, NOT TO EXCEED 1:50 (2%) THE CROSS SLOPE AT MIDBLOCK CROSSING MAY BE WARPED TO MEET STREET OR HIGHWAY GRADE.
5. THE VERTICAL ALIGNMENT OF A CURB RAMP, EXCLUDING THE FLARES, SHALL BE PLANAR. GRADE BREAKS SHALL BE FLUSH AND PERPENDICULAR TO THE DIRECTION OF THE RAMP RUN
6. RAMP TRANSITIONS BETWEEN WALKS, LANDINGS, GUTTERS, OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT VERTICAL CHANGES (¼" MAX).
7. WHERE A PEDESTRIAN CIRCULATION PATH CROSSES THE CURB RAMP, FLARED SIDES WITH A SLOPE OF 10% MAXIMUM MEASURED PARALLEL TO THE CURB LINE, SHALL BE PROVIDED

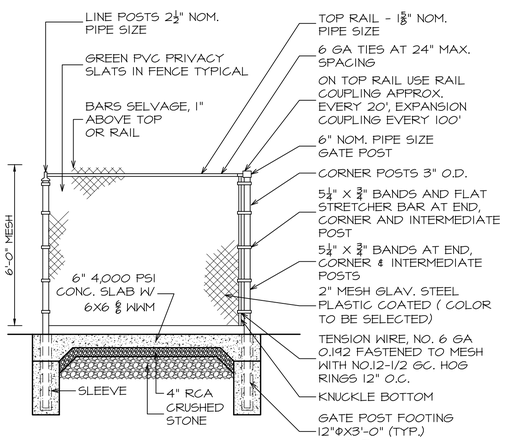
LANDING NOTES:

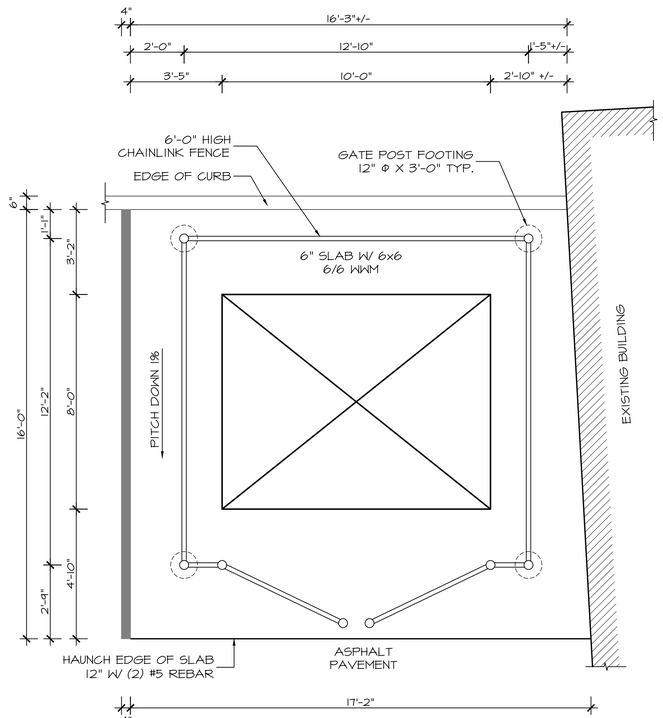
1. LANDING SHALL HAVE A MINIMUM CLEAR DIMENSION OF A 5'-0" BY 5'-0"
2. THE RUNNING AND CROSS SLOPES ON LANDINGS AT INTERSECTIONS IS 1:50 (2%) MAXIMUM. THE RUNNING AND CROSS SLOPES AT MIDBLOCK CROSSINGS MAY BE WARPED TO MEET STREET OR HIGHWAY GRADE.



MID-BLOCK SIDE WALK RAMP

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





DUMPSTER ENCLOSURE PLAN & SECTION

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

DATE	ISSUED
03-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

SENDLEWSKI ARCHITECTS, P.C.
ARCHITECTS - PLANNERS
215 ROANOKE AVENUE
RIVERHEAD, NY 11901
MPS@FIREHOUSEPLANNER.COM
(631) 727-5362

PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

SITE DETAILS

PROJECT No. 2501

CHECKED BY:

DRAWING:

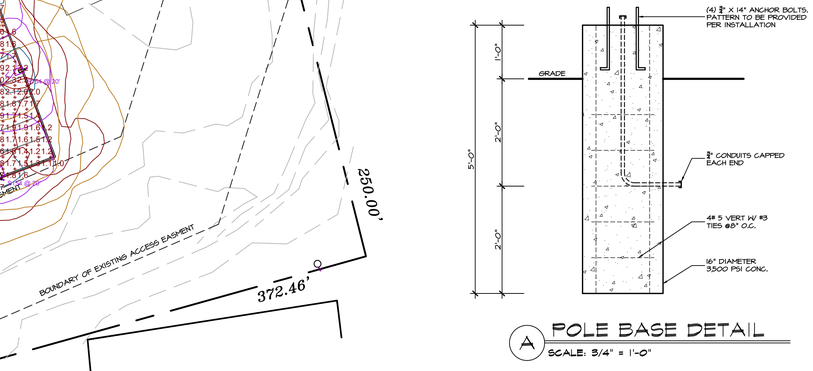
SP-4.3

LUMINAIRE SCHEDULE									
SYM.	LABEL	QTY.	CATALOG NUMBER	DESCRIPTION	No. OF LAMPS	LUM./LAMP	LLF	WATTAGE	MOUNTING HT.
○	D8-3	3	NYX-NC-8-RD-M (30)-9-CCT55 (30K)-DUALDIM-WD-GN	LED 8 NC CDL	1	4442	0.69	30	6'-0"
▯	5154	15	VSX-II_T4_16C_5_3KSERIES	POLE MOUNTED PARKING LIGHT	1	2939	0.95	26	20'-0"
□	SW133	5	VSC-I-T3-16LC-3-3K-UNV-PCR-XXX	ENTRY DOOR WALL PACK	1	2238	0.95	18	10'-0"
▯	T354	4	VSX-II-T4_16LC_5_3K SERIES	POLE MOUNTED PARKING LIGHT	1	2939	0.95	52	20'-0"
▯	-	-	VSX-II-T4_16LC_5_3K SERIES	POLE MOUNTED PARKING LIGHT	1	2939	0.95	26	20'-0"
▯	-	-	VSX-II-T4_16LC_5_3K SERIES	POLE MOUNTED PARKING LIGHT	1	2939	0.95	26	20'-0"
◉	SDW-33-4	11	N 2X-L-HTLXNL_T4_32LC_3_3K SERIES	DECORATIVE WALL MOUNTED LANTERN	1	3282	0.95	34.4	10'-0"
○	SP-2	3	LSO-M-T2-5L-3K-UNV-PTD-BK-LDL-PCR-XXX	WEATHER-RESIST RECESSED LIGHT FIXTURE	1	6861	0.95	52.1	9'-0"
◉	SDP-33-4	6	N2X-L-HTLXNL_T4_32LC_3_3K SERIES	DECORATIVE WALL MOUNTED LANTERN	1	3282	0.95	34.4	9'-0"

LUMINAIRE PHOTOMETIC STATISTICS						
DESCRIPTION	SYM.	AVG.	MAX.	MIN.	MAX/MIN	AVG/MIN
CANOPY AND SIDEWALK	✳	5.5 fc	14.9 fc	0.8 fc	18.6:1	6.9:1
DRIVE THROUGH-LEFT SIDE	+	1.9 fc	8.0 fc	0.3 fc	26.7:1	6.3:1
ENTRANCE - BACK	×	6.0 fc	24.8 fc	1.4 fc	17.7:1	4.3:1
ENTRANCE - FRONT	□	1.7 fc	11.0 fc	0.0 fc	N/A	N/A
PARKING LOT - BACK	+	1.7 fc	9.6 fc	0.5 fc	19.2:1	3.4:1
PARKING LOT - GARAGE	+	1.1 fc	3.1 fc	0.5 fc	6.2:1	2.2:1
WALKWAY - BACK	✳	12.0 fc	27.9 fc	0.2 fc	134.5:1	60.0:1
WALKWAY - FRONT & SIDE	□	8.6 fc	18.9 fc	1.1 fc	17.2:1	7.8:1

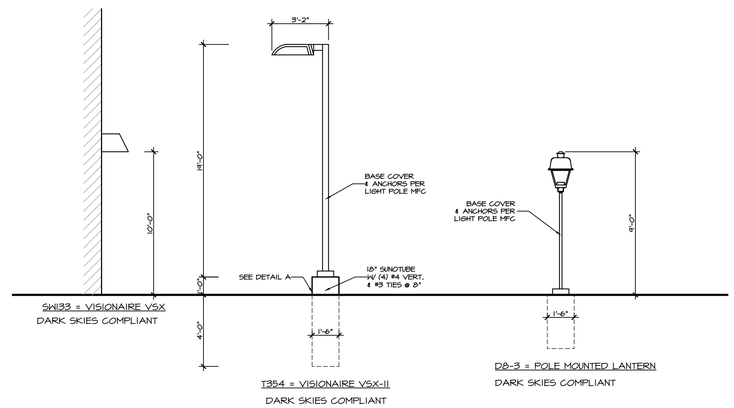
SITE PHOTOMETRIC PLAN

SCALE: 1" = 30'-0"



A POLE BASE DETAIL

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



SW133 = VISIONAIRE VSX
DARK SKIES COMPLIANT

T354 = VISIONAIRE VSX-II
DARK SKIES COMPLIANT

D8-3 = POLE MOUNTED LANTERN
DARK SKIES COMPLIANT

NOTE: REFER TO SP-1 FOR ALL LIGHT FIXTURE LOCATIONS

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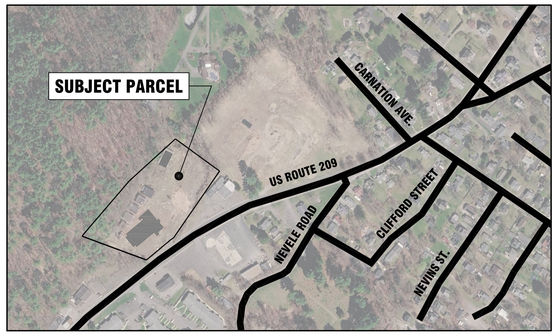
SITE PHOTOMETRIC PLAN

PROJECT No. 2501

CHECKED BY:

DRAWING:

SP-5



LOCATION MAP

SCALE: NTS

NYSDOT NOTES:

1. SHORT-TERM STATIONARY IS DAYTIME WORK THAT OCCUPIES A LOCATION MORE THAN ONE HOUR WITHIN A SINGLE DAYLIGHT PERIOD.

2. THE PROTECTIVE VEHICLE(S) SHALL MAINTAIN THE APPROPRIATE ROLL AHEAD DISTANCE, BE AN UNOCCUPIED TRUCK POSITIONED PARALLEL TO TRAFFIC, PARKING BRAKE SET, PLACED IN 2ND GEAR (MANUAL TRANSMISSION / ENGINE OFF) OR PARK / NEUTRAL (AUTOMATIC TRANSMISSIONS) AND HAVE THE FRONT WHEELS ALIGNED WITH THE LANE STRIPPING.

3. THERE SHALL BE NO WORKERS, EQUIPMENT OR OTHER VEHICLES IN THE BUFFER SPACE OR THE ROLL AHEAD DISTANCE.

4. XX IS THE EXPECTED OVERALL LENGTH OF THE OPERATION TO BE COMPLETED WITHIN THE WORK DAY. A SUPPLEMENTAL DISTANCE PLAQUE (W7-3A SHALL BE USED WITH SIGN W20-1 WHEN DISTANCE BETWEEN THE ADVANCE WARNING SIGNS AND WORK MAY BECOME GREATER THAN 2 MILES AS A RESULT OF THE FOLLOWING SITUATIONS:
   * MULTIPLE WORK LOCATIONS ARE ANTICIPATED WITHIN XX MILES FROM THE W20-1 SIGN.
   * WORK AREA WILL BE RELOCATED DURING THE DURATION OF THE WORK WITHIN XX MILES FROM THE W20-1 SIGN.
   THE SUPPLEMENT SIGN W7-3A SHALL INDICATE THE MAXIMUM ANTICIPATED DISTANCE BETWEEN THE W20-1 SIGN AND THE FARTHEST WORK LOCATION.

5. WHEN MULTIPLE WORK LOCATIONS EXIST WITHIN XX MILES FROM THE W20-1 SIGN, A G20-1 SIGN SHALL BE PLACED EVERY TWO MILES INDICATING THE DISTANCE FROM THE SIGN TO THE FARTHEST WORK LOCATION.

6. CHANNELIZING DEVICES SHALL BE PLACED TRANSVERSELY A MINIMUM OF EVERY 800' AS SHOWN WHEN PAVED SHOULDER HAVING A WIDTH OF 8' OR GREATER IS CLOSED FOR A DISTANCE GREATER THAN 800'.

7. IN URBAN CONDITIONS, ADVANCE WARNING SIGN SPACINGS MAY BE ADJUSTED IN ORDER TO ACCOMMODATE SIDE STREETS AND DRIVEWAYS. IF THERE IS A CONFLICT, MOVE THE SIGN UPSTREAM.

8. WHEN THE MINIMUM LANE WIDTH OF 10' CANNOT BE MAINTAINED DUE TO A SHOULDER CLOSURE, USE THE DETAIL FOR SHORT OR INTERMEDIATE TERM STATIONARY FLAGGING OPERATION.

9. WHEN THE DISTANCE BETWEEN THE ADVANCE WARNING SIGNS AND WORK IS 2 MILES TO 5 MILES, A SUPPLEMENTAL DISTANCE PLAQUE (W7-3A) SHOULD BE USED WITH THE SHOULDER WORK SIGN (W21-5).

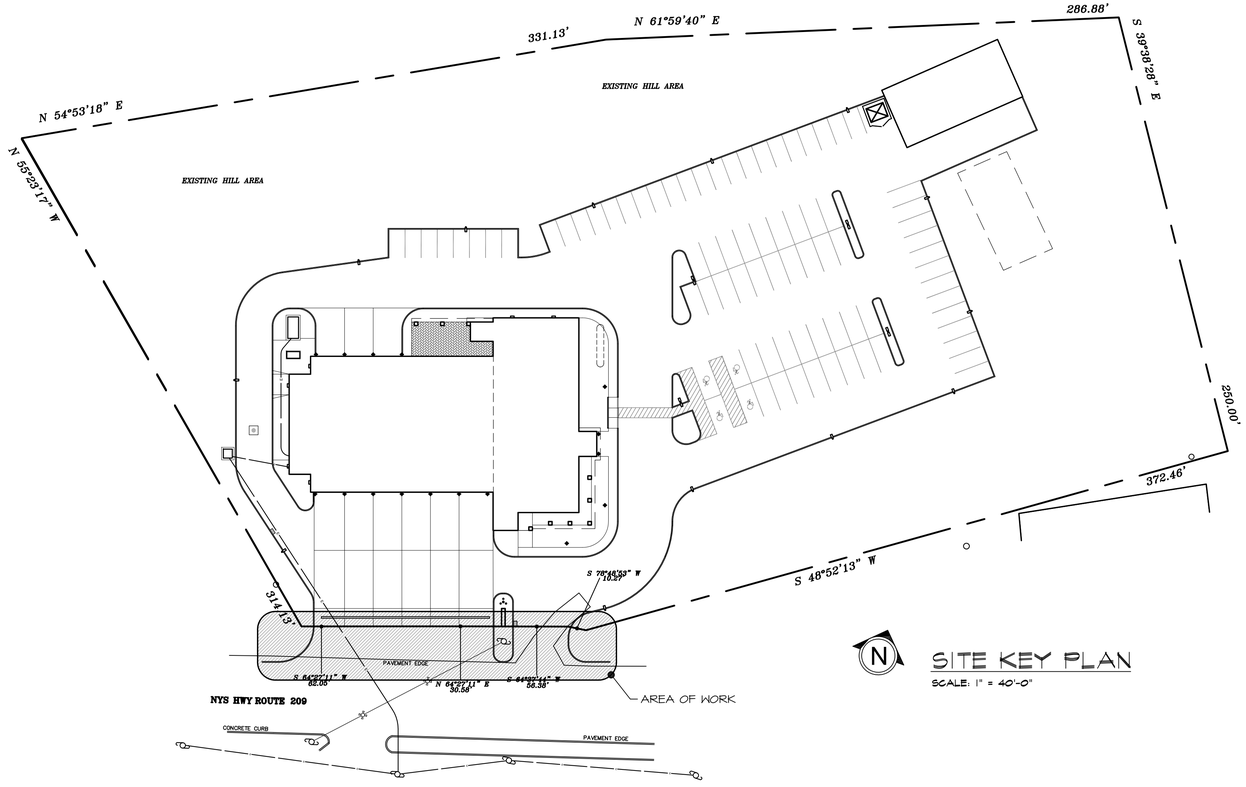
10. THE ROAD WORK NEXT XX MILES SIGN (G20-1) MAY BE USED INSTEAD OF THE ROAD WORK AHEAD SIGN (W20-1) IF WORK LOCATIONS OCCUR OVER A DISTANCE OF MORE THAN 2 MILES.

11. FOR BARRIER VEHICLE USE REQUIERMENTS SEE TABLES NY1-A AND NY2-A ON THE STANDARD SHEET TITLED "WORK ZONE TRAFFIC CONTROL LEGENDS AND NOTES".

12. IN THOSE SITUATIONS WHERE MULTIPLE WORK LOCATIONS EXIST WITHIN A LIMITED DISTANCE MAKE IT FRACTICAL TO PLACE STATIONARY SIGNS, THE DISTANCE BETWEEN THE ADVANCE WARNING SIGN AND WORK SHALL NOT EXCEED 5 MILES.

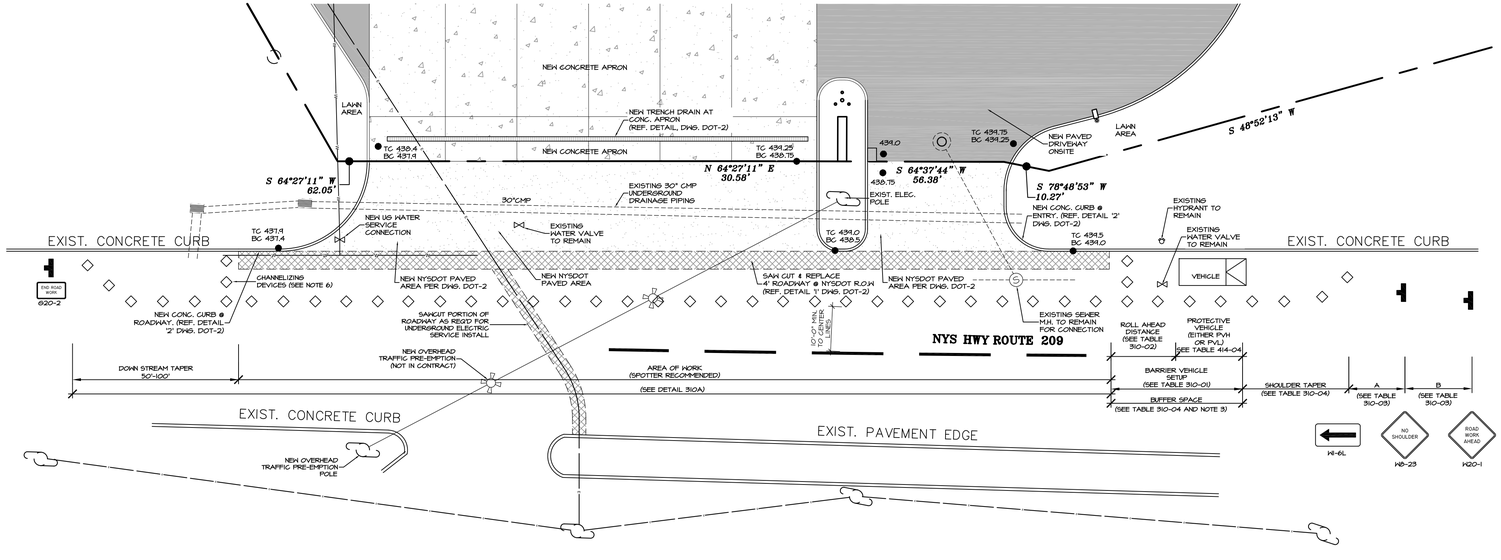
13. CHANNELIZING DEVICE SPACING (CENTER TO CENTER) SHALL NOT EXCEED 40' IN THE ACTIVE WORK SPACE.

PREMPTION SEQUENCING			
DEVICE	ORIENTATION	NORMAL	PREEMPTED
1	A FACING ROUTE 209 SOUTH	YELLOW FLASHING	RED
	B FACING FIREHOUSE APRON	RED FLASHING	GREEN
2	A FACING ROUTE 209 NORTH	YELLOW FLASHING	RED
	B FACING FIREHOUSE APRON	RED FLASHING	GREEN



SITE KEY PLAN

SCALE: 1" = 40'-0"



WORK ZONE CONTROL PLAN

SCALE : 1/16" = 1'-0

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203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

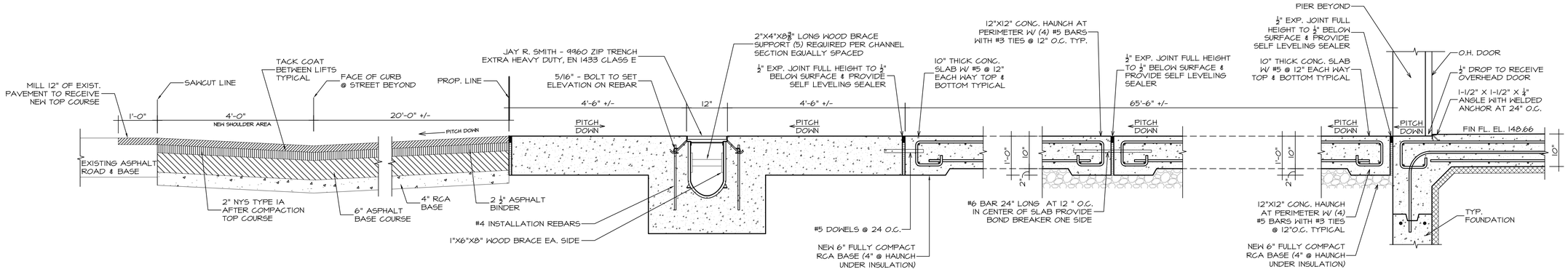
AREA OF WORK & TRAFFIC CONTROL PLAN

PROJECT No. 2501

CHECKED BY:

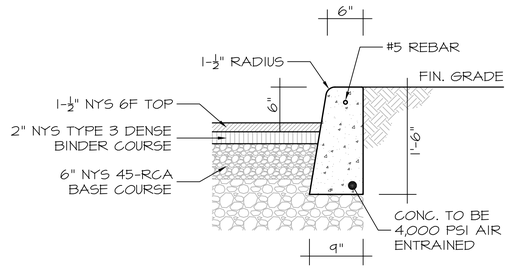
DRAWING:

DOT-1



1 SECTION AT CONCRETE APRON/DOT R.O.W.

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



2 CURB DETAIL @ DOT R.O.W.

SCALE: 1" = 1'-0"

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ROAD WORK DETAILS

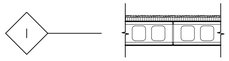
PROJECT No. 2501

CHECKED BY:

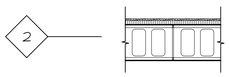
DRAWING:

DOT-2

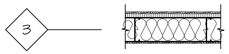
WALL TYPES



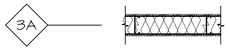
1 — 8" CMU ASTM STANDARD C-90 GRADE N UNITS WITH TYPE S MORTAR. PROVIDE #4 REBAR AT 32" O.C. GROUTED SOLID. BARS TO EXTEND INTO CONCRETE FOUNDATION/SLAB. TOP OF ALL WALLS TO HAVE HB PTA 420 HDG #3 REBAR ANCHOR FASTENED TO STEEL/STRUCTURE ABOVE. PROVIDE HB 120 TRUSS REINFORCING AT 16". ANCHOR TO COLUMNS WITH HB 301 W COLUMN WEB TIE ANCHORS @ 16" O.C. CONNECTED TO COLUMNS WITH HB 354 WELD TIES. EXTERIOR SIDE TO HAVE 2" ARMORWALL FR W/ ⅜" DENZ GLASS EXTERIOR FULL HEIGHT TO SECOND FLOOR ELEVATION. SEE ELEVATIONS FOR EXTERIOR FINISH & SYSTEMS.



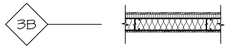
2 — 12" CMU ASTM STANDARD C-90 GRADE N UNITS WITH TYPE S MORTAR. PROVIDE #4 REBAR AT 32" O.C. GROUTED SOLID. BARS TO EXTEND INTO CONCRETE FOUNDATION/SLAB. TOP OF ALL WALLS TO HAVE HB PTA 420 HDG #3 REBAR ANCHOR FASTENED TO STEEL/STRUCTURE ABOVE. PROVIDE HB 120 TRUSS REINFORCING AT 16". ANCHOR TO COLUMNS WITH HB 301 W COLUMN WEB TIE ANCHORS @ 16" O.C. CONNECTED TO COLUMNS WITH HB 354 WELD TIES. EXTERIOR SIDE TO HAVE 2" ARMORWALL FR W/ ⅜" DENZ GLASS EXTERIOR FULL HEIGHT TO SECOND FLOOR ELEVATION. SEE ELEVATIONS FOR EXTERIOR FINISH & SYSTEMS.



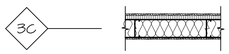
3 — 8" 16 GA. STUDS AT 24" O.C. WITH 2" ARMORWALL FR PLY INSULATED EXTERIOR SHEATHING & 2" CLOSED-CELL FOAM INSULATION R-14, & R-21 KRAFT FACED INSULATION FULL HEIGHT. WITH ⅝" GYP BD. NOTE BOTTOM OF WALL HAS ADDITIONAL 2" X 8" HIGH INFILL WITH 2" RIGID INSULATION AT FLOOR



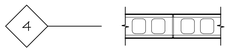
3A — 6" 18GA. METAL AT 24" O.C. STUD AND ⅝" WATER RESISTANT GYP.BD. EA. SIDE 8'-8" HIGH. BRACE TOP OF WALL TO STRUCTURE WITH DIAGNAL BRACES AT 48" O.C. ALL WALL AREAS TO RECEIVES WALL TILES SHALL HAVE ⅝" CEMENT BOARD IN LIEU OF GYP. BD.



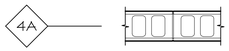
3B — 4" 16 GA. STUDS AT 24" O.C. WITH 2" ARMORWALL FR PLY INSULATED EXTERIOR SHEATHING & 2" CLOSED-CELL FOAM INSULATION R-14, & R-21 KRAFT FACED INSULATION FULL HEIGHT. WITH ⅝" GYP BD. NOTE BOTTOM OF WALL HAS ADDITIONAL 2" X 8" HIGH INFILL WITH 2" RIGID INSULATION AT FLOOR



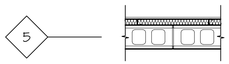
3C — 6" 16 GA. STUDS AT 24" O.C. WITH 2" ARMORWALL FR PLY INSULATED EXTERIOR SHEATHING & 2" CLOSED-CELL FOAM INSULATION R-14, & R-21 KRAFT FACED INSULATION FULL HEIGHT. WITH ⅝" GYP BD. NOTE BOTTOM OF WALL HAS ADDITIONAL 2" X 8" HIGH INFILL WITH 2" RIGID INSULATION AT FLOOR



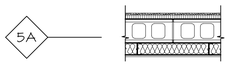
4 — 8" CMU ASTM STANDARD C-90 GRADE N UNITS WITH TYPE S MORTAR. PROVIDE #4 REBAR AT 32" O.C. GROUTED SOLID. BARS TO EXTEND INTO CONCRETE FOUNDATION/SLAB. TOP OF ALL WALLS TO HAVE CONTINUOUS BOND BEAM WITH (2) #4 GROUTED SOLID, 8'-0" HIGH.



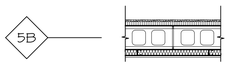
4A — 10" CMU ASTM STANDARD C-90 GRADE N UNITS WITH TYPE S MORTAR. PROVIDE #4 REBAR AT 32" O.C. GROUTED SOLID. BARS TO EXTEND INTO CONCRETE FOUNDATION/SLAB. TOP OF ALL WALLS TO HAVE CONTINUOUS BOND BEAM WITH (2) #4 GROUTED SOLID, 8'-0" HIGH.



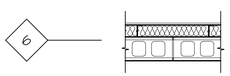
5 — 8" CMU ASTM STANDARD C-90 GRADE N UNITS WITH TYPE S MORTAR. PROVIDE #4 REBAR @ 32" O.C. GROUTED SOLID. BARS TO EXTEND INTO CONCRETE FOUNDATION/SLAB. TOP OF ALL WALLS TO HAVE HB PTA 420 HDG #3 REBAR ANCHOR FASTENED TO STEEL/STRUCTURE ABOVE. PROVIDE HB 120 TRUSS REINFORCING AT 16". ANCHOR TO COLUMNS WITH HB 301 W COLUMN WEB TIE ANCHORS @ 16" O.C. CONNECTED TO COLUMNS WITH HB 354 WELD TIES. FINISHED SIDE TO HAVE 2" 18GA. METAL FURRING, 2" RIGID INSULATION AND ⅝" GYP. BOARD. NOTE THAT STUDS HAVE START AT FOUNDATION WALL 8" ABOVE FINISHED FLOOR AND HAVE 2" X 8" HIGH INFILL FRAMING BELOW TO FINISHED FLOOR.



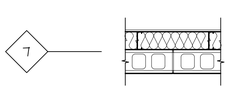
5A — 8" CMU ASTM STANDARD C-90 GRADE N UNITS WITH TYPE S MORTAR. PROVIDE #4 REBAR @ 32" O.C. GROUTED SOLID. BARS TO EXTEND INTO CONCRETE FOUNDATION/SLAB. TOP OF ALL WALLS TO HAVE HB PTA 420 HDG #3 REBAR ANCHOR FASTENED TO STEEL/STRUCTURE ABOVE. PROVIDE HB 120 TRUSS REINFORCING AT 16". ANCHOR TO COLUMNS WITH HB 301 W COLUMN WEB TIE ANCHORS @ 16" O.C. CONNECTED TO COLUMNS WITH HB 354 WELD TIES. INTERIOR WALL TO HAVE 2" 18GA. METAL FURRING, 2" RIGID INSULATION AND ⅝" GYP. BOARD. EXTERIOR WALL TO HAVE 2" ARMORWALL, INSULATED EXTERIOR SHEATHING & 2" CLOSED-CELL FOAM INSULATION R-14, R-21 KRAFT FACED INSULATION FULL HEIGHT. NOTE THAT STUDS HAVE START AT FOUNDATION WALL 8" ABOVE FINISHED FLOOR AND HAVE 2" X 8" HIGH INFILL FRAMING BELOW TO FINISHED FLOOR.



5B — 8" CMU ASTM STANDARD C-90 GRADE N UNITS WITH TYPE S MORTAR. PROVIDE #4 REBAR @ 32" O.C. GROUTED SOLID. BARS TO EXTEND INTO CONCRETE FOUNDATION/SLAB. TOP OF ALL WALLS TO HAVE HB PTA 420 HDG #3 REBAR ANCHOR FASTENED TO STEEL/STRUCTURE ABOVE. PROVIDE HB 120 TRUSS REINFORCING AT 16". ANCHOR TO COLUMNS WITH HB 301 W COLUMN WEB TIE ANCHORS @ 16" O.C. CONNECTED TO COLUMNS WITH HB 354 WELD TIES. INTERIOR WALL TO HAVE 2" 18GA. METAL FURRING, 2" RIGID INSULATION AND ⅝" GYP. BOARD. EXTERIOR WALL TO HAVE 2" ARMORWALL, INSULATED EXTERIOR SHEATHING & 2" CLOSED-CELL FOAM INSULATION R-14, R-21 KRAFT FACED INSULATION FULL HEIGHT. NOTE THAT STUDS HAVE START AT FOUNDATION WALL 8" ABOVE FINISHED FLOOR AND HAVE 2" X 8" HIGH INFILL FRAMING BELOW TO FINISHED FLOOR.



6 — 8" CMU ASTM STANDARD C-90 GRADE N UNITS WITH TYPE S MORTAR. PROVIDE #4 REBAR @ 32" O.C. GROUTED SOLID. BARS TO EXTEND INTO CONCRETE FOUNDATION/SLAB. TOP OF ALL WALLS TO HAVE HB PTA 420 HDG #3 REBAR ANCHOR FASTENED TO STEEL/STRUCTURE ABOVE. PROVIDE HB 120 TRUSS REINFORCING AT 16". ANCHOR TO COLUMNS WITH HB 301 W COLUMN WEB TIE ANCHORS @ 16" O.C. CONNECTED TO COLUMNS WITH HB 354 WELD TIES. FINISHED SIDE TO HAVE 4" 18GA. METAL FURRING, 2" RIGID INSULATION AND ⅝" GYP. BOARD. NOTE THAT STUDS HAVE START AT FOUNDATION WALL 8" ABOVE FINISHED FLOOR AND HAVE 2" X 8" HIGH INFILL FRAMING BELOW TO FINISHED FLOOR.

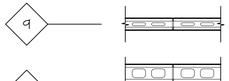


7 — 8" CMU ASTM STANDARD C-90 GRADE N UNITS WITH TYPE S MORTAR. PROVIDE #4 REBAR @ 32" O.C. GROUTED SOLID. BARS TO EXTEND INTO CONCRETE FOUNDATION/SLAB. TOP OF ALL WALLS TO HAVE HB PTA 420 HDG #3 REBAR ANCHOR FASTENED TO STEEL/STRUCTURE ABOVE. PROVIDE HB 120 TRUSS REINFORCING AT 16". ANCHOR TO COLUMNS WITH HB 301 W COLUMN WEB TIE ANCHORS @ 16" O.C. CONNECTED TO COLUMNS WITH HB 354 WELD TIES. FINISHED SIDE TO HAVE 6" 18GA. METAL FURRING, 2" RIGID INSULATION AND ⅝" GYP. BOARD. NOTE THAT STUDS HAVE START AT FOUNDATION WALL 8" ABOVE FINISHED FLOOR AND HAVE 2" X 8" HIGH INFILL FRAMING BELOW TO FINISHED FLOOR.

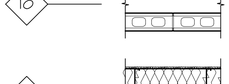
8 — 8" CMU ASTM STANDARD C-90 GRADE N UNITS WITH TYPE S MORTAR. PROVIDE #4 REBAR @ 32" O.C. GROUTED SOLID. BARS TO EXTEND INTO CONCRETE FOUNDATION/SLAB. TOP OF ALL WALLS TO HAVE HB PTA 420 HDG #3 REBAR ANCHOR FASTENED TO STEEL/STRUCTURE ABOVE. PROVIDE HB 120 TRUSS REINFORCING AT 16". ANCHOR TO COLUMNS WITH HB 301 W COLUMN WEB TIE ANCHORS @ 16" O.C. CONNECTED TO COLUMNS WITH HB 354 WELD TIES. FINISHED SIDE TO HAVE 8" 18GA. METAL FURRING, 2" RIGID INSULATION AND ⅝" GYP. BOARD. NOTE THAT STUDS HAVE START AT FOUNDATION WALL 8" ABOVE FINISHED FLOOR AND HAVE 2" X 8" HIGH INFILL FRAMING BELOW TO FINISHED FLOOR.

8A — 10" CMU ASTM STANDARD C-90 GRADE N UNITS WITH TYPE S MORTAR. PROVIDE #4 REBAR @ 32" O.C. GROUTED SOLID. BARS TO EXTEND INTO CONCRETE FOUNDATION/SLAB. TOP OF ALL WALLS TO HAVE HB PTA 420 HDG #3 REBAR ANCHOR FASTENED TO STEEL/STRUCTURE ABOVE. PROVIDE HB 120 TRUSS REINFORCING AT 16". ANCHOR TO COLUMNS WITH HB 301 W COLUMN WEB TIE ANCHORS @ 16" O.C. CONNECTED TO COLUMNS WITH HB 354 WELD TIES. FINISHED SIDE TO HAVE 8" 18GA. METAL FURRING, 2" RIGID INSULATION AND ⅝" GYP. BOARD. NOTE THAT STUDS HAVE START AT FOUNDATION WALL 8" ABOVE FINISHED FLOOR AND HAVE 2" X 8" HIGH INFILL FRAMING BELOW TO FINISHED FLOOR.

9 — 4" CMU ASTM STANDARD C-90 GRADE N UNITS WITH TYPE S MORTAR. PROVIDE #4 REBAR AT 32" O.C. GROUTED SOLID. BARS TO EXTEND INTO CONCRETE FOUNDATION/SLAB. TOP OF ALL WALLS TO HAVE CONTINOUS BOND BEAM WITH (2) #4 GROUTED SOLID, 8'-0" HIGH.



10 — 6" CMU ASTM STANDARD C-90 GRADE N UNITS WITH TYPE S MORTAR. PROVIDE #4 REBAR AT 32" O.C. GROUTED SOLID. 6" AIR GAP FOLLOWED BY 4" CMU STANDARD C-90 GRADE N UNITS WITH TYPE S MORTAR. PROVIDE #4 REBAR AT 32" O.C. GROUTED SOLID.



10A — 6" CMU ASTM STANDARD C-90 GRADE N UNITS WITH TYPE S MORTAR. PROVIDE #4 REBAR AT 32" O.C. GROUTED SOLID. 6" AIR GAP FOLLOWED BY 4" CMU STANDARD C-90 GRADE N UNITS WITH TYPE S MORTAR. PROVIDE #4 REBAR AT 32" O.C. GROUTED SOLID.

11 — 12" CMU ASTM STANDARD C-90 GRADE N UNITS WITH TYPE S MORTAR. PROVIDE #4 REBAR AT 32" O.C. GROUTED SOLID. BARS TO EXTEND INTO CONCRETE FOUNDATION/SLAB. TOP OF ALL WALLS TO HAVE CONTINOUS BOND BEAM WITH (2) #4 GROUTED SOLID. 8'-0" HIGH.

DATE	ISSUED
03-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

SENDLEWSKI ARCHITECTS, P.C.
ARCHITECTS - PLANNERS
215 ROANOKE AVENUE
RIVERHEAD, NY 11901
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(631) 727-5332

PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

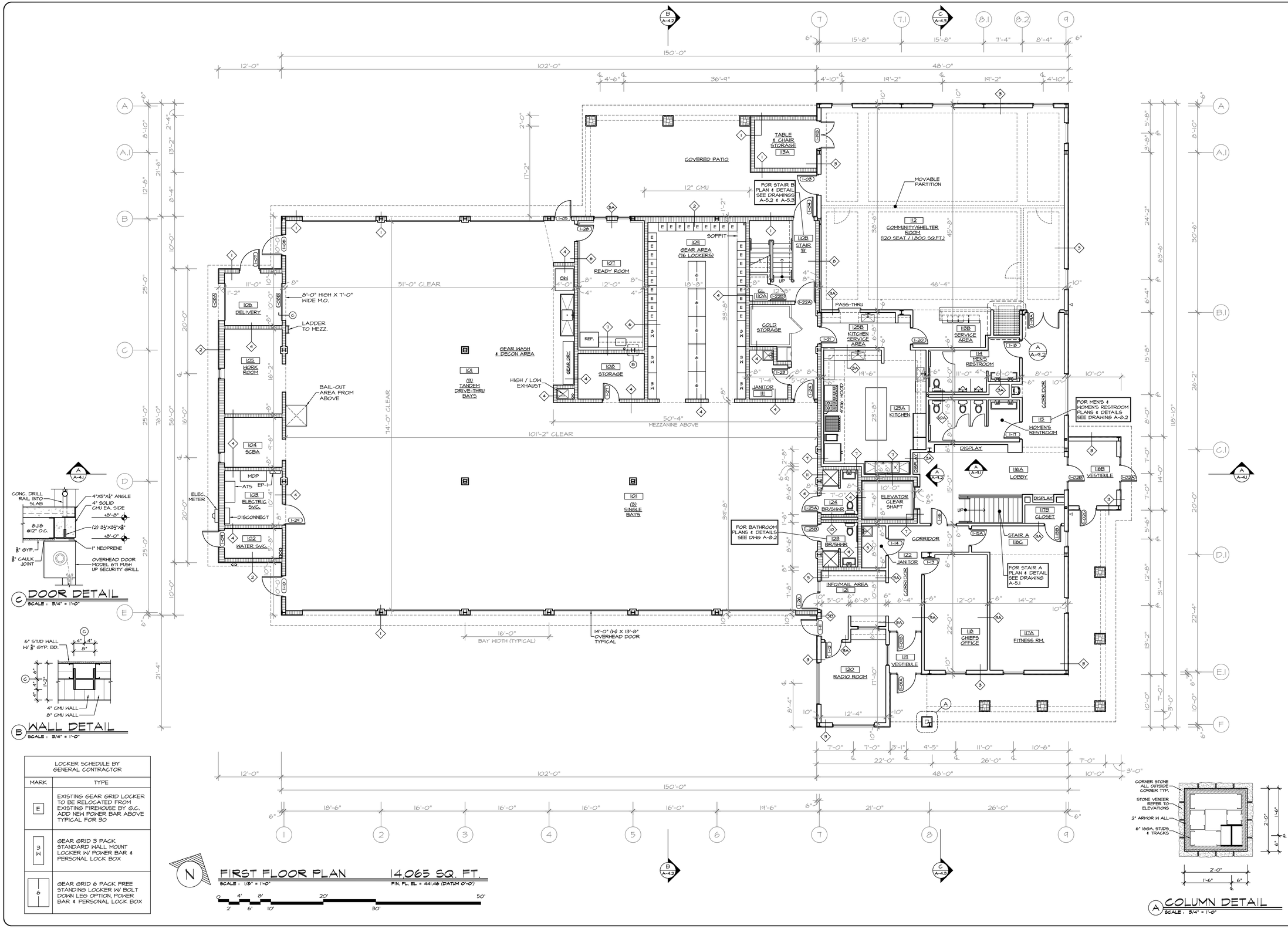
WALL TYPES & UL FIRE RESISTANT ASSEMBLIES

PROJECT No. 2501

CHECKED BY:

DRAWING:

A-1.0



LOCKER SCHEDULE BY GENERAL CONTRACTOR	
MARK	TYPE
E	EXISTING GEAR GRID LOCKER TO BE RELOCATED FROM EXISTING FIREHOUSE BY G.C. ADD NEW POWER BAR ABOVE TYPICAL FOR 30
3 W	GEAR GRID 3 PACK STANDARD WALL MOUNT LOCKER W/ POWER BAR & PERSONAL LOCK BOX
6	GEAR GRID 6 PACK FREE STANDING LOCKER W/ BOLT DOWN LEG OPTION, POWER BAR & PERSONAL LOCK BOX

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(631) 727-5362

PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

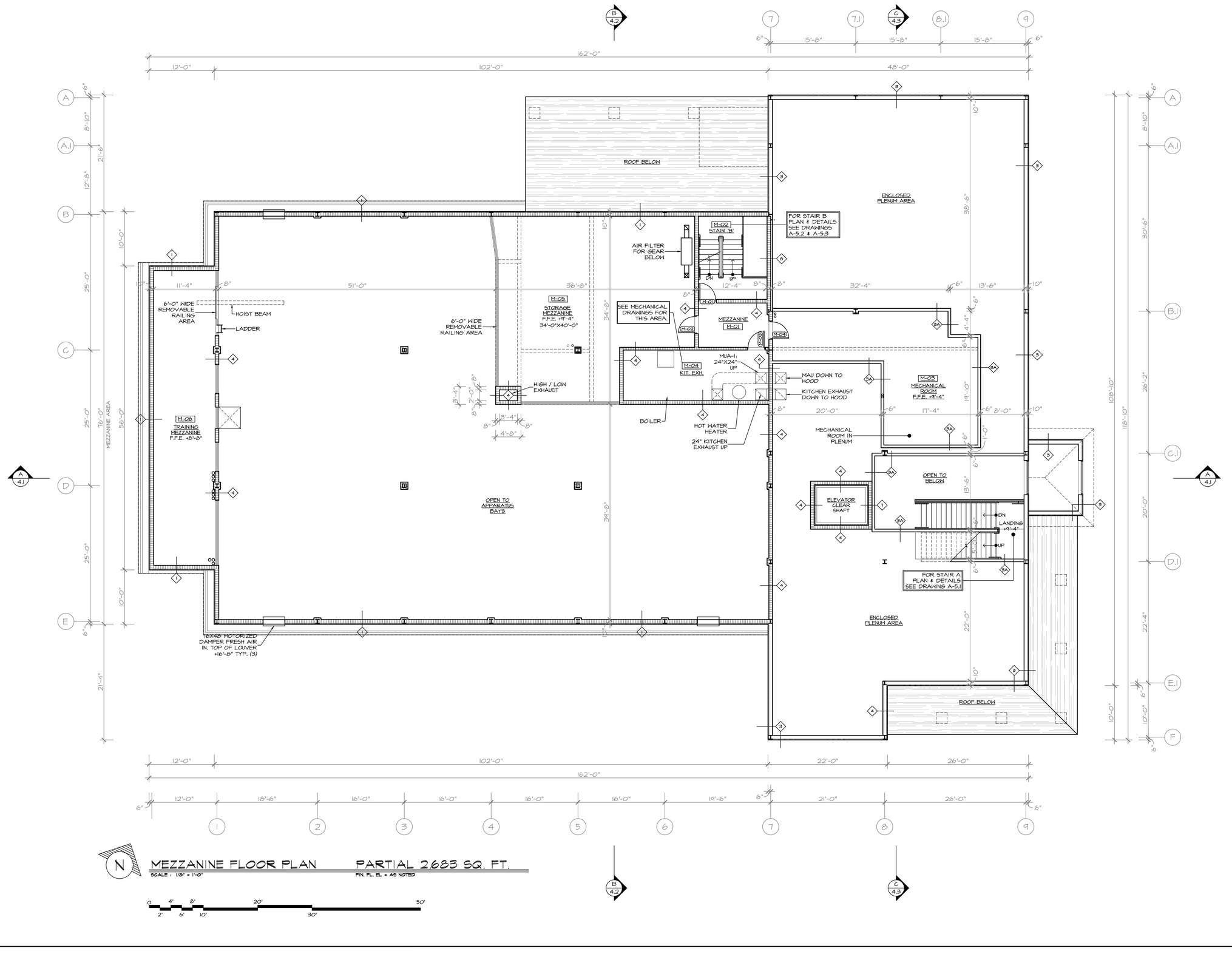
FIRST FLOOR PLAN

PROJECT No. 2501

CHECKED BY:

DRAWING:

A-1.1



MEZZANINE FLOOR PLAN PARTIAL 2683 SQ. FT.

SCALE : 1/8" = 1'-0" FIN. FL. EL = AS NOTED

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MEZZANINE FLOOR PLAN

PROJECT No. 2501

CHECKED BY:

DRAWING:

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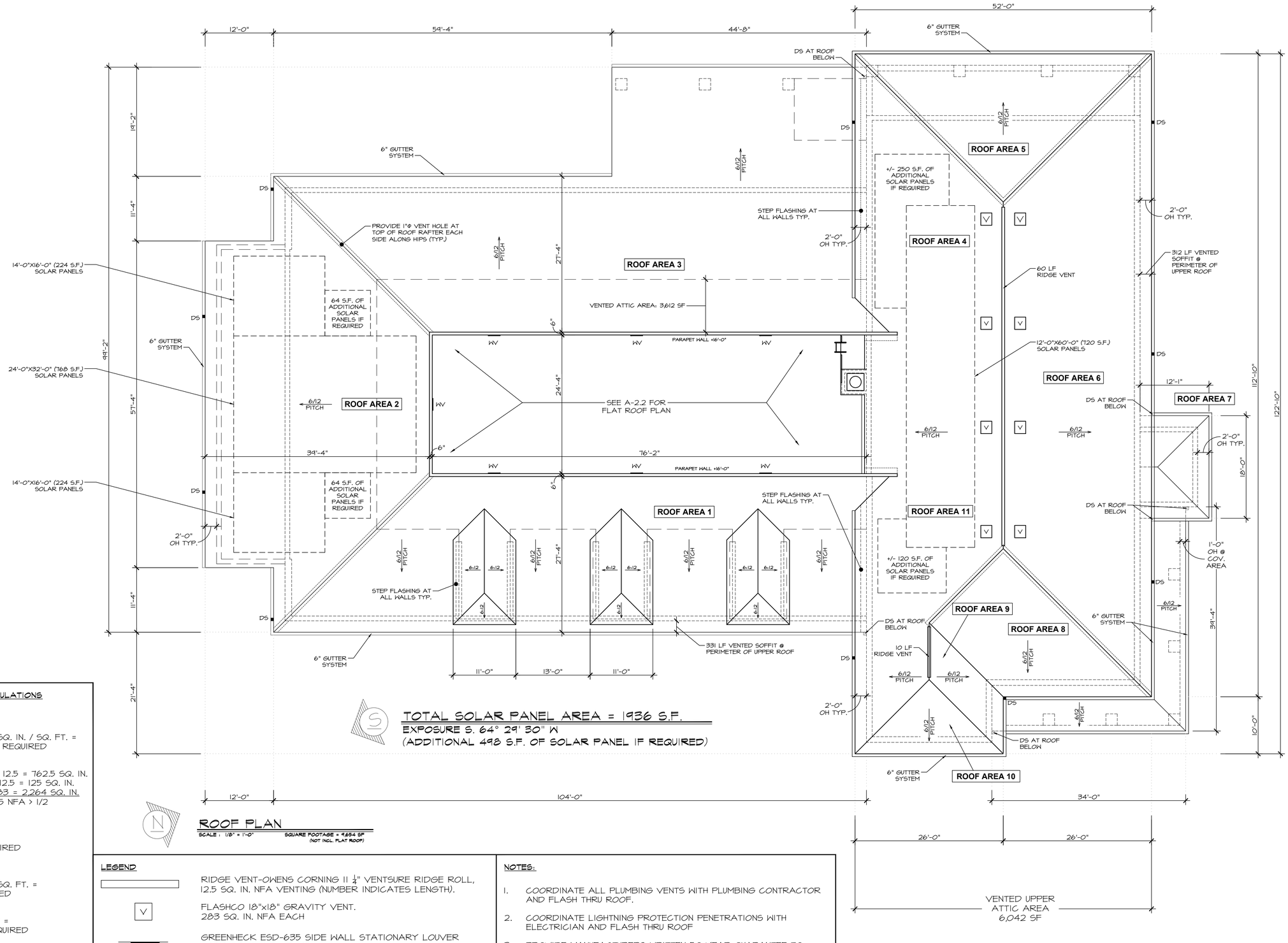

TOTAL SOLAR PANEL AREA = 1936 S.F.

EXPOSURE S. 64° 29' 30" W
(ADDITIONAL 498 S.F. OF SOLAR PANEL IF REQUIRED)

ROOF PLAN

SCALE : 1/8" = 1'-0" SQUARE FOOTAGE = 9654 SF (NOT INCL. FLAT ROOF)

ROOF VENTING CALCULATIONS
(CLIMATE ZONE 6):

MAIN ROOF 1
6,042 SQ. FT. / 150 =
40.28 SQ. FT. x 144 SQ. IN. / SQ. FT. =
5,800.32 SQ. IN. NFA REQUIRED

UPPER VENTING:
61 LF RIDGE VENT x 12.5 = 762.5 SQ. IN.
10 LF RIDGE VENT x 12.5 = 125 SQ. IN.
(8) ROOF VENTS x 283 = 2,264 SQ. IN.
TOTAL UPPER = 3,151.5 NFA > 1/2 REQUIRED

LOWER VENTING:
614 SQ. FT. x 6.48 =
3,978 NFA > 1/2 REQUIRED

MAIN ROOF 2
3,612 SQ. FT. / 150 =
24.08 SQ. FT. x 144 SQ. FT. =
3,467.52 NFA REQUIRED

UPPER VENTING:
6 WALL VENTS x 339 =
1,872 SQ. IN. > 1/2 REQUIRED

LOWER VENTING:
600 SQ. FT. x 6.48 =
3,888 NFA > 1/2 REQUIRED

LEGEND

RIDGE VENT-OWENS CORNING 11 ¼" VENTSURE RIDGE ROLL, 12.5 SQ. IN. NFA VENTING (NUMBER INDICATES LENGTH).

V — FLASHCO 18"x18" GRAVITY VENT. 283 SQ. IN. NFA EACH

WV — GREENHECK ESD-635 SIDE WALL STATIONARY LOUVER - 339 SQ. IN. NFA EACH

SOFFIT VENTING PANELS: HARDI PLANK VENTED PLUS 24" - 12.5 SQ. IN. NFA/LF

NOTES:

1. COORDINATE ALL PLUMBING VENTS WITH PLUMBING CONTRACTOR AND FLASH THRU ROOF.
2. COORDINATE LIGHTNING PROTECTION PENETRATIONS WITH ELECTRICIAN AND FLASH THRU ROOF
3. PROVIDE MANUFACTURERS WRITTEN 50 YEAR GUARANTEE TO OWNER.

DATE	ISSUED
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SEAL

SENDLEWSKI ARCHITECTS, P.C.
ARCHITECTS - PLANNERS
215 ROANOKE AVENUE
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(631) 727-5362

PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

ROOF PLAN
BASE BID - SHINGLE ROOF

PROJECT No. 2501

CHECKED BY:

DRAWING:

A-2.1

ROOF STORM DRAINAGE CALCULATIONS
(NYSPC SECTION 1106):

GPM EQUATION PER SECTION 1106.2.1
GPM = R(ainfall max) x A(rea) x 0.0104

ROOF DRAIN AREA 1
2,477 SF x 2.736" x 0.0104 = 70.48 GPM / 1 DOWNSPOUTS = 70.48 GPM

VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 70.48 GPM (OK)

HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > 70.48 GPM (OK)

ROOF DRAIN AREA 2
2,128 SF x 2.736" x 0.0104 = 60.55 GPM / 4 DOWNSPOUTS = 15.13 GPM

VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 15.13 GPM (OK)

HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > 15.13 GPM (OK)

ROOF DRAIN AREA 3
3,333 SF x 2.736"x 0.0104 = 94.83 GPM / 2 DOWNSPOUTS = 47.41 GPM

VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 47.41 GPM (OK)

HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > 47.41 GPM (OK)

ROOF DRAIN AREA 4
1,219 SF x 2.736"x 0.0104 = 34.68 GPM / 1 DOWNSPOUTS = 34.68 GPM

VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 34.68 GPM (OK)

HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > 34.68 GPM (OK)

ROOF DRAIN AREA 5
676 SF x 2.736"x 0.0104 = 19.23 GPM / 1 DOWNSPOUTS = 19.23 GPM

VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 19.23 GPM (OK)

HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > 19.23 GPM (OK)

ROOF DRAIN AREA 6
2,257 SF x 2.736"x 0.0104 = 64.22 GPM / 3 DOWNSPOUTS = 21.40 GPM

VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 21.40 GPM (OK)

HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > 21.40 GPM (OK)

ROOF DRAIN AREA 7
217 SF x 2.736" x 0.0104 = 6.17 GPM / 2 DOWNSPOUTS = 3.08 GPM

VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 3.08 GPM (OK)

HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > 3.08 GPM (OK)

ROOF DRAIN AREA 8
507 SF x 2.736" x 0.0104 = 14.42 GPM / 1 DOWNSPOUTS = 14.42 GPM

VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 14.42 GPM (OK)

HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > 14.42 GPM (OK)

ROOF DRAIN AREA 9
130 SF x 2.736"x 0.0104 = 3.69 GPM / 1 DOWNSPOUTS = 3.66 GPM

VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 3.66 GPM (OK)

HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > 3.66 GPM (OK)

ROOF DRAIN AREA 10
169 SF x 2.736"x 0.0104 = 4.80 GPM / 1 DOWNSPOUTS = 4.80 GPM
21.73 GPM / 2 DOWNSPOUTS = 10.86 GPM

VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 4.80 GPM (OK)

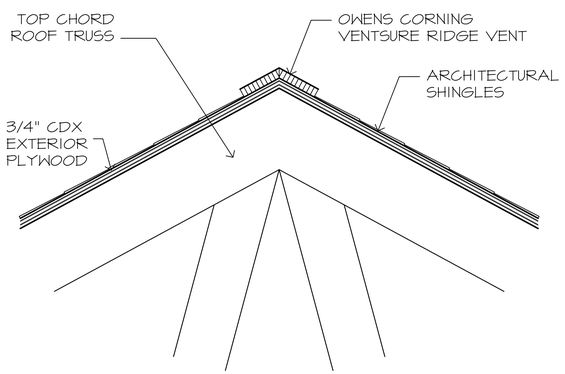
HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > .86 GPM (OK)

ROOF DRAIN AREA 11
1084.6 SF x 2.736"x 0.0104 = 30.86 GPM / 1 DOWNSPOUTS = 30.86 GPM

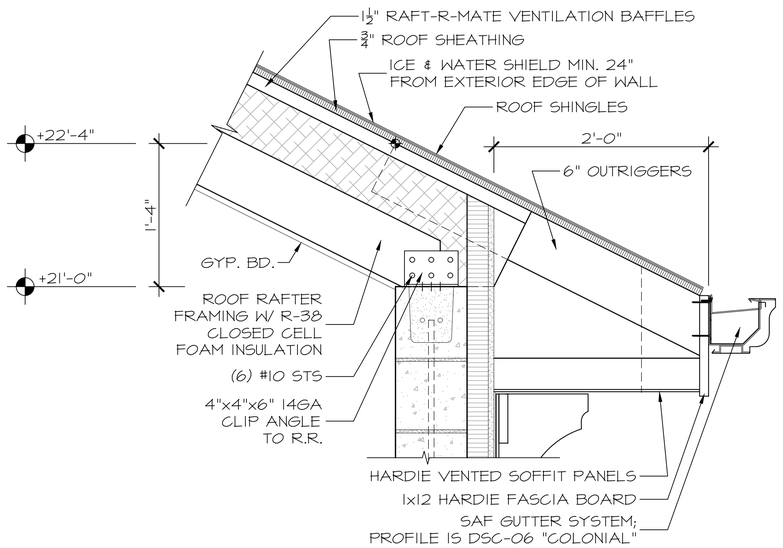
VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 30.86 GPM (OK)

HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > 30.86 GPM (OK)

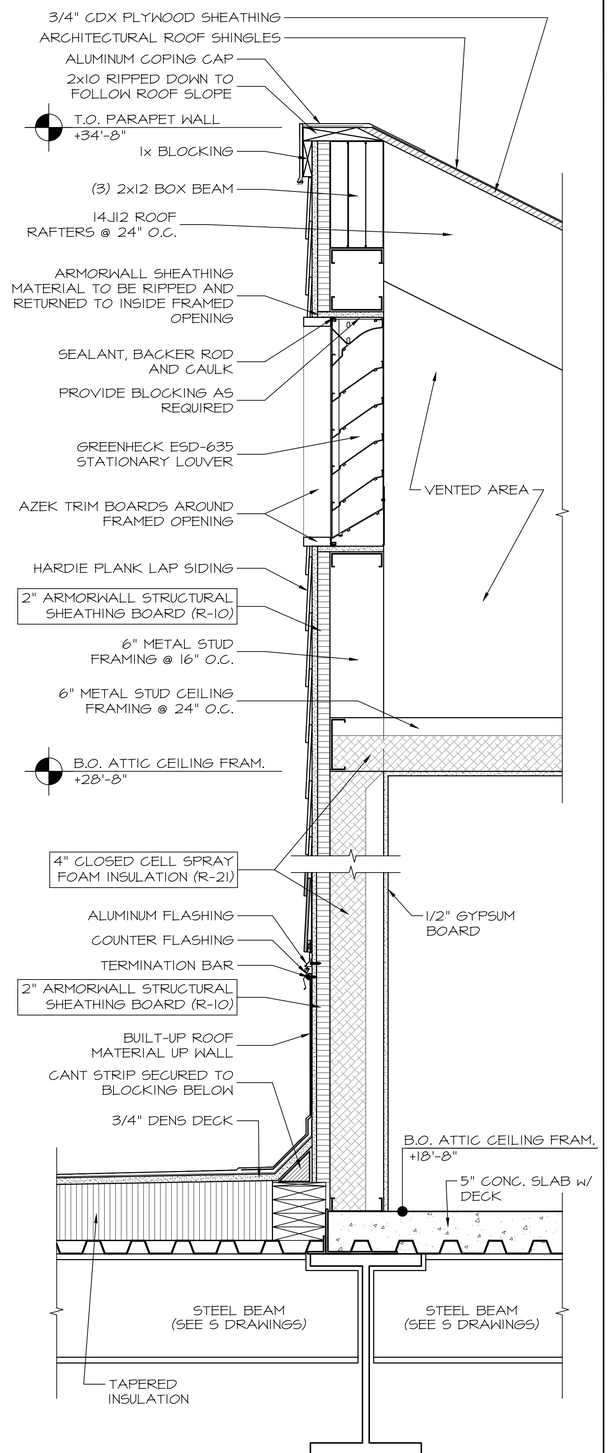
SHINGLE ROOF - SPECIFICATIONS & DETAILS	
SHEATHING	3/4" TONGUE & GROOVE FIRE-RATED CDX PLYWOOD SHEATHING
UNDERLAYMENT	GAF "DECK-ARMOR" ROOFING MEMBRANE
ICE & WATER SHIELD	GAF "WEATHER-WATCH" BARRIER. INSTALLED AT ALL ROOF PERIMETERS & VALLEYS/TRANSITIONS
SHINGLE	GAF "TIMBERLINE" HDZ SERIES SHINGLE COLOR: CHARCOAL (CONFIRM WITH OWNER), INSTALLED WITH CORRESPONDING GAF APPROVED ROOFING NAILS. COORDINATE WITH GAF FOR REQUIRED RIDGE VENTS.



TYPICAL RIDGE DETAIL
SCALE : 1-1/2" = 1'-0"



TYPICAL EAVE DETAIL
SCALE : 1-1/2" = 1'-0"



PARAPET WALL DETAIL
SCALE : 1-1/2" = 1'-0"

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ARCHITECTS - PLANNERS
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(631) 727-5362

PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

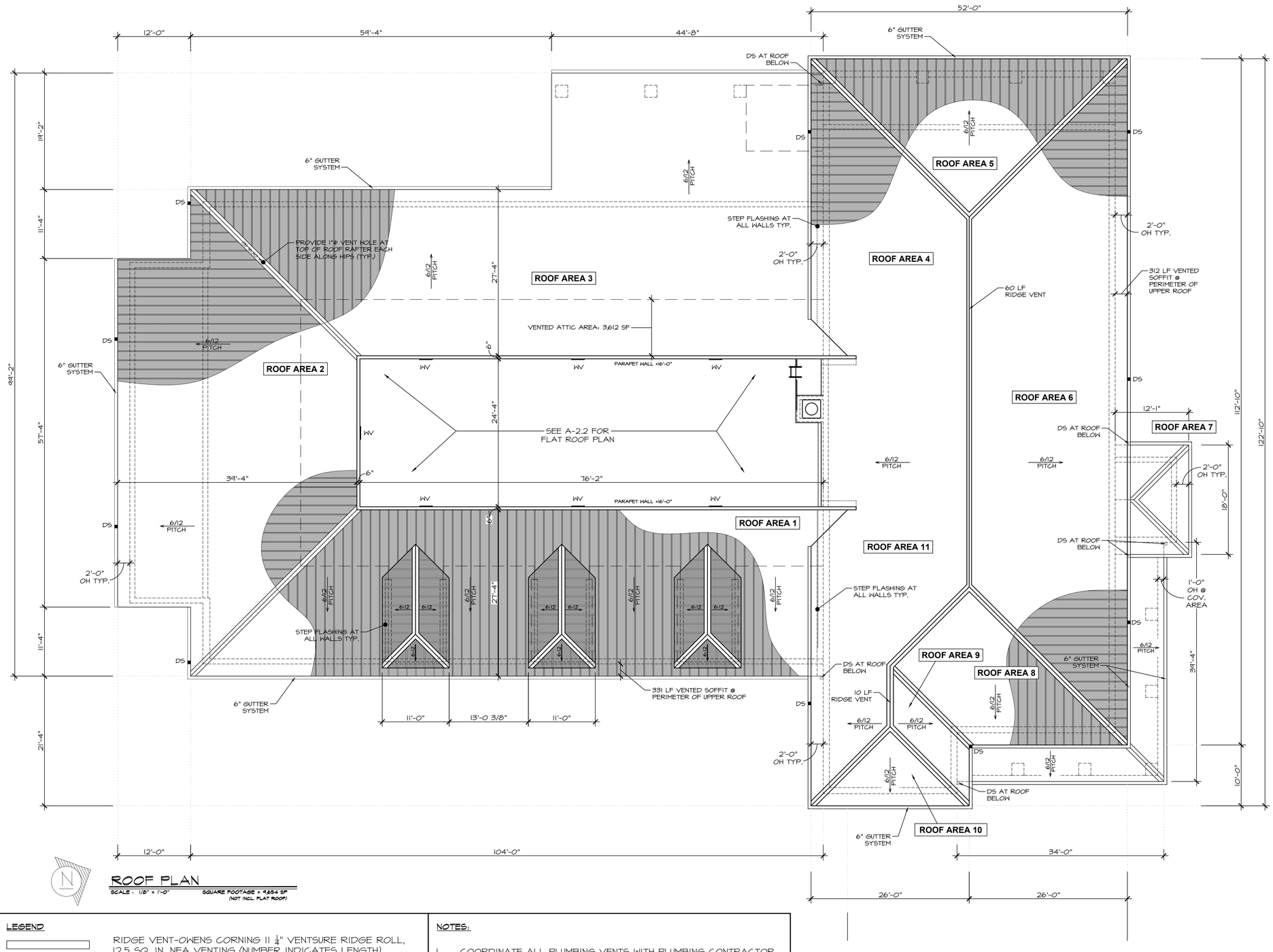
FLAT ROOF PLAN

PROJECT No. 2501

CHECKED BY:

DRAWING:

A-2.2



ROOF PLAN

SCALE: 1/8" = 1'-0" SQUARE FOOTAGE = 9,654 SF (NOT INCL. FLAT ROOF)

ROOF VENTING CALCULATIONS
(CLIMATE ZONE 6):

MAIN ROOF 1
6,042 SQ. FT. / 150 =
40.28 SQ. FT. x 144 SQ. IN. / SQ. FT. =
5,800.32 SQ. IN. NFA REQUIRED

UPPER VENTING:
61 LF RIDGE VENT x 12.5 = 762.5 SQ. IN.
10 LF RIDGE VENT x 12.5 = 125 SQ. IN.
(8) ROOF VENTS x 283 = 2,264 SQ. IN.
TOTAL UPPER = 3,151.5 NFA > 1/2 REQUIRED

LOWER VENTING:
614 SQ. FT. x 6.48 =
3,978 NFA > 1/2 REQUIRED

MAIN ROOF 2
3,612 SQ. FT. / 150 =
24.08 SQ. FT. x 144 SQ. FT. =
3,467.52 NFA REQUIRED

UPPER VENTING:
6 WALL VENTS x 312 =
1,872 SQ. IN. > 1/2 REQUIRED

LOWER VENTING:
600 SQ. FT. x 6.48 =
3,888 NFA > 1/2 REQUIRED

LEGEND

RIDGE VENT-OWENS CORNING 11 ¼" VENTSURE RIDGE ROLL, 12.5 SQ. IN. NFA VENTING (NUMBER INDICATES LENGTH).

V — FLASHCO 18"x18" GRAVITY VENT. 283 SQ. IN. NFA EACH

WV — GREENHECK ESD-635 SIDE WALL STATIONARY LOUVER - 339 SQ. IN. NFA EACH

SOFFIT VENTING PANELS: HARDI PLANK VENTED PLUS 24" - 12.5 SQ. IN. NFA/LF

NOTES:

1. COORDINATE ALL PLUMBING VENTS WITH PLUMBING CONTRACTOR AND FLASH THRU ROOF.
2. COORDINATE LIGHTNING PROTECTION PENETRATIONS WITH ELECTRICIAN AND FLASH THRU ROOF
3. PROVIDE MANUFACTURERS WRITTEN 50 YEAR GUARANTEE TO OWNER.

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

ROOF PLAN
ALTERNATE - METAL ROOF

PROJECT No. 2501

CHECKED BY:

DRAWING:

A-2.3

ROOF STORM DRAINAGE CALCULATIONS
(NYSPC SECTION 1106):

GPM EQUATION PER SECTION 1106.2.1
GPM = R(ainfall max) x A(rea) x 0.0104

ROOF DRAIN AREA 1
2,477 SF x 2.736" x 0.0104 = 70.48 GPM / 1 DOWNSPOUTS = 70.48 GPM

VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 70.48 GPM (OK)

HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > 70.48 GPM (OK)

ROOF DRAIN AREA 2
2,128 SF x 2.736" x 0.0104 = 60.55 GPM / 4 DOWNSPOUTS = 15.13 GPM

VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 15.13 GPM (OK)

HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > 15.13 GPM (OK)

ROOF DRAIN AREA 3
3,333 SF x 2.736"x 0.0104 = 94.83 GPM / 2 DOWNSPOUTS = 47.41 GPM

VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 47.41 GPM (OK)

HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > 47.41 GPM (OK)

ROOF DRAIN AREA 4
1,219 SF x 2.736"x 0.0104 = 34.68 GPM / 1 DOWNSPOUTS = 34.68 GPM

VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 34.68 GPM (OK)

HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > 34.68 GPM (OK)

ROOF DRAIN AREA 5
676 SF x 2.736"x 0.0104 = 19.23 GPM / 1 DOWNSPOUTS = 19.23 GPM

VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 19.23 GPM (OK)

HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > 19.23 GPM (OK)

ROOF DRAIN AREA 6
2,257 SF x 2.736"x 0.0104 = 64.22 GPM / 3 DOWNSPOUTS = 21.40 GPM

VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 21.40 GPM (OK)

HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > 21.40 GPM (OK)

ROOF DRAIN AREA 7
217 SF x 2.736" x 0.0104 = 6.17 GPM / 2 DOWNSPOUTS = 3.08 GPM

VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 3.08 GPM (OK)

HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > 3.08 GPM (OK)

ROOF DRAIN AREA 8
507 SF x 2.736" x 0.0104 = 14.42 GPM / 1 DOWNSPOUTS = 14.42 GPM

VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 14.42 GPM (OK)

HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > 14.42 GPM (OK)

ROOF DRAIN AREA 9
130 SF x 2.736"x 0.0104 = 3.69 GPM / 1 DOWNSPOUTS = 3.66 GPM

VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 3.66 GPM (OK)

HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > 3.66 GPM (OK)

ROOF DRAIN AREA 10
169 SF x 2.736"x 0.0104 = 4.80 GPM / 1 DOWNSPOUTS = 4.80 GPM
21.73 GPM / 2 DOWNSPOUTS = 10.86 GPM

VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 4.80 GPM (OK)

HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > .86 GPM (OK)

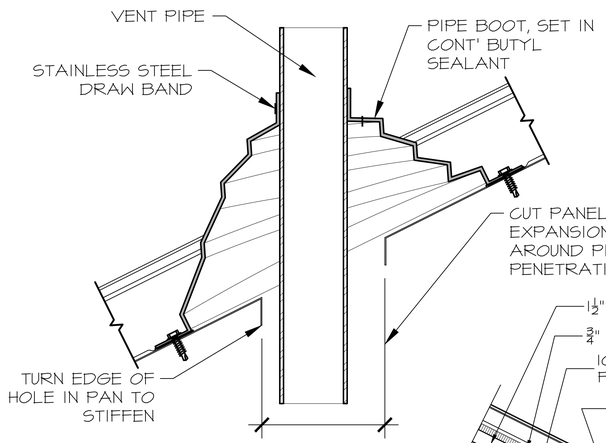
ROOF DRAIN AREA 11
1084.6 SF x 2.736"x 0.0104 = 30.86 GPM / 1 DOWNSPOUTS = 30.86 GPM

VERTICAL LEADER SIZING (NYSPC 1006.3)
PROPOSED SIZE: 4"Φ = 192 GPM > 30.86 GPM (OK)

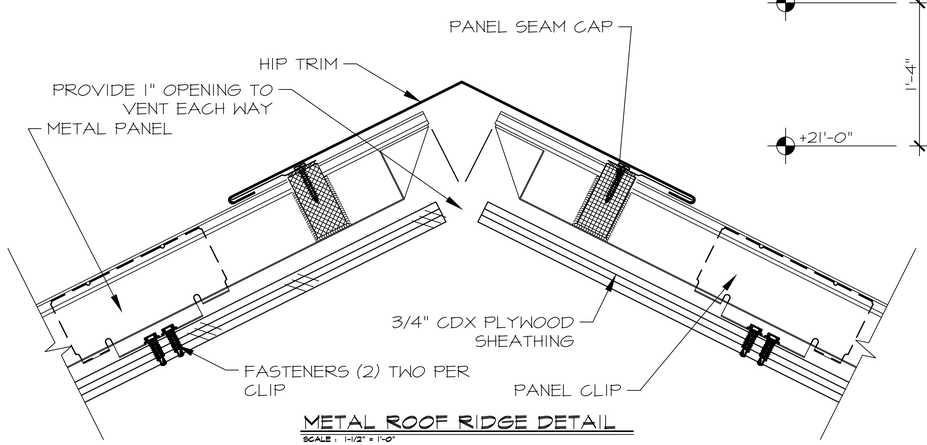
HORIZONTAL GUTTER SIZING (NYSPC 1006.6)
PROPOSED SIZE: 6"x7" @ 1/8"/ft = 110 GPM > 30.86 GPM (OK)

METAL ROOF - SPECIFICATIONS & DETAILS

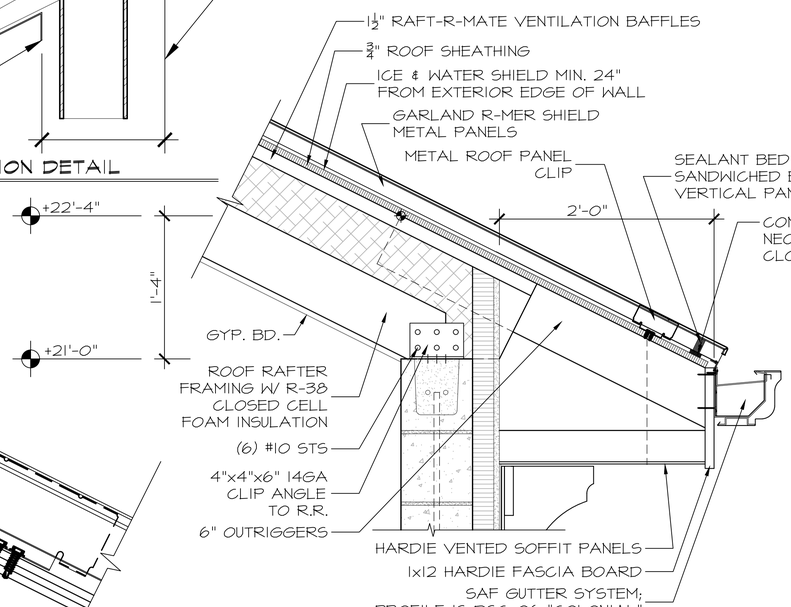
SHEATHING	5/8" TONGUE & GROOVE FIRE-RATED CDX PLYWOOD SHEATHING
UNDERLAYMENT	GAF "DECK-ARMOR" ROOFING MEMBRANE
ICE & WATER SHIELD	GAF "WEATHER-WATCH" BARRIER. INSTALLED AT ALL ROOF PERIMETERS & VALLEYS/TRANSITIONS
METAL PANELS	GARLAND R-MER SHIELD METAL ROOF SYSTEM COLOR: TO BE SELECTED BY OWNER 12.75" WIDE, 0.040" ALUMINUM PANELS



VENT PENETRATION DETAIL
SCALE: 1-1/2" = 1'-0"



METAL ROOF RIDGE DETAIL
SCALE: 1-1/2" = 1'-0"



TYPICAL EAVE DETAIL
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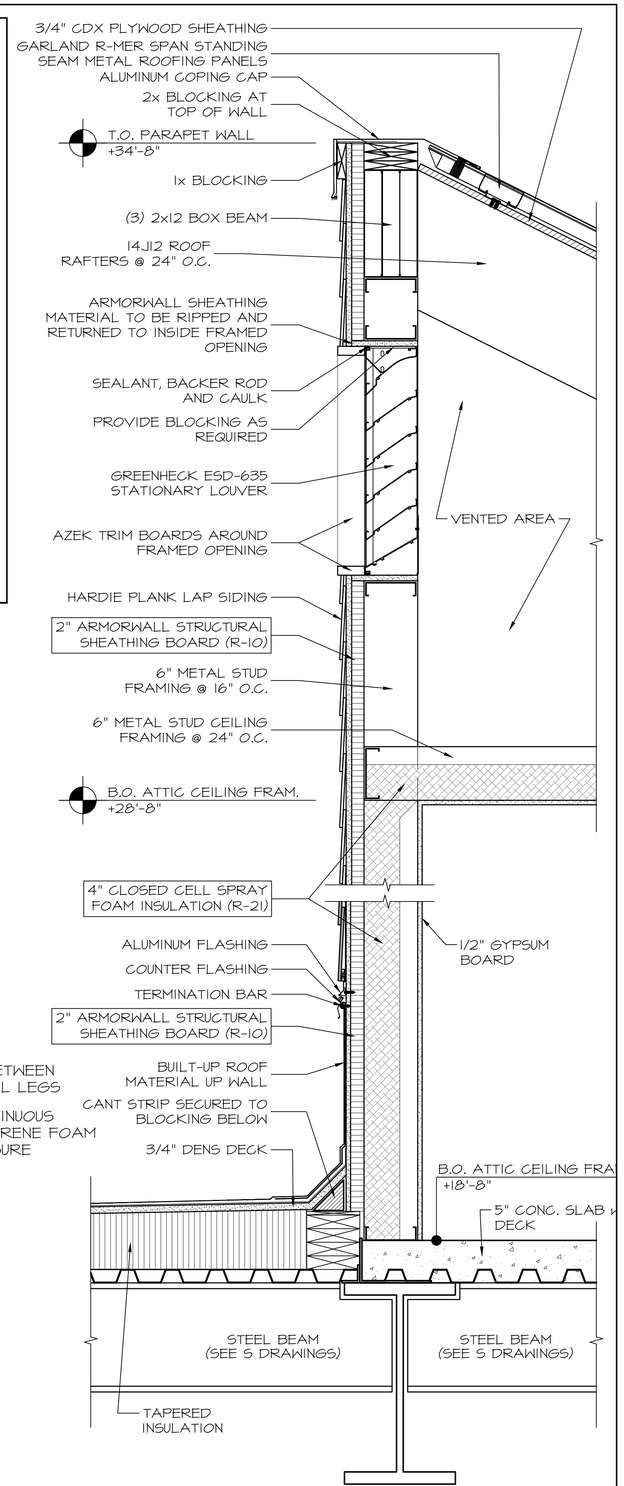

PARAPET WALL DETAIL
SCALE: 1-1/2" = 1'-0"

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ELLENVILLE, NY 12428

METAL ROOF DETAILS

PROJECT No. 2501

CHECKED BY:

DRAWING:

A-2.4

FLAT ROOF STORM DRAINAGE CALCULATIONS
(NYSPC SECTION 1106):

GPM EQUATION PER SECTION 1106.2.1
GPM = R(ainfall max) x A(rea) x 0.0104

ROOF DRAIN AREA 1-F
464 SF x 2.75" x 0.0104 = 13.27 GPM

STORM DRAIN PIPE SIZING (NYSPC 1006.2)
PROPOSED 3"Φ PIPE @ 1/2"/ft SLOPE = 111 GPM > 13.27 GPM (OK)

ROOF DRAIN AREA 2-F
464 SF x 2.75" x 0.0104 = 13.27 GPM

STORM DRAIN PIPE SIZING (NYSPC 1006.2)
PROPOSED 3"Φ PIPE @ 1/2"/ft SLOPE = 111 GPM > 13.27 GPM (OK)

ROOF DRAIN AREA 3-F
464 SF x 2.75"x 0.0104 = 13.27 GPM

STORM DRAIN PIPE SIZING (NYSPC 1006.2)
PROPOSED 3"Φ PIPE @ 1/2"/ft SLOPE = 111 GPM > 13.27 GPM (OK)

ROOF DRAIN AREA 4-F
464 SF x 2.75"x 0.0104 = 13.27 GPM

STORM DRAIN PIPE SIZING (NYSPC 1006.2)
PROPOSED 3"Φ PIPE @ 1/2"/ft SLOPE = 111 GPM > 13.01 GPM (OK)

FLAT ROOF STORM DRAINAGE (OVERFLOW) CALCULATIONS
(NYSPC SECTION 1106):

GPM EQUATION PER SECTION 1106.2.1
GPM = R(ainfall max) x A(rea) x 0.0104

ROOF DRAIN AREA 1-F
464 SF x 2.75" x 0.0104 = 13.27 GPM

STORM DRAIN PIPE SIZING (NYSPC 1006.2)
PROPOSED 3"Φ PIPE @ 1/2"/ft SLOPE = 111 GPM > 13.27 GPM (OK)

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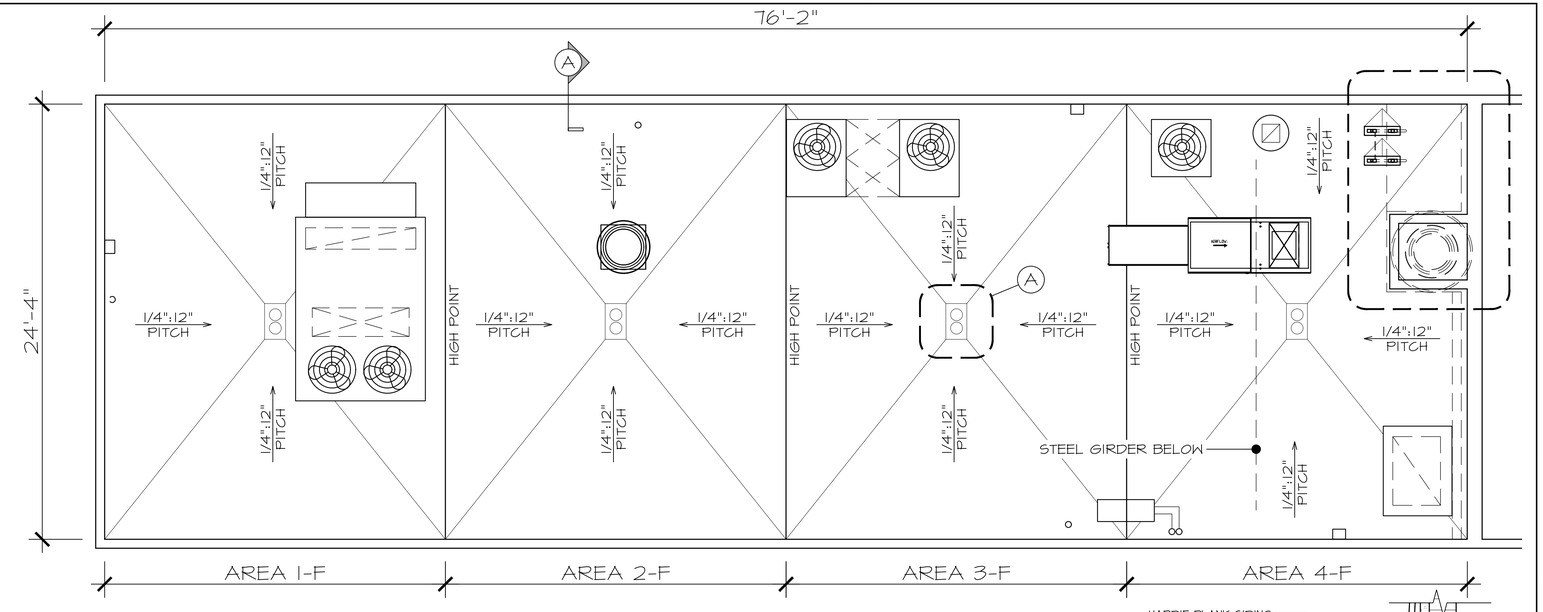
464 SF x 2.75"x 0.0104 = 13.27 GPM

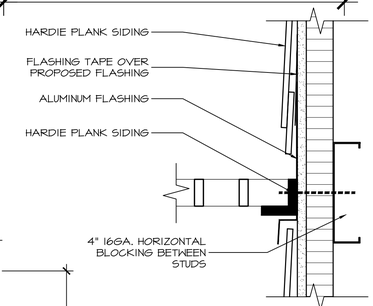
STORM DRAIN PIPE SIZING (NYSPC 1006.2)
PROPOSED 3"Φ PIPE @ 1/2"/ft SLOPE = 111 GPM > 13.27 GPM (OK)

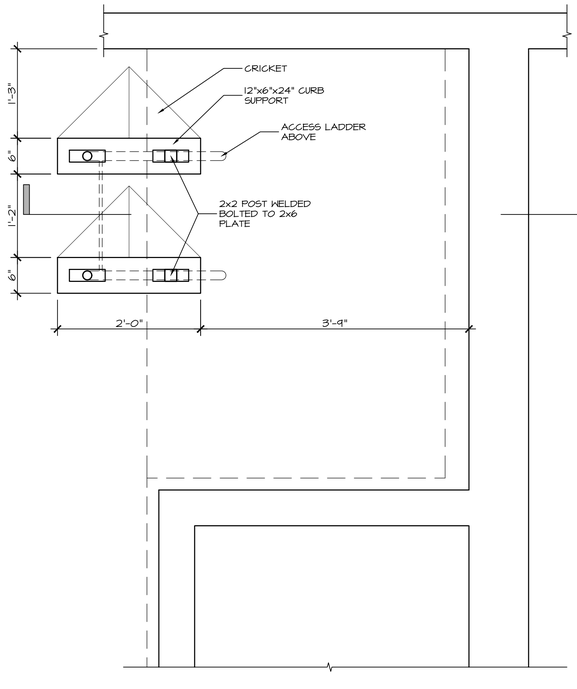
ROOF DRAIN AREA 4-F
464 SF x 2.75"x 0.0104 = 13.27 GPM

STORM DRAIN PIPE SIZING (NYSPC 1006.2)
PROPOSED 3"Φ PIPE @ 1/2"/ft SLOPE = 111 GPM > 13.01 GPM (OK)

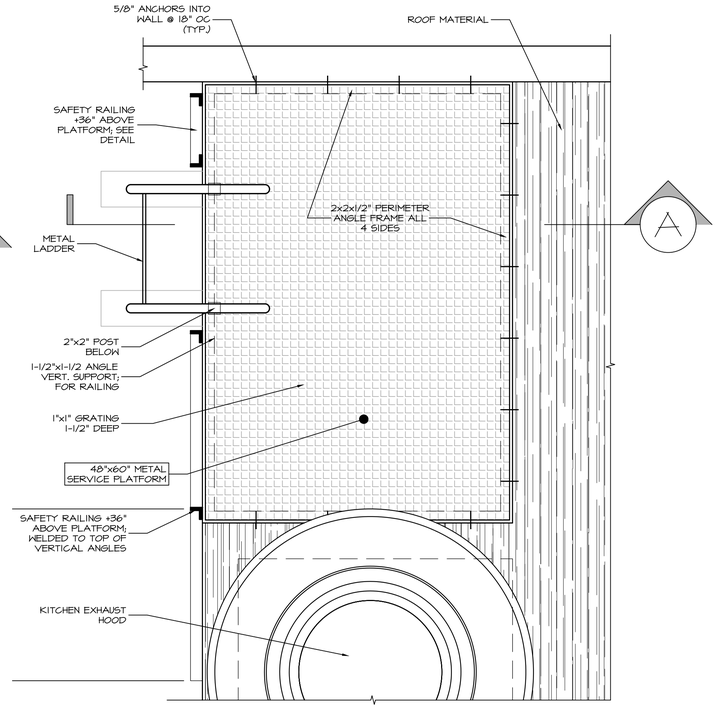


FLAT ROOF PLAN
SCALE : 1/4" = 1'-0" SQUARE FOOTAGE = 1,855 SF

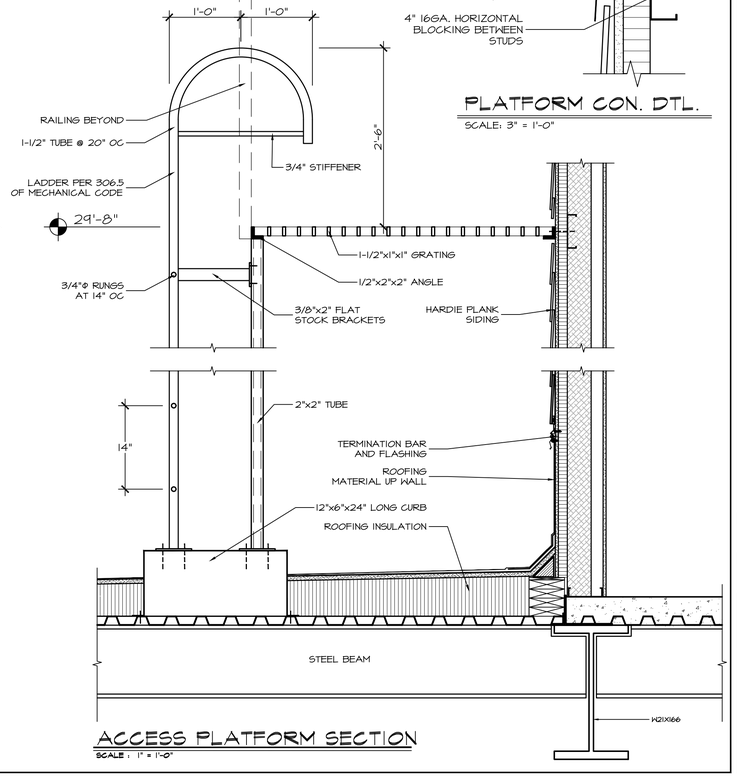




ACCESS PLATFORM SUPPORT PLAN
SCALE : 1" = 1'-0"



ACCESS PLATFORM PLAN
SCALE : 1" = 1'-0"



PLATFORM CON. DTL.
SCALE: 3" = 1'-0"

ACCESS PLATFORM SECTION
SCALE : 1" = 1'-0"

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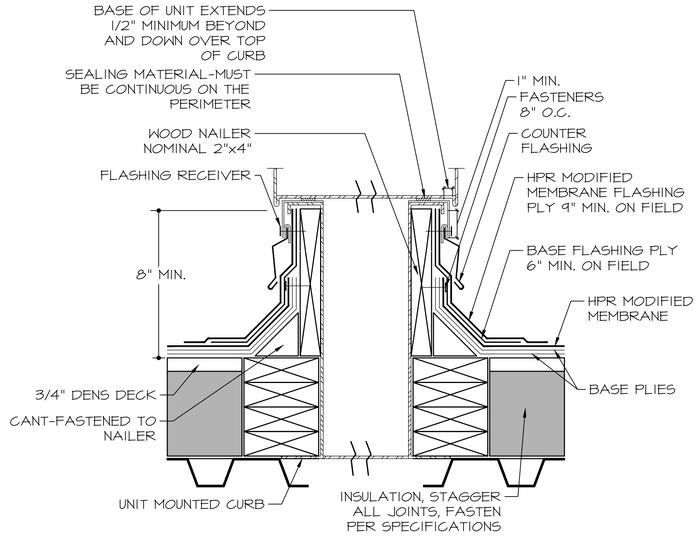
FLAT ROOF PLAN

PROJECT No. 2501

CHECKED BY:

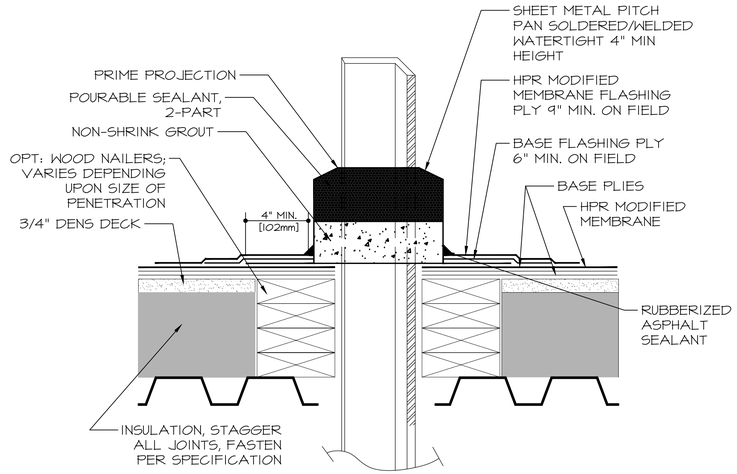
DRAWING:

A-2.5



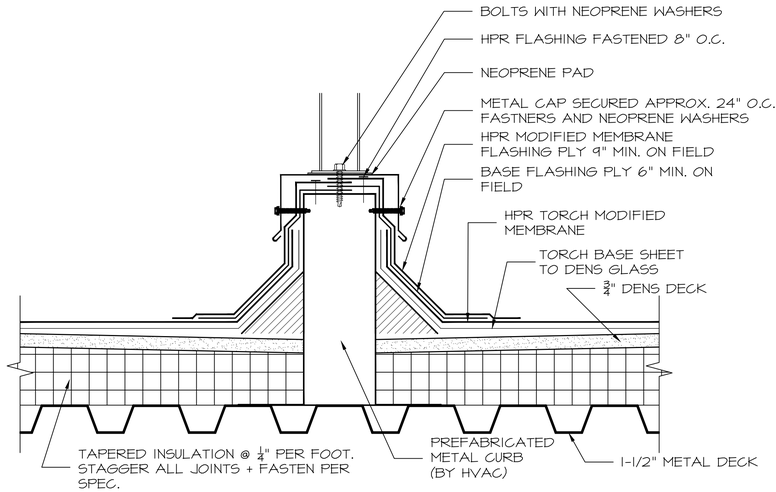
EQUIPMEN CURB DETAIL

SCALE : 3" = 1'-0"



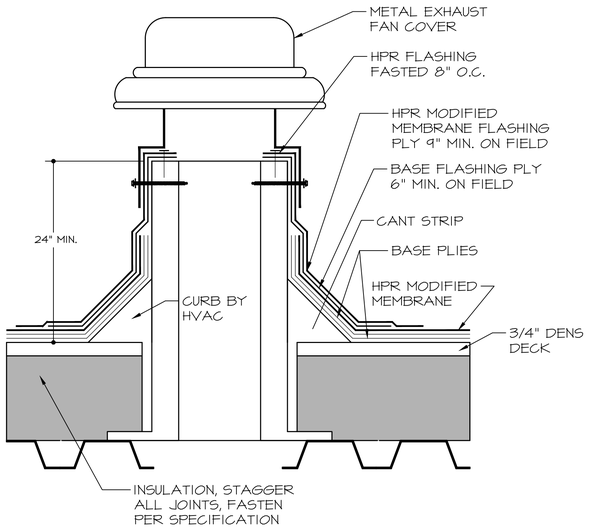
PITCH POCKET DETAIL

SCALE : 3" = 1'-0"



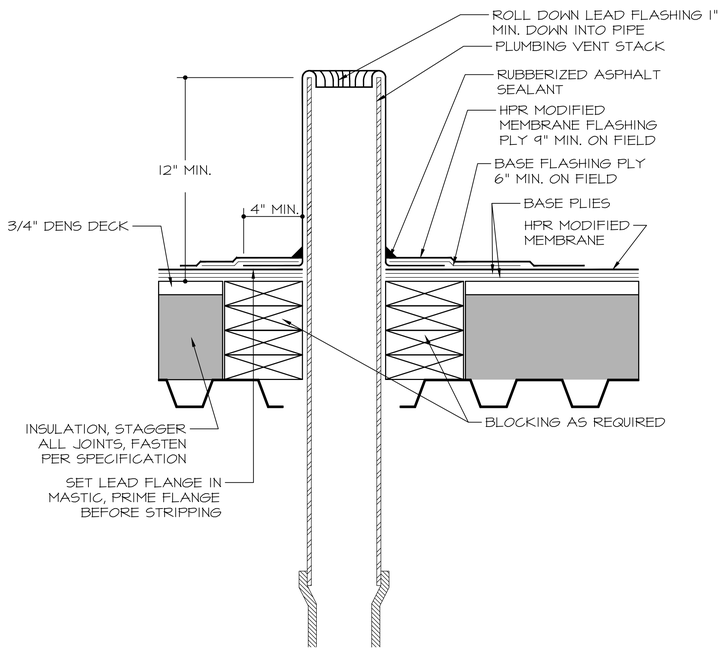
EQUIPMNET SUPPORT DETAIL

SCALE : 3" = 1'-0"



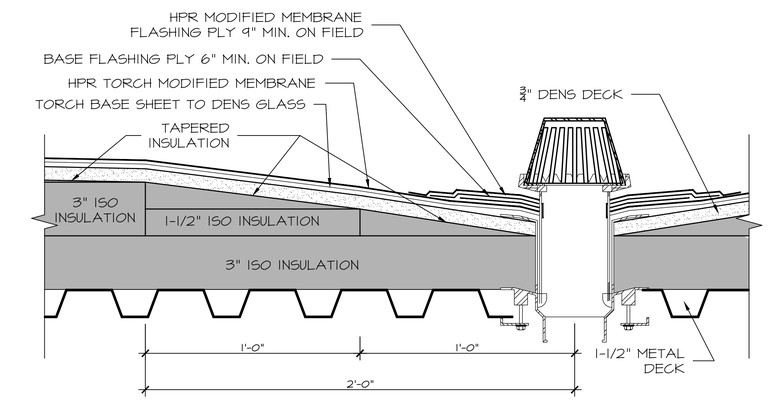
EXHAUST VENT DETAIL

SCALE : 3" = 1'-0"



WASTE VENT DETAIL

SCALE : 3" = 1'-0"



FLAT ROOF DRAIN DETAIL

SCALE : 3" = 1'-0"

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FLAT ROOF DETAILS

PROJECT No. 2501

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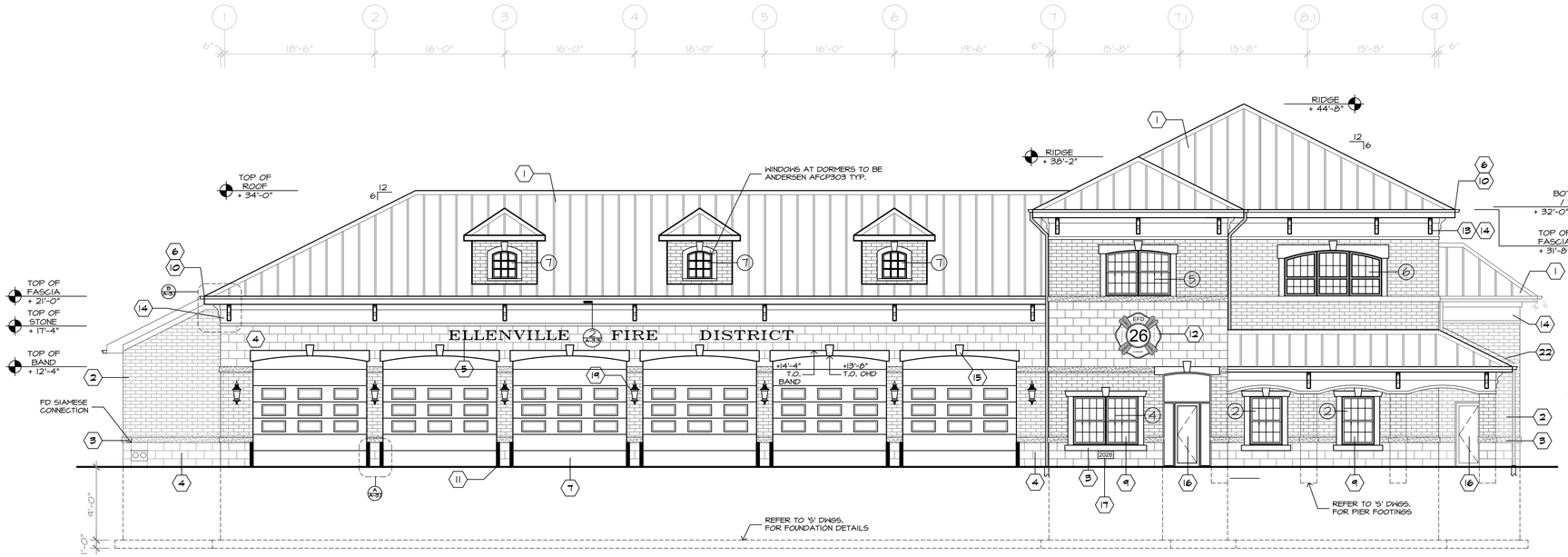
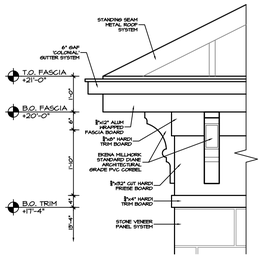
A-2.6



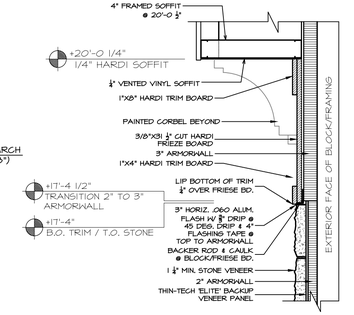
PROPOSED EAST ELEVATION

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



B FRIESE BD. DETAIL

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

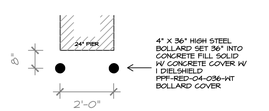


C OHD STONE/FRIESE DETAIL

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

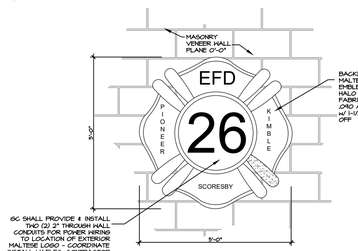
PROPOSED NORTH ELEVATION

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



A BOLLARD DETAIL

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



MALTESE DETAIL

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

EXTERIOR BUILDING LEGEND

1	ALL MAIN/UPPER SLOPED ROOF AREAS SHALL BE PREFABRICATED TRUSS SYSTEM (REFER TO STRUCTURAL DWGS) W/ ½" HOMASOTE NFGR ROOF DECKING & TYVEK PROTEC UNDERLAYMENT FELT AND 'GARLAND R-MER' STANDING SEAM METAL ROOF SYSTEM (COLOR: GRAY) LOW ROOF AREAS SHALL BE 8" MARINO C JOIST @ 16"O.C. W/ ½" HOMASOTE NFGR ROOF DECKING & TYVEK PROTEC UNDERLAYMENT FELT AND 'GARLAND R-MER' STANDING SEAM METAL ROOF SYSTEM (COLOR: GRAY)
2	EXTERIOR BRICK VENEER MASONRY UNITS SHALL BE 4"x4"x12" UTILITY 'GLEN-GERY' BRICK BY KINGS MATERIALS, WIRE CUT, COLOR "FLASHED RED". INCLUDE THIN-TECH 'ELITE' BACKUP VENEER PANEL AS PART OF INSTALL. (KINGS MATERIALS CONTACT - KYLE EVANS (631) 786-4513
3	HORIZONTAL ACCENT BANDS & WINDOW AND DOOR ACCENT BANDS SHALL BE 8"x4"x MAX LENGTH PRECAST 'ROCK CAST' SELECT STONE SMOOTH FINISH W/ CHAMFERED EDGES (OR EQUAL) BY KINGS MATERIALS, COLOR 'BUFFSTONE'. INCLUDE THIN-TECH 'ELITE' BACKUP VENEER PANEL AS PART OF INSTALL. (KINGS MATERIALS CONTACT - KYLE EVANS (631) 786-4513
4	EXTERIOR STONE VENEER TO BE 'ROCK CAST' BY KINGS MATERIALS, W/ ROCK FACE FINISH. (COLOR: SMOKEHOUSE). INCLUDE THIN-TECH 'ELITE' BACKUP VENEER PANEL AS PART OF INSTALL.
5	LETTERING SHALL BE METAL ARTS OR EQUAL (800) 237-8064 CAST METAL LETTERS 18" HIGH x 3/4" DEEP TIMES BO 210 STYLE WITH # 20 ACRYLIC BAKED ENAMEL FINISH. MOUNT WITH PMS-3 ALUMINUM TUBE SPACERS. COLOR: RED.
6	S.A.F 6" 'COLONIAL' GUTTER SYSTEM W/ 4"X4" DOWNSPOUTS. (COLOR: BLACK). REFER TO A-3.1 GUTTER DETAIL.
7	13'-4" X 13'-8" (M.O.) OVERHEAD DOOR BY RAYNOR, MODEL: TM-300 INSULATED DOORS WITH RED FINISH AND (9) 34" X 16" LITES (3@3 SECTIONS) EACH DOOR.
8	NEW H.M. INSULATED DOOR & FRAME. PROVIDE 4" HEAD TO ALIGN WITH MASONRY COURSING. PAINT FINISH, COLOR: BLACK
9	WINDOWS SHALL BE ANDERSEN STORM MATCH SERIES TYPICAL. COLOR: BLACK W/ WHITE INTERIOR. REFER TO DRAWING A-9.3 FOR ADDITIONAL INFORMATION.
10	FASCIA BOARDS SHALL BE PRE-PRIMED 5/4X12 W/ .062 ALUM. WRAP (COLOR: BLACK)
11	4" DIA. X 72"L STEEL BOLLARD SET INTO CONC. 36" W/ HDPE REFLECTIVE SLEEVE COVER. (COLOR: BLACK)
12	6'-0" DIA. CUSTOM DIE-CUT MALTESE CROSS W/ LED HALO BACK LIGHTING BY GEMINI. (COLOR: ALUMINUM)
13	5'H X 9'D X 18'/22'H STANDARD 'DIANE' ARCHITECTURAL GRADE PVC CORBEL BY EKENA MILLWORK. (COLOR: BLACK)
14	HARDI-PLANK 5/4 NT3 SMOOTH FRIESE/TRIM BOARDS. 2'-8" TOTAL HEIGHT, INCL. 8" TOP & 4" BOTTOM TRIM. (COLOR: MIDNIGHT BLACK)
15	CAST STONE ARCHES SHALL BE THE SAME MAKE/MODEL/COLOR AS OTHER PRECAST ACCENT BANDS, W/ CHAMFERED WITH FLARED OUTSIDE EDGE AND CHAMFERED KEYSTONE. REFER TO SHEET A-3.3 FOR ADDITIONAL INFORMATION.
16	ALL EXTERIOR (AND INTERIOR AT VESTIBULES) STOREFRONT DOORS SHALL BE KAWNEER 500T WIDE STILE W/ TRIFAB VG 451T 2"X6" FRAMING TYPICAL W/ #24 BLACK ANODIZED FINISH.
17	16" x 24" x 4" PRECAST CORNERSTONE (DATE: 2028, OR TBD W/ OWNER) COLOR: SAME AS PRECAST BANDS.
18	BRASS THRU WALL OVERFLOW SCUPPER TO BE ZURN Z199 COLOR: BLACK (SIZED AS INDICATED)
19	DECORATIVE LANTERNS BY VISIONAIRE, MODEL 'SANTA-ROSA'. (COLOR: BLACK). REFER TO ELECTRICAL DRAWINGS FOR MOUNTING LOCATIONS/HEIGHTS.
20	WALL PACK LIGHT FIXTURE BY VISIONAIRE. (COLOR: BLACK) REFER TO ELECTRICAL DWGS.
21	MECHANICAL LOUVER. COORDINATE M.O. W/ MECHANICAL CONTRACTOR. REFER TO MECHANICAL DRAWINGS AS NECESSARY. LOUVER PROVIDED BY MECH. INSTALLED BY GC MASON. COLOR: BLACK
22	STRAIGHT LINE FLASHING BEYOND EXTERIOR FINISH.
23	ANDERSEN 400 SERIES CUSTOM ARCH-TOP PICTURE WINDOW UNIT. SIZE: 6'-0"H X 4'-0" H.

NOTES:

1. ALL EXTERIOR MASONRY VENEER /PRECAST SHALL BE FULLY ACID-WASHED AS PART OF CLOSE-OUT AT PROJECTS END.
2. GENERAL CONTRACTOR IS RESPONSIBLE FOR ANY & ALL COORDINATION WITH ALL OTHER PRIME CONTRACTORS FOR EXTERIOR BUILDING, MASONRY & FOUNDATION PENETRATIONS.
3. GENERAL CONTRACTOR SHALL PROVIDE & INSTALL ALL NECESSARY MATERIALS REQUIRED FOR MANUFACTURER INSTALLATION METHOD OF ALL SIDING, TRIM, ETC. INCLUDING BUT NOT LIMITED TO FASTENERS, BLOCKING, FLASHING, ETC...
3. GENERAL CONTRACTOR SHALL PROVIDE & INSTALL ALL NECESSARY MATERIALS REQUIRED FOR MANUFACTURER INSTALLATION METHOD OF ALL EXTERIOR BUILDING MASONRY VENEER. INCLUDING THI-TECH 'ELITE' MASONRY VENEER BACKUP FASTENING PANEL SYSTEM AT ALL VENEER AREAS.
4. GENERAL CONTRACTOR SHALL COORDINATE ALL EXTERIOR OUTLETS IN MASONRY WITH ELECTRICAL CONTRACTOR

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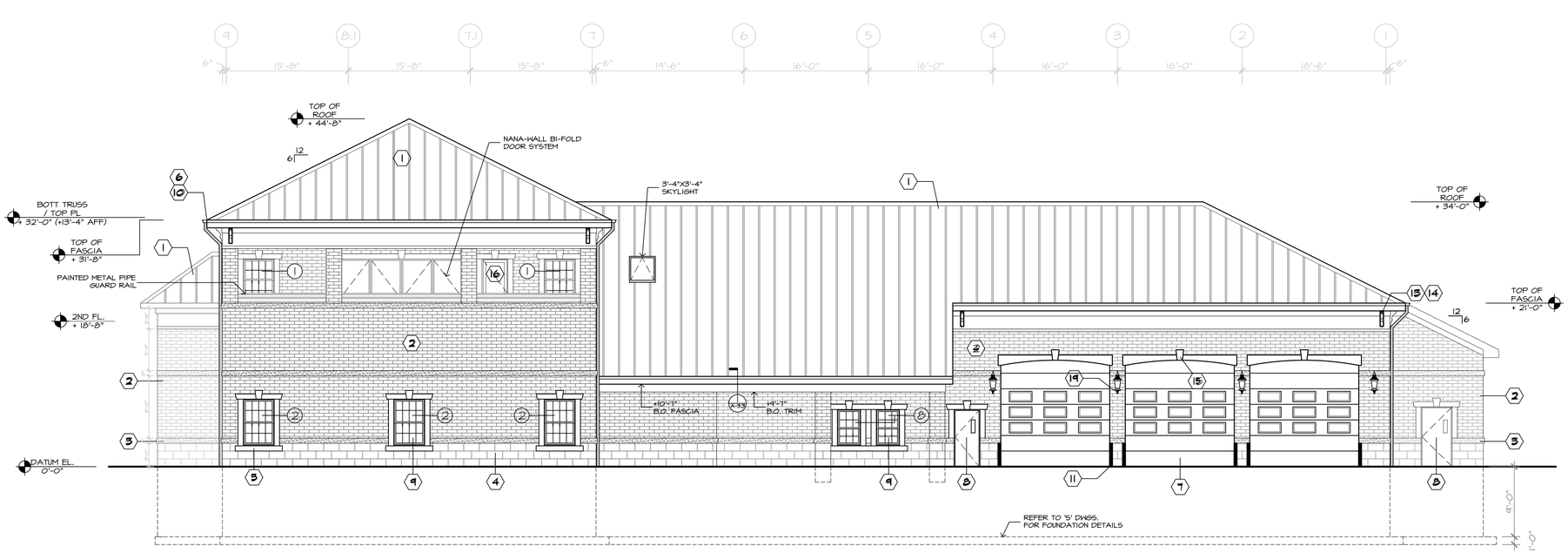
ELEVATIONS & DETAILS

PROJECT No. 2501

CHECKED BY:

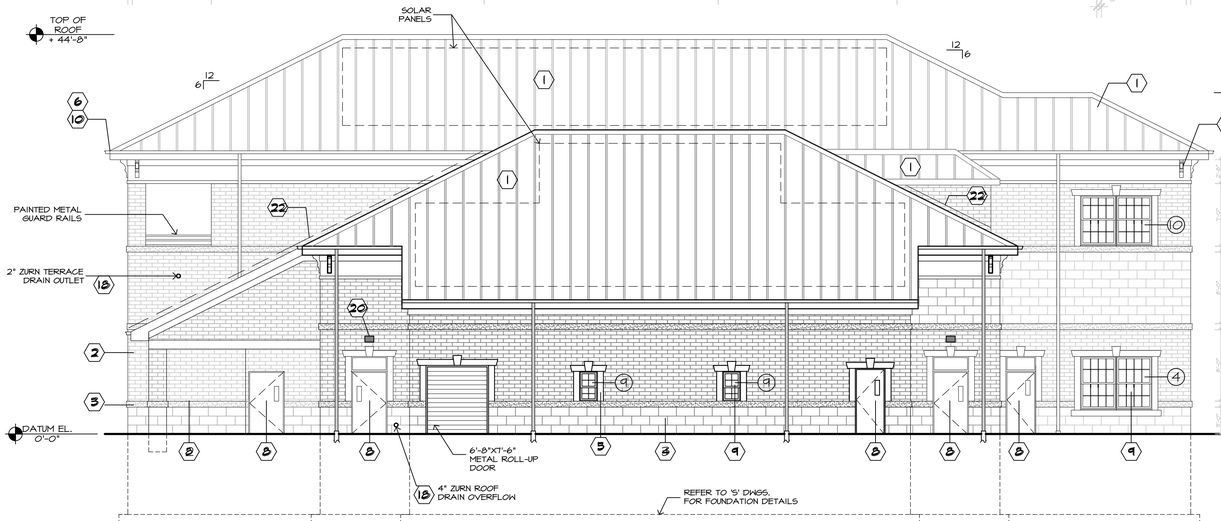
DRAWING:

A-3.1



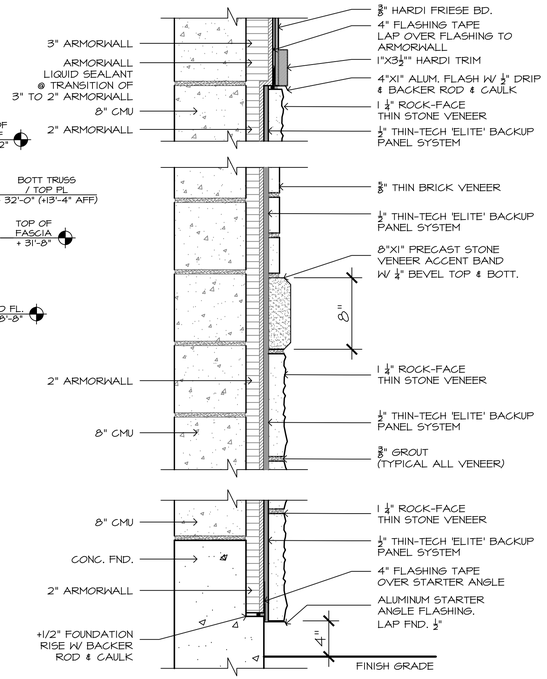
PROPOSED WEST ELEVATION

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



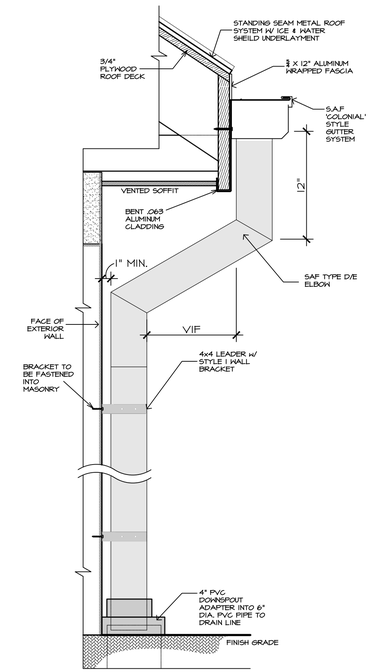
PROPOSED SOUTH ELEVATION

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



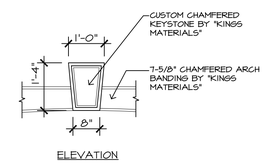
WALL SECTION AT FOUNDATION

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

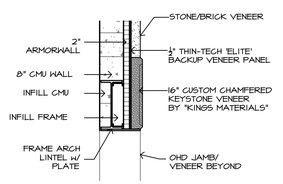


B GUTTER/LEADER DETAIL

SCALE : NTS



ELEVATION



PROFILE

B O.H.D. KEYSTONE

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

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

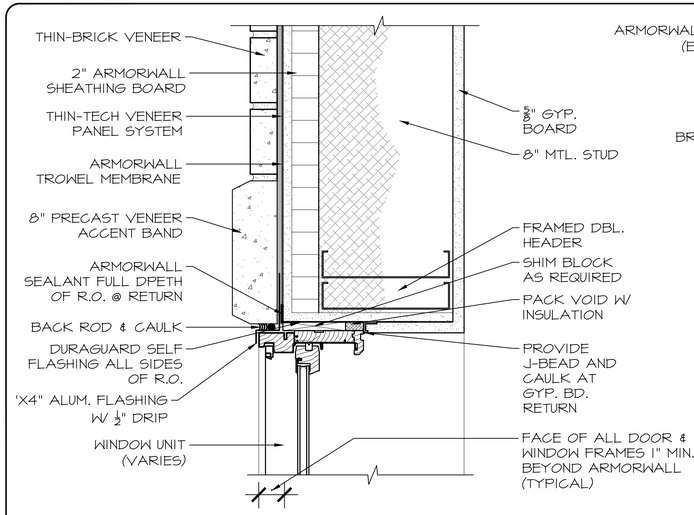
ELEVATIONS & DETAILS

PROJECT No. 2501

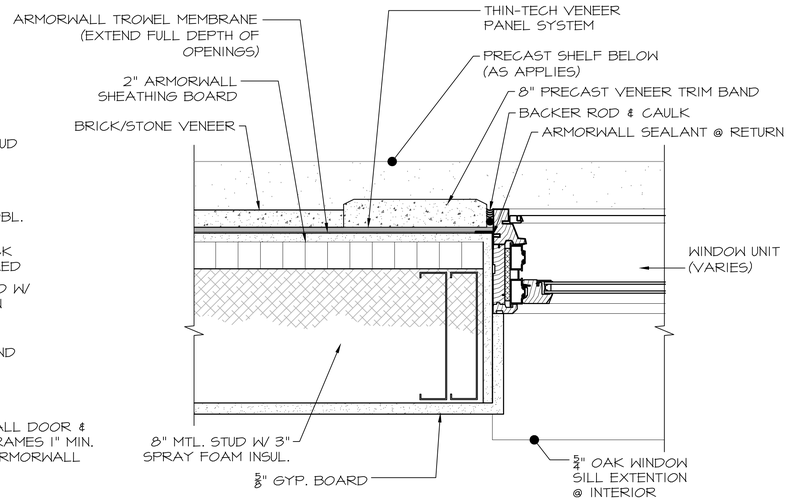
CHECKED BY:

DRAWING:

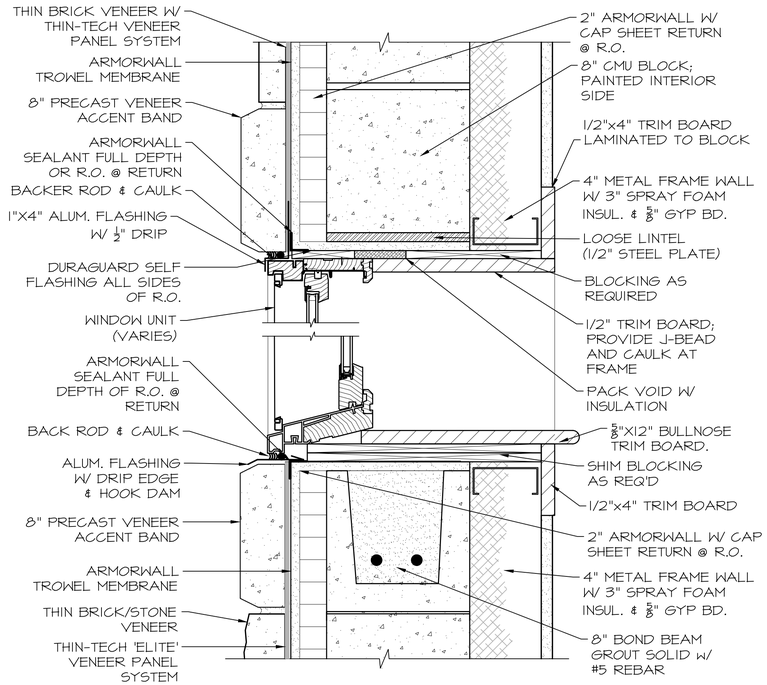
A-3.2



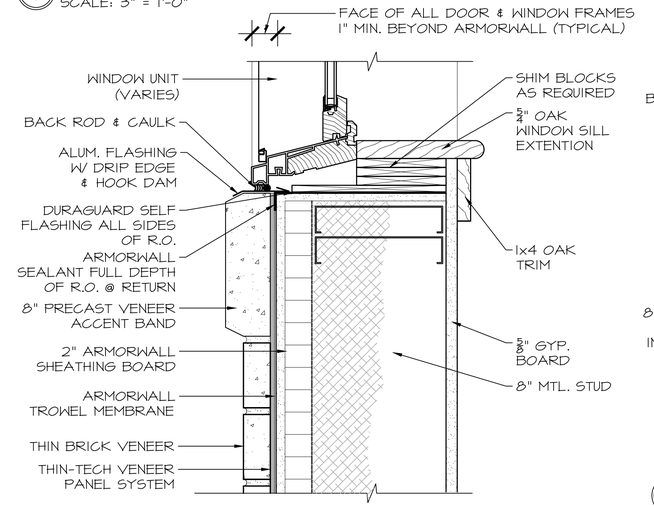
1 WINDOW HEAD SECTION @ FRAMING
SCALE: 3" = 1'-0"



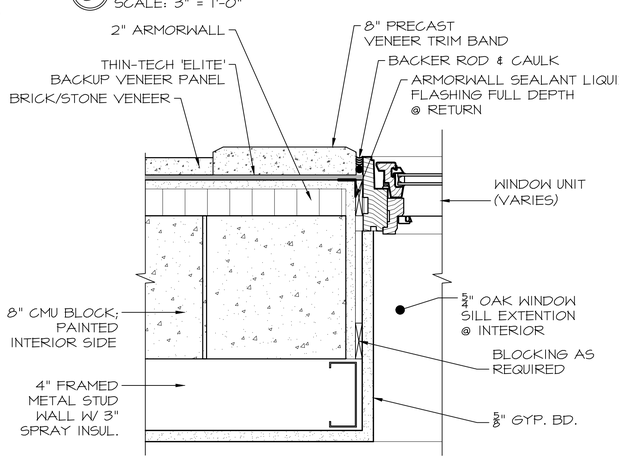
3 WINDOW JAMB DETAIL @ FRAMING
SCALE: 3" = 1'-0"



4 WINDOW SECTION @ BLOCK
SCALE: 3" = 1'-0"



2 WINDOW SILL SECTION @ FRAMING
SCALE: 3" = 1'-0"

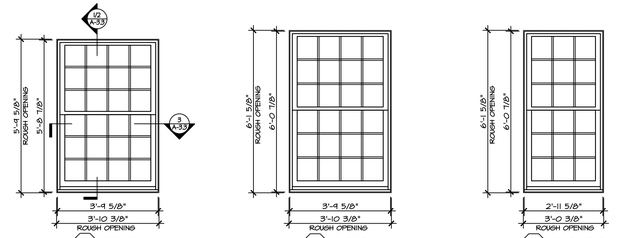


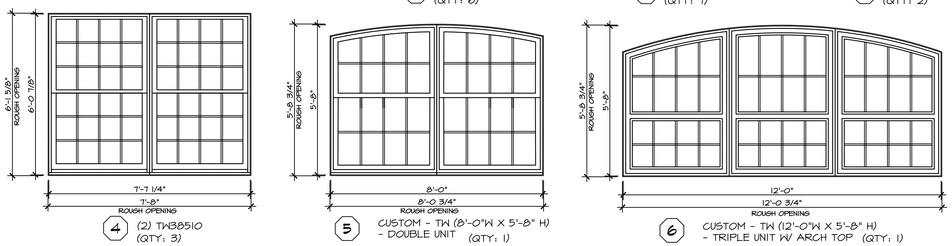
5 WINDOW JAMB DETAIL @ BLOCK
SCALE: 3" = 1'-0"

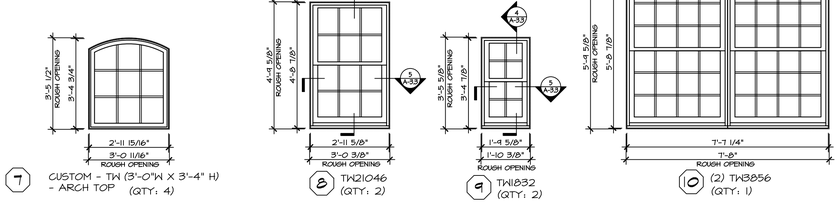
DESIGNATION	MODEL	MANUFACTURER	FINISH		GLASS	HARDWARE	GRILLES	NOTES	U-FACTOR	SHGC	AIR INFILTRATION	DESIGN PRESSURE
			EXTERIOR	INTERIOR								
1	TW3856	ANDERSEN	BLACK	WHITE	LOW-E4	CLASSIC SERIES, WHITE	PRAIRIE, CUSTOM.	TRUSCENE WINDOW SCREEN w/ BLACK FRAME FINISH	0.360	0.28	<0.2	50/50
2	TW3851O	ANDERSEN	BLACK	WHITE	LOW-E4	CLASSIC SERIES, WHITE	PRAIRIE, CUSTOM.	TRUSCENE WINDOW SCREEN w/ BLACK FRAME FINISH	0.360	0.28	<0.2	50/50
3	TW21051O	ANDERSEN	BLACK	WHITE	LOW-E4	CLASSIC SERIES, WHITE	PRAIRIE, CUSTOM.	TRUSCENE WINDOW SCREEN w/ BLACK FRAME FINISH	0.360	0.28	<0.2	50/50
4	TW3851O (2)	ANDERSEN	BLACK	WHITE	LOW-E4	CLASSIC SERIES, WHITE	PRAIRIE, CUSTOM.	TRUSCENE WINDOW SCREEN w/ BLACK FRAME FINISH	0.360	0.28	<0.2	50/50
5	TW (CUSTOM) 8'-0"W X 5'-8"H (DBL. UNIT)	ANDERSEN	BLACK	WHITE	LOW-E4	CLASSIC SERIES, WHITE	PRAIRIE, CUSTOM.	TRUSCENE WINDOW SCREEN w/ BLACK FRAME FINISH	0.360	0.28	<0.2	50/50
6	TW (CUSTOM) 12'-0"W X 5'-8"H (TRPL. - ARCH TOP)	ANDERSEN	BLACK	WHITE	LOW-E4	CLASSIC SERIES, WHITE	PRAIRIE, CUSTOM.	TRUSCENE WINDOW SCREEN w/ BLACK FRAME FINISH	0.360	0.28	<0.2	50/50
7	TW (CUSTOM) 3'-0"W X 3'-4"H (ARCH TOP)	ANDERSEN	BLACK	WHITE	LOW-E4	CLASSIC SERIES, WHITE	PRAIRIE, CUSTOM.	TRUSCENE WINDOW SCREEN w/ BLACK FRAME FINISH	0.360	0.28	<0.2	50/50
8	TW21046	ANDERSEN	BLACK	WHITE	LOW-E4	CLASSIC SERIES, WHITE	PRAIRIE, CUSTOM.	TRUSCENE WINDOW SCREEN w/ BLACK FRAME FINISH	0.360	0.28	<0.2	50/50
9	TW1832	ANDERSEN	BLACK	WHITE	LOW-E4	CLASSIC SERIES, WHITE	PRAIRIE, CUSTOM.	TRUSCENE WINDOW SCREEN w/ BLACK FRAME FINISH	0.360	0.28	<0.2	50/50
10	TW3856 (2)	ANDERSEN	BLACK	WHITE	LOW-E4	CLASSIC SERIES, WHITE	PRAIRIE, CUSTOM.	TRUSCENE WINDOW SCREEN w/ BLACK FRAME FINISH	0.360	0.28	<0.2	50/50

WINDOW SCHEDULE, NOTES & INSTALLATION REQUIRMENTS:

- ALL WINDOWS SHALL BE ANDERSEN 400-SERIES W/ STORM WATCH PROTECTION & 'PRAIRIE' STYLE GRILLES, UNLESS OTHERWISE NOTED.
- ALL WINDOWS SHALL GET FINISH CAULKING AROUND FULL WINDOW PERIMETER (EACH SIDE) TYPICAL FOR ALL LOCATIONS AS PART OF INSTALL.
- WINDOW UNITS '5', '6' & '7' ARE TO BE CUSTOM ARCH TOP OR MULTI-UNIT WINDOWS. SUPPLY BASED ON OVERALL DIMENSIONS INDICATED IN WINDOW ELEVATIONS.
- GENERAL CONTRACTOR SHALL VERIFY & FIELD COORDINATE ALL WINDOW ROUGH OPENING SIZES FOR EACH DESIGNATED WINDOW UNIT.
- ALL WINDOW OPENINGS SHALL RECEIVE 'ARMORWALL PLUS' RETURN BOARD (MECHANICALLY FASTENED TO STRUCTURE) FULL DEPTH OF ALL WINDOW OPENINGS, INCLUDING TROWEL GRADE 'ARMORWALL ARMORSEAL' SEALANT INSTALLED 6" UP ALL JAMBS & TO EXTEND 4" ONTO EXTERIOR FACE OF ARMORWALL PANEL AT BOTTOM & SIDES ADJACENT TO JAMBS (REFER TO ARMORWALL SYSTEM INSTALLATION MANUAL).
- GENERAL CONTRACTOR SHALL VERIFY ALL WINDOW TYPES, SIZES & LOCATIONS WITH ARCHITECT AS PART OF SUBMITTAL PROCESS PRIOR TO ORDER.







WINDOW ELEVATIONS
SCALE: (NTS)

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WINDOW SCHEDULE & DETAILS

PROJECT No. 2501

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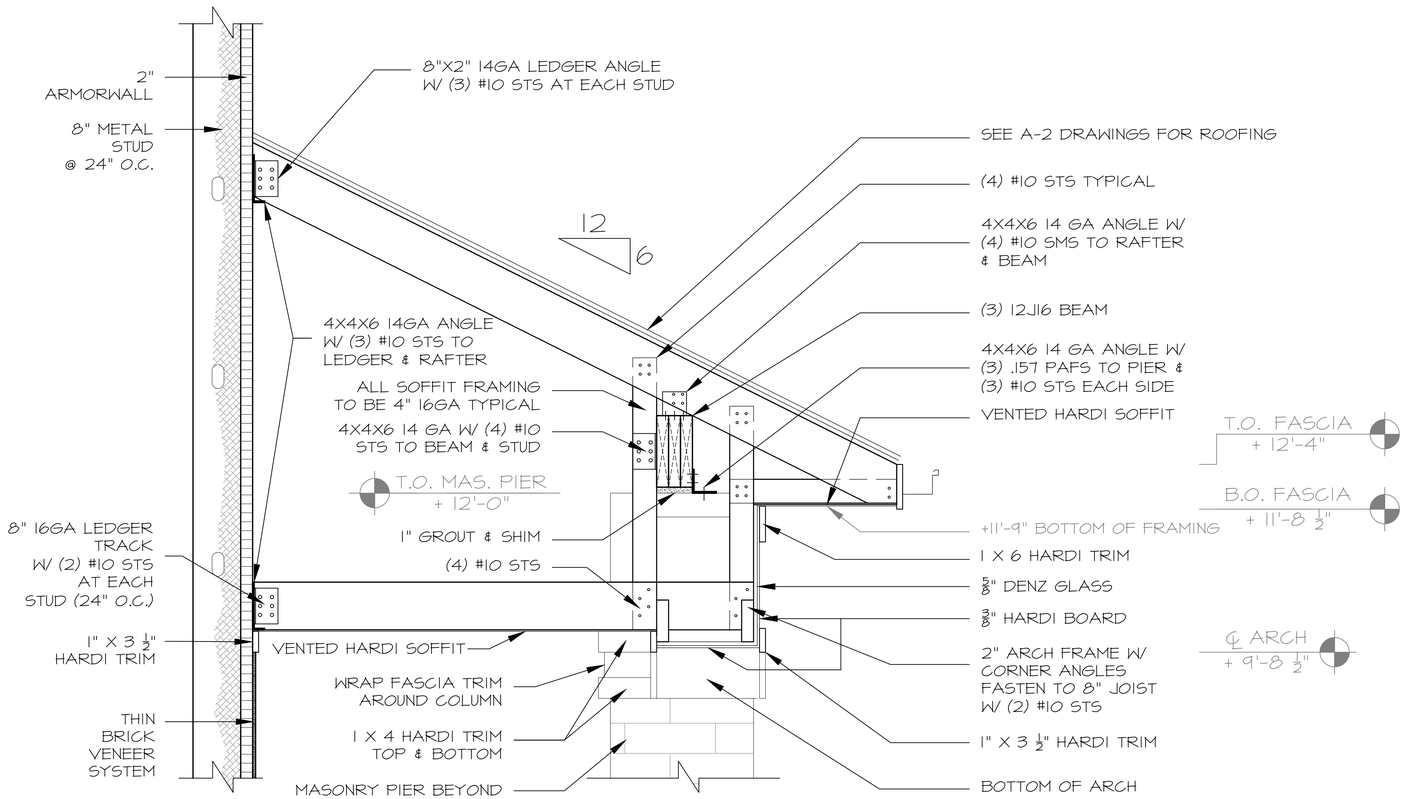
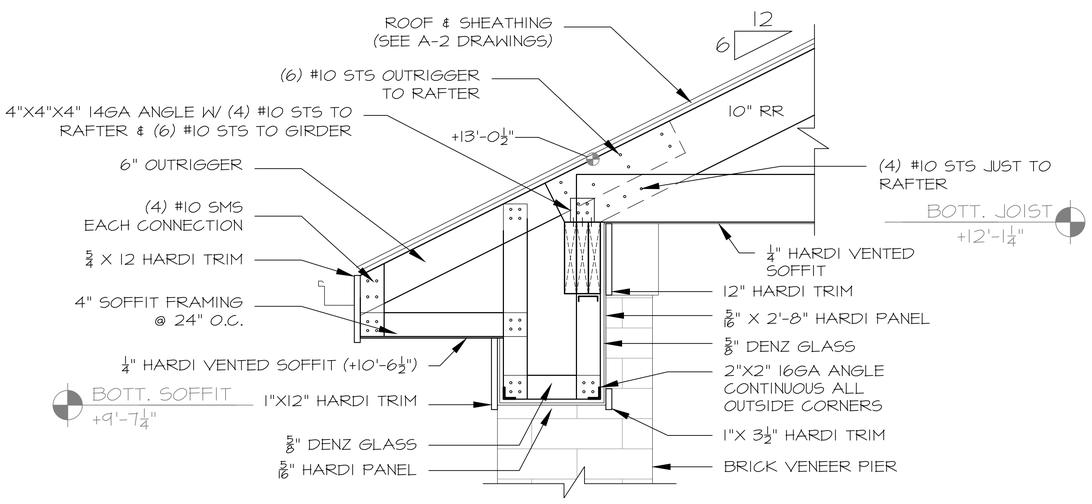
A-3.3



1 PORCH ROOF DETAIL
SCALE: 1" = 1'-0"



2 SOFFIT DETAIL
SCALE: 1" = 1'-0"

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PATIO SECTION DETAILS

PROJECT No. 2501

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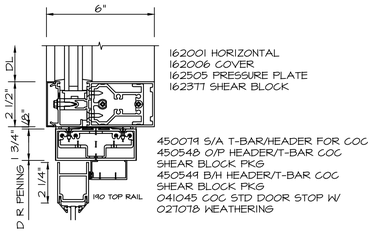
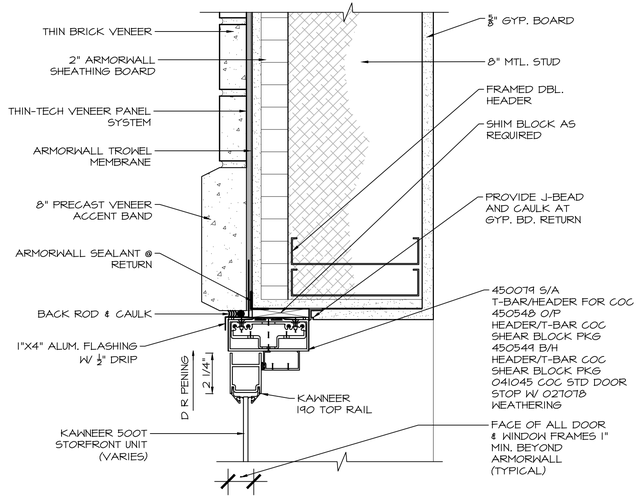
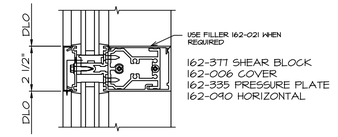


ENTRANCE DETAIL CONCEALED
OVERHEAD CLOSER TRANSOM BAR (¼" INFILL)

1 TYP. HEAD DETAIL
SCALE: 3" = 1'-0"



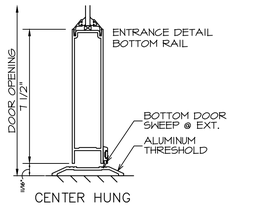
2 HEAD AT DOOR R.O. DETAIL
SCALE: 3" = 1'-0"



DETAIL HORIZONTAL 1" INFILL

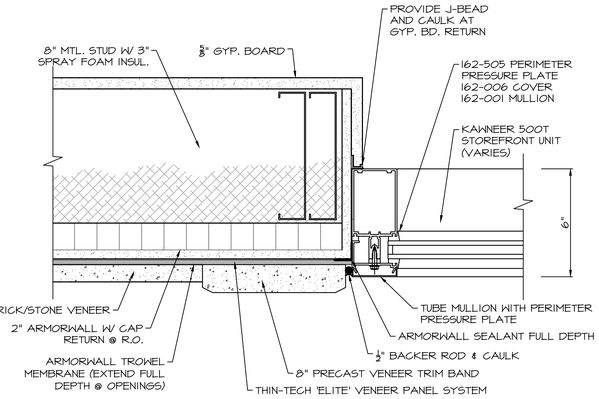
OPEN BACK MULLION WITH OPEN SIDE UP

3 HORIZ. MULL DETAIL
SCALE: 3" = 1'-0"

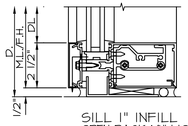


CENTER HUNG

6 DOOR SILL @ R.O.
SCALE: 3" = 1'-0"

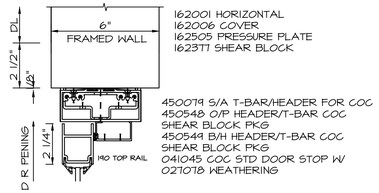


4 JAMB @ R.O. DETAIL
SCALE: 3" = 1'-0"

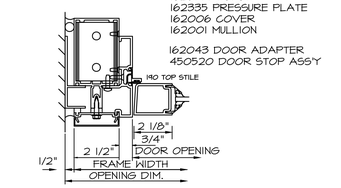


SILL 1" INFILL
OPEN BACK MULLION WITH "F-PERIMETER"

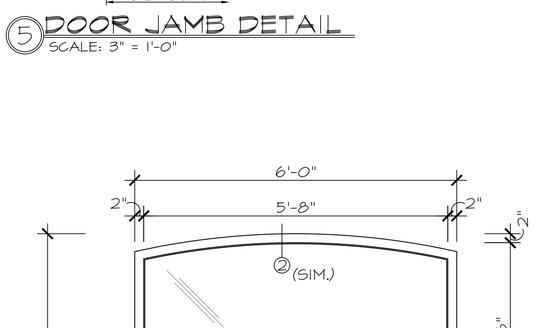
7 HORIZ. SILL @ R.O.
SCALE: 3" = 1'-0"



8 DOOR HEAD @ R.O.
SCALE: 3" = 1'-0"



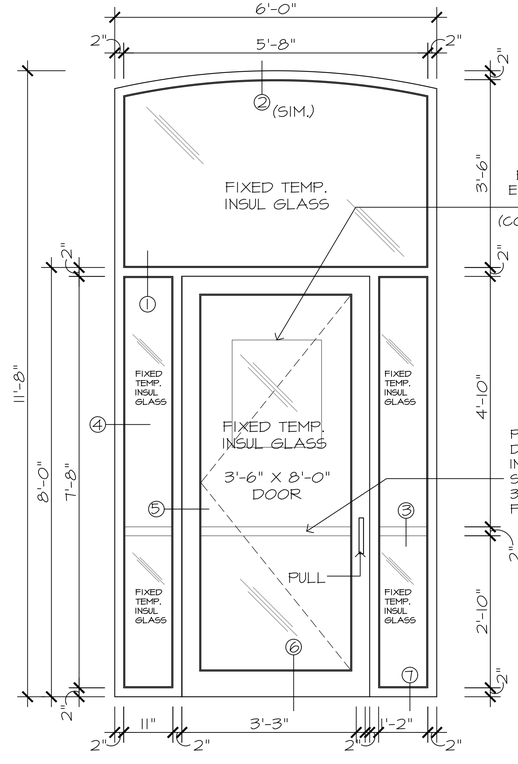
9 DOOR JAMB @ R.O.
SCALE: 3" = 1'-0"



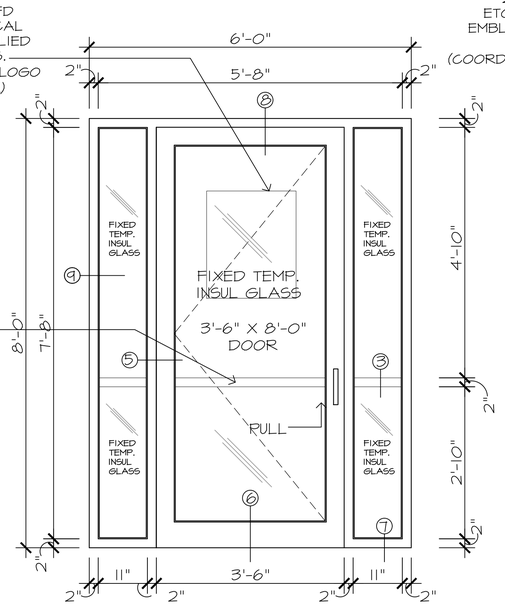
5 DOOR JAMB DETAIL
SCALE: 3" = 1'-0"

STOREFRONT DOOR NOTES & INSTALLATION REQUIRMENTS:

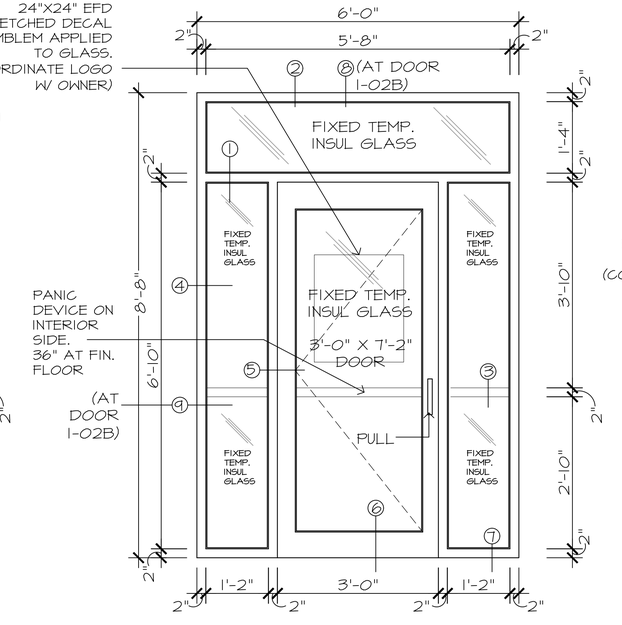
- ALL STOREFRONT STYLE DOORS SHALL BE KAWNEER '500T INSULPOUR' THERMAL ENTRANCE WIDE STILE DOORS, W/ #29 "BLACK" ANODIZED FINISH.
- ALL STOREFRONT DOORS SHALL GET FINISH CAULKING AROUND FULL FRAME PERIMETER (EACH SIDE) TYPICAL FOR ALL LOCATIONS AS PART OF INSTALL.
- ALL STOREFRONT DOORS SHALL INCLUDE ALL NECESSARY HARDWARE INCLUDING HINGES, LOCKS/LATCHES, PANIC/RIM EXIT DEVICE (INTERIOR SIDE), DOORS CLOSER, THRESHOLDS & PUSH/PULL HANDLE (EXTERIOR SIDE) BY KAWNEER MANUFACTURER - TYPICAL.
- DOOR UNITS '1-01A & 1-01B' ARE TO BE CUSTOM ARCH TOP UNITS. SUPPLY BASED ON OVERALL WIDTH INDICATED IN ELEVATIONS.
- DOOR UNITS '1-01B & 1-02B' (INTERIOR VESTIBULES) SHALL RECEIVE SIMILAR INSTALL AS DETAILS '2' & '4', WITHOUT ARMORWALL & EXTERIOR BRICK/STONE VENEER CONDITIONS. FIELD COORDINATE INSTALL WITH 6" METAL FRAMED WALL AT THESE LOACIONS.
- GENERAL CONTRACTOR SHALL VERIFY & COORDINATE ALL DOOR ROUGH OPENING SIZES FOR EACH DESIGNATED DOOR UNIT.
- ALL EXTERIOR DOOR ROUGH OPENINGS SHALL RECEIVE 'ARMORWALL PLUS' RETURN BOARD (MECHANICALLY FASTENED TO STRUCTURE) FULL DEPTH OF ALL WINDOW OPENINGS, INCLUDING TROWEL GRADE 'ARMORWALL ARMORSEAL' SEALANT INSTALLED 6" UP ALL JAMBS & TO EXTEND 4" ONTO EXTERIOR FACE OF ARMORWALL PANEL AT TOP & SIDES ADJACENT TO JAMBS (REFER TO ARMORWALL SYSTEM INSTALLATION MANUAL).
- ALL STOREFRONT DOOR UNITS SHALL INCLUDE HES STYLE ELECTRIC STRIKES PROVIDED & INSTALLED BY GENERAL CONTRACTOR (COORDINATE WITH ELECTRICAL CONTRACTOR AS NEEDED FOR INSTALL). GENERAL CONTRACTOR SHALL COORDINATE PRE-CUT/INSTALL OF STOREFRONT FRAMES WITH KAWNEER MANUFACTURER AS NEEDED FOR STRIKE INSTALLS. REFER TO A-7.3 DOOR & HARDWARE SCHEDULES FOR ADDITIONAL HARDWARE & DOOR STRIKE INFORMATION.



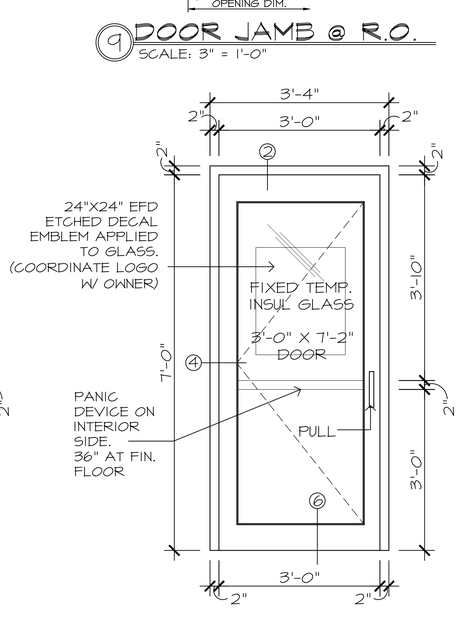
DOOR 1-01A
SCALE: 3/4" = 1'-0"



DOOR 1-01B
SCALE: 3/4" = 1'-0"



DOORS 1-02A & 1-02B
SCALE: 3/4" = 1'-0"



DOORS 1-02C & 2-08D
SCALE: 3/4" = 1'-0"

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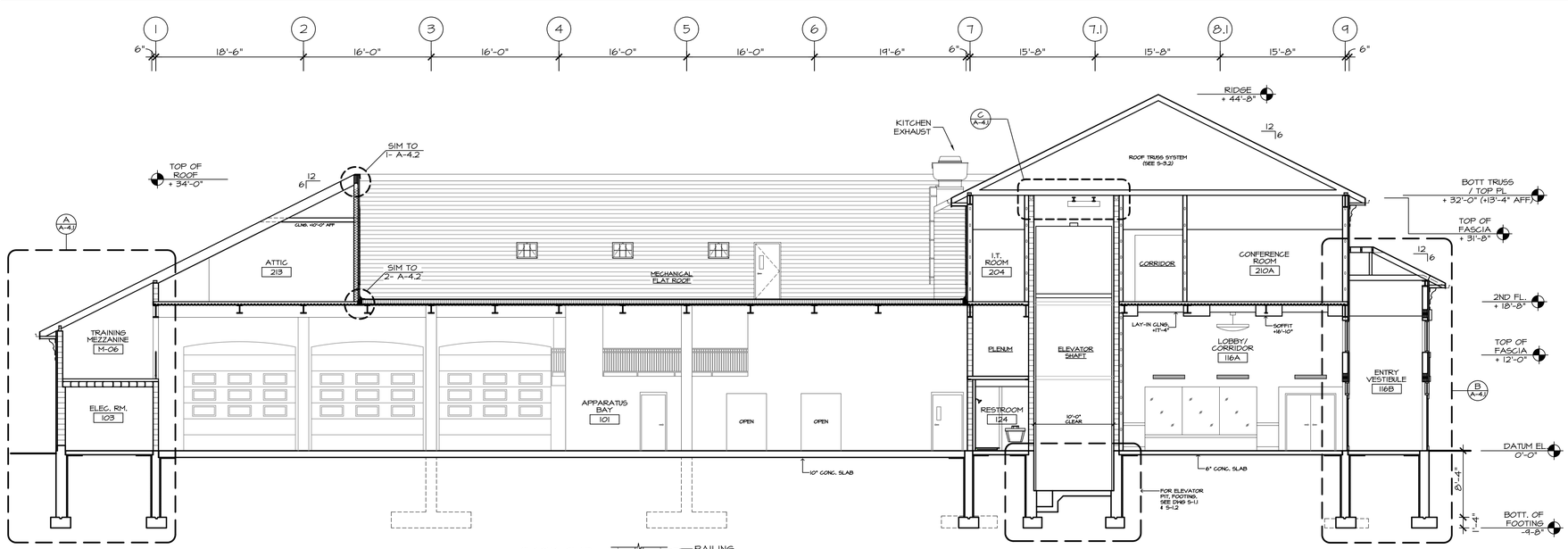
STOREFRONT DOORS & DETAILS

PROJECT No. 2501

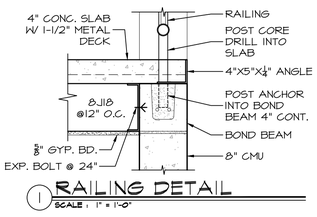
CHECKED BY:

DRAWING:

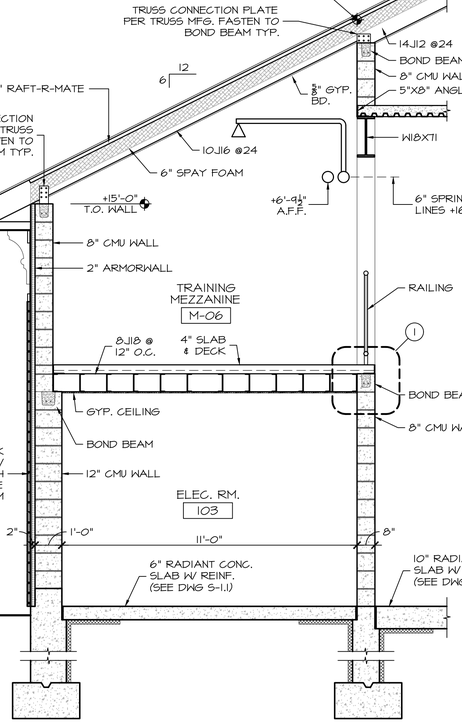
A-3.5



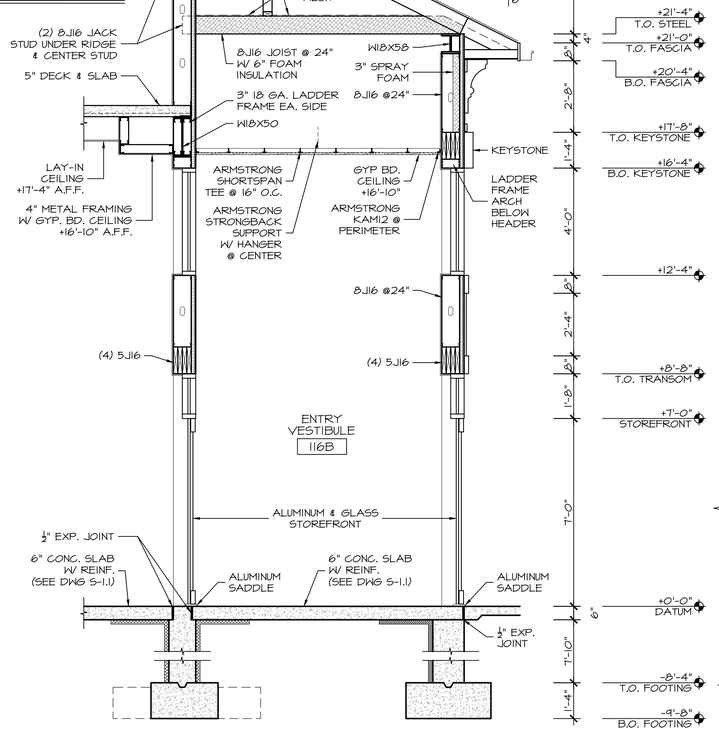
BUILDING SECTION A
SCALE : 1/8" = 1'-0"



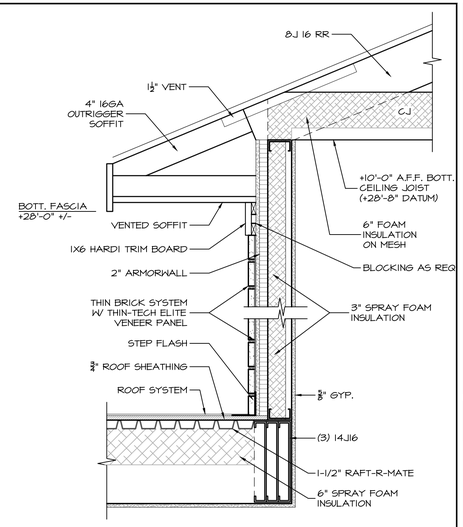
1 RAILING DETAIL
SCALE : 1" = 1'-0"



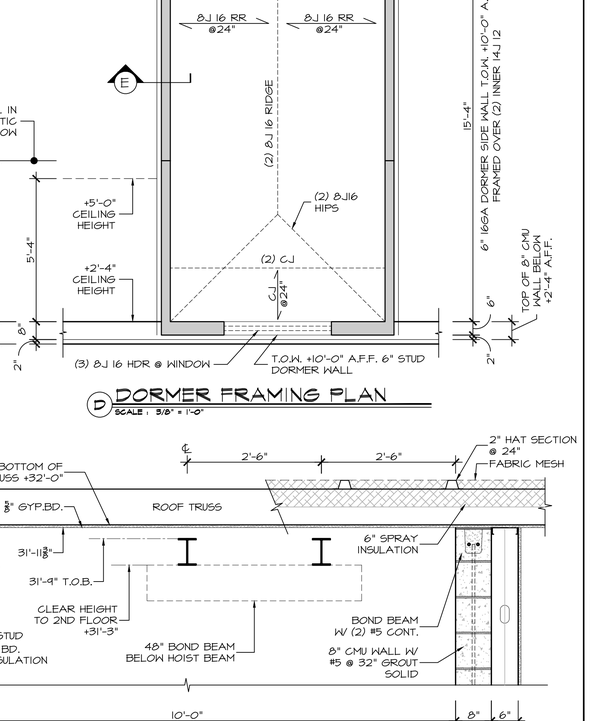
A TRAINING MEZZANINE SECTION
SCALE : 3/8" = 1'-0"



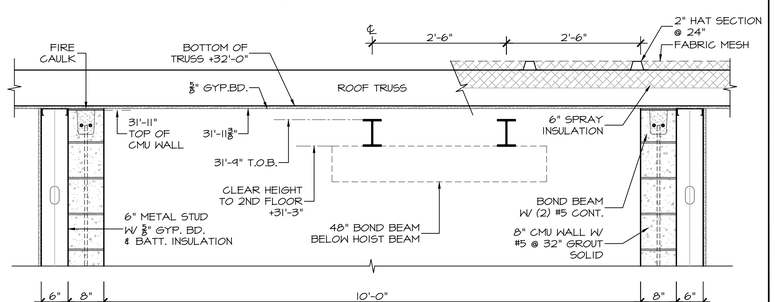
B VESTIBULE SECTION
SCALE : 3/8" = 1'-0"



E DORMER WALL DETAIL
SCALE : 1" = 1'-0"
*SEE ELEVATIONS & ROOF PLAN FOR ALL EXTERIOR FINISHES & REQUIREMENTS



D DORMER FRAMING PLAN
SCALE : 3/8" = 1'-0"



C ELEVATOR SHAFT DETAIL
SCALE : 3/4" = 1'-0"

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. - NYS ROUTE 209
ELLENVILLE, NY 12428

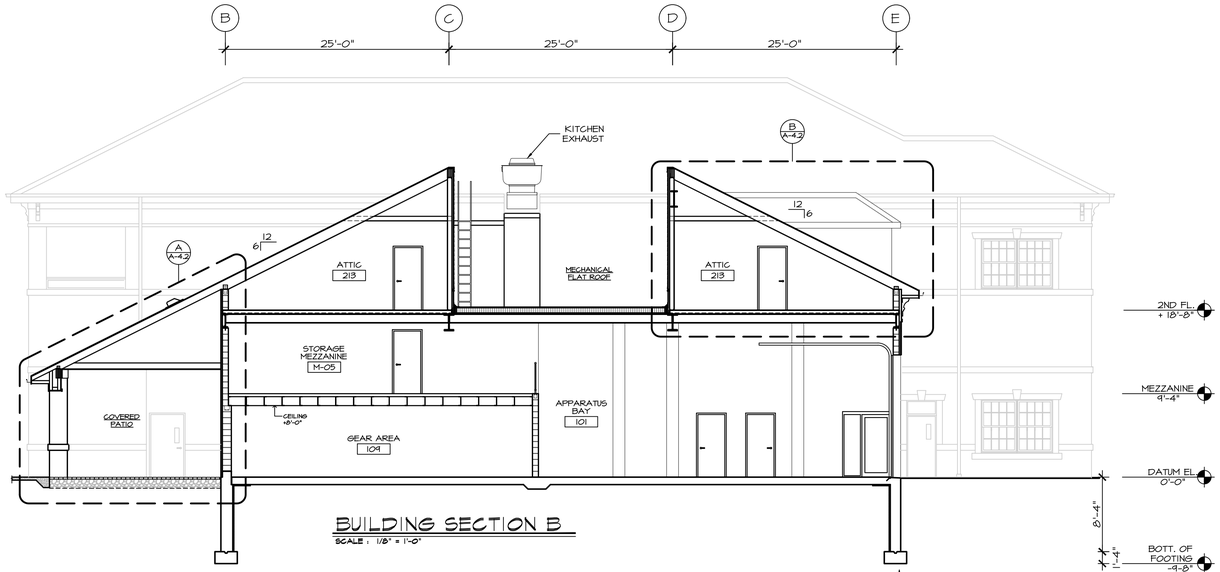
BUILDING SECTIONS A & DETAILS

PROJECT No. 2501

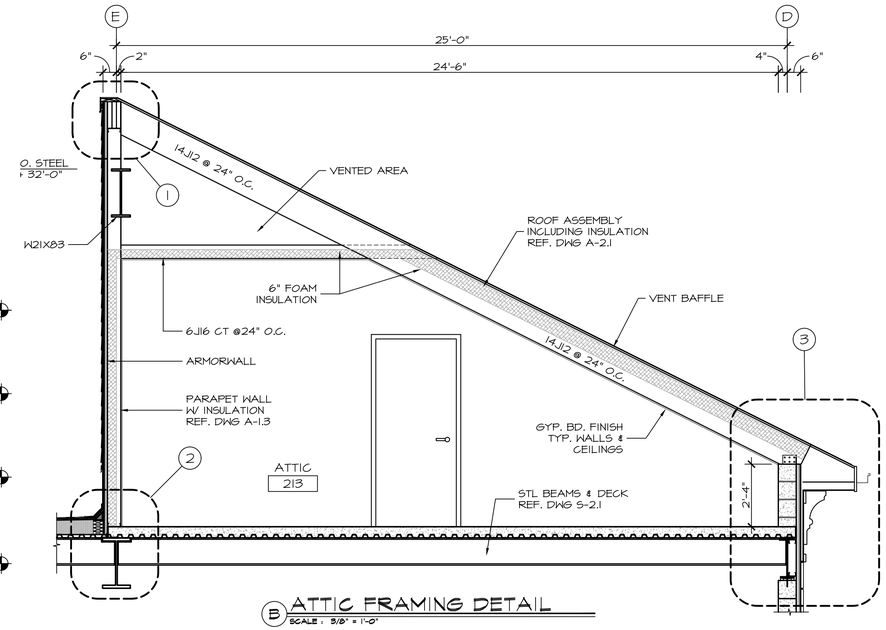
CHECKED BY:

DRAWING:

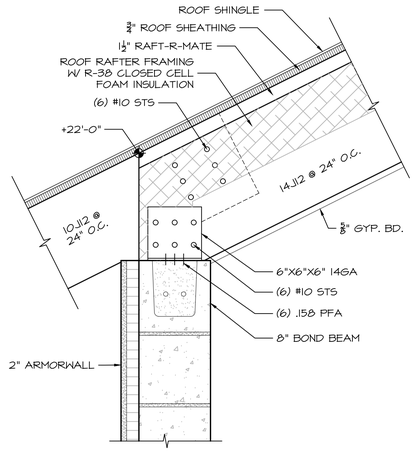
A-4.1



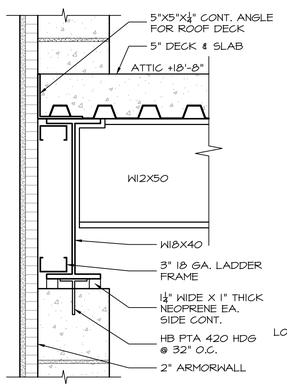
BUILDING SECTION B
SCALE : 1/8" = 1'-0"



B ATTIC FRAMING DETAIL
SCALE : 3/8" = 1'-0"



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



5 BEAM DETAIL
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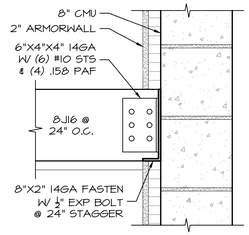
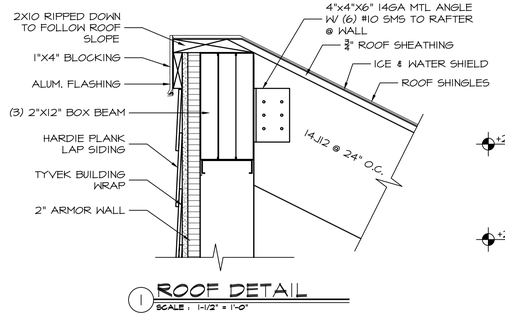


4 DETAIL
SCALE : 1-1/2" = 1'-0"



1 ROOF DETAIL
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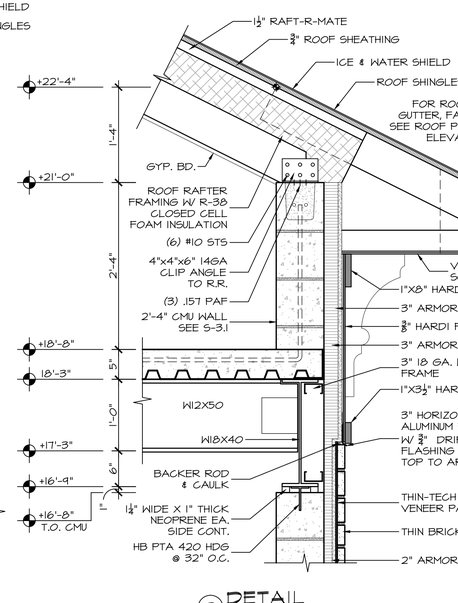
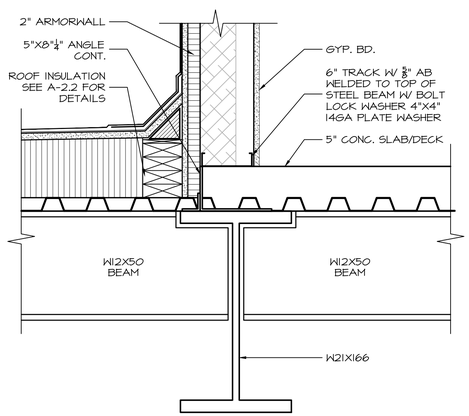
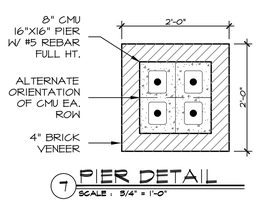


3 DETAIL
SCALE : 1" = 1'-0"



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



7 PIER DETAIL
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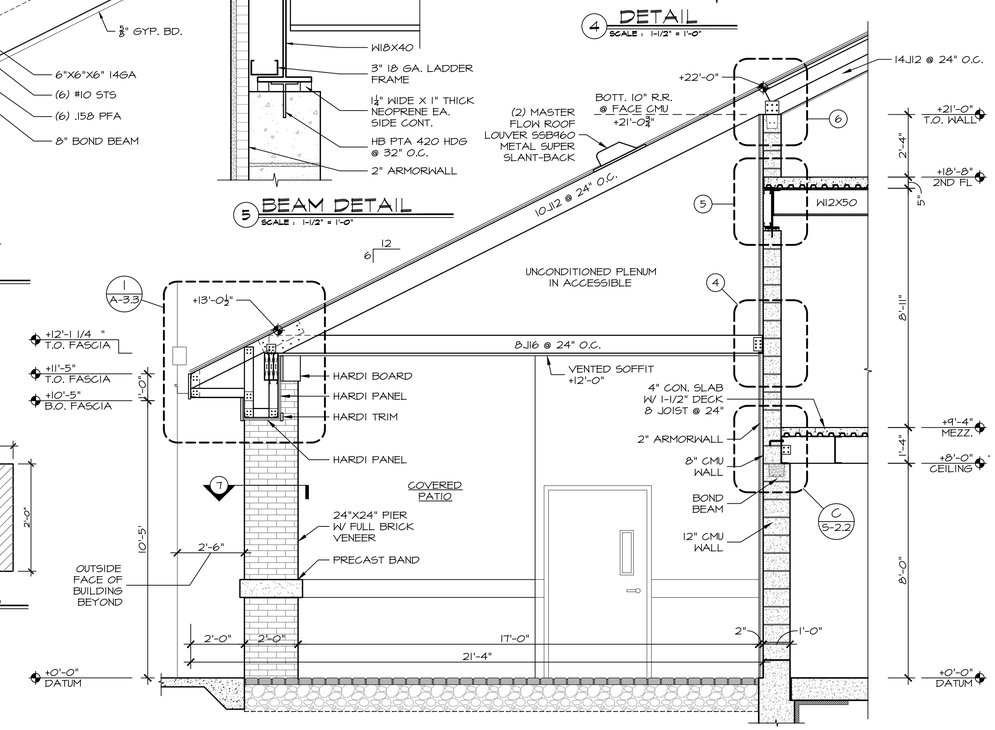

A PATIO FRAMING SECTION
SCALE : 3/8" = 1'-0"

DATE ISSUED
03-17-2026 ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

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PROPOSED NEW FACILITY
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ELLENVILLE, NY 12428

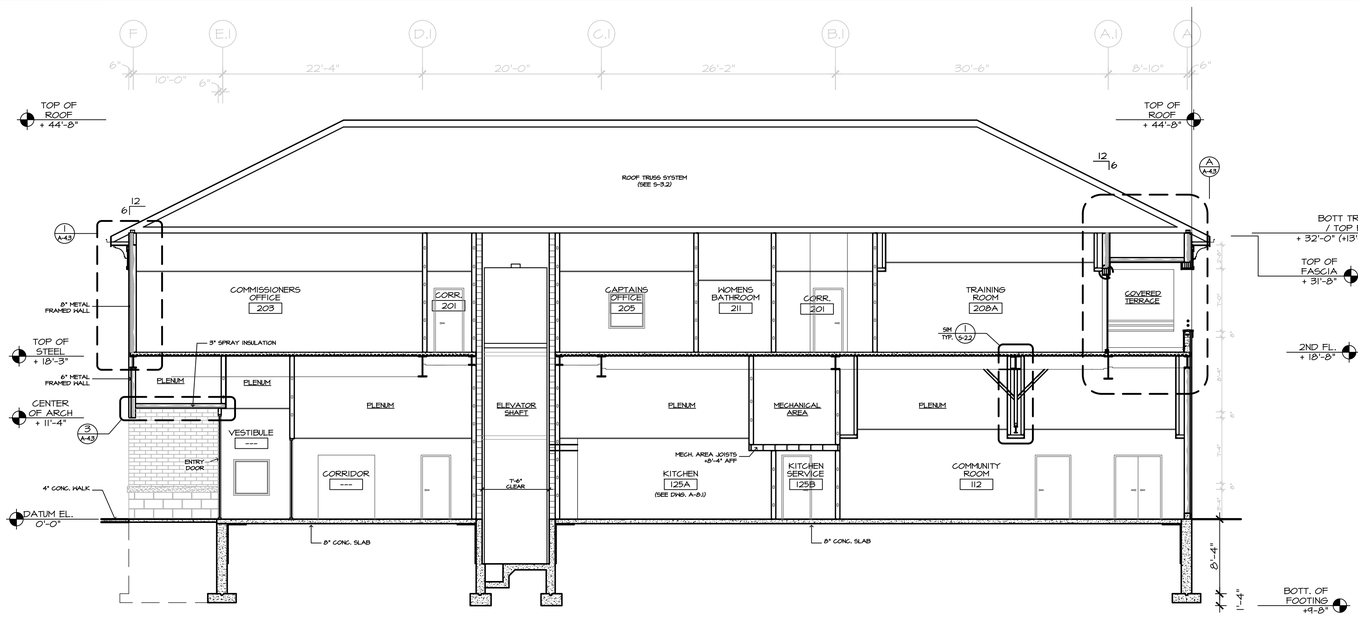
BUILDING SECTIONS B & DETAILS

PROJECT No. 2501

CHECKED BY:

DRAWING:

A-4.2



BUILDING SECTION

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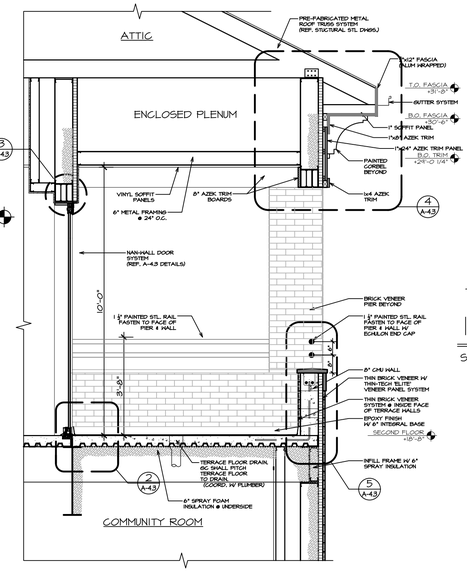

TERRACE SECTION

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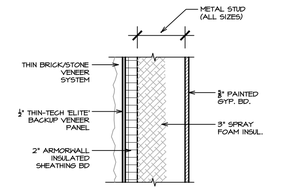
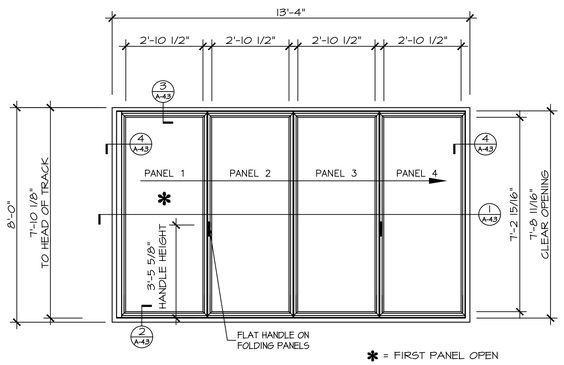


TYP. EXTERIOR WALL INSULATION DETAIL

SCALE: 1" = 1'-0"

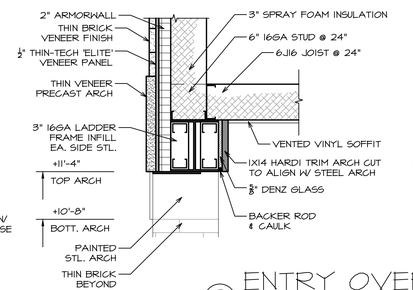
TYP. CEILING INSULATION DETAIL

SCALE: 1" = 1'-0"



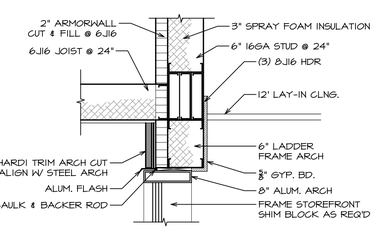
NANAWALL UNIT DETAIL

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



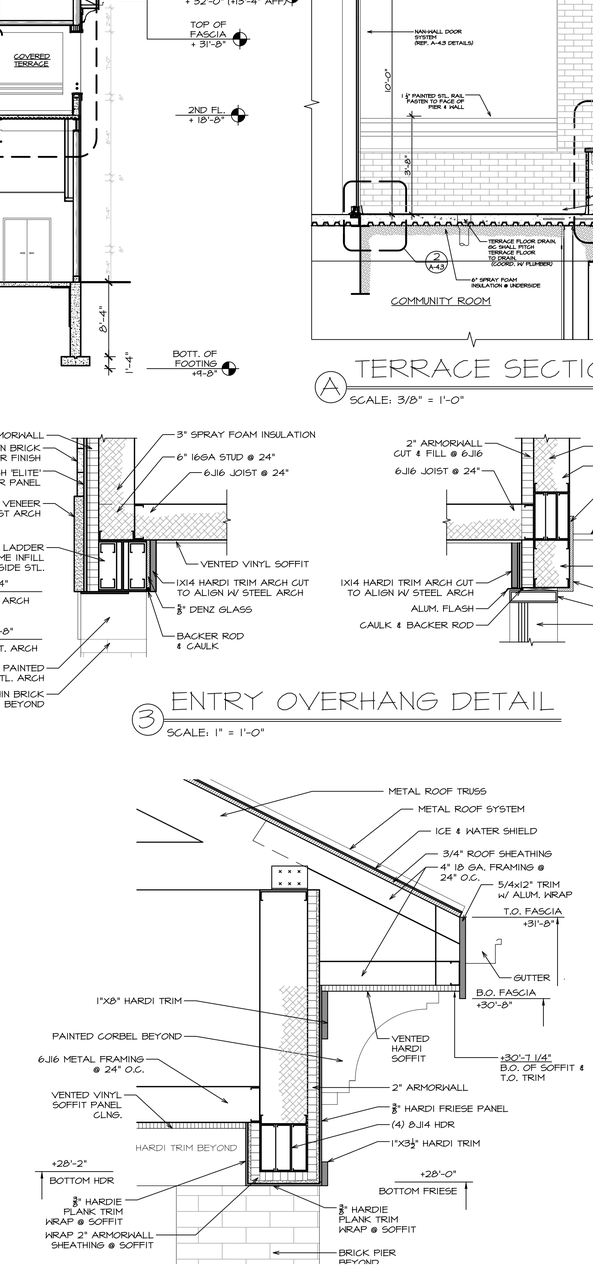
3 ENTRY OVERHANG DETAIL

SCALE: 1" = 1'-0"



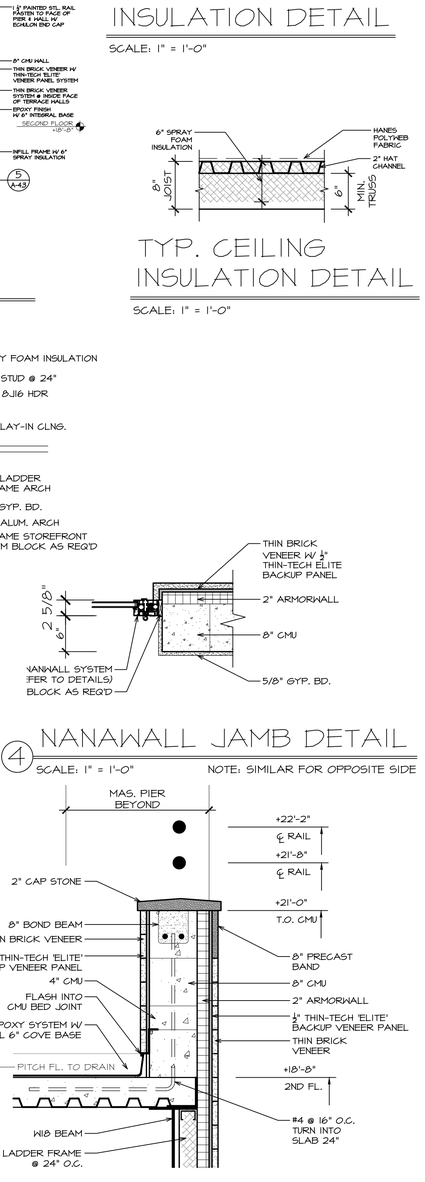
1 NANAWALL SILL DETAIL

SCALE: 1" = 1'-0"



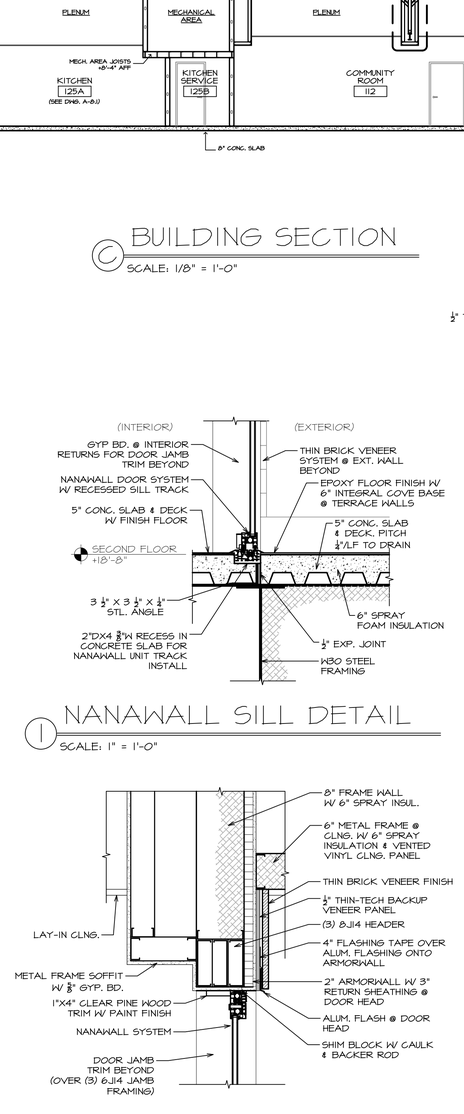
4 TERRACE SOFFIT DETAIL

SCALE: 1" = 1'-0"



4 NANAWALL JAMB DETAIL

SCALE: 1" = 1'-0" NOTE: SIMILAR FOR OPPOSITE SIDE



2 NANAWALL HEAD DETAIL

SCALE: 1" = 1'-0"

5 TERRACE WALL DETAIL

SCALE: 1" = 1'-0"

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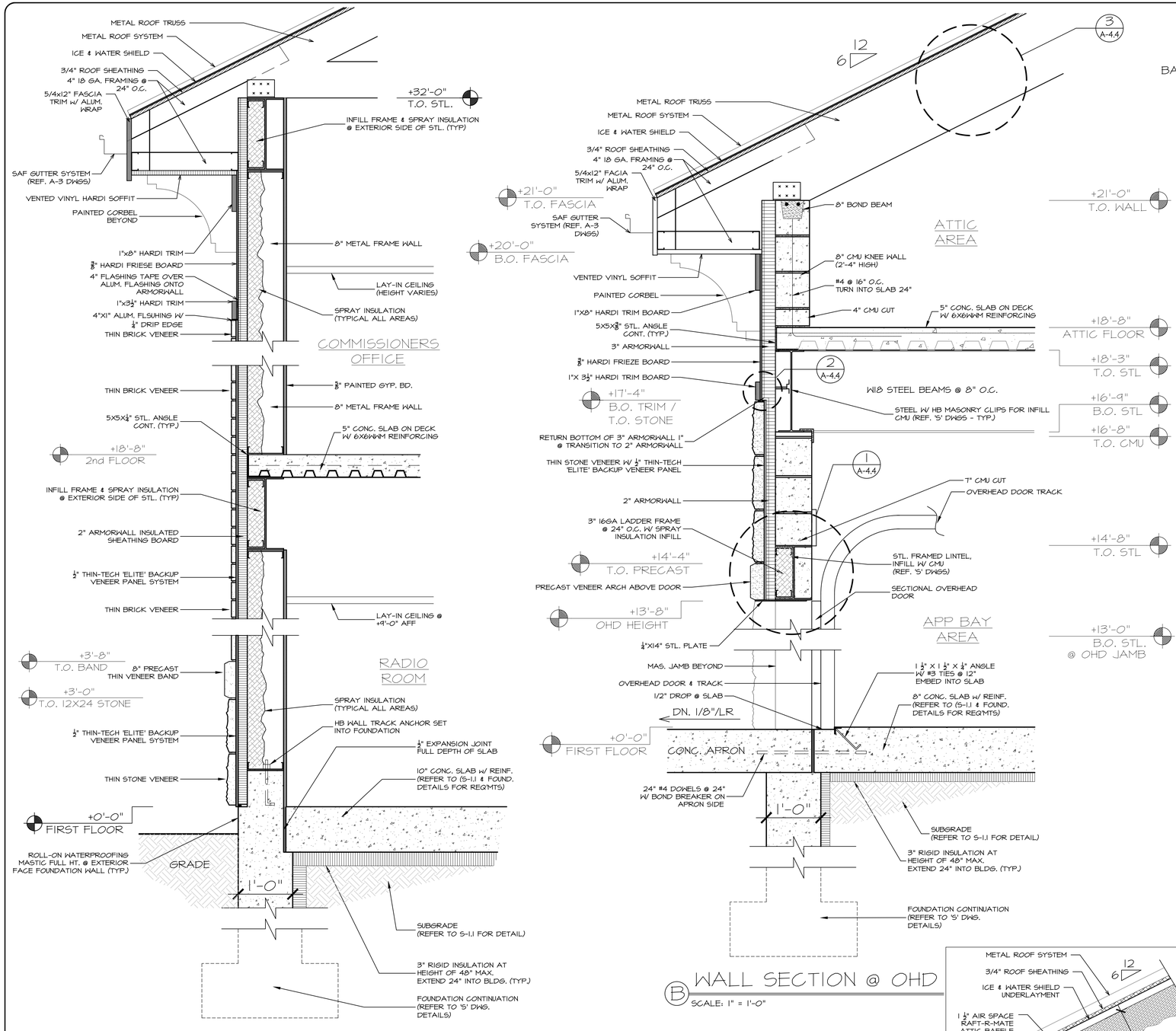
BUILDING SECTIONS & DETAILS

PROJECT No. 2501

CHECKED BY:

DRAWING:

A-4.3

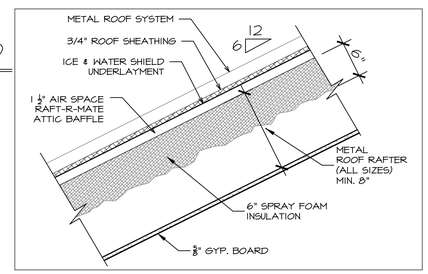


A WALL SECTION

SCALE: 1" = 1'-0"

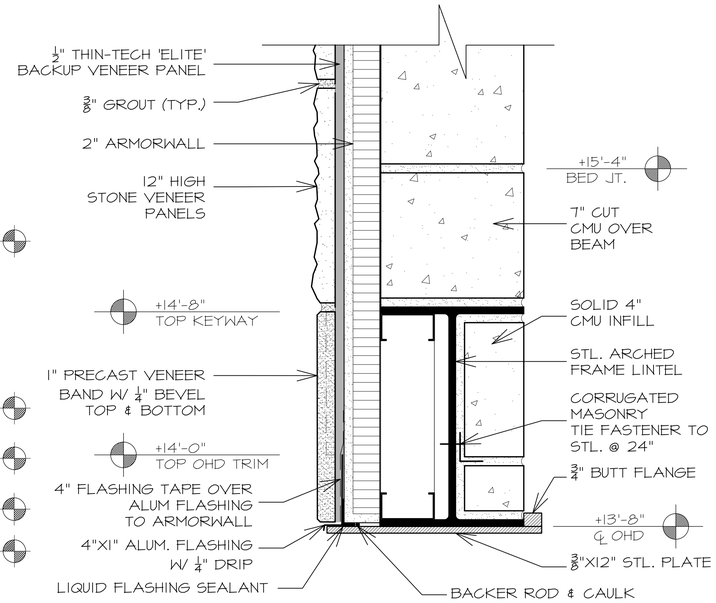
B WALL SECTION @ OHD

SCALE: 1" = 1'-0"



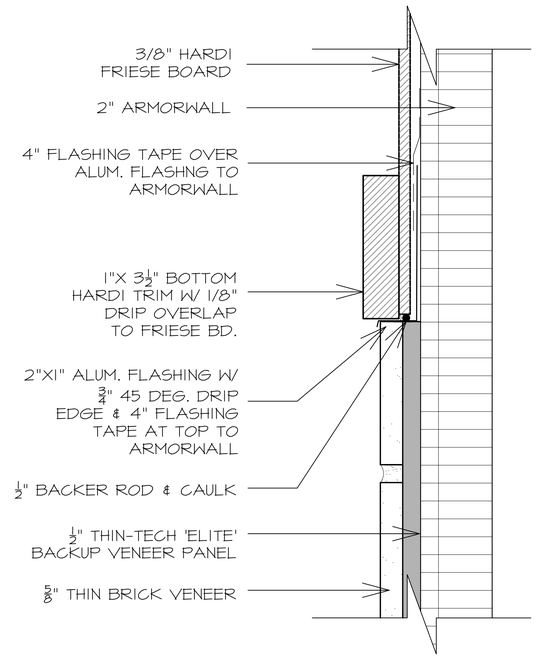
3 SPRAY INSULATION DETAIL @ RR

SCALE: 1" = 1'-0"



1 OHD HEAD DETAIL

SCALE: 3" = 1'-0"



THIN BRICK & TRIM DETAIL @ 2ND FLOOR

2

SCALE: 6" = 1'-0"

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PROPOSED NEW FACILITY
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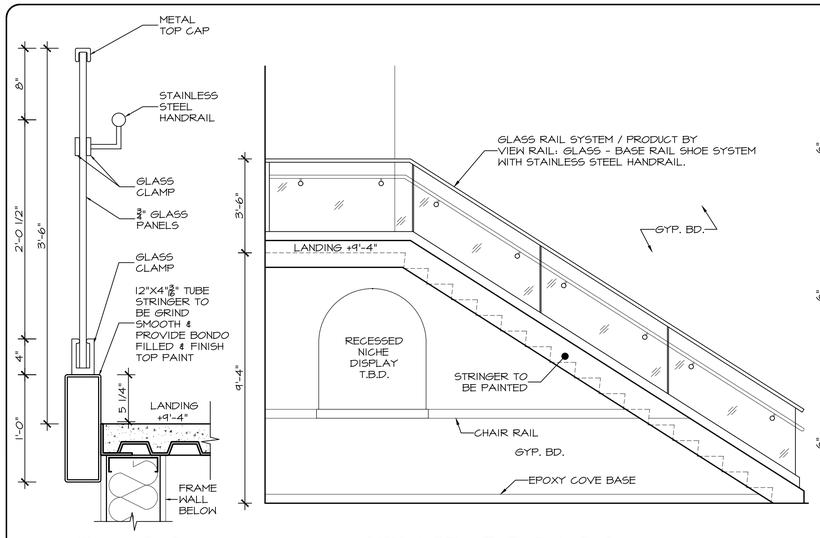
WALL SECTIONS & DETAILS

PROJECT No. 2501

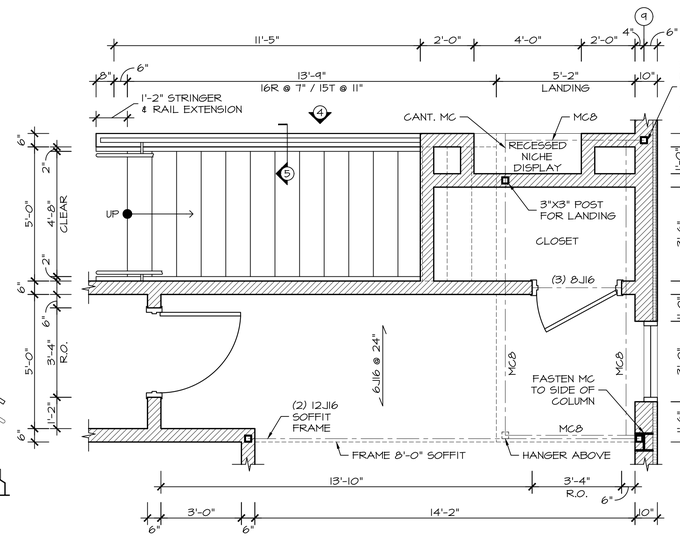
CHECKED BY:

DRAWING:

A-4.4

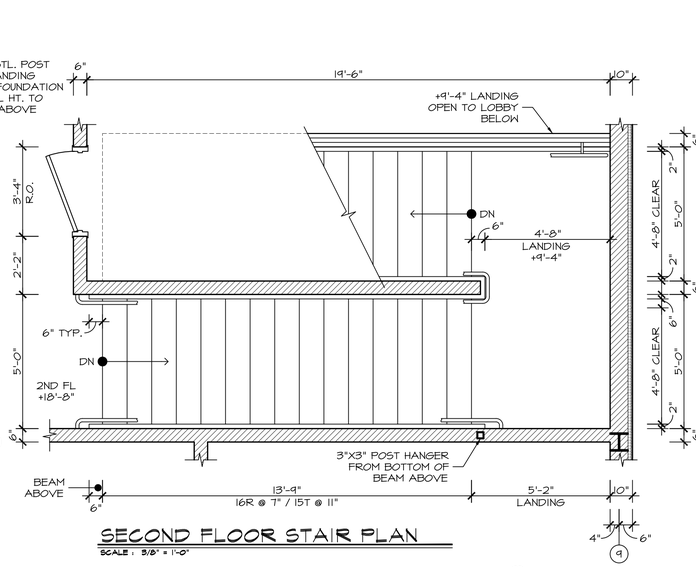


5 RAIL DATAIL
SCALE : 1-1/2" = 1'-0"

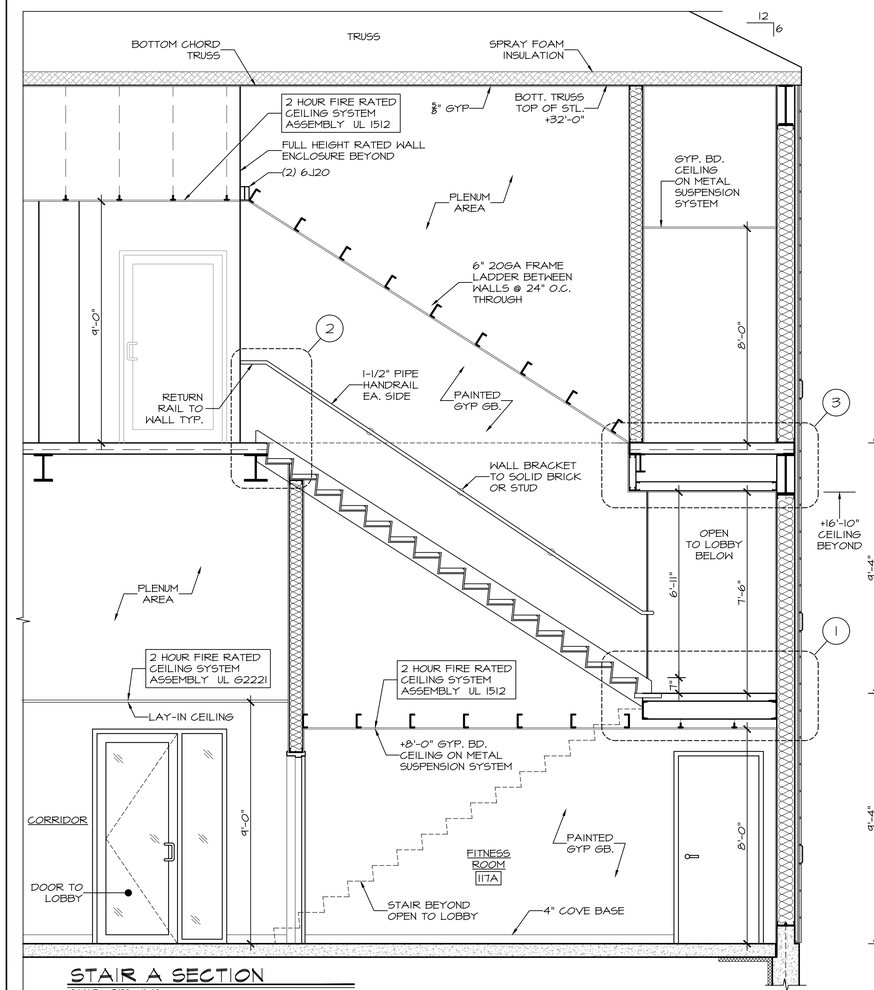


4 LOBBY STAIR ELEVATION
SCALE : 3/8" = 1'-0"

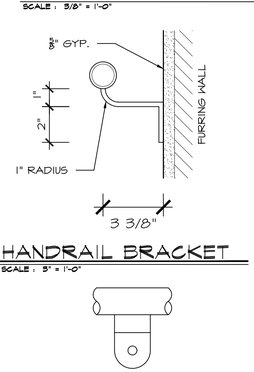
FIRST FLOOR STAIR PLAN
SCALE : 3/8" = 1'-0"



SECOND FLOOR STAIR PLAN
SCALE : 3/8" = 1'-0"

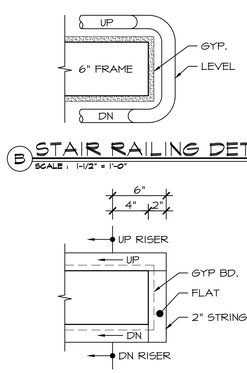


STAIR A SECTION
SCALE : 3/8" = 1'-0"



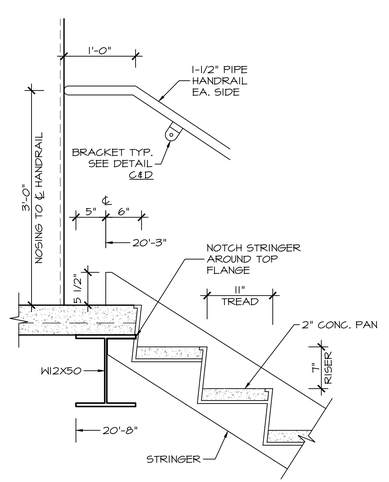
D HANDRAIL BRACKET
SCALE : 3" = 1'-0"

C HANDRAIL BRACKET
SCALE : 3" = 1'-0"

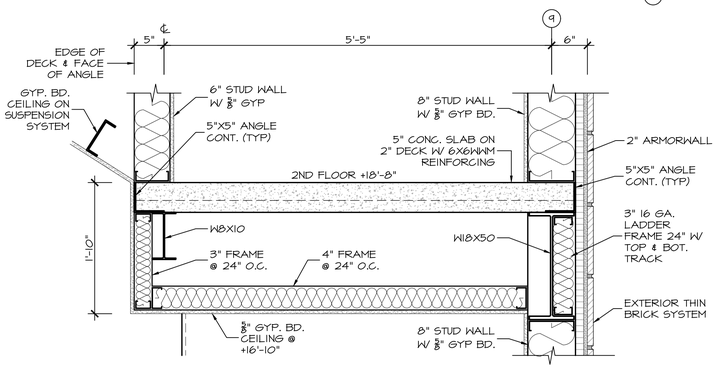


B STAIR RAILING DETAIL
SCALE : 1-1/2" = 1'-0"

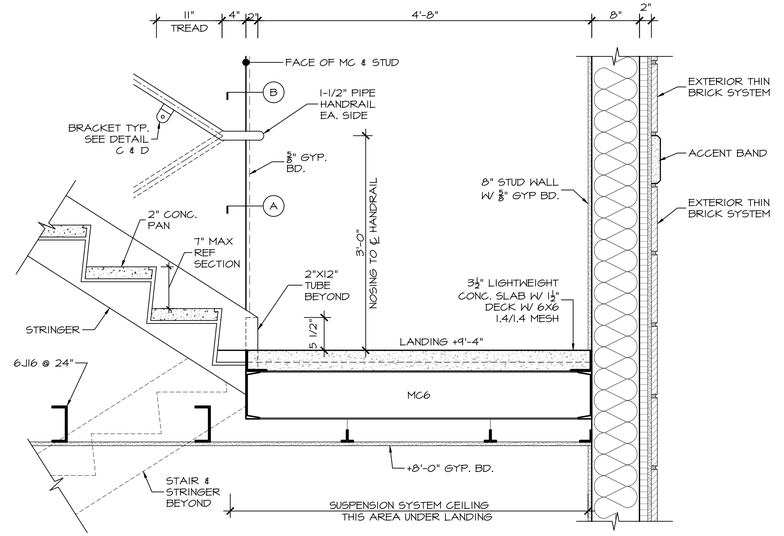
A STAIR STRINGER DETAIL
SCALE : 1-1/2" = 1'-0"



2 STAIR LANDING SECTION
SCALE : 1" = 1'-0"



3 SECOND FLOOR FRAMING SECTION
SCALE : 1" = 1'-0"



1 STAIR LANDING SECTION
SCALE : 1" = 1'-0"

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STAIR A PLANS / SECTIONS & DETAILS

PROJECT No. 2501

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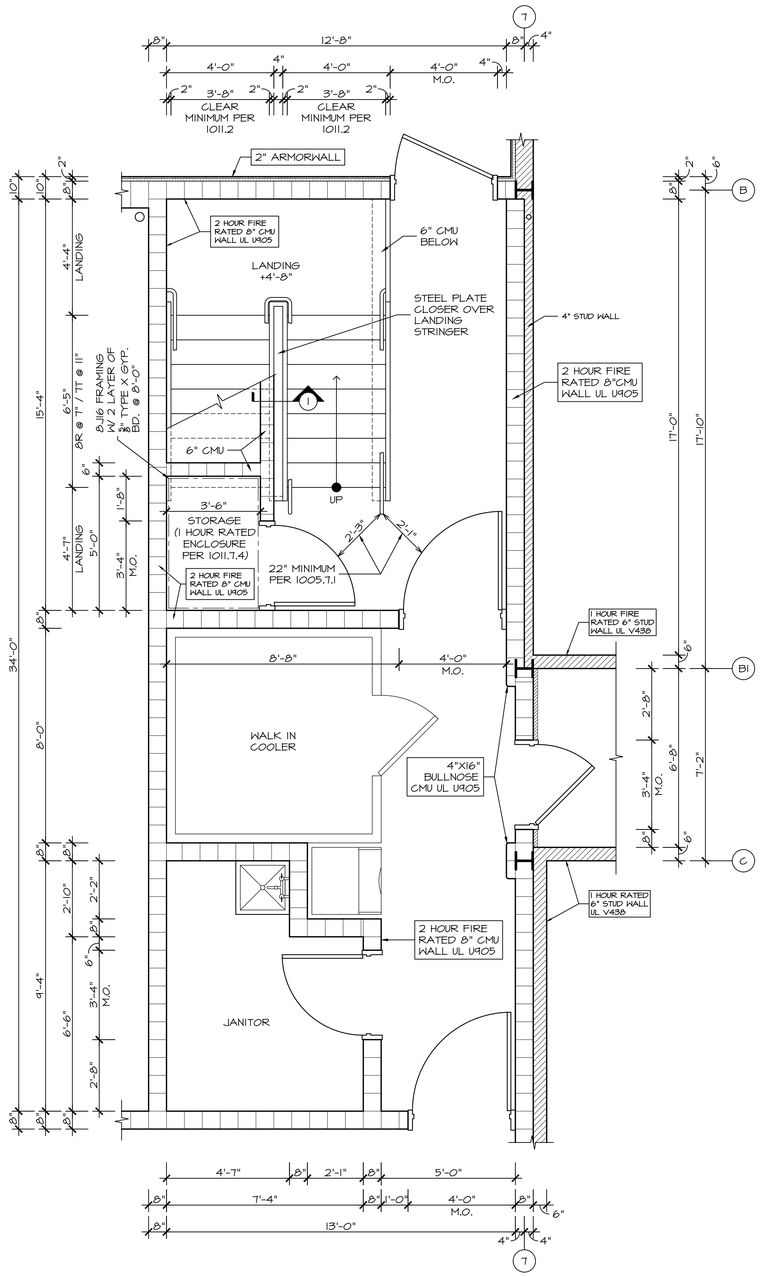
DRAWING:

A-5.1



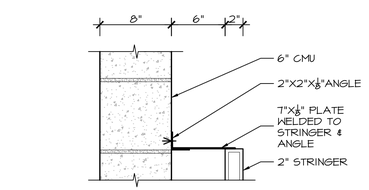
FIRST FLOOR STAIR PLAN

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

MEZZANINE STAIR PLAN

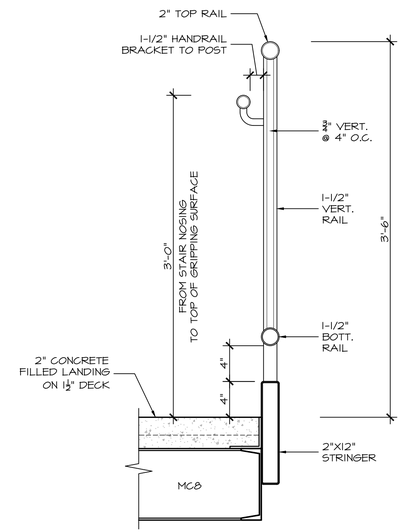
SCALE : 3/8" = 1'-0"

PER 1005.3.1 - OCCUPANT FOR STAIR = 64½" (215 SECOND FLOOR OCCUPANTS X.3)
PER 1005.5 - USE 50% FOR TWO (2) STAIRS = 32.25"
PER 1011.2 - MINIMUM STAIR WIDTH = 44"
PER 1005.7.1 - DOORS SHALL NOT REDUCE WIDTH BY MORE THAN 50% WHEN OPEN IN ANY POSITION = 22" MINIMUM CLEAR REQUIRED



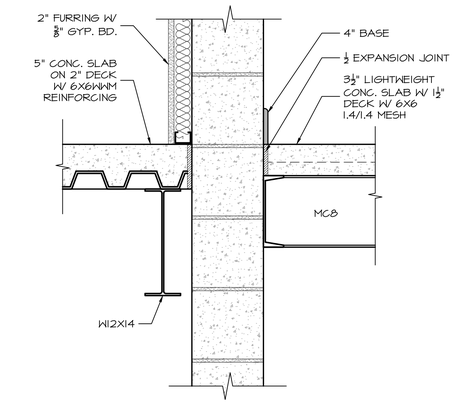
① STEEL PLATE CLOSER DETAIL

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



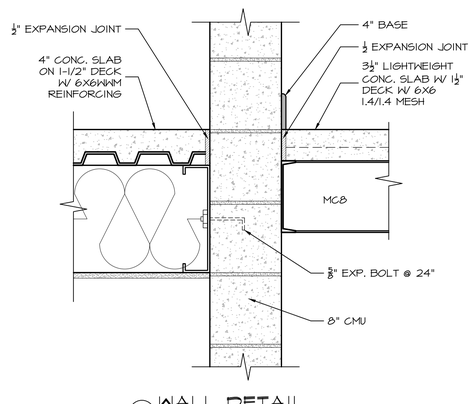
Ⓐ STAIR RAIL DETAIL

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



Ⓑ WALL DETAIL

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



Ⓒ WALL DETAIL

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

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STAIR B PLANS & DETAILS

PROJECT No. 2501

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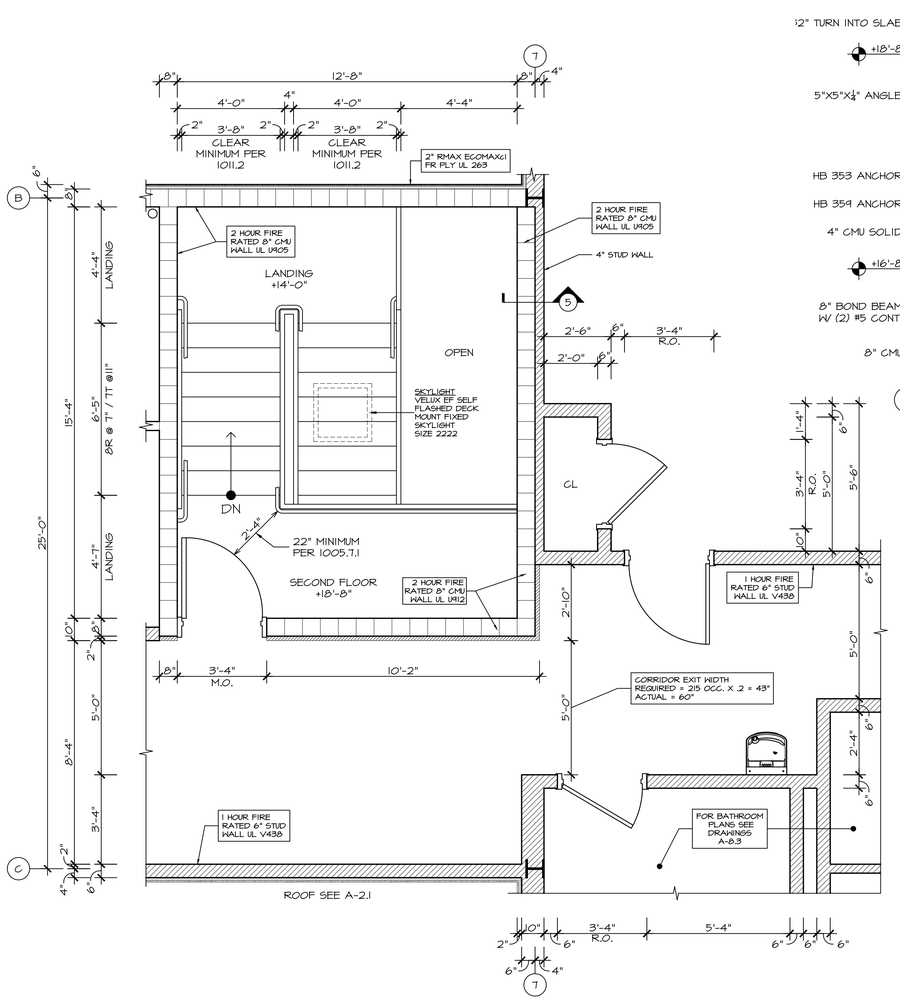
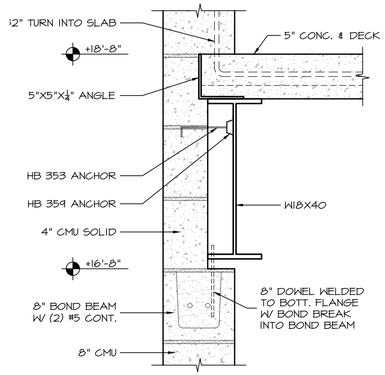


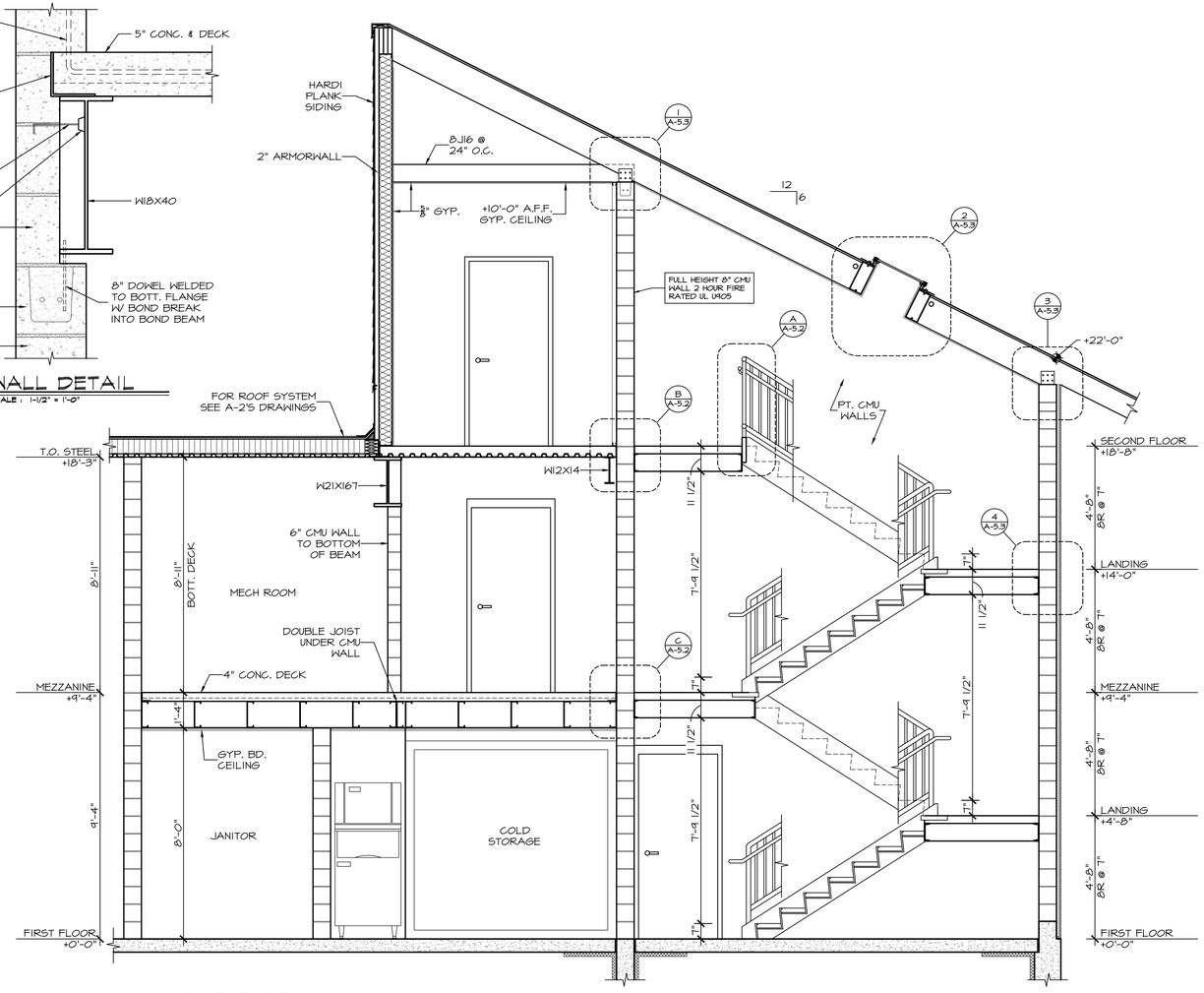
SECOND FLOOR STAIR PLAN

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



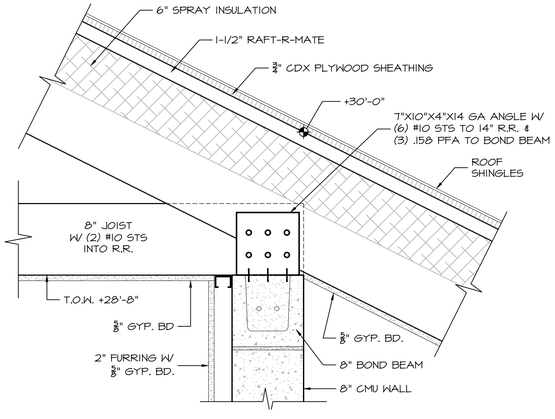
5 WALL DETAIL

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



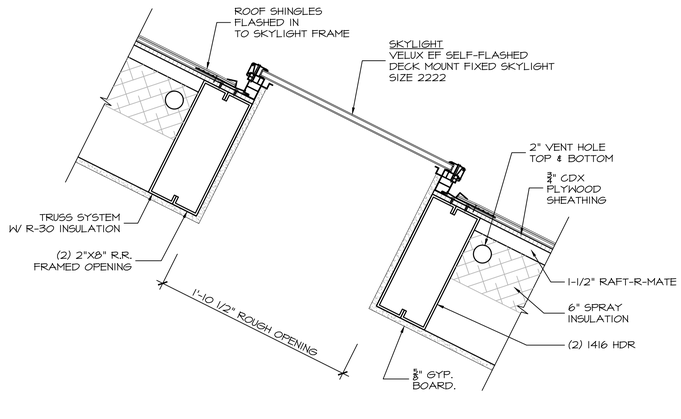
STAIR B SECTION

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



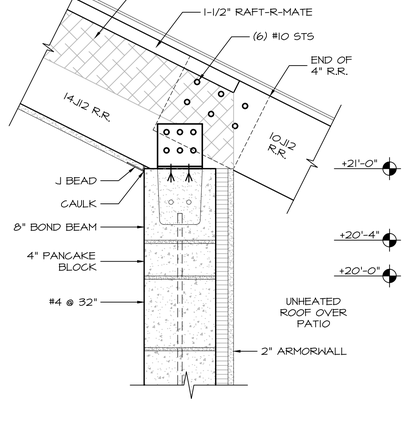
1 ROOF DETAIL

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



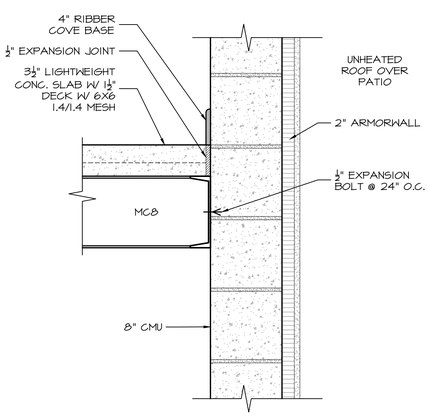
2 SKYLIGHT DETAIL

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



3 ROOF DETAIL

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



4 WALL DETAIL

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

DATE	ISSUED
03-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

SENDLEWSKI ARCHITECTS, P.C.
ARCHITECTS - PLANNERS
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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

STAIR B PLANS / SECTION & DETAILS

PROJECT No. 2501

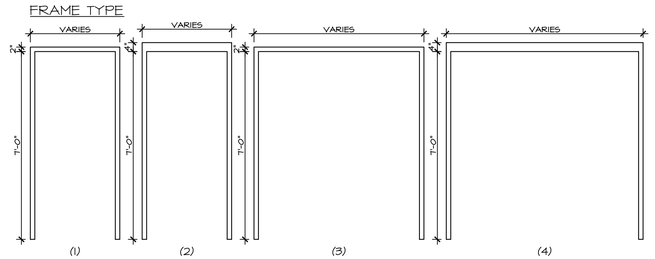
CHECKED BY:

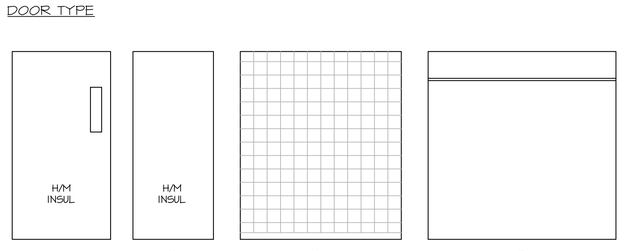
DRAWING:

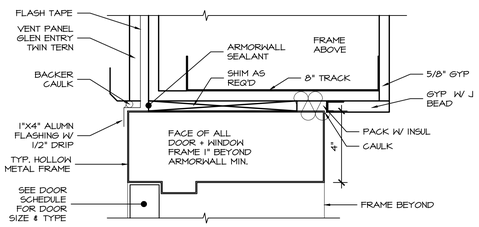
A-5.3

DOOR SCHEDULE

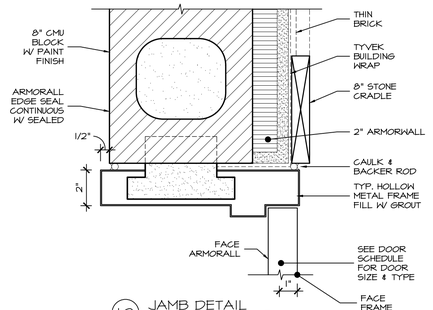
DOOR INFORMATION			SIZE			MATERIAL		FINISH		DETAILS		FRAME TYPE	STRIKE	HARDWARE GROUP	RATINGS	REMARKS
NO.	QTY	TYPE	WIDTH	HEIGHT	THK	DOOR	FRAME	DOOR	FRAME	HEAD	JAMB				LABEL DR & FRAME	
1-01A	1	--	3'-6"	8'-0"	1-3/4"	ALUM/GL	ALUM	--	--	--	--	--	--	--	B	REFER TO A-3.5 FOR ALL DETAILS & INFO
1-01B	1	--	3'-6"	8'-0"	1-3/4"	ALUM/GL	ALUM	--	--	--	--	--	--	--	B	
1-02A	1	--	3'-0"	7'-2"	1-3/4"	ALUM/GL	ALUM	--	--	--	--	--	--	--	B	
1-02B	1	--	3'-0"	7'-2"	1-3/4"	ALUM/GL	ALUM	--	--	--	--	--	--	--	B	
1-02C	1	--	3'-0"	7'-2"	1-3/4"	ALUM/GL	ALUM	--	--	--	--	--	--	--	B	
1-03	1	A	3'-6"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	
1-04	1	A	3'-6"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
1-05	1	A	3'-6"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
1-06	1	A	3'-6"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
1-07	1	A	3'-6"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
1-08A	1	F	7'-0"	7'-0"	1-3/4"	ALUM/GL	ALUM	--	--	--	--	--	--	--	B	REFER TO A-7.2
1-08B	1	F	7'-0"	7'-0"	1-3/4"	ALUM/GL	ALUM	--	--	--	--	--	--	--	B	
1-09	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
1-10	1	A	3'-6"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
1-11	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
1-12	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	
1-13	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	
1-14	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	REFER TO A-7.2
1-15A	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	
1-15B	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	
1-16	1	E	3'-0"	7'-0"	1-3/4"	ALUM/GL	ALUM	--	--	--	--	--	--	--	B	
1-17	1	B	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	
1-18	1	B	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	
1-19A	2	C	3'-0"	7'-0"	1-3/4"	ALUM/GL	ALUM	--	--	--	--	--	--	--	B	REFER TO A-7.2
1-19B	2	B	2'-6"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	--	--	--	B	
1-20	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	
1-21	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
1-22A	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
1-22B	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
1-23	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
1-24	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
1-25A	1	B	3'-8"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
1-25B	1	B	3'-8"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
1-26	1	E	3'-0"	7'-0"	1-3/4"	ALUM/GL	ALUM	--	--	--	--	--	--	--	B	REFER TO A-7.2
1-27	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
1-28	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
1-29	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	--	--	--	--	2	--	--	B	
M-01	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
M-02	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
M-03	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
M-04	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
2-01A	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	
2-01B	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	
2-01C	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	
2-02	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	
2-03	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	
2-04	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	
2-05A	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	
2-05B	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	
2-05C	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	
2-06	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	
2-07	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
2-08A	1	A	3'-6"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
2-08B	1	A	3'-6"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
2-08C	1	B	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
2-08D	1	--	3'-0"	7'-2"	1-3/4"	ALUM/GL	ALUM	--	--	--	--	--	--	--	B	
2-09	1	B	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
2-10	1	B	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
2-11	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
2-12	1	A	3'-8"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	2	--	--	B	
2-13	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	
2-14A	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	
2-14B	1	A	3'-0"	7'-0"	1-3/4"	HM	HM	PT	PT	--	--	1	--	--	B	



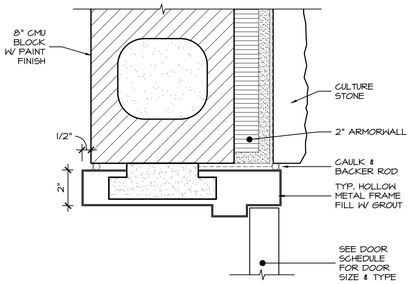




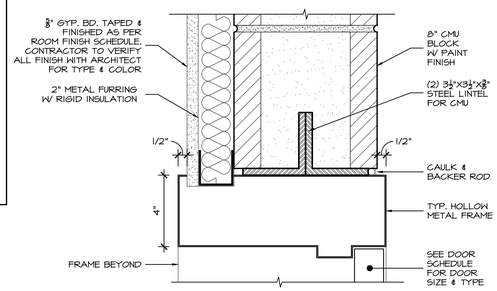
1.1 HEAD DETAIL CMU WALL EXT.



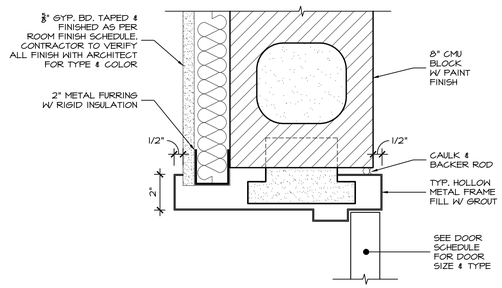
1.2 JAMB DETAIL CMU WALL EXT.



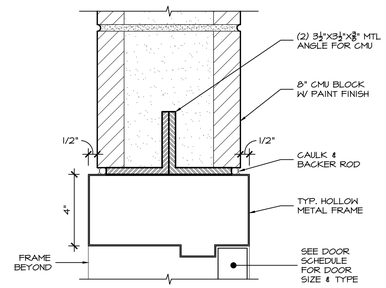
1.3 JAMB DETAIL FRAME WALL EXT.



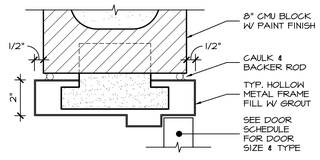
2.1 HEAD DETAIL CMU WALL INT.



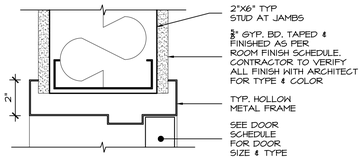
2.2 JAMB DETAIL CMU WALL INT.



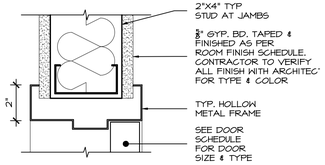
3.1 HEAD DETAIL CMU WALL INT.



3.2 JAMB DETAIL CMU WALL INT.



4 HEAD/ JAMB DETAIL FRAMED WALL INT.



5 HEAD/ JAMB DETAIL FRAMED WALL INT.

DOOR/HARDWARE NOTES:

1. ALL DOOR FRAMES AT MASONRY WALLS SHALL HAVE 4" HEAD (TYPE 3)
2. DOOR FRAMES TO BE PRE-CUT TO ALLOW FOR ELEC. DOOR STRIKE HARDWARE. WHERE NOTED OF REQUIRED PER HARDWARE GROUP
3. ALL DOORS TO BE B-LABEL RATED UNLESS OTHERWISE NOTED ON SCHEDULE
4. DOORS WITH GLASS EXCEEDING 100 SQ. INCH SHALL BE FIRE RATED GLASS (TYP.)
5. GC SHALL CONFIRM ALL DOOR & HARDWARE SCHEDULES WITH ARCHITECT PRIOR TO PURCHASE.
6. GC SHALL FIELD REVIEW & CONFIRM ALL DOOR LOCATIONS THAT ARE TO RECEIVE ELECTRIC STRIKES WITH ELECTRICIAN FOR WIRING COORDINATION.
7. GC SHALL CONFIRM KEYING SCHEDULE (THREE KEYING OPTIONS MINIMUM) WITH OWNER. INCLUDING MASTER, A+B.
8. PRESENT ANY CONFLICTS TO ARCHITECT IN WRITING.

INTERIOR SIGNAGE REQUIREMENTS (BY GENERAL CONTRACTOR)

1. ALL INTERIOR DOORS SIGNAGE SHALL RECEIVE ADP COMPLIANT SIGHNAGE WITH EACH ROOM NAME AND NUMBER (TOTAL_____)
2. PROVIDE INTERNATIONAL SIGNAGE AT EACH ELEVATOR LANDING.
3. ALL SIGNAGE (EXCLUDING ELEVATOR) SHALL BE 3" X 6" GREY WITH WHITE WHEN LAZER CUT 1/16" ETCHED LETTERING, EDGES WITH SQUARE CORNERS. TACTILE GRAPHICS TO BE RAISED 1/32 IN ABOVE BASE.
4. ALL SIGNAGE TO HAVE FORM ADHESIVE MOUNTING STRIPS.
5. SIGNAGE TO BE BY " SIGNAGE "SIGN FACTORY" OR EQUAL. PROVIDE SAMPLE AND FULL LIST OF SIGNAGE FOR APPROVAL.

HARDWARE GROUP 1 (STOREFRONT)

QTY	TYPE	MFG	DESCRIPTION	FIN.
3	HINGES	KAHNEER	4.5 X 4.0	S.S.
1	RIM PANICS	DORMA	9700	689 ALUM
1	CLOSERS	LCN	2030	N/A
1	ELECTRIC STRIKES	HES	7000	US26P
1	SADDLES	KAHNEER	STANDARD	MILL
1	TRIM	DORMA	2P03	689 ALUM
1	WEATHERSTRIP	KAHNEER	STANDARD	N/A
1	FACE PLATE	NES	7895	US26P

HARDWARE GROUP 2 (H.M. EXTERIOR)

QTY	TYPE	MFG	DESCRIPTION	FIN.
3	HINGES	PBB	BB81 4.5 X 4.5 NRP	26D
1	RIM PANICS	DORMA	F9300 X TR08	32D
1	CLOSERS	PDQ	5100 BC DS	689
1	ELECTRIC STRIKES	HES	9500 LBM	32D
1	WALL STOPS (WHERE REQ'D)	RKWD	406	32D
1	SADDLE	REESE	5284D(WIDTH PER DOOR)	AL
1	KICK PLATES	REESE	M35A(WIDTH PER DOOR)	AL
1	KICK PLATES	REESE	807A(WIDTH PER DOOR)	AL

HARDWARE GROUP 3 (INTERIOR W/ ACCESS)

QTY	TYPE	MFG	DESCRIPTION	FIN.
3	HINGES	PBB	BB81 4.5 X 4.5(27- NRP)	26D
1	STOREROOM LOCKS	PDQ	GT 115 PHL	26D
1	CLOSERS	PDQ	5100 BC PA	689
1	ELECTRIC STRIKES	HES	5300	32D
1	WALL STOPS	RKWD	406(WHERE REQ'D)	32D
1	KICK PLATES	RKWD	12 X 34	32D

HARDWARE GROUP 4 (SINGLE OCC TOILETS)

QTY	TYPE	MFG	DESCRIPTION	FIN.
3	HINGES	PBB	BB81 4.5 X 4.5 NRP	26D
1	BULK OCC INDICATOR	SCHLAGE	B571 262	32D
1	PASSAGE SETS	PDQ	GT 126 PHL	26D
1	WALL STOP	RKWD	406	32D
1	CLOSER	RDQ	5100 BC PA	32D
1	KICK PLATES	RKWD	12 X 34	32D

HARDWARE GROUP 5 (PUBLIC TOILETS + OTHER NON SECURE DOORS)

QTY	TYPE	MFG	DESCRIPTION	FIN.
3	HINGES	PBB	BB81 4.5 X 4.5	26D
1	PASSAGE SETS	PDQ	GT 126 PHL	26D
1	CLOSERS	PDQ	5100 BC PA	689
1	STOPS	RKWD	406	32D
1	KICK PLATES	RKWD	12 X 34	32D

NOTES:

1. GC PROVIDES & INSTALLS ALL ELECTRIC STRIKE HARDWARE & SHALL COORDINATE THESE INSTALLS WITH THE ELECTRICIAN (FOR WIRING) AS WELL AS OWNERS ACCESS VENDOR (TBD).
2. GC SHALL VERIFY W/ OWNER ALL DOORS THAT RECEIVE ELECTRIC STRIKES PRIOR TO DOOR/FRAME & HARDWARE ORDER, AS PART OF SUBMITTAL PROCESS. ALL DOORS THAT RECEIVE ELECTRIC STRIKEHES 5300' FLUSH MOUNT STRIKE MUST HAVE PRE-CUT FRAMES AS REQUIRED FOR ELECTRIC STRIKE INSTALLS. COORDINATE DIMENSIONS OF PRE-CUT FRAME WITH DESIGNATED HES ELECTRIC STRIKE.
3. GC SHALL FIELD VERIFY ALL ROUGH OPENINGS OF DOORS TO ENSURE CORRECT SIZE FOR EACH DOOR LOCATION, AND MUST ALSO VERIFY CORRECT THROAT DEPTH OF FRAME REQUIRED AT EACH DOOR BASED ON ADJOINING WALL TYPE.
4. ALL DOORS THAT RECEIVE HARDWARE SET '4' (PRIVACY LATCH) MUST HAVE PRE-CUT FRAMES AS REQ'D TO INCLUDE DEADBOLT PRIVACY LATCH INSTALL. GC SHALL COORDINATE WITH DOOR/FRAME MANUFACTURER.

DATE	ISSUED
03-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

SENDLEWSKI ARCHITECTS, P.C.
ARCHITECTS + PLANNERS
215 ROANOKE AVENUE
RIVERHEAD, NY 11901
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(631) 727-5332

PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

DOOR SCHEDULE

PROJECT No. 2501

CHECKED BY:

DRAWING:

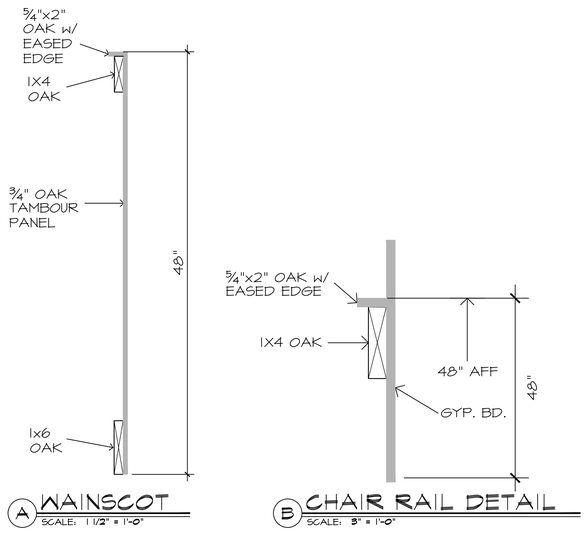
A-6.1

FINISH SCHEDULE KEY NOTES:

1. PROVIDE RUBBER STAIR TREADS. PAINT STRINGERS AND RISERS TYPICAL. LANDINGS TO BE MET W/ RUBBER BASE.
2. PROVIDE 2" X 2" STAINLESS GUARD IN OUTSIDE CORNERS.
3. ALL DOOR FRAMES, TRIMS, SOFFITS, RAILINGS, EXPOSED STL. LINTELS, ETC. TO HAVE PAINT FINISH TYPICAL.
4. VCT SHALL BE ARMSTRONG 'STANDARD EXCELON IMPERIAL' OR EQUAL. COLOR TO BE SELECTED BY OWNER.
5. ALL GYP. BD. TO BE WATER RESISTANT TYPE, TYP. ALL AREAS.
6. PROVIDE DUROCK WALLBOARD AT ALL WALL TILE AREAS TYP.
7. ALL INTERIOR WOOD DOORS, TRIM, MOLDING, BASEBOARD TO HAVE STAIN/VARNISH FINISH.
8. CARPET TILE TO BE MOHAWK "MINDFUL STRIPE - BT447", COLOR BY OWNER.
9. ALL FLOOR FINISHES SPECIFIED SHALL BE SUBSTITUTED WITH AN OWNER/ARCHITECT APPROVED EQUAL IN THE EVENT THE ORIGINAL MAKE/MODEL SPECIFIED IS DISCONTINUED.
10. GC SHALL SUPPLY ATTIC STOCK (200 S.F. MIN) FOR ALL MODULAR FLOOR FINISHES (TILE/CARPET TILE/ETC.) FOR OWNER FUTURE USE.
11. TILE TO BE BY DALTILE, REFER TO DRAWINGS FOR TILE SCHEDULE.
12. SHALL PROVIDE A FULL MOCK-UP PANEL CONSISTING OF ALL OWNER SELECTED PAINT FINISHES, FOR APPROVAL, PRIOR TO COMMENCEMENT OF ANY PAINTING.
13. SHALL ENSURE THAT ALL CMU TO RECEIVED PAINT FINISH IS PROPERLY BRUSHED & PREPARED PRIOR TO PAINTING.
14. PAINTED CMU SHALL RECEIVE BLOCK-FILLER BASE PAINT AS PREPARATION TO PAINTING.
15. AREAS TO RECEIVE FINISH PAINT SHALL NOT GET ITS FINAL COAT UNTIL THE END OF THE PROJECT PUNCH-LIST PHASE, AND ONLY WHEN ALL OTHER TRADES/VENDORS HAVE BEEN CONFIRMED TO BE COMPLETED WITH THEIR WORK IN ALL AREAS.
16. GYP. BD SHALL RECEIVE 1 COAT PRIMER + 2 COATS FINISH.
17. C AREA TO RECEIVE 1 PRIMER COAT PAINT.

LAY-IN CEILING TYPES

1. FISSURED TEGULAR MEDIUM TEXTURE 24" X 24" X 5/8" WITH PRELUDE XL 15/16" SUSPENSION SYSTEM.
2. CIRRUS HIGH NRC, TEGULAR MEDIUM TEXTURE. 24" X 24" X 5/8" SUPRAFINE XL 9/16" SUSPENSION SYSTEM.
3. KITCHEN ZONE SQUARE LAY-IN SMOOTH TEXTURE, 24" X 24" X 5/8" WITH PRELUDE XL 15/16" SUSPENSION SYSTEM.



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

B CHAIR RAIL DETAIL
SCALE: 3" = 1'-0"

FINISH SCHEDULE

ROOM	NAME	FLOOR		BASE		WALLS								CEILING			KEY NOTES	WAINSCOTT/CORNER RAIL	
						NORTH		EAST		SOUTH		WEST							
		MATERIAL	FINISH	MATERIAL	HEIGHT	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	TYPE/PTN	HEIGHT		TYP	HT.
101A	TANDEM/SINGLE BAYS	CONC	EPOXY	EPOXY	4"	CMU	EPPT	CMU	EPPT	CMU	EPPT	CMU	EPPT	STEEL	PT	--	14	N.A.	N.A.
101B	GEAR WASH & DECON	CONC	EPOXY	EPOXY	4"	CMU	EPPT	CMU	EPPT	CMU	EPPT	CMU	EPPT	STEEL	PT	8'-0"	14	N.A.	N.A.
102	WATER SVC.	CONC	EPOXY	EPOXY	4"	CMU	EPPT	CMU	EPPT	CMU	EPPT	CMU	EPPT	GB	PT	8'-0"	14	N.A.	N.A.
103	ELECTRIC SVC.	CONC	EPOXY	EPOXY	4"	CMU	EPPT	CMU	EPPT	CMU	EPPT	CMU	EPPT	GB	PT	8'-0"/T'-0"	14	N.A.	N.A.
104	SCBA	CONC	EPOXY	EPOXY	4"	CMU	EPPT	CMU	EPPT	CMU	EPPT	CMU	EPPT	GB	PT	8'-0"/T'-0"	14	N.A.	N.A.
105	WORK ROOM	CONC	EPOXY	EPOXY	4"	CMU	EPPT	CMU	EPPT	CMU	EPPT	CMU	EPPT	GB	PT	8'-0"/T'-0"	14	N.A.	N.A.
106	DELIVERY	CONC	EPOXY	EPOXY	4"	CMU	EPPT	CMU	EPPT	CMU	EPPT	CMU	EPPT	GB	PT	8'-0"/T'-0"	14	N.A.	N.A.
107	READY ROOM	CONC	EPOXY	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	1	T'-8"	15/15/16	A	48"
108	STORAGE	CONC	EPOXY	EPOXY	4"	CMU	EPPT	CMU	EPPT	CMU	EPPT	CMU	EPPT	GB	PT	8'-4"	14	N.A.	N.A.
109	GEAR AREA	CONC	EPOXY	EPOXY	4"	CMU	EPPT	CMU	EPPT	CMU	EPPT	CMU	EPPT	GB	PT	8'-0"/T'-0"	14	N.A.	N.A.
110A	CLOSET	CONC	EPOXY	EPOXY	4"	CMU	EPPT	CMU	EPPT	CMU	EPPT	CMU	EPPT	GB	PT	8'-0"	14	N.A.	N.A.
110B	STAIR "B"	CONC	EPOXY	EPOXY	4"	CMU	EPPT	CMU	EPPT	CMU	EPPT	CMU	EPPT	STEEL	PT	VARIES	1/14	N.A.	N.A.
111	JANITOR	CONC	EPOXY	EPOXY	4"	CMU	EPPT	CMU	EPPT	CMU	EPPT	CMU	EPPT	GB	PT	8'-0"	14	N.A.	N.A.
112	COMMUNITY/SHELTER ROOM (120 SEAT)	CONC	EPOXY	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	1/PT	10'-0"/9'-0"	15/16	A	48"
113A	TABLE & CHAIR STORAGE	CONC	EPOXY	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	GB	PT	8'-0"	15/16	N.A.	N.A.
113B	SERVICE AREA	CONC	EPOXY	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	GB	PT	T'-0"/9'-0"	15/16	N.A.	N.A.
114	MEN'S RESTROOM	CONC	EPOXY	EPOXY	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	3	T'-8"	5/8/15/16	N.A.	N.A.
115	WOMAN'S RESTROOM	CONC	EPOXY	EPOXY	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	3	T'-8"	5/8/15/16	N.A.	N.A.
116A	LOBBY	CONC	EPOXY	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	1/PT	8'-0"/17'-4" 16'-10"	15/16	B	48"
116B	VESTIBULE	CONC	EPOXY	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	GB	PT	16'-10"	15/16	N.A.	N.A.
116C	STAIR "A"	CONC	RT	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	1	VARIES	1/15/16	N.A.	N.A.
117A	FITNESS ROOM	CONC	EPOXY	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	1	11'-0"	15/16	N.A.	N.A.
117B	CLOSET	CONC	EPOXY	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	1	8'-0"	15/16	N.A.	N.A.
118	CHIEFS ROOM	CONC	EPOXY	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	1	11'-0"	15/16	N.A.	N.A.
119	VESTIBULE	CONC	EPOXY	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	2	12'-4"	15/16	A	48"
120	RADIO ROOM	CONC	EPOXY	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	1	9'-0"/ 8'-0"	15/16	N.A.	N.A.
121	INFO/MAIL AREA	CONC	EPOXY	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	1	9'-0"/ 8'-0"	15/16	N.A.	N.A.
122	JANITOR	CONC	EPOXY	RB	4"	GB	FRP	GB	FRP	GB	FRP	GB	FRP	ACT	1	9'-0"	15/16	N.A.	N.A.
123	BATHROOM/ SHOWER	CONC	EPOXY	EPOXY	4"	CMU	EPPT	CMU	EPPT	CMU	EPPT	CMU	EPPT	ACT	3	8'-0"	5/8/15/16	N.A.	N.A.
124	BATHROOM/ SHOWER	CONC	EPOXY	EPOXY	4"	CMU	EPPT	CMU	EPPT	CMU	EPPT	CMU	EPPT	ACT	3	8'-0"	5/8/15/16	N.A.	N.A.
125A	KITCHEN	CONC	EPOXY	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	3/PT	9'-0"/8'-4" T'-0"	11	N.A.	N.A.
125B	KITCHEN SERVICE AREA	CONC	PT	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	GB	PT	8'-4"/T'-0"	11	N.A.	N.A.
M-01	MEZZANINE	CONC	EPOXY	N/A	N/A	CMU	EPPT	CMU	EPPT	CMU	EPPT	CMU	EPPT	STEEL	PT	--	14	N.A.	N.A.
M-02	STAIR B	CONC	EPOXY	N/A	N/A	CMU	EPPT	CMU	EPPT	CMU	EPPT	CMU	EPPT	STEEL	PT	--	1	N.A.	N.A.
M-03	MECHANICAL ROOM	CONC	EPOXY	N/A	N/A	CMU	EPPT	CMU	EPPT	GB	EPPT	CMU	EPPT	STEEL	PT	--	14	N.A.	N.A.
M-04	KIT. EXH	CONC	EPOXY	N/A	N/A	CMU	EPPT	CMU	EPPT	CMU	EPPT	CMU	EPPT	STEEL	PT	--	14	N.A.	N.A.
M-05	ENCLOSED STORAGE MEZZANINE	CONC	PT	N/A	N/A	CMU	EPPT	CMU	EPPT	CMU	EPPT	CMU	EPPT	STEEL	PT	--	14	N.A.	N.A.
M-06	TRAINING MEZZANINE	CONC	PT	N/A	N/A	CMU	EPPT	CMU	EPPT	CMU	EPPT	CMU	EPPT	STEEL	PT	VARIES	14	N.A.	N.A.
201A	CORRIDOR	CONC	EPOXY	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	1	9'-0"/8'-4"	15/16	B	48"
201B	STAIR A	CONC	EPOXY	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	1	VARIES	1/14	B	48"
202A	SECRETARY/TREAS.	CONC	CPT	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	2	9'-0"	15/16	A	48"
202B	FILE ROOM	CONC	LVT	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	1	9'-0"	15/16	N.A.	N.A.
203	COMMISSIONERS OFFICE	CONC	CPT	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	2	9'-0"/8'-0"	B	B	48"
204	I.T. ROOM	CONC	EPOXY	N/A	N/A	GB	PT	GB	PT	GB	PT	GB	PT	ACT	1	9'-0"	15/16	N.A.	N.A.
205	CAPTAINS OFFICE	CONC	CPT	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	2	9'-0"	B	A	48"
206A	CONFERENCE ROOM	CONC	CPT	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	2	9'-0"	B	A	48"
206B	CLOSET	CONC	CPT	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	2	8'-0"	B	N.A.	N.A.
207	CIVIL OFFICERS	CONC	CPT	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	1	9'-0"	B	A	48"
208A	TRAINING/CLASSROOM	CONC	EPOXY	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	1	10'-0"/9'-0"	15/16	A	48"
208B	CLOSET	CONC	EPOXY	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	ACT	1	8'-0"	15/16	N.A.	N.A.
209	MEN'S BATHROOM	CONC	EPOXY	EPOXY	4"	CT	GT	GT	CT	CT	GT	GT	GT	ACT	1	8'-10"	5/8/15/16	N.A.	N.A.
210	WOMEN'S BATHROOM	CONC	EPOXY	EPOXY	4"	CT	GT	GT	CT	CT	GT	GT	GT	ACT	1	8'-10"	5/8/15/16	N.A.	N.A.
211	STAIR B	CONC	EPOXY	RB	4"	GB	PT	GB	PT	GB	PT	GB	PT	GB	PT	VARIES	1/14	N.A.	N.A.
212	HOUSEKEEPING	CONC	EPOXY	RB	4"	CMU	N/A	CMU	N/A	CMU	N/A	CMU	N/A	GB	PT	8'-0"	14	N.A.	N.A.
213	ATTIC	CONC	CONC	NONE	4"	CMU/GYP	N/A	CMU/GYP	N/A	CMU/GYP	N/A	CMU/GYP	N/A	GB	PT	10'-0"	14	N.A.	N.A.
214	ELEVATOR	WD	EPOXY	SEE ELEVATOR NOTES														N.A.	N.A.

LEGEND:

ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE	RB	4" HIGH ROPPE RUBBER BASE. USE FORMED CORNERS
CMU	CONCRETE BLOCK		
CONC	CONCRETE	RT	ROPPE RUBBER TREAD DIAMOND DESIGN
CPT	CARPET TILE		
EPOXY	EPOXY FLOOR & BASE FINISH SYSTEM	PT	PAINT
		GB	GYPSUM BOARD
EPPT	EPOXY PAINT	WS	WAINSCOT
FRP	FIRE RESISTANT PANEL	FF	FACTORY FINISH
N/A	NOT APPLICABLE	LVT	LUXURY VINYL TILE

ELEVATOR NOTES:

1. ELEVATOR WALLS TO BE 5WL RIGIDIZED STAINLESS STEEL.
2. HANDRAIL WILL BE ROUND CURVED, POSITION OF HANDRAILS TO BE 3 SIDED, WALL TO WALL. NOTE: HANDRAIL ENDS WILL BE STRAIGHT AND CURVED, ACCORDING TO EN81-70.
3. SKIRTING TO BE FLUSHED.
4. CEILING TO BE DOWNLIGHT, CEILING FINISH IS #4 BRUSHED STAINLESS STEEL.
5. ENTRANCE DETAILS AS FOLLOWS, CAR DOOR FINISH TO BE #4 BRUSHED STAINLESS STEEL OXODIZED. FRAME STYLE TO BE STONEHENGE.
6. VANDAL-RESISTANT TO BE USED FOR CAR OPERATING PANEL, CAR POSITION AND DIRECTION INDICATOR, LANDING OPERATING PANEL, AND HORIZONTAL CAR POSITION AND DIRECTION INDICATOR.

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03-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

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(631) 727-5362

PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

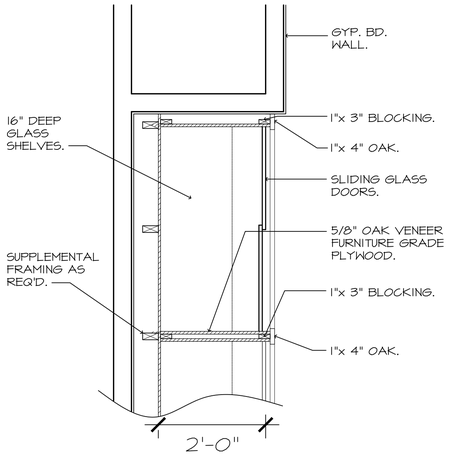
FINISH SCHEDULE

PROJECT No. 2501

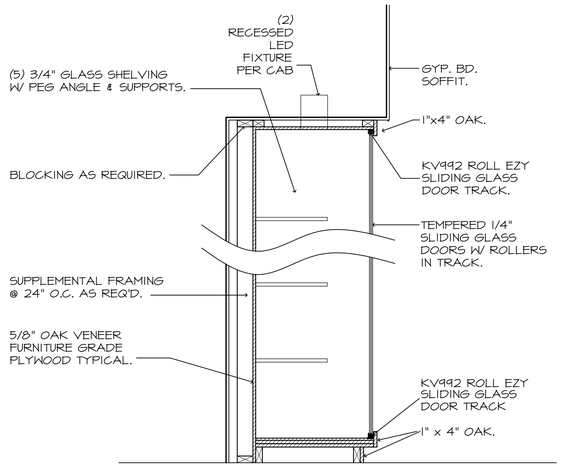
CHECKED BY:

DRAWING:

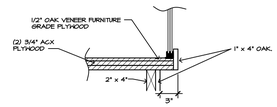
A-7.1



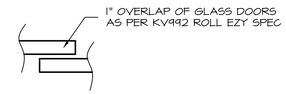
TROPHY CASE DETAIL
SCALE: 1/2" = 1'-0"



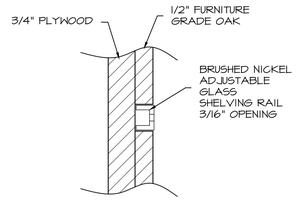
TROPHY CASE DETAIL
SCALE: 1/2" = 1'-0"



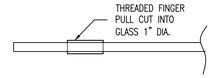
TROPHY CASE GLASS OVERLAP
SCALE: (NTS)



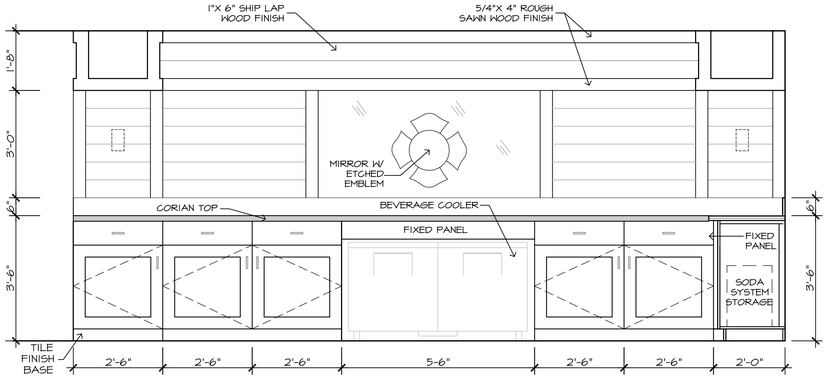
TROPHY CASE DETAIL
SCALE: (N.T.S)



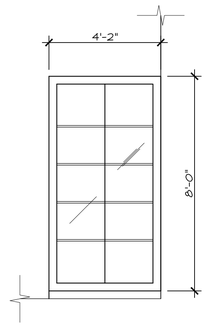
TROPHY CASE SHELF RAIL
SCALE: (NTS)



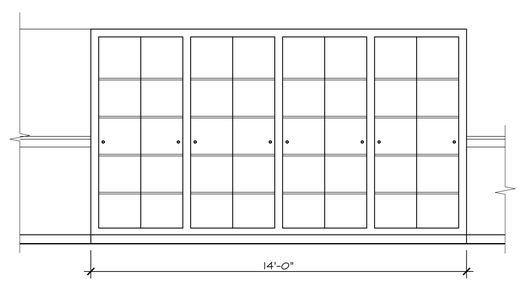
GLASS DOOR HANDLE DETAIL
SCALE: (NTS)



1 SERVICE COUNTER ELEVATION
SCALE: 1/2" = 1'-0"



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



4 LOBBY ELLEVATION
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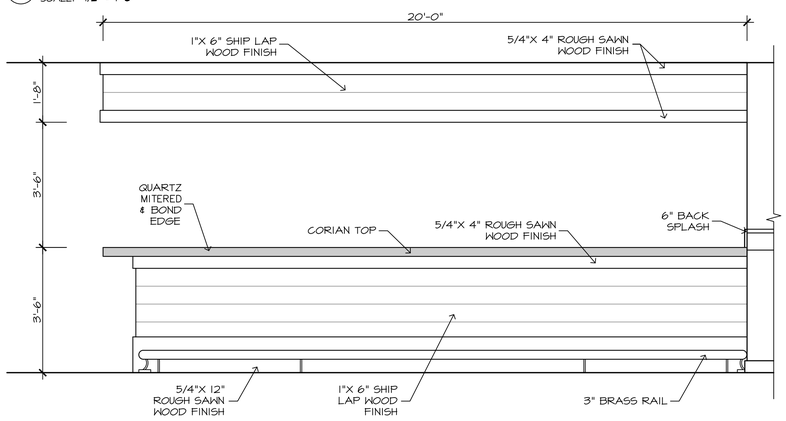
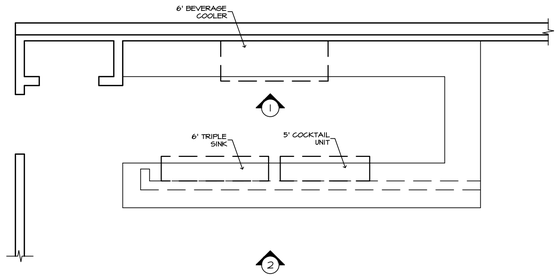


2 SERVICE COUNTER ELEVATION
SCALE: 1/2" = 1'-0"



A TRAINING ROOM SVC
SCALE: 1/4" = 1'-0"

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PROPOSED NEW FACILITY
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ELLENVILLE, NY 12428

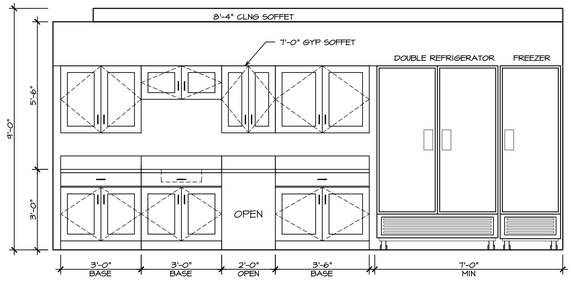
FINISH DETAILS

PROJECT No. 2501

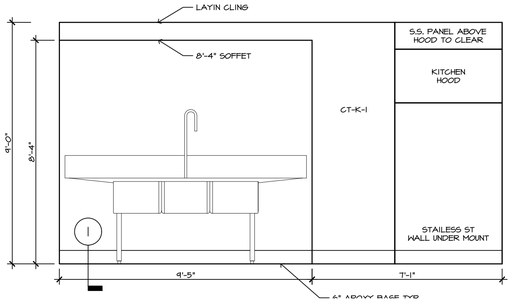
CHECKED BY:

DRAWING:

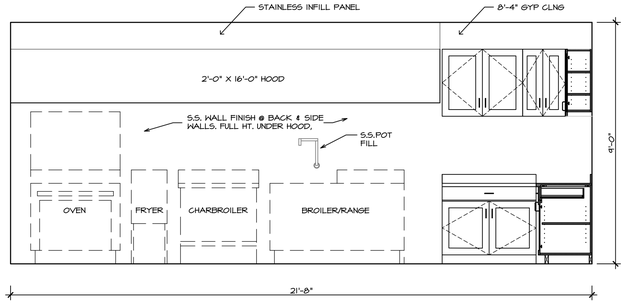
A-7.2



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



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



C WEST
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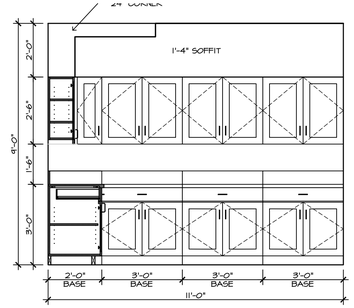
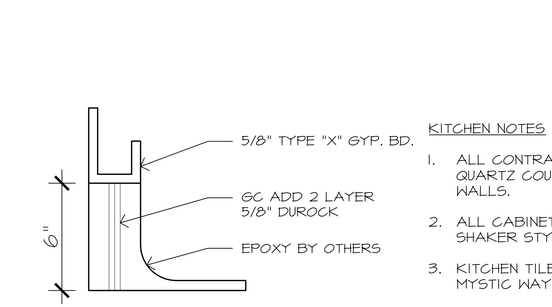
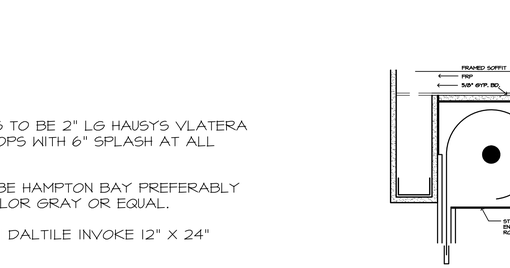


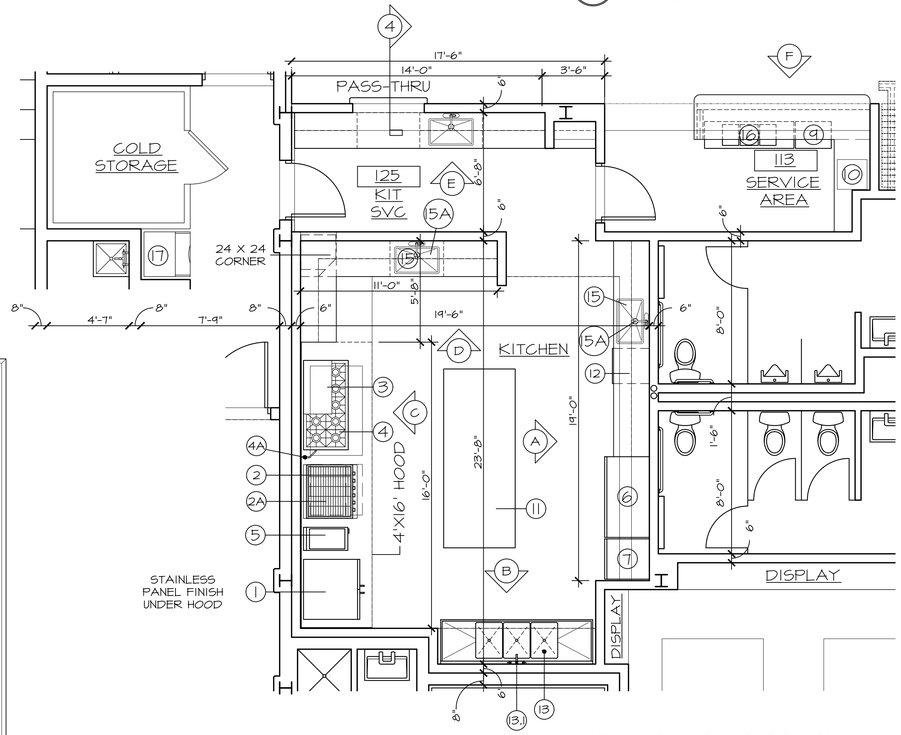
D NORTH
SCALE: 1/2" = 1'-0"



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



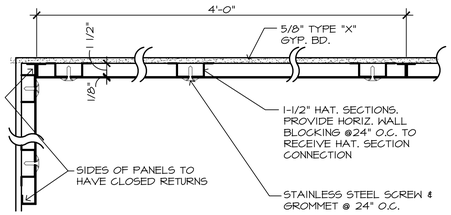
F READY ROOM SERVICE COUNTER
SCALE: 3/8" = 1'-0"



3 KITCHEN FLOOR PLAN
SCALE: 1/4" = 1'-0"

EQUIPMENT LIST: LP GAS TYPICAL ALL EQUIPMENT INCLUDED IN CONTRACT

1)	VULCAN GAS CONVECTION OVEN	(MODEL: V66GD)
2)	VULCAN GAS CHARBROILER	(MODEL: VCRB36)
2A)	ADVANCE TABCO 30"X36" STAINLESS TABLE	(MODEL: KSLAG-303X)
3)	VULCAN 36" HD GAS SALAMANDER BROILER	(MODEL: 36RBP)
4)	VULCAN 60" GAS RANGE	(MODEL: V60-L LPT. GAS
4A)	KROWNE WALL MOUNT POT FILL	(MODEL: 20-101L)
5)	VULCAN LG500 ALL-PURPOSE GAS FRYER	(MODEL: LG500)
6)	TRUE REACH-IN STAINLESS REFRIGERATOR	(MODEL: TS-49-HC)
7)	TRUE REACH-IN STAINLESS FREEZER	(MODEL: T-23F-HC)
8)	ICE-O-MATIC ICE CUBE MAKER	(MODEL: ICE 0250)
9)	ICE BIN W/ COLD PLATE	(MODEL: SLI-16-36-7)
10)	TRUE BAR REFRIGERATOR	(MODEL: TBR36-R1S2I-L-S-G-1)
11)	ADVANCE TABCO FLAT TOP 48" X 120"	(MODEL: SS-4810)
12)	24" MAIN STREET EQUIOMENT DISHWASHER	(MODEL: HTUC)
13)	102" X 29" BK 3 COMPARMENT SINK W/ DECK MOUNT	(MODEL: CRB-43R)
13A)	ELKROY PRERINSE FAUCET	(MODEL: LK843AF086)
14)	18" X 36" ADVANCE TABCO 3 COMP SINK	(MODEL: CRB-43R)
15)	DELTA UNDERMOUNT SINGLE BOWL SINK	(MODEL: 95303-305-SS)
15A)	MOEN GILDEN	(MODEL: 87679)
16)	ADVANCE TABCO 2 COMP	(MODEL: CRB-42C)
17)	ICE-O-MATIC ICE MACHINE	(MODEL: CIM0330)

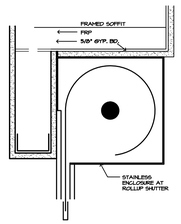


A STAINLESS STL. WALL DETAILS
SCALE: 1 1/2" = 1'-0"

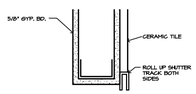
1 BASE DETAIL
SCALE: 3" = 1'-0"

KITCHEN NOTES

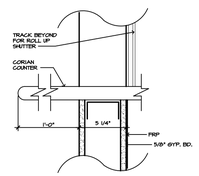
1. ALL CONTRACTORS TO BE 2" LG HAUSYS VLATERA QUARTZ COUNTERTOPS WITH 6" SPLASH AT ALL WALLS.
2. ALL CABINETS TO BE HAMPTON BAY PREFERABLY SHAKER STYLE, COLOR GRAY OR EQUAL.
3. KITCHEN TILE CT-K1 DALTILE INVOKE 12" X 24" MYSTIC WAY ID02.
4. COUNTER ROLL UP 36" WIDE (CLEAR OPEN) X 36" HIGH CLEAR OPEN SURFACE MOUNTED ON KITCHEN SIDE BY OVERHEAD DOOR MODEL 652 W/ CLEAR ANODIZED ALUMINUM FINISH.



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



5 ROLLUP HEAD SECTION
SCALE: 1 1/2" = 1'-0"



6 ROLLUP SILL SECTION
SCALE: 1 1/2" = 1'-0"

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

KITCHEN PLANS & ELEVATIONS

PROJECT No. 2501

CHECKED BY:

DRAWING:

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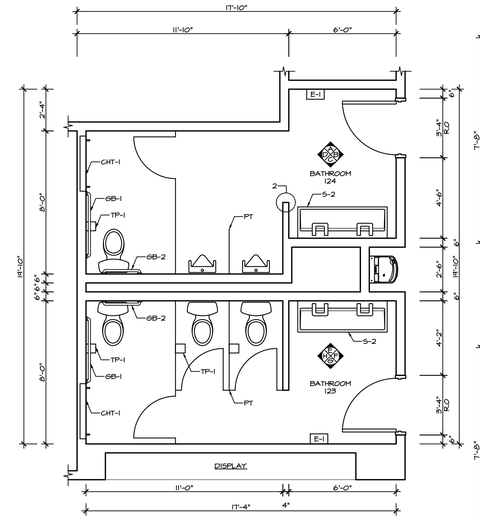
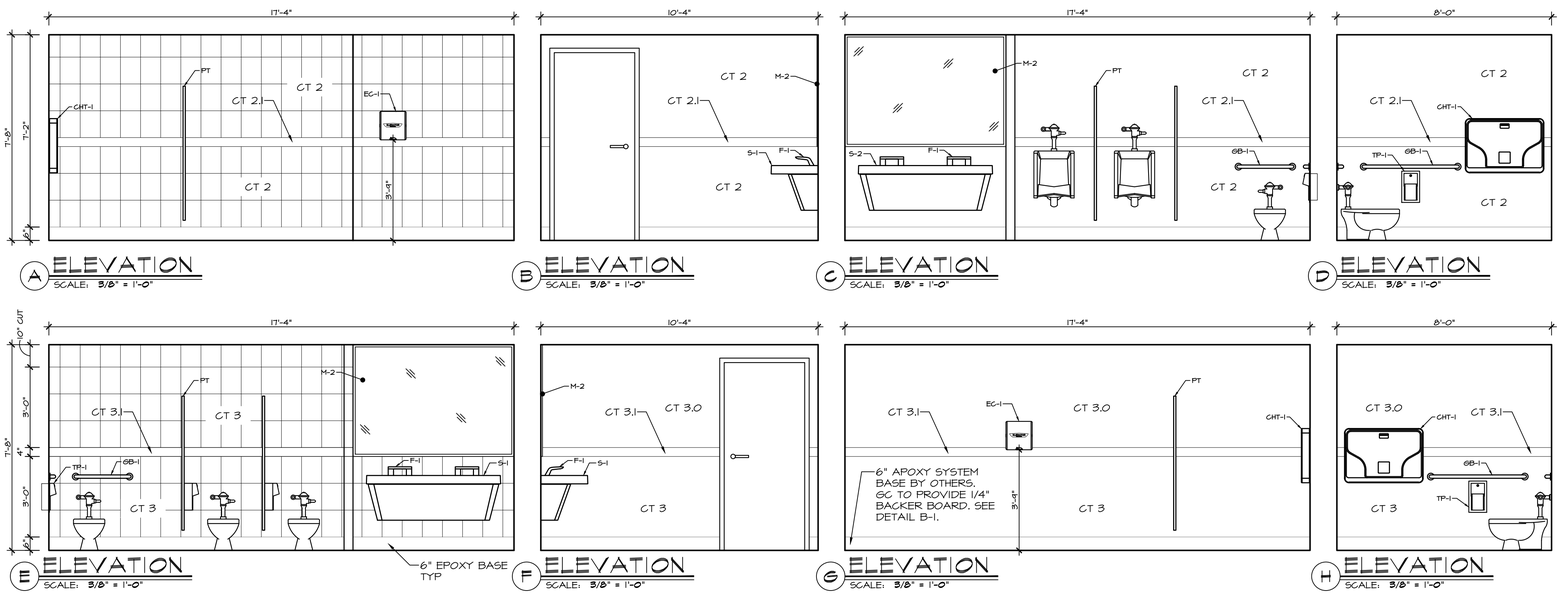
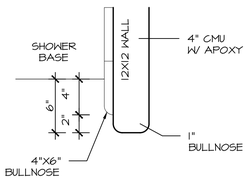
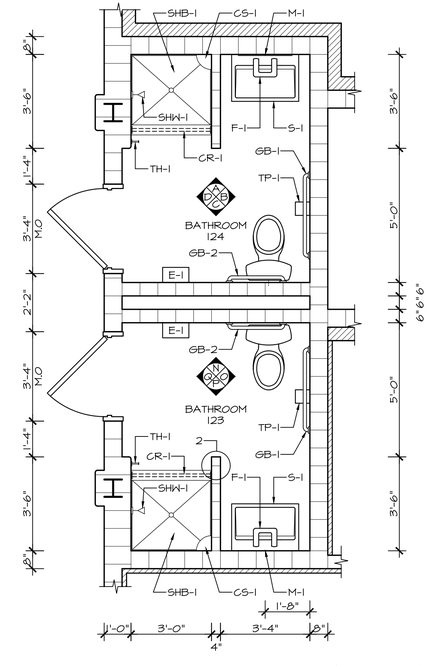


1 PUBLIC RESTROOMS (1ST FL)
SCALE: 1/4" = 1'-0"

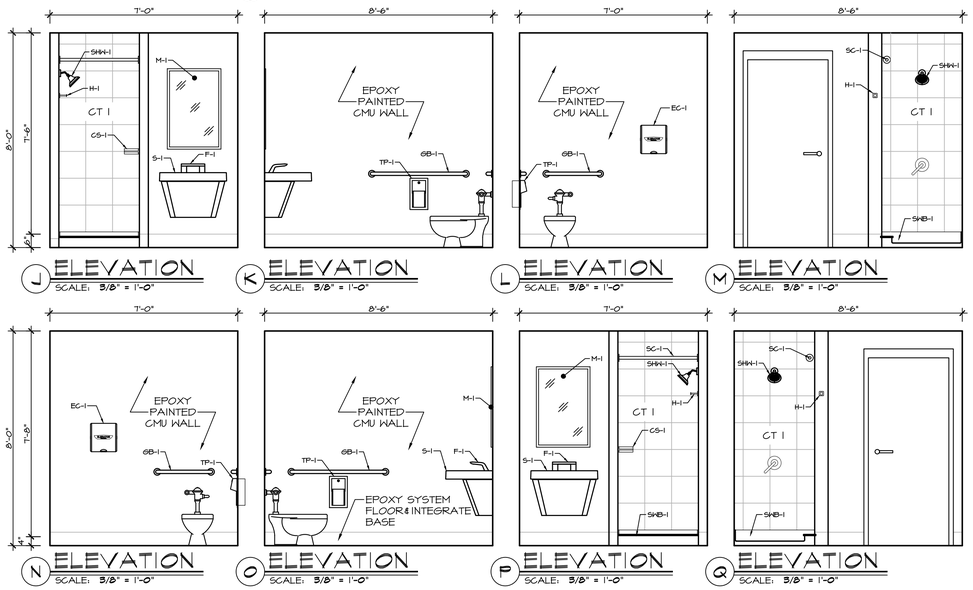




2 ELEVATION
SCALE: 1 1/2" = 1'-0"



2 PRIVATE RESTROOMS (1ST FL)
SCALE: 1/4" = 1'-0"



COORDINATE INSTALLATION OF SHOWER BASE WITH PLUMBER
BASE TO BE KOHLER 36"X 36" ARCHOR K-9396

TOILET PARTITION INFO:
1. PARTITIONS TO BE ASI GLOBAL SOLID PLASTIC, HDPE FLOOR ANCHORED OVERHEAD BRACED.
2. FINISH TO PEBBLE GRAINED, COLOR AS SELECTED BY OWNER.

TILE LENGEND

TILE REF.	SERIES	COLOR	SIZE	NOTE
CT-1	DALTILE SANDALO	CASTILLION GRAY SW92	12"X9" WALL 4"X12" BULLNOSE EDGE	(1) (2)
CT-2	DALTILE SANDALO	CASTILLION GREY SW92	12"X9" WALL TILE	
CT-2.1	DALTILE SANDALO	ZIRCON SW98	6" MOSAIC	
CT-3	DALTILE SANDALO	RAFFIO NOLE SW93	2'X6" BULLNOSE CAP	
CT-3.1	DALTILE SANDALO	SMOKEY TOPAZ SW93	12"X12" FLOOR 2"X2" INLAY 4" FIELD CUT BASE	
CT-4	DALTILE MARBLE FALLS	GREY FALLS SD94	12"X12" WALL TILE	
CT-4.1	DALTILE FASHION ASCEND	BURGENLESH DARK FA09	6" MOSAIC	
CT-5	DALTILE MARBLE TILE	HIGHLAND BEIGE MA42	2'X6" BULLNOSE CAP	
CT-5.1	DALTILE FASHION ASCEND	BURGENLESH DARK FA09	2'X6" BULLNOSE CAP	
CT-6	DALTILE TIGER EYE	CASPIAN TE21	2'X6" BULLNOSE CAP	
CT-7	DALTILE TIGER EYE	BALI TE22	2'X6" BULLNOSE CAP	

(1) COORDINATE TILE INSTALLATION WITH MASONRY CONTRACTOR. ALL CMU TO HAVE FLUSH JOINTS AND SCRATCH COAT.
(2) INSTALL MAPEI MAPELASTIC AQUADEFENSE WATER PROFANE AND CRACK ISOLATION MEMBRANE AT SURFACES TO RELIEVE TILE.

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BATHROOM PLANS & ELEVATIONS

PROJECT No. 2501

CHECKED BY:

DRAWING:

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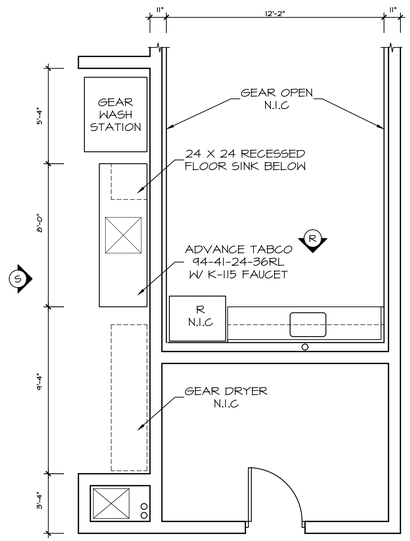
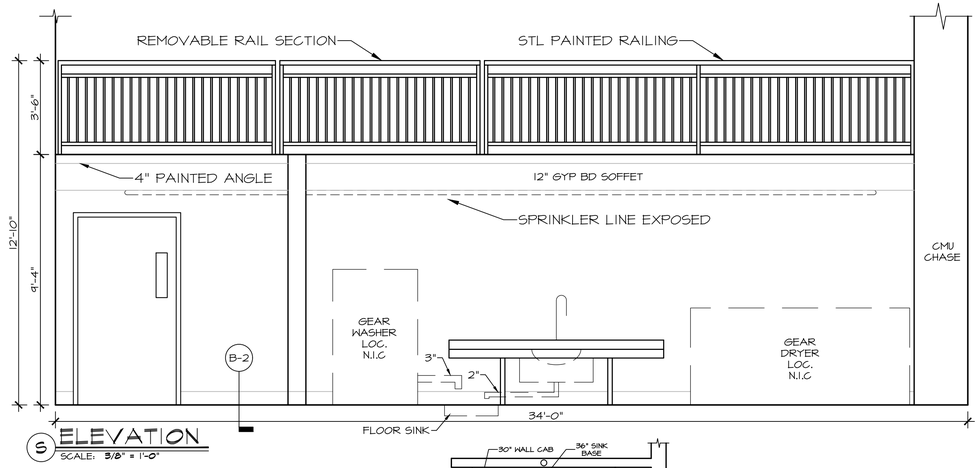
BATHROOM ACCESSORY/EQUIPMENT LENGEND

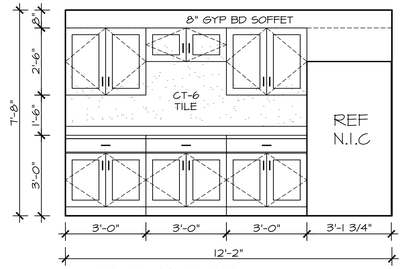
TILE REF.	MAKE	MODEL	COLOR/FINISH	MTG. HEIGHT	NOTES
TP-1 (TP DISP.)	ASI	0030	SS	18" AFF (BOTT. UNIT)	FIELD COORDINATE LOCATIONS & MTG. HEIGHTS.
TP-2 (TP DISP.)	ASI	0031	SS	18" AFF (BOTT. UNIT)	FIELD COORDINATE LOCATIONS & MTG. HEIGHTS. (RECESSED)
TH-1 (TOWEL HOOK)	ASI	7301-S	SS	68" AFF (CENTER LINE)	FIELD COORDINATE LOCATIONS & MTG. HEIGHTS.
CR-1 (CURTAIN ROD)	ASI	1204-2	SS	84" AFF (CENTER LNE)	FIELD COORDINATE LOCATIONS & MTG. HEIGHTS.
S-1 (SINK.)	BRADLEY	LAVD-1	TBD	33-1/2" AFF (TOP. UNIT)	FIELD COORDINATE LOCATIONS & MTG. HEIGHTS.
S-2 (SINK.)	BRADLEY	LAVD-2	TBD	33-1/2" AFF (TOP. UNIT)	FIELD COORDINATE LOCATIONS & MTG. HEIGHTS.
F-1 (FAUCET.)	BRADLEY	WB01	TBD	33-1/2" AFF (BOT. UNIT)	FIELD COORDINATE LOCATIONS & MTG. HEIGHTS.
CHT-1 (CHANGING TBL)	ASI	9014	GREY	28" AFF (BOT UNIT)	FIELD COORDINATE LOCATIONS & MTG. HEIGHTS.
E-1 (ELEC. DRYER)	EXCEL	'XLERATOR'	XL-GR-H	42" AFF (BOTT. UNIT)	FIELD COORDINATE LOCATIONS & MTG. HEIGHTS.
T-1 (ROLL DISP.)	BRADLEY	AUTO-ROLL DISPENSER MODEL 2484	GREY	48" AFF (BOTT. UNIT)	FIELD COORDINATE LOCATIONS & MTG. HEIGHTS.
WR-1 (WASTE REC.)	ASI	0826 (@CMU)	SS	42" AFF (TOP UNIT)	FIELD COORDINATE LOCATIONS & MTG. HEIGHTS.
PT (PARTITIONS.)	ASI	FLOOR ANCHORED /OVERHEAD BRACED	TBD	--	FIELD COORDINATE LOCATIONS & MTG. HEIGHTS.
GB-1 (GRAB BAR.)	BOBRICK	B6580x99-42	SS	33" AFF (CENTERLINE)	FIELD COORDINATE LOCATIONS & MTG. HEIGHTS.
GB-2 (GRAB BAR.)	BOBRICK	B6580x99-24	SS	33" AFF (CENTERLINE)	FIELD COORDINATE LOCATIONS & MTG. HEIGHTS.
M-1 (MIRROR)	BOBRICK	CHANNEL FRAME MIRROR B-165 2436	SS	48" AFF (BOT UNIT)	FIELD COORDINATE LOCATIONS & MTG. HEIGHTS.
M-2 (MIRROR)	BOBRICK	CHANNEL FRAME MIRROR B-165 3072	SS	48" AFF (BOT UNIT)	CUSTOM CUT MIRROR W/ SS J MOLD. BOTTOM LAMINATED TO WALL.
SHH-1 (SHOWER HEAD)	KHOLER	BANCROFT K-22167-CP	POLISHED CHROME	48" AFF (BOT UNIT)	FIELD COORDINATE LOCATIONS & MTG. HEIGHTS.
SHB-1 (SHOWER BASE)	KHOLER	K-4946	--	--	FIELD COORDINATE LOCATIONS & MTG. HEIGHTS.
M-2 (MIRROR)	BOBRICK	CHANNEL FRAME MIRROR B-165	SS	48" AFF (BOT UNIT)	FIELD COORDINATE LOCATIONS & MTG. HEIGHTS.
CS-1 (SCHLUTER)	SCHLUTER	CURV	SS	36" @ JO15T	FIELD COORDINATE LOCATIONS & MTG. HEIGHTS.



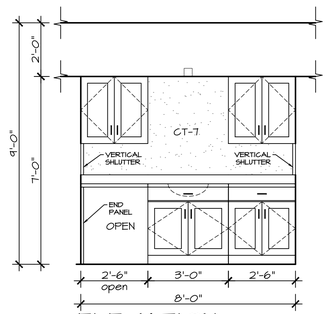
3 READY & GEAR WASH
SCALE: 1/4" = 1'-0"



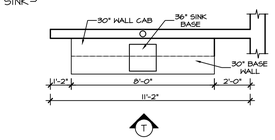
S ELEVATION
SCALE: 3/8" = 1'-0"



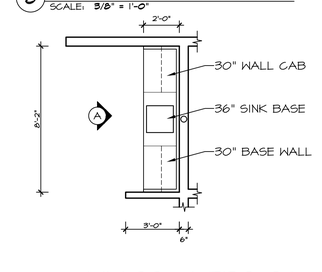
R ELEVATION
SCALE: 3/8" = 1'-0"



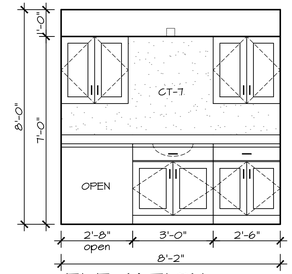
T ELEVATION
SCALE: 3/8" = 1'-0"



6 SECRETAY OFFICE
SCALE: 3/8" = 1'-0"



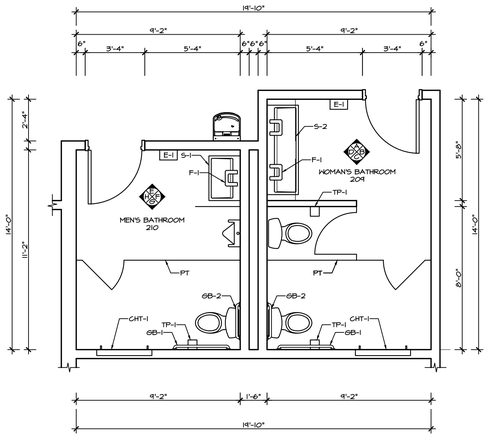
5 COMMISSIONERS SINK
SCALE: 1/4" = 1'-0"



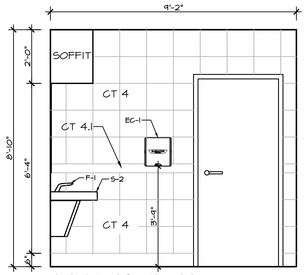
A ELEVATION
SCALE: 3/8" = 1'-0"

B-1 BASE DETAIL
SCALE: 3" = 1'-0"

B-2 BASE DETAIL
SCALE: 3" = 1'-0"



7 PUBLIC RESTROOM (2nd FL)
SCALE: 1/4" = 1'-0"

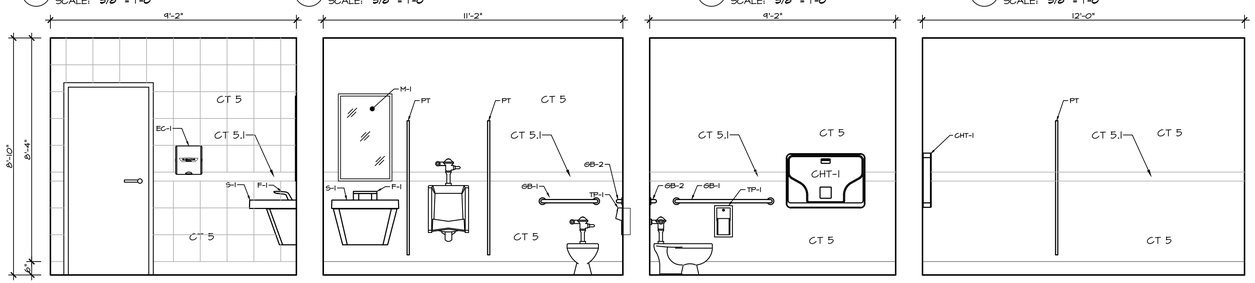


A ELEVATION
SCALE: 3/8" = 1'-0"

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

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

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



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

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

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

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

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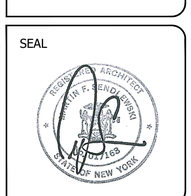

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
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GEARWASH & BATHROOM PLANS

PROJECT No. 2501

CHECKED BY:

DRAWING:

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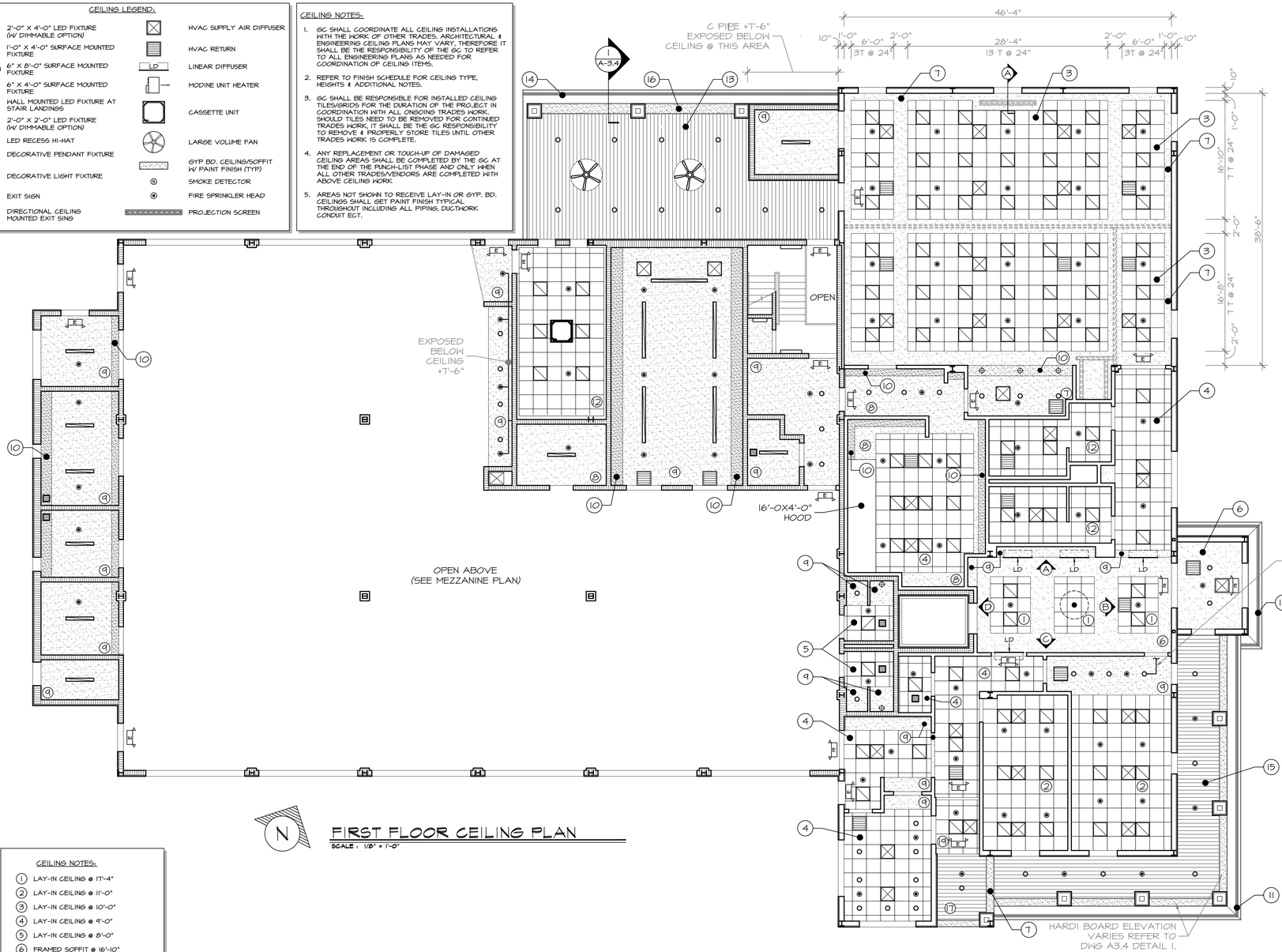
CEILING LEGEND:

2'-0" X 4'-0" LED FIXTURE (W/ DIMMABLE OPTION)	HVAC SUPPLY AIR DIFFUSER
1'-0" X 4'-0" SURFACE MOUNTED FIXTURE	HVAC RETURN
6" X 8'-0" SURFACE MOUNTED FIXTURE	LD — LINEAR DIFFUSER
6" X 4'-0" SURFACE MOUNTED FIXTURE	MODINE UNIT HEATER
WALL MOUNTED LED FIXTURE AT STAIR LANDINGS	CASSETTE UNIT
2'-0" X 2'-0" LED FIXTURE (W/ DIMMABLE OPTION)	LARGE VOLUME FAN
LED RECESS HI-HAT	GYP BD. CEILINGS/SOFFIT W/ PAINT FINISH (TYP)
DECORATIVE PENDANT FIXTURE	SMOKE DETECTOR
DECORATIVE LIGHT FIXTURE	FIRE SPRINKLER HEAD
EXIT SIGN	PROJECTION SCREEN
DIRECTIONAL CEILING MOUNTED EXIT SING	

CEILING NOTES:

1. GC SHALL COORDINATE ALL CEILING INSTALLATIONS WITH THE WORK OF OTHER TRADES. ARCHITECTURAL & ENGINEERING CEILING PLANS MAY VARY, THEREFORE IT SHALL BE THE RESPONSIBILITY OF THE GC TO REFER TO ALL ENGINEERING PLANS AS NEEDED FOR COORDINATION OF CEILING ITEMS.
2. REFER TO FINISH SCHEDULE FOR CEILING TYPE, HEIGHTS & ADDITIONAL NOTES.
3. GC SHALL BE RESPONSIBLE FOR INSTALLED CEILING TILES/GRIDS FOR THE DURATION OF THE PROJECT IN COORDINATION WITH ALL ONGOING TRADES WORK. SHOULD TILES NEED TO BE REMOVED FOR CONTINUED TRADES WORK, IT SHALL BE THE GC RESPONSIBILITY TO REMOVE & PROPERLY STORE TILES UNTIL OTHER TRADES WORK IS COMPLETE.
4. ANY REPLACEMENT OR TOUCH-UP OF DAMAGED CEILING AREAS SHALL BE COMPLETED BY THE GC AT THE END OF THE PUNCH-LIST PHASE AND ONLY WHEN ALL OTHER TRADES/VENDORS ARE COMPLETED WITH ABOVE CEILING WORK.
5. AREAS NOT SHOWN TO RECEIVE LAY-IN OR GYP. BD. CEILINGS SHALL GET PAINT FINISH TYPICAL THROUGHOUT INCLUDING ALL PIPING, DUCTWORK CONDUIT ECT.

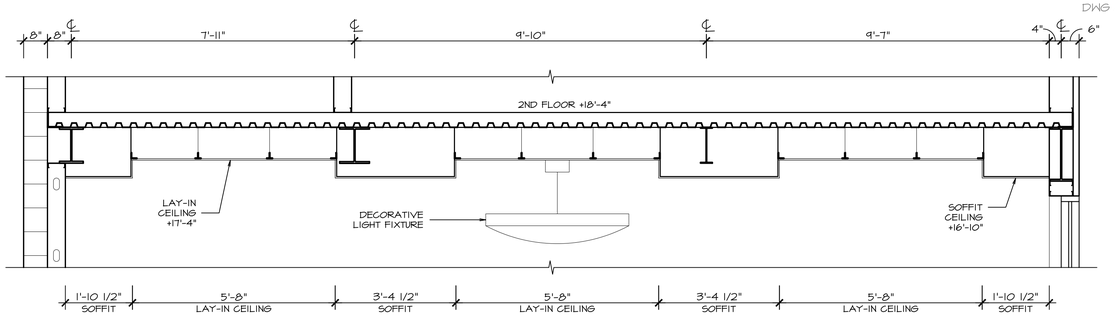


FIRST FLOOR CEILING PLAN

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

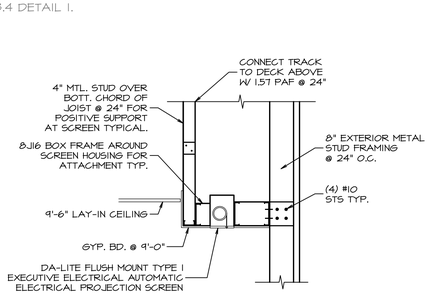
CEILING NOTES:

1. LAY-IN CEILING @ 17'-4"
2. LAY-IN CEILING @ 11'-0"
3. LAY-IN CEILING @ 10'-0"
4. LAY-IN CEILING @ 9'-0"
5. LAY-IN CEILING @ 8'-0"
6. FRAMED SOFFIT @ 16'-10"
7. FRAMED SOFFIT @ 9'-0"
8. FRAMED SOFFIT @ 8'-4"
9. FRAMED SOFFIT @ 8'-0"
10. FRAMED SOFFIT @ 7'-0"
11. FRAMED SOFFIT @ 8'-10"
12. LAY-IN CEILING @ 7'-8"
13. VENTED HARDI SOFFIT @ 12'-0"
14. VENTED HARDI SOFFIT @ 10'-6½"
15. VENTED HARDI SOFFIT @ 10'-0"
16. HARDI PANEL @ 9'-7¼"
17. VENTED HARDI SOFFIT @ 12'-4"
18. VENTED HARDI SOFFIT @ 20'-4⅝"
19. LAY-IN CEILING @ 12'-4"
20. FRAMED SOFFIT @ 10'-0"
21. VENTED HARDI SOFFIT @ 20'-0¼"
22. VENTED HARDI SOFFIT @ 14'-4"



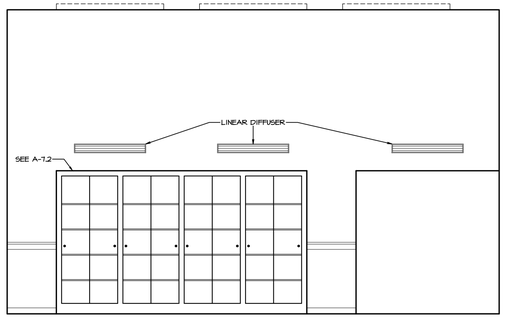
LOBBY CEILING SECTION

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



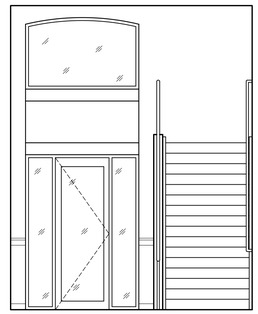
RECESSED MOVIE SCREEN DETAIL

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



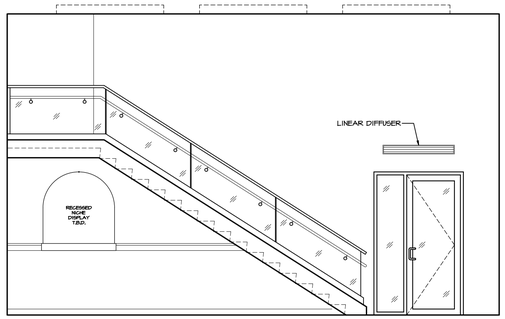
A LOBBY ELEVATION

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



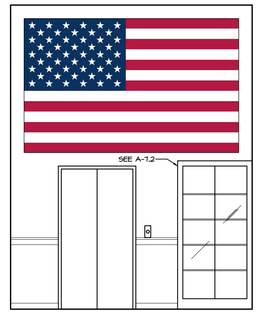
C LOBBY ELEVATION

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



C LOBBY ELEVATION

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



D LOBBY ELEVATION

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

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FIRST FLOOR CEILING PLAN

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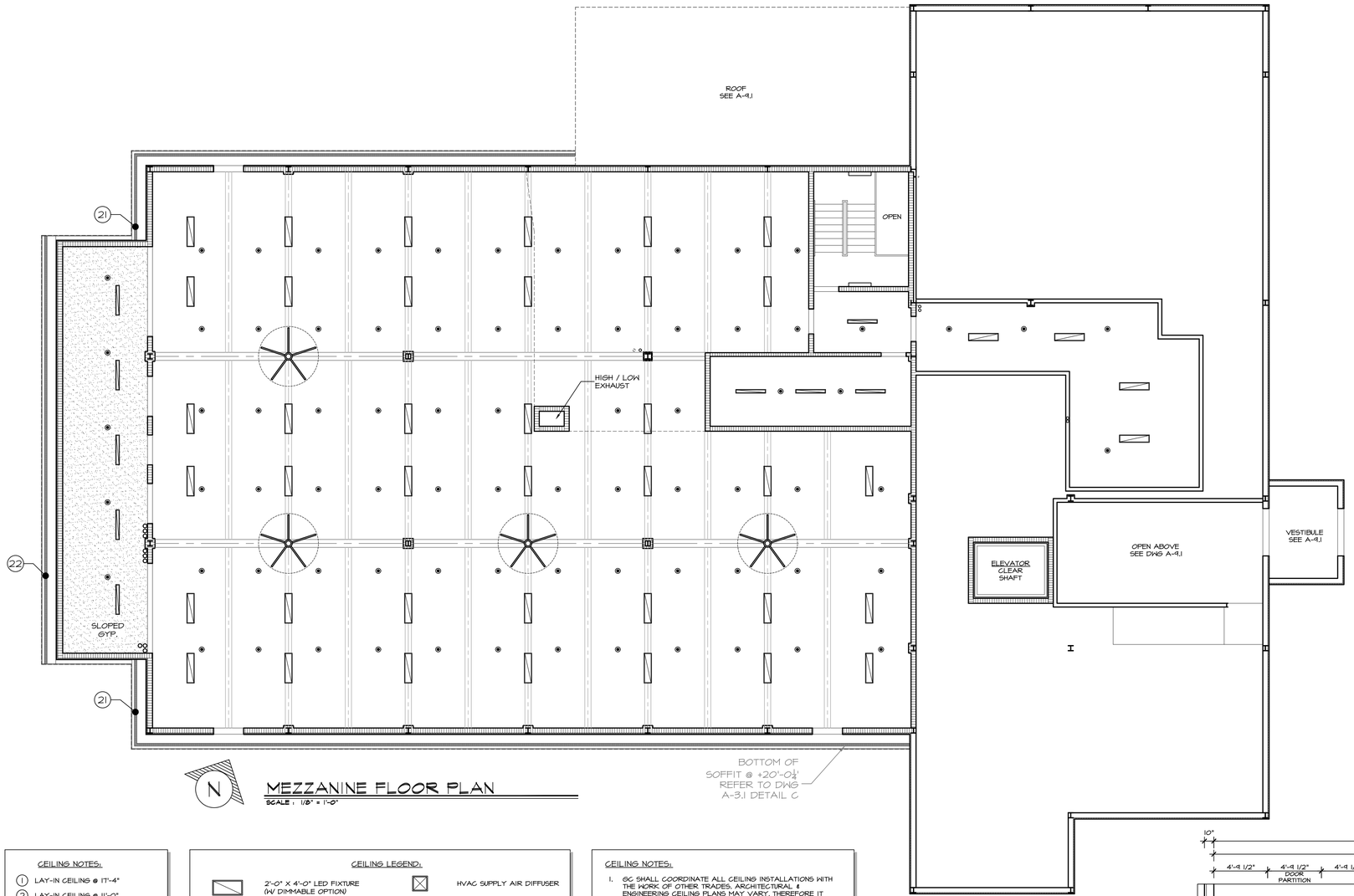
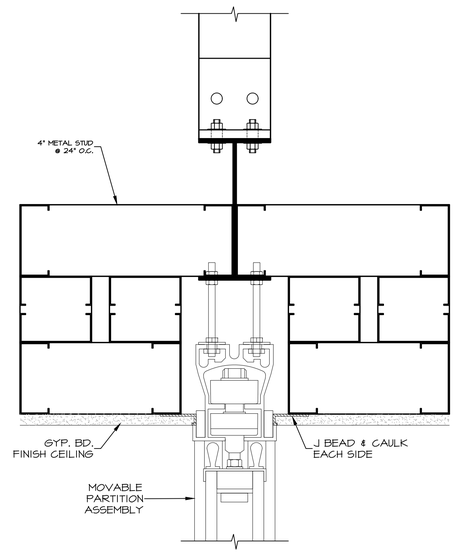
DRAWING:

A-9.1



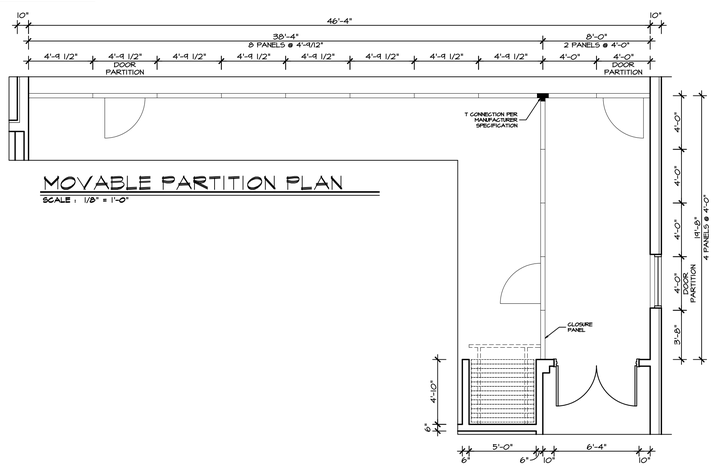
MEZZANINE FLOOR PLAN

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



MOVING PARTITION DETAIL

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



MOVABLE PARTITION PLAN

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

CEILING NOTES:

1. LAY-IN CEILING @ 11'-4"
2. LAY-IN CEILING @ 11'-0"
3. LAY-IN CEILING @ 10'-0"
4. LAY-IN CEILING @ 9'-0"
5. LAY-IN CEILING @ 8'-0"
6. FRAMED SOFFIT @ 16'-10"
7. FRAMED SOFFIT @ 9'-0"
8. FRAMED SOFFIT @ 8'-4"
9. FRAMED SOFFIT @ 8'-0"
10. FRAMED SOFFIT @ 7'-0"
11. FRAMED SOFFIT @ 8'-10"
12. LAY-IN CEILING @ 7'-8"
13. VENTED HARDI SOFFIT @ 12'-0"
14. VENTED HARDI SOFFIT @ 10'-6½"
15. VENTED HARDI SOFFIT @ 10'-0"
16. HARDI PANEL @ 9'-7½"
17. VENTED HARDI SOFFIT @ 12'-4"
18. VENTED HARDI SOFFIT @ 20'-4⅝"
19. LAY-IN CEILING @ 12'-4"
20. FRAMED SOFFIT @ 10'-0"
21. VENTED HARDI SOFFIT @ 20'-0½"
22. VENTED HARDI SOFFIT @ 14'-4"

CEILING LEGEND:

- 2'-0" X 4'-0" LED FIXTURE (W/ DIMMABLE OPTION)
- 1'-0" X 4'-0" SURFACE MOUNTED FIXTURE
- 6" X 8'-0" SURFACE MOUNTED FIXTURE
- 6" X 4'-0" SURFACE MOUNTED FIXTURE
- WALL MOUNTED LED FIXTURE AT STAIR LANDINGS
- 2'-0" X 2'-0" LED FIXTURE (W/ DIMMABLE OPTION)
- LED RECESS HI-HAT
- DECORATIVE PENDANT FIXTURE
- DECORATIVE LIGHT FIXTURE
- EXIT SIGN
- DIRECTIONAL CEILING MOUNTED EXIT SING
- HVAC SUPPLY AIR DIFFUSER
- HVAC RETURN
- LD — LINEAR DIFFUSER
- MODINE UNIT HEATER
- CASSETTE UNIT
- LARGE VOLUME FAN
- GYP BD. CEILING/SOFFIT W/ PAINT FINISH (TYP)
- SMOKE DETECTOR
- FIRE SPRINKLER HEAD
- PROJECTION SCREEN

CEILING NOTES:

1. GC SHALL COORDINATE ALL CEILING INSTALLATIONS WITH THE WORK OF OTHER TRADES, ARCHITECTURAL & ENGINEERING CEILING PLANS MAY VARY, THEREFORE IT SHALL BE THE RESPONSIBILITY OF THE GC TO REFER TO ALL ENGINEERING PLANS AS NEEDED FOR COORDINATION OF CEILING ITEMS.
2. REFER TO FINISH SCHEDULE FOR CEILING TYPE, HEIGHTS & ADDITIONAL NOTES.
3. GC SHALL BE RESPONSIBLE FOR INSTALLED CEILING TILES/GRIDS FOR THE DURATION OF THE PROJECT IN COORDINATION WITH ALL ONGOING TRADES WORK. SHOULD TILES NEED TO BE REMOVED FOR CONTINUED TRADES WORK, IT SHALL BE THE GC RESPONSIBILITY TO REMOVE & PROPERLY STORE TILES UNTIL OTHER TRADES WORK IS COMPLETE.
4. ANY REPLACEMENT OR TOUCH-UP OF DAMAGED CEILING AREAS SHALL BE COMPLETED BY THE GC AT THE END OF THE PUNCH-LIST PHASE AND ONLY WHEN ALL OTHER TRADES/VENDORS ARE COMPLETED WITH ABOVE CEILING WORK.
5. AREAS NOT SHOWN TO RECEIVE LAY-IN OR GYP. BD. CEILINGS SHALL GET PAINT FINISH TYPICAL THROUGHOUT INCLUDING ALL PIPING, DUCTWORK CONDUIT ECT.

DATE	ISSUED
03-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

SENDLEWSKI ARCHITECTS, P.C.
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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. - NYS ROUTE 209
ELLENVILLE, NY 12428

MEZZANINE CEILING PLAN

PROJECT No. 2501

CHECKED BY:

DRAWING:

A-9.2

SECOND FLOOR CEILING PLAN

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

CEILING LEGEND:

- 2'-0" X 4'-0" LED FIXTURE (W/ DIMMABLE OPTION)
- 1'-0" X 4'-0" SURFACE MOUNTED FIXTURE
- 6" X 8'-0" SURFACE MOUNTED FIXTURE
- 6" X 4'-0" SURFACE MOUNTED FIXTURE
- WALL MOUNTED LED FIXTURE AT STAIR LANDINGS
- 2'-0" X 2'-0" LED FIXTURE (W/ DIMMABLE OPTION)
- LED RECESS HI-HAT
- DECORATIVE PENDANT FIXTURE
- DECORATIVE LIGHT FIXTURE
- E — EXIT SIGN
- E — DIRECTIONAL CEILING MOUNTED EXIT SINS
- HVAC SUPPLY AIR DIFFUSER
- HVAC RETURN
- LD — LINEAR DIFFUSER
- MODINE UNIT HEATER
- CASSETTE UNIT
- LARGE VOLUME FAN
- GYP BD. CEILING/SOFFIT W/ PAINT FINISH (TYP)
- SMOKE DETECTOR
- FIRE SPRINKLER HEAD
- PROJECTION SCREEN

CEILING NOTES:

1. LAY-IN CEILING @ 11'-4"
2. LAY-IN CEILING @ 11'-0"
3. LAY-IN CEILING @ 10'-0"
4. LAY-IN CEILING @ 9'-0"
5. LAY-IN CEILING @ 8'-0"
6. FRAMED SOFFIT @ 16'-10"
7. FRAMED SOFFIT @ 9'-0"
8. FRAMED SOFFIT @ 8'-4"
9. FRAMED SOFFIT @ 8'-0"
10. FRAMED SOFFIT @ 7'-0"
11. FRAMED SOFFIT @ 8'-10"
12. LAY-IN CEILING @ 7'-8"
13. VENTED HARDI SOFFIT @ 12'-0"
14. VENTED HARDI SOFFIT @ 10'-6½"
15. VENTED HARDI SOFFIT @ 10'-0"
16. HARDI PANEL @ 9'-7½"
17. VENTED HARDI SOFFIT @ 12'-4"
18. VENTED HARDI SOFFIT @ 20'-4⅝"
19. LAY-IN CEILING @ 12'-4"
20. FRAMED SOFFIT @ 10'-0"
21. VENTED HARDI SOFFIT @ 20'-0¼"
22. VENTED HARDI SOFFIT @ 14'-4"

CEILING NOTES:

1. GC SHALL COORDINATE ALL CEILING INSTALLATIONS WITH THE WORK OF OTHER TRADES. ARCHITECTURAL & ENGINEERING CEILING PLANS MAY VARY, THEREFORE IT SHALL BE THE RESPONSIBILITY OF THE GC TO REFER TO ALL ENGINEERING PLANS AS NEEDED FOR COORDINATION OF CEILING ITEMS.
2. REFER TO FINISH SCHEDULE FOR CEILING TYPE, HEIGHTS & ADDITIONAL NOTES.
3. GC SHALL BE RESPONSIBLE FOR INSTALLED CEILING TILES/GRIDS FOR THE DURATION OF THE PROJECT IN COORDINATION WITH ALL ONGOING TRADES WORK. SHOULD TILES NEED TO BE REMOVED FOR CONTINUED TRADES WORK, IT SHALL BE THE GC RESPONSIBILITY TO REMOVE & PROPERLY STORE TILES UNTIL OTHER TRADES WORK IS COMPLETE.
4. ANY REPLACEMENT OR TOUCH-UP OF DAMAGED CEILING AREAS SHALL BE COMPLETED BY THE GC AT THE END OF THE PUNCH-LIST PHASE AND ONLY WHEN ALL OTHER TRADES/VENDORS ARE COMPLETED WITH ABOVE CEILING WORK
5. AREAS NOT SHOWN TO RECEIVE LAY-IN OR GYP. BD. CEILINGS SHALL GET PAINT FINISH TYPICAL THROUGHOUT INCLUDING ALL PIPING, DUCTWORK CONDUIT ECT.

DATE	ISSUED
09-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

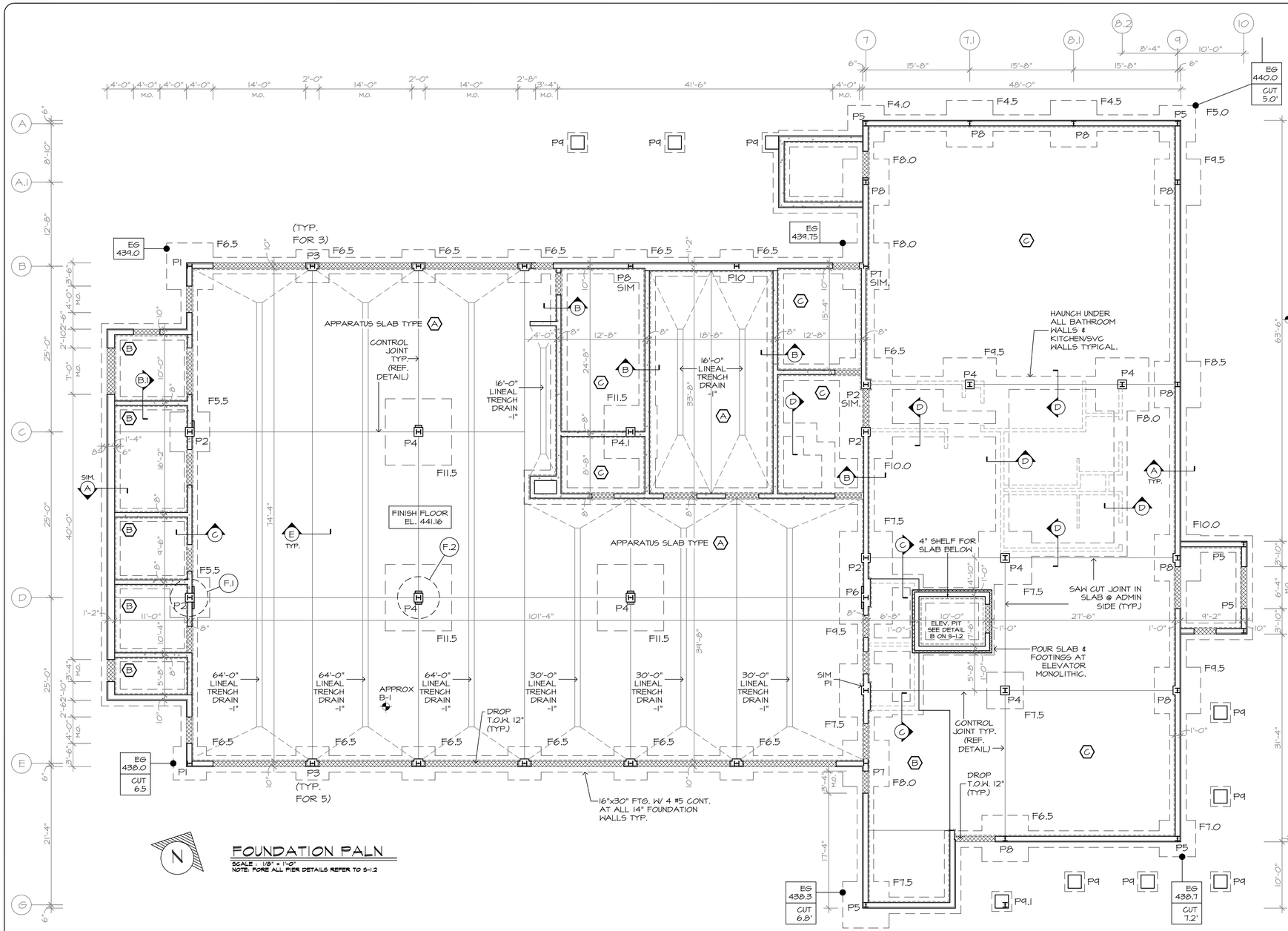
SECOND FLOOR CEILING PLAN

PROJECT No. 2501

CHECKED BY:

DRAWING:

A-9.3



FOUNDATION PALN

SCALE : 1/8" = 1'-0"
NOTE: FORE ALL PIER DETAILS REFER TO S-1.2

EG 438.0 — INDICATES APPROX EXISTING GRADE ELEVATION

CUT 6.0' — INDICATES APPROX CUT & FILL REQUIRED

NOTES:
1. FINISH FLOOR ELEVATION = 441.16 (0'-0" DATUM)
2. BOTTOM FOOTINGS = 431.5 (-9'-8") 1 TON SOIL TYPE SP
3. AVERAGE CUT = 7.5' X 13,924 SQ.FT. / 27 = 3,868 CY INCLUDE REMOVAL OF EXISTING MATERIAL AND CLEAN FILL PLACED IN 12" LIFTS & FULLY COMPACTED

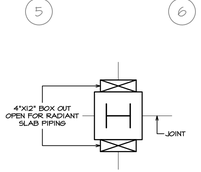
SLAB NOTES: ALL BAY SLABS INCLUDE RADIANT HEAT. COORDINATE INSTALLATION W/ MECHANICAL CONTRACTOR. PROVIDE 2" OWENS CORNING N9X 1,000 RIGID INSULATION UNDER ENTIRE SLAB. BAY SLAB TO POURED IN CHECKER BOARD SEQUENCE (15 TOTAL).

SLAB TYPES:

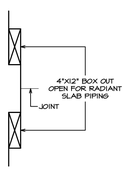
(A) 10" RADIANT CONC. SLAB TO BE 5,000 PSI CONC. W/ #5 @ 8" EA. WAY TOP & BOTTOM ON 6 MIL VAPOR BARRIER, 6" OF ¾" CRUSHED BLUESTONE & SUB BAS @ 95% COMPACTION.

(B) 6" RADIANT CONC. SLAB TO BE 4,000 PSI CONC. W/ 6X6 6/6 WWM ON 6" 3/4" CRUSHED BLUESTONE & SUB BASE @ 95% COMPACTION.

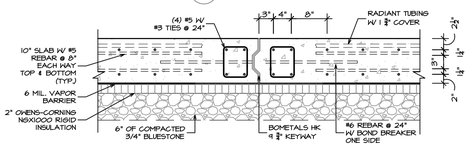
(C) 6" CONC. SLAB TO BE 4,000 PSI CONC. W/ 6X6 6/6 WWM ON 6" 3/4" CRUSHED BLUESTONE & SUB BASE @ 95% COMPACTION.



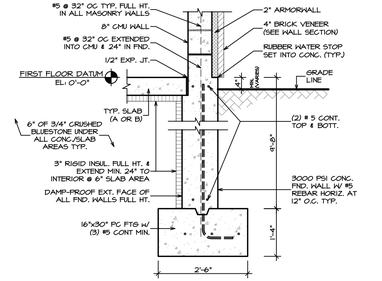
F.2 BOX OUT DETAIL
SCALE : 1/2" = 1'-0"



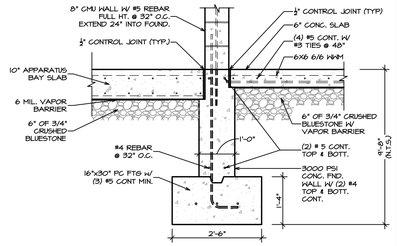
F.1 BOX OUT DETAIL
SCALE : 1/2" = 1'-0"



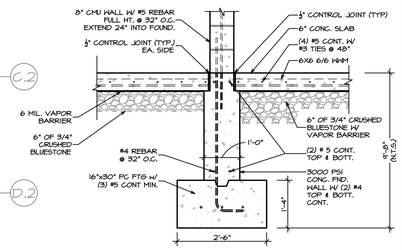
E JOINT DETAIL
SCALE : 3/4" = 1'-0"



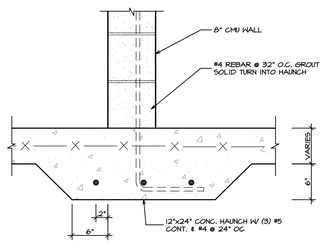
A FOUNDATION DETAIL
SCALE : 1/2" = 1'-0"



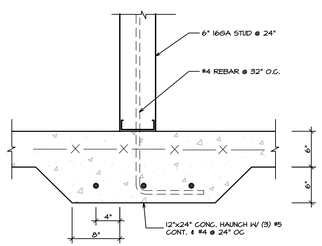
B CMU WALL DETAIL
SCALE : 1/2" = 1'-0"



B.1 CMU WALL DETAIL
SCALE : 1/2" = 1'-0"



C HAUNCH DETAIL
SCALE : 1" = 1'-0"



D HAUNCH DETAIL
SCALE : 1" = 1'-0"

DATE ISSUED

08-17-2026
ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

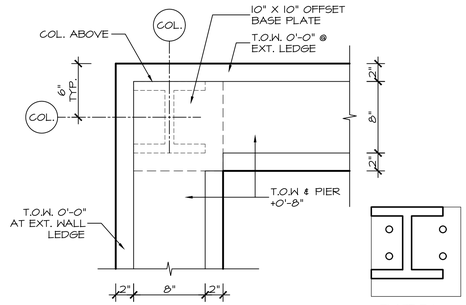
FOUNDATION PLAN

PROJECT No. 2501

CHECKED BY:

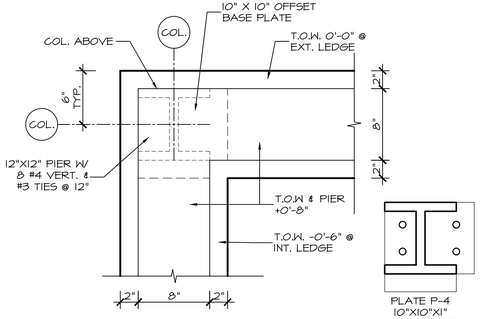
DRAWING:

S-1.1



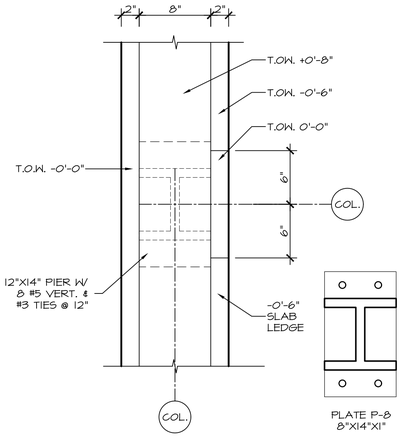
P-1 PIER DETAIL
SCALE : 1-1/2" = 1'-0"

PLATE P-1
10"X10"X$\frac{3}{8}$"



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

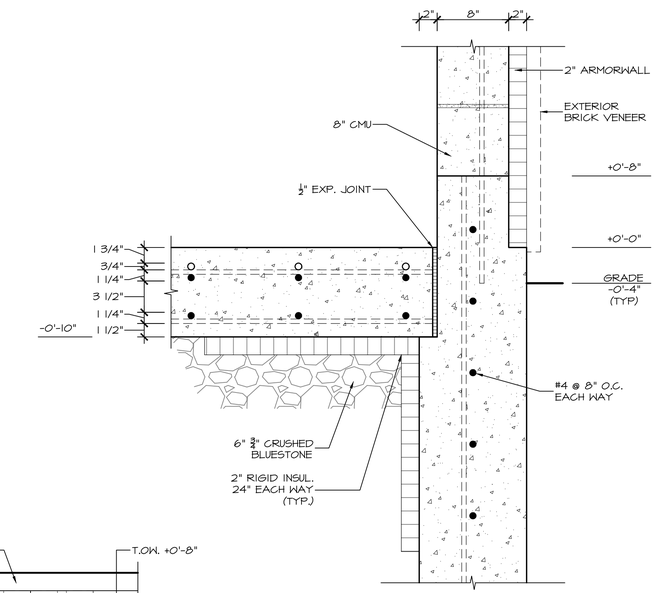
PLATE P-4
10"X10"X1"
(CORNER CUT)



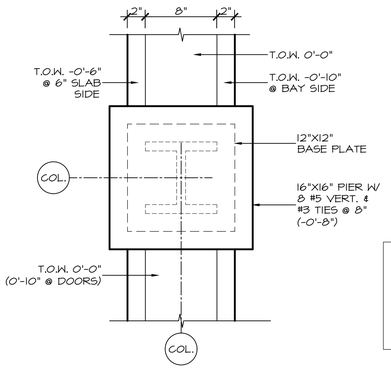
P-8 PIER DETAIL
SCALE : 1-1/2" = 1'-0"

PLATE P-8
8"X14"X1"

NOTE:
ORIENTATION OF COLUMNS (H vs I) MAY VARY.
REFER TO DRAWINGS S-2.1 TO CONFIRM ALL.



A TOP OF WALL & SLAB EDGE DETAIL
SCALE : 1-1/2" = 1'-0"



P-2 PIER DETAIL
SCALE : 1-1/2" = 1'-0"

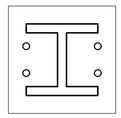
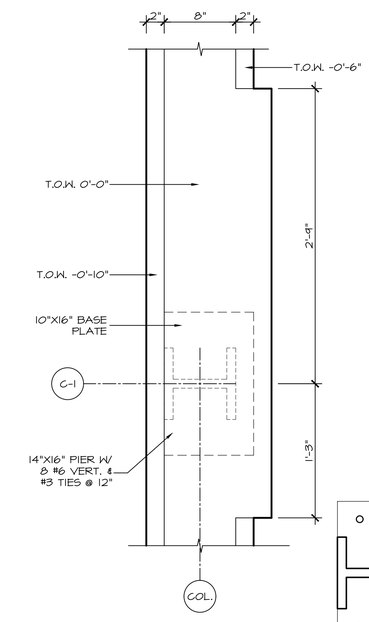


PLATE P-2
12"X12"X$\frac{3}{4}$"



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

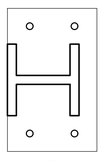
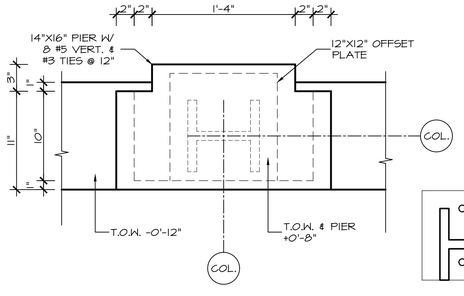


PLATE P-6
10"X16"X1½"



P-3 PIER DETAIL
SCALE : 1-1/2" = 1'-0"

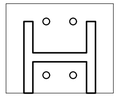
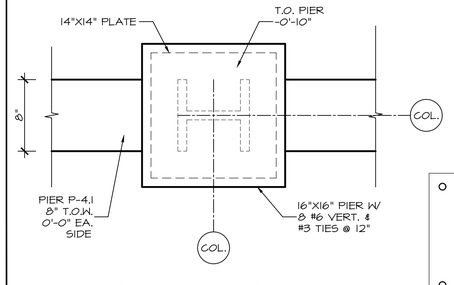


PLATE P-3
10"X13"X$\frac{3}{8}$"



P-4 PIER DETAIL
SCALE : 1-1/2" = 1'-0"

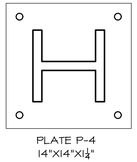
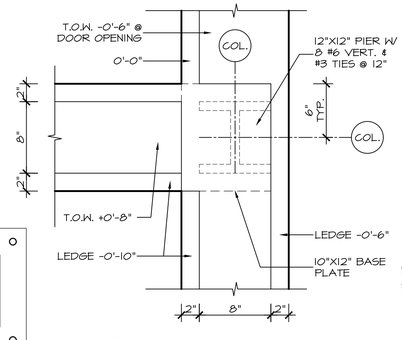


PLATE P-4
14"X14"X1¼"



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

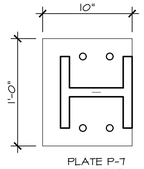
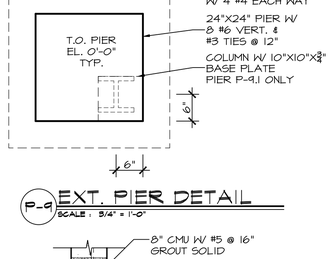
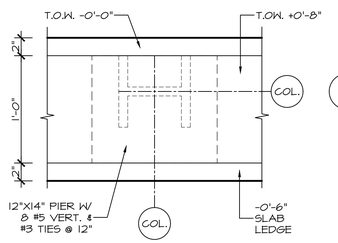


PLATE P-7
10"X12"X1"

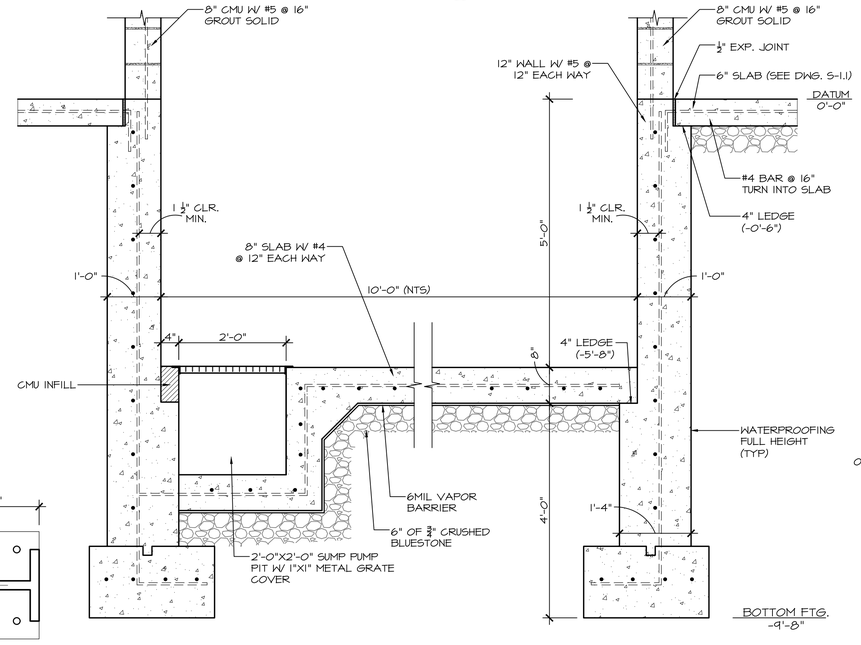


P-9 EXT. PIER DETAIL
SCALE : 3/4" = 1'-0"

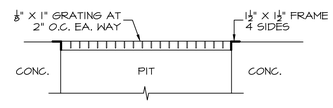


P-10 EXT. PIER DETAIL
SCALE : 1-1/2" = 1'-0"

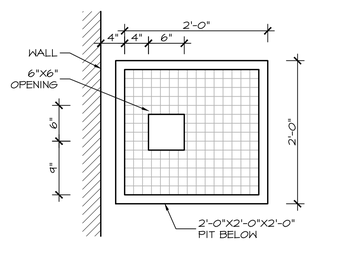
FOOTING SCHEDULE		
MARK	SIZE	REINF (EA. WAY)
F3.0	3'-0" X 3'-0" X 1'-0"	4-#5
F5.0	5'-0" X 5'-0" X 1'-2"	6-#6
F5.5	5'-6" X 5'-6" X 1'-2"	6-#7
F6.0	6'-0" X 6'-0" X 1'-4"	8-#7
F6.5	6'-5" X 6'-5" X 1'-4"	8-#7
F7.0	7'-0" X 7'-0" X 1'-6"	10-#7
F7.5	7'-6" X 7'-6" X 1'-8"	8-#8
F8.0	8'-0" X 8'-0" X 1'-10"	9-#9
F8.5	8'-6" X 8'-6" X 1'-10"	8-#8
F9.0	9'-0" X 9'-0" X 2'-0"	11-#9
F9.5	9'-6" X 9'-6" X 2'-0"	12-#9
F10.5	10'-6" X 10'-6" X 2'-2"	10-#10
F11.0	11'-0" X 11'-0" X 2'-4"	11-#10



B ELEVATOR WALL DETAIL
SCALE : 3/4" = 1'-0"



C.2 PIT GRATE SECTION
SCALE : 1" = 1'-0"



C.1 PIT GRATE DETAIL
SCALE : 1" = 1'-0"

DATE	ISSUED
03-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

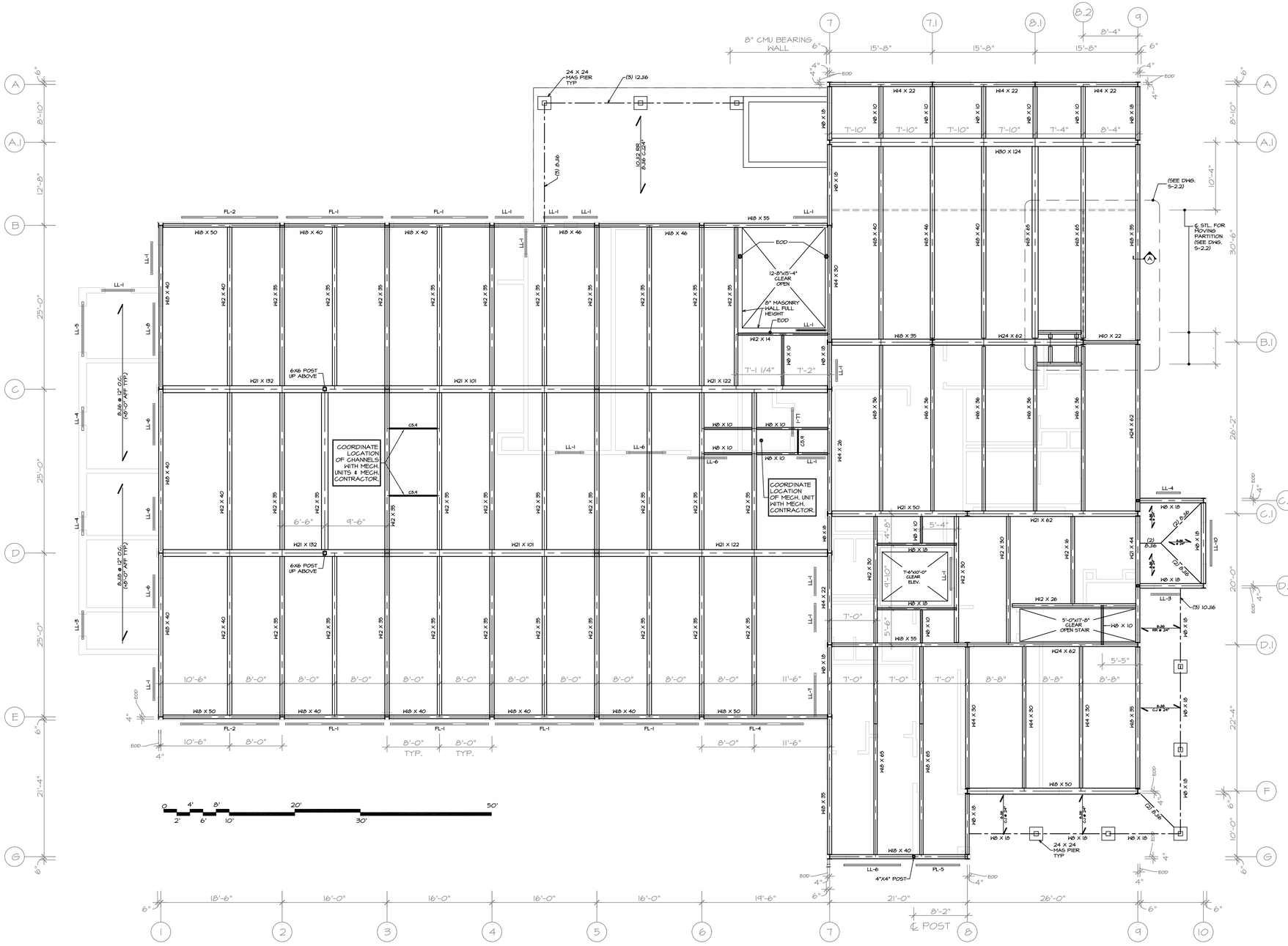
FOUNDATION PIER DETAILS

PROJECT No. 2501

CHECKED BY:

DRAWING:

S-1.2

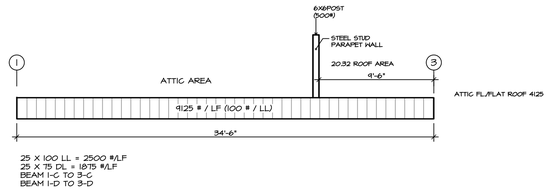


SECOND FLOOR STRUCTURAL PLAN

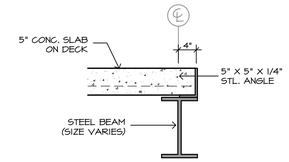
SCALE : 1/8" = 1'-0"

DESIGN LOADS = 100 #/S.F. LIVE
75 #/S.F. DEAD
175#/S.F. TOTAL

NOTES:
1. TOP OF STEEL +18'-3" UNLESS NOTED OTHERWISE USING +18'-3" ,AS REFERENCE.
2. MARINO JOISTS ARE REFERENCED FROM 0'-0" 1ST FLOOR (DATUM EL.)
3. EOD INDICATES OUTSIDE EDGE OF 5" ANGLE AND EDGE OF DECK 4" FROM ℄ COL. TYPICAL.



25 X 100 LL = 2500 #/LF
25 X 75 DL = 1875 #/LF
BEAM 1-C TO 3-C
BEAM 1-D TO 3-D

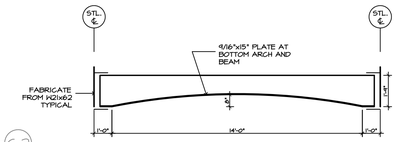


A SLAB EDGE DETAILS (EOD)

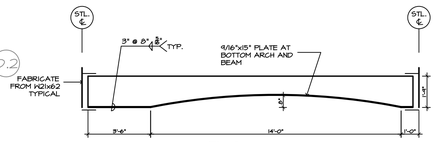
SCALE : 3/4" = 1'-0"

LINTEL SCHEDULE	
LL-1	(2) 3½X3½X⅜ X 5'-0" LONG
LL-2	(2) 3½X3½X⅜ X VFY. WINDOW +16"
LL-3	(3) 3½X3½X⅜ X 4'-4" LONG
LL-4	(3) 3½X3½X⅜ X 3'-8" LONG
LL-5	(3) 5½X3½X⅜ X 8'-4" LONG
LL-6	(2) 3½X3½X⅜ X 6'-4" LONG
LL-7	(2) 3½X3½X⅜ X 6'-8" LONG
LL-8	(2) 3½X3½X⅜ X 8'-4" LONG

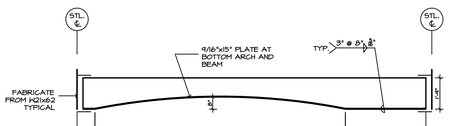
NOTE: LOOSE LINTELS ARE SHOWN ADJACENT TO REVEAL OPENING FOR CLEARING WHERE GRAPHICALLY IN CONFLICT WITH STEEL ABOVE.



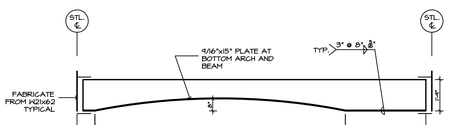
FL-1



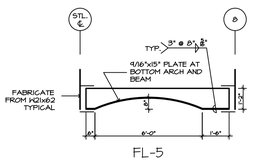
FL-2



FL-3



FL-4



FL-5

FRAMED LINTEL DETAILS

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

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
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ELLENVILLE, NY 12428

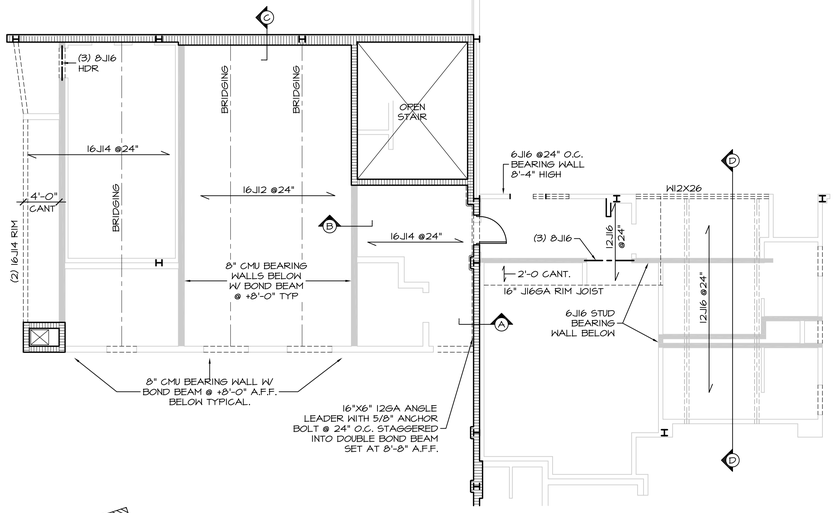
FIRST FLOOR STRUCTURAL PLAN

PROJECT No. 2501

CHECKED BY:

DRAWING:

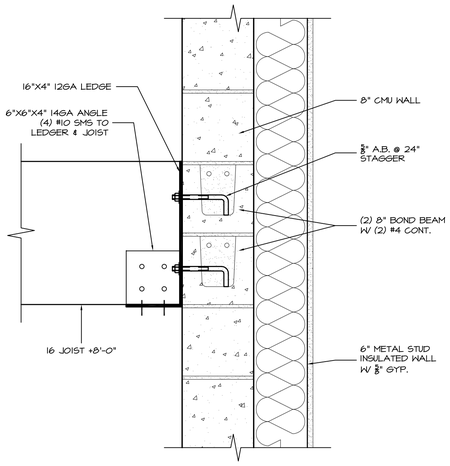
S-2.1



N

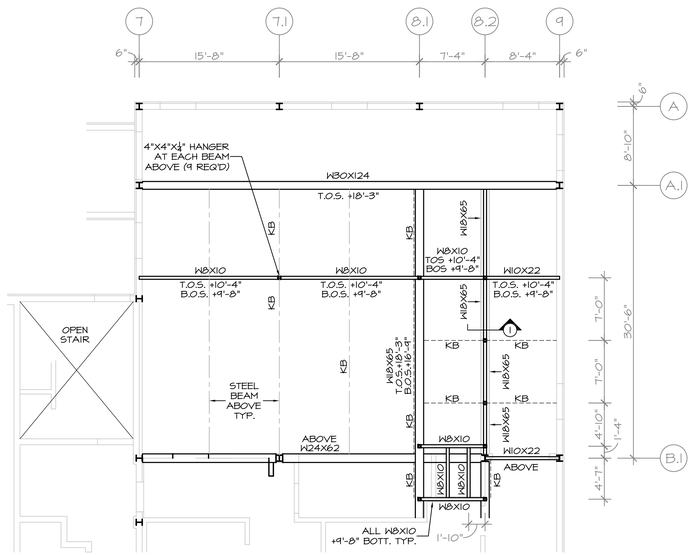
MEZZANINE STRUCTURAL STEEL PLAN

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



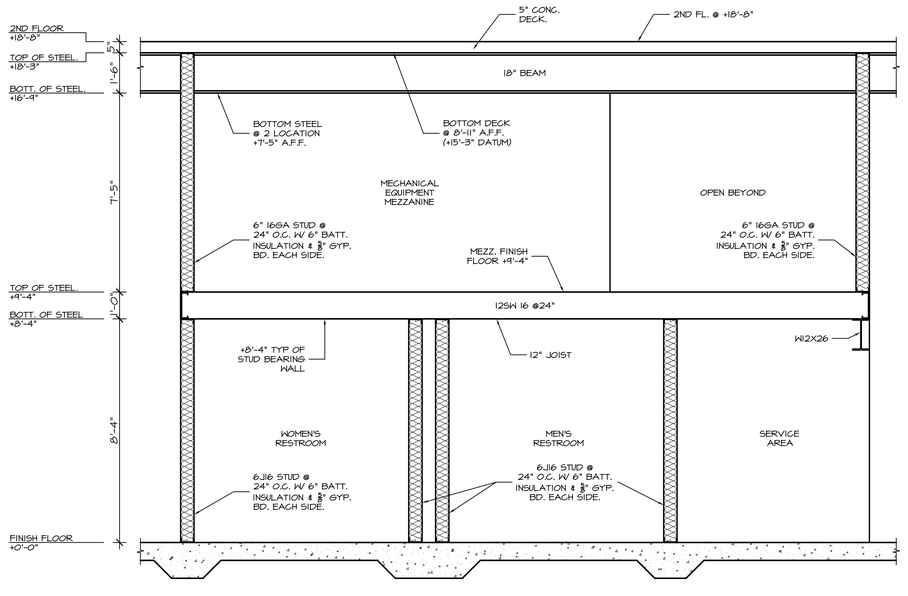
A WALL SECTION

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



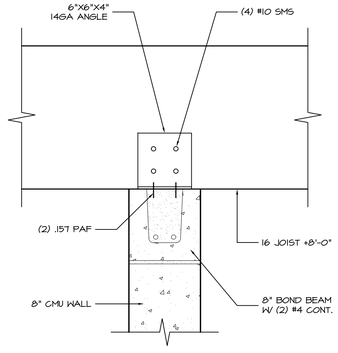
PARTITION STRUCTURAL STEEL PLAN

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



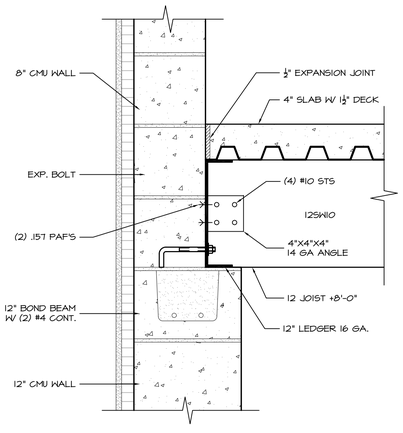
D MEZZANINE SECTION

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



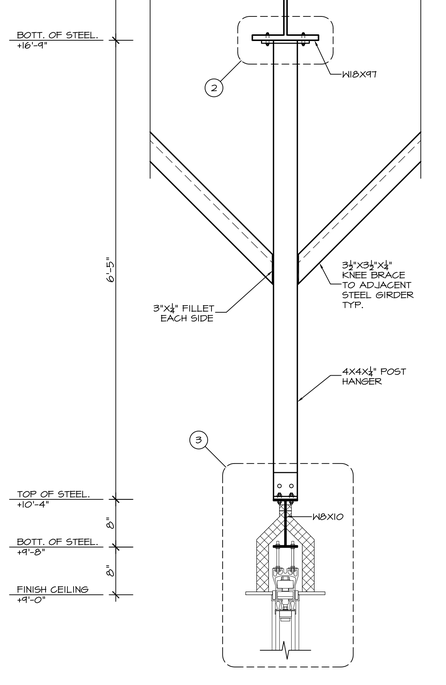
B WALL SECTION

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



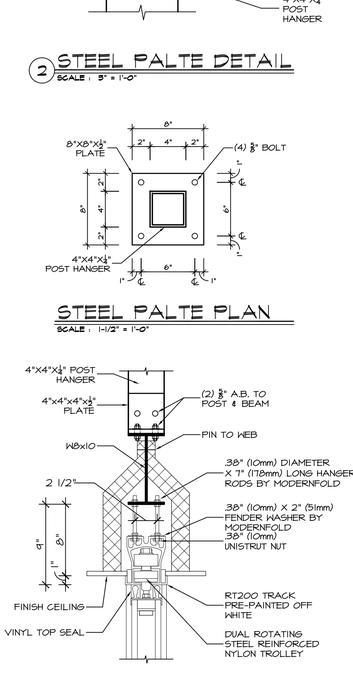
C WALL SECTION

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



1 PARTITION HANGER DETAIL

SCALE : 1" = 1'-0"



2 STEEL PALTE DETAIL

SCALE : 3" = 1'-0"

STEEL PALTE PLAN

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

3 PARTITION DETAIL

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

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ELLENVILLE, NY 12428

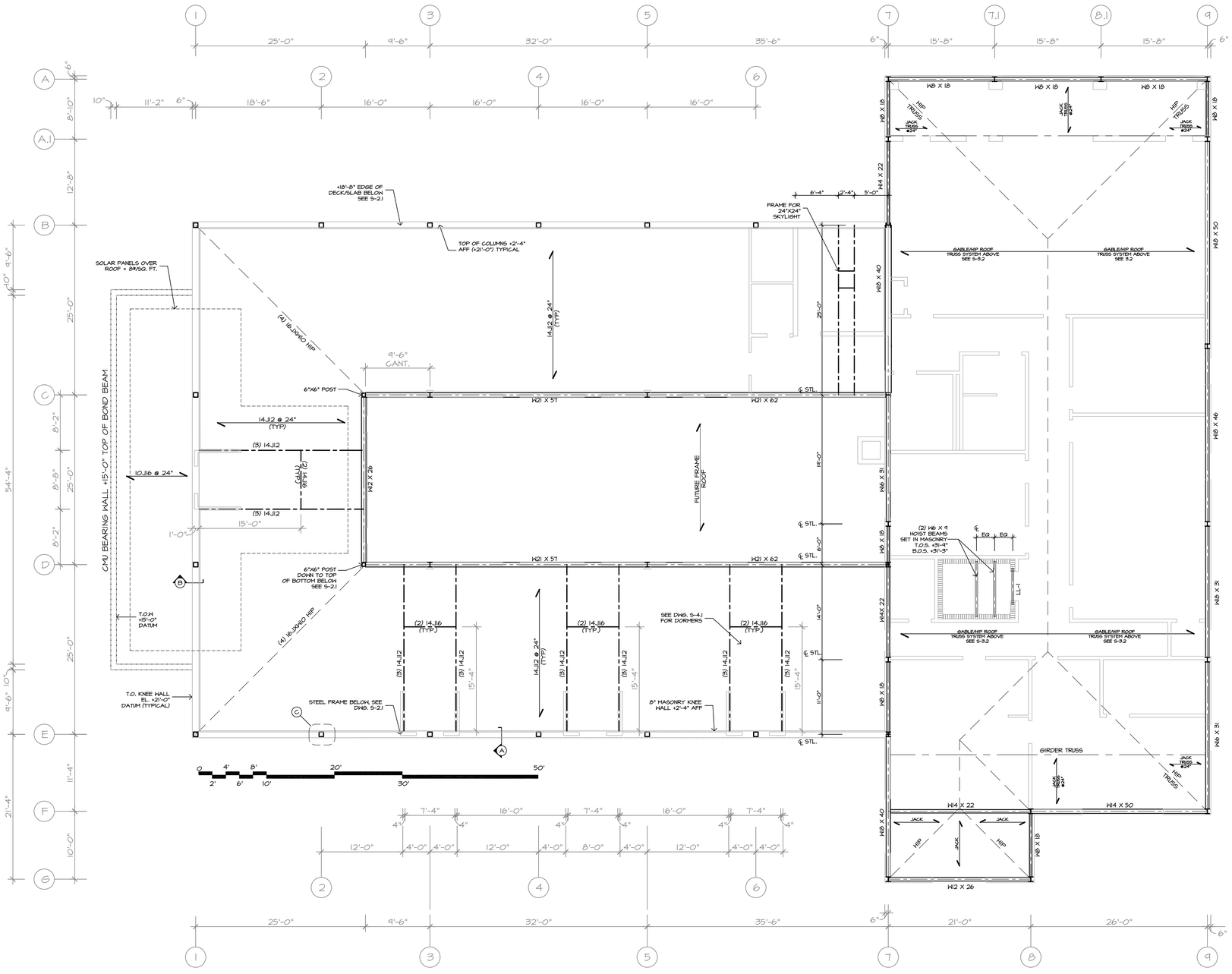
MEZZANINE / PARTITION STRUCTURAL STEEL PLAN

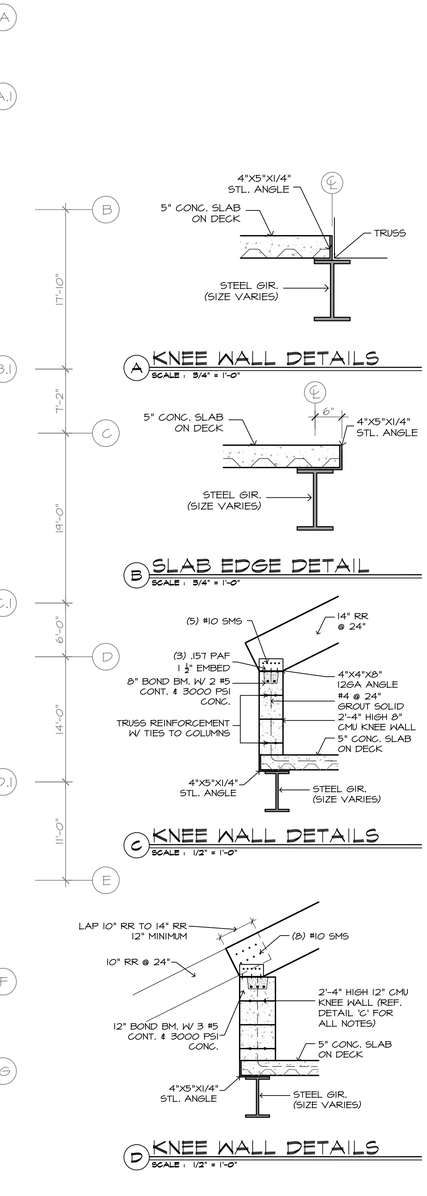
PROJECT No. 2501

CHECKED BY:

DRAWING:

S-2.2





A KNEE WALL DETAILS
SCALE : 3/4" = 1'-0"

B SLAB EDGE DETAIL
SCALE : 3/4" = 1'-0"

C KNEE WALL DETAILS
SCALE : 1/2" = 1'-0"

D KNEE WALL DETAILS
SCALE : 1/2" = 1'-0"

N

ROOF / ATTIC ROOF STRUCTURAL STEEL PLAN
SCALE : 1/8" = 1'-0"

NOTES:
T.O.S +32'-0" UNLESS NOTED OTHERWISE USING 32'-0" AS REFERENCE

EOD = OUTSIDE EDGE OF DECK

ROOF TRUSS NOTES

ROOF TRUSS SHALL BE DESIGNED IN ACCORDANCE WITH THE FOLLOWING CRITERIA.

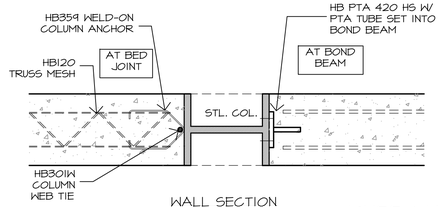
1. LOADING:

TOP CHORD LIVE LOAD	= 60 PSF
TOP CHORD DEAD LOAD	= 15 PSF
BOTTOM CHORD DEAD LOAD	= 5 PSF
TOTAL	= 80 PSF

2. MAXIMUM LIVE LOAD DEFLECTION SHALL BE LIMITED TO SPAN LENGTH DIVIDED BY 240.

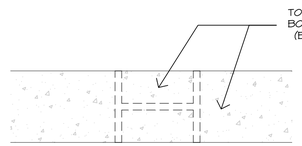
3. PROVIDE ALL TEMPORARY AND PERMANENT LATERAL BRACING AS REQUIRED TO MAINTAIN STRUCTURAL INTEGRITY.

4. SHOP DRAWINGS PREPARED AND SEALED BY A N.Y.S LICENSED ENGINEER SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS SHALL SHOW MEMBER FORCES, LUMBER GRADES, AND ALL DETAILS OF CONNECTIONS.



WALL SECTION

E KNEE WALL DETAILS
SCALE : 1-1/2" = 1'-0"



WALL TOP

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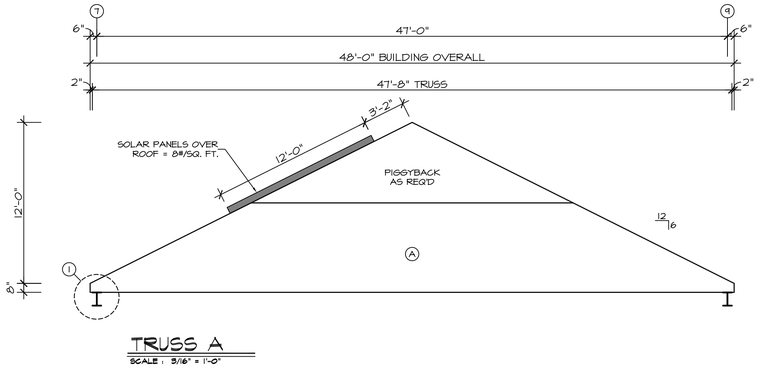
ROOF/ATTIC STRUCTURAL STEEL PLAN

PROJECT No. 2501

CHECKED BY:

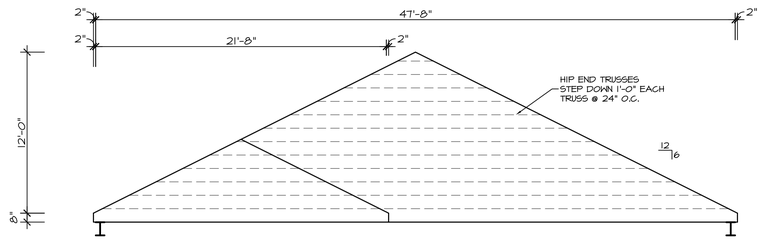
DRAWING:

S-3.1



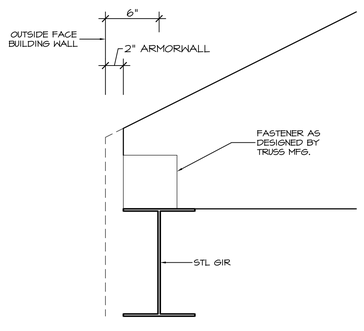
TRUSS A

SCALE : 3/16" = 1'-0"



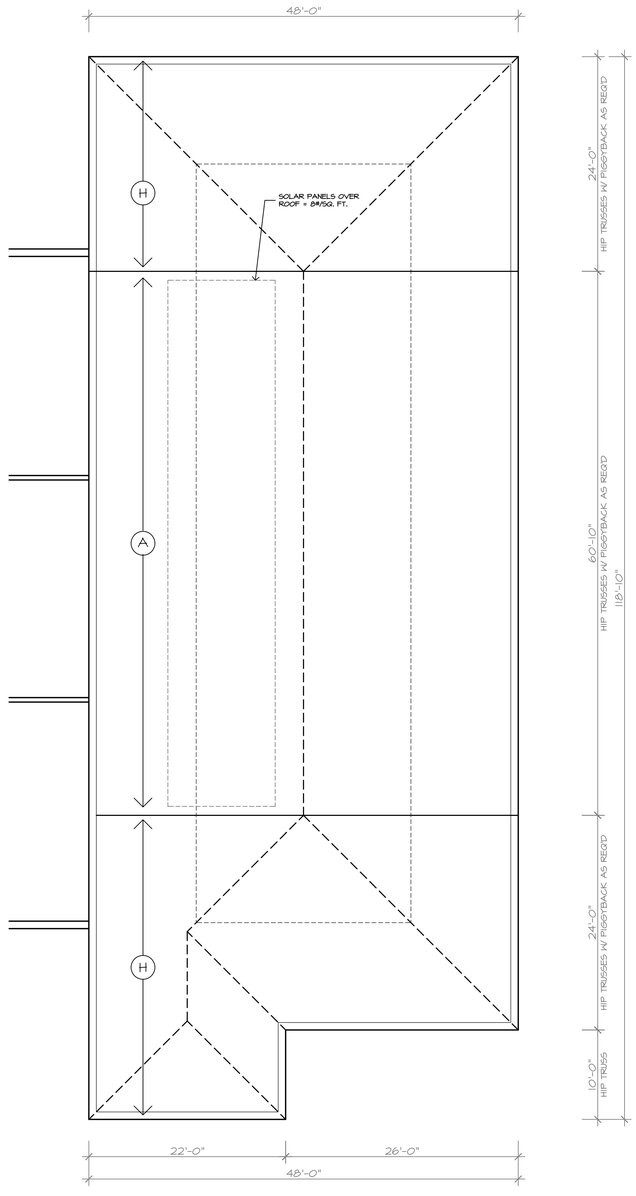
TRUSS H

SCALE : 3/16" = 1'-0"



1 FRAMING DETAIL

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



N ROOF FRAMING PLAN

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

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ROOF FRAMING / ATTIC PLAN

PROJECT No. 2501

CHECKED BY:

DRAWING:

S-3.2

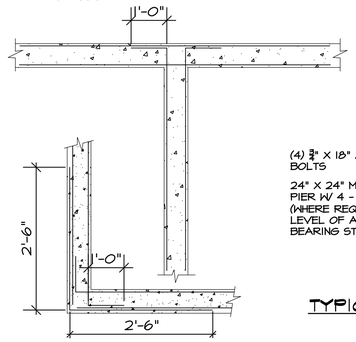
COLUMN SCHEDULE

*ALL COLUMNS 50 KSI UNLESS NOTED OTHERWISE

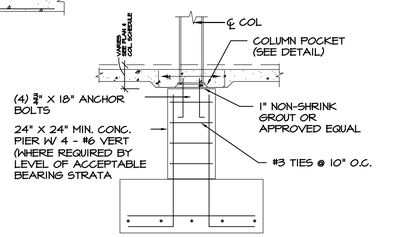
COL. NO. / TIER	1-B	1-C	1-D	1-E	2-B	2-E	3-B	3-C	3-D	3-E	4-B	4-E	5-B	5-C	5-D	5-E	6-B	6-E	7-A	7-A.1	7-B	7-B.1	7-C	7-C.1	7-D	7-D.2	7-E	7-G	7.1-A	7.1-B.1	8-C.1	8-D.2	8-F	8-G	8.1-A	8.2-B.1	9-A	9-A.1	9-B.1	9-C.1	9-D.1	9-F	10-C.2	10-D.2
TOP OF STEEL +32'-0"								BM	BM																																			
TOP OF STL. +21'-0"																																												
2ND. FLR. +18'-8"																																												
TOP OF STL. +18'-3"																																												
IST. FL. +0'-0" (DATUM)																																												
BOTT. OF STL. -0'-7"																																												
BASE PLATE (SEE S-1.2)	P1	P2	P2	P1	P3	P3	P3	P4	P4	P3	P3	P3	P3	P4	P4	P3	P3	P3	P5	P8	P7	P2	P2	P2	P6	P6	P7	P5	P8	P4	P4	P4	P8	P5 SIM	P8	P4	P5	P8	P8	P8	P8	P5		
TOP OF STL. +21'-4"																																											

*BOTTOM ELEV. OF ALL COLUMN ELEVATIONS RELATIVE TO DATUM ALLOWS FOR 1" NON-SHRINK GROUT UNDER PLATE.

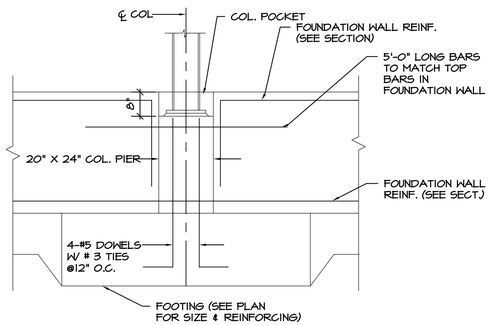
WELDED MASONRY ANCHORS ON ALL COLUMNS ABUTTING MASONRY (HB 359) SHALL BE FULL HEIGHT TYPICAL. COORDINATE W/ MASON & TIE MANUFACTURER FOR REQUIRED & CORRECT ANCHOR TIE INSTALLS.



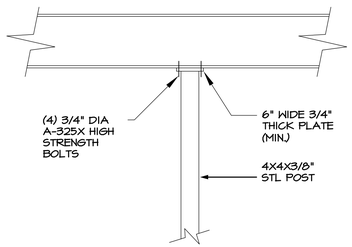
CORNER DETAILS-REINFORCED CONCRETE WALLS



TYPICAL INTERIOR COLUMN FOOTING



TYPICAL DETAIL @ EXTERIOR COLUMN FOOTING

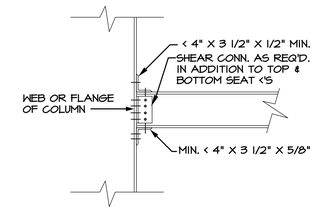


DETAIL @ COL C-3 & D-3 BEAM OVER TOP OF COLUMN

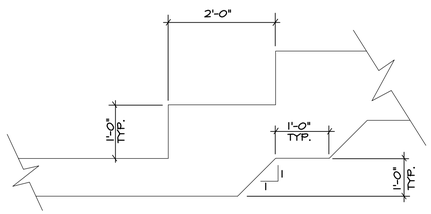
(SEE S-3.1 FOR LOCATION)

MOMENT CONNECTION SCHEDULE

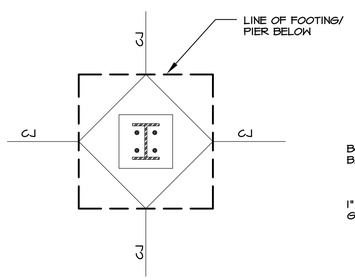
MARK	PLATE SIZE	# OF A-325X BOLTS
A	0"X6"X3/8"	4
B	0"X6"X3/8"	4
C	0"X5"X3/8"	2



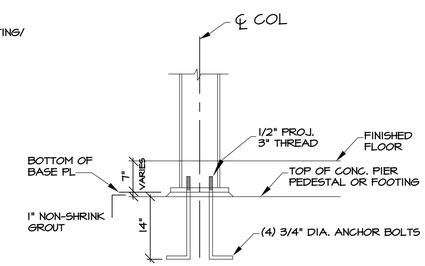
TYPICAL COLUMN CONNECTION TO FLANGE OR WEB



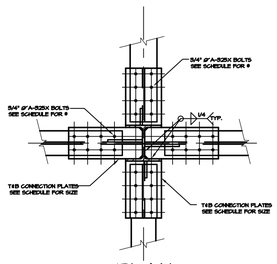
TYPICAL STEP FOOTING DETAIL



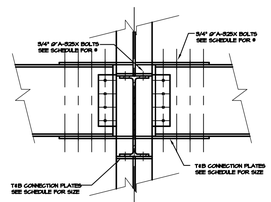
COLUMN POCKET DETAIL



TYPICAL ANCHOR BOLT DETAIL



PLAN



SECTION

MOMENT CONNECTION DETAILS

(COLUMNS 2-E, 3-E, 4-E, 5-E & 6-E)

DATE ISSUED

09-17-2026
ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

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203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

COLUMN SCHEDULE & FRAMING DETAILS

PROJECT No. 2501

CHECKED BY:

DRAWING:

S-4.0

CHAPTER 19 - CONCRETE

1901 - GENERAL

1901.2 PLAIN AND REINFORCED CONCRETE
STRUCTURAL CONCRETE SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS CHAPTER AND ACI 318 AS AMENDED IN SECTION 1905 OF THIS CODE. EXCEPT FOR THE PROVISIONS OF SECTIONS 1904 AND 1907, THE DESIGN AND CONSTRUCTION OF SLABS ON GRADE SHALL NOT BE GOVERNED BY THIS CHAPTER UNLESS THEY TRANSMIT VERTICAL LOADS OR LATERAL FORCES FROM OTHER PARTS OF THE STRUCTURE TO THE SOIL.

1901.3 ANCHORING TO CONCRETE
ANCHORING TO CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318 AS AMENDED IN SECTION 1905, AND APPLIES TO CAST-IN (HEADED BOLTS, HEADED STUDS AND HOOKED J- OR L-BOLTS), POST-INSTALLED EXPANSION)TORQUE-CONTROLLED AND DISPLACEMENT-CONTROLLED), UNDERCUT AND ADHESIVE ANCHORS.

1901.4 COMPOSITE STRUCTURAL STEEL AND CONCRETE STRUCTURES
SYSTEMS OF STRUCTURAL STEEL ACTING COMPOSITELY WITH REINFORCED CONCRETE SHALL BE DESIGNED IN ACCORDANCE WITH SECTION 2206 OF THIS CODE.

1901.5 CONSTRUCTION DOCUMENTS
THE CONSTRUCTION DOCUMENTS FOR STRUCTURAL CONCRETE CONSTRUCTION SHALL INCLUDE:

1. THE SPECIFIED COMPRESSIVE STRENGTH OF CONCRETE AT THE STATED AGES OR STAGES OF CONSTRUCTION FOR WHICH EACH CONCRETE ELEMENT IS DESIGNED.
2. THE SPECIFIED STRENGTH OR GRADE OF REINFORCEMENT
3. THE SIZE AND LOCATION OF STRUCTURAL ELEMENTS, REINFORCEMENT AND ANCHORS.
4. PROVISION FOR DIMENSIONAL CHANGES RESULTING FROM CREEP, SHRINKAGE AND TEMPERATURE.
5. THE MAGNITUDE AND LOCATION OF PRESTRESSING FORCES.
6. ANCHORAGE LENGTH OF REINFORCEMENT AND LOCATION AND LENGTH OF LAP SPLICES.
7. TYPE AND LOCATION OF MECHANICAL AND WELDED SPLICES OF REINFORCEMENT.
8. DETAILS AND LOCATION OF CONTRACTION OR ISOLATION JOISTS SPECIFIED FOR PLAIN CONCRETE.
9. MINIMUM CONCRETE COMPRESSIVE STRENGTH AT TIME OF POSTTENSIONING.
10. STRESSING SEQUENCE FOR POSTTENSIONING TENDONS.
11. FOR STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY D, E OR F, A STATEMENT IF SLAB ON GRADE IS DESIGNED AS A STRUCTURAL DIAPHRAGM.

1901.6 SPECIAL INSPECTIONS AND TESTS
SPECIAL INSPECTIONS AND TESTS OF CONCRETE ELEMENTS OF BUILDINGS AND STRUCTURES AND CONCRETING OPERATIONS SHALL BE AS REQUIRED BY CHAPTER 17.

1903 SPECIFICATIONS FOR TESTS AND MATERIALS

1903.1 GENERAL
MATERIALS USED TO PRODUCE CONCRETE, CONCRETE ITSELF AND TESTING THEREOF SHALL COMPLY WITH THE APPLICABLE STANDARDS LISTED IN ACI 318.

1903.2 SPECIAL INSPECTIONS
WHERE REQUIRED, SPECIAL INSPECTIONS AND TESTS SHALL BE IN ACCORDANCE WITH CHAPTER 17.

1904 DURABILITY REQUIRMENTS

1904.1 STRUCTURAL CONCRETE
STRUCTURAL CONCRETE SHALL CONFORM TO THE DURABILITY REQUIREMENTS OF ACI 318.

1904.2 NONSTRUCTURAL CONCRETE
THE REGISTERED DEISIGN PROFESSIONAL SHALL ASSIGN NONSTRUCTURAL CONCRETE A FREEZE-THAW EXPOSURE CLASS, AS DEFINED IN ACI 318, BASED ON THE ANTICIPATED EXPOSURE OF NONSTRUCTURAL CONCRETE. NONSTRUCTURAL CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH, Fc OF 2500 PSI (17.2 MPa) FOR CLASS F0; 3,000 PSI (20.7 MPa) FOR CLASS F1; AND 3500 PSI (24.1 MPa) FOR CLASSES F2 AND F3. NONSTRUCTURAL CONCRETE SHALL BE AIR ENTRAINED IN ACCORDANCE WITH ACI 318.

1905 MODIFICATIONS TO ACI 318

1905.1 GENERAL
THE TEXT OF ACI 318 SHALL BE MODIFIED AS INDICATED IN SECTIONS 1905.1. THROUGH 1905.7

REFER TO APPLICABLE CODE SECTIONS IN NYSBC CHAPTER 19 FOR MODIFICATIONS

1907 MINIMUM SLAB PROVISIONS
THE THICKNESS OF CONCRETE FLOOR SLABS SUPPORTED DIRECTLY ON THE GROUND SHALL BE NOT LESS THAN 3-1/2 INCHES (89 MM). A 6-MIL (0.006 INCH; 0.15 MM) POLYETHYLENE VAPOR RETARDER WITH JOISTS LAPPED NOT LESS THAN 6 INCHES (152 MM) SHALL BE PLACED BETWEEN THE BASE OR SUBGRADE AND THE CONCRETE FLOOR SLAB, OR OTHER APPROVED EQUIVALENT METHODS OR MATERIALS SHALL BE USED TO RETARD VAPOR TRANSMISSION THROUGH THE FLOOR SLAB.

CHAPTER 21 - MASONRY

SECTION 2101 - GENERAL

2101.1 SCOPE
THIS CHAPTER SHALL GOVERN THE MATERIAL, DESIGN, CONSTRUCTION AND QUALITY OF MASONRY

2101.2 DESIGN METHODS
MASONRY SHALL COMPLY WITH THE PROVISIONS OF TMS 402, TMS 403, OR TMS 404 AS WELL AS APPLICABLE REQUIREMENTS OF THIS CHAPTER.

2101.3 SPECIAL INSPECTION
THE SPECIAL INSPECTION OF MASONRY SHALL BE AS DEFINED IN CHAPTER 17, OR AN ITEMIZED TESTING AND INSPECTION PROGRAM SHALL BE PROVIDED THAT MEETS OR EXCEEDS THE REQUIREMENTS OF CHAPTER 17.

SECTION 2103 - MASONRY CONSTRUCTION MATERIALS

2103.1 MASONRY UNITS
CONCRETE UNITS, CLAY OR SHALE MASONRY UNITS, STONE MASONRY UNITS, GLASS UNIT MASONRY AND AAC MASONRY UNITS SHALL COMPLY WITH ARTICLE 2.3 OF TMS 602. ARCHITECTURAL CAST STONE SHALL CONFORM TO ASTM C1364 AND TMS 504. ADHERED MANUFACTURED STONE MASONRY VENEER UNITS SHALL CONFORM TO ASTM C1670.

2103.2 MORTAR
MORTAR FOR MASONRY CONSTRUCTION SHALL COMPLY WITH SECTION 2103.2.1, 2103.2.2, 2103.2.3 OR 2103.2.4.

2103.2.1 MASONRY MORTAR
MORTAR FOR USE IN MASONRY CONSTRUCTION SHALL CONFORM TO ARTICLES 2.1 AND 2.6 A OF TMS 602.

2103.2.2 SURFACE-BONDING MORTAR
SURFACE-BONDING MORTAR SHALL COMPLY WITH ASTM C887. SURFACE BONDING OF CONCRETE MASONRY UNITS SHALL COMPLY WITH ASTM C946..

213.2.3 MORTARS FOR CERAMIC WALL AND FLOOR TILE
PORTLAND CEMENT MORTARS FOR INSTALLING CERAMIC WALL AND FLOOR TILE SHALL COMPLY WITH ANSI A108.1A AND ANSSI A108.1B AND BE OF THE COMPOSITIONS INDICATED IN TABLE 2103.2.3.

SECTION 2104 CONSTRUCTION

2104.1 MASONRY CONSTRUCTION
MASONRY CONSTRUCTION SHALL COMPLY WITH THE REQUIREMENTS OF SECTIONS 2104.1.1 THROUGH 2104.1.3 AND WITH THE REQUIREMENTS OF EITHER TMS 602 OR TMS 604.

SECTION 2105 QUALITY ASSURANCE

2105.1 GENERAL
A QUALITY ASSURANCE PROGRAM SHALL BE USED TO ENSURE THAT THE CONSTRUCTED MASONRY IS IN COMPLIANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

THE QUALITY ASSURANCE PROGRAM SHALL COMPLY WITH THE INSPECTION AND TESTING REQUIREMENTS OF CHAPTER 17 AND TMS 602.

SECTION 2106 SEISMIC DESIGN

2106.1 SEISMIC DESIGN REQUIREMENTS FOR MASONRY
MASONRY STRUCTURES AND COMPONENTS SHALL COMPLY WITH THE REQUIREMENTS IN CHAPTER 7 OF TMS 402 DEPENDING ON THE STRUCTURE'S SEISMIC DESIGN CATEGORY.

SECTION 2107 ALLOWABLE STRESS DESIGN

2107.1 GENERAL
THE DESIGN OF MASONRY STRUCTURES USING ALLOWABLE STRESS DESIGN SHALL COMPLY WITH SECTION 2106 AND THE REQUIREMENTS OF CHAPTERS 1 THROUGH 8 OF TMS 402 EXCEPT AS MODIFIED BY SECTIONS 2107.2 THROUGH 2107.3.

CHAPTER 22 - STEEL

2201 - GENERAL

1. THE IDENTIFICATION PROTECTION CONNECT AND ANCHOR RODS SHALL BE IN ACCORDANCE WITH SECTIONS 2201.1 THROUGH 2201.5.

2202 - STRUCTURAL STEEL

1. THE DESIGN, FABRICATION & ERECTION OF STRUCTURAL STEEL ELEMENTS SHALL BE IN ACCORDANCE WITH SECTIONS 2202.1 THROUGH 2202.2.2.

2206 - COLD FORMED STEEL LIGHT FRAME CONSTRUCTION

1. THE DESIGN AND INSTALLATION OF COLD FORMED LIGHT STEEL CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTIONS 2206.1 THROUGH 2206.3.

2208 - STEEL DECK

1. THE DESIGN AND CONSTRUCTION OF COLD FORMED STEEL FLOOR AND ROOF DECKS AND COMPOSITE SLABS OF CONCRETE AND STEEL DECKS SHALL BE IN ACCORDANCE WITH 'S DI SD'.

ELLENVILLE FD - DESIGN CRITERIA:

DESIGN LOADS:

- GROUND SNOW LOAD = 50 PSF
- SNOW LOAD IMPORTANCE FACTOR I_s = 1.2
- THERMAL FACTOR C = 1.0
- FLAT ROOF SNOW LOAD = 45 PSF
- ROOF DEAD LOAD = 20 PSF
- ROOF LIVE LOAD = 60 PSF
- FLOOR (LL) = 100 PSF
- FLOOR (DL) = 75 PSF
- (DRIFTING LOADS IN ACCORDANCE WITH ASCE 7)
- WIND (138 MPH) = 30 PSF
- WIND IMPORTANCE FACTOR I_W = 1.0
- EXPOSURE "B"
- INTERNAL PRESSURE COEFFICIENT = ± .18
- DESIGN WIND PRESSURE FOR COMPONENTS & CLADDING = +34 PSF; -43 PSF
- OCCUPANCY CATEGORY IV

SEISMIC DESIGN PARAMETERS:

1. I_E = 1.5; SEISMIC USE GROUP "IV"
2. S_s = .19
   S_1 = .046
3. SITE CLASS "D"
4. S_{DS} = .16
   S_{D1} = .065
5. SEISMIC DESIGN CATEGORY "B"
6. SEISMIC COEFFICIENTS FOR ORDINARY REINFORCED MASONRY SHEARWALLS
   A. R = 2.0
   B. I_V = 2.5
   C. Cd = 1.75
   D. REDUNDANCY COEFFICIENT = 1.0
   E. FUNDAMENTAL PERIOD = .58 SEC.
   F. C_s = .084
7. DESIGN BASE SHEAR = 192 KIPS

SPECIAL INSPECTIONS REQUIRED:

1. STEEL
   A. MATERIAL VERIFICATION OF STRUCTURAL STEEL
   B. HIGH STRENGTH BOLTS
   C. WELDING
   D. JOINT DETAILS AS CONSTRUCTED
2. CONCRETE
   A. REINFORCING STEEL
   B. ANCHOR BOLTS
   C. PLACEMENT & CURING
   D. SAMPLING FRESH CONCRETE
3. MASONRY
   A. MORTAR & JOINTS
   B. REINFORCING
   C. HOT & COLD WEATHER PROTECTION
   D. GROUTING
4. PILE FOUNDATIONS
   A. CONTINUOUS SPECIAL INSPECTIONS DURING INSTALLATION.

* SOIL BEARING CAPACITY (PER TEST BORIONS REPORT) = 1 TSF

PROJECT STRUCTURAL NOTES

FOUNDATION:

1. ALL FOOTINGS SHALL REST ON UNDISTURBED SOIL OF 1.0 TSF BEARING CAPACITY, SUBJECT TO CONTROLLED INSPECTION
2. KEEP FOOTING BOTTOMS WELL DRAINED UNTIL FOOTINGS ARE IN PLACE, PUMP AS REQUIRED.
3. CONSTRUCTION JOINTS IN FOUNDATION WALLS SHALL BE NO MORE THAN 50 FEET APART AND NO LESS THAN 4'-0" FROM ANY PIER. REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS. DO NOT USE HORIZONTAL CONSTRUCTION JOINTS.
4. SLABS ON GRADE SHALL BE PLACED BY STRIP PLACING METHOD (MAX. WIDTH 30 FT. BY INFINITE LENGTH) WITH CONTROL JOINTS SAW CUT) MAX. 30'-0" O.C.; CONSTRUCTION JOINTS SHALL BE LOCATED ALONG LENGTH OF PLACEMENT AND AT ENDS OF PLACEMENT.

CONCRETE

1. ALL CONCRETE WORK SHALL CONFORM TO ACI 318; CONCRETE SLABS SHALL BE 4,000 PSI STONE CONCRETE; ALL EXTERIOR CONCRETE WORK SHALL BE 4,000 PSI AIR-ENTRAINED. SLABS ON GRADE SHALL BE NORMAL WEIGHT CONCRETE.
2. ALL REINFORCEMENT SHALL BE DEFORMED TYPE INTERMEDIATE GRADE NEW BILLET STEEL CONFORMING TO ASTM A-615 GRADE 60.
3. TEMPERATURE REINFORCEMENT SPLICES, SUPPORTS FOR REINFORCEMENT SHALL CONFORM TO REQUIREMENTS OF ACI-318 22.
4. CONTINUOUS REINFORCEMENTS SHALL BE LAPPED 48 DIAMETERS AT SPLICES AND CORNERS AND HOOKED AT NON-CONTINUOUS ENDS OR EXTENDED 24 BAR DIAMETERS UNLESS OTHERWISE NOTED. DETAILING OF ALL REINFORCEMENT SHALL BE IN ACCORDANCE WITH ACI 318R-18
5. PROVIDE TWO #6 ALL SIDES FOR OPENINGS IN CONCRETE WALLS UNLESS OTHERWISE NOTED. EXTEND BARS 2'-0" BEYOND OPENING; HOOK ENDS.
6. PROVIDE SLEEVES AND BOX OUT FOR OPENINGS FOR MECHANICAL, PLUMBING, FIRE SPRINKLER AND ELECTRICAL TRADES. OPENINGS SHALL BE PLACED SO AS NOT TO AFFECT THE STRENGTH OF STRUCTURAL MEMBERS.
7. BEFORE PLACING CONCRETE, CONTRACTOR SHALL SUBMIT FOR REVIEW A COMPLETE SEQUENCE OF PLACING SCHEDULE. INDICATING ALL CONSTRUCTION JOINTS, TIME SCHEDULE, AND GUARANTEE OF CONTINUITY OF CONCRETE SUPPLY.

STRUCTURAL STEEL:

1. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS FOR DESIGN. FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
2. ROLLED SHAPES AND PLATES SHALL CONFORM TO ASTM DESIGNATION A-572 UNLESS NOTED OTHERWISE; STEEL PIPE SHALL CONFORM TO ASTM A501; STRUCTURAL TUBING SHALL CONFORM TO ASTM A500 GRADE B.
3. SHOP CONNECTIONS SHALL BE WELDED. FIELD CONNECTIONS SHALL BE 3/4" DIAMETER A-325 TYPE-N CONNECTIONS, EXCEPT WHERE FIELD WELDING IS CALLED FOR ON THE DRAWING.
4. WELDING SHALL COMPLY WITH AWS SPECIFICATIONS. USE E70XX ELECTRODES
5. ALL STEEL SHALL RECEIVE ONE SHOP COAT OF RUST-INHIBITIVE PAINT.
6. PROVIDE ANGLE ANCHORS AT ENDS OF ALL BEAMS RESTING ON MASONRY OR CONCRETE.
7. CONNECTIONS TO BE DOUBLE ANGLE CONNECTIONS UNLESS NOTED OTHERWISE.
8. ALL BASE PLATES SHALL BE ANCHORED WITH (4) 3/4" DIAMETER BY 18" LONG ANCHOR BOLTS UNLESS OTHERWISE NOTED.
9. ALL LOOSE LINTELS SHALL HAVE A MINIMUM OF 8" BEARING AT EACH END OF M.O.; PROVIDE FLASHING AT ALL EXTERIOR OPENINGS. ALL WIDE FLANGE LINTELS SHALL HAVE A MIMUMUM OF 10" BEARING EACH END OF 16" BRICK MASONRY.
10. PROVIDE ALL BOLTS, HOLES, ANCHORS, ANGLES, ETC. AS REQUIRED FOR A COMPLETE INSTALLLATION AND AS REQUIRED BY THE WORK OF OTHER TRADES.
11. PROVIDE MASONRY ANCHORS AT 32" O.C. ON ALL SPANDREL BEAMS AND 16" O.C. ON ALL COLUMNS, HOHMANN & BARNARD 1/4" #VWT GALV. WALL TIES WITH #359 GALV. WELD-ON TIES OR APP. EQUAL.
12. PRIOR TO FABRICATION; GENERAL CONTRACTOR SHALL SUBMIT A FULL SET OF STRUCTURAL STEEL FABRICATORS SHOP DRAWINGS THAT CONFORM TO ALL REQUIREMENTS OF DESIGN WITHIN THE BID DOCUMENTS. DISCREPANCIES OR RFI'S (IF ANY) SHALL BE PRESENTED TO THE ARCHITECT & STRUCTURAL ENGINEER OF RECORD FOR REVIEW PRIOR TO SHOP DRAWING SUBMISSION. ANY CHANGES OR INTERPRETATIONS MADE TO THE BID STRUCTURAL DESIGN WHICH ARE NOT PRESENTED TO THE ARCHITECT AS WRITTEN CORRESPONDENCE PRIOR TO SHOP DRAWING REVIEW SHALL BE AT THE RESPONSIBILITY OF THE GENERAL CONTRACTOR & STEEL FABRICATOR.

STEEL DECK:

1. STEEL FLOOR DECK SHALL BE 1-1/2" DEEP GALV. 22 GAUGE B-LOK COMPOSITE STL. DECK.
2. WELD SIDE LAPS AT MID-POINT OF SPAN.
3. ROOF DECK SHALL BE 22 GA, 1-1/2" DEEP GALVANIZED TYPE 'B' AS MANUFACTURED BY UNITED STEEL DECK INC. WHERE SHOWN ON PLAN.
4. ALL SLAB ON DECK SHALL BE 5" CONCRETE SLAB WITH 6"/6" - W4.0/W4.0 WWM ON 1-1/2" DEEP 22 GAUGE B-LOK COMPOSITE STEEL DECK, TYPICAL UNLESS OTHERWISE NOTED.
5. ROOF JOISTS SUPPORTING STEEL ROOF DECK SHALL BE DESIGNED FOR NET UPLIFT OF 10 PSF.
6. STRUCTURAL STEEL CONTRACTOR SHALL COORDINATE ALL ROOF OPENINGS WITH OTHER TRADES - REF. DETAIL 1
7. PROVIDE 4"x4"x1/4" ANGLE FRAME AT PERIMETER OF ALL ROOF UNITS AND PENETRATIONS. EXTEND TO NEAREST PERPENDICULAR JOIST.

DATE	ISSUED
09-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

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PROPOSED NEW FACILITY
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208 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

STRUCTURAL CODE AND PROJECT NOTES

PROJECT No. 2501

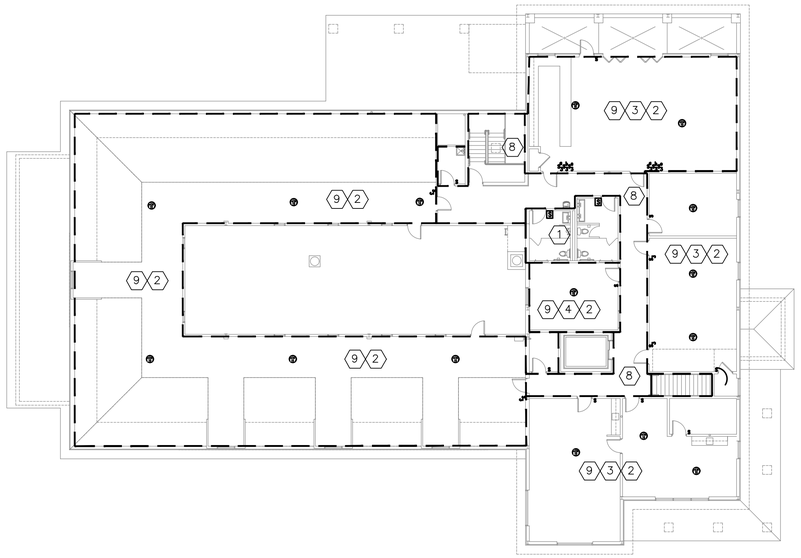
CHECKED BY:

DRAWING:

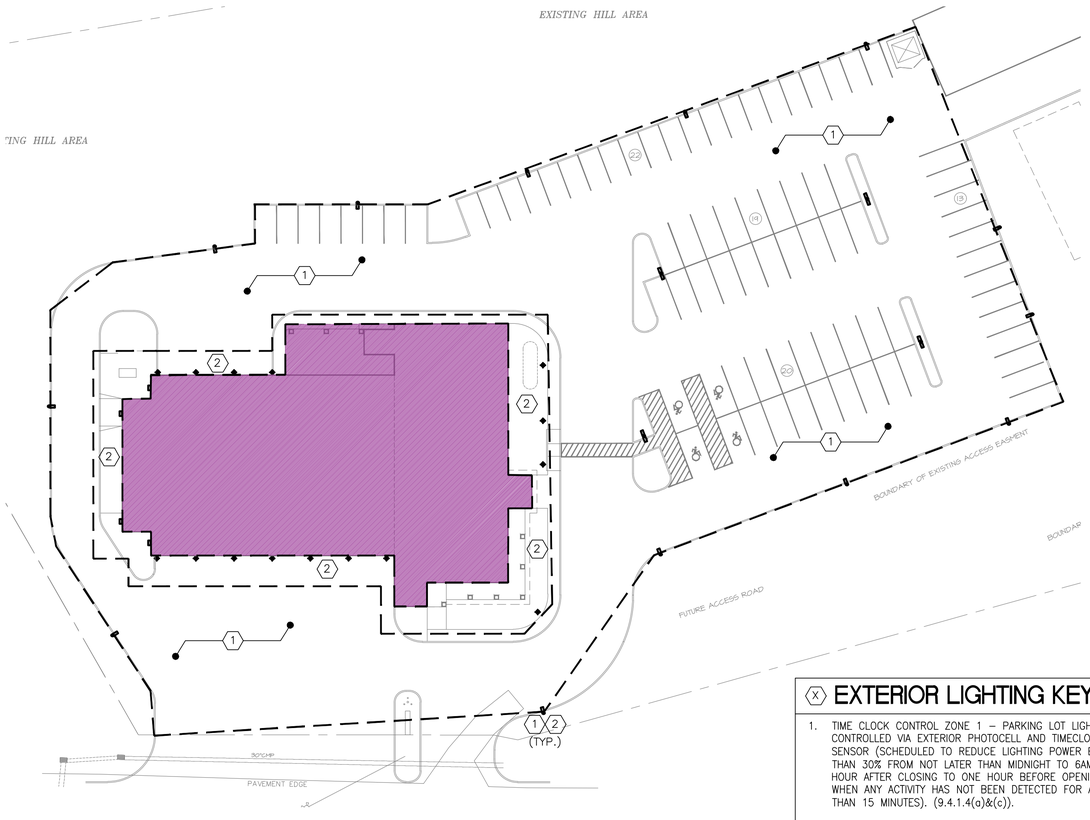
S-5

ⓧ INTERIOR LIGHTING KEY NOTES

1. VACANCY SENSOR (AUTO OFF, MANUAL ON/OVERRIDE WITH DIMMING AND MANUAL OFF)(C405.2.1 AND C405.2.1.1). EXCEPT PUBLIC CORRIDORS, STAIRWAYS, RESTROOMS, PRIMARY BUILDING ENTRANCE AREAS AND LOBBIES, MANUAL FULL AUTOMATIC ON IS PERMITTED.
2. TIME CONTROL ON/OFF WITH MANUAL OVERRIDE (C405.2.2) WITHOUT 50% LIGHT REDUCTION (IN A REASONABLE UNIFORM PATTERN) WITH MANUAL CONTROL (C405.2.2.1 EXCEPTION #2).
3. AUTOMATIC DAYLIGHT CONTROL ZONE WITH CONTINUOUS DIMMING (C405.2.3).
4. DAYLIGHT RESPONSIVE CONTROLS NOT REQUIRED IN THIS AREA IS NOT MORE THAN 150W OF GENERAL LIGHTING WITHIN DAYLIGHT ZONE (C405.2.3.1) AND/OR IN HEALTHCARE FACILITY WHERE PATIENT CARE IS DIRECTLY PROVIDED (C405.2.5.3 EXCEPTION 1) OR SLEEPING UNIT(S) (C405.2.5.3 EXCEPTION 2) OR IN SIDELIGHT DAYLIGHT ZONES ON THE FIRST FLOOR ABOVE GRADE IN GROUP A–2 OCCUPANCY. (C405.2.5.3 EXCEPTION 4) OR THE AREA OF THE FENESTRATION IS LESS THAN 24 SQUARE FEET.
5. EMERGENCY LIGHTING TO BE PROVIDED FROM (FIXTURES WITH INTEGRAL BATTERY PACKS WITHIN FIXTURES) OR (WALL PACK UNITS NORMALLY OFF (C405.2 EXCEPTION #3).
8. LIGHTING CONTROLS ARE NOT REQUIRED FOR INTERIOR EXIT STAIRWAYS, INTERIOR EXIT RAMPS AND INTERIOR EXIT PASSAGEWAYS (C405.2 EXCEPTION#2.)
9. OCCUPANCY SENSOR SET FOR 30 MINUTES TO OVERRIDE TIME CLOCK FOR AFTER HOURS AND BE DEACTIVATED DURING NORMAL BUSINESS HOURS. (NOT APPLICABLE).



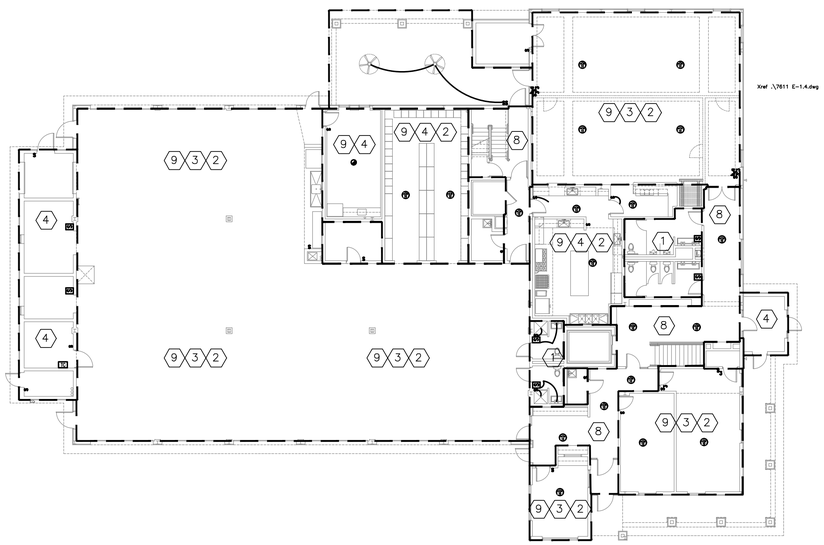
SECOND FLOOR LIGHTING PLAN
SCALE: 1/16" = 1'–0"



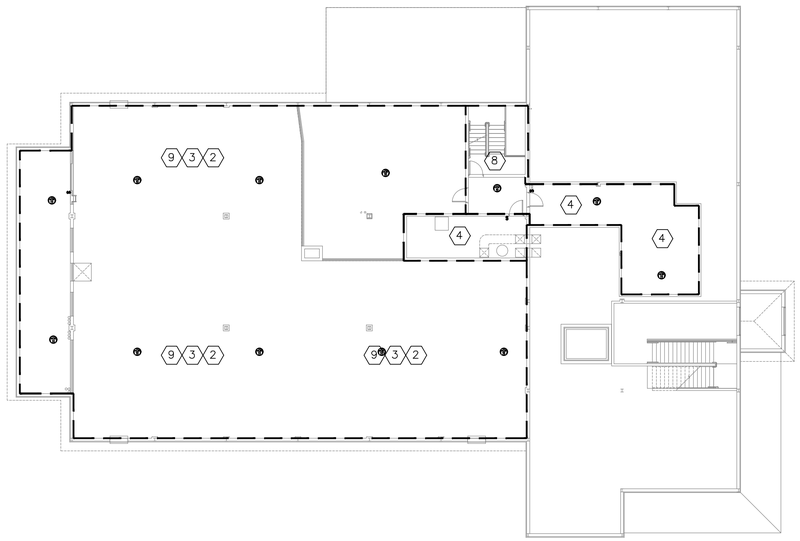
SITE PLAN LIGHTING
SCALE: 1/32" = 1'–0"

ⓧ EXTERIOR LIGHTING KEY NOTES

1. TIME CLOCK CONTROL ZONE 1 – PARKING LOT LIGHTS LIGHTS TO BE CONTROLLED VIA EXTERIOR PHOTOCELL AND TIMECLOCK OR MOTION SENSOR (SCHEDULED TO REDUCE LIGHTING POWER BY NOT LESS THAN 30% FROM NOT LATER THAN MIDNIGHT TO 6AM, FROM ONE HOUR AFTER CLOSING TO ONE HOUR BEFORE OPENING OR DURING WHEN ANY ACTIVITY HAS NOT BEEN DETECTED FOR A TIME LONGER THAN 15 MINUTES). (9.4.1.4(a)&(c)).
2. TIME CLOCK CONTROL ZONE 2 – EXTERIOR BUILDING FACADE OR LANDSCAPE LIGHTING TO BE CONTROLLED VIA EXTERIOR PHOTOCELL AND TIME CLOCK (SCHEDULED TO BE TURNED BETWEEN MIDNIGHT OR BUSINESS CLOSING, WHICHEVER IS LATER AND 6AM OR BUSINESS OPENING, WHICHEVER COMES FIRST) (9.4.1.4(a)&(b).



FIRST FLOOR LIGHTING PLAN
SCALE: 1/16" = 1'–0"



MEZZAINE LIGHTING PLAN
SCALE: 1/16" = 1'–0"

TO THE BEST OF MY KNOWLEDGE, BELIEF AND PERSONAL JUDGMENT;

THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH SECTIONS C403, C404, C405, C406.3 AND C408.3 OF CHAPTER 4 [CE] "COMMERCIAL PROVISIONS " OF THE 2025 NYSBC.

THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2025 NYSBC, 1ST PRINTING.

I THE HEREBY UNDERSIGNED NY STATE REGISTERED DESIGN PROFESSIONAL STATE THAT TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE PLANS AND/OR SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2025 NYSECCC.

DRAWING NO.	TITLE
EN–0.1	ENERGY CODE COMPLIANCE SHEET 1
EN–0.2	ENERGY CODE COMPLIANCE SHEET 2
EN–0.3	ENERGY CODE COMPLIANCE SHEET 3
EN–0.4	ENERGY CODE COMPLIANCE SHEET 4
EN–0.5	ENERGY CODE COMPLIANCE SHEET 5

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."
This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-20-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

ENERGY CODE COMPLIANCE SHEET 1

PROJECT No. 2501 EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING: EN–0.1

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS

Interior Lighting Compliance Certificate

Project Information

Energy Code: 2025 Energy Conservation Construction Code of New York State
Project Title: 7611 - Ellenville Fire House
Location: Ellenville, New York
Climate Zone: 6a
Project Type: New Construction

Construction Site: **Owner/Agent:** **Designer/Contractor:**

Allowed Interior Lighting Power

A	B	C	D
Area Category	**Floor Area (ft2)**	**Allowed Watts / ft2**	**Allowed Watts**
1-Mechanical Room (Common Space Types:Electrical/mechanical room)	590	0.39	230
2-STAIR B (Common Space Types:Stairwell)	378	0.47	178
3-MEZZANINE (Common Space Types:Corridor >=8 ft wide)	102	0.44	45
4-KITCHEN EXHAUST (Common Space Types:Electrical/mechanical room)	121	0.39	47
5-ELECTRICAL SERVICE (Common Space Types:Electrical/mechanical room)	113	0.39	44
6-WATER SERVICE (Common Space Types:Electrical/mechanical room)	65	0.39	25
7-SCBA (Common Space Types:Workshop)	106	1.09	116
8-WORK ROOM (Common Space Types:Workshop)	178	1.09	194
9-DELIVERY (Common Space Types:Storage room >=50 - <=1000 sq.ft.)	110	0.35	38
10-STORAGE (Common Space Types:Storage room >=50 - <=1000 sq.ft.)	112	0.35	39
11-READY ROOM (Common Space Types:Locker room)	283	0.43	122
12-GEAR AREA (Common Space Types:Locker room)	638	0.43	274
13-GEAR WASH AND DECON AREA (Common Space Types:Laundry/washing area)	126	0.51	64
14-CORRIDOR FIRST FLOOR (Common Space Types:Corridor >=8 ft wide)	466	0.44	205
15-KITCHEN AND KITCHEN SERVICE AREA (Common Space Types:Food preparation area)	561	0.92	516
16-MEN'S RESTROOM FIRST FLR (Common Space Types:Restrooms)	137	0.74	101
17-WOMEN'S RESTROOM FIRST FLR (Common Space Types:Restrooms)	138	0.74	102
18-RADIO ROOM (Common Space Types:Computer room, data center)	197	0.75	148
19-CHIEF'S OFFICE (Common Space Types:Office - enclosed)	264	0.73	193
20-FITNESS ROOM (Gymnasium/Fitness Center:Exercise area in a gymnasium/fitness center)	406	0.5	203
21-BATHROOM AND SHOWER (Common Space Types:Restrooms)	116	0.74	86
22-INFO MAIL ROOM (Common Space Types:Storage room >=50 - <=1000 sq.ft.)	110	0.35	38
23-COMMUNITY SHELTER ROOM (Common Space Types:Dining area)	1784	0.42	749

A	B	C	D
Area Category	**Floor Area (ft2)**	**Allowed Watts / ft2**	**Allowed Watts**
24-TABLE AND CHAIR STORAGE (Common Space Types:Storage room >=50 - <=1000 sq.ft.)	109	0.35	38
25-LOBBY (Common Space Types:Lobby)	298	0.8	238
26-VESTIBULE FIRST FLOOR (Common Space Types:Lobby)	185	0.8	148
27-ATTIC (Common Space Types:Storage room >=1000 sq.ft.)	3979	0.35	1393
28-CAPTAIN'S OFFICE SECOND FLR (Common Space Types:Office - enclosed)	301	0.73	220
29-CONFERENCE ROOM (Common Space Types:Conference/meeting/multipurpose room)	582	0.88	512
30-COMMISSIONERS OFFICE (Common Space Types:Office - enclosed)	648	0.73	473
31-FILE ROOM (Common Space Types:Storage room >=50 - <=1000 sq.ft.)	120	0.35	42
32-SECRETARY AND TREASURER OFFICE (Common Space Types:Office - enclosed)	430	0.73	314
33-CIVIL OFFICERS OFFICE (Common Space Types:Office - enclosed)	273	0.73	199
34-IT ROOM (Common Space Types:Computer room, data center)	58	0.75	43
35-WOMEN'S RESTROOM SECOND FLR (Common Space Types:Restrooms)	96	0.74	71
36-MEN'S RESTROOM SECOND FLR (Common Space Types:Restrooms)	94	0.74	70
37-TRAINING MEZZANINE (Common Space Types:Classroom/lecture hall/training room)	614	0.72	442
38-JANITOR CLOSET (Common Space Types:Storage room >=50 - <=1000 sq.ft.)	98	0.35	34
39-ENCLOSED STORAGE MEZZANINE (Common Space Types:Storage room >=1000 sq.ft.)	1273	0.35	446
40-APPARATUS BAYS (Parking Garage:Parking area, interior)	5787	0.11	637
41-CORRIDOR SECOND FLOOR (Common Space Types:Corridor >=8 ft wide)	700	0.44	308
42-TRAINING CLASSROOM AND SERVICE COUNTER (Common Space Types:Classroom/lecture hall/training room)	1069	0.72	770
Total Allowed Watts:			**14556**

Proposed Interior Lighting Power

A	B	C	D
Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	**# of Fixture**	**Fixture Watt.**	**(B X C)**
1-Mechanical Room (Common Space Types:Electrical/mechanical room)			
F4: F4: LED:	4	40	160
2-STAIR B (Common Space Types:Stairwell)			
FEM: FEM: LED:	6	37.8	226.8
E1: E1: LED:	1	2	2
3-MEZZANINE (Common Space Types:Corridor >=8 ft wide)			
F2: F2: LED:	2	34	68
4-KITCHEN EXHAUST (Common Space Types:Electrical/mechanical room)			
F2: F2: LED:	2	34	68
5-ELECTRICAL SERVICE (Common Space Types:Electrical/mechanical room)			
F3H: F3H: LED:	1	49	49

A	B	C	D
Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	**# of Fixture**	**Fixture Watt.**	**(B X C)**
6-WATER SERVICE (Common Space Types:Electrical/mechanical room)			
F3H: F3H: LED:	1	49	49
7-SCBA (Common Space Types:Workshop)			
F3H: F3H: LED:	1	49	49
8-WORK ROOM (Common Space Types:Workshop)			
F3H: F3H: LED:	2	49	98
9-DELIVERY (Common Space Types:Storage room >=50 - <=1000 sq.ft.)			
F3H: F3H: LED:	1	49	49
E1: E1: LED:	1	2	2
10-STORAGE (Common Space Types:Storage room >=50 - <=1000 sq.ft.)			
F2H: F2H: LED:	2	41	82
11-READY ROOM (Common Space Types:Locker room)			
F2H: F2H: LED:	6	41	246
E1: E1: LED:	1	2	2
12-GEAR AREA (Common Space Types:Locker room)			
F4: F4: LED:	10	40	400
13-GEAR WASH AND DECON AREA (Common Space Types:Laundry/washing area)			
F7: F7: LED:	4	10	40
E1: E1: LED:	1	2	2
14-CORRIDOR FIRST FLOOR (Common Space Types:Corridor >=8 ft wide)			
F2H: F2H: LED:	6	41	246
F7: F7: LED:	3	10	30
E1: E1: LED:	4	2	8
15-KITCHEN AND KITCHEN SERVICE AREA (Common Space Types:Food preparation area)			
F2H: F2H: LED:	9	41	369
F7: F7: LED:	3	10	30
E1: E1: LED:	1	2	2
16-MEN'S RESTROOM FIRST FLR (Common Space Types:Restrooms)			
F2H: F2H: LED:	3	41	123
17-WOMEN'S RESTROOM FIRST FLR (Common Space Types:Restrooms)			
F2H: F2H: LED:	3	41	123
18-RADIO ROOM (Common Space Types:Computer room, data center)			
F7: F7: LED:	8	10	80
19-CHIEF'S OFFICE (Common Space Types:Office - enclosed)			
F2H: F2H: LED:	6	41	246
20-FITNESS ROOM (Gymnasium/Fitness Center:Exercise area in a gymnasium/fitness center)			
F2H: F2H: LED:	6	41	246
F7: F7: LED:	3	10	30
21-BATHROOM AND SHOWER (Common Space Types:Restrooms)			
F2H: F2H: LED:	2	41	82
F6: F6: LED:	2	20	40

A	B	C	D
Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	**# of Fixture**	**Fixture Watt.**	**(B X C)**
22-INFO MAIL ROOM (Common Space Types:Storage room >=50 - <=1000 sq.ft.)			
F2H: F2H: LED:	3	41	123
E1: E1: LED:	1	2	2
23-COMMUNITY SHELTER ROOM (Common Space Types:Dining area)			
F2H: F2H: LED:	42	41	1722
E1: E1: LED:	2	2	4
24-TABLE AND CHAIR STORAGE (Common Space Types:Storage room >=50 - <=1000 sq.ft.)			
F4: F4: LED:	1	40	40
25-LOBBY (Common Space Types:Lobby)			
F2H: F2H: LED:	4	41	164
E1: E1: LED:	1	2	2
26-VESTIBULE FIRST FLOOR (Common Space Types:Lobby)			
F2H: F2H: LED:	1	41	41
F7: F7: LED:	2	10	20
E1: E1: LED:	2	2	4
27-ATTIC (Common Space Types:Storage room >=1000 sq.ft.)			
F4: F4: LED:	30	40	1200
E1: E1: LED:	2	2	4
28-CAPTAIN'S OFFICE SECOND FLR (Common Space Types:Office - enclosed)			
F2: F2: LED:	6	34	204
29-CONFERENCE ROOM (Common Space Types:Conference/meeting/multipurpose room)			
F2: F2: LED:	12	34	408
E1: E1: LED:	2	2	4
30-COMMISSIONERS OFFICE (Common Space Types:Office - enclosed)			
F2: F2: LED:	15	34	510
31-FILE ROOM (Common Space Types:Storage room >=50 - <=1000 sq.ft.)			
F2: F2: LED:	2	34	68
32-SECRETARY AND TREASURER OFFICE (Common Space Types:Office - enclosed)			
F2: F2: LED:	7	34	238
33-CIVIL OFFICERS OFFICE (Common Space Types:Office - enclosed)			
F2: F2: LED:	6	34	204
34-IT ROOM (Common Space Types:Computer room, data center)			
F2: F2: LED:	1	34	34
35-WOMEN'S RESTROOM SECOND FLR (Common Space Types:Restrooms)			
F2: F2: LED:	2	34	68
36-MEN'S RESTROOM SECOND FLR (Common Space Types:Restrooms)			
F2: F2: LED:	2	34	68
37-TRAINING MEZZANINE (Common Space Types:Classroom/lecture hall/training room)			
F3: F3: LED:	5	40	200

A	B	C	D
Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	**# of Fixture**	**Fixture Watt.**	**(B X C)**
38-JANITOR CLOSET (Common Space Types:Storage room >=50 - <=1000 sq.ft.)			
F4: F4: LED:	1	40	40
F2H: F2H: LED:	1	41	41
39-ENCLOSED STORAGE MEZZANINE (Common Space Types:Storage room >=1000 sq.ft.)			
F1: F1: LED:	6	37.8	226.8
40-APPARATUS BAYS (Parking Garage:Parking area, interior)			
F1: F1: LED:	33	37.8	1247.4
41-CORRIDOR SECOND FLOOR (Common Space Types:Corridor >=8 ft wide)			
F2: F2: LED:	9	34	306
F7: F7: LED:	6	10	60
E1: E1: LED:	2	2	4
42-TRAINING CLASSROOM AND SERVICE COUNTER (Common Space Types:Classroom/lecture hall/training room)			
F2: F2: LED:	18	34	612
F7: F7: LED:	15	10	150
E1: E1: LED:	2	2	4
Total Proposed Watts:			**11271**

Proposed Interior Lighting Controls

Fixture	Lighting Control
1-Mechanical Room (Common Space Types:Electrical/mechanical room)	
F4: F4: LED:	Manual Control
2-STAIR B (Common Space Types:Stairwell)	
FEM: FEM: LED:	Manual Control
E1: E1: LED:	
3-MEZZANINE (Common Space Types:Corridor >=8 ft wide)	
F2: F2: LED:	Manual Control
4-KITCHEN EXHAUST (Common Space Types:Electrical/mechanical room)	
F2: F2: LED:	Manual Control
5-ELECTRICAL SERVICE (Common Space Types:Electrical/mechanical room)	
F3H: F3H: LED:	Manual Control
6-WATER SERVICE (Common Space Types:Electrical/mechanical room)	
F3H: F3H: LED:	Manual Control
7-SCBA (Common Space Types:Workshop)	
F3H: F3H: LED:	Manual Control
8-WORK ROOM (Common Space Types:Workshop)	
F3H: F3H: LED:	Manual Control
9-DELIVERY (Common Space Types:Storage room >=50 - <=1000 sq.ft.)	
F3H: F3H: LED:	Manual Control
E1: E1: LED:	Manual Control
10-STORAGE (Common Space Types:Storage room >=50 - <=1000 sq.ft.)	
F2H: F2H: LED:	Manual Control
11-READY ROOM (Common Space Types:Locker room)	
F2H: F2H: LED:	Manual Control

Fixture	Lighting Control
E1: E1: LED:	Manual Control
12-GEAR AREA (Common Space Types:Locker room)	
F4: F4: LED:	Manual Control
13-GEAR WASH AND DECON AREA (Common Space Types:Laundry/washing area)	
F7: F7: LED:	Manual Control
E1: E1: LED:	Manual Control
14-CORRIDOR FIRST FLOOR (Common Space Types:Corridor >=8 ft wide)	
F2H: F2H: LED:	Manual Control
F7: F7: LED:	Manual Control
E1: E1: LED:	Manual Control
15-KITCHEN AND KITCHEN SERVICE AREA (Common Space Types:Food preparation area)	
F2H: F2H: LED:	Manual Control
F7: F7: LED:	Manual Control
E1: E1: LED:	Manual Control
16-MEN'S RESTROOM FIRST FLR (Common Space Types:Restrooms)	
F2H: F2H: LED:	Manual Control
17-WOMEN'S RESTROOM FIRST FLR (Common Space Types:Restrooms)	
F2H: F2H: LED:	Manual Control
18-RADIO ROOM (Common Space Types:Computer room, data center)	
F7: F7: LED:	Manual Control
19-CHIEF'S OFFICE (Common Space Types:Office - enclosed)	
F2H: F2H: LED:	Manual Control
20-FITNESS ROOM (Gymnasium/Fitness Center:Exercise area in a gymnasium/fitness center)	
F2H: F2H: LED:	Manual Control
F7: F7: LED:	Manual Control
21-BATHROOM AND SHOWER (Common Space Types:Restrooms)	
F2H: F2H: LED:	Manual Control
F6: F6: LED:	Manual Control
22-INFO MAIL ROOM (Common Space Types:Storage room >=50 - <=1000 sq.ft.)	
F2H: F2H: LED:	Manual Control
E1: E1: LED:	Manual Control
23-COMMUNITY SHELTER ROOM (Common Space Types:Dining area)	
F2H: F2H: LED:	Manual Control
E1: E1: LED:	Manual Control
24-TABLE AND CHAIR STORAGE (Common Space Types:Storage room >=50 - <=1000 sq.ft.)	
F4: F4: LED:	Manual Control
25-LOBBY (Common Space Types:Lobby)	
F2H: F2H: LED:	Manual Control
E1: E1: LED:	Manual Control
26-VESTIBULE FIRST FLOOR (Common Space Types:Lobby)	
F2H: F2H: LED:	Manual Control
F7: F7: LED:	Manual Control
E1: E1: LED:	Manual Control
27-ATTIC (Common Space Types:Storage room >=1000 sq.ft.)	
F4: F4: LED:	Manual Control
E1: E1: LED:	Manual Control
28-CAPTAIN'S OFFICE SECOND FLR (Common Space Types:Office - enclosed)	
F2: F2: LED:	Manual Control
29-CONFERENCE ROOM (Common Space Types:Conference/meeting/multipurpose room)	

Fixture	Lighting Control
F2: F2: LED:	Manual Control
E1: E1: LED:	Manual Control
30-COMMISSIONERS OFFICE (Common Space Types:Office - enclosed)	
F2: F2: LED:	Manual Control
31-FILE ROOM (Common Space Types:Storage room >=50 - <=1000 sq.ft.)	
F2: F2: LED:	
32-SECRETARY AND TREASURER OFFICE (Common Space Types:Office - enclosed)	
F2: F2: LED:	Manual Control
33-CIVIL OFFICERS OFFICE (Common Space Types:Office - enclosed)	
F2: F2: LED:	Manual Control
34-IT ROOM (Common Space Types:Computer room, data center)	
F2: F2: LED:	Manual Control
35-WOMEN'S RESTROOM SECOND FLR (Common Space Types:Restrooms)	
F2: F2: LED:	Manual Control
36-MEN'S RESTROOM SECOND FLR (Common Space Types:Restrooms)	
F2: F2: LED:	Manual Control
37-TRAINING MEZZANINE (Common Space Types:Classroom/lecture hall/training room)	
F3: F3: LED:	Manual Control
38-JANITOR CLOSET (Common Space Types:Storage room >=50 - <=1000 sq.ft.)	
F4: F4: LED:	Manual Control
F2H: F2H: LED:	Manual Control
39-ENCLOSED STORAGE MEZZANINE (Common Space Types:Storage room >=1000 sq.ft.)	
F1: F1: LED:	
40-APPARATUS BAYS (Parking Garage:Parking area, interior)	
F1: F1: LED:	
41-CORRIDOR SECOND FLOOR (Common Space Types:Corridor >=8 ft wide)	
F2: F2: LED:	
F7: F7: LED:	
E1: E1: LED:	
42-TRAINING CLASSROOM AND SERVICE COUNTER (Common Space Types:Classroom/lecture hall/training room)	
F2: F2: LED:	
F7: F7: LED:	
E1: E1: LED:	

Interior Lighting PASSES: Design 23% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2025 Energy Conservation Construction Code of New York State requirements in COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Andrew R. Solano, P.E.

Name - Title **Signature** **Date**

DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
09-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

STATE OF NEW YORK
ANDREW R. SOLANO
053455
PROFESSIONAL ENGINEER
LICENSED

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

ENERGY CODE COMPLIANCE
SHEET 2

MECHANICAL COMMISSIONING NOTE

COMMISSIONING IS REQUIRED FOR "MECHANICAL SYSTEMS AND SERVICE WATER-HEATING SYSTEMS" IN ACCORDANCE WITH SECTION C408.2.

REFER TO M-002 FOR COMMISSIONING NOTES

THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2025 NYSBC, 1ST PRINTING.

I THE HEREBY UNDERSIGNED NY STATE REGISTERED DESIGN PROFESSIONAL STATE THAT TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE PLANS AND/OR SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2025 NYSECCC.

PROJECT No. 2601
EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING:

EN-0.2

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."
This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS

Exterior Lighting Compliance Certificate

Project Information

Energy Code: 2025 Energy Conservation Construction Code of New York State
Project Title: 7611 - Ellenville Fire House
Location: Ellenville, New York
Climate Zone: 6a
Project Type: New Construction
Exterior Lighting Zone: Other (LZ0)

Construction Site: **Owner/Agent:** **Designer/Contractor:**

Allowed Exterior Lighting Power

A	B	C	D	E
Area/Surface Category	**Quantity**	**Allowed Watts / ft2**	**Tradable Wattage**	**Allowed Watts (B X C)**
COVERED TERRACE (Special feature area)	374 ft2	0.07	No	26.180000000000003
OUTDOOR WALKWAY (Walkway < 10 feet wide)	656 ft of walkway length	0.55	No	360.8
PATIO (Special feature area)	770 ft2	0.07	No	53.900000000000006
SITE LIGHTING (L1) (Parking area)	41892 ft2	0.04	No	1675.68
SITE LIGHTING (L2) (Parking area)	12396 ft2	0.04	No	495.8400000000003
BUILDING FASCADE LIGHTING (Illuminated area of facade wall or surface)	3020 ft2	0.11	No	332.2
BUILDING FASCADE LIGHTING 1 (Illuminated area of facade wall or surface)	468 ft2	0.11	No	51.48
EXTERIOR RECESSED LIGHTING (Entry canopy)	2554 ft2	0.18	No	459.71999999999997
Total Tradable Watts (a):				2909.26
Base Site Allowance (b):				400
Total Allowed Watts:				3651.54

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A base site allowance equal to 400 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A	B	C	D
Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	**# of Fixture**	**Fixture Watt.**	**(B X C)**
COVERED TERRACE (Special feature area, 374 ft2): Tradeable Wattage			
F6: F6: LED:	3	20	60
OUTDOOR WALKWAY (Walkway < 10 feet wide, 656 ft of walkway length): Tradeable Wattage			
F6: F6: LED:	6	20	120
PATIO (Special feature area, 770 ft2): Tradeable Wattage			
F6: F6: LED:	10	20	200

A	B	C	D
Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	**# of Fixture**	**Fixture Watt.**	**(B X C)**
SITE LIGHTING (L1) (Parking area, 41892 ft2): Tradeable Wattage			
L1: L1: LED:	13	26	338
SITE LIGHTING (L2) (Parking area, 12396 ft2): Tradeable Wattage			
L2: L2: LED:	4	53	212
BUILDING FASCADE LIGHTING (Illuminated area of facade wall or surface, 3020 ft2): Tradeable Wattage			
L4: L4: LED:	11	34	374
BUILDING FASCADE LIGHTING 1 (Illuminated area of facade wall or surface, 468 ft2): Tradeable Wattage			
L5: L5: LED:	4	18	72
EXTERIOR RECESSED LIGHTING (Entry canopy, 2554 ft2): Tradeable Wattage			
L3: L3: LED:	4	52	208
Total Tradable Proposed Watts:			1138

Proposed Exterior Lighting Controls

Fixture	Lighting Control
COVERED TERRACE (Special feature area, 374 ft2):	
F6: F6: LED:	Daylight Shutoff, Exterior Timeswitch
OUTDOOR WALKWAY (Walkway < 10 feet wide, 656 ft of walkway length)	
F6: F6: LED:	Daylight Shutoff, Exterior Timeswitch
PATIO (Special feature area, 770 ft2)	
F6: F6: LED:	Daylight Shutoff, Exterior Timeswitch
SITE LIGHTING (L1) (Parking area, 41892 ft2)	
L1: L1: LED:	Daylight Shutoff, Exterior Timeswitch
SITE LIGHTING (L2) (Parking area, 12396 ft2)	
L2: L2: LED:	Daylight Shutoff, Exterior Timeswitch
BUILDING FASCADE LIGHTING (Illuminated area of facade wall or surface, 3020 ft2)	
L4: L4: LED:	Daylight Shutoff, Facade or Landscape
BUILDING FASCADE LIGHTING 1 (Illuminated area of facade wall or surface, 468 ft2)	
L5: L5: LED:	Daylight Shutoff, Facade or Landscape
EXTERIOR RECESSED LIGHTING (Entry canopy, 2554 ft2)	
L3: L3: LED:	Daylight Shutoff, Exterior Timeswitch

Exterior Lighting PASSES: Design 65% better than code

Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2025 Energy Conservation Construction Code of New York State requirements in COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Andrew R. Solano, P.E.

Name - Title **Signature** **Date**

Mechanical Compliance Certificate

Project Information

Energy Code: 2025 Energy Conservation Construction Code of New York State
Project Title: 7611 - Ellenville Fire House
Location: Ellenville, New York
Climate Zone: 6a
Project Type: New Construction

Construction Site: **Owner/Agent:** **Designer/Contractor:**

Mechanical Systems List

Quantity	Component	Description
HVAC Systems		
1	RTU-GARAGE (Single Zone w/ PerimeterSystem):	Heating: 1 each - Central Furnace (Heating Equip), Propane, Capacity = 4000 kBtu/h No minimum efficiency requirement applies Cooling: 1 each - Single Package DX Unit (Cooling Equip), Capacity = 179 kBtu/h, Air-Cooled Condenser, Air Economizer Proposed Efficiency = 0.00 , Required Efficiency = 0.00 Proposed Part Load Efficiency = 17.00 IEER, Required Part Load Efficiency = 14.00 IEER Fan System: RTU-GARAGE -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: RTU-GARAGE Supply, Single-Zone VAV, 6000 CFM, 3.0 motor nameplate hp, 70.00 fan energy index
1	MUA-1 (Single Zone):	Heating: 1 each - Central Furnace (Heating Equip), Propane, Capacity = 326 kBtu/h No minimum efficiency requirement applies Fan System: MUA-1 -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: MUA-1 Supply, Constant Volume, 3960 CFM, 5.0 motor nameplate hp, 70.00 fan energy index
2	AHU-1-1,2 / CU-1-1,2 (Single Zone w/ PerimeterSystem):	Split System Heat Pump Heating Mode: Capacity = 108 kBtu/h, Proposed Efficiency = 3.78 COPH, Required Efficiency = 3.40 COPH Cooling Mode: Capacity = 96 kBtu/h, Proposed Efficiency = 19.00 IEER, Required Efficiency = 14.10 IEER Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00 Fan System: AHU-1-1 -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: SUPPLY Supply, Single-Zone VAV, 2500 CFM, 3.0 motor nameplate hp, 70.00 fan energy index
1	AHU-1-3 / CU-1-3 (Single Zone w/ PerimeterSystem):	Split System Heat Pump Heating Mode: Capacity = 36 kBtu/h, Proposed Efficiency = 12.90 HSPF2, Required Efficiency = 7.50 HSPF2 Cooling Mode: Capacity = 21 kBtu/h, Proposed Efficiency = 15.00 SEER2, Required Efficiency = 14.30 SEER2 Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00 Fan System: AHU-1-3 -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: AHU-1-3 Supply, Single-Zone VAV, 1200 CFM, 1.5 motor nameplate hp, 70.00 fan energy index

Quantity	Component	Description
1	AHU-2-1 / CU-2-1 (Single Zone w/ PerimeterSystem):	Split System Heat Pump Heating Mode: Capacity = 48 kBtu/h, Proposed Efficiency = 12.90 HSPF2, Required Efficiency = 7.50 HSPF2 Cooling Mode: Capacity = 29 kBtu/h, Proposed Efficiency = 15.00 SEER2, Required Efficiency = 14.30 SEER2 Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00 Fan System: AHU-1-3 -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: AHU-1-3 Supply, Single-Zone VAV, 1200 CFM, 1.5 motor nameplate hp, 70.00 fan energy index
1	AC-2-IT / CU-2-IT (Single Zone):	Split System Heat Pump Heating Mode: Capacity = 28 kBtu/h, Proposed Efficiency = 11.30 HSPF2, Required Efficiency = 7.50 HSPF2 Cooling Mode: Capacity = 22 kBtu/h, Proposed Efficiency = 20.50 SEER2, Required Efficiency = 14.30 SEER2 Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00 Fan System: AC-2-IT -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: AC-2-IT Supply, Constant Volume, 700 CFM, 0.8 motor nameplate hp, 70.00 fan energy index , fan exception: Single fan < 1 HP or < 0.89 kW
1	AC--READY / CU-READY (Single Zone w/ PerimeterSystem):	Split System Heat Pump Heating Mode: Capacity = 24 kBtu/h, Proposed Efficiency = 9.80 HSPF2, Required Efficiency = 7.50 HSPF2 Cooling Mode: Capacity = 18 kBtu/h, Proposed Efficiency = 24.70 SEER2, Required Efficiency = 14.30 SEER2 Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00 Fan System: AC-READY -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: AC-READY Supply, Constant Volume, 600 CFM, 0.5 motor nameplate hp, 70.00 fan energy index , fan exception: Single fan < 1 HP or < 0.89 kW
1	VRFCU-1 (Unknown):	VRF Condensing Unit, Air Cooled w/ Heat Recovery Heat Pump Heating Mode: Capacity = 80 kBtu/h, Proposed Efficiency = 4.34 COPH, Required Efficiency = 3.30 COPH Cooling Mode: Capacity = 72 kBtu/h, Proposed Efficiency = 15.00 EER, Required Efficiency = 10.10 EER Proposed Part Load Efficiency = 24.20 IEER, Required Part Load Efficiency = 14.40 IEER Fan System: None
1	VRFCU-2 (Unknown):	VRF Condensing Unit, Air Cooled w/ Heat Recovery Heat Pump Heating Mode: Capacity = 135 kBtu/h, Proposed Efficiency = 4.34 COPH, Required Efficiency = 3.30 COPH Cooling Mode: Capacity = 120 kBtu/h, Proposed Efficiency = 15.00 EER, Required Efficiency = 10.10 EER Proposed Part Load Efficiency = 23.20 IEER, Required Part Load Efficiency = 14.40 IEER Fan System: None
2	VRF-1-1 AND VRF-2-2 (Single Zone w/ PerimeterSystem):	Cooling: 1 each - VRF Zone Fan Unit (Cooling Equip), Capacity = 15 kBtu/h, No Economizer, Economizer exception: Heat Recovery System No minimum efficiency requirement applies Fan System: VRF FANS -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: VRF FANS Supply, Constant Volume, 1270 CFM, 0.8 motor nameplate hp, 70.00 fan energy index , fan exception: Single fan < 1 HP or < 0.89 kW
4	VRF-1-2, VRF-2-3, VRF-2-6, VRF-2-7 (Single Zone w/ PerimeterSystem):	Cooling: 1 each - VRF Zone Fan Unit (Cooling Equip), Capacity = 12 kBtu/h, No Economizer, Economizer exception: Heat Recovery System No minimum efficiency requirement applies Fan System: VRF FANS -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: VRF FANS Supply, Constant Volume, 1270 CFM, 0.8 motor nameplate hp, 70.00 fan energy index , fan exception: Single fan < 1 HP or < 0.89 kW

Quantity	Component	Description
2	VRF-1-3 AND VRF-2-1 (Single Zone w/ PerimeterSystem):	Cooling: 1 each - VRF Zone Fan Unit (Cooling Equip), Capacity = 30 kBtu/h, No Economizer, Economizer exception: Heat Recovery System No minimum efficiency requirement applies Fan System: VRF FANS -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: VRF FANS Supply, Constant Volume, 1270 CFM, 0.8 motor nameplate hp, 70.00 fan energy index , fan exception: Single fan < 1 HP or < 0.89 kW
2	VRF-1-4 AND VRF-2-4 (Single Zone w/ PerimeterSystem):	Cooling: 1 each - VRF Zone Fan Unit (Cooling Equip), Capacity = 24 kBtu/h, No Economizer, Economizer exception: Heat Recovery System No minimum efficiency requirement applies Fan System: VRF FANS -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: VRF FANS Supply, Constant Volume, 1270 CFM, 0.8 motor nameplate hp, 70.00 fan energy index , fan exception: Single fan < 1 HP or < 0.89 kW
1	VRF-2-5 (Single Zone w/ PerimeterSystem):	Cooling: 1 each - VRF Zone Fan Unit (Cooling Equip), Capacity = 8 kBtu/h, No Economizer, Economizer exception: Heat Recovery System No minimum efficiency requirement applies Fan System: VRF FANS -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: VRF FANS Supply, Constant Volume, 1270 CFM, 0.8 motor nameplate hp, 70.00 fan energy index , fan exception: Single fan < 1 HP or < 0.89 kW
1	EUH-1 THROUGH EUH-5 (Single Zone w/ PerimeterSystem):	Heating: 1 each - Unit Heater (Heating Equip), Electric, Capacity = 10 kBtu/h No minimum efficiency requirement applies Fan System: Unspecified
4	ECH-1 (Single Zone w/ PerimeterSystem):	Heating: 1 each - Unit Heater (Heating Equip), Electric, Capacity = 10 kBtu/h No minimum efficiency requirement applies Fan System: Unspecified
3	UH-1 THROUGH UH-3 (Single Zone w/ PerimeterSystem):	Heating: 1 each - Unit Heater (Heating Equip), Propane, Capacity = 60 kBtu/h Proposed Efficiency = 82.00% Et, Required Efficiency: 80.00 % Et Fan System: Unspecified
Water Heaters		
1	PFHWH-1:	Gas Storage Water Heater, Capacity: 120 gallons, Input Rating: 399 kBtu/h w/ Circulation Pump Proposed Efficiency: 81.00 Et, Required Efficiency: 80.00 Et

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design 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 2025 Energy Conservation Construction Code of New York State requirements in COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Andrew P. Saggese, P.E.

Name - Title **Signature** **Date**

Inspection Checklist

Energy Code: 2025 Energy Conservation Construction Code of New York State

Requirements: 100% were addressed directly in the COMcheck 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.

Plan Review

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C105.2 [PR2]1	Plans, specifications, and/or calculations provide all information in sufficient detail with which compliance can be determined for the mechanical and service water heating systems and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks. Hot water system sized per manufacturer's sizing guide.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-6 and P-6 series
C105.2 [PR3]1	Plans, specifications, and/or calculations provide all information in sufficient detail with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** E-1.1, E-1.2, E-1.3, E-1.4
C105.2 [PR4]1	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and equipment and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** E-1.1, E-1.2, E-1.3, E-1.4

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Footing / Foundation Inspection

Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C403.14.2, C403.14.3 [FO7]1	Snow/ice melting system and freeze protection system have sensors and controls configured to limit service for pavement temperature above 50F and outdoor temperature above 40F.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Exception:** Requirement does not apply.

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

STATE OF NEW YORK · ANDREW P. SAGGESE · LICENSED PROFESSIONAL ENGINEER · 100741 · 17.26

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

ENERGY CODE COMPLIANCE
SHEET 3

THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2025 NYSBC, 1ST PRINTING.

I HEREBY UNDERSIGNED NY STATE REGISTERED DESIGN PROFESSIONAL STATE THAT TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE PLANS AND/OR SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2025 NYSECCC.

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING:

EN-0.3

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."
This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS

Plumbing Rough-In Inspection

Section # & Req.ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
C404.5, C404.5.1, C404.5.2 [PL:1]¹	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to P-5, P-6 and P-7 series
C404.6.1, C404.6.1.1 [PL:2]¹	Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to P-5, P-6 and P-7 series
C404.6.1, C404.6.2 [PL:3]¹	Automatic time switches installed to automatically switch off the recirculating hot-water system or heat trace.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to P-5, P-6 and P-7 series
C404.6.3 [PL:4]¹	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Exception:** Requirement does not apply.
C404.7 [PL:5]¹	Drain water heat recovery (DWHR) units comply with CSA B55.2 with pressure loss < 10 psi at maximum flow. Group R occupancies have DWHR efficiencies in accordance with CSA B55.1.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Exception:** Requirement does not apply.

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Mechanical Rough-In Inspection

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.3 [ME1]¹	HVAC equipment efficiency verified.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	*See the Mechanical Systems list for values*
C403.12.3, C403.12.3.1, C403.12.3.2 [ME1:3]¹	Refrigerated display cases, walk-in coolers or walk-in freezers served by remote compressors and remote condensers not located in conditioned spaces shall be provided condensers that comply with Sections C403.12.3.1 and refrigeration compressor systems that comply with C403.12.3.2..	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Exception:** Requirement does not apply.
C403.14.1 [ME1:4]¹	Systems that heat outside the building envelope are radiant heat systems controlled by an occupancy sensing device or timer switch.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Exception:** Requirement does not apply.
C403.13.1, C403.13.2 [ME1:5]¹	HVAC ducts and plenums insulated in accordance with C403.13.1 and constructed in accordance with C403.13.3, verification may need to occur during Foundation Inspection.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.13.3 [ME1:6]¹	HVAC piping insulation insulated in accordance with Table C403.13.3. Insulation exposed to weather is protected from damage and is provided with shielding from solar radiation.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.2.2 [ME1:8]¹	Natural or mechanical ventilation is provided in accordance with International Mechanical Code Chapter 4. Mechanical ventilation has capability to reduce outdoor air supply to minimum per IMC Chapter 4.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.3.3 [ME2:0]¹	Hot gas bypass limited to: <=240 kBtu/h - 50% >240 KBtu/h - 25%	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.4.1.3 [ME2:4]¹	Where thermostatic control setpoints are adjustable by occupants or HVAC operators, the adjustments are independent for heating and cooling setpoint.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.4.1.5 [ME2:6]¹	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 Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.9 [ME3]¹	Large diameter fans where installed shall be tested and labeled in accordance with AMCA 250 and meet efficacy requirements of Table C403.9.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.4.6 [ME8:0]¹	Electric heating and cooling systems are provided with demand responsive controls as required in Section C403.4.6.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.4.7 [ME35]¹	Doors or operable openings from conditioned space to outdoors > 40 sq ft contain automatic controls interlocked with the heating and cooling system.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Exception:** Entrance doors as part of vestibule.
C403.4.8.1 [ME36]¹	Dehumidification controls do not use mechanical cooling to reduce humidity < 60% or a dew point < 55F	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.4.8.2 [ME37]¹	Humidity controls do not use fossil fuel or electricity for a humidity > 30% in warmest zone.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.4.8.3 [ME38]¹	Zones served by systems with both humidification and dehumidification prevent simultaneous operation.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Exception:** Requirement does not apply.
C403.5, C403.5.1, C403.5.2 [ME39]¹	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.5.2 [ME40]¹	Economizer operation will not increase heating energy use during normal operation.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C404.2 [ME4]¹	Service water heating equipment meets efficiency requirements.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C403.5.3.3 [ME41]¹	Air economizers automatically reduce outdoor air intake to the design minimum outdoor air quantity when outdoor air intake will not reduce cooling energy usage. See Table C403.5.3.3 for applicable device types and climate zones.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.5.3.4 [ME42]¹	System capable of relieving excess outdoor air during air economizer operation to prevent over pressurizing the building. The relief air outlet located to avoid recirculation into the building.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.5.3.5 [ME43]¹	Return, exhaust/relief and outdoor air ventilation dampers shall be provided with motorized dampers that automatically shut when not in use and meet maximum leakage rates. Reference section C403.7.7 for details.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.5.5 [ME45]¹	Fault detection and diagnostics installed with air-cooled unitary DX units or VRF units having economizers.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.7.1 [ME56]¹	Demand control ventilation provided for spaces >250 ft2 and >15 people/1000 ft2 occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.7.2 [ME57]¹	Enclosed parking garage ventilation has separate ventilation systems for each section, can reduce airflow < 0.05 cfm/sq ft of floor area and >50% of design capacity.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Exception:** Requirement does not apply.
C403.7.4 [ME59]¹	Exhaust air energy recovery on systems meeting Table C403.7.4(1) and C403.7.4(2).	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Exception:** Requirement does not apply.
C403.7.5 [ME60]¹	Kitchen exhaust systems comply with replacement air and conditioned supply air limitations, and satisfy hood rating requirements and maximum exhaust rate criteria. Type I exhaust hoods contain demand control kitchen ventilation with > 50% reduction in exhaust.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.7.6 [ME61]¹	HVAC systems serving guestrooms in Group R-1 buildings with > 50 guestrooms: Each guestroom is provided with controls that automatically manage temperature setpoint and ventilation (see sections C403.7.6.1 and C403.7.6.2).	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Exception:** Requirement does not apply.
C403.7.8, C403.7.8.1 [ME63]¹	Classrooms, training rooms, conference and multipurpose rooms, lounges, enclosed offices, open office areas and corridors contain occupied standby ventilation controls.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.8.4 [ME67]¹	Motors for fans that are not less than 1/12 hp and less than 1 hp are electronically commutated motors or have a minimum motor efficiency of 70 percent. These motors have the means to adjust motor speed.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.8.6 [ME68]¹	Each DX cooling system > 65 kBtu and chiller water/evaporative cooling system with fans > 1/4 hp are designed to vary the indoor fan airflow as a function of load and comply with detailed requirements of this section.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.15 [ME69]¹	Dehumidification systems for plant growth and maintenance are tested in accordance with DOE 10 CFR 430, has on-site heat recovery > 75% of dehumidification energy or ha a solid or liquid desiccant.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Exception:** Requirement does not apply.
C403.16 [ME70]¹	Service water pressure boost systems for non-residential occupancies for pump control, no devices used to reduce pressure and booster pumps do not operate when there is no service water flow.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Exception:** Requirement does not apply.
C403.17 [ME71]¹	Clean water pumps achieve a pump energy index (PEI) <= 1.0.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Exception:** Requirement does not apply.

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C404.2.1 [ME72]¹	Gas-fired water-heating equipment installed in new buildings: where a singular piece of water-heating equipment > 90 Et serves the entire building, thermal efficiency >= 92 Et. Where multiple pieces of water-heating equipment serve the building with combined rating >= 1,000 kBtu/h, the combined input-capacity-weighted-average thermal efficiency >= 90 Et. Exclude input rating of equipment in individual dwelling units and equipment <= 100 kBtu/h.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C408.2.2.1 [ME73]¹	Air outlets and zone terminal devices have means for air balancing.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Rough-In Electrical Inspection

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.1, C405.2.1.1 [EL:7]¹	Occupancy sensors installed in classrooms/lecture/training rooms, computer rooms/data centers, conference/meeting/multipurpose rooms, copy/print rooms, lounges/breakrooms, dining rooms, medical supply rooms, enclosed offices, laundry areas, open plan office areas, restrooms, storage rooms, telemedicine rooms, locker rooms, corridors, warehouse storage areas, and other spaces <= 300 sqft that are enclosed by floor-to-ceiling height partitions.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** E-1.1, E-1.2, E-1.3, E-1.4
C405.2.8, C405.2.8.1 [EL:16]¹	Interior lighting in Group B, E, M and S buildings have demand responsive lighting controls capable of reducing lighting load to <=70% of full load upon receipt of a demand reponse signal.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Exception:** Requirement does not apply.
C405.2.9 [EL:17]¹	Interior parking area lighting controlled by occupancy sensors or time switch control.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** E-1.0
C405.2.1.5 [EL:18]¹	Occupancy sensor control function for egress lighting is controlled by a combination of listed emergency relay and occupancy sensors or by signal from another building control system to reduce lighting power by 50% when occupied over 15 minutes.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Exception:** Luminaires function as normal and egress lighting. **Location on plans/spec:** E-1.1, E-1.2, E-1.3, E-1.4
C405.7 [EL:3]¹	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.7.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Exception:** Requirement does not apply.
C405.8 [EL:4]¹	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** E-2.1,2,3,4
C405.8.1 [EL:19]¹	New traction elevators with a rise > 75 ft have a power conversion system complying with Section C405.8.1.1 through C405.8.1.3.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Exception:** Requirement does not apply.
C405.11 [EL:1]¹	Total voltage drop across the combination of feeders and branch circuits <= 5%.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** E-1.1, E-1.2, E-1.3, E-1.4
C405.10.2 [EL:5]¹	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum speed allowed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Exception:** Requirement does not apply.
C405.13 [EL:2]¹	Buildings with gross conditioned floor area > 10,000 ft2 will be equipped with a energy monitoring system in compliance with C405.13.1 through C405.13.11.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** E-1.1, E-1.2, E-1.3, E-1.4

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.12 , C405.12.1 [EL:6]¹	50% of 15/20 amp receptacles installed in enclosed offices, conference rooms, copy and print rooms, lounges and staff workstations and > 25% of branch circuit feeders for modular furniture will have automatic receptacle control in accordance with C405.11.1.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** E-1.1, E-1.2, E-1.3, E-1.4
C405.2.1.2 [EL:8]¹	Occupancy sensors control function in warehouses: In warehouses, the lighting in aisleways and open areas is controlled with occupant sensors that automatically reduce lighting power by 50% or more within 20 minutes after the space is unoccupied. The occupant sensors control lighting in each aisleway independently and do not control lighting beyond the aisleway being controlled by the sensor. Lights not turned off by occupant sensors is done so by time-switch.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Exception:** Requirement does not apply.
C405.2.1.3 [EL:9]¹	Occupant sensor control function in open plan office areas: Occupant sensor controls in open office spaces >= 300 sq.ft. have controls 1) configured so that general lighting can be controlled separately in control zones with floor areas <= 600 sq.ft. within the space, 2) general lighting in each zone permits the turn off action occupancy in control zone to turn off general lighting in all control zones within 20 minutes after all occupants have left the space, 4) are configured so that general lighting power in each control zone is reduced by >= 80% of the full zone general lighting power within 20 minutes of all occupants leaving that control zone.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Exception:** Requirement does not apply.
C405.2.10, C405.2.10.1, C405.2.10.2 [EL:10]¹	Sleeping or dwelling units provided with lighting controls	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** E-1.1, E-1.2, E-1.3, E-1.4
C405.2.2, C405.2.2.1 [EL:11]¹	Each area not served by occupancy sensors (per C405.2.1.1) have time-switch controls and functions detailed in sections C405.2.2.1.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** E-1.1, E-1.2, E-1.3, E-1.4
C405.2.3.1 [EL:12]¹	Spaces required to have dimming controls have a manual control that allows the occupant to reduce the connected lighting load to 10% of full power.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Exception:** Requirement does not apply.
C405.2.4, C405.2.4.1, C405.2.4.2 [EL:13]¹	Daylight zones provided with individual controls that control the lights independent of general area lighting. See code section C405.2.3 Daylight-responsive controls for applicable spaces, C405.2.3.1 Daylight responsive control function and section C405.2.3.2 Sidelit zone.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** E-1.1, E-1.2, E-1.3, E-1.4
C405.2.5 [EL:14]¹	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** E-1.1, E-1.2, E-1.3, E-1.4
C405.2.7 [EL:15]¹	Automatic lighting controls for exterior lighting installed. Controls will be daylight controlled, set based on business operation time-of-day, or reduce connected lighting > 30%.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** E-1.1, E-1.2, E-1.3, E-1.4

Additional Comments/Assumptions:

DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

STATE OF NEW YORK
ANDREW P. SAGGESE
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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

ENERGY CODE COMPLIANCE
SHEET 4

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING:
EN-04

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS

THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2025 NYSBC, 1ST PRINTING.

I THE HEREBY UNDERSIGNED NY STATE REGISTERED DESIGN PROFESSIONAL STATE THAT TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE PLANS AND/OR SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2025 NYSECCC.

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."
This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Final Inspection

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C403.1.1 [F112]¹	HVAC systems and equipment design loads calculated in accordance with ANSI/ASHRAE/ACCA Standard 183 or by an approved equivalent computational procedure	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0 and M-6 series
C403.3.1 [F113]¹	HVAC systems and equipment capacity does not exceed calculated loads.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.4.1 [F114]¹	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.4.1.1 [F115]¹	Heat pump controls prevent supplemental electric resistance, fuel gas or liquid fuel heating systems from coming on when not needed.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.4.1.2 [F116]¹	Thermostatic controls have a 5 °F deadband.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.4.1.4 [F117]¹	Temperature controls have setpoint overlap restrictions.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.4.2 [F118]¹	Each zone equipped with setback controls using automatic time clock or programmable control system.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.4.2.1, C403.4.2.2 [F119]¹	Automatic Controls: Setback to 55 °F (heat) and 85 °F (cool); 7-day clock, 2-hour occupant override, 10-hour backup	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C403.4.2.3 [F120]¹	Systems include optimum start controls.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C404.3 [F12]¹	Heat traps installed on supply and discharge piping of non-circulating systems.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to P-5 series
C404.4 [F13]¹	All service water heating piping meets the thickness requirements of Table C404.4.1.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to P-5, P-6 and P-7 series

COMcheck-Web™

Compliance Certificate

Project Information

Energy Code: 2025 Energy Conservation Construction Code of New York State
Project Title: 7611 - Ellenville Fire House
Location: Ellenville, New York
Climate Zone: 6a
Project Type: New Construction
Project No: 141164
Project Sub Type: New Building/Complete
All Electric: false
Is Renewable: false
Has Battery: false
Has Charger: false
Has Heat Pump true

Construction Site: **Owner/Agent:** **Designer/Contractor:**

Notes:

Energy Credits

Description	Credit
P01 Energy monitoring	3.0
W03 Efficient fossil fuel water heater	16.0
L03 Increase occupancy sensor	3.0
L06 Reduced lighting power	16.0
H02 More efficient HVAC equipment heating performance	72.0

Credits: 36.0 Required 110.0 Proposed

Renewable energy

Number of Floors: 1
Area of Three Largest Floors: 29111
Proposed Capacity: 22000
Required Capacity: 21833
Proposed Off-site Energy: 0
Required Off-site Energy: 0
Exception: None

On-Site Renewable Energy

System	Capacity	Units
Solar PV	22000	Watts

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C404.6.1 [F121]¹	Controls are installed that limit the operation of a recirculation pump installed to maintain temperature of a storage tank. System return pipe is a dedicated return pipe or a cold water supply pipe.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to P-5, P-6 and P-7 series
C405.15.1, C405.15.2 [F25]¹	Buildings comply with the on-site and/or off-site renewable energy requirements of Section C405.15.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to PV system - Proposed 22kW system
C405.5.1 [F26]¹	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	*See the Exterior Lighting fixture schedule for values*
C406.2.4 [F141]¹	Energy credit measure P01 has been selected for energy credit - energy monitoring system installed that complies with C405.13.1 through C405.13.5.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** e-2.1,2,3
C406.2.5.3 [F143]¹	Lighting energy credit measure L03 has been selected for energy credit - increased occupancy sensor control in accordance with C406.2.5.3.1 through C406.2.5.3.3.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to Electrical Plans
C408.1.1 [F58]¹	Building operations and maintenance information is provided to building owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C408.2.1 [F59]¹	Commissioning plan developed by registered design professional or approved agency.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0 and M-7 series
C408.2.3.1 [F60]¹	HVAC equipment, systems and system-to-system relationships have been tested to ensure proper operation.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0 and M-7 series
C408.2.3.2 [F74]¹	HVAC and service water heating control systems have been tested to ensure proper operation, calibration and adjustment of controls.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0, M-6, and M-7 series
C408.2.3.3 [F175]¹	Economizers have been tested to ensure proper operation.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0 and M-7 series
C408.2.4 [F61]¹	Preliminary commissioning report completed and certified by registered design professional or approved agency.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0 and M-7 series

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C408.2.5 [F175]¹	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C408.2.5 [F176]¹	Furnished as-built drawings for electric power systems within 90 days of system acceptance.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C408.2.5.1 [F162]¹	An air and/or hydronic system balancing report is provided for HVAC systems.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0 and M-7 series
C408.2.5.2 [F176]¹	Final commissioning report due to building owner within 90 days of receipt of certificate of occupancy.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** Refer to M-0 and M-7 series
C408.3 [F14]¹	Lighting systems and receptacle controls have been tested to ensure proper calibration, adjustment, programming, and operation in accordance with C408.3.1.1 through C408.3.1.6.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	**Location on plans/spec:** E-1.1, E-1.2, E-1.3, E-1.4
C408.3.2.2 [F177]¹	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	
C408.3.2.2 [F163]¹	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Renewables Pass

Building Area

Description	Floor Area
1-Fire Station (Fire Station) : Nonresidential	29111

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DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

STATE OF NEW YORK · ANDREW P. SAGGESE · LICENSED PROFESSIONAL ENGINEER · 100741 · 17-29

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

ENERGY CODE COMPLIANCE
SHEET 5

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING:

EN-05

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS

KEY TO SYMBOLS

DUCTWORK

- EXISTING DUCTWORK TO REMAIN
- EXISTING DUCTWORK TO BE REMOVED
- NEW DUCTWORK
- NEW DUCTWORK W/ACOUSTICAL LINING
- DUCT UNDER POSITIVE PRESSURE (SUPPLY AIR OR FAN DISCHARGE)
- DUCT UNDER NEGATIVE PRESSURE (RETURN OR OUTSIDE AIR)
- DUCT UNDER NEGATIVE PRESSURE (EXHAUST)
- (400) SUPPLY DIFFUSER, (AIR QUANTITY IN CUBIC FEET PER MINUTE)
- (400) RETURN REGISTER, (AIR QUANTITY IN CUBIC FEET PER MINUTE)
- RECTANGULAR DIFFUSER WITH BLANKING PLATE
- (400) EXHAUST REGISTER, (AIR QUANTITY IN CUBIC FEET PER MINUTE)
- S.R. S.G. SUPPLY REGISTER SUPPLY GRILLE
- R.R. R.G. RETURN REGISTER RETURN GRILLE
- LOUVER & SCREEN
- LINEAR DIFFUSER
- 10x6 TR (150) 10" BY 6" TOP REGISTER 150 CFM SUPPLY AIR
- 10x6 TR(TG) (150) 10" BY 6" TOP REGISTER (TOP GRILLE) 150 CFM RETURN AIR
- 10x6 BR(BG) (150) 10" BY 6" BOTTOM REGISTER (BOTTOM GRILLE) 150 CFM RETURN AIR
- VOLUME DAMPER
- SUPPLY AIR FLOW
- RETURN AIR FLOW – RA
- RISE IN DUCTWORK (IN DIRECTION OF AIR FLOW)
- DROP IN DUCTWORK (IN DIRECTION OF AIR FLOW)
- UC UNDERCUT DOOR
- FD/AD FIRE DAMPER AND ACCESS DOOR
- FSD/AD FIRE/SMOKE DAMPER W/END SWITCH AND ACCESS DOOR
- BD GRAVITY BACKDRAFT DAMPER
- M MOTORIZED DAMPER W/END SWITCH
- CAP DUCT
- FLEXIBLE DUCTWORK
- FLEXIBLE CONNECTION
- SMOKE DAMPER

PIPING

- EXISTING PIPING TO REMAIN
- EXISTING PIPING TO BE REMOVED
- NEW PIPING
- C CONDENSATE PIPING
- HWS HOT WATER SUPPLY
- HWR HOT WATER RETURN
- RFGT REFRIGERANT PIPING
- DIRECTION OF FLOW
- PIPE TURNING UP
- PIPE TURNING DOWN
- BOTTOM PIPE TAP
- TOP PIPE TAP
- CAPPED PIPE
- PIPE BREAK
- F&T TRAP
- LOW PRESSURE DRIP
- UNION
- STRAINER
- HB HOSE BIBB
- FLOOR DRAIN, F.D.
- FLEXIBLE CONNECTION
- AUTOMATIC AIR VENT

VALVES

- TRIPLE DUTY VALVE
- 3-WAY VALVE
- AUTOMATIC CONTROL VALVE
- BALL VALVE
- BASKET STRAINER
- BUTTERFLY VALVE
- CHECK VALVE
- FLOW CONTROL VALVE
- GATE VALVE
- GLOBE VALVE
- M MOTOR OPERATED VALVE
- OUTSIDE SCREW YOKE
- PLUG VALVE
- PRESSURE REDUCING VALVE
- SHUTOFF BALANCING VALVE
- S SOLENOID VALVE
- PRESSURE RELIEF VALVE

INSTRUMENTATION

- T THERMOSTAT
- H HUMIDISTAT
- F FIRESTAT
- G GAS DETECTOR
- S REMOTE TEMPERATURE SENSOR
- DD DUCT DETECTOR
- RM REFRIGERANT LEAK DETECTOR
- TH TEMPERATURE AND HUMIDITY RECORDER
- LD LIQUID DETECTOR
- P PRESSURE GUAGE
- F FLOW SWITCH
- THERMOMETER
- EP ELECTRIC PNEUMATIC SWITCH
- PE PNEUMATIC ELECTRIC SWITCH
- ESAP ENVIRONMENTAL SENSOR ALARM PANEL
- P MANUAL POTENTIOMETER
- CO_2 CARBON DIOXIDE SENSOR

EQUIPMENT

- BASEBOARD RADIATION
- CABINET HEATER
- DUCT MOUNTED UNIT HEATER
- HORIZONTAL UNIT HEATER
- PUMP
- COILS
- CENTRIFUGAL FAN OR PUMP
- ELECTRIC HEATER
- CP CONDENSATE PUMP
- CEILING EXHAUST FAN
- CENTRIFUGAL ROOF FAN
- VARIABLE FREQUENCY DRIVE
- EQUIPMENT CLEARANCE ZONE

ANNOTATION

- CONNECT TO EXISTING
- LIMIT OF REMOVAL

MECHANICAL GENERAL DESCRIPTION OF WORK SCOPE

FURNISH & INSTALL ROOF–MOUNTED UNIT TO SERVE PROPOSED GARAGE AREA. FURNISH & INSTALL GAS DETECTION SYSTEM WITH ASSOCIATED STANDBY/EMERGENCY EXHAUST FANS FOR CODE REQUIRED EXHAUST AIR. FURNISH & INSTALL ROOF–MOUNTED PENTHOUSE LOUVER FOR MAKEUP AIR.

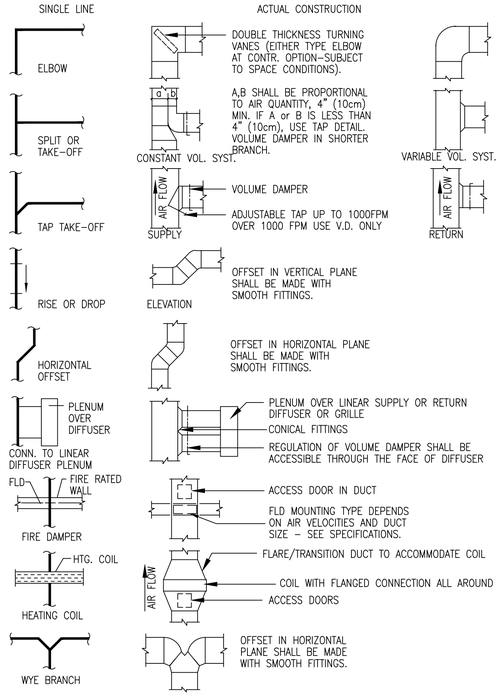
FURNISH & INSTALL VRF SYSTEMS FOR 1ST FLOOR AND 2ND FLOOR OFFICE AREAS.

FURNISH & INSTALL INDOOR AIR HANDLING UNITS TO SERVE 1ST FLOOR MULTIPURPOSE AREA, 1ST FLOOR COMMUNITY/SHELTER ROOM, 1ST FLOOR LOBBY, AND 2ND FLOOR TRAINING ROOM.

FURNISH & INSTALL KITCHEN MAKEUP AIR UNIT AND EXHAUST FAN FOR 1ST FLOOR KITCHEN AREA.

INTERPRETATION OF SINGLE LINE DUCTWORK

WHERE DUCTWORK IS SHOWN SINGLE LINE, FOLLOWING SHALL APPLY FOR ACTUAL DUCT CONSTR.



DRAWING NO. TITLE

M–0.1	MECHANICAL SYMBOLS, ABBREVIATIONS AND GENERAL NOTES
M–0.2	MECHANICAL GENERAL NOTES
M–1.1	MECHANICAL FIRST FLOOR DUCTWORK PLAN
M–1.2	MECHANICAL MEZZANINE DUCTWORK PLAN
M–1.3	MECHANICAL SECOND FLOOR DUCTWORK PLAN
M–2.1	MECHANICAL FIRST FLOOR PIPING PLAN
M–2.2	MECHANICAL MEZZANINE PIPING PLAN
M–2.3	MECHANICAL SECOND FLOOR PIPING PLAN
M–3.1	MECHANICAL RADIANT HEATING FIRST FLOOR PLAN
M–3.2	MECHANICAL RADIANT HEATING MEZZANINE PLAN
M–5.1	MECHANICAL DETAILS
M–5.2	MECHANICAL DETAILS
M–5.3	MECHANICAL DETAILS
M–5.4	MECHANICAL DETAILS
M–5.5	MECHANICAL DETAILS
M–5.6	MECHANICAL DETAILS
M–5.7	MECHANICAL DETAILS
M–5.8	MECHANICAL DETAILS
M–5.9	MECHANICAL DETAILS
M–5.10	MECHANICAL DETAILS
M–5.11	MECHANICAL DETAILS
M–6.1	MECHANICAL SCHEDULES
M–6.2	MECHANICAL SCHEDULES
M–6.3	MECHANICAL SCHEDULES
M–6.4	MECHANICAL VENTILATION SCHEDULES
M–6.5	MECHANICAL LOAD CALCULATIONS
M–6.6	MECHANICAL LOAD CALCULATIONS
M–7.1	MECHANICAL SPECIFICATIONS
M–7.2	MECHANICAL SPECIFICATIONS
M–7.3	MECHANICAL SPECIFICATIONS
M–8.1	MECHANICAL SEQUENCE OF OPERATIONS
M–8.2	MECHANICAL REFRIGERANT PIPING DIAGRAMS
M–9.1	MECHANICAL RADIANT HEATING FLOW DIAGRAMS
M–9.2	MECHANICAL RADIANT HEATING DETAILS

ABBREVIATIONS

A	AMPERES
A/C UNIT	AIR CONDITIONING UNIT
ACCU	AIR COOLED CONDENSING UNIT
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR–CONDITIONING ENGINEERS
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
ACT	ACOUSTICAL CEILING TILE
AS	AIR SEPARATOR
AUTO	AUTOMATIC
BB	BASEBOARD
BLR	BOILER
BG	BOTTOM GRILLE
BLR HP	BOILER HORSEPOWER
BLDG	BUILDING
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STEEL
BR	BOTTOM REGISTER
BHP	BRAKE HORSEPOWER
BTU	BRITISH THERMAL UNIT
BTUH	BTU PER HOUR
℄	CENTERLINE
CHWP	CHILLED WATER PUMP
CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
CC	COOLING COIL
CD	CEILING DIFFUSER
CFM,	CUBIC FEET PER MINUTE
CG	CEILING GRILLE
CLG	CEILING
CNDS	CONDENSATE DRAIN
CO	CLEAN OUT
COD	CONTINUED ON DRAWING
CR	CEILING REGISTER
CRP	CONDENSATE RETURN PUMP
CU FT	CUBIC FEET
CU IN	CUBIC INCHES
CUH	CABINET UNIT HEATER
CW	COLD (DOMESTIC) WATER
CWP	CONDENSER WATER PUMP
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
DEMO	DEMOLITION
DB	DRY BULB
DC	DRY COOLER
DIA, ø	DIAMETER
DMPR	DAMPER
DN	DOWN
DWG	DRAWING
DX	DIRECT EXPANSION
EA	EACH
EXA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
EDBT	ENTERING DRY BULB TEMPERATURE
ECH	ELECTRIC CABINET HEATER
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EL	ELEVATION
ELEC	ELECTRIC
EOD	END OF DUCT
EQ	EQUAL
EUH	ELECTRIC UNIT HEATER
EWBT	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
EXP	EXPANSION TANK
(E)	EXISTING
(ER)	EXISTING TO BE REMOVED
°F	DEGREES FAHRENHEIT
F & T	FLOAT AND THERMOSTATIC
FA	FREE AREA (SQ. FT.)
FAI	FRESH AIR INTAKE
FC	FLEXIBLE CONNECTION
FDMPR	FIRE DAMPER W/ ACCESS DOOR
FD	FLOOR DRAIN
FLA	FULL LOAD AMPERES
FLR	FLOOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FR	FLOOR REGISTER
FT	FEET
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FD/AD	FIRE DAMPER AND ACCESS DOOR
FSD/AD	FIRE/SMOKE DAMPER W/END SWITCH AND ACCESS DOOR
G	GAS
GA	GAUGE
GAL	GALLON
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GPM	GALLONS PER MINUTE
HEX	HEAT EXCHANGER
HT	HEIGHT
HR	HOUR
HPS	HIGH PRESSURE STEAM
HWP	HOT WATER PUMP
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HZ	FREQUENCY
IN	INCH OR INCHES
IPS	IRON PIPE SIZE
KW	KILOWATT
L	LENGTH
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LDBT	LEAVING DRY BULB TEMPERATURE
LEMCS	LOCAL EMERGENCY MOTOR CONTROL SWITCH
LD	LINEAR DIFFUSER
LF	LINEAR FEET
LPS	LOW PRESSURE STEAM
LPCR	CONDENSATE RETURN
LWBT	LEAVING WET BULB TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPS
MOD	MOTORIZED DAMPER
MIN	MINIMUM
MOT	MOTOR
NFPA	NATIONAL FIRE PROTECTION ASSOC.
(N)	NEW
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
#	NUMBER
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAI	OUTSIDE AIR INTAKE
OED	OPEN ENDED DUCT
OD	OUTSIDE DIAMETER
PD	PRESSURE DROP
PDISCH	PUMPED DISCHARGE
PRESS	PRESSURE
PSI	POUNDS PER SQUARE INCH
(R)	RELOCATED
RA	RETURN AIR
RND	ROUND
RFGT	REFRIGERANT
REQD	REQUIRED
RA FAN	RETURN FAN
RG	RETURN GRILLE
RHG	REFRIGERANT GAS
RLL	REFRIGERANT LIQUID
RLA	RATED LOAD AMPS
RR	RETURN REGISTER
RSL	REFRIGERANT SUCTION
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SAG	SUPPLY GRILLE
SDMPR	SMOKE DAMPER
SF	SQUARE FEET
SF	SUPPLY FAN
SOV	SHUT–OFF VALVE
SPEC	SPECIFICATION
SR	SUPPLY REGISTER
ST PR	STATIC PRESSURE
SST	STAINLESS STEEL
TAL	TOTAL ACTIVE LENGTH
TAO	TRANSFER AIR OPENING
TBR	TO BE REMOVED
TEMP	TEMPERATURE
TG	TRANSFER GRILLE
TOD	TOP OF DUCT
TOS	TOP OF STEEL
TR	TOP REGISTER
TRR	TRANSFER RETURN REGISTER
TRD	TRANSFER RETURN DUCT
TYP	TYPICAL
UH	UNIT HEATER
UV	UNIT VENTILATOR
UNO	UNLESS NOTED OTHERWISE
V	VOLTS
VD	VOLUME DAMPER
VAV	VARIABLE AIR VOLUME UNIT
VENT	VENTILATION AIR
VFD	VARIABLE FREQUENCY DRIVE
W	WIDTH
W/	WITH
W/O	WITHOUT
WB	WET BULB
WC	WATER COLUMN
WG	WATER GAUGE
WMS	WIRE MESH SCREEN

MECHANICAL COMMISSIONING NOTE

COMMISSIONING IS REQUIRED FOR "MECHANICAL SYSTEMS AND SERVICE WATER–HEATING SYSTEMS" IN ACCORDANCE WITH SECTION C408.2.

REFER TO M–002 FOR COMMISSIONING NOTES

APPLICABLE NYS BUILDING CODES

THIS PROJECT IS DESIGNED IN ACCORDANCE WITH THE FOLLOWING CODES:

BUILDING CODE –	2025 BUILDING CODE OF NEW YORK STATE (2025–BCNYS)
EXISTING BUILDINGS –	2025 EXISTING BUILDING CODE OF NEW YORK STATE (2025–EBCNYS)
MECHANICAL CODE –	2025 MECHANICAL CODE OF NEW YORK STATE (2025–MCNYS)
PLUMBING CODE –	2025 PLUMBING CODE OF NEW YORK STATE (2025–PCNYS)
SPRINKLERS/FA –	2025 FIRE CODE OF NEW YORK STATE (2025–FCNYS)
FUEL/GAS –	2025 FUEL GAS CODE OF NEW YORK STATE (2025–NYSFGC)
ENERGY CODE –	2025 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE (2025–ECCCNYS)

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."
This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

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MECHANICAL
SYMBOLS ABBREVIATIONS AND GENERAL NOTES

PROJECT No. 2501 EMTEC: 7611

CHECKED BY: MF/APS

DRAWING: M–0.1

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

GENERAL MECHANICAL NOTES:

1. THIS PORTION OF THE PROJECT IS EXEMPT FROM SEISMIC CONSTRAINTS.
2. ALL WORK SHALL COMPLY WITH ALL LOCAL AND STATE CODES AND AUTHORITIES HAVING JURISDICTION.
3. THE CONTRACTOR SHALL SECURE FOR ALL REQUIRED PERMITS AND ARRANGE ALL REQUIRED INSPECTIONS. OWNER WILL PAY PERMIT FEES.
4. THESE DRAWINGS, AS PREPARED, ARE DIAGRAMMATIC BUT SHALL BE FOLLOWED AS CLOSELY AS CONSTRUCTION OF THE PROJECT AND THE WORK OF THE TRADES WILL PERMIT. EQUIPMENT LOCATIONS INDICATED ARE APPROXIMATE. COORDINATE EXACT LOCATIONS, MOUNTING HEIGHTS, AND REQUIRED CLEARANCES WITH EQUIPMENT SUPPLIER AND ALL TRADES PRIOR TO INSTALLATION.
5. MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL THE EQUIPMENT INDICATED WITHIN THE MECHANICAL DRAWINGS UNLESS OTHERWISE NOTED. FIELD VERIFY LOCATION AND DIMENSIONS PRIOR TO FABRICATION AND/OR INSTALLATION. ALL EQUIPMENT SHALL BE UL LISTED.
6. MECHANICAL CONTRACTOR SHALL REFER TO DRAWINGS FOR ALL TRADES AND PERFORM ALL WORK INDICATED AS MECHANICAL CONTRACTOR WORK.
7. FURNISH AND INSTALL FIRE DAMPERS WITH RATED ACCESS DOORS AT ALL DUCT PENETRATIONS THROUGH FIRE RATED WALLS, SMOKE AND FIRE STOPPING, SHAFTS, FLOORS, RATED CEILINGS AND PARTITIONS AS REQUIRED TO MAINTAIN ARCHITECTURAL FIRE RATINGS. PROVIDE CEILING RADIATION DAMPERS AT ALL MEMBRANE PENETRATIONS OF HORIZONTAL FLOOR/CEILING ASSEMBLIES. REFER TO THE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR LOCATIONS AND FIRE RATING REQUIREMENTS.
8. ALL ROOF PENETRATIONS SHALL BE AT THE CONTRACTOR'S EXPENSE. COORDINATE WITH GC'S ROOFING CONTRACTOR SO AS REQUIRED FOR ROOF WARRANTIES.
9. EACH UNIT GENERATING CONDENSATE SHALL BE PROVIDED WITH A CONDENSATE DRAIN WITH EXTERNAL, 4" DEEP P-TRAP. EXTEND DRAIN TO A ROOF MOUNTED SPLASH PAD OR AN ACCEPTABLE LOCATION REQUIRED BY CODE.
10. DUCT WORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET STEEL IN STRICT COMPLIANCE WITH THE LATEST EDITION OF THE ASHRAE, NFPA, AND SMACNA STANDARDS. ALL DUCTS TO HAVE PITTSBURGH TYPE LOCK FOR LONGITUDINAL SEAMS AND DRIVE SLIP / "S" SLIP FOR TRANSVERSE JOINTS. "DUCT-MATE" JOINT SYSTEM IS ACCEPTABLE IN LIEU OF PRIOR SEAM SYSTEMS. DUCT WORK SHALL BE FULLY INSULATED AS PER APPLICABLE CODES AND WRITTEN SPECIFICATIONS.
11. PROVIDE 1" INTERNAL ACOUSTICAL LINING ON SUPPLY AND RETURN DUCTWORK UP TO 15'-0" FROM UNIT.
12. DRAWINGS ARE DIAGRAMMATIC AND ALL DUCTWORK SHOWN MUST BE FIELD VERIFIED AND COORDINATED WITH ALL TRADES AND STRUCTURES BEFORE FABRICATION. DUCT SIZES SHOWN ON DRAWINGS ARE INSIDE DIMENSIONS, INCREASE DUCT SIZES AS REQUIRED FOR INTERNAL LINING.
13. ALL METAL DUCT AND AIR DISTRIBUTION DEVICES SHALL BE INSULATED WITH 75 DENSITY FOIL-BACKED INSULATION WITH FIRE AND SMOKE RATING 25-50. R-VALUE SHALL BE R-6 WHEN DUCT IS LOCATED INSIDE OF THE BUILDING AND R-8 WHEN LOCATED OUTSIDE OF THE BUILDING OR WITHIN THE EXTERIOR ENVELOPE ASSEMBLY.
14. UNLESS OTHERWISE NOTED, ALL SUPPLY TAKEOFFS SHALL HAVE A MANUAL VOLUME CONTROL DAMPER.
15. ANY ADJUSTABLE PATTERN CONTROLLER OR BLADE SHALL BE FIELD SET BY THE INSTALLING CONTRACTOR AS INDICATED ON THESE DOCUMENTS.
16. ALL FLEX DUCT SHALL BE UL LISTED, R-6. FOIL-BACKED, CLASSIFIED AS A CLASS 1 AIR DUCT. MAXIMUM LENGTH IS TO BE 3'-0" PER DROP OR PER LOCAL CODE.
17. THE FINAL LOCATION OF AIR DEVICES MUST BE COORDINATED WITH THE REFLECTED CEILING PLAN AND ALL OTHER MECHANICAL, ELECTRICAL, SPRINKLER, ARCHITECTURAL, AND STRUCTURAL SYSTEMS.
18. THE CONTRACTOR IS TO SUPPLY AND INSTALL ALL LOW-VOLTAGE WIRING CONNECTIONS FOR ALL HVAC EQUIPMENT INCLUDING TEMPERATURE CONTROLS, ROOF TOP UNITS, SMOKE DETECTORS AND CONTACTOR PANEL.
19. PROVIDE FLEXIBLE CONNECTORS AT ALL DUCT CONNECTIONS TO VIBRATING EQUIPMENT. THESE CONNECTORS SHALL BE INSTALLED IN CLOSE PROXIMITY TO SUCH EQUIPMENT.
20. FURNISH AND INSTALL SMOKE DUCT DETECTORS IN EACH AIR CONDITIONING UNIT RETURN DUCT GREATER THAN 2000 CFM. CONTRACTOR SHALL PROVIDE INTERCONNECTION AND WIRE TO THE FIRE ALARM CONTROL PANEL IF REQUIRED. DUCT DETECTORS SHALL HAVE REMOTE TEST STATIONS LOCATED IN THE OFFICE NEAR THE RESPECTIVE THERMOSTATS. VERIFY CODE REQUIREMENTS FOR DUCT DETECTORS IN BOTH THE SUPPLY AND RETURN AIR STREAMS.
21. THE ENTIRE INSTALLATION SHALL BE GUARANTEED FREE OF DEFECTS AND CONTRACTOR SHALL REPAIR AND / OR REPLACE ANY DEFECTIVE MATERIALS OR EQUIPMENT AT NO COST TO THE OWNER FOR A MINIMUM PERIOD OF TWO (2) YEARS FROM THE DATE OF ACCEPTANCE BY ARCHITECT OR ENGINEER.
22. ALL WORK SHALL BE SUBJECT TO THE ACCEPTANCE AND APPROVAL OF THE ARCHITECT AND OWNER. THE ARCHITECT SHALL BE NOTIFIED OF ANY AND ALL DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK. FAILURE OF PROPER NOTIFICATION DOES NOT RELIEVE THE CONTRACTOR. THE CONTRACTOR SHALL CORRECT ANY AND ALL WORK ARISING FROM SUCH FAILURE TO COORDINATE DISCREPANCIES TO THE SATISFACTION OF THE ARCHITECT WITHOUT ADDITIONAL COST TO THE OWNER.
23. PROVIDE MANUAL BALANCING DAMPERS AS REQUIRED TO PROPERLY BALANCE EACH INDIVIDUAL AIR DISTRIBUTION SYSTEM. IF THE LOCATION OF THE BALANCING DAMPER IS NOT DEFINED ON THE DRAWINGS, THE FOLLOWING MINIMUMS STANDARDS SHALL GOVERN: ALL SUPPLY, RETURN, AND EXHAUST MAIN BRANCHES FROM TRUNKS, EACH SPLIT AND ALL SUB-BRANCHES FROM MAINS SHALL INCORPORATE BALANCING DAMPERS.
24. THE CONTRACTOR SHALL, UPON COMPLETION OF PROJECT, PERFORM A COMPLETE TEST AND BALANCE OF ALL EQUIPMENT IN COMPLIANCE WITH ALL APPLICABLE CODES, REGULATIONS, PLANS AND WRITTEN SPECIFICATIONS. CONTRACTOR SHALL PROVIDE A WRITTEN REPORT TO THE ARCHITECT. ALL CAPACITIES MUST BE SET TO WITHIN ±10% OF AMOUNTS INDICATED ON THE FLOOR PLAN AND SCHEDULES.
25. UPON COMPLETION OF INSTALLATION, SYSTEM INSTALLERS SHALL PROVIDE WITH ONE (1) FULL SIZE SET OF AS BUILT DRAWINGS, AS WELL AS AUTOCAD AND PDF FORMATS.
26. AIR HANDLERS AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH EITHER THE INTERNATIONAL MECHANICAL CODE OR INTERNATIONAL RESIDENTIAL CODE, AS APPLICABLE. AIR HANDLERS SHALL HAVE A MANUFACTURER'S DESIGNATION FOR AN AIR LEAKAGE OF NO MORE THAN 2 PERCENT OF THE DESIGN AIR FLOW RATE WHEN TESTED IN ACCORDANCE WITH ASHRAE 193. DUCTS, AIR HANDLERS AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH THE 2020 NYS MECHANICAL CODE AND THE 2020 NYS RESIDENTIAL CODE, AS APPLICABLE
27. ALL RESETS FOR CONTROLS SHALL BE AUTOMATIC, UNLESS SPECIFICALLY NOTED AS MANUAL.
28. ANY PIPING AND DUCTWORK ABOVE ELECTRICAL EQUIPMENT (PANELS, TRANSFORMERS, ETC) MUST BE INSTALLED AT LEAST 6 FT ABOVE AND PROVIDED WITH 2" DRIP PANS AND LEAK DETECTORS.
29. MC SHALL COORDINATE FULL SYSTEM DEMONSTRATION AND TRAINING FOR ALL SYSTEMS TO THE OWNER'S DESIGNATED REPRESENTATIVE. MC SHALL ESTIMATE ONE (1) FULL DAY OF TRAINING (8 HOURS).

GENERAL CONTRACT NOTES:

1. ALL ISSUES OR CLARIFICATIONS OF INTENT TO BE ADDRESSED PRIOR TO BID OPENING. CHANGE ORDERS BASED ON CLARIFICATION OF INTENT WILL NOT BE ENTERTAINED.
2. M.C. SHALL BE RESPONSIBLE FOR ANY G.C., P.C., OR E.C. CHANGE ORDERS WHICH ARE A RESULT OF SUBSTITUTED MECHANICAL EQUIPMENT OR MATERIALS.
3. ALL NOTES ON THIS AND ANY MECHANICAL SHEET SHALL CARRY THROUGH THE MECHANICAL DRAWING SET, IN ITS ENTIRETY, UNLESS OTHERWISE NOTED.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY UTILITY LOCATIONS, AS WELL AS OTHER UTILITIES THAT MAY OR MAY NOT BE SHOWN.
5. ALL WORK IS TO BE PLUMB, LEVEL AND TRUE.
6. ALL WORK SHALL BE EXECUTED IN SUCH A MANNER AS TO PROTECT THE SAFETY OF THE WORKMEN AND THE PUBLIC, DURING CONSTRUCTION. ALL BARRIERS AND OTHER PRECAUTIONARY MEASURES SHALL BE ERECTED IN ACCORDANCE WITH THE AUTHORITIES HAVING JURISDICTION OR AS REQUIRED FOR SAFETY DURING THE ENTIRE CONSTRUCTION OPERATION.
7. THE CONTRACTOR SHALL USE ADEQUATE NUMBERS OF SKILLED WORKMEN WHO ARE THOROUGHLY TRAINED AND EXPERIENCED IN THE NECESSARY CRAFTS AND WHO ARE COMPLETELY FAMILIAR WITH THE REQUIREMENTS AND METHODS NEEDED FOR PROPER PERFORMANCE OF THE WORK NOTED ON THE PLANS.
8. THE CONTRACTOR SHALL BOTH COORDINATE HIS ACTIVITIES WITH THE OWNER AND ARCHITECT DURING CONSTRUCTION.
9. POWER WIRING SHALL BE BY THE ELECTRICAL CONTRACTOR, POWER FOR CONTROLS AND CONTROL WIRING SHALL BE BY THE MECHANICAL CONTRACTOR INCLUDING CONTROL FEEDER, UNLESS NOTED OTHERWISE.
10. MECHANICAL CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING HIS BID AND PERFORM ALL SITE INVESTIGATION WORK REQUIRED PRIOR TO STARTING OF THE HEATING AND VENTILATING WORK.
11. FURNISH AND INSTALL ALL THERMOSTATS WITH GUARDS AND CONTROL WIRING TO NEW EQUIPMENT.
12. UNLESS SPECIFICALLY DESIGNATED OTHERWISE, THE CONTRACTOR SHALL FURNISH AND INSTALL EACH AND EVERY ITEM OF EQUIPMENT SHOWN OR DESCRIBED, TOGETHER WITH ALL COMPONENTS AND INCIDENTALS (MATERIALS, LABOR, FEES, TRANSPORTATION, TOOLS, STORAGE, CUTTING, PATCHING, TRENCHING, CLEAN-UP, ETC.) NECESSARY TO COMPLETE THE WORK WITH NO ADDITIONAL EXPENSE TO THE OWNER.
13. LOCATIONS, QUANTITIES, AND OTHER MEASUREMENTS OF THE BUILDING AND EQUIPMENT ARE OFFERED AS A GENERAL GUIDE ONLY, WITHOUT GUARANTEE AS TO THE COMPLETE ACCURACY. THE CONTRACTOR SHALL EXAMINE THE DRAWINGS AND EQUIPMENT AND VERIFY (TO HIS OWN SATISFACTION) ALL CONDITIONS AND THEIR RELATIONS AND EFFECTS REQUIRED FOR A COMPLETE AND CORRECTLY OPERATING HV SYSTEM.
14. MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL STEAM PIPING AND ALL NECESSARY CONNECTIONS TO COILS OR HEATING ELEMENTS. FURNISH AND INSTALL PIPING INSULATION AS REQUIRED BY THE MOST RECENT VERSION OF THE NY STATE ENERGY CONSERVATION CODE..
15. M.C. SHALL FURNISH AND INSTALL EXPANSION COMPENSATION WITH ALL HEATING PIPING. M.C. SHALL PROVIDE ALL DUCT TRANSITIONS, HANGERS, VIBRATION ISOLATION, BALANCING DAMPERS, REGISTERS, FIRE DAMPERS AS REQUIRED FOR A PROPER INSTALLATION.
16. ALL EQUIPMENT AND INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 803 OF THE MOST CURRENT NYS ENERGY CODE AND COMPLY WITH ASHRAE 90.1. MECHANICAL CONTRACTOR SHALL REWRAP AND INSULATE ANY AND ALL PIPING WHICH HAS BEEN ABATED OR REMOVED.
17. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL, REINSTALLATION OF ALL DAMAGED CEILINGS AS REQUIRED TO INSTALL MECHANICAL EQUIPMENT, UNLESS A NEW CEILING IS IN THE G.C. CONTRACT FOR THE SPACE IN QUESTION.
18. MECHANICAL CONTRACTOR SHALL CUT AND PATCH AS REQUIRED TO INSTALL ALL MECHANICAL EQUIPMENT, TO MATCH ADJACENT SURFACES, WHETHER CONDITIONS ARE FORESEEN OR NOT. MECHANICAL CONTRACTOR WILL BE RESPONSIBLE FOR SETTING ALL NEW ROOF CURBS, CUTTING THE OPENINGS THROUGH THE ROOF DECK.
19. M.C. SHALL FURNISH CONCRETE HOUSE KEEPING PADS FOR MECHANICAL EQUIPMENT INCLUDING BUT NOT LIMITED TO BOILERS, PUMPS AND AIR HANDLERS..
20. MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL HOT WATER PIPING AND ALL NECESSARY CONNECTIONS TO COILS OR HEATING ELEMENTS. FURNISH AND INSTALL PIPING INSULATION AS DESCRIBED IN THE MECHANICAL SPECIFICATION DIVISION.
21. M.C. SHALL FURNISH AND INSTALL ALL STARTERS AND DISCONNECTS. E.C. SHALL WIRE THE DEVICE.
22. M.C SHALL COORDINATE ALL MASONRY OPENINGS WITH G.C.

MECHANICAL COMMISSIONING REQUIREMENTS

THE FOLLOWING SYSTEMS AND EQUIPMENT ARE REQUIRED TO BE COMMISSIONED IN ACCORDANCE WITH THE SECTIONS BELOW:

- ALL EXHAUST FANS
- ALL ROOFTOP UNITS
- ALL INDOOR AIR HANDLING UNITS
- ALL SPLIT SYSTEMS
- ALL ELECTRIC HEATERS (CABINET & UNIT HEATERS)
- ALL ERVS
- ALL VRF SYSTEMS (INDOOR EVAPORATORS AND OUTDOOR CONDENSING UNITS)

MAINTENANCE INFORMATION AND SYSTEMS COMMISSIONING

GENERAL:

THIS SECTION COVERS THE PROVISION OF MAINTENANCE INFORMATION AND THE COMMISSIONING OF, AND THE FUNCTIONAL TESTING REQUIREMENTS FOR BUILDING SYSTEMS.

BUILDING OPERATIONS AND MAINTENANCE INFORMATION:

THE BUILDING OPERATIONS AND MAINTENANCE DOCUMENTS SHALL BE PROVIDED TO THE OWNER AND SHALL CONSIST OF MANUFACTURER'S INFORMATION, SPECIFICATIONS, AND RECOMMENDATIONS; PROGRAMMING PROCEDURES AND DATA POINTS; NARRATIVES; AND OTHER MEANS OF ILLUSTRATING TO THE OWNER HOW THE BUILDING, EQUIPMENT AND SYSTEMS ARE INTENDED TO BE INSTALLED, MAINTAINED AND OPERATED. REQUIRED REGULAR MAINTENANCE ACTIONS FOR EQUIPMENT AND SYSTEMS SHALL BE CLEARLY STATED ON A READILY VISIBLE LABEL. THE LABEL SHALL INCLUDE THE TITLE OR PUBLICATION NUMBER FOR THE OPERATION AND MAINTENANCE MANUAL FOR THAT PARTICULAR MODEL AND TYPE OF PRODUCT.

MECHANICAL SYSTEMS AND SERVICE-WATER HEATING SYSTEMS COMMISSIONING AND COMPLETION REQUIREMENTS:

PRIOR TO THE FINAL MECHANICAL AND PLUMBING INSPECTIONS, A COMMISSIONING AUTHORITY SHALL PROVIDE EVIDENCE OF MECHANICAL SYSTEMS COMMISSIONING AND COMPLETION IN ACCORDANCE WITH THE PROVISIONS OF THIS SECTION.

EXCEPTIONS: THE FOLLOWING SYSTEMS ARE EXEMPT:

1. MECHANICAL SYSTEMS AND SERVICE WATER HEATER SYSTEMS IN BUILDINGS WHERE THE TOTAL MECHANICAL EQUIPMENT CAPACITY IS LESS THAN 480,000 BTU/H COOLING CAPACITY AND 600,000 BTU/H COMBINED SERVICE WATER-HEATING AND SPACE-HEATING CAPACITY.
2. SYSTEMS INCLUDED IN SECTION C403.5 THAT SERVE INDIVIDUAL DWELLING UNITS AND SLEEPING UNITS.

COMMISSIONING PLAN

A COMMISSIONING PLAN SHALL BE DEVELOPED BY THE COMMISSIONING AUTHORITY AND SHALL INCLUDE THE FOLLOWING ITEMS:

1. A NARRATIVE DESCRIPTION OF THE ACTIVITIES THAT WILL BE ACCOMPLISHED DURING EACH PHASE OF COMMISSIONING INCLUDING THE PERSONNEL INTENDED TO ACCOMPLISH EACH ACTIVITY.
2. A LISTING OF SPECIFIC EQUIPMENT, APPLIANCES, OR SYSTEMS TO BE TESTED AND A DESCRIPTION OF THE TESTS TO BE PERFORMED.
3. FUNCTIONS TO BE TESTED INCLUDING, BUT NOT LIMITED TO, CALIBRATIONS AND ECONOMIZER CONTROLS.
4. CONDITIONS UNDER WHICH THE TEST WILL BE PERFORMED. TESTING SHALL AFFIRM WINTER AND SUMMER DESIGN CONDITIONS AND FULL OUTSIDE AIR CONDITIONS.
5. MEASURABLE CRITERIA FOR PERFORMANCE.

SYSTEMS ADJUSTING AND BALANCING

HVAC SYSTEMS SHALL BE BALANCED IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING STANDARDS. THE COMMISSIONING AGENT SHALL REVIEW AND PERFORM A SPOT CHECK VERIFICATION OF THE TESTING, ADJUSTING, AND BALANCING REPORT.

AIR SYSTEMS BALANCING:

EACH SUPPLY AIR OUTLET AND ZONE TERMINAL DEVICE SHALL BE EQUIPPED WITH MEANS FOR AIR BALANCING IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 6 OF THE MECHANICAL CODE OF NEW YORK STATE.

FUNCTIONAL PERFORMANCE TESTING

EQUIPMENT FUNCTIONAL PERFORMANCE TESTING SHALL DEMONSTRATE THE INSTALLATION AND OPERATION OF COMPONENTS, SYSTEMS, AND SYSTEM-TO-SYSTEM INTERFACING RELATIONSHIPS IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS SUCH THAT OPERATION, FUNCTION, AND MAINTENANCE SERVICEABILITY FOR EACH OF THE COMMISSIONED SYSTEMS IS CONFIRMED. TESTING WILL INCLUDE ALL MODES OF OPERATION, INCLUDING FULL-LOAD, PART-LOAD, AND THE FOLLOWING EMERGENCY CONDITIONS:

1. ALL MODES AS DESCRIBED IN THE SEQUENCE OF OPERATION.
2. REDUNDANT OR AUTOMATIC BACK-UP MODE.
3. PERFORMANCE OF ALARMS.
4. MODE OF OPERATION UPON LOSS OF POWER AND RESTORATION OF POWER.

EXCEPTIONS: UNITARY OR PACKAGED HVAC EQUIPMENT LISTED IN TABLES C403.3.2(1) THROUGH C403.3.2(3) THAT DO NOT REQUIRE SUPPLY AIR ECONOMIZERS.

CONTROLS TESTING

THE COMMISSIONING AGENT SHALL WITNESS TESTING OF THE HVAC AND SERVICE WATER-HEATING SYSTEMS AND DOCUMENT THAT CONTROL DEVICES, COMPONENTS, EQUIPMENT, AND SYSTEMS ARE CALIBRATED AND ADJUSTED AND OPERATE IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS. SEQUENCES OF OPERATION SHALL BE FUNCTIONALLY TESTED TO DOCUMENT THEY OPERATE IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.

ECONOMIZERS

AIR ECONOMIZER SHALL UNDERGO A FUNCTIONAL TEST TO DETERMINE THAT THEY OPERATE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS

PRELIMINARY COMMISSIONING REPORT.

THE COMMISSIONING AGENT SHALL PREPARE A PRELIMINARY COMMISSIONING REPORT OF TEST PROCEDURES AND RESULTS. THE REPORT SHALL BE ORGANIZED WITH MECHANICAL AND SERVICE HOT WATER FINDINGS IN SEPARATE SECTIONS TO ALLOW INDEPENDENT REVIEW. THE REPORT SHALL BE IDENTIFIED AS "PRELIMINARY COMMISSIONING REPORT" AND INCLUDE THE COMPLETED COMMISSIONING COMPLIANCE CHECKLIST IN FIGURE C408.2.4.

THE REPORT SHALL IDENTIFY THE FOLLOWING:

1. ITEMIZATION OF DEFICIENCIES FOUND DURING TESTING THAT HAVE NOT BEEN CORRECTED AT THE TIME OF THE REPORT PREPARATION.
2. DEFERRED TESTS THAT CANNOT BE PERFORMED AT THE TIME OF REPORT PREPARATION DUE TO CLIMATIC CONDITIONS.
3. CLIMATIC CONDITIONED REQUIRED FOR PERFORMANCE OF DEFERRED TESTS.
4. RESULTS OF FUNCTIONAL PERFORMANCE TESTS.
5. FUNCTIONAL PERFORMANCE TEST PROCEDURES USED DURING THE COMMISSIONING PROCESS, INCLUDING MEASURABLE CRITERIA FOR TEST ACCEPTANCE.

THE FOLLOWING CHECKLIST SHALL BE COMPLETED BY THE BUILDING OWNER OR OWNER'S AUTHORIZED AGENT:

Project Address: _____

Commissioning Authority: _____

Commissioning Plan (Section C408.2.1)

☐ Commissioning Plan was used during construction and includes all items required by Section C408.2.1

☐ Systems Adjusting and Balancing has been completed.

☐ HVAC Equipment Functional Testing has been executed. If applicable, deferred and follow-up testing is scheduled to be provided on:_____

☐ HVAC Controls Functional Testing has been executed. If applicable, deferred and follow-up testing is scheduled to be provided on:_____

☐ Economizer Functional Testing has been executed. If applicable, deferred and follow-up testing is scheduled to be provided on:_____

☐ Lighting Controls Functional Testing has been executed. If applicable, deferred and follow-up testing is scheduled to be provided on:_____

☐ Service Water Heating System Functional Testing has been executed. If applicable, deferred and follow-up testing is scheduled to be provided on:_____

☐ Manual, record documents and training have been completed or scheduled

☐ Preliminary Commissioning Report submitted to owner and includes all items required by Section C408.2.4

I hereby certify that the commissioning provider has provided me with evidence of mechanical, service water heating and lighting systems commissioning in accordance with the 2018 IECC.

Signature of Building Owner or Owner's Representative _____ Date_____

FIGURE C408.2.4

ACCEPTANCE OF REPORT:

BUILDINGS, OR PORTIONS THEREOF, SHALL NOT BE CONSIDERED ACCEPTABLE FOR FINAL INSPECTION PURSUANT TO SECTION C104.3 UNTIL THE CODE OFFICIAL HAS RECEIVED A LETTER OF TRANSMITTAL FROM THE BUILDING OWNER ACKNOWLEDGING THAT THE BUILDING OR OWNER'S AUTHORIZED AGENT HAS RECEIVED THE PRELIMINARY COMMISSIONING REPORT.

COPY OF REPORT:

THE BUILDING OFFICIAL SHALL BE PERMITTED TO REQUIRE THAT A COPY OF THE PRELIMINARY COMMISSIONING REPORT BE MADE AVAILABLE FOR REVIEW.

DOCUMENTATION REQUIREMENTS:

THE DOCUMENTS DESCRIBED IN THIS SECTION SHALL BE PROVIDED TO THE BUILDING OWNER OR OWNER'S AUTHORIZED AGENT WITHIN 90 DAYS OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.

SYSTEM BALANCING REPORT:

A WRITTEN REPORT DESCRIBING THE ACTIVITIES AND MEASUREMENTS COMPLETED.

FINAL COMMISSIONING REPORT:

THE COMMISSIONING AGENT SHALL PREPARE A FINAL COMMISSIONING REPORT. THE REPORT WILL INCLUDE THE FOLLOWING:

1. RESULTS OF FUNCTIONAL PERFORMANCE TESTS.
2. DISPOSITION OF DEFICIENCIES FOUND DURING TESTING, INCLUDING DETAILS OF CORRECTIVE MEASURES USED OR PROPOSED.
3. FUNCTIONAL PERFORMANCE TEST PROCEDURES USED DURING THE COMMISSIONING PROCESS INCLUDING MEASURABLE CRITERIA FOR TEST ACCEPTANCE.

EXCEPTION:

DEFERRED TESTING THAT CANNOT BE PERFORMED AT THE TIME OF REPORT PREPARATION DUE TO CLIMATIC CONDITIONS.

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06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
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SEAL

STATE OF NEW YORK
ANDREW P. SAGOSE
LICENSED PROFESSIONAL ENGINEER
10074
7/21 RENEWAL 7/28

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL
GENERAL NOTES

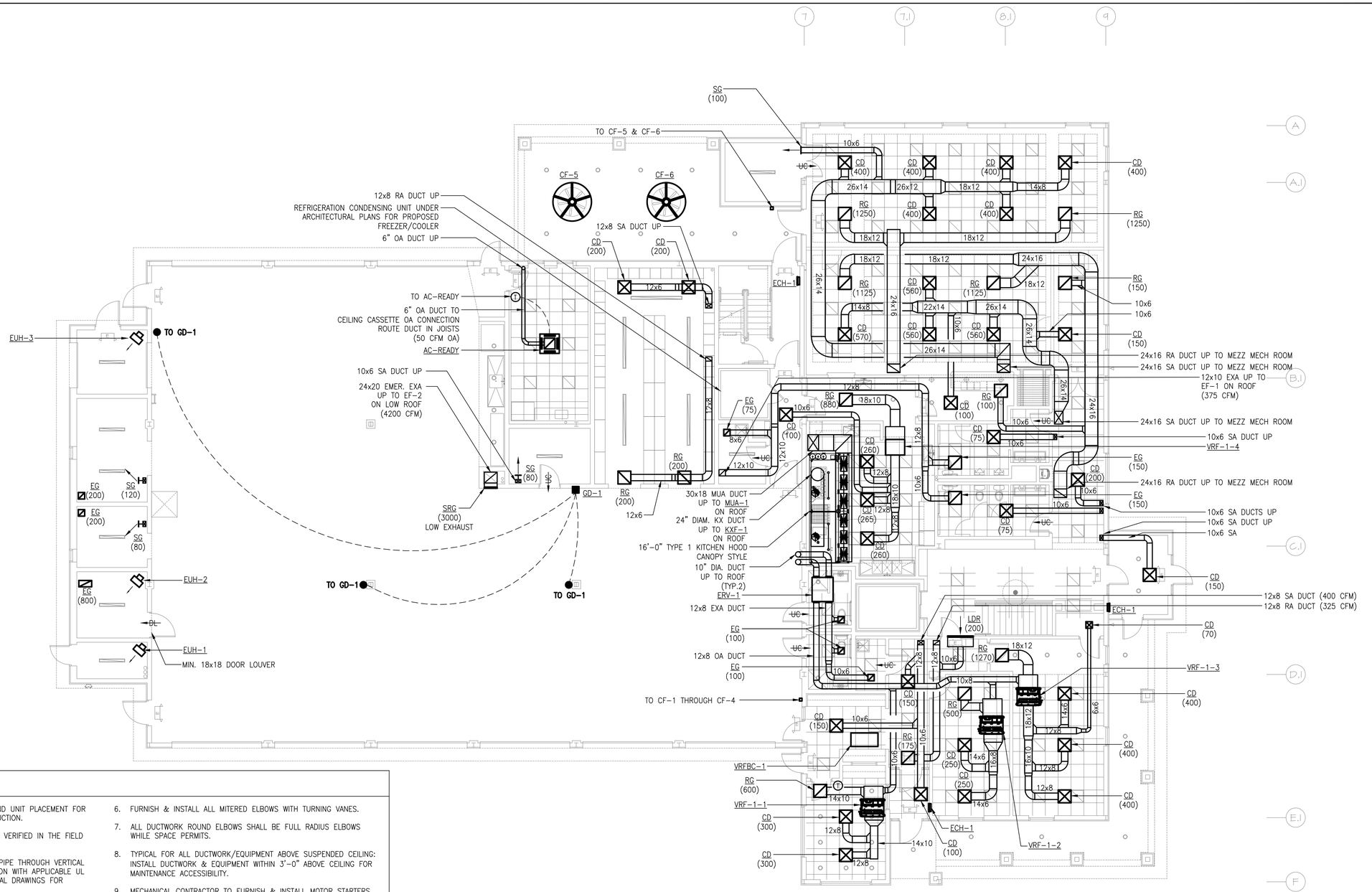
PROJECT No. 2601
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

M-0.2

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS



SHEET NOTES

1. SUBMIT SHOP DRAWINGS OF DUCTWORK AND UNIT PLACEMENT FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
2. EXACT LOCATIONS OF THERMOSTATS TO BE VERIFIED IN THE FIELD AND APPROVED BY THE ARCHITECT.
3. FIRESTOP ALL PENETRATIONS OF DUCT & PIPE THROUGH VERTICAL AND HORIZONTAL FIRE-RATED CONSTRUCTION WITH APPLICABLE UL FIRESTOP SYSTEM. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE-RATED CONSTRUCTION.
4. ALL BRANCH DUCTS AND OUTDOOR AIR CONNECTIONS TO AIR HANDLERS SHALL BE FURNISHED & INSTALLED WITH VOLUME DAMPERS.
5. ALL DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH NFPA 90A AND SMACNA GUIDELINES.
6. FURNISH & INSTALL ALL MITERED ELBOWS WITH TURNING VANES.
7. ALL DUCTWORK ROUND ELBOWS SHALL BE FULL RADIUS ELBOWS WHILE SPACE PERMITS.
8. TYPICAL FOR ALL DUCTWORK/EQUIPMENT ABOVE SUSPENDED CEILING: INSTALL DUCTWORK & EQUIPMENT WITHIN 3'-0" ABOVE CEILING FOR MAINTENANCE ACCESSIBILITY.
9. MECHANICAL CONTRACTOR TO FURNISH & INSTALL MOTOR STARTERS FOR ALL MOTOR LOADS (FANS). ELECTRICAL CONTRACTOR TO WIRE ALL.

FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0" MEZZ. SQUARE FOOTAGE = 13,924

0 2' 4' 6' 8' 10' 20' 30' 50'

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SEAL

STATE OF NEW YORK · ANDREW P. SAGOSE · LICENSED PROFESSIONAL ENGINEER · 10074

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

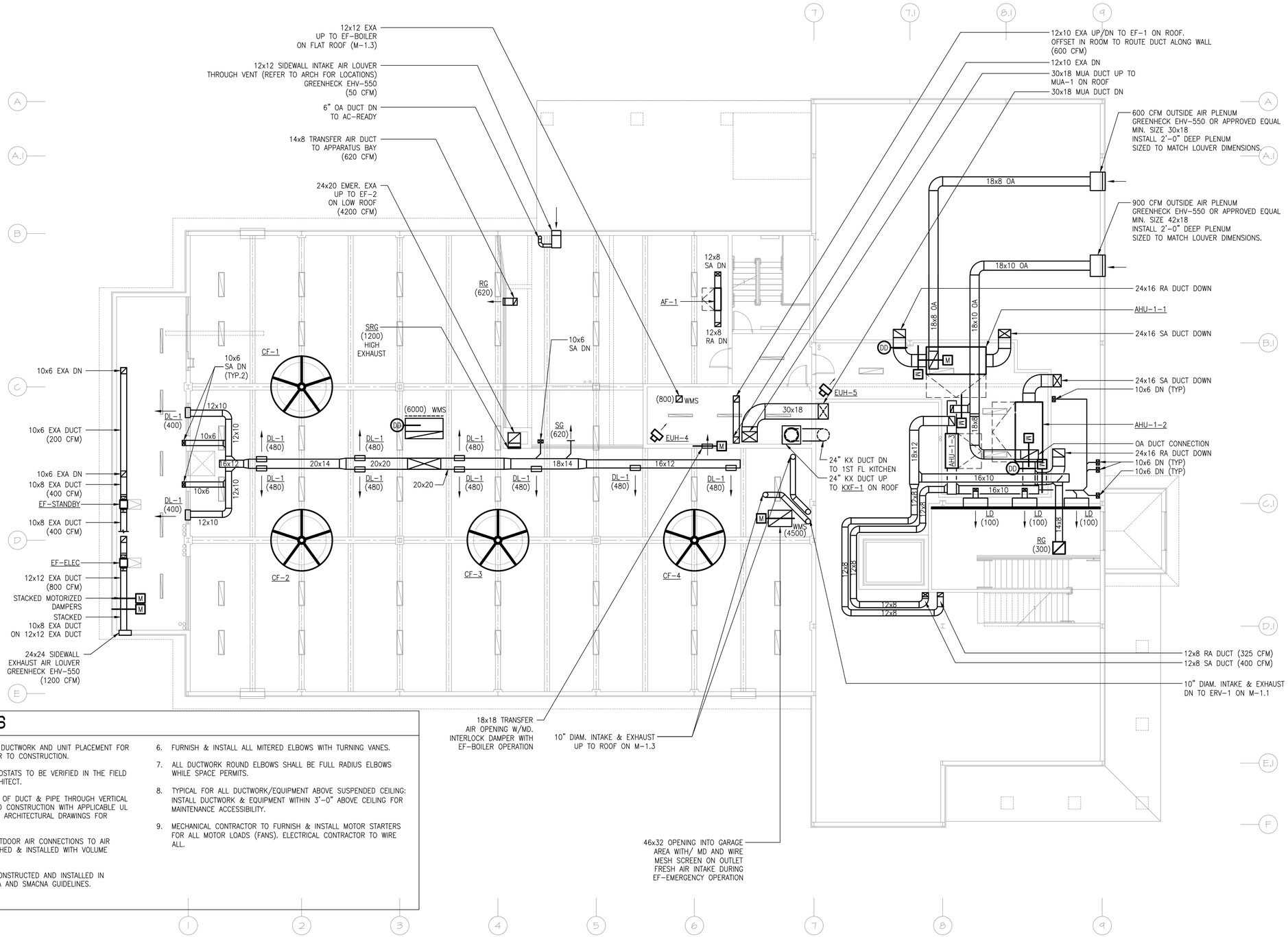
MECHANICAL
FIRST FLOOR
DUCTWORK PLAN

PROJECT No. 2601
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING: M-1.1

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS



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7. ALL DUCTWORK ROUND ELBOWS SHALL BE FULL RADIUS ELBOWS WHILE SPACE PERMITS.
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9. MECHANICAL CONTRACTOR TO FURNISH & INSTALL MOTOR STARTERS FOR ALL MOTOR LOADS (FANS). ELECTRICAL CONTRACTOR TO WIRE ALL.

MEZZANINE FLOOR PLAN (PARTIAL)

SCALE: 1/8" = 1'-0" MEZZ. SQUARE FOOTAGE = 1,982

0 2' 4' 6' 8' 10' 20' 30' 50'

DATE	ISSUED
08-22-2025	ISSUED FOR 100%DD/50%CD REVIEW
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06-17-2025	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

STATE OF NEW YORK · ANDREW P. SAGOSE · LICENSED PROFESSIONAL ENGINEER · 10074 · 2021 · 2025

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL
MEZZANINE
DUCTWORK PLAN

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

M-1.2

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."
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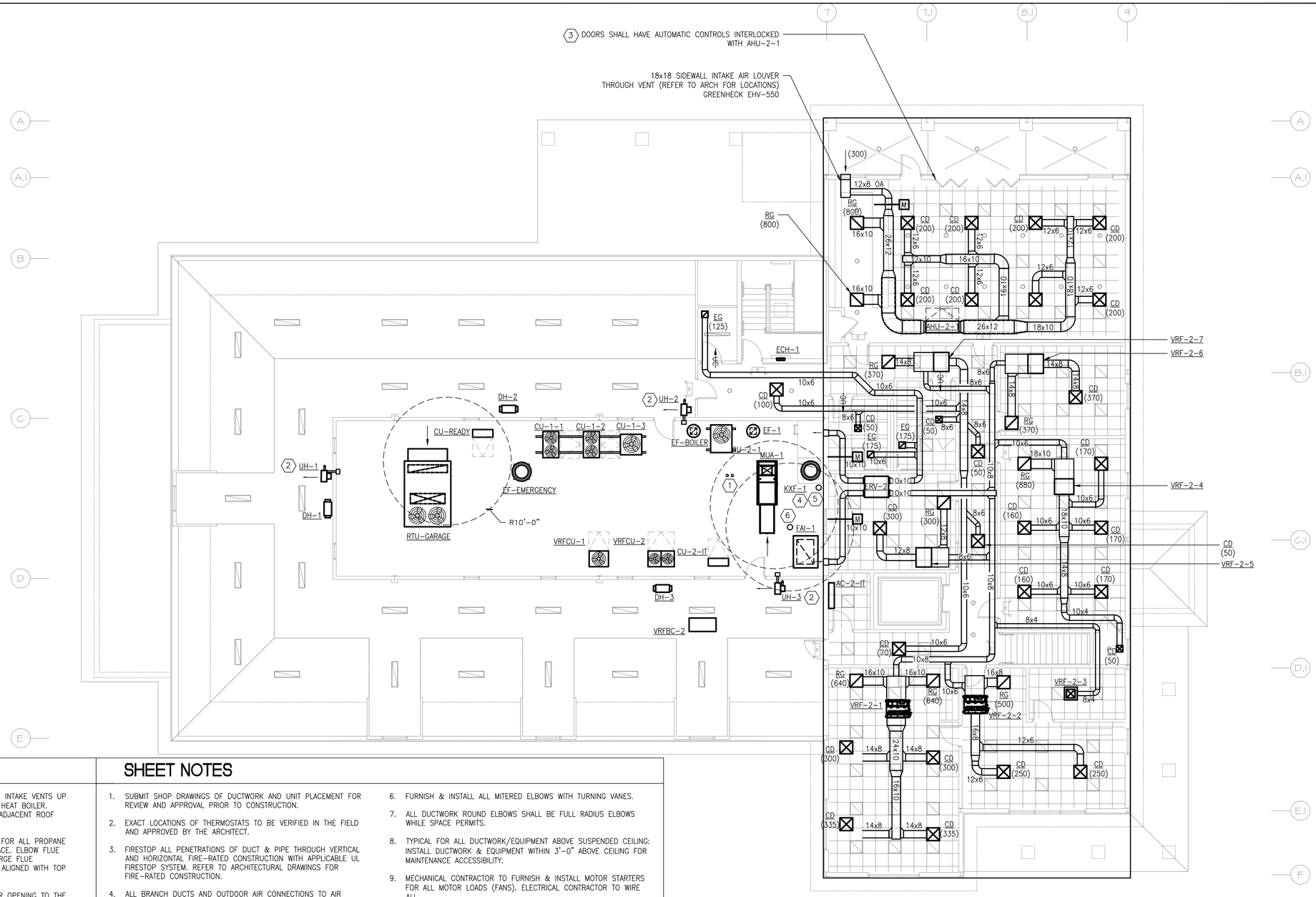

KEY NOTES

1. FURNISH & INSTALL 3" EXHAUST & AIR INTAKE VENTS UP TO DISCHARGE ON ROOF FOR RADIANT HEAT BOILER. TERMINATE VENTS ABOVE THE TOP OF ADJACENT ROOF WALLS.
2. FURNISH & INSTALL SIDEWALL INTAKES FOR ALL PROPANE GAS-FIRED UNIT HEATERS IN ATTIC SPACE. ELBOW FLUE DISCHARGE OUT OF HEATER TO DISCHARGE FLUE VERTICALLY WITH RAIN CAP VERTICALLY ALIGNED WITH TOP OF ADJACENT ROOF (TYP. 3)
3. WITHIN 5 MINUTES OF THE LARGE DOOR OPENING TO THE EXTERIOR BALCONY PROVED FULLY OPEN VIA DOOR SWITCH, THE FOLLOWING SHALL OCCUR FOR THE ASSOCIATED AHU SERVING THIS ROOM:
   - 3.1. RESET SPACE HEATING TEMP. TO MAXIMUM 55F SETPOINT.
   - 3.2. RESET SPACE COOLING TEMP. TO IMINIMUM 90F SETPOINT.
   - 3.3. MECHANICAL COOLING CAN REMAIN ENABLED IF OUTDOOR AIR TEMP IS BELOW SPACE TEMPERATURE.
4. KITCHEN EXHAUST FAN SHALL BE INSTALLED ABOVE ALL ADJACENT WALLS. COORDINATE MOUNTING HEIGHT WITH ARCHITECT.
5. ERV 10" DIAM. EXHAUST DUCT TERMINATED ABOVE THE TOP OF ADJACENT ROOF WALLS. ADJACENT MECHANICAL AIR INTAKES. TERMINATE WITH WEATHERPROOF CAP.
6. ERV 10" DIAM. INTAKE AIR VENT. TERMINATE WITH WEATHERPROOF CAP.

SHEET NOTES

1. SUBMIT SHOP DRAWINGS OF DUCTWORK AND UNIT PLACEMENT FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
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9. MECHANICAL CONTRACTOR TO FURNISH & INSTALL MOTOR STARTERS FOR ALL MOTOR LOADS (FANS). ELECTRICAL CONTRACTOR TO WIRE ALL.

N

SECOND FLOOR PLAN

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

SQUARE FOOTAGE = 5643 (NOT INCL. FLAT ROOF & ATTIC AREAS)

0 2' 4' 6' 8' 10' 20' 30' 50'

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STATE OF NEW YORK · ANDREW P. SAGOSE · LICENSED PROFESSIONAL ENGINEER · 100741 · 17-29

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL
SECOND FLOOR
DUCTWORK PLAN

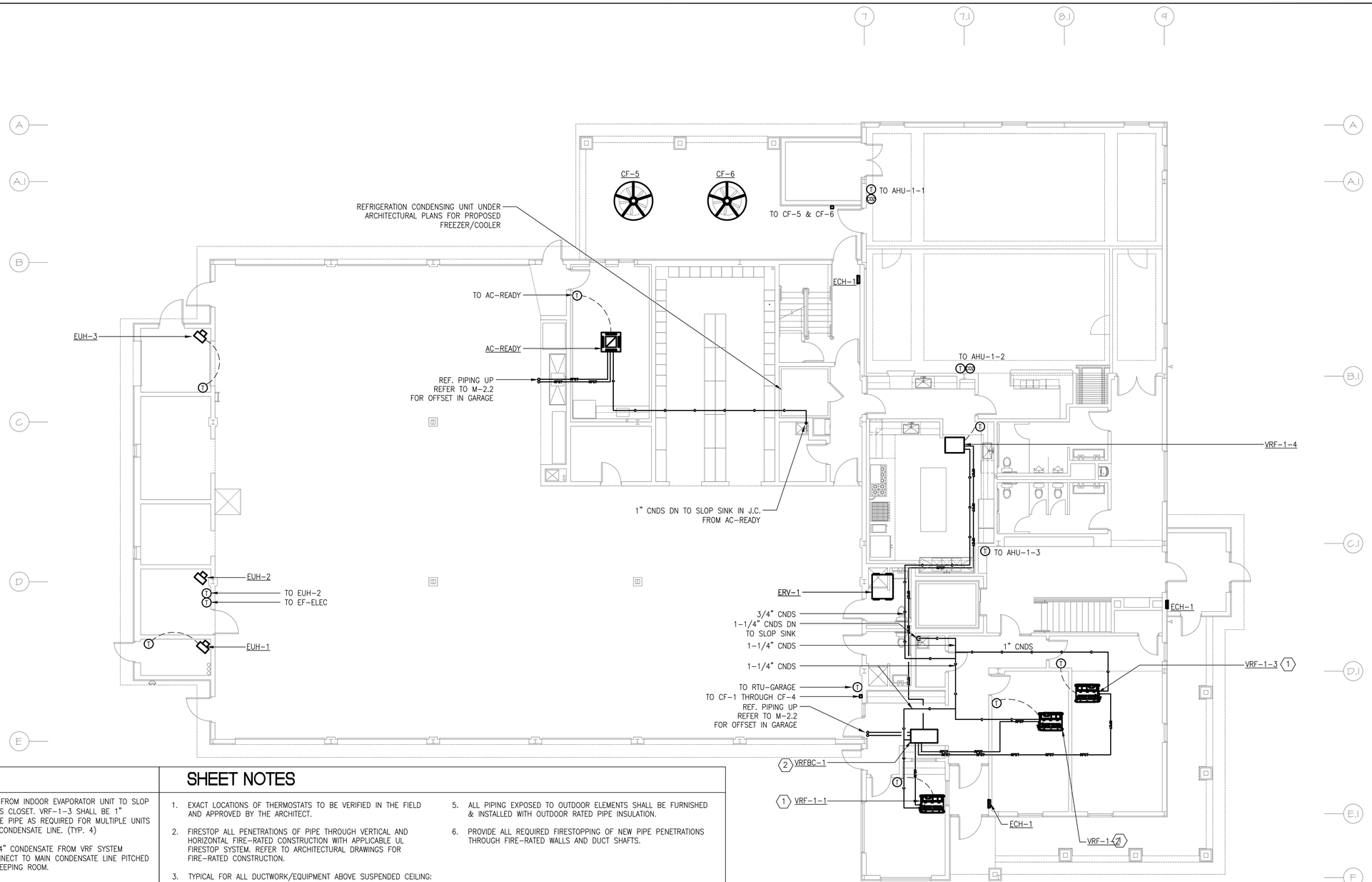
PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

M-1.3

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS



KEY NOTES

1. ROUTE 3/4" CONDENSATE FROM INDOOR EVAPORATOR UNIT TO SLOP SINK IN NEAREST JANITOR'S CLOSET. VRF-1-3 SHALL BE 1" CONDENSATE DRAIN. UPSIZE PIPE AS REQUIRED FOR MULTIPLE UNITS CONNECTED TO A SINGLE CONDENSATE LINE. (TYP. 4)
2. FURNISH & INSTALL 1-1/4" CONDENSATE FROM VRF SYSTEM BRANCH CONTROLLER. CONNECT TO MAIN CONDENSATE LINE PITCHED TO SLOP SINK IN HOUSEKEEPING ROOM.

SHEET NOTES

1. EXACT LOCATIONS OF THERMOSTATS TO BE VERIFIED IN THE FIELD AND APPROVED BY THE ARCHITECT.
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4. EACH CONDENSATE PUMP'S DISCHARGE SHALL BE PIPED VIA 3/4" COPPER PIPE TO THE NEAREST FLOOR DRAIN WITH AIR GAP AS SPECIFIED ON DRAWINGS.
5. ALL PIPING EXPOSED TO OUTDOOR ELEMENTS SHALL BE FURNISHED & INSTALLED WITH OUTDOOR RATED PIPE INSULATION.
6. PROVIDE ALL REQUIRED FIRESTOPPING OF NEW PIPE PENETRATIONS THROUGH FIRE-RATED WALLS AND DUCT SHAFTS.

N

FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0" MEZZ. SQUARE FOOTAGE = 13,924

0 2' 4' 6' 8' 10' 20' 30' 50'

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL
FIRST FLOOR
PLAN

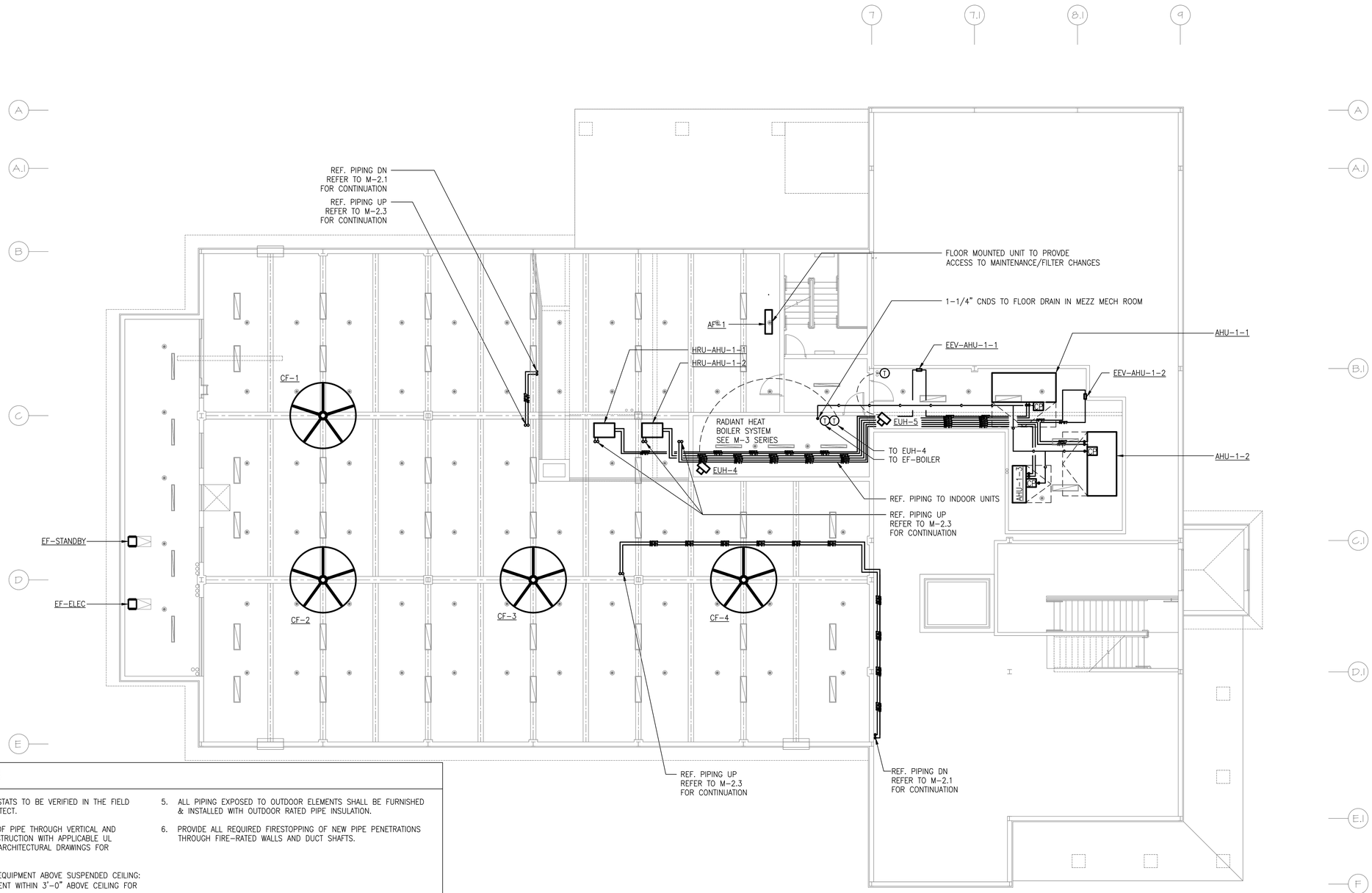
PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

M-2.1

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS



SHEET NOTES

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2. FIRESTOP ALL PENETRATIONS OF PIPE THROUGH VERTICAL AND HORIZONTAL FIRE-RATED CONSTRUCTION WITH APPLICABLE UL FIRESTOP SYSTEM. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE-RATED CONSTRUCTION.
3. TYPICAL FOR ALL DUCTWORK/EQUIPMENT ABOVE SUSPENDED CEILING: INSTALL DUCTWORK & EQUIPMENT WITHIN 3'-0" ABOVE CEILING FOR MAINTENANCE ACCESSIBILITY.
4. EACH CONDENSATE PUMP'S DISCHARGE SHALL BE PIPED VIA 3/4" COPPER PIPE TO THE NEAREST FLOOR DRAIN WITH AIR GAP AS SPECIFIED ON DRAWINGS.
5. ALL PIPING EXPOSED TO OUTDOOR ELEMENTS SHALL BE FURNISHED & INSTALLED WITH OUTDOOR RATED PIPE INSULATION.
6. PROVIDE ALL REQUIRED FIRESTOPPING OF NEW PIPE PENETRATIONS THROUGH FIRE-RATED WALLS AND DUCT SHAFTS.

N

MEZZANINE FLOOR PLAN (PARTIAL)

SCALE: 1/8" = 1'-0" MEZZ. SQUARE FOOTAGE = 1,982

0 2' 4' 6' 8' 10' 20' 30' 50'

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL
MEZZANINE
PIPING PLAN

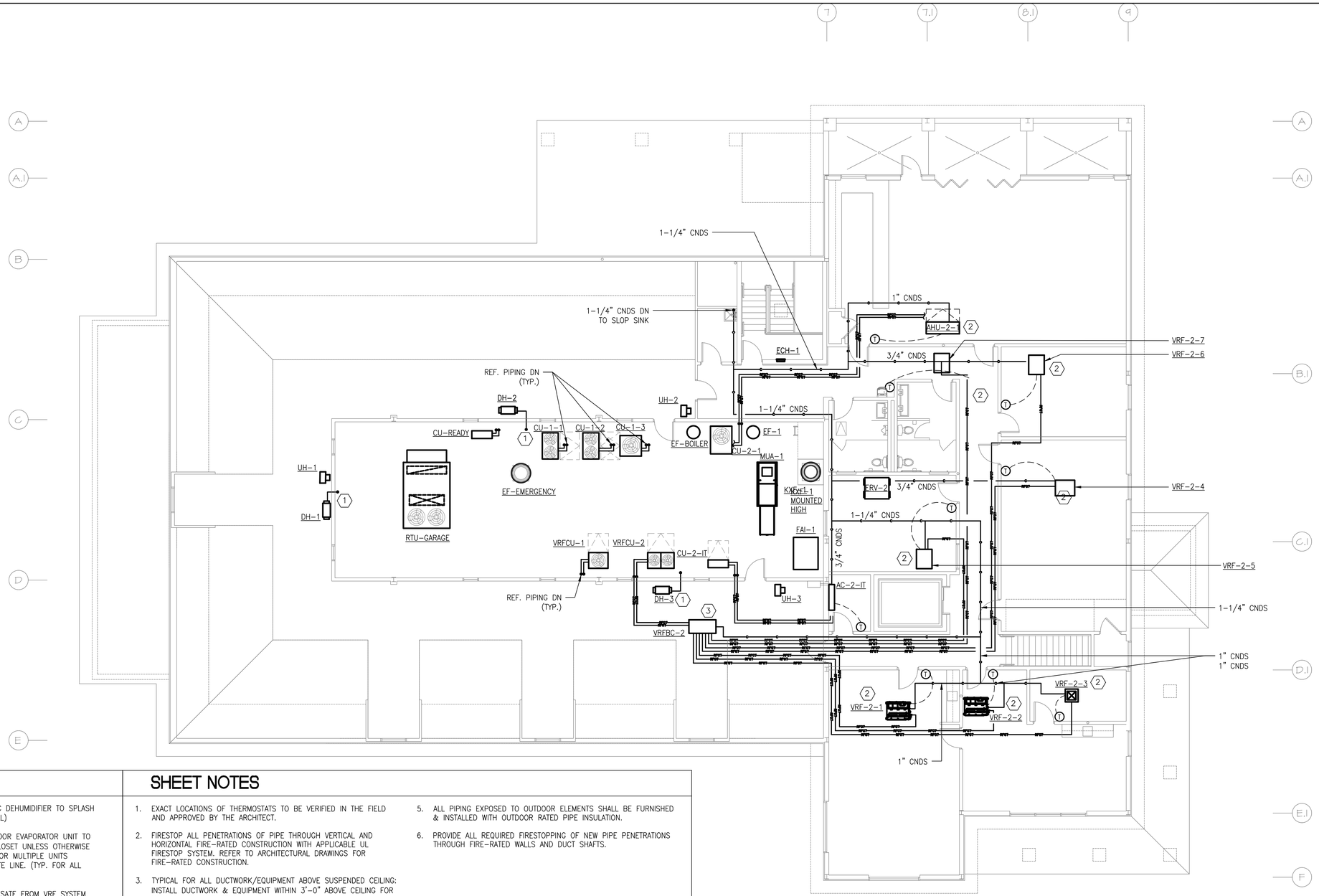
PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

M-2.2

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS



KEY NOTES

1. ROUTE CONDENSATE LINE FROM ATTIC DEHUMIDIFIER TO SPLASH BLOCK ON FLAT ROOF. (TYP. FOR ALL)
2. ROUTE 3/4" CONDENSATE FROM INDOOR EVAPORATOR UNIT TO SLOP SINK IN NEAREST JANITOR'S CLOSET UNLESS OTHERWISE NOTED. UPSIZE PIPE AS REQUIRED FOR MULTIPLE UNITS CONNECTED TO A SINGLE CONDENSATE LINE. (TYP. FOR ALL INDOOR AHUS AND VRF UNITS)
3. FURNISH & INSTALL 1-1/4" CONDENSATE FROM VRF SYSTEM BRANCH CONTROLLER. CONNECT TO MAIN CONDENSATE LINE PITCHED TO SLOP SINK IN HOUSEKEEPING ROOM.

SHEET NOTES

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SECOND FLOOR PLAN

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

SQUARE FOOTAGE = 5,643 (NOT INCL. FLAT ROOF & ATTIC AREAS)

0 4' 8' 20' 50'
2' 6' 10' 30'

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DATE	ISSUED
08-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-20-2026	ISSUED FOR 90%CD REVIEW
09-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

STATE OF NEW YORK
ANDREW P. SAGGESE
100741
LICENSED PROFESSIONAL ENGINEER

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL SECOND FLOOR PLAN

PROJECT No. 2501 EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

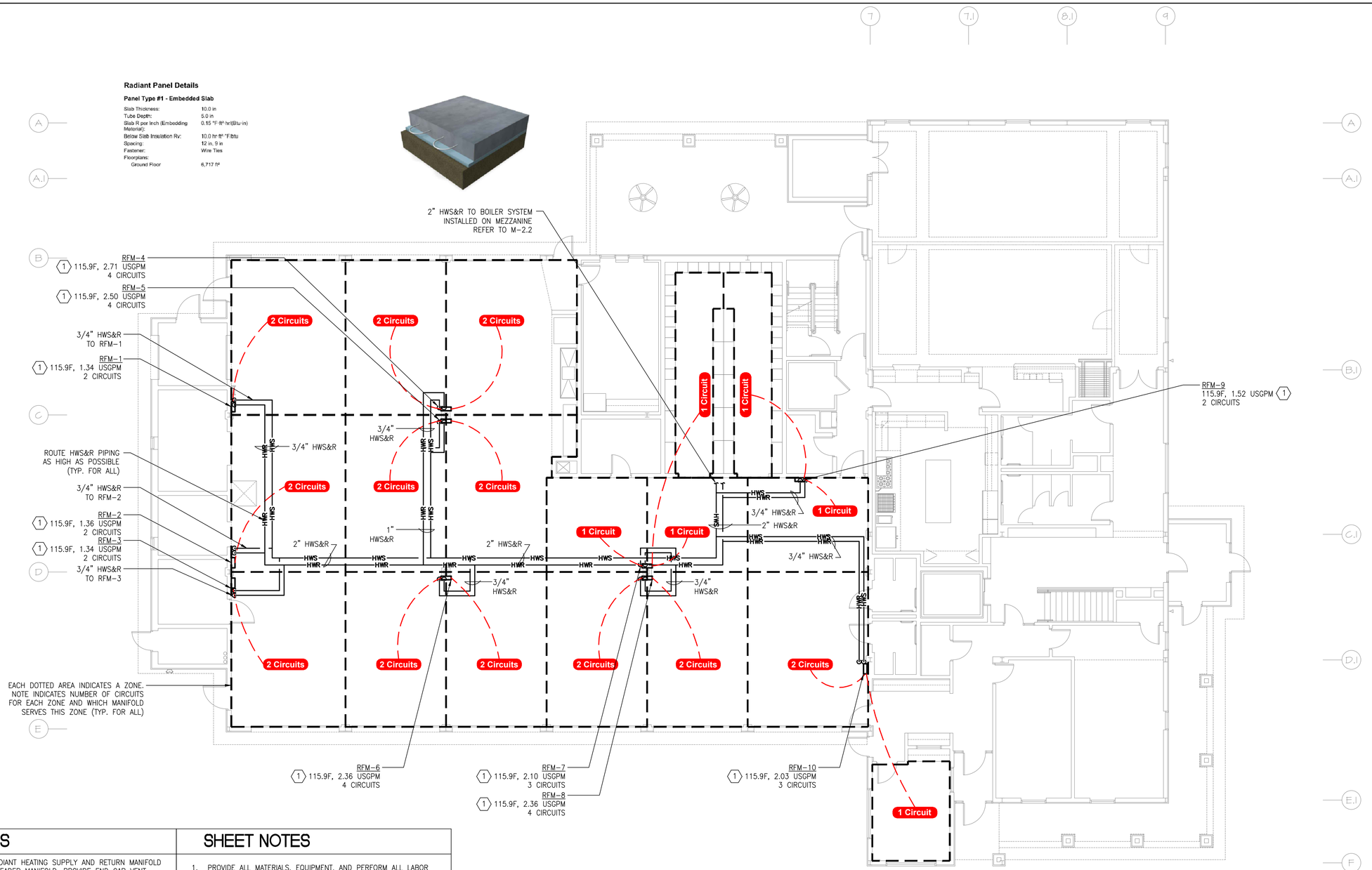
M-2.3

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

Radiant Panel Details

Panel Type #1 - Embedded Slab

Slab Thickness:	10.0 in
Tube Depth:	5.0 in
Slab R per Inch (Embedding Material):	0.15 °F·ft²·hr/(Btu·in)
Below Slab Insulation Rv:	10.0 hr·ft²·°F/btu
Spacing:	12 in, 9 in
Fastener:	Wire Ties
Floorplans:	
Ground Floor	6,717 ft²



KEY NOTES

1. PROVIDE COPPER RADIANT HEATING SUPPLY AND RETURN MANIFOLD SIMILAR TO REHAU HEADER MANIFOLD. PROVIDE END CAP VENT DRAINS AND PLASTIC MANIFOLD BRACKETS. EXACT LOCATION TO BE CONFIRMED IN FIELD. REFER TO ARCHITECTURAL PLANS FOR ENCLOSURE. (TYP. 10)

SHEET NOTES

1. PROVIDE ALL MATERIALS, EQUIPMENT, AND PERFORM ALL LABOR REQUIRED TO INSTALL, COMPLETE, AND OPERATE ALL HVAC SYSTEMS AS INDICATED ON THE DRAWINGS AS SPECIFIED AND REQUIRED BY CODE.
2. ALL PIPING TO BE INSULATED AS PER NYSECC
3. REFER TO M-9 SERIES DRAWINGS FOR RADIANT HEATING SCHEDULES AND DETAILS.

FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0" MEZZ. SQUARE FOOTAGE = 13,924

0 2' 4' 6' 8' 10' 20' 30' 50'

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STATE OF NEW YORK · ANDREW P. SAGOSE · LICENSED PROFESSIONAL ENGINEER · 100741

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL
RADIANT HEATING
FIRST FLOOR PLAN

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

M-3.1

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

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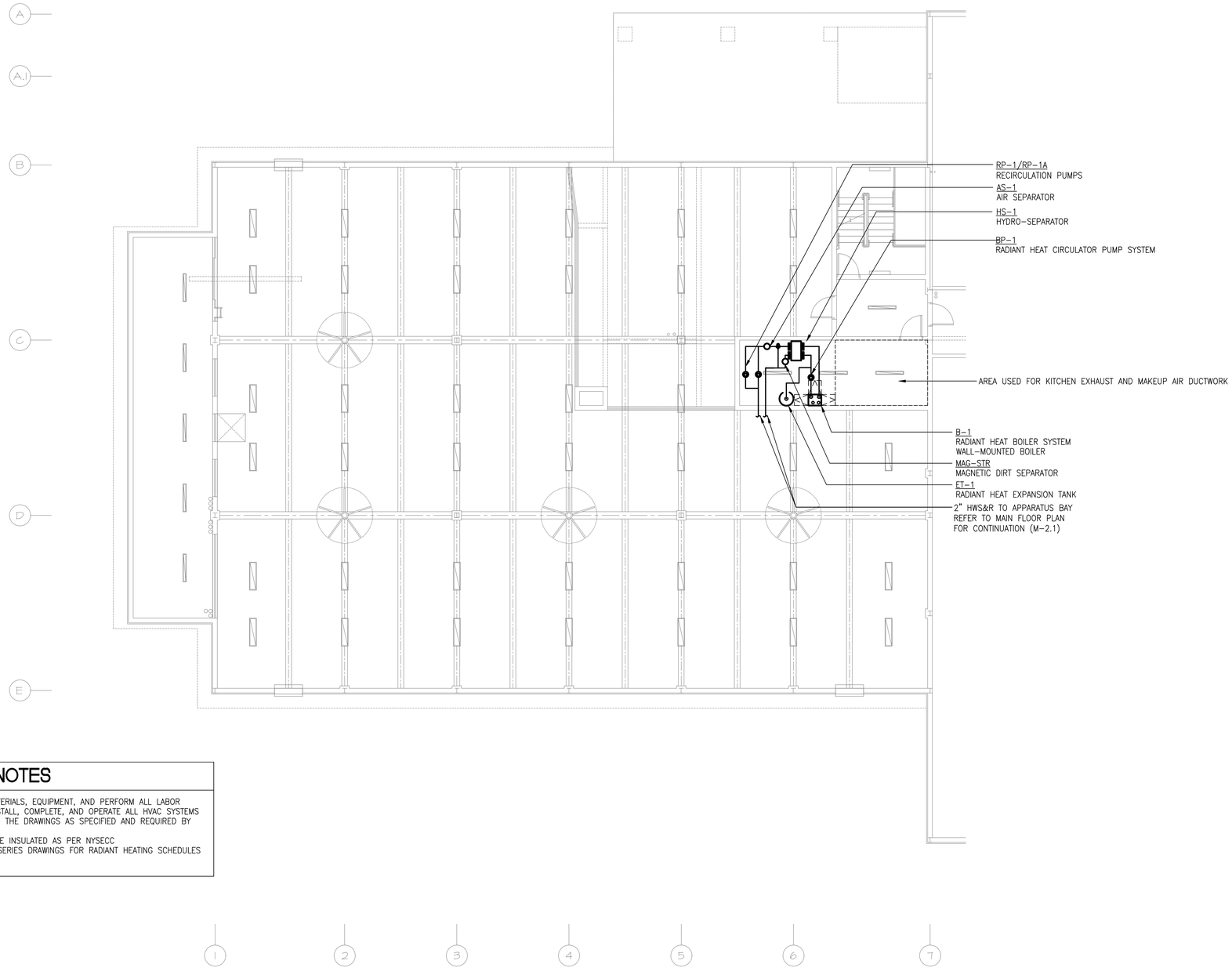

SHEET NOTES

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2. ALL PIPING TO BE INSULATED AS PER NYSECC
3. REFER TO M-9 SERIES DRAWINGS FOR RADIANT HEATING SCHEDULES AND DETAILS.

N

MEZZANINE FLOOR PLAN (PARTIAL)

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

MEZZ. SQUARE FOOTAGE = 1,982

0 2' 4' 6' 8' 10' 20' 30' 50'

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
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ELLENVILLE, NY 12428

MECHANICAL
RADIANT HEATING
MEZZANINE PLAN

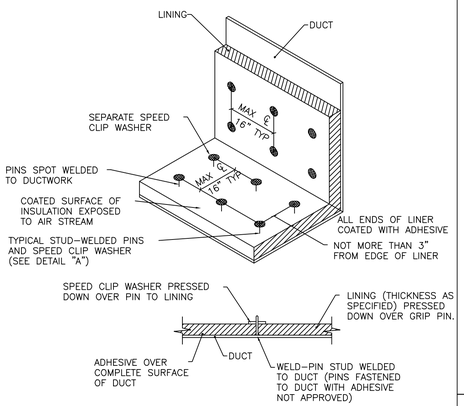
PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

M-3.2

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS



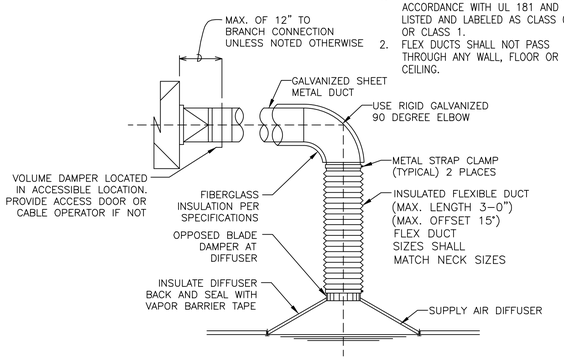
DETAIL "A"

DUCT LINING INSTALLATION DETAIL

NO SCALE

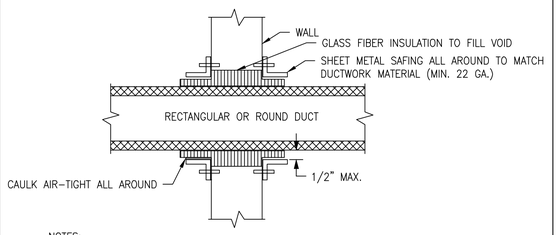
NOTES:

1. FLEX DUCT SHALL BE TESTED IN ACCORDANCE WITH UL 181 AND LISTED AND LABELED AS CLASS 0 OR CLASS 1.
2. FLEX DUCTS SHALL NOT PASS THROUGH ANY WALL, FLOOR OR CEILING.



TYPICAL DIFFUSER OR GRILLE CONNECTION

SCALE: NONE

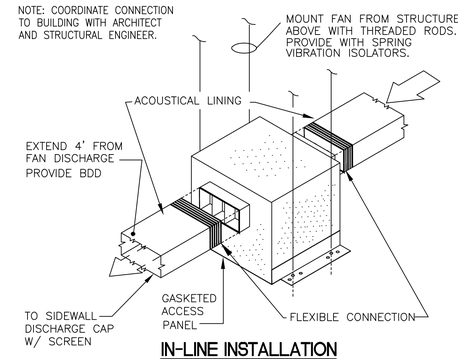


NOTES:

1. INTERIOR WALLS REQUIRE SAFING ON ONE SIDE OF WALL ONLY FOR CONCEALED DUCTS AND ON BOTH SIDES OF WALL FOR EXPOSED DUCTS.
2. COORDINATE LINTELS WITH G.C. AS REQUIRED.
3. WHERE SLEEVES ARE PROVIDED, SEAL BETWEEN SLEEVE AND DUCT.

TYPICAL PENETRATION OF NON FIRE-RATED WALL DETAIL

SCALE: NONE



IN-LINE INSTALLATION

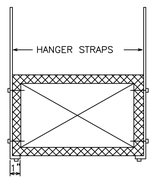
IN-LINE CEILING EXHAUST FAN DETAIL

SCALE: NONE

NOTES:
1) ACOUSTICALLY LINE ALL RETURN DUCT.
2) LINE SUPPLY DUCT TO 25 FT FROM FAN IN ACCORDANCE WITH THE SPECIFICATIONS.

Self tapping cadmium plated hex head sheet metal screw straps to be tight against duct.

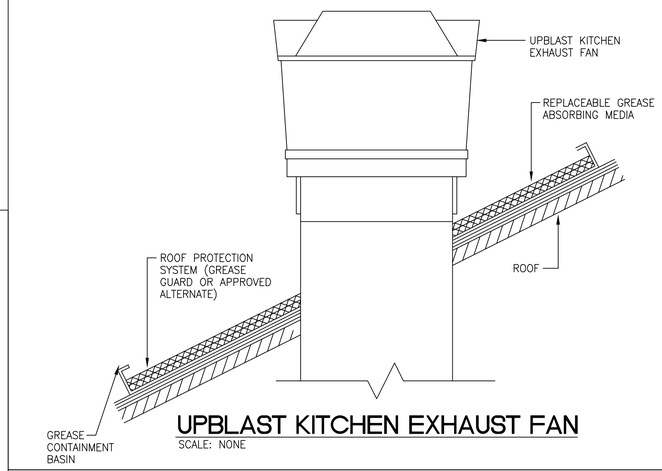
HANGER SIZES FOR RECTANGULAR DUCT		
DUCT SIZE	HANGER	HORIZONTAL SUPPORT ANGLE
Up to 2 sq. ft.	1" x 1/16" band iron	None
Over 2 sq. ft.	1" x 1/8" band iron	None
Over 4' wide	1" x 1/8" band iron	None
Over 8 sq. ft.	1" x 1/8" band iron	See Note
Over 10 sq. ft.	1" x 1/8" band iron	See Note



Note: The minimum reinforcing angle size for ductwork with a dimension of its longest side and maximum longitudinal spacing shall:
43 to 48 – 1 1/2"x1 1/2"x1/8" @ 60"
49 to 60 – 1 1/2"x1 1/2"x1/8" @ 48"
61 to 96 – 1 1/2"x1 1/2"x3/16"@ 24"
97 to 120 – 2" x 2" x1/4" @ 24"

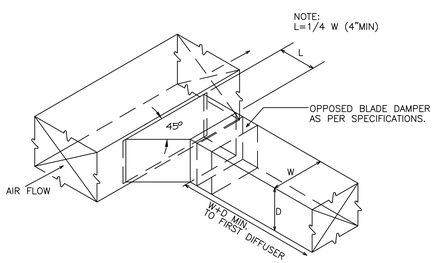
DUCT STRAP HANGER DETAIL

NO SCALE



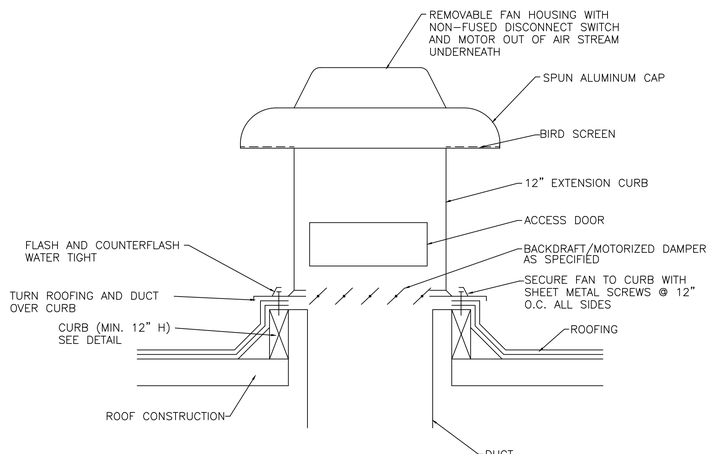
UPBLAST KITCHEN EXHAUST FAN

SCALE: NONE



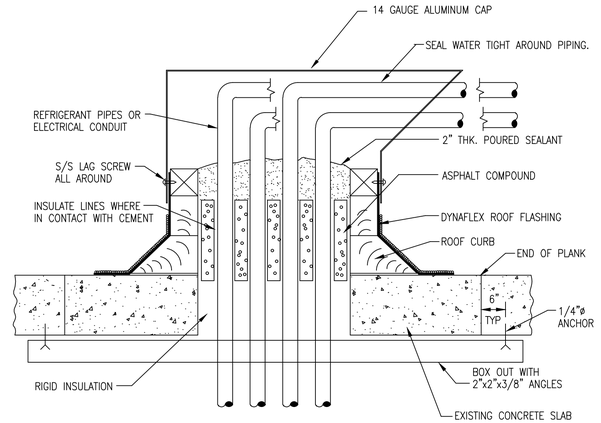
BRANCH DUCT TAKE OFF AND DAMPER DETAIL

NO SCALE



EXHAUST FAN WITH EXTENSION CURB DETAIL

SCALE: NONE



PITCH POCKET WITH STEEL SUPPORT DETAIL

NO SCALE

NOTE:
PROVIDE PRE-FORMED 18 GA. MIN. GALVANIZED STEEL CURB UNIT WITH CENTER SPAN REINFORCING BY "PATE-CURBS" MODEL #PC-5

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL DETAILS

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING: M-5.1

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

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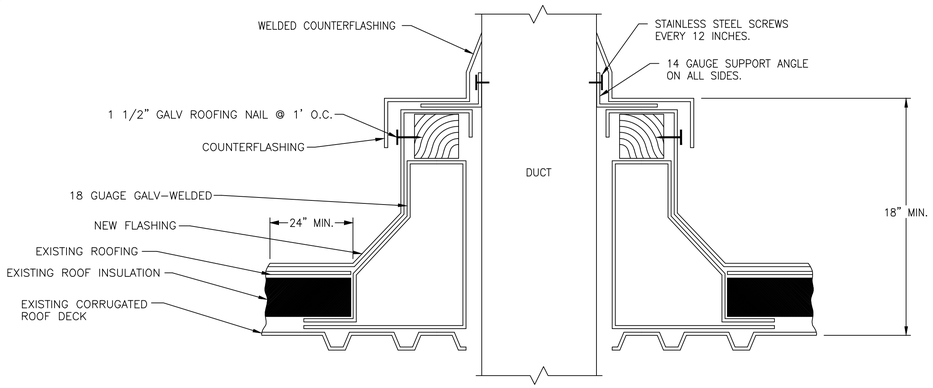
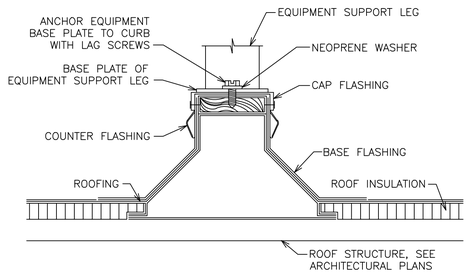


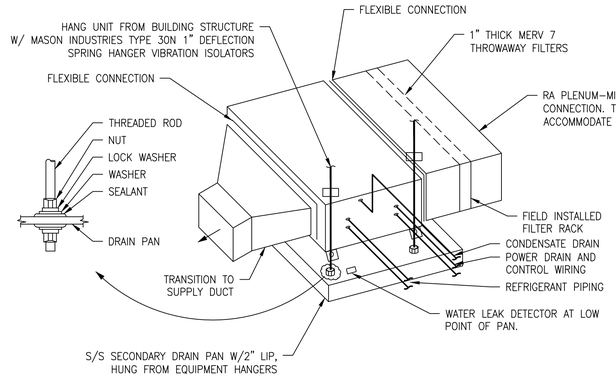
DUCT PENETRATION/CURB DETAIL

SCALE: NONE



ROOF EQUIPMENT SUPPORT RAIL DETAIL

SCALE: NONE



NOTES

1. PROVIDE SEISMIC RESTRAINTS IF REQUIRED IN ACCORDANCE WITH THE SPECIFICATIONS.

VRF FAN COIL UNIT DETAIL

SCALE: NONE

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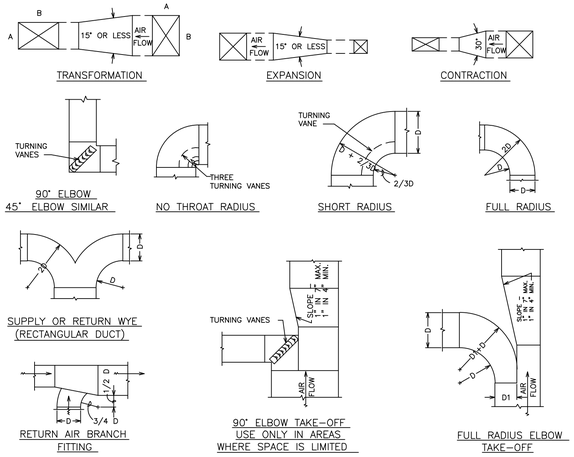
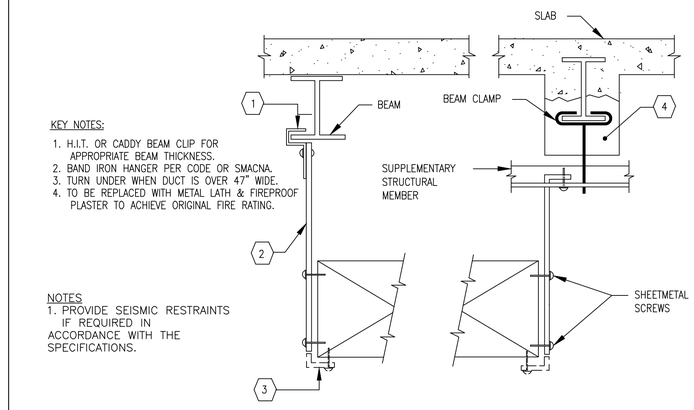


DUCTWORK DETAILS

NO SCALE



KEY NOTES:

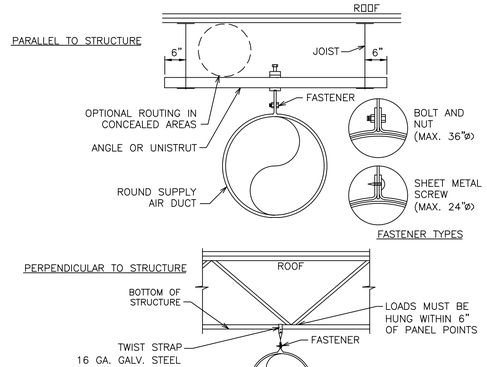
1. H.I.T. OR CADDY BEAM CLIP FOR APPROPRIATE BEAM THICKNESS.
2. BAND IRON HANGER PER CODE OR SMACNA.
3. TURN UNDER WHEN DUCT IS OVER 47" WIDE.
4. TO BE REPLACED WITH METAL LATH & FIREPROOF PLASTER TO ACHIEVE ORIGINAL FIRE RATING.

NOTES

1. PROVIDE SEISMIC RESTRAINTS IF REQUIRED IN ACCORDANCE WITH THE SPECIFICATIONS.

METHOD OF HANGING DUCTWORK

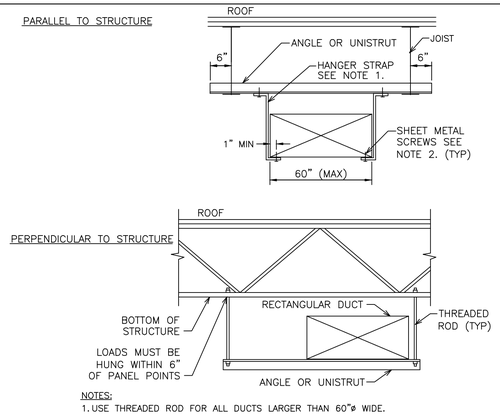
NO SCALE



NOTES:

1. FOR DUCTS LARGER THAN 36"ø, USE TWO HANGER RODS, WIRES OR STRAPS TO SUPPORT DUCT FROM EACH SIDE.

ROUND DUCT SUPPORT DETAIL

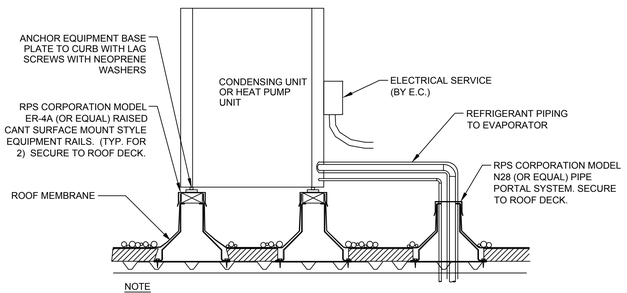


NOTES:

1. USE THREADED ROD FOR ALL DUCTS LARGER THAN 60"ø WIDE.
2. SHEET METAL SCREWS MAY BE OMITTED IF HANGER STRAP IS CONTINUOUS AND LOOPS UNDER ENTIRE DUCT.

RECTANGULAR DUCT SUPPORT DETAIL

NO SCALE

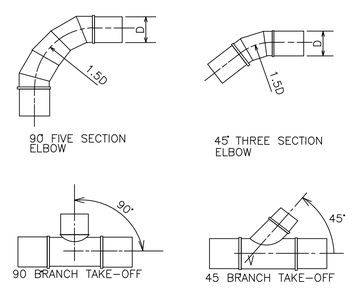


NOTE

1. SECURE CONDENSING UNTI TO EQUIPMENT SUPPORT NAILER W/(4) 1/4" LAG BOLTS. SEAL ALL PENETRATIONS WATER TIGHT.
2. ALL REFRIGERANT PIPING ROOF PENETRATIONS SHALL BE MADE WEATHER-TIGHT.

ROOF-MOUNTED OUTDOOR UNIT

SCALE: NONE



TYPICAL ROUND DUCT FITTINGS

NO SCALE

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
208 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL DETAILS

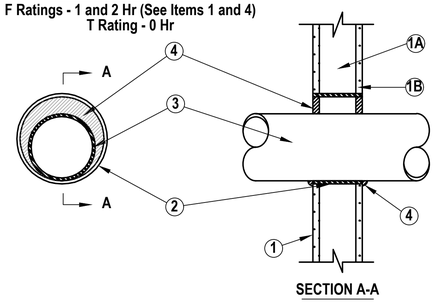
PROJECT No. 2501 EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

M-5.2

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

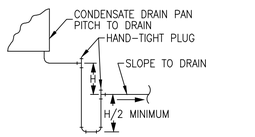


1. Wall Assembly The 1 or 2 hr fire–rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs –Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2–1/2 in. wide and spaced max 24 in. OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. wider and 4 to 6 in. higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board – The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening in steel stud walls is 32in.. Max diam of openings in wood stud walls is 14–1/2 in.

   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Steel Sleeve – Nom 32 in. diam (or smaller) Schedule 40 (or heavier) steel pipe sleeve friction fit in nom 32 in. diam circular opening cut through gyp–sum wallboard layers. Length of steel sleeve to be equal to thickness of wall.
3. Through–Penetrant – One metallic pipe, conduit or tubing installed either concentrically or eccentricaly within the firestop system. The annular space between pipe, conduit or tubing and the steel sleeve shall be min of 0 in. (point contact) to max 1–7/8 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe – Nom 30 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe – Nom 30 in. diam (or smaller) service weight (or heavier) cast iron soil pipe or Class 50 (or heavier) ductile iron pressure pipe.
   C. Conduit – Nom 4 in. diam (or smaller) steel electrical metallic tubing.
   D. Copper Tubing – Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe – Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
4. Fill, Void or Cavity Material*–Sealant – Min 5/8 in. and 1–14 in. thickness of fill material applied within annulus, flush with both surfaces of wall assembly for 1 or 2 hr rated walls, respectively. Min 1/2 in. diam bead of caulk applied to the penetrant/wallboard interface at the point contact location on both sides of wall.

FIRESTOP OF METAL PIPING THROUGH GYPSUM RATED WOOD OR STEEL WALL DETAIL

N.T.S.

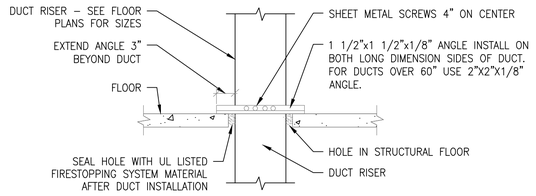


H = FAN INLET PRESSURE (IN. W.C.) + 1".

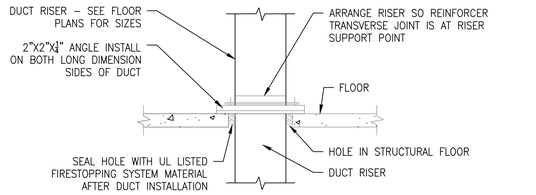
CONDENSATE TRAP DETAIL (DRAW–THRU)

SCALE: NONE

REFER TO ARCHITECTURAL PLANS FOR 1 HR & 2 HR RATED WALLS AND FLOOR ASSEMBLIES AND ASSOCIATED ARCHITECTURAL DETAIL SHEETS



0.5 INCH WG TO 2 INCH WG DUCT RISER SUPPORT

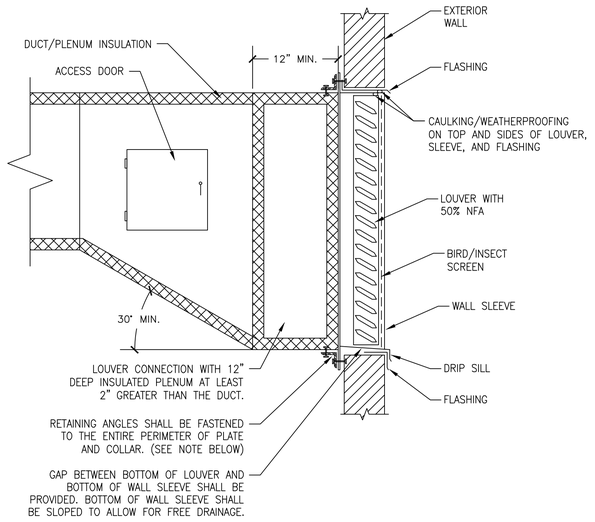


2 INCHES WG TO 4 INCHES WG DUCT RISER SUPPORT

NOTE: ALL DUCT WORK RISERS WHICH ARE RUN EXPOSED, SUCH AS THRU ATTIC FLOORS AND FAN ROOM FLOORS SHALL BE PROVIDED WITH A 3" HIGH CONCRETE CURB AROUND OPENING FOR DUCT.

DUCT RISER SUPPORT DETAILS

SCALE: NONE



NOTES:

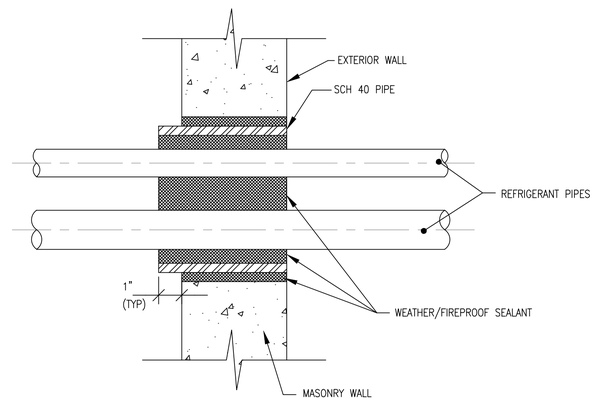
1. RETAINING ANGLES SHALL BE SECURED TO COLLAR, SLEEVE, AND/OR PLATE EITHER $\frac{3}{4}$" TACK WELDS, NO. 10 SHEET METAL SCREWS, 1/4" DIA. NUTS AND BOLTS, OR 3/16" STEEL POP RIVETS; ALL 8" ON CENTER.
2. ALL EXTERIOR LOUVERS FOR BUILDING VENTILATION SYSTEMS SHALL CONFORM TO THE REQUIREMENTS OF THE BUILDING CODE AND COMPLY WITH THE REQUIREMENTS OF AMCA 550.

INSULATED PLENUM BOX CONNECTION TO EXTERIOR LOUVER

NOT TO SCALE

NOTES:

1. All penetrations through rated walls, including but not limited to Boiler Rooms, Mechanical Equipment Rooms and Rated Shafts, shall be fire stopped per details sheets included in this drawing set. Refer to Architectural drawings for all wall ratings. Detail sheets show only a few common applications however, they do not show all applications. Contractor must use only firestop products that have been UL 1479 or ASTM E 814 tested for specific fire-rated construction conditions conforming to construction assembly type, penetrating item type, annular space requirements, and fire-rating involved for each separate instance.
2. *Details shown are typical details. If field conditions do not match requirements of typical details, approved alternate details shall be utilized. Field conditions and dimensions need to be verified for compliance with the details, including but not limited to the following:*
   * *Minimum and maximum Width of Joints*
   * *Type and thickness of fire-rated construction. The minimum assembly rating of the firestop assembly shall meet or exceed the highest rating of the adjacent construction.*
3. *If alternate details matching the field conditions are not available, manufacturer's engineering judgment drawings are acceptable. Drawings shall follow the International Firestop Council (IFC) Guidelines for Evaluating Firestop Systems Engineering Judgments.*
4. *References:*
   * *2013 Underwriter's Laboratories Fire Resistance Directory, Volume 2*
   * *NFPA 101 Life Safety Code*
   * *All governing local and regional building codes*
5. *Firestop System installation must meet requirements of ASTM E-814 (UL 1479) tested assemblies that provide a fire rating equal to that of construction being penetrated.*
6. *All rated through-penetrations shall be prominently labeled with the following information:*
   * *ATTENTION: Fire Rated Assembly*
   * *UL System #*
   * *Product(s) used*
   * *Hourly Rating (F-Rating)*
   * *Installation Date*



EXTERIOR PIPE SLEEVE DETAIL

NO SCALE

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."

This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

DATE	ISSUED
08-22-2025	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2025	ISSUED FOR 90%CD REVIEW
06-17-2025	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

SENDLEWSKI ARCHITECTS, P.C.
ARCHITECTS - PLANNERS
215 ROMAINE AVENUE RIVERHEAD, NY 11901 (631) 727-5862

emtec
CONSULTING ENGINEERS, DPC
3555 Veterans Memorial Highway, Suite M
Ronkonkoma, NY 11779
P.631.981.3990 | F.631.981.3971 | www.emtec-engineers.com

PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

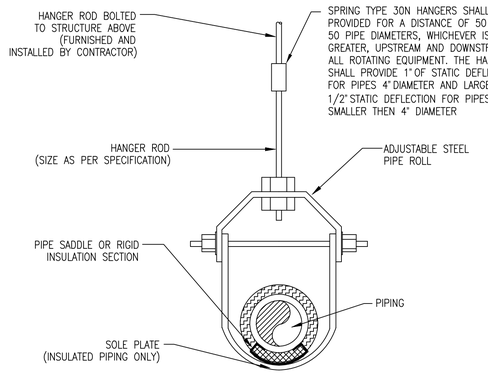
MECHANICAL DETAILS

PROJECT No. 2501 EMTEC. 7611

CHECKED BY: MF/APS

DRAWING: M-5.3

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

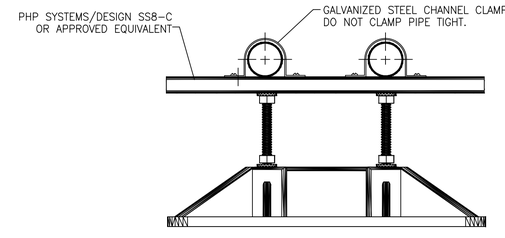


SUSPENDED PIPING SUPPORT

NOT TO SCALE

MAXIMUM HORIZONTAL HANGER SPACING (FEET)

PIPE SIZE	STEEL	COPPER	MINIMUM ROD SIZE INCHES
1/2	6	5	3/8
3/4	6	5	3/8
1	6	6	3/8
1 1/4	6	6	3/8
1 1/2	6	6	3/8
2	7	7	3/8
2 1/2	10	8	1/2
3	10	10	1/2
4	10	10	5/8
5	10	10	5/8
6	10	10	3/4
8	12	10	7/8
10	12	10	7/8



PIPING SUPPORT DETAIL

SCALE: NONE

MAXIMUM HORIZONTAL HANGER SPACING (FEET)

PIPE SIZE	STEEL	COPPER	MINIMUM ROD SIZE INCHES
1/2	6	5	3/8
3/4	6	5	3/8
1	6	6	3/8
1 1/4	6	6	3/8
1 1/2	6	6	3/8
2	7	7	3/8
2 1/2	10	8	1/2
3	10	10	1/2
4	10	10	5/8
5	10	10	5/8
6	10	10	3/4
8	12	10	7/8
10	12	10	7/8

1. LAYOUT ISOLATION PADS, ACCORDING TO DESIGN AND LAYOUT.
2. LAYOUT SUPPORTS PER SPACING SPECIFICATION ON PLAN.
3. RUN PIPE ON CHANNEL.
4. CLAMP DOWN WITH CHANNEL CLAMP.
5. ADJUST CHANNEL UNTIL HEIGHT AND WEIGHT OF SYSTEM IS EVENLY DISTRIBUTED.

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CHECKED BY: MF/APS

DRAWING: M-5.4

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

FOR QUESTIONS, CALL THE
Long Island Office
REGION 43
PHONE: (516) 513 - 5398
EMAIL: reg43@captivelire.com

PATENT NUMBERS

AC-PSP (UNITED STATES) - US PATENT 7963830 B2.
AC-PSP WALL (CANADA) - CA PATENT 2820509.
AC-PSP ISLAND (CANADA) - CA PATENT 2520330.

HOOD INFORMATION - JOB#8719706

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S) WIDTH	LENG	HEIGHT	DIA	CFM	VEL	SP	TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG END TO END	RDV
1	Left	5424 ND-2-PSP-F	CAPTIVEAIRE	8' 0"	600 DEG	I	HEAVY	275	2200			4'	14"	2200	2058	-1.041"	1892	430 SS WHERE EXPOSED	LEFT	ALONE
2	Right	5424 ND-2-PSP-F	CAPTIVEAIRE	8' 0"	600 DEG	I	HEAVY	275	2200			4'	14"	2200	2058	-1.041"	2068	430 SS WHERE EXPOSED	RIGHT	ALONE

HOOD INFORMATION

HOOD NO	TAG	FILTER(S) TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	LIGHT(S) QTY	TYPE	WIRE GUARD	LOCATION	SIZE	UTILITY CABINET(S) FIRE SYSTEM TYPE	SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
1	Left	CAPTRATE SOLO FILTER	5	20"	16"	85% SEE FILTER SPEC	2	RECESSED ROUND	NO							YES	464 LBS
2	Right	CAPTRATE SOLO FILTER	5	20"	16"	85% SEE FILTER SPEC	2	RECESSED ROUND	NO	RIGHT	12"x54"x24"	TANK FS	4.0/4.0/4.0			YES	899 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1	Left	FIELD WRAPPER 18.00" HIGH FRONT.
		BACKSPLASH 80.00" HIGH X 205.00" LONG 430 SS VERTICAL.
		LEFT SIDESPLASH 80.00" HIGH X 54.00" LONG 430 SS VERTICAL.
		LEFT END STANDOFF (FINISHED) 1" WIDE 54" LONG INSULATED.
		SENSOR-CV.
		LEFT WALL AS END PANEL.
2	Right	FIELD WRAPPER 18.00" HIGH FRONT, RIGHT.
		SENSOR-CV.

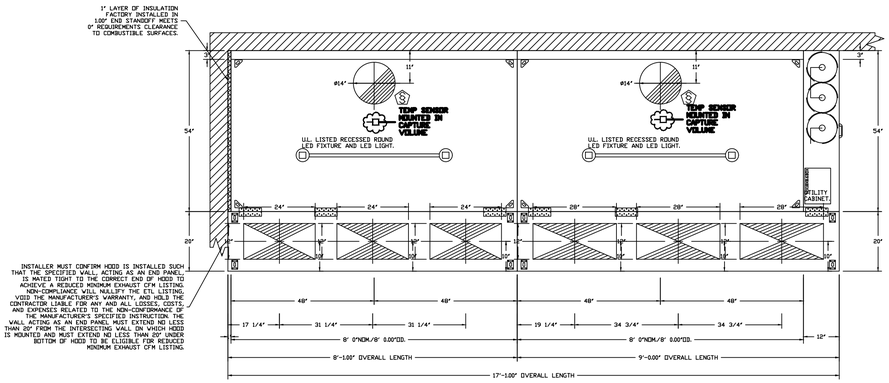
PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S) WIDTH	LENG	DIA	CFM	SP
1	Left	Front	97"	20"	6"	MUA	12"	24"		630	0.177"
						MUA	12"	24"		630	0.177"
						MUA	12"	24"		630	0.177"
2	Right	Front	108"	20"	6"	MUA	12"	28"		689	0.180"
						MUA	12"	28"		689	0.180"
						MUA	12"	28"		689	0.180"

CLEARANCE TO COMBUSTIBLES

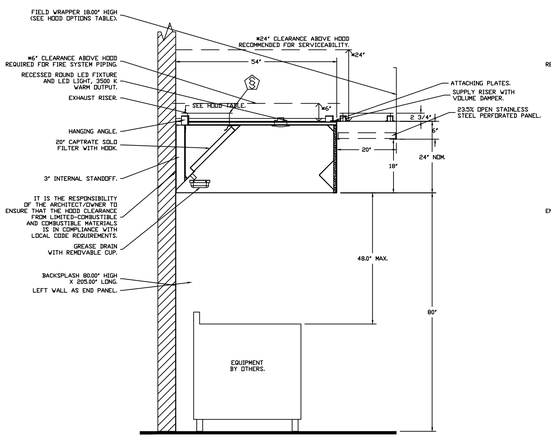
HOODS #	SURFACE	*CLEARANCE
1	TOP	18"
	FRONT	0"
	BACK	18"
	LEFT	0"
	RIGHT	18"
2	TOP	18"
	FRONT	0"
	BACK	18"
	LEFT	18"
	RIGHT	0"

- *0" CLEARANCE TO COMBUSTIBLES CONFORMS TO UL710 STANDARD.
- HOOD MOUNTED UTILITY CABINETS REQUIRE 36" SERVICE CLEARANCE.

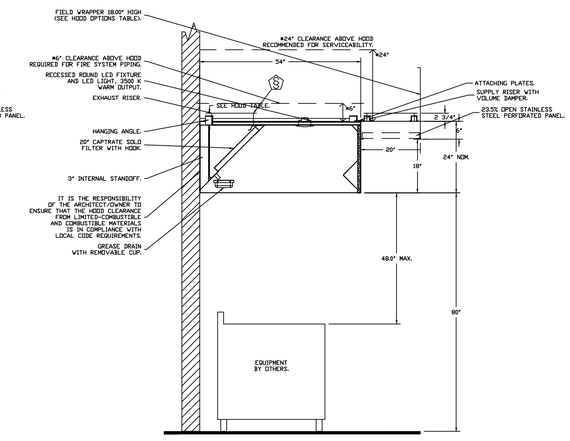


PLAN VIEW - HOOD #1 (Left)
8' 0.00" LONG 5424ND-2-PSP-F

PLAN VIEW - HOOD #2 (Right)
8' 0.00" LONG 5424ND-2-PSP-F



SECTION VIEW - MODEL 5424ND-2-PSP-F
HOOD - #1 (Left)



SECTION VIEW - MODEL 5424ND-2-PSP-F
HOOD - #2 (Right)

SPECIFICATION: CAPTRATE® GREASE-STOP® SOLO FILTER

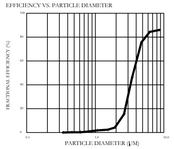
THE CAPTRATE GREASE-STOP SOLO FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-BAFFLE DESIGN IN CONJUNCTION WITH A SLOTTED REAR BAFFLE DESIGN, TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.

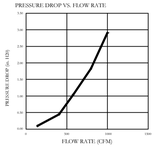
FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 6-INCH DEEP HOOD CHANNELS(S).

UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

THE CAPTRATE GREASE-STOP SOLO WAS TESTED TO ASTM STANDARD ASTM F2519-05. MANUFACTURER APPROVED FOR USE IN SOLID FUEL APPLICATIONS AS A SPARK ARRESTER.



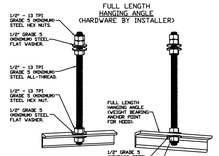


CAPTRATE FILTERS ARE BUILT IN COMPLIANCE WITH:
NFPA #96.
NSF STANDARD #2.
UL STANDARD #1046.
INT. MECH. CODE (IMC).
ULC-S649.

AC-SPECIFICATION

20 WIDE X 18 TALL X 8.62 DEEP.
SS HINGED ELECTRICAL BOX.

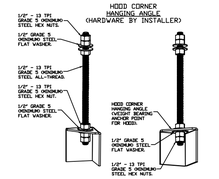
FULL LENGTH HANGING ANGLE (HARDWARE BY INSTALLER)



ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD, SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR FULL LENGTH HANGING ANGLES. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

HOOD CORNER HANGING ANGLE (HARDWARE BY INSTALLER)



ASSEMBLY INSTRUCTIONS

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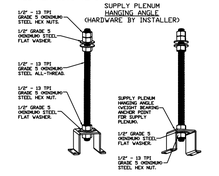
SUPPLY PLENUM HANGING ANGLE (HARDWARE BY INSTALLER)



ASSEMBLY INSTRUCTIONS

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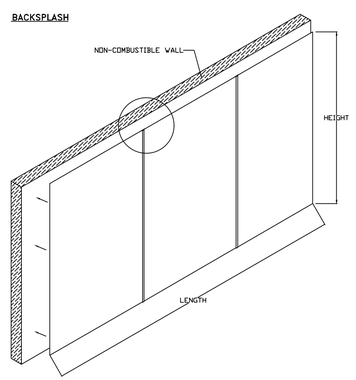
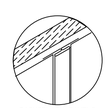
BACKSPLASH





- BACKSPLASH IS NOT INSULATED AND IS UNSUITABLE FOR INSTALL AGAINST COMBUSTIBLE WALLS

REVISIONS

	DESCRIPTION	DATE
1		
2		
3		
4		
5		

CAPTIVEAIRE
Long Island Office
535 Broadhollow Rd. Suite B-7, Melville, NY. 11747 PHONE: (516) 513 - 5398 FAX: (910)2270987 EMAIL: reg43@captivelire.com
www.captivelire.com

Ellenville FD - Kitchen
7025 New York 52,
Greenfield Park, NY, 12435

DATE: 6/10/2026
DWG.#: 8719706
DRAWN BY: JC-43
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 1

DATE	ISSUED
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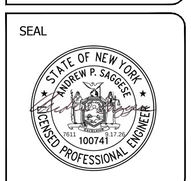
KITCHEN HOOD NYS CODE COMPLIANCE

KITCHEN EXHAUST HOODS SHALL COMPLY WITH THE FOLLOWING 2020 NEW YORK STATE (2020-NYS) CODE SECTIONS:

2020-NYSFC - SECTION 607
2020-NYSMC - SECTION 507.1.1 (FAN)
2020-NYSFGC - SECTION 505.1.1 (INTERLOCK)
2020-NYSFC - SECTION 903.2.11.5 (FIRE PROTECTION)
2020-NYSFC - SECTION 904.2.2 (HOOD SPRINKLER)
2020-NYSMC - SECTION 306
2020-NYSMC - CHAPTERS 5,6 AND 7

SEAL



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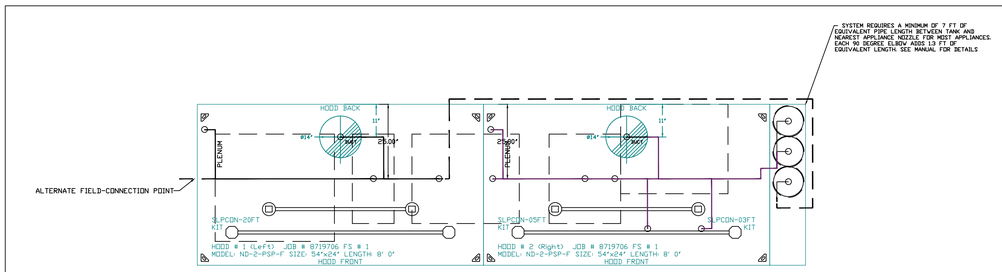
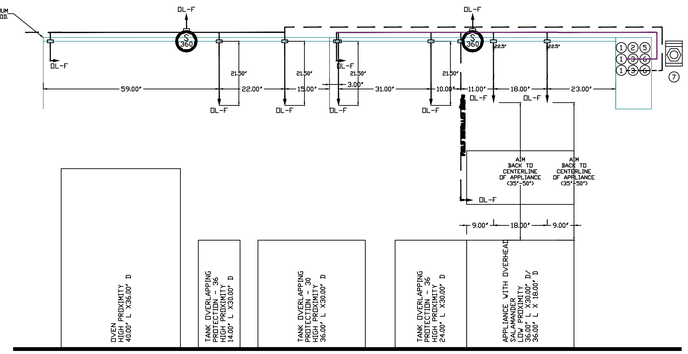
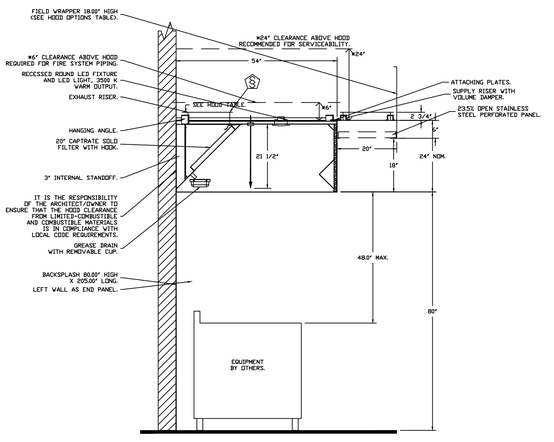
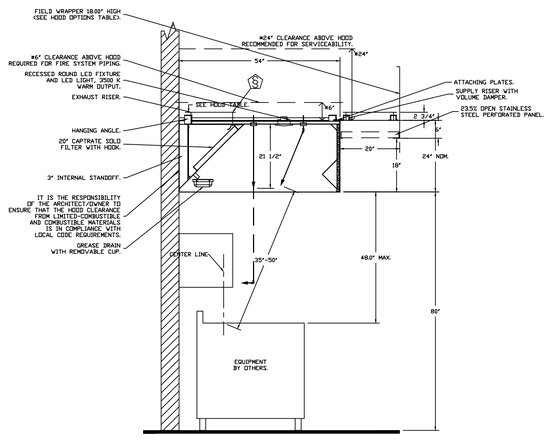






SECTION VIEW – MODEL 5424ND–2–PSP–F HOOD – #1



SECTION VIEW – MODEL 5424ND–2–PSP–F HOOD – #2

NOTES
- FIELD PIPE DROPS AS SHOWN
  PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
- FIELD INSTALLED DROP: FACTORY WILL PROVIDE QTY 2 60IN LONG PIECES OF CHROME PLATED PIPING SHIPPED LOOSE TO BE FIELD-INSTALLED.
- SHIP LOOSE DROP: FACTORY WILL PROVIDE THE EXACT CHROME PIPE LENGTH NEEDED SHIPPED LOOSE TO BE FIELD-INSTALLED.
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
- OVERLAPPING COVERAGE SHALL NOT BE USED ON ANY APPLIANCE WITH AN OBSTRUCTION.
- IF APPLICABLE, EXTENDED PRE-PIPED DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.

- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.

- THIS PRE-ENGINEERED FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS.

- DL-F NOZZLE PART NUMBER REPLACES 3070-3/8H-10-SS

JOB #: 8719706.
JOB NAME: ELLENVILLE FD - KITCHEN.

SYSTEM SIZE: TANK-SP-3 DESIGN FP: 46. MAXIMUM FP: 60.
HOOD # 1 8' 0.00" LONG x 54" WIDE x 24" HIGH.
RISER # 1 SIZE: 14" DIA.
HOOD # 1 METAL BLOW-OFF CAPS INCLUDED.
HOOD # 2 8' 0.00" LONG x 54" WIDE x 24" HIGH.
RISER # 1 SIZE: 14" DIA.
HOOD # 2 METAL BLOW-OFF CAPS INCLUDED.

- HEAVY-DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTAT IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.
- MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.

AGENT DISTRIBUTION PIPING LIMITATIONS	
PIPE SECTION	MAX PIPE LENGTH (FT)
MAX SUPPLY LINE TO FIRST OVERLAPPING NOZZLE	42
OVERLAPPING NOZZLE APPLIANCE BRANCH	10
DEDICATED NOZZLE APPLIANCE BRANCH	10

LEGEND – FIRE CABINET TANK SYSTEM

1 4 GALLON TANK.
2 PRIMARY ACTUATOR RELEASE.
3 SECONDARY ACTUATOR RELEASE.
4 PRESSURE SUPERVISION SWITCH.
5 PRIMARY HOSE ASSEMBLY.
6 SECONDARY HOSE ASSEMBLY.
7 REMOTE MANUAL ACTUATION DEVICE.

FIRE SYSTEM INFORMATION – JOB#8719706

FIRE SYSTEM NO	TAG	TYPE	SIZE	MAX FP	DESIGN FP	INSTALLATION	
						SYSTEM	LOCATION ON HOOD
1	FS-1	TANK FS	4.0/4.0/4.0	60	46	FIRE CABINET RIGHT	RIGHT, HOOD 2

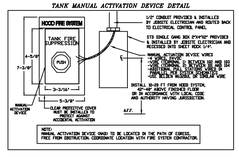
GAS VALVE(S)

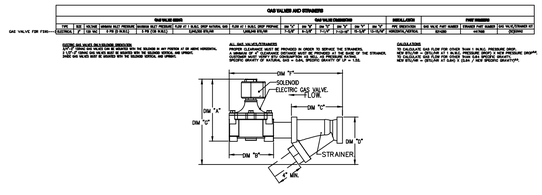
FIRE SYSTEM NO	TAG	TYPE	SIZE	SUPPLIED BY
1	FS-1	SC ELECTRICAL	2.000	CAPTIVEAIRE SYSTEMS

FIRE SYSTEM PARTS LIST KEY

FIRE SYSTEM NO	TAG	KEY NUMBER - PART DESCRIPTION	QTY BY FACTORY	QTY BY DIST
1	FS-1	0 - 0 - VK-283952-000 - DISCHARGE ADAPTER, TANK FIRE SUPPRESSION.	3	0
		0 - 0 - TANK STRAP - TANK STRAP - USED FOR TANK FIRE SUPPRESSION.	9	0
		0 - 0 - 32-00002 - QUIK SEAL - 1/2" (UL).	2	0
		0 - 0 - C81-107 - CHROME PLATED PIPE FITTING 3/8" NPT UNION.	1	0
		34 - 34 - A0034331 - RED COLOR - 24VDC SINGLE ACTION MANUAL ACTUATION DEVICE (PUSH/PULL STATION) WITH PROTECTIVE COVER. ONE (1) NORMALLY OPEN CONTACT.	1	0
		0 - 0 - 361091 - 3/8" BRASS PLUG.	3	0
		0 - 0 - 9055455PC - PRO PRESS 1/2 PRESS X PRESS 90 ELBOW LD.	10	0
		0 - 0 - TFS-UCTANKBRACKET - TANK BRACKET FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	3	0
		0 - 0 - 79580 - 1/2" X 1/2" PRO-PRESS TEE X 1/2"NPT FEMALE CONNECTION, VIEGA.	3	0
		0 - 0 - - - TANK FIRE SUPPRESSION MAINTENANCE GUIDE UTILITY CABINET LABEL SHEET.	1	0
		0 - 0 - C81-106 - CHROME PLATED PIPE FITTING 3/8" NPT 90 DEGREE ELBOW.	1	0
		0 - 0 - B1145 - 3/8" BLACK IRON 90 ELL.	4	0
		16 - 16 - 79210 - 1/2" X 3/8" NPT MALE ADAPTER, VIEGA.	11	0
		26 - 26 - GSA-3/8 - QUIK SEAL - 3/8" (UL).	11	0
		0 - 0 - A0034332 - JUNCTION BOX FOR MANUAL PULL STATION. 1.5" DEEP BACK BOX, RED COLOR.	1	0
		0 - 0 - 87-300152-001 - HARDWARE, SVA BOLTS, TANK FIRE SUPPRESSION.	12	0
		0 - 0 - - - TANK FIRE SUPPRESSION POST-DISCHARGE PROCEDURE UTILITY CABINET LABEL SHEET.	1	0
		0 - 0 - DATANKLOCK - DISCHARGE ADAPTER TANK LOCKING PLATE FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	3	0
		0 - 0 - 9097209PC - PRO PRESS PC611 1/2 PRESS TEE LD.	10	0
		16 - 16 - DL-F - NOZZLE - TANK PROTECTION APPLIANCE COVERAGE NOZZLE (INCLUDES METAL BLOW OFF CAP, LANYARD, USED WITH CHROME-PLATED PIPE).	11	0
		0 - 0 - 87-120045-001 - HOSE, SECONDARY ACTUATOR HOSE, 7.5" BRAIDED STAINLESS STEEL, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - 98694A115 - HARDWARE, DATANKLOCK LOCKING BRACKET SQUARE NUTS 5/16" ZINC, TANK FIRE SUPPRESSION.	6	0
		0 - 0 - 79425 - 3/8" NPT FEMALE TO 1/2" MALE PROPRESS ADAPTER.	3	0
		0 - 0 - C81-22.5 - CHROME PLATED PIPE FITTING 3/8" NPT 22.5 DEGREE ELBOW.	2	0
		0 - 0 - 12-FZ8021-32144-DT-360 - DUCT FIRE THERMOSTAT WITH 12 FOOT WIRE LEADS. NO, CLOSE ON TEMP RISE AT 360°F. (A0034310).	2	0
		0 - 0 - 4429K153 - 1/2" MALE NPT TO 1/2" FEMALE NPT ELBOW, BRASS.	3	0
		0 - 0 - 4429K422 - 1/2" X 1/4" BRASS REDUCING BUSHING.	2	0
		0 - 0 - 79525 - 1/2" 90 PRO-PRESS ELBOW WITH 1/2"NPT FEMALE CONNECTION, VIEGA.	2	0
		0 - 0 - 87-120042-001 - SECONDARY ACTUATOR VALVE (SVA) - SINGLE ACTUATOR, REQUIRES PRIMARY RELEASE ACTUATOR, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - 87-300001-001 - TANK - PRESSURIZED TANK USED FOR TANK FIRE SUPPRESSION.	3	0
		0 - 0 - 87-300030-001 - PRIMARY ACTUATOR KIT (PAK) - ACTUATOR AND RELEASE SOLENOID ASSEMBLY, ONE NEEDED PER FIRE SYSTEM, SUPERVISED, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-300033-001 - DIN CONNECTOR, CANFIELD PART #5J560-201-EU0A, TANK FIRE SUPPRESSION, SUBMINIATURE SOLENOID CONNECTION (CED VENDOR 30277).	1	0
		0 - 0 - A31484 - 1/4" NPT SCHRADER VALVE AND CAP, JB INDUSTRIES. 1/4" FLARE X 1/4" MPT HALF UNION. USED ON TANK SERVICE PORT.	2	0
		0 - 0 - SLPCON-03FT - SUPERVISED LOOP CONNECTION KIT. CONTAINS THE PARTS NEEDED TO CONNECT THE SUPERVISED LOOP BETWEEN END TO END HOODS WITH LESS THAN A 3' GAP. KIT CONTAINS 5 FEET OF BLACK MG WIRE, 5 FEET OF TAN MG WIRE, 3 FEET OF FLEXIBLE CONDUIT, AND TWO 7/8" CONNECTORS.	1	0
		0 - 0 - SLPCON-05FT - SUPERVISED LOOP CONNECTION KIT. CONTAINS THE PARTS NEEDED TO CONNECT THE SUPERVISED LOOP BETWEEN END TO END HOODS WITH LESS THAN A 4' GAP. KIT CONTAINS 7 FEET OF BLACK MG WIRE, 7 FEET OF TAN MG WIRE, 5 FEET OF FLEXIBLE CONDUIT, AND TWO 7/8" CONNECTORS.	1	0
		0 - 0 - SLPCON-20FT - SUPERVISED LOOP CONNECTION KIT. CONTAINS THE PARTS NEEDED TO CONNECT THE SUPERVISED LOOP BETWEEN HOODS WITH UPTO 19' GAP. KIT CONTAINS 22 FEET OF BLACK MG WIRE, 22 FEET OF TAN MG WIRE, 20 FEET OF FLEXIBLE CONDUIT, AND TWO 7/8" CONNECTORS.	1	0
		SC-EGVA2 - GAS VALVE - 2" ELECTRICAL SHUTOFF VALVE FOR USE WITH HMI RESET, 110V, 60HZ (#80214280). INCLUDES UPSTREAM STRAINER ASSEMBLY.	1	0

TANK MANUAL ACTIVATION DEVICE DETAIL





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REVISIONS

DESCRIPTION	DATE

Ellenville FD - Kitchen
7025 New York 52,
Greenfield Park, NY, 12435

DATE: 6/10/2026
DWG.#: 8719706
DRAWN BY: JC-43
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 2

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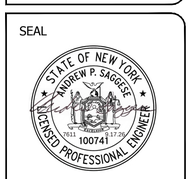
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL



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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL DETAILS

PROJECT No. 2501 EMTEC: 7611

CHECKED BY: MF/APS

DRAWING: M-5.6

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

EXHAUST FAN INFORMATION – JOB#8719706

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1	KEF-1	1	DU240HFA	CAPTIVEAIRE	4400	1.500	921	DBP,PREMIUM	5.000	2.1720	3	208	15.0	1000 FPM	263	16.6

MUA FAN INFORMATION – JOB#8719706

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	MCA	MOCP	WEIGHT (LBS)	SONES
2	MUA-1	1	A2-D.500-20D	20MF-2-MOD	A2-D.500	2000	3960	0.500	1506	TEFC,PREMIUM	3.000	1.9080	3	208	9.4	11.8A	20A	688	14.2

GAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO	TAG	INPUT BTUs	OUTPUT BTUs	TEMP RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE	BURNER EFFICIENCY(%)
2	MUA-1	326171	300077	74°F	7 IN. W.C. – 14 IN. W.C.	LP	92

FAN ACCESSORIES

FAN UNIT NO	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	KEF-1	YES						
2	MUA-1						YES	

CURB ASSEMBLIES

NO	ON FAN	TAG	R-VALUE	WEIGHT	ITEM	SIZE
1	# 1	KEF-1		43 LBS	CURB	31.500"W X 31.500"L X 20.000"H VENTED HINGED.
2	# 2	MUA-1	4.3	80 LBS	CURB	31.000"W X 79.000"L X 20.000"H INSULATED.

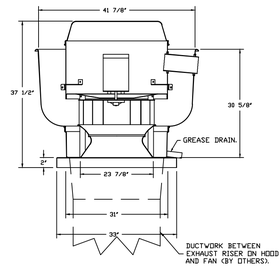
1" R4.3 FOIL FACED FIBERGLASS INSULATION. COMPLIES WITH UL/ULC,ASTM, & ASHRAE STANDARDS.

FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	KEF-1	1	GREASE BOX
		1	FAN BASE CERAMIC SEAL – DU/DR240HFA – INSTALLED AT PLANT – FOR GREASE DUCTS
		1	2 YEAR PARTS WARRANTY
2	MUA-1	1	SIZE 2 TEMPERED COMMERCIAL DOWN DISCHARGE FOR DIRECT DRIVE AHUS
		1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, -5 TO 15" WC
		1	BUTTERFLY MOD VALVE OPTION FOR MOD SIZE 2 (1" MOD VALVE)
		1	MOTORIZED BACKDRAFT DAMPER FOR A2-D HOUSING – MEETS AMCA CLASS 1A RATING
		1	MODULAR UNIT INTAKE FIRESTAT SET TO 135°F
		1	COMMERCIAL SMOKE DETECTOR/ALARM INTERLOCK – ALARM SUPPLIED BY OTHERS
		1	CASLINK BUILDING MONITORING SYSTEM – INTERNET OR CELLULAR CONNECTION REQUIRED
		1	CLOGGED FILTER SWITCH – NOTIFICATION ON HMI
		1	SEPARATE 120V WIRING PACKAGE (REQUIRED AND USED ONLY FOR DCV OR PREWIRE WITH VFD) – THREE PHASE ONLY
		1	SIZE 2 DIRECT FIRED HEATER LOW CFM PROFILE PACKAGE – USED ON HEATERS UNDER 2500 CFM
		1	2 YEAR PARTS WARRANTY
		1	EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET

HMI SCHEDULE				
UNIT NUMBER	HMI #	HMI LOCATION	TEMP AVERAGING	MODBUS ADDRESS
FAN #2	HMI #1 – UNIT	IN UNIT	NOT AVERAGED	55

FAN #1: DU240HFA – EXHAUST FAN (KEF-1)



FEATURES:

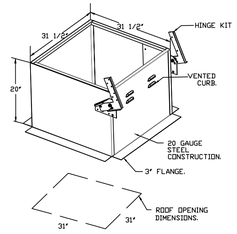
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT SWITCH.

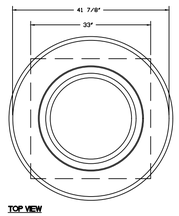
NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

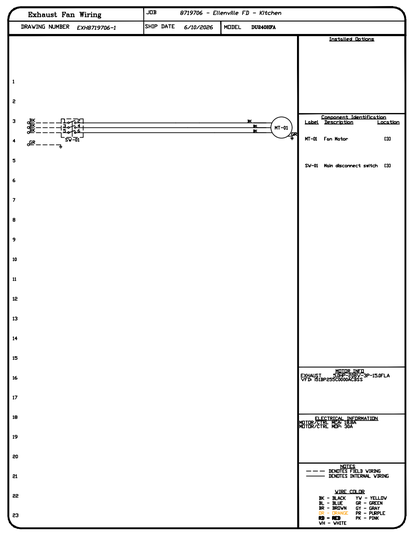
OPTIONS

- GREASE BOX.
- FAN BASE CERAMIC SEAL – DU/DR240HFA – INSTALLED AT PLANT – FOR GREASE DUCTS.
- 2 YEAR PARTS WARRANTY.





TOP VIEW



Ellenville FD – Kitchen
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REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE
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www.captiveaire.com

DATE	ISSUED
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SEAL

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL DETAILS

PROJECT No. 2601 EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

M-5.1

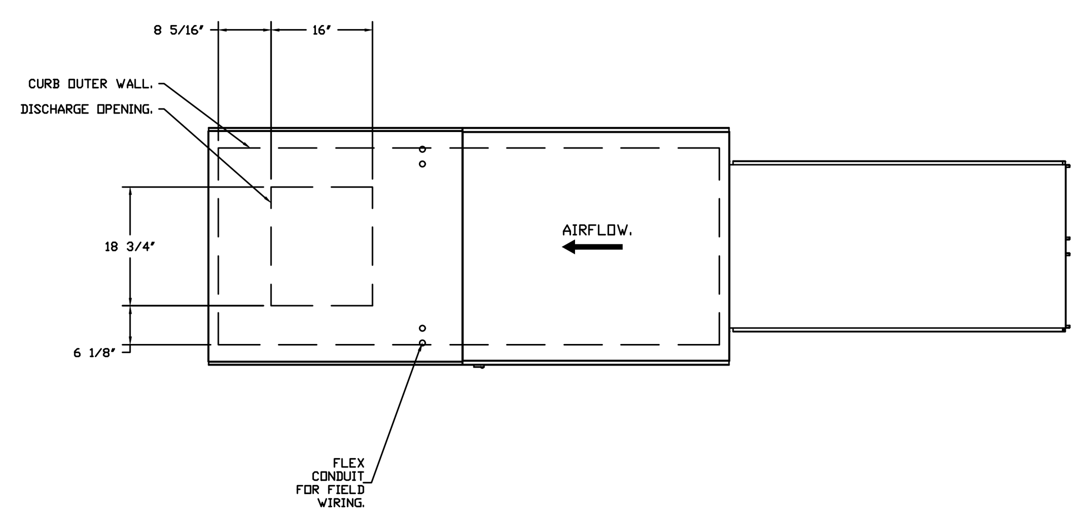
EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

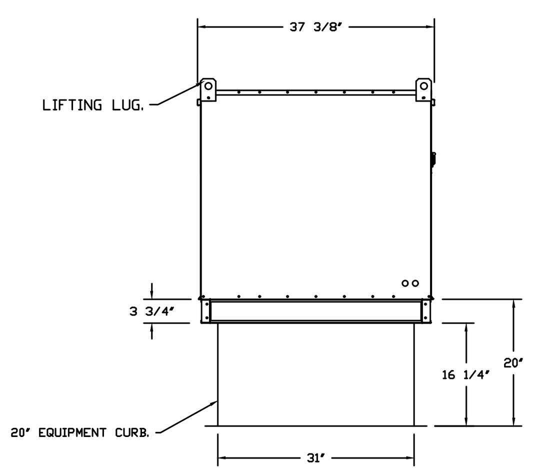
FAN #2 A2-D.500-20D - HEATER (MUA-1)
1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 20" MIXED FLOW DIRECT DRIVE FAN.
2. INTAKE HOOD WITH EZ FILTERS.
3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT.
4. DOWN DISCHARGE CONSTRUCTION FOR SIZE 2 DIRECT DRIVE AHUS.
5. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE.
6. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC., 2.5" DIAMETER, 1/4" THREAD SIZE.
7. BUTTERFLY MOD VALVE OPTION FOR MOD SIZE 2 (1" MOD VALVE).
8. MOTORIZED BACK DRAFT DAMPER 22.75" X 24" FOR SIZE 2 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LOW LEAKAGE, LF120S ACTUATOR INCLUDED.
9. MODULAR UNIT INTAKE FIRESTAT. SET TO 135°F.
10. COMMERCIAL SMOKE DETECTOR INTERLOCK (DETECTOR BY OTHERS).
11. CASLINK BUILDING MONITORING SYSTEM COMMUNICATIONS MODULE. REQUIRES INTERNET & FIELD WIRED ETHERNET CONNECTION OR 3G CELLULAR SERVICE. INCLUDES REV 3 COMM MODULE, RJ45 TO MODBUS CONVERTER, 3 FT CAT5 CABLE, AND 1 FT OF SHIELDED TWISTED PAIR.
12. CLOGGED FILTER SWITCH WITH NOTIFICATION ON HMI.
13. SEPARATE 120VAC WIRING PACKAGE FOR MAKE-UP AIR UNITS. OPTION MUST BE SELECTED WHEN MOUNTING VFD IN PREWIRE PANEL OR WITH DCV PACKAGE. PROVIDES SEPARATE 120VAC INPUT TO SUPPLY FAN. THIS 120V SIGNAL MUST BE RUN BY ELECTRICIAN FROM DCV TO MUA SWITCH.
14. PROFILE PLATE CONFIGURATION FOR SIZE 2 DIRECT FIRED UNIT FOR LOW CFM APPLICATIONS.
15. HINGED DOUBLE WALL INSULATED DOOR ASSEMBLY (BURNER/BLOWER SECTION).
16. EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET.
17. 2 YEAR PARTS WARRANTY.

*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT. SUGGESTED SUPPLY STRAIGHT DUCT SIZE IS 20" x 20".

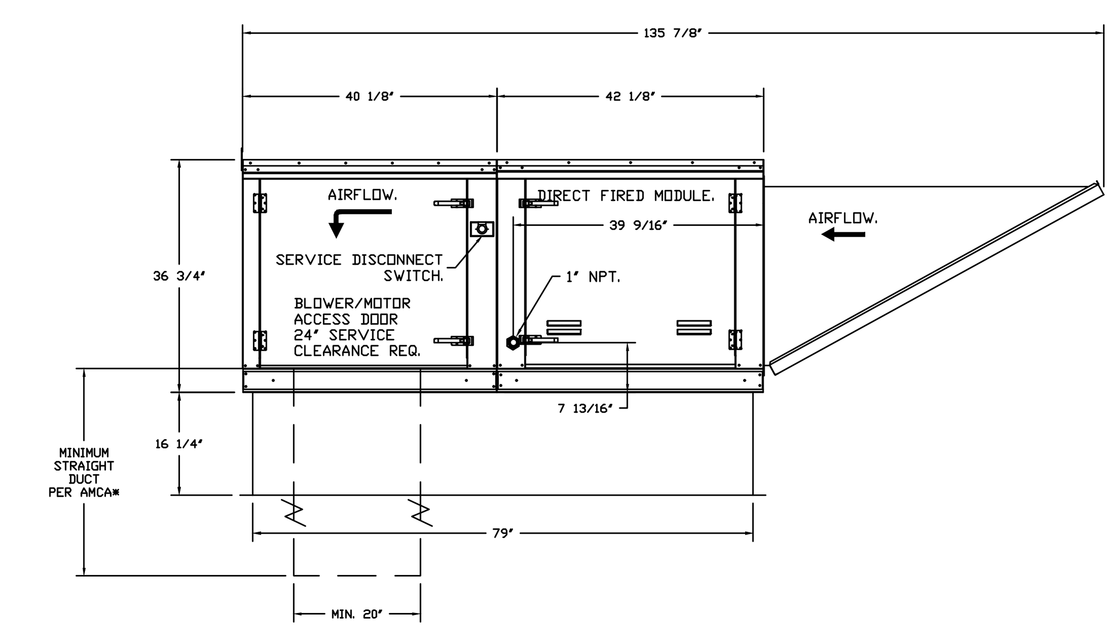
SUPPLY SIDE HEATER INFORMATION:

WINTER TEMPERATURE = 1°F. TEMP. RISE = 74°F.
BTUs CALCULATED OFF ACTUAL AIR DENSITY.
OUTPUT BTUs AT ALTITUDE OF 0.0 FT. = 313066.
INPUT BTUs AT ALTITUDE OF 0.0 FT. = 340290.
OUTPUT BTUs AT ALTITUDE OF 1168 FT. = 300077.
INPUT BTUs AT ALTITUDE OF 1168 FT. = 326170.

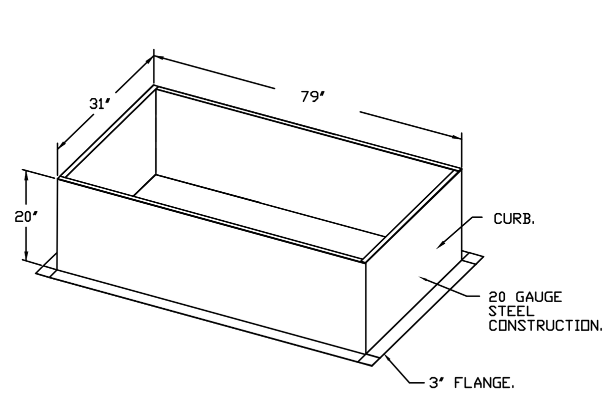


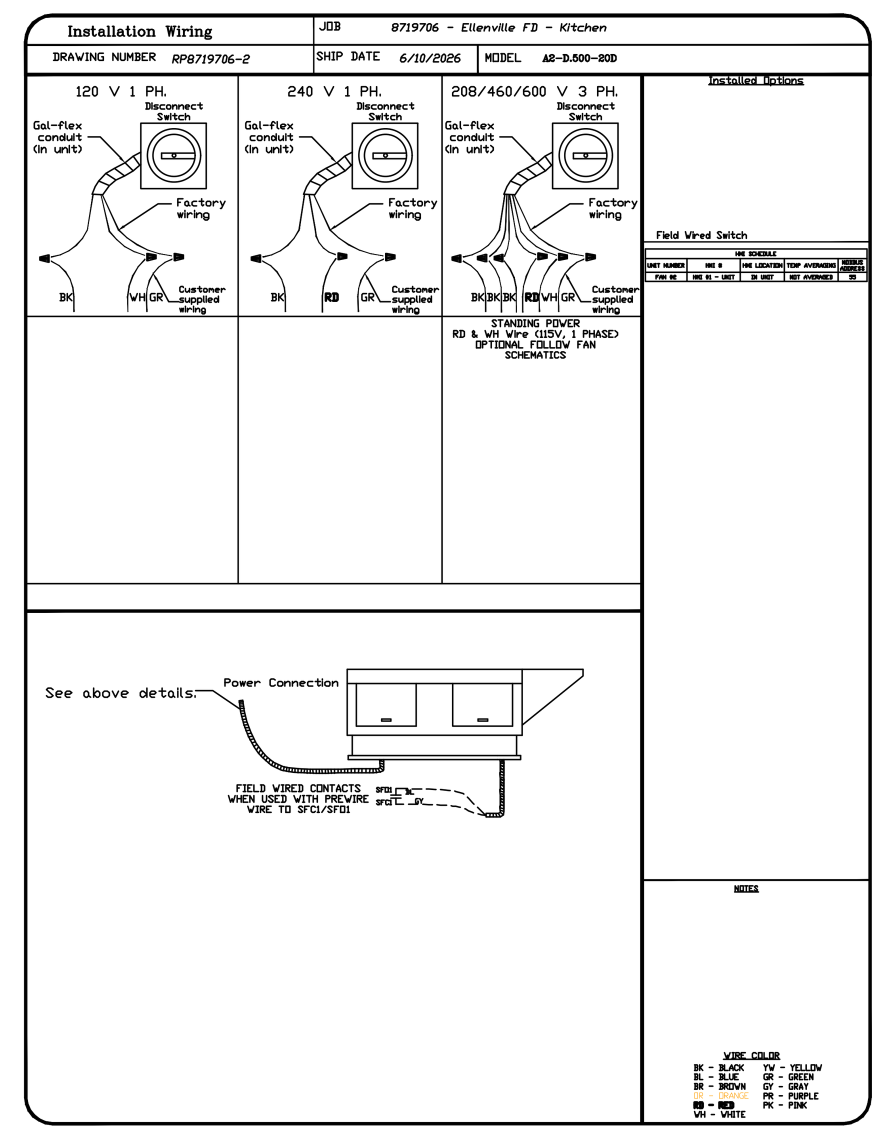


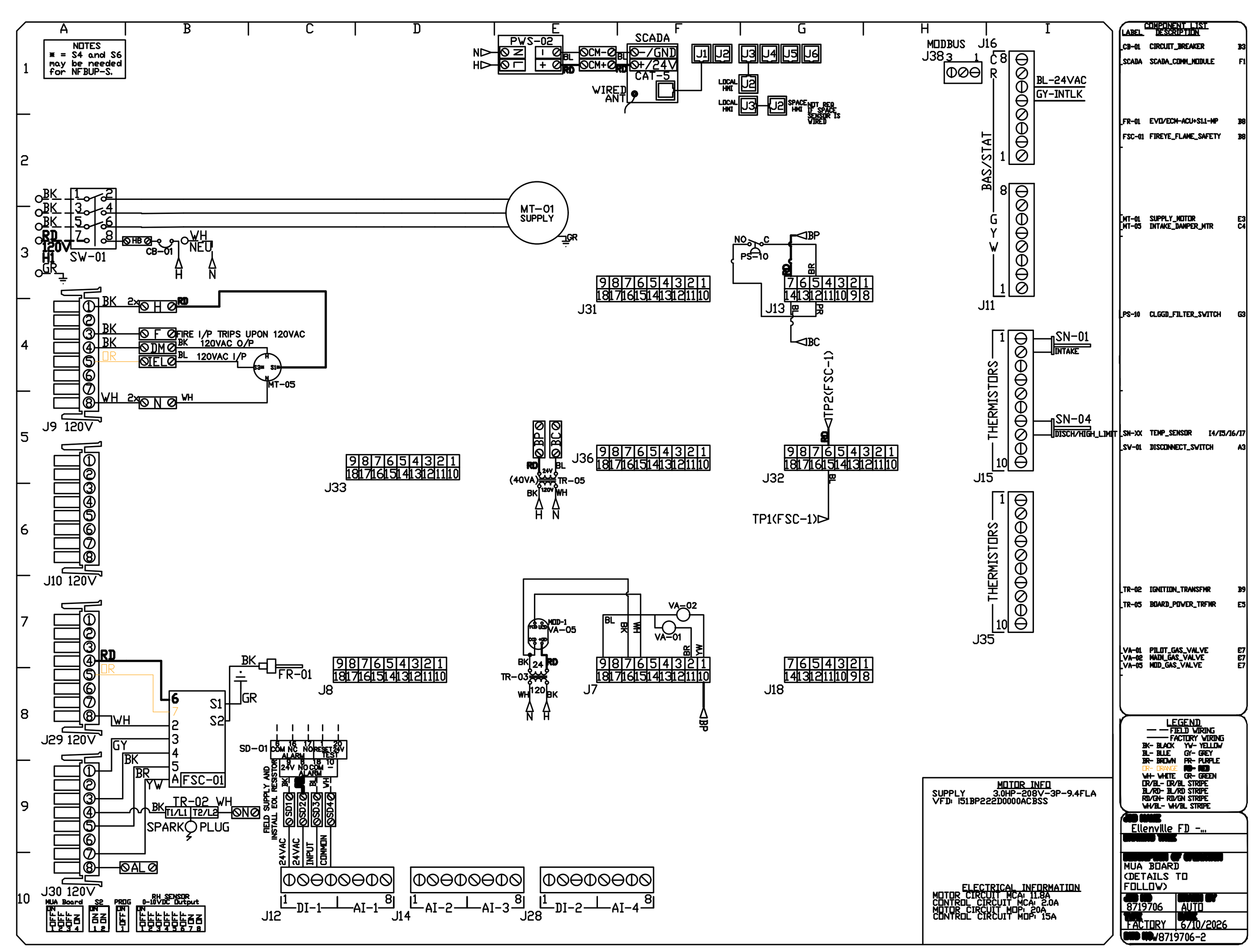
ROOF OPENING 2" SMALLER THAN CURB DIMENSION.



OPTIONS:
- FULL BOTTOM CORNERS.







REVISIONS

DESCRIPTION	DATE:

CAPTIVEAIRE
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Ellenville FD - Kitchen
7025 New York 52,
Greenfield Park, NY, 12435

DATE: 6/10/2026
DWG.#: 8719706
DRAWN BY: JC-43
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 4

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09-17-2026
ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL
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ANDREW P. SAGGESE
LICENSED PROFESSIONAL ENGINEER
100741
7611 9.17.26

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL DETAILS

PROJECT No. 2501
EMTEC: 7611
CHECKED BY: MF/APS
DRAWING:
M-5.8

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

ELECTRICAL PACKAGE – JOB#8719706

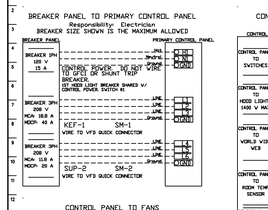
NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED				
				LOCATION	QUANTITY		FAN TAG	TYPE	HP	VOLT	FLA
1	ECP-1	DCV-1111	WALL MOUNT IN SS BOX	SS WALL MOUNT BOX	1 LIGHT 1 FAN	SMART CONTROLS DCV	KEF-1	EXHAUST	3	5.000	208 15.0
							MUA-1	SUPPLY	3	3.000	208 9.4

JOB NO 8719706 | MODEL NUMBER DCV-1111 | JOB NAME Ellenville FD – Kitchen | ISSUED BY | ISSUED FOR INSTALL | DATE 6/20/2026 | DRAWING NO ECP #1-3

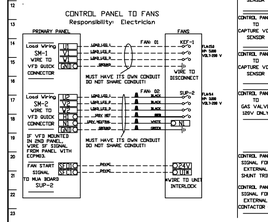
DESCRIPTION OF OPERATION:
Fire System #: 7688 FS – 63/4X12 XT2-S: Twin-headed Fire Protection System equipped with Electronic Detection. Utilizing CORE board on a Listed Release Mechanism. Included in hood Utility Cabinet separate from presets. Includes 18" 6in housing circuit board, batteries, and terminals for connection to nun control panel.

BREAKER PANEL TO PRIMARY CONTROL PANEL
Responsibility: Electrician

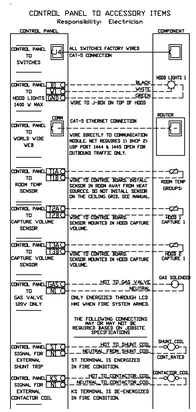
BREAKER SIZE SHOWN IS THE MAXIMUM ALLOWED



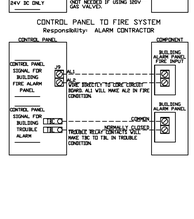
CONTROL PANEL TO FANS
Responsibility: Electrician



CONTROL PANEL TO ACCESSORY ITEMS
Responsibility: Electrician



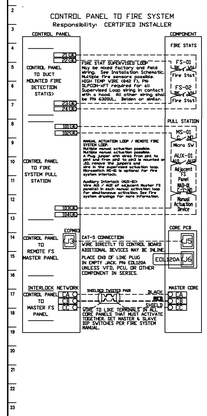
CONTROL PANEL TO FIRE SYSTEM
Responsibility: ALARM CONTRACTOR

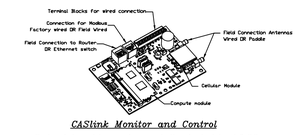


JOB NO 8719706 | MODEL NUMBER DCV-1111 | JOB NAME Ellenville FD – Kitchen | ISSUED BY | ISSUED FOR INSTALL | DATE 6/15/2026 | DRAWING NO ECP #1-2

DESCRIPTION OF OPERATION:
Fire System #: 7688 FS – 63/4X12 XT2-S: Twin-headed Fire Protection System equipped with Electronic Detection. Utilizing CORE board on a Listed Release Mechanism. Included in hood Utility Cabinet separate from presets. Includes 18" 6in housing circuit board, batteries, and terminals for connection to nun control panel.

CONTROL PANEL TO FIRE SYSTEM
Responsibility: CERTIFIED INSTALLER





CASlink Monitor and Control

– *Hood control panel to support communications to cloud-based Building Management System.*
– *Hood Control Panel to allow cloud-based Building Management System to monitor real time parameters outlined as MONITOR in the points list.*
– *Hood Control Panel to allow cloud-based Building Management System to control parameters outlined as CONTROL in the points list.*
– *Hood Control Panel to allow cloud-based Building Management System to implement SYSTEM ECONOMIZER control strategies for fully integrated Building Management.*

MONITORING AND CONTROL POINTS LIST

DCV Packages	Function
Room Temperature	MONITOR
Duct Temperature(s)	MONITOR
MUA Discharge Temperature	MONITOR
Kitchen RTU Discharge Temperature	MONITOR
Fan Speed	MONITOR
Fan Amperage	MONITOR
Fan Power	MONITOR
VFD Faults	MONITOR
Controller Faults	MONITOR
Fan Faults	MONITOR
Fan Status	MONITOR
PCU Faults	MONITOR
PCU Filter Clog Percentages	MONITOR
Fire Condition	MONITOR
CORE Fire System	MONITOR
Building Pressures	MONITOR
Prep Time Button	MONITOR & CONTROL
Fans Button	MONITOR & CONTROL
Lights Button	MONITOR & CONTROL
Wash Button	MONITOR & CONTROL

SC Packages	Function
Room Temperature(s)	MONITOR
Duct Temperature(s)	MONITOR
MUA Discharge Temperature	MONITOR
Kitchen RTU Discharge Temperature	MONITOR
Controller Faults	MONITOR
Fan Faults	MONITOR
Fan Status	MONITOR
PCU Faults	MONITOR
PCU Filter Clog Percentages	MONITOR
Fire Condition	MONITOR
CORE Fire System	MONITOR
Building Pressures	MONITOR
Fans Button(s)	MONITOR & CONTROL
Lights Button(s)	MONITOR & CONTROL
Wash Button	MONITOR & CONTROL

JOB NO 8719706 | MODEL NUMBER DCV-1111 | JOB NAME Ellenville FD – Kitchen | ISSUED BY | ISSUED FOR INSTALL | DATE 6/20/2026 | DRAWING NO ECP #1-3

DESCRIPTION OF OPERATION:
Fire System #: 7688 FS – 63/4X12 XT2-S: Twin-headed Fire Protection System equipped with Electronic Detection. Utilizing CORE board on a Listed Release Mechanism. Included in hood Utility Cabinet separate from presets. Includes 18" 6in housing circuit board, batteries, and terminals for connection to nun control panel.

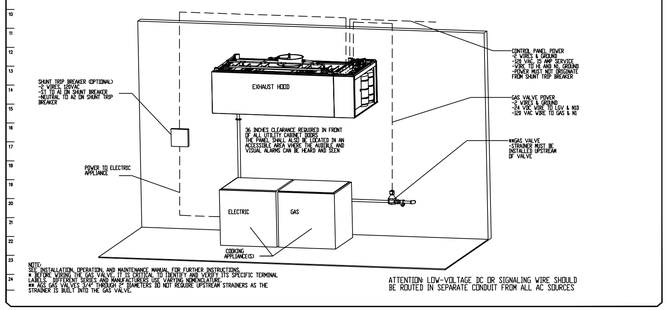
TANK PROTECTION ELECTRICAL DETAIL

03/18/2026 Rev. 03

FS-1: MASTER

ELECTRICAL CONTRACTOR REQUIREMENT

ITEM	CONNECTION IN PANEL	CONNECTION IN DEVICE	VOLTAGE	AMPERAGE	COMMENTS
SHUNT TRIP BREAKER (OPTIONAL)	ST & NI	BREAKER COIL SN & NO	120 VAC	< 4 AMPS	ST TO A1 ON SHUNT BREAKER COIL, AND NEUTRAL TO A2 ON SHUNT TRIP BREAKER COIL
CONTROL PANEL POWER	HI & NI + GROUND	CIRCUIT BREAKER	120 VAC	15 AMPS	CONTROL PANEL POWER MUST NOT BE RUN THROUGH SHUNT TRIP BREAKER
LOSS APPLIANCE KILL SWITCH (OPTIONAL)	KTS & NI	KTS & NI	120 VAC	< 4 AMPS	KILL SWITCH TERMINALS MUST BE IN SERIES WITH OTHER KILL SWITCHES
REMOTE 120VAC ANSUL AUTOMAN (OPTIONAL)	AUL AUZ	SOLENOID	120 VAC	< 6 AMPS	120V TO AUL AUZ TO ANSUL ELECTRIC AUTOMAN, ANSUL SOLENOID TO NEUTRAL
MGAS VALVE AGCO	LGV & NZI OF 24 VDC) GAS & NZ OF 120 VAC)	RCD/RCD/GREEN	24 VDC OR 120 VAC	< 10 AMPS	IF 24 VDC - 2 WIRES & GROUND, NZI TO RCD, LGV TO RCD AND GREEN TO GROUND IF 120 VAC - 2 WIRES & GROUND, GAS TO RCD, NI TO RCD, AND GREEN TO GROUND
MGAS VALVE AGS	LGV & NZI OF 24 VDC) GAS & NZ OF 120 VAC)	-VDC OF 24 VDC) LGVN OF 120 VAC)	24 VDC OR 120 VAC	< 10 AMPS	IF 24 VDC - 2 WIRES & GROUND, LGV TO VDD TP C4 AND GREEN TO GROUND IF 120 VAC - 2 WIRES & GROUND, GAS TO C3, NI TO C4, AND GREEN TO GROUND



NOTE:
SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS.
* IF GAS VALVE OR GAS VALVE CONTROL HAS TRANSFORMER AND CANNOT BE SPECIFIC TERMINAL LABELS - DIFFERENT BRANDS AND MANUFACTURERS USE VARYING NOMENCLATURE.
** MGAS GAS VALVES SIZE 1" DIAMETER OR SMALLERS DO NOT REQUIRE UPSTREAM STRAINERS AS THE STRAINER IS BUILT INTO THE GAS VALVE.

ATTENTION LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES

JOB NO 8719706 | MODEL NUMBER DCV-1111 | JOB NAME Ellenville FD – Kitchen | ISSUED BY | ISSUED FOR INSTALL | DATE 6/20/2026 | DRAWING NO ECP #1-4

DESCRIPTION OF OPERATION:
Fire System #: 7688 FS – 63/4X12 XT2-S: Twin-headed Fire Protection System equipped with Electronic Detection. Utilizing CORE board on a Listed Release Mechanism. Included in hood Utility Cabinet separate from presets. Includes 18" 6in housing circuit board, batteries, and terminals for connection to nun control panel.

TANK PROTECTION LOW-VOLTAGE DETAIL

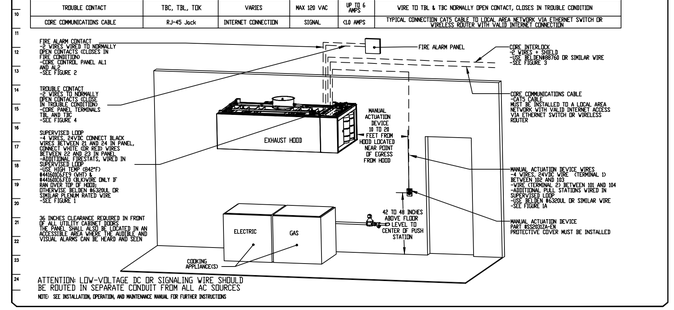
10/01/2025 Rev. 3

FS-1: MASTER

ALARM CONTRACTOR:
1. WIRE MANUAL ACTUATION DEVICE(S), REMOTE FIRESTAT(S), CORE INTERLOCK(S), FIRE SENSOR(S) AND FIRE ALARM CONTACTS
2. COMPLETE CWM, HOOKUP TO SYSTEM
3. VERIFY FINAL FIRE SYSTEM TEST
REMOTE FIRESTAT(S) MAYBE BE REQUIRED DEPENDING ON THE DUCT LAYOUT AND HOOD TEMPERATURE RATING REFERENCE MANUAL FOR LOCATION AND GUIDELINES.

ALARM CONTRACTOR REQUIREMENT

ITEM	CONNECTION IN PANEL	CONNECTION IN DEVICE	VOLTAGE	AMPERAGE	COMMENTS
MANUAL ACTUATION DEVICE(S)	SEE ANSI 594 SEE ANSI 593	1 & 2	24 VDC	< 10 AMPS	WIRE MANUAL ACTUATION DEVICE TERMINAL 1 BETWEEN CORE PANEL TERMINALS 59 AND 593 WIRE MANUAL ACTUATION DEVICE TERMINAL 2 BETWEEN CORE PANEL TERMINALS 58 AND 594 JUMPER DEVICE TO NEXT MANUAL ACTUATION DEVICE IF INSTALLED
MANUAL ACTUATION DEVICE COVER	N/A	N/A	N/A	N/A	MANUAL ACTUATION DEVICE COVER MUST BE INSTALLED
REMOTE FIRESTAT SENSOR(S)	21 AND 24 22 AND 23	BLACK AND WHITE	24 VDC	< 10 AMPS	WIRE FIRE SENSOR WIRE 1 BETWEEN SENSOR AND PANEL TERMINALS 22 AND 24 WIRE FIRE SENSOR BLACK WIRE 2 BETWEEN SENSOR AND PANEL TERMINALS 21 AND 23 HIGH TEMP SENSORS MUST BE WIRED IN SERIES WITH ONE SENSOR AT THE END OF THE LINE WITH A 4400D6E3740 2W RESISTOR ACROSS THE LAST SENSOR. SEE FIGURE 1
FIRE ALARM CONTACT	AL1, AL2	VARIES	30V MAX DC/AC	UP TO 1 AMP	WIRE FIRE ALARM RELAY CONTACTS FOR BUILDING FIRE ALARM LOCATED IN THE CORE ELECTRICAL CONTROL PANEL
CORE INTERLOCK(S)	CA, CB, CC	CA, CB, CC	RS-485 COMMUNICATIONS SIGNAL		CORE SYSTEM ID CA, TO CORE SYSTEM ID CA CORE SYSTEM ID CB, TO CORE SYSTEM ID CB CORE SYSTEM ID CC, TO CORE SYSTEM ID CC. USE BELDEN 8895NH OR SIMILAR WIRE
TROUBLE CONTACT	TBC, TBL, TBK	VARIES	MAX 120 VAC	UP TO 6 AMPS	WIRE TO TBL & TBC NORMALLY OPEN CONTACT, CLOSES IN TROUBLE CONDITION
CORE COMMUNICATIONS CABLE	RJ-45 Jack	INTERNET CONNECTION	SIGNAL	<10 AMPS	TYPICAL CONNECTION DATA CABLE BETWEEN AREA NETWORK VIA ETHERNET SWITCH OR WIRELESS ROUTER WITH VALID INTERNET CONNECTION



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NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

REVISIONS

	DESCRIPTION	DATE
1		
2		
3		
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CAPTIVE-AIRE
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Long Island Office
www.captiveaire.com

Ellenville FD – Kitchen
7025 New York 52,
Greenfield Park, NY, 12435

DATE: 6/10/2026

DWG.#: 8719706

DRAWN BY: JC-43

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

MASTER DRAWING

SHEET NO. 5

DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

STATE OF NEW YORK
ANDREW P. SAGGESE
LICENSED PROFESSIONAL ENGINEER
10074
DATE OF LICENSURE 11/17/20

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ARCHITECTS - PLANNERS
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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL DETAILS

PROJECT No. 2501 EMTEC: 7611

CHECKED BY: MF/APS

DRAWING: M-5.9

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

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JOB NO 8719706 | MODEL NUMBER NCV-1111 | JOB NAME Ellenville FD - Kitchen

DESCRIPTION OF OPERATION:
Fire System # 1048 FS - Alphatrol #3-01, Synchronized Fire Protection System equipped with Electronic Detection Control Fire Guard and a Listed Releasing Mechanism. Contained in Hood Vendor Control Cabinets from propane. Includes 24 Volt Heating circuit board, batteries, and terminal for connection to main control panel.

TANK PROTECTION LOW-VOLTAGE FIGURES

10/01/2023 Rev. 17

FS-1: MASTER

USE BOLDEN MODEL OR SIMILAR VIBE

WIRING CONNECTIONS FOR FIRELITE 1 LOOP
FIGURE 1

WIRING CONNECTIONS FOR MANUAL ACTUATION LOOP
FIGURE 1A

WIRING CONNECTIONS FOR FIRE ALARM CONTACT
FIGURE 2

SHIELDED TWISTED PAIR

WIRING CONNECTIONS FOR CORE INTERLOCK
FIGURE 3

WIRING CONNECTIONS FOR TROUBLE CONTACT
FIGURE 4

ATTENTION LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES

NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

UNLESS SPECIFIED OTHERWISE, ALL FACTORY AC WIRING 16 AWG. ALL FACTORY DC WIRING 18 AWG.

J9 120V
- CONTROL INPUT 120V
- MH-LINE, N-NEUTRAL
- 15A BREAKER. DO NOT
- CONNECT TO SHUNT TRIP
- BREAKER. SEE
- INSTALLATION SCHEMATIC

J7 120V

PANEL LIGHT

MOTOR POWER CIRCUIT
NOTE: IF VFD'S HAVE 3PH INPUT POWER, USE L1, L2 ONLY. IF VFD HAS 1PH INPUT POWER, USE L1, L2 ONLY.

DRY CONTACTS <SHOWN DE-ENERGIZED>

FACTORY WIRING SCHEMATIC CIRCUIT BOARDS ECPM03

COMPONENT LIST

LEGEND

SCADA Module

SC-20 x 18 x 8.62 BOX

FACTORY WIRING SCHEMATIC CORE FIRE PROTECTION

DIP Switch

Master CORE set DIP SW 9 to CLOSED position. Slave CORE with address set DIP SW 9 to OPEN.

FIRE INDICATOR FAULT CONDITION FLASH CODES
1 Remote Summary
3 Pressure Switch
4 Auxiliary Fault
5 Microcontroller Fault
6 Fuse
7 Supervised Loop
8 Ground Fault
9 Low Voltage
10 Battery Voltage Low
11 AC Power Failure
12 Tamper Switch
13 Test Mode
14 CORE Interlock Network
15 Fault on Hood in Interlock Network
16 Fault on PCU in Interlock Network

HIGH TEMP WIRE (SHIELD) Per SUPCOM-HT required for all wiring that comes in contact with a hood. All other wiring must be in EMT conduit. Bolden or similar. Factory mounted hood sensors at the factory. Field mounted sensors are on top of hood.

FIRE STAT SUPERVISED LOOP Not to be used for any field devices. See Installation Schematic. Multiple fire sensors possible.

Auxiliary Interlock (AUX-01) Wire AUX-C AUX-1F auxiliary Master CORE to provide interlock operation loop for simultaneous activation.

MANUAL ACTUATION LOOP / REMOTE FIRE STATION
Multiple manual activation possible. A Plug jumper with wires from one to the other. Only one Pull Station to be mounted on end of chain & no manual activation device and no microswitch.

AUX-HS will have continuity for 15 seconds if adjacent hood does not fire simultaneously. Will open after 15 seconds allowing fan to reach other 30 seconds.

NOTE: AUX-NC terminals of CORE Panel should not be wired into fire alarm manual activation loop.

Manual Actuation Switch

Micro SW

AUX-01

MAX-1

Manual Actuation Switch

FIELD WIRED IF MORE THAN 1 MANUAL ACTUATION IS REQUIRED UNLESS YOU HAVE OR OTHER COMPONENT IN SERIES.

SHIELDED TWISTED PAIR

RS-HSS CORE INTERLOCK NETWORK. Connection to other CORE Panels or Interlocked Hoods. See Installation Schematic for Connection.

DRY CONTACTS <SHOWN DE-ENERGIZED>

RS-29-1 MODULE RELAY. Contact terminals 1 & 3 is, made if there is trouble. Contact terminals 1&2 is, made if fire system is on.

RS-29-1 ZONING EQUIPMENT DISABLE RELAY. Contact terminals 1 & 3 is, made if there is no trouble. Contact terminals 1&2 is, made if fire system is on.

RS-29-1 FIRE SYSTEM DRY CONTACTS Dry contacts are made (2 to 4&2 to 3) when system is armed.

RS-29-1 INTERLOCK FOR AUTOMAN ACTIVATION. Used for activating SSAC systems or Adjacent Master CORE panels during active Fire Condition.

FACTORY WIRING SCHEMATIC CORE FIRE PROTECTION

COMPONENT LIST

LEGEND

Ellenville FD - Kitchen
7025 New York 52,
Greenfield Park, NY, 12435

DATE: 6/10/2026

DWG.#: 8719706

DRAWN BY: JC-43

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

MASTER DRAWING

SHEET NO. 6

REVISIONS

	DESCRIPTION	DATE
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SEAL

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
208 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL DETAILS

PROJECT No. 2501 EMTEC: 7611

CHECKED BY: MF/APS

DRAWING: M-5.10

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

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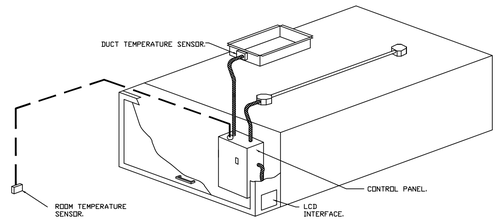
DEMAND CONTROL VENTILATION HOOD CONTROL PANEL SPECIFICATIONS:

- CONTROLS SHALL BE LISTED BY ETL (UL 508A) AND SHALL COMPLY WITH DEMAND VENTILATION SYSTEM TURNDOWN REQUIREMENTS OUTLINED IN IECC 403.7.5 (2021).
- THE CONTROL ENCLOSURE SHALL BE NEMA 1 RATED AND LISTED FOR INSTALLATION INSIDE OF THE EXHAUST HOOD UTILITY CABINET. THE CONTROL ENCLOSURE MAY BE CONSTRUCTED OF STAINLESS STEEL OR PAINTED STEEL.
- TEMPERATURE PROBE(S) LOCATED IN THE EXHAUST DUCT RISER(S) SHALL BE CONSTRUCTED OF STAINLESS STEEL.
- A DIGITAL CONTROLLER SHALL BE PROVIDED TO ACTIVATE THE HOOD EXHAUST FANS DYNAMICALLY BASED ON A FIXED DIFFERENTIAL BETWEEN THE AMBIENT AND DUCT TEMPERATURES SENSORS. THIS FUNCTION SHALL MEET THE REQUIREMENTS OF IMC 507.1.1.
- A DIGITAL CONTROLLER SHALL PROVIDE ADJUSTABLE HYSTERESIS SETTINGS TO PREVENT CYCLING OF THE FANS AFTER THE COOKING APPLIANCES HAVE BEEN TURNED OFF AND/OR THE HEAT IN THE EXHAUST SYSTEM IS REDUCED.
- A DIGITAL CONTROLLER SHALL PROVIDE AN ADJUSTABLE MINIMUM FAN RUN-TIME SETTING TO PREVENT FAN CYCLING.
- VARIABLE FREQUENCY DRIVES (VFDS) SHALL BE PROVIDED FOR FANS AS REQUIRED. THE DIGITAL CONTROLLER SHALL MODULATE THE VFDS BETWEEN A MINIMUM SETPOINT AND A MAXIMUM SETPOINT ON DEMAND. THE DUCT TEMPERATURE SENSOR INPUT(S) TO THE DIGITAL CONTROLLER SHALL BE USED TO CALCULATE THE SPEED REFERENCE SIGNAL.
- THE VFD SPEED RANGE OF OPERATION SHALL BE FROM 0% TO 100% FOR THE SYSTEM, WITH THE ACTUAL MINIMUM SPEED SET AS REQUIRED TO MEET MINIMUM VENTILATION REQUIREMENTS.
- AN INTERNAL ALGORITHM TO THE DIGITAL CONTROLLER SHALL MODULATE SUPPLY FAN VFD SPEED PROPORTIONAL TO ALL EXHAUST FANS THAT ARE LOCATED IN THE SAME FAN GROUP AS THE SUPPLY FAN.
- THE SYSTEM SHALL OPERATE IN PREP MODE DURING LIGHT COOKING LOAD OR COOL DOWN MODE WHEN SUFFICIENT HEAT REMAINS UNDERNEATH THE HOOD SYSTEM AFTER COOKING OPERATIONS HAVE COMPLETED. OPERATION DURING EITHER OF THESE PERIODS WILL DISABLE THE SUPPLY FANS AND PROVIDE AN EXHAUST FAN SPEED THAT IS EQUAL TO THE MINIMUM VENTILATION REQUIREMENT.
- A DIGITAL CONTROLLER SHALL DISABLE THE SUPPLY FAN(S), ACTIVATE THE EXHAUST FAN(S), ACTIVATE THE APPLIANCE SHUNT TRIP, AND DISABLE AN ELECTRIC GAS VALVE AUTOMATICALLY WHEN FIRE CONDITION IS DETECTED ON A COVERED HOOD.
- A DIGITAL CONTROLLER SHALL ALLOW FOR EXTERNAL BMS FAN CONTROL VIA DRY CONTACT (EXTERNAL CONTROL SHALL NOT OVERRIDE FAN OPERATION LOGIC AS REQUIRED BY CODE).
- AN LCD INTERFACE SHALL BE PROVIDED WITH THE FOLLOWING FEATURES:
  - A. ON/OFF PUSH BUTTON FAN & LIGHT SWITCH ACTIVATION.
  - B. INTEGRATED GAS VALVE RESET FOR ELECTRONIC GAS VALVES (NO RESET RELAY REQUIRED).
  - C. VFD FAULT DISPLAY WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  - D. DUCT TEMPERATURE SENSOR FAILURE DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  - E. MIS-WIRED DUCT TEMPERATURE SENSOR DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  - F. A SINGLE LOW VOLTAGE CAT-5 RJ45 WIRING CONNECTION.
  - G. AN ENERGY SAVINGS INDICATOR THAT UTILIZES MEASURED KWH FROM THE VFDS.

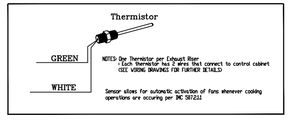


TYPICAL HOOD CONTROL PANEL INSTALLATION

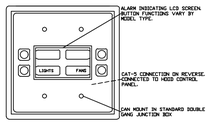
SEQUENCE OF OPERATIONS:

THE HOOD CONTROL PANEL IS CAPABLE OF OPERATING IN ONE OR MORE OF THE FOLLOWING STATES AT ANY GIVEN TIME:

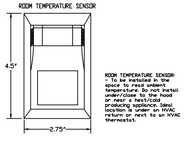
- AUTOMATIC: THE SYSTEM OPERATES BASED ON THE DIFFERENTIAL BETWEEN ROOM TEMPERATURE AND THE TEMPERATURE AT THE HOOD CAVITY OR EXHAUST DUCT COLLAR. FANS ACTIVATE AT A CONFIGURABLE TEMPERATURE DIFFERENTIAL THRESHOLD. DEPENDING ON THE JOB CONFIGURATION EACH FAN ZONE CAN BE CONFIGURED AS STATIC OR DYNAMIC. THESE TERMS REFER TO WHETHER A VARIABLE MOTOR (SUCH AS EC MOTORS OR VFD DRIVEN MOTORS) MODULATE WITH TEMPERATURE. IF THE PANEL IS EQUIPPED WITH VARIABLE SPEED FANS AND THE ZONE IS DEFINED AS "DYNAMIC", THESE WILL MODULATE WITHIN A USER-DEFINED RANGE BASED ON THE TEMPERATURE DIFFERENTIAL. PANELS EQUIPPED WITH VARIABLE SPEED FANS AND A FAN ZONE DEFINED AS "STATIC", FANS WILL RUN AT A SET SPEED CALCULATED FOR THE DRIVE. DEMAND CONTROL VENTILATION SYSTEMS ARE CAPABLE OF MODULATING EXHAUST AND MAKE UP AIR FAN SPEEDS PER THE REQUIREMENTS OUTLINED IN IECC 403.7.5 (2021).
- MANUAL: THE SYSTEM OPERATES BASED ON HUMAN INPUT FROM AN HMI.
- SCHEDULE: A WEEKLY SCHEDULE CAN BE SET TO RUN FANS FOR A SPECIFIED PERIOD THROUGHOUT THE DAY. THERE ARE THREE OCCUPIED TIMES PER DAY TO ALLOW FOR THE USER TO SET UP A TIME THAT IS SUITABLE TO THEIR NEEDS. ANY TIME THAT IS WITHIN THE DEFINED OCCUPIED TIME, THE SYSTEM WILL RUN AT MODULATION MODE AND FOLLOW THE FAN PROCEDURE ALGORITHM BASED ON TEMPERATURE DURING THIS TIME. DURING UNOCCUPIED TIME, THE SYSTEM WILL HAVE AN EXTRA OFFSET TO PREVENT UNINTENDED ACTIVATION OF THE SYSTEM DURING A TIME WHERE THE SYSTEM IS NOT BEING OCCUPIED.
- OTHER: THE SYSTEM OPERATES BASED ON THE INPUT FROM AN EXTERNAL SOURCE (DDC, BMS OR HARD-WIRED INTERLOCK).
- FIRE: UPON ACTIVATION OF THE HOOD FIRE SUPPRESSION SYSTEM, THE EXHAUST FAN WILL COME ON OR CONTINUE TO TO RUN, THE HOOD MAKEUP AIR WILL SHUTDOWN, AND A SIGNAL WILL BE SENT FOR ACTIVATING THE SHUNT TRIP BREAKER PROVIDED BY THE ELECTRICIAN. FUEL GAS WILL SHUT OFF VIA A MECHANICAL/ELECTRICAL GAS VALVE ACTUATED BY THE HOOD FIRE SUPPRESSION SYSTEM.



HOOD CONTROL PACKAGE INTERFACE
with LCD Screen



ROOM TEMPERATURE SENSOR



REVISIONS		
	DESCRIPTION	DATE
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2		
3		
4		

CAPTIVE-AIRE

Long Island Office
535 Broadhollow Rd, Suite B-7, Melville, NY, 11747 PHONE: (516) 513 - 5398 FAX: 9192275967 EMAIL: rep43@captiveaire.com
www.captiveaire.com

Ellenville FD - Kitchen
7025 New York 52,
Greenfield Park, NY, 12435

DATE: 6/10/2026

DWG.#: 8719706

DRAWN BY: JC-43

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

MASTER DRAWING

SHEET NO. 7

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."
This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

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ARCHITECTS - PLANNERS
215 ROAKING AVENUE RIVERHEAD, NY 11901 (631) 727-5862

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL DETAILS

PROJECT No. 2601 EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

M-5.11

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

PACKAGED ROOFTOP UNIT WITH MODULATING LP-GAS HEAT SCHEDULE

BASIS OF DESIGN: TRANE OR APPROVED EQUAL

ID	MODEL NO.	AREA SERVED	NOMINAL CAPACITY TONS	BC SUPPLY FAN PLENUM (QTY. 2)							MIN. OUTDOOR AIR CFM	PEAK OCCUPANCY			R-454B EVAPORATOR (NET COOLING)				POWERED EXHAUST FAN					COMPRESSORS			MODULATING LP-GAS HEAT SECTION						FILTER	UNIT EER	UNIT IEER	ELECTRICAL			APPROX. WEIGHT (LBS)	REMARKS
				CFM (TOTAL)	RPM	E.S.P. IN. W.G.	BHP (EACH)	DRIVE	NAMEPLATE HP (EACH)	EFF(%)		OUTDOOR AIR CFM	OUTDOOR AIR (%)		ENTERING DB/WB °F	LEAV. UNIT DB/WB °F	SENSIBLE CAPACITY	TOTAL CAPACITY	NO. OF FANS	AIRFLOW (CFM)	PRESS. (ESP)	FLA (EACH)	MOTOR HP	NO. COMP.	COMP. 1 RLA	COMP. 2 RLA	GAS PRESS. IN. W.G.	INPUT MBH	OUTPUT MBH	EFF. (%)	EAT (°F)	LAT (°F)	PIPE CONN. SIZE				V/PH/Hz	MCA	MOP		
RTU-GARAGE	DHK180A3S0H-P20A1B1	GARAGE AREA	15.0	6000	1219	1.00	2.36	DIRECT	3.0	70.0	900	900	15.0%	80/67	57.8/56.9	137.2	178.7	1	–	–	–	–	2	32.3	16.5	11.0-14.0	400.0	324.0	81.0	60.0	109.5	SEE PLBG.	MERV-13	11.5	17.0	208/3/60	84.0	110.0	2850.0	SEE NOTES #1 THRU 17
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(1) MODULATING GAS HEAT (2) OUTDOOR AIR HOOD W/ SCREEN & MOTORIZED DAMPER (3) INTEGRAL NON-FUSED DISCONNECT SWITCH (4) MOISTURE ELIMINATORS (5) CLOGGED FILTER SWITCH (6) GROUND FAULT CONVENIENCE OUTLET 115VAC (7) DOWNFLOW SUPPLY AIR DUCT / DOWNFLOW RETURN AIR DUCT CONNECTION
(8) FACTORY INSTALLED VFD W/ REMOTE KEYPAD (9) LOW LEAK DAMPERS (10) REMOTE CONTROL PANEL (11) HOT GAS REHEAT OPTION (12) LOW-LEAK ECONOMIZER WITH POWERED EXHAUST CONTROL (13) SERVICE CONVENIENCE PACKAGE W/ LIGHT IN UNIT (14) DOUBLE WALL CABINET CONSTRUCTION
(15) INSTALL UNITS WITH DEMAND CONTROLLED VENTILATION (16) INSTALL UNITS ON MIN. 18" HIGH ROOF CURBS. COORDINATE FINAL UNIT LOCATIONS WITH STRUCTURAL PLANS.
(17) OUTSIDE AIRFLOW IS FOR PEAK OCCUPANCY. DEMAND CONTROLLED VENTILATION SHALL RESET DOWN TO MIN. OA REQUIRED

ROOF-MOUNTED LP-GAS-FIRED KITCHEN MAKEUP AIR UNIT SCHEDULE

BASIS OF DESIGN CAPTIVEAIRE OR APPROVED EQUAL

ID	MODEL NO.	SUPPLY FAN							OUTDOOR AIR CFM		GAS HEAT SECTION (LP – PROPANE)				ELECTRICAL (FAN ONLY)			APPROX. WEIGHT (LBS)	REMARKS
		CFM	RPM	E.S.P. IN. W.G.	BHP	DRIVE	NAMEPLATE HP	FLA	MINIMUM	MAXIMUM	GAS PRESS. IN. W.G.	INPUT BTUH	OUTPUT BTUH	EFF. (%)	V/PH/Hz	MCA	MFS		
MUA-1	A2-D.500-20D	3960	1745	1.0	3.0	DIRECT	5.0	15.0	2000	3960	11.0-14.0	326,171	300,077	92.0	208/3/60	18.8	25.0	700	(1) THROUGH (10)

(1) ROOF MOUNTED WITH VERTICAL DISCHARGE (2) NON FUSED DISCONNECT AND THRU BASE CONNECTIONS (3) UNPOWERED CONVENIENCE OUTLET (4) PROGRAMMABLE LOCAL THERMOSTAT CONTROLS
(5) UNIT USES PROPANE (LP) GAS HEAT (6) 2-SPEED INDOOR FAN MOTOR CONTROLLED BY VFD (7) WITH Al/Cu LOUVERED HAIL GUARDS (8) PROVIDE WITH DEMAND CONTROLLED VENTILATION AND REMOTE CO2 SENSOR.
(9) WITH DUCT SMOKE DETECTOR ON THE RETURN SIDE AND SHUTDOWN RELAY (10) FURNISH & INSTALL 14 INCH HEIGHT ROOF CURB.

GAS-FIRED UNIT HEATER (LP-PROPANE GAS) SCHEDULE

BASIS OF DESIGN: MODINE OR APPROVED EQUAL

ID	MODEL NO.	SERVICE	QTY.	AIR SIDE							GAS HEATING (LP-PROPANE GAS)					VENT SIZE	COMBUSTION AIR SIZE	APPROX. DIMENSION WxDxH	ELECTRICAL			APPROX. WEIGHT (LBS)	REMARKS
				CFM	RPM	MOTOR TYPE	NAMEPLATE HP	ENTERING TEMP °F	LEAVING TEMP °F	FAN DIAMETER (INCHES)	INPUT BTUH	OUTPUT BTUH	EFF. (%)	SIZE (IN.)	GAS PRESS. IN. W.G.				V/PH/Hz	FLA	MFS		
UH-1 THROUGH UH-3	HDS-60	ATTIC SPACES	3	990	1625	PSC	1/12	55.0	100.0	10.0	60,000	49,200	82%	3/4"	11.0-14.0	4"	4"	26.8"x25"x19"	120/1/60	3.3	20.0	60	(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)
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(1) INTEGRAL THERMOSTAT (2) CEILING HUNG (3) FIELD MOUNTED DISCONNECT SWITCH (4) BELT GUARD PROTECTION (5) FURNISH & INSTALL UNIT HEATER WITH VERTICAL DEFLECTOR BLADES
(6) VIBRATION ISOLATION KIT (7) LP-PROPANE GAS HEATING CONVERSION KIT (8) PROVIDE 2-STAGE GAS CONTROL IF AVAILABLE. SIZING MAY ONLY PERMIT SINGLE STAGE GAS CONTROL

HEAT PUMP SYSTEM W/ AIR HANDLER (+ ELECTRIC SUPPLEMENTAL HEAT) SCHEDULE

BASIS OF DESIGN: VTS, TRANE OR APPROVED EQUAL

ID	MODEL NO.	AREA SERVED	NOMINAL CAPACITY TONS	SUPPLY FAN (QTY. 1)						MIN. OUTDOOR AIR CFM	PEAK OCCUPANCY		EVAPORATOR (NET COOLING)				HEAT PUMP HEAT			ELECTRIC HEATING			FILTER	REFRIGERANT	UNIT EER2	UNIT IEER SEER2	UNIT COP @47F	ELECTRICAL (1-CIRCUIT)			APPROX. WEIGHT (LBS)	REMARKS
				CFM (TOTAL)	RPM	E.S.P. IN. W.G.	FLA (EACH)	DRIVE	NAMEPLATE HP (EACH)	MIN. EFF(%)		OUTDOOR AIR CFM	OUTDOOR AIR (%)	ENTERING DB/WB °F	LEAV. UNIT DB/WB °F	SENSIBLE CAPACITY	TOTAL CAPACITY	ENTERING DB	LEAV. UNIT DB	TOTAL CAPACITY	ENTERING DB	LEAV. UNIT DB	CAPACITY						V/PH/Hz	MCA	MOP		
AHU-1-1	AVS030-R-MFCHV	1ST FL MULTIPURPOSE ROOM	6.5	2500	2210	1.50	9.0	DIRECT	3.0	70.0	–	200	16.7%	80/67	56.7/55.2	62.5	81.3	57.4	96.4	105.8	–	–	–	MERV-8	R-32	11.0	19.0	3.90	208/3/60	11.3	20.0	675.0	SEE NOTES #1 THRU 10
AHU-1-2	AVS030-R-MFCHV	1ST FL COMMUNITY/SHELTER RM	6.5	2500	2210	1.50	9.0	DIRECT	3.0	70.0	–	200	16.7%	80/67	56.7/55.2	62.5	81.3	57.4	96.4	105.8	–	–	–	MERV-8	R-32	11.0	19.0	3.90	208/3/60	11.3	20.0	675.0	SEE NOTES #1 THRU 10
AHU-1-3	5TAM5C03AC21	1ST FL LOBBY/CORE AREAS	3.0	1200	1050	0.75	3.80	DIRECT	0.125	70.0	–	280	23.3%	80/67	59.1/57.6	26.62	34.51	70.0	86.67	21.60	70.0	79.5	3.60 KW	MERV-8	R-454B	12.0	15.2	3.80	208/1/60	26.0	30.0	150.0	SEE NOTES #1 THRU 7
AHU-2-1	5TAM5C06AC41	2ND FL TRAINING ROOM	4.0	1600	1050	0.75	3.80	DIRECT	0.125	70.0	–	290	18.0%	80/67	59.9/57.6	34.17	46.28	70.0	86.55	28.60	70.0	77.1	3.60 KW	MERV-8	R-454B	12.0	15.5	3.90	208/1/60	28.0	30.0	150.0	SEE NOTES #1 THRU 7
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(1) FIELD INSTALLED ELECTRIC HEATER KIT W/ POLARIZED PLUG CONNECTIONS (2) SMART PROGRAMMABLE RESIDENTIAL THERMOSTAT 5H/2C (3) SWEAT-ELIMINATING CABINET W/ 2" MAX LEAKAGE RATE (4) LOW AMBIENT COOLING DOWN TO 55F (5) MOLDED-IN 1 INCH STANDARD FILTER RAIL FOR FIELD-SUPPLIED FILTERS (6) 5-YEAR WARRANTY (10-YEAR W/ REGISTRATION)
(7) HORIZONTAL CONFIGURATION (REAR RETURN/FRONT DISCHARGE) (8) FACTORY INSTALLED R-454B ELECTRONIC EXPANSION VALVE (EEV) W/ SLIDE DECK AND INTEGRATED HORIZONTAL DRAIN PAN (9) DEMAND CONTROLLED VENTILATION TO MAINTAIN MAXIMUM CO2 LEVEL OF 700 PPM (10) ENERGY EFFICIENCY EXCEEDS CODE MINIMUM EFFICIENCY BY 20%. ECONOMIZER NOT REQUIRED.

REMOTE OUTDOOR CONDENSING UNIT FOR ASSOCIATED AIR HANDLING UNIT SCHEDULE

BASIS OF DESIGN: LG, TRANE OR APPROVED EQUAL

ID	MODEL NO.	ASSOCIATED INDOOR UNIT	TYPE	QTY. INDOOR UNITS CONNECTED	LOCATION	MODULES	NOMINAL COOLING CAPACITY (BTU/H)	NOMINAL HEATING CAPACITY (BTU/H)	COOLING EFFICIENCY EER2	HEATING COP @ 47°F	NOM SYSTEM CONNECTED CAPACITY (% OF NOM)	DESIGN COOLING OUTDOOR TEMP DB (°F)	DESIGN HEATING OUTDOOR TEMP WB (°F)	CORRECTED COOLING TOTAL CAPACITY (BTU/H)	CORRECTED HEATING CAPACITY (BTU/H)	INVERTER DRIVEN COMPRESSOR TYPE/QUANTITY	REFRIGERANT TYPE	FACTORY CHARGE (LBS, OZ)	ELECTRICAL-PER MODULE (1-MODULE) 208V/3PH/60HZ			APPROX. WEIGHT (LBS)	REMARKS
																			VOLTAGE/PHASE/HZ	MCA	MOCP		
CU-1-1	ZRUM096BTE6	AHU-1-1	SPLIT D/X COOLING	DIRECT (ONE, 1)	MOUNTED ON ROOF	ONE (1)	96,000	108,000	11.0	3.90	100%	95.0	0.0	81,300.0	105,800	SCROLL/1	R-32	20.94 LBS	208/ 3-PHASE / 60 HZ	36.4	40.0	500	(1)(2)(3)(4)(5)
CU-1-2	ZRUM096BTE6	AHU-1-2	SPLIT D/X COOLING	DIRECT (ONE, 1)	MOUNTED ON ROOF	ONE (1)	96,000	108,000	11.0	3.90	100%	95.0	0.0	81,300.0	105,800	SCROLL/1	R-32	20.94 LBS	208/ 3-PHASE / 60 HZ	36.4	40.0	500	(1)(2)(3)(4)(5)
CU-1-3	5TWA4036A3	AHU-1-3	SPLIT D/X COOLING	DIRECT (ONE, 1)	MOUNTED ON ROOF	ONE (1)	36,000	21,600	12.0	3.80	100%	95.0	0.0	34,510.0	21,600	SCROLL/1	R-454B	5.6 LBS.	208/ 3-PHASE / 60 HZ	17.0	25.0	300.0	(1)(2)(3)(4)(5)
CU-2-1	5TWA4048A3	AHU-2-1	SPLIT D/X COOLING	DIRECT (ONE, 1)	MOUNTED ON ROOF	ONE (1)	48,000	28,600	12.0	3.90	100%	95.0	0.0	46,284.0	28,600	SCROLL/1	R-454B	8.6 LBS.	208/ 3-PHASE / 60 HZ	19.0	30.0	300.0	(1)(2)(3)(4)(5)
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(1) NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80/67°F (DB/WB), OUTDOOR OF 95°F (DB) (2) PRELIMINARY ADDED FIELD REFRIGERANT CHARGE INDICATED IN SCHEDULES; FINAL CHARGE DEPENDENT ON APPROVED PIPING LAYOUT
(3) EFFICIANCY VALUES FOR EER, IEER, COP ARE BASED ON AHRI 1230 TEST METHOD FOR MIXTURE OF DUCTED AND NON-DUCTED INDOOR UNITS (4) FURNISH & INSTALL WITH SALT-RESISTANT COATING
(5) FURNISH & INSTALL UNITS WITH ROOF EQUIPMENT RAILS – SEE MECHANICAL DETAILS

DUCTLESS SPLIT SYSTEM UNIT SCHEDULE (INDOOR EVAPORATOR + ROOF-MOUNTED CONDENSING UNIT)

BASIS OF DESIGN: MITSUBISHI OR APPROVED EQUAL

MARK	MANUFACTURER	SERVICE	NOMINAL CAPACITY (TONS)	INDOOR MODEL AC-#	INDOOR MODEL STYLE	CFM	V/PH	SOUND PRESSURE (dBA)	WEIGHT (LB)	OUTDOOR MODEL ACCU-#	CFM	SOUND PRESSURE (dBA)	REFR. TYPE	HEATING CAPACITY		COOLING CAPACITY		MIN EFF (EER)	MIN EFF (SEER2)	MIN EFF (COP)	MIN EFF (HSPF)	MCA (A)	V/PH/Hz	MOCP (A)	WEIGHT LBS	REMARKS
														NOMINAL (MBH)	CORRECTED (MBH)	NOMINAL (MBH)	CORRECTED (MBH)									
AC-2-IT/CU-2-IT	MITSUBISHI	MAIN IT ROOM	2.0 TONS	MSZ-GS24NA-U1	WALL-MOUNTED	700	208/1	52	40.0	MUZ-GS24NA-U1	1950	55	R-410A, 0.9 LBS	27.6	15.4	22.5	22.0	12.6	20.5	3.46	11.3	18.0	208/1/60	25.0	120.0	(1)(2)(3)(4)(5)(6)(7)
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(1) FURNISH & INSTALL WIRED REMOTE TEMPERATURE CONTROLLER KIT W/ MIN. 25 FT. CABLE (2) FURNISH & INSTALL CONDENSATE PUMP WITH SAFETY SWITCH (3) FURNISH & INSTALL ON-GRADE CONDENSING UNIT WITH LOW AMBIENT KIT AND WIND BAFFLE (GUARD)
(4) FURNISH & INSTALL CONDENSING UNIT WITH MIN. 24" HIGH STANDS (5) CONTRACTOR SHALL SUBMIT FINAL REFRIGERANT PIPING LAYOUT TO MANUFACTURER FOR CONFIRMATION OF EQUIPMENT CAPACITIES BASED ON EFFECTIVE REFRIGERANT LENGTH
(6) CONTRACTOR SHALL ADJUST ACTUAL REFRIGERANT PIPE DIMENSIONS BASED ON MANUFACTURER INSTRUCTIONS FOR TOTAL REFRIGERANT LENGTH (7) ALL REFRIGERANT PIPING SHALL BE INSULATED IN ACCORDANCE WITH PIPE INSULATION TABLE BELOW

MULTI V HR BOXES SCHEDULE

ID	MODEL NO.	TYPE (DOUBLE/ MAIN/SUB)	NUMBER OF PORTS	NUMBER OF PORTS USED	ELECTRICAL (VOLTAGE)	RLA	MFS
HRU-AHU-1-1	PRHR034C	SINGLE	2	1	208/1/60	0.37	15.0
HRU-AHU-1-2	PRHR034C	SINGLE	2	1	208/1/60	0.37	15.0

NOTES:
1. PROVIDE END CAP FOR ALL UNUSED PORTS.
2. COORDINATE POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
3. FURNISH & INSTALL 1-1/4" CONDENSATE DRAIN FROM EACH UNIT. UPSIZE CONDENSATE LINE AS REQUIRED TO ACCOMMODATE THE BRANCH CONTROLLER.

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."
This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

STATE OF NEW YORK · ANDREW P. SAGOSE · LICENSED PROFESSIONAL ENGINEER · 10074

SENDLEWSKI ARCHITECTS, P.C.
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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL SCHEDULES

PROJECT No. 2601 EMTEC: 7611

CHECKED BY: MF/APS

DRAWING: M-6.1

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

ENERGY RECOVERY VENTILATION (ERV) UNIT SCHEDULE

BASIS OF DESIGN: MITSUBISHI ELECTRIC/LOSSNAY OR APPROVED EQUAL

ID	MODEL NO.	SERVICE	LOCATION	PERFORMANCE (SUMMER)								PERFORMANCE (WINTER)					SUPPLY FAN (ECM)				EXHAUST FAN (ECM)				ELECTRICAL–PER MODULE 120V/1PH/60HZ				APPROX. WEIGHT (LBS)	REMARKS
				OUTDOOR AIR		SUPPLY AIR		RETURN AIR		TEMP. RECOVERY (%)	ENTHALPY RECOVERY (%)	OUTDOOR AIR DB (°F)	SUPPLY AIR DB (°F)	RETURN AIR DB (°F)	TEMP. RECOVERY (%)	ENTHALPY RECOVERY (%)	AIRFLOW (CFM)	ESP (IN. WG)	MOTOR HP	MOTOR RPM	AIRFLOW (CFM)	ESP (IN. WG)	MOTOR HP	MOTOR RPM	VOLTAGE/PHASE	MCA	MOP	MFS		
				DB (°F)	WB (°F)	DB (°F)	WB (°F)	DB (°F)	WB (°F)																				
ERV–1	LGH–F300RVX2–E	VRFCU–1–1	1ST FLOOR	95.0	78.0	–	–	75.0	62.5	65.5%	50.0%	12.0	–	70.0	65.5%	63.0%	300.0	1.00	1/4	1725	300.0	1.00	1/4	1725	208/1/60	4.3	15	20	80.0	①②③④⑤⑥⑦
ERV–2	LGH–F600RVX2–E	VRFCU–2–1	2ND FLOOR	95.0	78.0	–	–	75.0	62.5	67.0%	50.0%	12.0	–	70.0	67.0%	64.0%	560.0	0.86	1/4	1725	475.0	0.86	1/4	1725	208/1/60	5.2	15	20	130.0	①②③④⑤⑥⑦
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NOTES:
1. FURNISH & INSTALL UNIT WITH M–NET CONNECTION.
2. INTERLOCK ERV UNIT WITH MITSUBISHI MAIN CONTROL PANEL.
3. FURNISH & INSTALL ALL REQUIRED CONTROLS FOR INTEGRATION TO MAIN MITSUBISHI CONTROL PANEL.
4. FURNISH & INSTALL DUCT CONNECTING FLANGES FOR OUTSIDE AIR AND & RELIEF AIR DUCTWORK.
5. MAINTAIN ALL MANUFACTURER RECOMMENDED CLEARANCES AROUND UNIT.
6. MAX EXTERNAL STATIC PRESSURE IS AT AIRFLOW LISTED WITH FAN SET TO EXTRA HIGH SPEED.
7. WASHABLE FACTORY STANDARD PRE–FILTER ON RETURN AND OA INTAKE SIDE OF CROSS PLATE CORE. MERV–7 FILTER INCLUDED

MITSUBISHI CITY MULTI VARIABLE REFRIGERANT FLOW (VRF) OUTDOOR UNIT SCHEDULE

BASIS OF DESIGN MITSUBISHI OR APPROVED EQUAL

ID	MODEL NO.	SERVICE	TYPE	QTY. INDOOR UNITS CONNECTED	LOCATION	MODULES	NOMINAL COOLING CAPACITY (BTU/H)	NOMINAL HEATING CAPACITY (BTU/H)	COOLING EFFICIENCY EER/EER2 (SEER)	HEATING COP @ 47°F (HSPF)	NOM. SYSTEM CONNECTED CAPACITY (% OF NOM)	DESIGN COOLING OUTDOOR TEMP DB (°F)	DESIGN HEATING OUTDOOR TEMP WB (°F)	CORRECTED COOLING TOTAL CAPACITY (BTU/H)	CORRECTED HEATING CAPACITY (BTU/H)	INVERTER DRIVEN COMPRESSOR TYPE/QUANTITY	REFRIGERANT TYPE	FACTORY CHARGE (LBS, OZ)	ELECTRICAL–PER MODULE (REFER TO CIRCUIT QTY.)					APPROX. WEIGHT (LBS)	REMARKS
																			CIRCUIT QTY.	VOLTAGE/PHASE/HZ	MCA	RFS	MOCP		
CU–READY	PUZ–AK18NL	AC–READY	HEAT PUMP	ONE (1)	MOUNTED ON FLAT ROOF	–	18,000	23,000	13.7(24.7)	3.7(9.8)	100.0%	95.0	12.0	17,303.7	13,209.9	SCROLL/1	R454B	4 LB, 6 OZ	1	208/ 1–PHASE / 60 HZ	16	20	27	100.0	①②③④⑤⑥⑦⑧
VRFCU–1	PURY–EM72TXU–A	VRF–1–1 THROUGH VRF–1–4	HEAT RECOVERY VRF	FOUR (4)	MOUNTED ON FLAT ROOF	(1) EM72	72,000	80,000	24.2	4.35	100.0%	95.0	12.0	70,580.0	71,144.9	SCROLL/1	R32	11 LB, 11 OZ	1	208/ 3–PHASE / 60 HZ	40	40	60	610.0	①②③④⑤⑥⑦⑧
VRFCU–2	PURY–HM120TXU–A	VRF–2–1 THROUGH VRF–2–7	HEAT RECOVERY VRF	SEVEN (7)	MOUNTED ON FLAT ROOF	(1) HM120	120,000	135,000	23.2	3.98	95.0%	95.0	12.0	116,856.7	119,300.7	SCROLL/1	R32	13 LB, 15 OZ	1	208/ 3–PHASE / 60 HZ	60	70	100	710.0	①②③④⑤⑥⑦⑧
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① NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80/67°F (DB/WB), OUTDOOR OF 95°F (DB) ② NOMINAL HEATING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 70°F (DB), OUTDOOR OF 43°F (WB)
③ EFFICIANCY VALUES FOR EER, IEER, COP ARE BASED ON AHRI 1230 TEST METHOD FOR MIXTURE OF DUCTED AND NON–DUCTED INDOOR UNITS ④ FURNISH & INSTALL WITH MAIN BRANCH CONTROLLER SIZED FOR QUANTITY OF UNITS ⑤ FURNISH & INSTALL WITH SALT–RESISTANT COATING
⑥ FURNISH & INSTALL UNITS WITH BASE PAN HEATER ⑦ FURNISH & INSTALL UNITS WITH ROOF SUPPORT – SEE MECHANICAL DETAILS ⑧ PRELIMINARY ADDED FIELD REFRIGERANT CHARGE INDICATED IN SCHEDULES; FINAL CHARGE DEPENDENT ON APPROVED PIPING LAYOUT

MITSUBISHI CITY MULTI VARIABLE REFRIGERANT FLOW (VRF) INDOOR UNIT SCHEDULE

BASIS OF DESIGN MITSUBISHI OR APPROVED EQUAL

ID	MODEL	SERVICE	TYPE	NOMINAL COOLING CAPACITY (BTU/h)	NOMINAL HEATING CAPACITY (BTU/h)	COOLING DESIGN ENTERING TEMP DB/WB (°F)	HEATING DESIGN ENTERING TEMP DB (°F)	COOLING TOTAL CAPACITY (BTU/h)	COOLING SENSIBLE CAPACITY (BTU/h)	HEATING CAPACITY (BTU/h)	ESTIMATED COOLING COIL LAT (°F)	ESTIMATED HEATING COIL LAT (°F)	PEAK FAN AIRFLOW (cfm)	VOLTAGE / PHASE	POWER COOLING 208V	POWER HEATING 208V	ELECTRICAL MCA/MFS	NOTES / OPTIONS
AC–READY	PLA–AE18NL	1ST FL – READY ROOM	CEILING CASSETTE (FOUR–WAY BLOW)	18,000	24,000	80.0/67.0	70.0	17,303	13,924	13,210	58.1	90.4	600	208/1–PHASE	–	–	1/15	①②③④⑤⑥⑦⑧⑨
VRF–1–1	PEFY–M15NMAU–A	1ST FL – RADIO ROOM	CEILING CONCEALED (DUCTED UNIT)	15,000	17,000	80.0/67.0	70.0	13,070	10,300	13,220	60.4	92.6	500	208/1–PHASE	0.06	0.06	2.5/15	①②③④⑤⑥⑦⑧⑨
VRF–1–2	PEFY–M12NMAU–A	1ST FL – CHIEFS OFFICE	CEILING CONCEALED (DUCTED UNIT)	12,000	13,500	80.0/67.0	70.0	10,500	7,450	10,520	61.2	93.5	370	208/1–PHASE	0.05	0.05	1.9/15	①②③④⑤⑥⑦⑧⑨
VRF–1–3	PEFY–M30NMAU–A	1ST FL – FITNESS ROOM	CEILING CONCEALED (DUCTED UNIT)	30,000	34,000	80.0/67.0	70.0	26,250	23,500	26,530	62.7	96.0	1270	208/1–PHASE	0.22	0.22	3.1/15	①②③④⑤⑥⑦⑧⑨
VRF–1–4	PEFY–M24NMAU–A	1ST FL – KITCHEN	CEILING CONCEALED (DUCTED UNIT)	24,000	27,000	80.0/67.0	70.0	20,770	17,980	20,860	60.8	91.9	880	208/1–PHASE	0.14	0.14	2.5/15	①②③④⑤⑥⑦⑧⑨
VRF–2–1	PEFY–M30NMAU–A	2ND FL – COMMISSIONERS OFFICE	CEILING CONCEALED (DUCTED UNIT)	30,000	34,000	80.0/67.0	70.0	30,410	25,000	31,830	61.6	90.1	1270	208/1–PHASE	0.22	0.22	3.1/15	①②③④⑤⑥⑦⑧⑨
VRF–2–2	PEFY–M15NMAU–A	2ND FL – SECRETARY/TREAS.	CEILING CONCEALED (DUCTED UNIT)	15,000	17,000	80.0/67.0	70.0	15,150	11,100	15,900	58.9	97.8	500	208/1–PHASE	0.06	0.06	2.5/15	①②③④⑤⑥⑦⑧⑨
VRF–2–3	PLFY–EM12NEMU–A	2ND FL – FILES ROOM	CEILING CASSETTE (FOUR–WAY BLOW)	12,000	13,500	80.0/67.0	70.0	12,070	8,050	12,600	67.3	89.0	600	208/1–PHASE	0.03	0.02	0.39/15	①②③④⑤⑥⑦⑧⑨
VRF–2–4	PEFYM24NMAU–A	2ND FL – CONFERENCE ROOM	CEILING CONCEALED (DUCTED UNIT)	24,000	27,000	80.0/67.0	70.0	24,400	18,160	25,300	60.8	92.5	880	208/1–PHASE	0.14	0.14	2.5/15	①②③④⑤⑥⑦⑧⑨
VRF–2–5	PEFY–M08NMAU–A	2ND FL – CAPTAINS OFFICE	CEILING CONCEALED (DUCTED UNIT)	8,000	9,000	80.0/67.0	70.0	8,100	6,210	8,420	60.5	93.5	300	208/1–PHASE	0.04	0.04	1.8/15	①②③④⑤⑥⑦⑧⑨
VRF–2–6	PEFY–M12NMAU–A	2ND FL – CIVIL OFFICERS	CEILING CONCEALED (DUCTED UNIT)	12,000	13,500	80.0/67.0	70.0	12,150	8,110	12,630	59.4	98.8	370	208/1–PHASE	0.05	0.05	1.9/15	①②③④⑤⑥⑦⑧⑨
VRF–2–7	PEFY–M12NMAU–A	2ND FL – CORE AREAS	CEILING CONCEALED (DUCTED UNIT)	12,000	13,500	80.0/67.0	70.0	12,150	8,110	12,630	59.4	98.8	370	208/1–PHASE	0.05	0.05	1.9/15	①②③④⑤⑥⑦⑧⑨

① NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80/67°F (DB/WB), OUTDOOR OF 95°F (DB) ② NOMINAL HEATING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 70°F (DB), OUTDOOR OF 43°F (WB)
③ SEE OUTDOOR UNIT SCHEDULE FOR OUTDOOR AMBIENT CONDITIONS, CONNECTED CAPACITY, AND OTHER FACTORS ASSOCIATED WITH CORRECTED CAPACITIES ④ SEE SCHEMATIC PIPING/CONTROL DIAGRAM FOR INDICATION OF REQUIRED INDOOR UNIT REMOTE CONTROLLERS, SYSTEM CONTROLLERS, AND INTEGRATION DEVICES.
⑤ FURNISH & INSTALL AN AE–200 SYSTEM REMOTE CONTROLLER. WIRE ALL INDOOR UNITS TO MASTER CONTROLLER, MOUNTED IN EQUIP STORAGE. ⑥ PACKAGE CONSISTS OF MULTIPLE MODULES SHIPPED INDEPENDENTLY. UNITS SHALL BE FIELD MOUNTED AND PIPED BY THIS CONTRACTOR.
⑦ FURNISH & INSTALL WITH 208V CONDENSATE PUMP FOR EACH UNIT WITH DPSLI CONDENSATE DETECTION SWITCH. ⑧ DUCTED UNITS SHALL BE EQUIPPED WITH FBL SERIES FILTER KIT – MERV 8 ⑨ UNITS SHALL BE FURNISHED & INSTALLED WITH MINIMUM MERV–7 FILTRATION OR GREATER.

CEILING SUSPENDED CIRCULATION FAN SCHEDULE

BASIS OF DESIGN: MACRO–AIR OR APPROVED EQUAL

ID	QUANTITY	MODEL NO.	SERVICE	FAN PERFORMANCE			ELECTRICAL			APPROX. WEIGHT (LBS)	REMARKS
				FAN BLADE DIAMETER	FAN RPM	MOTOR (TYPE, HP)	V/PH/Hz	FLA	MFS		
CF–1 THRU CF–4	4	AVD–370	CIRCULATION FANS	10'–0"	140	DIRECT, 3/4	120/1/60	2.7	20.0	80.0	①②③④⑤⑥⑦⑧⑨
CF–5 & CF–6	2	AVD–370	CIRCULATION FANS	6'–0"	140	DIRECT, 3/4	120/1/60	2.7	20.0	80.0	①②③④⑤⑥⑦⑧⑨
–	–	–	–	–	–	–	–	–	–	–	

① CEILING SUSPENDED, CIRCULATION FAN W/ RATED FOR INDOOR/OUTDOOR USE ② CONTRACTOR TO MAINTAIN MANUFACTURER RECOMMENDED FAN SPACING & CLEARANCES (2FT ON SIDES / 5 FT BELOW CEILING)
③ FURNISH & INSTALL FACTORY PROVIDED DIGITAL TOUCHSCREEN CONTROLLER (CONTROLLER 4) TO CONTROL LISTED FANS ON PLAN WITH FAULT CODE ACCESS ④ LOW–VOLTAGE WIRING FOR THE CONTROLLER TO BE COORDINATED WITH ELECTRICAL CONTRACTOR.
⑤ AVD UNIVERSAL MOUNT WITH I–BEAM HARDWARE KIT ⑥ FURNISH & INSTALL AIRLYNK–BACNET CONTROLS FOR INTEGRATION TO BMS ⑦ ARCHITECT SHALL SPECIFY COLOR UPGRADES & POWDER COATINGS FOR FANS
⑧ FURNISH & INSTALL WITH FUSED DISCONNECT SWITCH ⑨ FURNISH & INSTALL WITH AIREFFECT TEMPERATURE CONTROL SENSORS (1 FLOOR MOUNTED TEMP SENSOR AND 1 CEILING MOUNTED TEMP SENSOR)

AIR FILTRATION UNIT (DUCTED, CEILING SUSPENDED)

BASIS OF DESIGN: CAMFIL CONCEALED FILTRATION OR APPROVED EQUAL

ID	MODEL NO.	SERVICE	AIRFLOW			BODY MATERIAL	SOUND LEVEL (DBA)	DIMENSIONS (IN)			ELECTRICAL			APPROX. WEIGHT (LBS)	REMARKS
			CFM	POWER (W)	ΔP (IN.WG)			LENGTH	WIDTH	HEIGHT	V/PH/Hz	FLA	MOCP		
AF–1	CC–400	LOCKER ROOM AREA	400	170	0.71	T–316/SS	5' PERIMETER – 61.3	43.8"	12.9"	12.3"	120/1/60	2.4	20.0	75.0	①②③④
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	

① ART. 94000117 – FILTER CONFIGURATION FOR SMELLS REMOVAL AND 97MM ECOPLEAT ② UNITS ARE SHOWN FOR DIRECT INTAKE FROM SPACE (NON–DUCTED UNITS)
③ EC FAN MOTOR ④ PRESSURE SENSING TAPS UPSTREAM/DOWNSTREAM OF PARTICULATE FILTERS

VRF MAIN BRANCH CONTROLLER SCHEDULE

ID	MODEL NO.	TYPE (DOUBLE/ MAIN/SUB)	NUMBER OF PORTS	NUMBER OF PORTS USED	ELECTRICAL (VOLTAGE)	MCA	MFS
VRFBC–1	CMB–M106NU–MA–SV	MAIN	6	4	208/1–PHASE	0.12	15.0
VRFBC–2	CMB–M1012NU–MA–SV	MAIN	12	7	208/1–PHASE	0.13	15.0
–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–

NOTES:
1. PROVIDE END CAP FOR ALL UNUSED PORTS.
2. COORDINATE POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
3. FURNISH & INSTALL CONDENSATE DRAIN FROM EACH UNIT.

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SEAL

STATE OF NEW YORK · ANDREW P. SAGGESE · LICENSED PROFESSIONAL ENGINEER · 10074 · 7/31 · 17/25

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL SCHEDULES

PROJECT No. 2501 EMTEC: 7611

CHECKED BY: MF/APS

DRAWING: M-6.2

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

EXHAUST FAN SCHEDULE

BASIS OF DESIGN: CAPTIVEAIRE, GREENHECK OR APPROVED EQUAL

ID	MODEL NO.	SERVICE	FAN							REQUIRED OPENING W x H	ELECTRICAL				APPROX. WEIGHT (LBS)	DISCHARGE VELOCITY (FPM)	REMARKS
			CFM	RPM	E.S.P. IN. W.G	BHP	DRIVE	NAMEPLATE HP	SONES		V/PH/Hz	FLA	MCA	MOP			
KXF-1	DU240HFA	TYPE 1 (GREASE) KITCHEN HOOD EXHAUST FAN (1ST FLOOR KITCHEN)	4400	921	1.50	2.17	DIRECT	5	16.6	26x26	208/3/60	15.0	18.8	25.0	270	1000	(1)(2)(3)(4)(5)(6) (8)(9)(10)
EF-STANDBY	SQ-99-VG	STANDBY EXHAUST FOR GARAGE AREA	400	1460	0.75	0.14	DIRECT	1/4	10.0	12x12	120/1/60	2.9	4.0	20.0	60	270	(2)(3) (5) (7) (11)
EF-EMERGENCY	GB-200	EMERGENCY EXHAUST FOR GARAGE AREA	4200	1070	1.00	1.50	DIRECT	2	16.0	26x26	208/3/60	7.5	9.4	20.0	150	1760	(1)(2)(3)(4)(5) (7)
EF-1	SQ-99-VG	1ST FLOOR ENVIRONMENTAL EXHAUST	375	1540	0.75	0.18	DIRECT	1/4	11.0	12x12	120/1/60	2.9	4.0	20.0	60	370	(1)(2)(3)(4)(5) (7)
EF-ELEC	SQ-97-VG	1ST FLOOR ELECTRICAL ROOM	800	1430	1.00	0.35	DIRECT	3/4	10.2	18x18	120/1/60	8.8	11.0	20.0	70	525	(2)(3) (5) (7) (11)(12)
EF-BOILER	G-130-VG	MEZZANINE BOILER ROOM EXHAUST	800	984	0.50	0.11	DIRECT	1/4	6.8	15x15	120/1/60	3.8	4.8	20.0	60	720	(1)(2)(3) (5) (7) (12)
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(1) ROOF MOUNTED EXHAUST FAN W/ MIN. 20" HIGH ROOF CURB (2) FURNISH & INSTALL EXHAUST FAN W/ DISCONNECT SWITCH, VIBRATION ISOLATORS, MOTOR COVER, PROGRAMMABLE TIME CLOCK (3) FURNISH & INSTALL W/ MOTORIZED BACKDRAFT DAMPER
(4) NEMA-3R DISCONNECT SWITCH FOR OUTDOOR INSTALLATION (5) FURNISH & INSTALL FAN W/ ODP PREMIUM MOTOR & VARIABLE SPEED CONTROL (6) FANS SHALL BE MANUFACTURED BY CAPTIVEAIRE OR APPROVED EQUAL
(7) FANS SHALL BE MANUFACTURED BY GREENHECK OR APPROVED EQUAL (8) HIGH HEAT OPERATION 300F & GREASE CLASSIFICATION TESTING (9) UPBLAST GREASE CUP W/ 24" DISCHARGE EXTENSION
(10) UPBLAST FAN ROOF CURB – REFER TO CAPTIVEAIRE INSTALLATION DETAILS FOR SPECIFICATIONS (11) FURNISH & INSTALL INLINE EXHAUST FAN (12) FAN SHALL OPERATE VIA THERMOSTAT SET TO 85F (ADJUSTABLE)

ELECTRIC UNIT HEATER SCHEDULE

BASIS OF DESIGN: QMARK OR APPROVED EQUAL

ID	MODEL NO.	SERVICE	QUANTITY	FAN					AIR SIDE			ELECTRIC HEAT KW	APPROX. DIMENSION WxDxH	ELECTRICAL				APPROX. WEIGHT (LBS)	REMARKS
				CFM	RPM	FPM	NAMEPLATE HP	MOUNTING HEIGHT (FT)	ENTERING TEMP .°F	LEAVING TEMP .°F	TOTAL MBH			V/PH/Hz	FLA	MCA	MFS		
EUH-1	MUH03-81	FIRST FLOOR RPZ ROOM	1	350	1600	800	1/100	8.0	50	77	10.2	3.0	14"x7.5"x16"	208/1/60	14.5	18.1	25.0	30.0	(1)(2)(3)(4)
EUH-2	MUH03-81	FIRST FLOOR ELECTRICAL ROOM	1	350	1600	800	1/100	8.0	50	77	10.2	3.0	14"x7.5"x16"	208/1/60	14.5	18.1	25.0	30.0	(1)(2)(3)(4)
EUH-3	MUH03-81	FIRST FLOOR DELIVERY	1	350	1600	800	1/100	8.0	50	77	10.2	3.0	14"x7.5"x16"	208/1/60	14.5	18.1	25.0	30.0	(1)(2)(3)(4)
EUH-4	MUH03-81	MEZZANINE BOILER ROOM	1	350	1600	800	1/100	8.0	50	77	10.2	3.0	14"x7.5"x16"	208/1/60	14.5	18.1	25.0	30.0	(1)(2)(3)(4)
EUH-5	MUH03-81	MEZZANINE MECHANICAL ROOM	1	350	1600	800	1/100	8.0	50	77	10.2	3.0	14"x7.5"x16"	208/1/60	14.5	18.1	25.0	30.0	(1)(2)(3)(4)

(1) ROOM THERMOSTAT REMOTE MOUNTED ON WALL ADJACENT TO DOORWAY (2) WALL MOUNTED W/ MOUNTING KIT (3) FIELD MOUNTED DISCONNECT SWITCH (4) REMOTE FAN SWITCH

ELECTRIC RECESSED WALL CABINET HEATER SCHEDULE

BASIS OF DESIGN: QMARK OR APPROVED EQUAL

ID	MODEL NO.	SERVICE	QUANTITY	CFM	AIR SIDE			ELECTRIC HEAT WATTS	APPROX. DIMENSION WxDxH	ELECTRICAL				APPROX. WEIGHT (LBS)	REMARKS
					ENTERING TEMP .°F	LEAVING TEMP .°F	TOTAL MBH			V/PH/Hz	FLA	MCA	MFS		
ECH-1 (TYP.)	CWH3404F	STAIRWELL LANDINGS, EGRESS DOORWAYS	SEE PLANS	100	40	75	10.2	3000	16"x4"x20"	208/1/60	14.5	18.2	25.0	25.0	(1)(2)(3)(4)
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	

(1) INTEGRAL THERMOSTAT (2) WALL MOUNTED W/ SURFACE MOUNTING KIT (3) FIELD MOUNTED DISCONNECT SWITCH (4) TAMPER RESISTANT FRONT COVER – COLOR BY ARCHITECT

FREESTANDING FLOOR MOUNTED ATTIC DEHUMIDIFIER SCHEDULE

BASIS OF DESIGN: APRILAIRE OR APPROVED EQUAL

ID	MODEL NO.	SERVICE	AIRFLOW RATE (CFM)	WATER REMOVAL PINTS/DAY	HUMIDITY SETPOINT (%RH)	FILTRATION	SOUND (dBA)	COND. SIZE (DIAM.)	REFRIGERANT TYPE	APPROX. DIMENSION WxDxH	ELECTRICAL				APPROX. WEIGHT (LBS)	REMARKS
											RATED CURRENT	V/PH/Hz	MCA	MFS		
DH-1	E100	ATTIC SPACE	245 @ 0.2"WC	100	55.0	MERV-8	55.0	3/4"	R-410A	14x26x15	6.9A	120/1/60	8.7	20.0	65.0	(1)(2)(3)(4)
DH-2	E100	ATTIC SPACE	245 @ 0.2"WC	100	55.0	MERV-8	55.0	3/4"	R-410A	14x26x15	6.9A	120/1/60	8.7	20.0	65.0	(1)(2)(3)(4)
DH-3	E100	ATTIC SPACE	245 @ 0.2"WC	100	55.0	MERV-8	55.0	3/4"	R-410A	14x26x15	6.9A	120/1/60	8.7	20.0	65.0	(1)(2)(3)(4)
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	

(1) PROVIDE VIBRATION ISOLATION (2) FLOOR MOUNTED WITH LEG SUPPORTS (3) BUILT-IN DIGITAL CONTROL W/ DISPLAY (4) WASHABLE MERV 8 FILTER

AIR TERMINAL SCHEDULE

BASIS OF DESIGN: TITUS OR APPROVED EQUAL

SYMBOL	DESCRIPTION	MODEL	NECK	FACE	CFM	REMARKS	NOTES
CD	SUPPLY DIFFUSER	TDC	6x6	12x12	UP TO 50	OBD, LAY IN MOUNT, SEE DWG FOR DISCHARGE PATTERN	(1)(2)(3)(4)(5)
		TDC	6x6	24x24	51 TO 125	OBD, LAY IN MOUNT, SEE DWG FOR DISCHARGE PATTERN	(1)(2)(3)(4)(5)
		TDC	9x9	24x24	126 TO 275	OBD, LAY IN MOUNT, SEE DWG FOR DISCHARGE PATTERN	(1)(2)(3)(4)(5)
		TDC	12x12	24x24	276 TO 475	OBD, LAY IN MOUNT, SEE DWG FOR DISCHARGE PATTERN	(1)(2)(3)(4)(5)
		TDC	15x15	24x24	476 TO 750	OBD, LAY IN MOUNT, SEE DWG FOR DISCHARGE PATTERN	(1)(2)(3)(4)(5)
SG	SUPPLY SIDEWALL GRILLE	301FS	14x6	16x8	200 CFM	3/4" SPACING, 35° DEFL, SURFACE MOUNT	(1) (4)(5)(6)
		301FS	18x8	20x10	500 CFM	3/4" SPACING, 35° DEFL, SURFACE MOUNT	(1) (4)(5)(6)
		301FS	24x18	26x20	1100 CFM	3/4" SPACING, 35° DEFL, SURFACE MOUNT	(1) (4)(5)(6)
		301FS	46x22	48x24	2800 CFM	3/4" SPACING, 35° DEFL, SURFACE MOUNT	(1) (4)(5)(6)
SRG	SIDEWALL RETURN GRILLE	350RL	22x6	24x8	350 CFM	3/4" SPACING, 35° DEFL, SURFACE MOUNT	(1) (4)(5)(6)
		350RL	18x10	20x12	500 CFM	3/4" SPACING, 35° DEFL, SURFACE MOUNT	(1) (4)(5)(6)
		350RL	30x12	32x14	1100 CFM	3/4" SPACING, 35° DEFL, SURFACE MOUNT	(1) (4)(5)(6)
		350RL	46x22	48x24	2800 CFM	3/4" SPACING, 35° DEFL, SURFACE MOUNT	(1) (4)(5)(6)
RG	RETURN GRILLE	350RL	–	12x12	UP TO 1200	3/4" SPACING, 35° DEFL, LAY IN MOUNT	(1)(2) (4)(5)
		350RL	–	12x24	UP TO 1200	3/4" SPACING, 35° DEFL, LAY IN MOUNT	(1)(2) (4)(5)
		350RL	–	24x24	UP TO 1200	3/4" SPACING, 35° DEFL, LAY IN MOUNT	(1)(2) (4)(5)
EG	EXHAUST GRILLE	350FL	10x10	12x12	UP TO 180	3/4" SPACING, 35° DEFL, LAY IN MOUNT	(1)(2) (4)(5)
		350FL	22x10	24x12	181 TO 500	3/4" SPACING, 35° DEFL, LAY IN MOUNT	(1)(2) (4)(5)
		350FL	22x22	24x24	181 TO 500	3/4" SPACING, 35° DEFL, LAY IN MOUNT (SEE PLANS)	(1)(2) (4)(5)
DL	DRUM LOUVER	DL-SV	20x10	22x12	UP TO 730	SPLIT VANE OPTION, AIR SCOOP DEVICE	(1) (4)(5)
LD	LINEAR DIFFUSER (SUPPLY)	FL-10	6" INLET	1-SLOT, 1" WIDTH	UP TO 99	CONTINUOUS BAR, LAY IN MOUNT, 2 FT. PLENUM LENGTH	(1)(2)(3)(4)(5)(6)(7)
		FL-10	6" INLET	1-SLOT, 1" WIDTH	100 TO 160	CONTINUOUS BAR, LAY IN MOUNT, 4 FT. PLENUM LENGTH	(1)(2)(3)(4)(5)(6)(7)
		FL-10	8" INLET	1-SLOT, 1" WIDTH	161 TO 190	CONTINUOUS BAR, LAY IN MOUNT, 4 FT. PLENUM LENGTH	(1)(2)(3)(4)(5)(6)(7)
LDR	LINEAR DIFFUSER (RETURN)	FL-10	–	1-SLOT, 1" WIDTH	–	CONTINUOUS BAR, LAY IN MOUNT, LENGTH ON PLANS	(1)(2)(3)(4)(5)(6)(7)(8)

(1) FURNISH & INSTALL OBD ONLY WHERE VOLUME DAMPER NOT PROVIDED/FEASIBLE IN DUCTWORK (2) CEILING MOUNTED
(3) INCREASE NECK SIZE FOR ALL DIFFUSERS WITH THREE-WAY BLOW (4) CONTRACTOR SHALL ADJUST AIR DEFLECTORS TO OPTIMIZE AIRFLOW THROUGH SPACE
(5) REFER TO AIR BALANCING SPECIFICATIONS FOR COMFORT BALANCING REQUIREMENTS (6) WALL MOUNTED
(7) COORDINATE BORDER TYPE/COLOR OPTIONS WITH ARCHITECT (8) COORDINATE INACTIVE SECTIONS WITH ARCHITECT FOR CONTINUOUS APPEARANCE

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."
This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

STATE OF NEW YORK · ANDREW P. SAGOSE · LICENSED PROFESSIONAL ENGINEER · 10074 · 7/21 · 17/26

SENDLEWSKI ARCHITECTS, P.C.
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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL SCHEDULES

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

M-6.3

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

EMTEC PROJECT #:	7611
EMTEC PROJECT NAME:	Ellenville FD
OUTSIDE AIR RATIO (%)	15%
ZONE EFFECTIVENESS (ZB)	0.80
UNIT:	GARAGE RTU

2020 NEW YORK STATE MECHANICAL CODE VENTILATION INDEX TABLE 403.3.1.1 MINIMUM VENTILATION RATES

ZONE NAME / SPACE NAME	MULTI.	FLOOR AREA	MAXIMUM OCCUPANTS	REQUIRED OUTDOOR AIR RATE	REQUIRED OUTDOOR AIR RATE	MINIMUM REQUIRED OUTDOOR AIR RATE	Vbz REQUIRED OUTDOOR AIR	Voz CORRECTED OUTDOOR AIR RATE	Vpz REQUIRED SUPPLY AIR	SA PROVIDED SUPPLY AIR	OA PROVIDED OUTSIDE AIR
		(FT²)	(PEOPLE)	CFM/PERSON)	(CFM/FT²)	(CFM)	(CFM)	(CFM)	(CFM)	(CFM)	(CFM)
RTU-1-1											
1F - DRIVE THRU BAYS	1	6547	16	10	0.06	552.82	552.8	691.0	4607	5100	765
1F - SCBA	1	105	0	0	0.06	6.3	6.3	7.9	53	80	12
1F - STORAGE	1	112	0	0	0.06	6.72	6.7	8.4	56	80	12
1F- WORK ROOM	1	178	0	0	0.06	10.68	10.7	13.4	89	120	18
MEZZ - ENCLOSED STORAGE ROOM	1	1224	0	0	0.06	73.44	73.4	91.8	612	620	93
TOTALS (INCL. SPACE MULTIPLIERS)		**8166**	**16**			**649.96**	**649.96**	**812.45**	**5416.3333**	**6000**	**900**

EMTEC PROJECT #:	7611
EMTEC PROJECT NAME:	Ellenville FD
OUTSIDE AIR RATIO (%)	22%
ZONE EFFECTIVENESS (ZB)	0.80
UNIT:	AHU-READY ROOM

2025 NEW YORK STATE MECHANICAL CODE VENTILATION INDEX TABLE 403.3.1.1 MINIMUM VENTILATION RATES

ZONE NAME / SPACE NAME	MULTI.	FLOOR AREA	MAXIMUM OCCUPANTS	REQUIRED OUTDOOR AIR RATE	REQUIRED OUTDOOR AIR RATE	MINIMUM REQUIRED OUTDOOR AIR RATE	Vbz REQUIRED OUTDOOR AIR	Voz CORRECTED OUTDOOR AIR RATE	Vpz REQUIRED SUPPLY AIR	SA PROVIDED SUPPLY AIR	OA PROVIDED OUTSIDE AIR
		(FT²)	(PEOPLE)	CFM/PERSON)	(CFM/FT²)	(CFM)	(CFM)	(CFM)	(CFM)	(CFM)	(CFM)
AHU-READY											
GARAGE READY ROOM	1	310	6	5	0.12	67.2	67.2	84.0	382	400	88
TOTALS (INCL. SPACE MULTIPLIERS)		**310**	**6**			**67.2**	**67.2**	**84**	**381.81818**	**400**	**88**

EMTEC PROJECT #:	7131
EMTEC PROJECT NAME:	Ellenville FD
OUTSIDE AIR RATIO (%)	24%
ZONE EFFECTIVENESS (ZB)	0.80
UNIT:	MULTIPURPOSE AHU

2025 NEW YORK STATE MECHANICAL CODE VENTILATION INDEX TABLE 403.3.1.1 MINIMUM VENTILATION RATES

ZONE NAME / SPACE NAME	MULTI.	FLOOR AREA	MAX CARRIER HAP AIRFLOW	MAXIMUM OCCUPANTS	REQUIRED OUTDOOR AIR RATE	REQUIRED OUTDOOR AIR RATE	MINIMUM REQUIRED OUTDOOR AIR RATE	Vbz REQUIRED OUTDOOR AIR	Voz CORRECTED OUTDOOR AIR RATE	Vpz REQUIRED SUPPLY AIR	SA PROVIDED SUPPLY AIR	OA PROVIDED OUTSIDE AIR
		(FT²)	(CFM)	(PEOPLE)	CFM/PERSON)	(CFM/FT²)	(CFM)	(CFM)	(CFM)	(CFM)	(CFM)	(CFM)
AHU-1-1												
1F - TABLES/CHAIRS STORAGE	1	114	122	0	0	0.06	6.84	6.8	8.6	122	130	31.2
1F - MULTIPURPOSE ROOM	1	861	1419	52	7.5	0.06	441.66	441.7	552.1	2300	2370	568.8
TOTALS (INCL. SPACE MULTIPLIERS)		**975**	**1541**	**52**			**448.5**	**448.5**	**560.625**	**2422.3125**	**2500**	**600**

EMTEC PROJECT #:	7131
EMTEC PROJECT NAME:	Ellenville FD
OUTSIDE AIR RATIO (%)	25%
ZONE EFFECTIVENESS (ZB)	0.80
UNIT:	MULTIPURPOSE AHU

2025 NEW YORK STATE MECHANICAL CODE VENTILATION INDEX TABLE 403.3.1.1 MINIMUM VENTILATION RATES

ZONE NAME / SPACE NAME	MULTI.	FLOOR AREA	MAX CARRIER HAP AIRFLOW	MAXIMUM OCCUPANTS	REQUIRED OUTDOOR AIR RATE	REQUIRED OUTDOOR AIR RATE	MINIMUM REQUIRED OUTDOOR AIR RATE	Vbz REQUIRED OUTDOOR AIR	Voz CORRECTED OUTDOOR AIR RATE	Vpz REQUIRED SUPPLY AIR	SA PROVIDED SUPPLY AIR	OA PROVIDED OUTSIDE AIR
		(FT²)	(CFM)	(PEOPLE)	CFM/PERSON)	(CFM/FT²)	(CFM)	(CFM)	(CFM)	(CFM)	(CFM)	(CFM)
AHU-1-2												
1F - COMMUNITY/SHELTER ROOM	1	771	936	52	7.5	0.06	436.26	436.3	545.3	2181	2390	597.5
1F - SERVICE AREA	1	106	106	0	7.5	0.12	12.72	12.7	15.9	106	110	27.5
TOTALS (INCL. SPACE MULTIPLIERS)		**877**	**1042**	**52**			**448.98**	**448.98**	**561.225**	**2287.3**	**2500**	**625**

EMTEC PROJECT #:	7611
EMTEC PROJECT NAME:	Ellenville FD
OUTSIDE AIR RATIO (%)	18%
ZONE EFFECTIVENESS (ZB)	0.80
UNIT:	AHU-LOBBY

2025 NEW YORK STATE MECHANICAL CODE VENTILATION INDEX TABLE 403.3.1.1 MINIMUM VENTILATION RATES

ZONE NAME / SPACE NAME	MULTI.	FLOOR AREA	MAXIMUM OCCUPANTS	REQUIRED OUTDOOR AIR RATE	REQUIRED OUTDOOR AIR RATE	MINIMUM REQUIRED OUTDOOR AIR RATE	Vbz REQUIRED OUTDOOR AIR	Voz CORRECTED OUTDOOR AIR RATE	Vpz REQUIRED SUPPLY AIR	SA PROVIDED SUPPLY AIR	OA PROVIDED OUTSIDE AIR
		(FT²)	(PEOPLE)	CFM/PERSON)	(CFM/FT²)	(CFM)	(CFM)	(CFM)	(CFM)	(CFM)	(CFM)
AHU-1-3											
1F - LOBBY	1	301	5	5	0.06	43.06	43.1	53.8	299	300	54
1F - CORRIDOR 2	1	207	0	0	0.06	12.42	12.4	15.5	86	200	36
1F - MENS RESTROOM	1	139	0	0	0	0	0.0	0.0	0	75	13.5
1F - WOMENS RESTROOM	1	137	0	0	0	0	0.0	0.0	0	75	13.5
1F - VESTIBULE 1	1	93	0	0	0	0	0.0	0.0	0	150	27
1F - VESTIBULE 2	1	47	0	0	0	0	0.0	0.0	0	100	18
1F - INFO/MAIL AREA	1	142	0	0	0	0	0.0	0.0	0	150	27
1F - CORRIDOR 1	1	172	0	0	0.06	10.32	10.3	12.9	72	150	27
1F - BR/SHWR 1	1	59	0	0	0	0	0.0	0.0	0	0	0
1F - BR/SHWR 2	1	59	0	0	0	0	0.0	0.0	0	0	0
TOTALS (INCL. SPACE MULTIPLIERS)		**1356**	**5**			**65.8**	**65.8**	**82.25**	**456.94444**	**1200**	**216**

Project:	7611
Project Name:	Ellenville FD
Location:	Ellenville, NY
Engineer:	MF
Date Last Edited:	6/11/2026

Garage Vehicle Exhaust Requirements, 2025 NYS MC Chapter 5 Exhaust

		STANDBY	EMERGENCY	STANDBY	EMERGENCY	STANDBY	EMERGENCY
Space	Area (sf)	CFM/SF	CFM/SF	Exhaust Required (CFM)	Exhaust Required (CFM)	Exhaust Provided (CFM)	Exhaust Provided (CFM)
Garage	6,000	0.05	0.75	300	4,500	400	4200+400
				-	-		
Total	6,000			300	4,500	400	4,600

EMTEC PROJECT #:	7611
EMTEC PROJECT NAME:	Ellenville FD
OUTSIDE AIR RATIO (%)	100%
ZONE EFFECTIVENESS (ZB)	0.80
UNIT:	VRF-1 (ERV-1)

2025 NEW YORK STATE MECHANICAL CODE VENTILATION INDEX TABLE 403.3.1.1 MINIMUM VENTILATION RATES

ZONE NAME / SPACE NAME	MULTI.	FLOOR AREA	MAXIMUM OCCUPANTS	REQUIRED OUTDOOR AIR RATE	REQUIRED OUTDOOR AIR RATE	MINIMUM REQUIRED OUTDOOR AIR RATE	Vbz REQUIRED OUTDOOR AIR	Voz CORRECTED OUTDOOR AIR RATE	Vpz REQUIRED SUPPLY AIR	SA PROVIDED SUPPLY AIR	OA PROVIDED OUTSIDE AIR
		(FT²)	(PEOPLE)	CFM/PERSON)	(CFM/FT²)	(CFM)	(CFM)	(CFM)	(CFM)	(CFM)	(CFM)
ERV-1											
1F - RADIO ROOM	1	206	4	5	0.06	32.36	32.4	40.5	40	50	50
1F - CHIEFS OFFICE	1	265	3	5	0.06	30.9	30.9	38.6	39	40	40
1F - FITNESS ROOM	1	411	6	20	0.06	144.66	144.7	180.8	181	200	200
1F - FITNESS ROOM CLOSET	1	26	0	0	0.06	1.56	1.6	2.0	2	10	10
TOTALS (INCL. SPACE MULTIPLIERS)		**908**	**13**			**209**	**209**	**262**	**262**	**300**	**300**

EMTEC PROJECT #:	7611
EMTEC PROJECT NAME:	Ellenville FD
OUTSIDE AIR RATIO (%)	100%
ZONE EFFECTIVENESS (ZB)	0.80
UNIT:	VRF-2 (ERV-2)

2025 NEW YORK STATE MECHANICAL CODE VENTILATION INDEX TABLE 403.3.1.1 MINIMUM VENTILATION RATES

ZONE NAME / SPACE NAME	MULTI.	FLOOR AREA	MAXIMUM OCCUPANTS	REQUIRED OUTDOOR AIR RATE	REQUIRED OUTDOOR AIR RATE	MINIMUM REQUIRED OUTDOOR AIR RATE	Vbz REQUIRED OUTDOOR AIR	Voz CORRECTED OUTDOOR AIR RATE	Vpz REQUIRED SUPPLY AIR	SA PROVIDED SUPPLY AIR	OA PROVIDED OUTSIDE AIR
		(FT²)	(PEOPLE)	CFM/PERSON)	(CFM/FT²)	(CFM)	(CFM)	(CFM)	(CFM)	(CFM)	(CFM)
ERV-2											
2F - COMMISSIONERS OFFICE	1	650	24	5	0.06	159	159.0	198.8	199	200	200
2F - SECRETARY/TREASURY	1	427	2	5	0.06	35.62	35.6	44.5	45	50	50
2F - FILES ROOM	1	120	0	0	0.06	7.2	7.2	9.0	9	10	10
2F - CONFERENCE ROOM	1	582	18	5	0.06	124.92	124.9	156.2	156	160	160
2F - CAPTAINS OFFICE	1	298	2	5	0.06	27.88	27.9	34.9	35	40	40
2F - CIVIL OFFICERS	1	273	4	5	0.06	36.38	36.4	45.5	45	50	50
2F - MENS RESTROOM	1	96	0	0	0	0	0.0	0.0	0		0
2F - WOMENS RESTROOM	1	98	0	5	0	0	0.0	0.0	0		0
2F - CORRIDOR	1	650	0	0	0.06	39	39.0	48.8	49	50	50
TOTALS (INCL. SPACE MULTIPLIERS)		**3194**	**50**			**430**	**430**	**538**	**538**	**560**	**560**

EMTEC PROJECT #:	7611
EMTEC PROJECT NAME:	Ellenville FD
OUTSIDE AIR RATIO (%)	18%
ZONE EFFECTIVENESS (ZB)	0.80
UNIT:	AHU-TRAINING

2025 NEW YORK STATE MECHANICAL CODE VENTILATION INDEX TABLE 403.3.1.1 MINIMUM VENTILATION RATES

ZONE NAME / SPACE NAME	MULTI.	FLOOR AREA	MAXIMUM OCCUPANTS	REQUIRED OUTDOOR AIR RATE	REQUIRED OUTDOOR AIR RATE	MINIMUM REQUIRED OUTDOOR AIR RATE	Vbz REQUIRED OUTDOOR AIR	Voz CORRECTED OUTDOOR AIR RATE	Vpz REQUIRED SUPPLY AIR	SA PROVIDED SUPPLY AIR	OA PROVIDED OUTSIDE AIR
		(FT²)	(PEOPLE)	CFM/PERSON)	(CFM/FT²)	(CFM)	(CFM)	(CFM)	(CFM)	(CFM)	(CFM)
AHU-2-1											
2F - TRAINING/CLASSROOM	1	1180	26	5	0.06	200.8	200.8	251.0	1394	1600	288
TOTALS (INCL. SPACE MULTIPLIERS)		**1180**	**26**			**201**	**201**	**251**	**1394**	**1600**	**288**

VENTILATION INDEX

CALCULATION OF VENTILATION REQUIREMENTS:

VENTIALTION AIRFLOWS HAVE BEEN DETERMINED IN ACCORDANCE WITH THE PROCEDURES DESCRIBED IN THE 2025 NYS BUILDING AND MECHANICAL CODES AS ADOPTED BY THE STATE OF NEW YORK.

GAS DETECTION SYSTEM

MAIN GARAGE AREA – GAS DETECTION SYSTEM FOR HIGH LEVELS OF CO & NO2

(NOTED GD-1 ON FLOOR PLAN M-1.1)

FURNISH & INSTALL FCS-M GAS DETECTION CONTROL PANEL BY CRITICAL TECHNOLOGIES OR APPROVED EQUAL. FURNISH & INSTALL LPT-P-TCO-NO2B CO/NO2 SENSORS CONNECTED TO NEW CONTROL PANEL FOR GAS DETECTION COVERAGE THROUGHOUT GARAGE AREA. FURNISH & INSTALL NEW REMOTE HORN/STROBE COMBO WITH RED LENS, 24 VAC, MODEL RSH-24V-R BY CRITICAL TECHNOLOGIES OR APPROVED EQUAL MOUNTED ON ELECTRICAL JUNCTION BOX.

THE GAS DETECTION SYSTEM SHALL MONITOR CARBON MONOXIDE AND NITROGEN DIOXIDE LEVELS OF THE WAREHOUSE. UPON DETECTION OF 25 PPM CARBON MONOXIDE IN AIR OR 0.7 PPM NO2, THE GAS DETECTION SYSTEM SHALL OPEN RESPECTIVE MOTORIZED DAMPER FOR EF-2. UPON PROOF OF DAMPER IN OPEN POSITION, EXHAUST FANS (EF-2) SHALL OPERATE UNTIL THE GAS CONCENTRATION DROPS BELOW SET POINT(S). ONCE THE SETPOINT HAS BEEN SATISFIED FOR A PERIOD OF 10 MINUTES (ADJ.), EXHAUST FAN SHALL DE-ENERGIZE AND ALL DAMPERS ASSOCIATED WITH EF-2 SHALL FULLY CLOSE. REFER TO MECHANICAL FLOOR PLANS/DETAILS FOR SENSOR LOCATIONS & ADDITIONAL SPECIFICATIONS.

FURNISH & INSTALL NEW EXHAUST FAN EF-2. NEW RELAYS SHALL BE FURNISHED FROM EXISTING GAS DETECTION CONTROL PANEL TO CONTROL NEW EXHAUST FAN.

REFER TO MECHANICAL FLOOR PLANS/DETAILS FOR SENSOR LOCATIONS & ADDITIONAL SPECIFICATIONS.

DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

STATE OF NEW YORK · ANDREW P. SAGGESE · LICENSED PROFESSIONAL ENGINEER · 100741 · 7/31/2027

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL
VENTILATION SCHEDULES

PROJECT No. 2501 EMTEC: 7611

CHECKED BY: MF/APS

DRAWING: M-6.4

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."
This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

Zone Sizing Summary for 1ST FLOOR VRF

Project Name: 7611 - Ellenville AMBULANCE FACILITY — 08/03/2026
Prepared by: EMTEC CONSULTANTS, INC. — 04:29PM

Air System Information

Air System Name: 1ST FLOOR VRF
Equipment Class: TERM
Air System Type: VRF
Number of zones: 4
Floor Area: 1453.0 ft²
Location: New York La Guardia, New York

Sizing Calculation Information

Calculation Months: Jan to Dec
Sizing Data: Calculated
Zone CFM Sizing: Sum of space airflow rates
Space CFM Sizing: Individual peak space loads

Terminal Unit Sizing Data - Cooling

Zone Name	Total Coil Load (MBH)	Sens Coil Load (MBH)	Coil Entering DB / WB (°F)	Coil Leaving DB / WB (°F)	Water Flow @ 10.0 °F (gpm)	Time of Peak Coil Load	Zone CFM/ft²
VRF-1-1	12.5	9.9	77.3 / 65.9	58.7 / 57.7	-	Aug 1600	2.39
VRF-1-2	8.9	5.9	78.2 / 67.6	58.0 / 57.1	-	Aug 1200	1.03
VRF-1-3	24.7	17.1	81.2 / 68.6	58.5 / 57.4	-	Aug 1500	1.59
VRF-1-4	18.8	12.2	79.8 / 68.6	58.1 / 57.2	-	Jul 1300	0.96

Terminal Unit Sizing Data - Heating, Fan, Ventilation

Zone Name	Heating Coil Load (MBH)	Heating Coil Ent/Lvg DB (°F)	Htg Coil Water Flow @20.0 °F (gpm)	Fan Design Airflow (CFM)	Fan Motor (BHP)	Fan Motor (kW)	OA Vent Design Airflow (CFM)
VRF-1-1	12.3	64.1 / 87.2	-	493	0.000	0.000	32
VRF-1-2	5.7	61.6 / 81.0	-	272	0.000	0.000	31
VRF-1-3	24.5	50.5 / 83.1	-	696	0.000	0.000	186
VRF-1-4	7.8	56.2 / 70.0	-	523	0.000	0.000	103

VRF Outdoor Unit Sizing Data

	Cooling [MBH]	Cooling [Tons]	Heating [MBH]
Peak Coincident Indoor Unit Loads	64.3	5.4	50.2
Estimated Piping / Line Losses	0.0	0.0	0.0
Total Required ODU Capacity	64.3	5.4	50.2

Note: VRF piping / line losses are based on typical loss factors for this class of equipment. Actual line loss varies widely from one product to another. Therefore, when selecting equipment it is critical to consult manufacturer's guidance to utilize actual line loss data.

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (MBH)	Time of Peak Sensible Cooling Load	Zone Heating Load (MBH)	Zone Floor Area (ft²)
VRF-1-1	9.0	Aug 1600	10.2	206.0
VRF-1-2	5.0	Aug 1500	3.3	265.0
VRF-1-3	12.5	Jul 1600	10.9	437.0
VRF-1-4	9.6	Jan 2100	0.0	545.0

Zone Sizing Summary for 2ND FLOOR VRF

Project Name: 7611 - Ellenville AMBULANCE FACILITY — 06/15/2026
Prepared by: EMTEC CONSULTANTS, INC. — 11:47AM

Air System Information

Air System Name: 2ND FLOOR VRF
Equipment Class: TERM
Air System Type: VRF
Number of zones: 7
Floor Area: 3194.0 ft²
Location: New York La Guardia, New York

Sizing Calculation Information

Calculation Months: Jan to Dec
Sizing Data: Calculated
Zone CFM Sizing: Sum of space airflow rates
Space CFM Sizing: Individual peak space loads

Terminal Unit Sizing Data - Cooling

Zone Name	Total Coil Load (MBH)	Sens Coil Load (MBH)	Coil Entering DB / WB (°F)	Coil Leaving DB / WB (°F)	Water Flow @ 10.0 °F (gpm)	Time of Peak Coil Load	Zone CFM/ft²
VRF-2-1	28.5	22.4	79.3 / 66.6	58.6 / 57.5	-	Aug 1500	1.55
VRF-2-2	12.1	9.7	77.2 / 65.5	58.0 / 56.9	-	Aug 1000	1.10
VRF-2-3	2.5	1.9	78.0 / 66.3	58.0 / 56.9	-	Jul 1400	0.72
VRF-2-4	21.4	16.4	79.5 / 66.9	58.6 / 57.4	-	Jul 1600	1.25
VRF-2-5	7.5	5.7	78.1 / 66.2	58.0 / 56.9	-	Jul 1600	0.88
VRF-2-6	8.8	6.9	78.6 / 66.3	58.6 / 57.5	-	Jul 1400	1.18
VRF-2-7	9.5	6.0	78.9 / 68.9	59.2 / 58.4	-	Jul 1500	0.34

Terminal Unit Sizing Data - Heating, Fan, Ventilation

Zone Name	Heating Coil Load (MBH)	Heating Coil Ent/Lvg DB (°F)	Htg Coil Water Flow @20.0 °F (gpm)	Fan Design Airflow (CFM)	Fan Motor (BHP)	Fan Motor (kW)	OA Vent Design Airflow (CFM)
VRF-2-1	26.9	58.2 / 83.0	-	1006	0.000	0.000	159
VRF-2-2	14.3	63.3 / 91.7	-	468	0.000	0.000	36
VRF-2-3	2.7	63.0 / 92.5	-	86	0.000	0.000	7
VRF-2-4	18.3	57.3 / 80.7	-	727	0.000	0.000	125
VRF-2-5	6.8	61.6 / 85.7	-	263	0.000	0.000	28
VRF-2-6	7.1	61.3 / 81.9	-	321	0.000	0.000	36
VRF-2-7	8.1	59.7 / 86.1	-	284	0.000	0.000	39

VRF Outdoor Unit Sizing Data

	Cooling [MBH]	Cooling [Tons]	Heating [MBH]
Peak Coincident Indoor Unit Loads	89.4	7.5	84.3
Estimated Piping / Line Losses	0.0	0.0	0.0
Total Required ODU Capacity	89.4	7.5	84.3

Zone Sizing Summary for 2ND FL TRAINING RM

Project Name: 7611 - Ellenville AMBULANCE FACILITY — 06/15/2026
Prepared by: EMTEC CONSULTANTS, INC. — 11:47AM

Air System Information

Air System Name: 2ND FL TRAINING RM
Equipment Class: TERM
Air System Type: SPLT-FC
Number of zones: 1
Floor Area: 1179.0 ft²
Location: New York La Guardia, New York

Sizing Calculation Information

Calculation Months: Jan to Dec
Sizing Data: Calculated
Zone CFM Sizing: Sum of space airflow rates
Space CFM Sizing: Individual peak space loads

Terminal Unit Sizing Data - Cooling

Zone Name	Total Coil Load (MBH)	Sens Coil Load (MBH)	Coil Entering DB / WB (°F)	Coil Leaving DB / WB (°F)	Water Flow @ 10.0 °F (gpm)	Time of Peak Coil Load	Zone CFM/ft²
Zone 1	49.4	33.8	82.9 / 69.1	57.7 / 56.5	-	Jul 1500	1.05

Terminal Unit Sizing Data - Heating, Fan, Ventilation

Zone Name	Heating Coil Load (MBH)	Heating Coil Ent/Lvg DB (°F)	Htg Coil Water Flow @20.0 °F (gpm)	Fan Design Airflow (CFM)	Fan Motor (BHP)	Fan Motor (kW)	OA Vent Design Airflow (CFM)
Zone 1	58.2	44.6 / 87.9	-	1243	0.000	0.000	436

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (MBH)	Time of Peak Sensible Cooling Load	Zone Heating Load (MBH)	Zone Floor Area (ft²)
Zone 1	24.1	Jul 1700	26.6	1179.0

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (MBH)	Time of Peak Sensible Load	Air Flow (CFM)	Heating Load (MBH)	Floor Area (ft²)	Space CFM/ft²
Zone 1							
2F-TRAINING/CLASSROOM	1	24.1	Jul 1700	1241	26.6	1170.0	1.06
2F-TRAINING/CLASSROOM CL	1	0.0	Jul 1400	2	0.0	9.0	0.26

Air System Sizing Summary for AHU-1-1

Project Name: 7611 - Ellenville AMBULANCE FACILITY — 06/15/2026
Prepared by: EMTEC CONSULTANTS, INC. — 11:47AM

Air System Information

Air System Name: AHU-1-1
Equipment Class: SPLT AHU
Air System Type: VAV
Number of zones: 2
Floor Area: 2017.0 ft²
Location: New York La Guardia, New York

Sizing Calculation Information

Calculation Months: Jan to Dec
Sizing Data: Calculated
Zone CFM Sizing: Peak zone sensible load
Space CFM Sizing: Individual peak space loads

Central Cooling Coil Sizing Data

Total coil load: 11.7 Tons
Total coil load: 140.1 MBH
Sensible coil load: 90.9 MBH
Coil CFM at Jul 1600: 2763 CFM
Max block CFM at Jul 1700: 2802 CFM
Sum of peak zone CFM: 2617 CFM
Sensible heat ratio: 0.649
CFM/Ton: 235.7
ft²/Ton: 172.7
BTU/(hr·ft²): 69.5
Water flow @ 10.0 °F rise: N/A

Load occurs at: Jul 1600
OA DB / WB: 94.6 / 75.9 °F
Entering DB / WB: 81.6 / 67.5 °F
Leaving DB / WB: 51.0 / 50.0 °F
Coil ADP: 47.6 °F
Bypass Factor: 0.100
Resulting RH: 50 %
Design supply temp.: 57.0 °F
Zone T-stat Check: 2 of 2 OK
Max zone temperature deviation: 0.0 °F

Central Heating Coil Sizing Data

Max coil load: 22.5 MBH
Coil CFM at Mar 1100: 2180 CFM
Max coil CFM: 2802 CFM
Water flow @ 20.0 °F drop: N/A

Load occurs at: Mar 1100
BTU/(hr·ft²): 11.1
Ent. DB / Lvg DB: 47.4 / 57.0 °F

Supply Fan Sizing Data

Actual max CFM at Jul 1700: 2802 CFM
Standard CFM: 2799 CFM
Actual max CFM/ft²: 1.39 CFM/ft²

Fan motor BHP: 0.00 BHP
Fan motor kW: 0.00 kW
Fan static: 0.00 in wg

Outdoor Ventilation Air Data

Design airflow CFM: 1142 CFM
CFM/ft²: 0.57 CFM/ft²

CFM/person: 10.98 CFM/person

Zone Sizing Summary for AHU-1-1

Project Name: 7611 - Ellenville AMBULANCE FACILITY — 06/15/2026
Prepared by: EMTEC CONSULTANTS, INC. — 11:47AM

Air System Information

Air System Name: AHU-1-1
Equipment Class: SPLT AHU
Air System Type: VAV
Number of zones: 2
Floor Area: 2017.0 ft²
Location: New York La Guardia, New York

Sizing Calculation Information

Calculation Months: Jan to Dec
Sizing Data: Calculated
Zone CFM Sizing: Peak zone sensible load
Space CFM Sizing: Individual peak space loads

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (CFM)	Minimum Supply Airflow (CFM)	Zone CFM/ft²	Reheat Coil Load (MBH)	Reheat Coil Water gpm @ 20.0 °F	Zone Htg Unit Coil Load (MBH)	Zone Htg Unit Water gpm @ 20.0 °F	Mixing Box Fan Airflow (CFM)
MULTIPURPOSE	1540	1034	1.58	42.4	-	0.0	-	0
SHELTER	1277	582	1.23	23.8	-	0.0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (MBH)	Time of Peak Sensible Cooling Load	Zone Heating Load (MBH)	Zone Floor Area (ft²)
MULTIPURPOSE	24.9	Jul 1700	27.9	975.0
SHELTER	20.7	Jul 2100	4.9	1042.0

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (MBH)	Time of Peak Sensible Load	Air Flow (CFM)	Heating Load (MBH)	Floor Area (ft²)	Space CFM/ft²
MULTIPURPOSE							
1F-TABLES/CHAIRS STORAGE	1	2.0	Jul 1800	122	7.5	114.0	1.07
1F-MULTI-PURPOSE RM	1	23.0	Jul 1700	1419	20.4	861.0	1.65
SHELTER							
1F-COMMUNITY/SHELTER RM	1	17.5	Jan 2100	1081	0.0	771.0	1.40
1F-CORRIDOR 3	1	1.9	Jul 1500	120	4.9	165.0	0.73
1F-SERVICE AREA	1	1.5	Jan 2200	95	0.0	106.0	0.90

Air System Sizing Summary for AHU-1-2

Project Name: 7611 - Ellenville AMBULANCE FACILITY — 06/15/2026
Prepared by: EMTEC CONSULTANTS, INC. — 11:47AM

Air System Information

Air System Name: AHU-1-2
Equipment Class: SPLT AHU
Air System Type: VAV
Number of zones: 1
Floor Area: 1393.0 ft²
Location: New York La Guardia, New York

Sizing Calculation Information

Calculation Months: Jan to Dec
Sizing Data: Calculated
Zone CFM Sizing: Peak zone sensible load
Space CFM Sizing: Individual peak space loads

Central Cooling Coil Sizing Data

Total coil load: 2.2 Tons
Total coil load: 26.3 MBH
Sensible coil load: 20.3 MBH
Coil CFM at Jul 1500: 757 CFM
Max block CFM at Jan 0000: 757 CFM
Sum of peak zone CFM: 757 CFM
Sensible heat ratio: 0.772
CFM/Ton: 345.1
ft²/Ton: 634.7
BTU/(hr·ft²): 18.9
Water flow @ 10.0 °F rise: N/A

Load occurs at: Jul 1500
OA DB / WB: 95.0 / 76.0 °F
Entering DB / WB: 79.9 / 65.5 °F
Leaving DB / WB: 55.0 / 53.7 °F
Coil ADP: 52.2 °F
Bypass Factor: 0.100
Resulting RH: 47 %
Design supply temp.: 55.0 °F
Zone T-stat Check: 0 of 1 OK
Max zone temperature deviation: 0.9 °F

Central Heating Coil Sizing Data

Max coil load: 2.8 MBH
Coil CFM at Nov 2100: 757 CFM
Max coil CFM: 757 CFM
Water flow @ 20.0 °F drop: N/A

Load occurs at: Nov 2100
BTU/(hr·ft²): 2.0
Ent. DB / Lvg DB: 51.6 / 55.0 °F

Supply Fan Sizing Data

Actual max CFM at Jan 0000: 757 CFM
Standard CFM: 757 CFM
Actual max CFM/ft²: 0.54 CFM/ft²

Fan motor BHP: 0.00 BHP
Fan motor kW: 0.00 kW
Fan static: 0.00 in wg

Outdoor Ventilation Air Data

Design airflow CFM: 135 CFM
CFM/ft²: 0.10 CFM/ft²

CFM/person: 13.47 CFM/person

LOAD CALCULATIONS

CALCULATION OF HEATING AND COOLING LOADS:

DESIGN LOADS HAVE BEEN DETERMINED IN ACCORDANCE WITH THE PROCEDURES DESCRIBED IN THE ANSI/ASHRAE/ACCA STANDARD 183.

MECHANICAL EQUIPMENT HAS BEEN MODELED USING CARRIER HAP SOFTWARE WHICH IS COMPLIANT WITH ASHRAE 183. REFER TO THE CALCULATED VS. PROVIDED EQUIPMENT CAPACITY TABLE ON THIS SHEET FOR REFERENCE.

ALL HVAC CALCULATION OUTPUT SHEETS HAVE BEEN INCLUDED ON THIS SHEET FOR REFERENCE.

DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

STATE OF NEW YORK — ANDREW P. SAGGESE — LICENSED PROFESSIONAL ENGINEER — 100741

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL
LOAD CALCULATIONS

PROJECT No. 2601
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING: M-6.5

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

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This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

Zone Sizing Summary for AHU-1-2

Project Name: 7611 - Ellenville AMBULANCE FACILITY — 06/15/2026
Prepared by: EMTEC CONSULTANTS, INC. — 11:47AM

Air System Information

Air System Name: AHU-1-2
Equipment Class: SPLT AHU
Air System Type: VAV
Number of zones: 1
Floor Area: 1393.0 ft²
Location: New York La Guardia, New York

Sizing Calculation Information

Calculation Months: Jan to Dec
Sizing Data: Calculated
Zone CFM Sizing: Peak zone sensible load
Space CFM Sizing: Individual peak space loads

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (CFM)	Minimum Supply Airflow (CFM)	Zone CFM/ft²	Reheat Coil Water gpm @ 20.0 °F	Zone Htg Unit Coil Load (MBH)	Zone Htg Unit Water gpm @ 20.0 °F	Mixing Box Fan Airflow (CFM)
LOBBY	757	757	0.54	32.7	-	0.0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (MBH)	Time of Peak Sensible Cooling Load	Zone Heating Load (MBH)	Zone Floor Area (ft²)
LOBBY	16.2	Jul 1600	20.4	1393.0

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (MBH)	Time of Peak Sensible Load	Air Flow (CFM)	Heating Load (MBH)	Floor Area (ft²)	Space CFM/ft²
LOBBY							
1F-LOBBY	1	4.8	Jan 2100	221	0.0	301.0	0.74
1F-VESTIBULE 1	1	4.5	Jul 1600	208	10.4	93.0	2.23
1F-WOMEN'S RESTROOM	1	0.5	Jan 2200	21	0.0	137.0	0.15
1F-MEN'S RESTROOM	1	0.5	Jan 2200	21	0.0	139.0	0.15
1F-BR/SHWR 1	1	0.2	Jan 2200	9	0.0	59.0	0.15
1F-BR/SHWR 2	1	0.2	Jan 2200	9	0.0	59.0	0.15
1F-CORRIDOR 1	1	0.6	Jan 2200	26	0.0	172.0	0.15
1F-CORRIDOR 2	1	2.5	Jul 1500	115	5.7	207.0	0.56
1F-VESTIBULE 2	1	0.9	Jul 1700	41	2.0	47.0	0.88
1F-INFO/MAIL AREA	1	1.9	Aug 1700	88	2.3	142.0	0.62
1F-JANITOR CLOSET 1	1	0.1	Jan 2200	6	0.0	37.0	0.15

Air System Sizing Summary for ATTIC SPACE

Project Name: 7611 - Ellenville AMBULANCE FACILITY — 06/15/2026
Prepared by: EMTEC CONSULTANTS, INC. — 11:47AM

Air System Information

Air System Name: ATTIC SPACE
Equipment Class: PKG ROOF
Air System Type: SZCAV
Number of zones: 1
Floor Area: 5058.0 ft²
Location: New York La Guardia, New York

Sizing Calculation Information

Calculation Months: Jan to Dec
Sizing Data: Calculated
Zone CFM Sizing: Sum of space airflow rates
Space CFM Sizing: Individual peak space loads

Central Cooling Coil Sizing Data

Total coil load	5.6	Tons	Load occurs at	Jul 1400
Total coil load	67.6	MBH	OA DB / WB	94.6 / 75.9 °F
Sensible coil load	59.8	MBH	Entering DB / WB	82.2 / 69.6 °F
Coil CFM at Jul 1400	3082	CFM	Leaving DB / WB	64.3 / 63.1 °F
Max block CFM	3082	CFM	Coil ADP	62.3 °F
Sum of peak zone CFM	3082	CFM	Bypass Factor	0.100
Sensible heat ratio	0.884		Resulting RH	55 %
CFM/Ton	547.1		Design supply temp.	65.0 °F
ft²/Ton	897.9		Zone T-stat Check	1 of 1 OK
BTU/(hr·ft²)	13.4		Max zone temperature deviation	0.0 °F
Water flow @ 10.0 °F rise	N/A			

Central Heating Coil Sizing Data

Max coil load	125.6	MBH	Load occurs at	Des Htg
Coil CFM at Des Htg	3082	CFM	BTU/(hr·ft²)	24.8
Max coil CFM	3082	CFM	Ent. DB / Lvg DB	56.5 / 94.2 °F
Water flow @ 20.0 °F drop	N/A			

Supply Fan Sizing Data

Actual max CFM	3082	CFM	Fan motor BHP	0.00 BHP
Standard CFM	3079	CFM	Fan motor kW	0.00 kW
Actual max CFM/ft²	0.61	CFM/ft²	Fan static	0.00 in wg

Outdoor Ventilation Air Data

Design airflow CFM	379	CFM	CFM/person	0.00 CFM/person
CFM/ft²	0.08	CFM/ft²		

Zone Sizing Summary for ATTIC SPACE

Project Name: 7611 - Ellenville AMBULANCE FACILITY — 06/15/2026
Prepared by: EMTEC CONSULTANTS, INC. — 11:47AM

Air System Information

Air System Name: ATTIC SPACE
Equipment Class: PKG ROOF
Air System Type: SZCAV
Number of zones: 1
Floor Area: 5058.0 ft²
Location: New York La Guardia, New York

Sizing Calculation Information

Calculation Months: Jan to Dec
Sizing Data: Calculated
Zone CFM Sizing: Sum of space airflow rates
Space CFM Sizing: Individual peak space loads

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (CFM)	Minimum Supply Airflow (CFM)	Zone CFM/ft²	Reheat Coil Load (MBH)	Reheat Coil Water gpm @ 20.0 °F	Zone Htg Unit Coil Load (MBH)	Zone Htg Unit Water gpm @ 20.0 °F	Mixing Box Fan Airflow (CFM)
Zone 1	3082	3082	0.61	0.0	-	0.0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (MBH)	Time of Peak Sensible Cooling Load	Zone Heating Load (MBH)	Zone Floor Area (ft²)
Zone 1	37.5	Jul 1500	99.7	5058.0

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (MBH)	Time of Peak Sensible Load	Air Flow (CFM)	Heating Load (MBH)	Floor Area (ft²)	Space CFM/ft²
Zone 1							
2F-ATTIC	1	37.5	Jul 1500	3082	99.7	5058.0	0.61

Zone Sizing Summary for GARAGE READY ROOM

Project Name: 7611 - Ellenville AMBULANCE FACILITY — 06/15/2026
Prepared by: EMTEC CONSULTANTS, INC. — 11:47AM

Air System Information

Air System Name: GARAGE READY ROOM
Equipment Class: TERM
Air System Type: SPLT-FC
Number of zones: 1
Floor Area: 310.0 ft²
Location: New York La Guardia, New York

Sizing Calculation Information

Calculation Months: Jan to Dec
Sizing Data: Calculated
Zone CFM Sizing: Sum of space airflow rates
Space CFM Sizing: Individual peak space loads

Terminal Unit Sizing Data - Cooling

Zone Name	Total Coil Load (MBH)	Sens Coil Load (MBH)	Coil Entering DB / WB (°F)	Coil Leaving DB / WB (°F)	Water Flow @ 10.0 °F (gpm)	Time of Peak Coil Load	Zone CFM/ft²
Zone 1	12.1	9.0	79.4 / 67.2	58.6 / 57.5	-	Jul 1600	1.29

Terminal Unit Sizing Data - Heating, Fan, Ventilation

Zone Name	Heating Coil Load (MBH)	Heating Coil Ent/Lvg DB (°F)	Htg Coil Water Flow @20.0 °F (gpm)	Fan Design Airflow (CFM)	Fan Motor (BHP)	Fan Motor (kW)	OA Vent Design Airflow (CFM)
Zone 1	9.9	57.7 / 80.7	-	400	0.000	0.000	67

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (MBH)	Time of Peak Sensible Cooling Load	Zone Heating Load (MBH)	Zone Floor Area (ft²)
Zone 1	7.3	Jul 1700	5.0	310.0

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (MBH)	Time of Peak Sensible Load	Air Flow (CFM)	Heating Load (MBH)	Floor Area (ft²)	Space CFM/ft²
Zone 1							
1F-READY ROOM	1	7.3	Jul 1700	400	5.0	310.0	1.29

Air System Sizing Summary for RTU-1 GARAGE

Project Name: 7611 - Ellenville AMBULANCE FACILITY — 06/15/2026
Prepared by: EMTEC CONSULTANTS, INC. — 11:47AM

Air System Information

Air System Name: RTU-1 GARAGE
Equipment Class: PKG ROOF
Air System Type: SZCAV
Number of zones: 1
Floor Area: 9127.0 ft²
Location: New York La Guardia, New York

Sizing Calculation Information

Calculation Months: Jan to Dec
Sizing Data: Calculated
Zone CFM Sizing: Sum of space airflow rates
Space CFM Sizing: Individual peak space loads

Central Cooling Coil Sizing Data

Total coil load	15.2	Tons	Load occurs at	Aug 1500
Total coil load	181.8	MBH	OA DB / WB	95.0 / 76.0 °F
Sensible coil load	154.3	MBH	Entering DB / WB	77.3 / 63.9 °F
Coil CFM at Aug 1500	6613	CFM	Leaving DB / WB	55.7 / 54.5 °F
Max block CFM	6613	CFM	Coil ADP	53.3 °F
Sum of peak zone CFM	6613	CFM	Bypass Factor	0.100
Sensible heat ratio	0.849		Resulting RH	48 %
CFM/Ton	436.4		Design supply temp.	55.0 °F
ft²/Ton	602.4		Zone T-stat Check	1 of 1 OK
BTU/(hr·ft²)	19.9		Max zone temperature deviation	0.0 °F
Water flow @ 10.0 °F rise	N/A			

Central Heating Coil Sizing Data

Max coil load	200.9	MBH	Load occurs at	Des Htg
Coil CFM at Des Htg	6613	CFM	BTU/(hr·ft²)	22.0
Max coil CFM	6613	CFM	Ent. DB / Lvg DB	63.0 / 91.2 °F
Water flow @ 20.0 °F drop	N/A			

Supply Fan Sizing Data

Actual max CFM	6613	CFM	Fan motor BHP	0.00 BHP
Standard CFM	6605	CFM	Fan motor kW	0.00 kW
Actual max CFM/ft²	0.72	CFM/ft²	Fan static	0.00 in wg

Outdoor Ventilation Air Data

Design airflow CFM	624	CFM	CFM/person	0.00 CFM/person
CFM/ft²	0.07	CFM/ft²		

Zone Sizing Summary for RTU-1 GARAGE

Project Name: 7611 - Ellenville AMBULANCE FACILITY — 06/15/2026
Prepared by: EMTEC CONSULTANTS, INC. — 11:47AM

Air System Information

Air System Name: RTU-1 GARAGE
Equipment Class: PKG ROOF
Air System Type: SZCAV
Number of zones: 1
Floor Area: 9127.0 ft²
Location: New York La Guardia, New York

Sizing Calculation Information

Calculation Months: Jan to Dec
Sizing Data: Calculated
Zone CFM Sizing: Sum of space airflow rates
Space CFM Sizing: Individual peak space loads

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (CFM)	Minimum Supply Airflow (CFM)	Zone CFM/ft²	Reheat Coil Load (MBH)	Reheat Coil Water gpm @ 20.0 °F	Zone Htg Unit Coil Load (MBH)	Zone Htg Unit Water gpm @ 20.0 °F	Mixing Box Fan Airflow (CFM)
Zone 1	6613	6613	0.72	0.0	-	0.0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (MBH)	Time of Peak Sensible Cooling Load	Zone Heating Load (MBH)	Zone Floor Area (ft²)
Zone 1	124.9	Jul 1500	150.7	9127.0

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (MBH)	Time of Peak Sensible Load	Air Flow (CFM)	Heating Load (MBH)	Floor Area (ft²)	Space CFM/ft²
Zone 1							
1F-DRIVE THRU BAYS	1	97.9	Jul 1400	4539	101.2	5919.0	0.77
1F-DELIVERY	1	2.5	Jul 1600	298	8.0	119.0	2.51
1F-SCBA	1	1.4	Aug 1600	108	2.9	105.0	1.03
1F-GEAR AREA LOCKER RM	1	4.4	Jul 1400	269	7.3	628.0	0.43
1F-STORAGE	2	1.0	Jan 1700	46	0.0	112.0	0.41
1F-WORK ROOM	1	3.0	Aug 1600	176	4.7	178.0	0.99
1F-ELECTRIC SVC	1	1.0	Aug 1600	109	2.8	114.0	0.96
MEZZ-TRAINING MEZZANINE	1	6.2	Aug 1600	694	18.7	616.0	1.13
MEZZ-ENCLOSED STORAGE RM	1	7.1	Jul 1400	328	4.9	1224.0	0.27

LOAD CALCULATIONS

CALCULATION OF HEATING AND COOLING LOADS:

DESIGN LOADS HAVE BEEN DETERMINED IN ACCORDANCE WITH THE PROCEDURES DESCRIBED IN THE ANSI/ASHRAE/ACCA STANDARD 183.

MECHANICAL EQUIPMENT HAS BEEN MODELED USING CARRIER HAP SOFTWARE WHICH IS COMPLIANT WITH ASHRAE 183. REFER TO THE CALCULATED VS. PROVIDED EQUIPMENT CAPACITY TABLE ON THIS SHEET FOR REFERENCE.

ALL HVAC CALCULATION OUTPUT SHEETS HAVE BEEN INCLUDED ON THIS SHEET FOR REFERENCE.

DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

STATE OF NEW YORK — ANDREW P. SAGGESE — LICENSED PROFESSIONAL ENGINEER — 100741

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL
LOAD CALCULATIONS

PROJECT No. 2601
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING: M-6.6

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."
This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

GENERAL:

A. THE "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION", AIA DOCUMENT A201, LATEST EDITION, AND THIS SPECIFICATION, AS APPLICABLE, ARE PART OF THIS CONTRACT.

B. ALL APPLICABLE CODES, LAWS AND REGULATIONS, GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS.THESE PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR WHO SHALL INFORM THE OWNER, PRIOR TO SUBMITTING A PROPOSAL, OF ANY WORK OR MATERIALS, WHICH VIOLATE ANY OF THE LAWS AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATIONS SHALL BE CORRECTED BY THE CONTRACTOR. THE DESIGN, CONSTRUCTION, INSTALLATION AND ALTERATION FOR THE SYSTEM FOR PROVIDING VENTILATION AND AIR CONDITIONING SHALL COMPLY WITH THE 2020 NYS MECHANICAL CODE.

C. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, AND CONTRACTOR'S SERVICES NECESSARY FOR COMPLETE AND SAFE INSTALLATION OF ALL WORK INDICATED OR SPELLED OUT IN CONTRACT DOCUMENTS, IN FULL CONFORMITY WITH REQUIREMENTS OF BUILDING CODES AND OF ALL AUTHORITIES HAVING JURISDICTION.

D. INSTALL ALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS FROM THE DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES WHICH INVOLVE EXTRA COST, SHALL NOT BE MADE WITHOUT APPROVAL.

E. EACH BIDDER SUMMING HIS PROPOSAL SHALL EXAMINE ALL DRAWINGS RELATING TO THIS WORK AND VERIFY ALL GOVERNING CONDITIONS AT THE BUILDING AND SHALL BECOME FULLY INFORMED AS TO THE EXTENT AND CHARACTER OF THE WORK REQUIRED AND ITS RELATION TO OTHER WORK. NO CONSIDERATION WILL BE GRANTED FOR ANY ALLEGED MISUNDERSTANDING OF THE MATERIALS TO BE FURNISHED OR WORK TO BE DONE, IT BEING UNDERSTOOD THAT THE SUBMISSION OF A PROPOSAL IS AN AGREEMENT TO ALL ITEMS AND CONDITIONS REFERRED TO HEREIN OR INDICATED ON THE ACCOMPANYING DRAWINGS. (SEE "EXAMINATIONS OF EXISTING CONDITIONS" BELOW).

F. IF DURING THE INSPECTION, THE CONTRACTOR FINDS ANY OBSTRUCTION OR INTERFERENCE THAT MAY PROHIBIT THE PROPER INSTALLATION OF HIS WORK, HE IS TO MAKE IT KNOWN TO THE BUILDING OWNER AND TENANT BEFORE AND AT THE TIME OF SUBMITTING HIS PROPOSAL. BY SUBMISSION OF THE BID, IT IS UNDERSTOOD THAT SUCH INSPECTION HAS BEEN MADE AND BID INCLUDES ALL MATERIALS AND REQUIRED RELOCATION FOR ALL WORK.

G. ALL DUCTWORK INDICATED ON DRAWINGS ARE DIAGRAMMATIC AD DOES NOT SHOW OFFSETS, DROPPING AND RISING OF RUNS AS MAY BE NECESSARY. THE CONTRACTOR SHALL PROVIDE FOR OFFSETS, DROPPING AND RISING OF DUCTWORK AS REQUIRED TO AVOID OBSTRUCTIONS. THE SHEET METAL CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL STATIC PRESSURE DUE TO THE ADDITION OF ELBOWS AND DUCT TURNS.

H. ALL MATERIALS AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE NOTED, AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

I. THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND MATERIALS AND ALL PARTS OF THE BUILDING, EXTERIOR SPACES AND ADJACENT STREET, SIDEWALKS AND PAVEMENTS, FREE FROM MATERIALS AND DEBRIS RESULTING FROM THE EXECUTION OF THIS WORK. EXCESS MATERIALS WILL NOT BE PERMITTED TO ACCUMULATE EITHER ON THE INTERIOR OR THE EXTERIOR.

J. CONTRACTOR IS RESPONSIBLE FOR FIELD COORDINATION WITH OTHER TRADES.

K. CONTRACTOR IS TO MAINTAIN CURRENT WORKING RECORD DRAWINGS ON SITE AT ALL TIMES.

L. INVESTIGATE EACH SPACE THROUGH WHICH EQUIPMENT MUST BE MOVED. WHEN NECESSARY, EQUIPMENT SHALL BE SHIPPED FROM MANUFACTURER IN CRATED SECTIONS OF SIZE SUITABLE FOR MOVING THROUGH RESTRICTED SPACES AVAILABLE. ASCERTAIN FROM BUILDING OWNER AT WHAT TIE OF DAY EQUIPMENT COULD BE MOVED THROUGH CERTAIN RESTRICTED AREAS, AND REVIEW WITH OWNER PLANNED APPROACH FOR ANY REQUIRED EQUIPMENT RIGGING INTO BUILDING. EQUIPMENT SHALL BE LIFTED INTO POSITION, NOT ROLLED OR CRIBBED.

M. REFER TO SECTION 15000 FOR ADDITIONAL REQUIREMENTS.

WORK INCLUDED:

THE WORK INCLUDES FURNISHING AND THE INSTALLATION OF ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY TO COMPLETE AND MAKE READY FOR OPERATION BY THE OWNER ALL HVAC WORK AS SHOWN ON THE DRAWINGS AND HEREINAFTER SPECIFIED, INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:

A. ELECTRIC HEATERS AND ACCESSORIES.

B. ROOF-TOP PACKAGED AIR CONDITIONING UNITS WITH GAS HEAT AND ACCESSORIES.

C. SPLIT SYSTEM AIR CONDITIONING HEAT PUMP UNITS AND ACCESSORIES.

D. ALL REQUIRED DUCTWORK AND DUCTWORK ACCESSORIES.

E. ALL HVAC RELATED PIPING SYSTEMS INCLUDING HOT WATER, REFRIGERANT AND MAKE UP WATER CONNECTIONS.

F. VALVES AND PIPING SPECIALTIES.

G. INSULATION OF PIPING, DUCTWORK AND EQUIPMENT.

H. FANS AND ACCESSORIES.

I. AIR DISTRIBUTION DEVICES.

J. DAMPERS (VARIOUS TYPES).

K. HANGERS AND SUPPORTS.

L. VIBRATION ISOLATION.

M. IDENTIFICATION, LABELS, TAGS AND VALVE CHARTS.

N. DRAINAGE FROM EQUIPMENT AS INDICATED.

O. SUPPLYING OF MOTOR CONTROLLER.

P. FURNISH AND INSTALL ALL CONTROLS, CONTROL ACCESSORIES AND WIRING.

Q. FINAL CONNECTIONS OF ALL HVAC EQUIPMENT.

R. PIPING TESTS.

S. AIR AND HYDRONIC BALANCING.

T. SUBMISSION OF ALL SHOP DRAWINGS AND SAMPLES LISTED HEREIN.

U. SUBMISSION OF ALL RECORD AND AS- BUILT DRAWINGS.

V. SUBMISSION OF ALL BALANCING REPORTS.

W. SUBMISSION OF ALL OPERATIONS AND MAINTENANCE MANUALS.

X. EQUIPMENT START-UP AND TRAINING OF OWNER'S STAFF.

Y. THIS CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR START-UP AND 24 HR/ DAY SERVICE WITHIN AN MAXIMUM RESPONSE TIME OF 4 HOURS AND QUARTERLY PREVENTIVE MAINTENANCE (CHANGE OF FILTERS, ETC.) FOR A PERIOD OF ONE YEAR FOR ALL EQUIPMENT. THE COST OF THIS SHALL BE INCLUDED IN THIS CONTRACT.

Z. MAINTAIN ALL EXISTING MECHANICAL SERVICES IN THE BUILDING AREAS NOT AFFECTED BY THE ALTERATIONS DURING THE PROGRESS OF THE WORK, INCLUDING PROVIDING ALL TEMPORARY PIPING, CAPS, PROTECTIVE DEVICES, CONNECTIONS AND EQUIPMENT REQUIRED.

AA. SECURE PERMITS, LICENSES AND CERTIFICATES, PAY ALL FEES AND CHARGES FOR ALL WORK INSTALLED CERTIFYING COMPLIANCE WITH LOCAL CODES AND GOVERNING AUTHORITIES. DELIVER CERTIFICATES TO BUILDING MANAGEMENT OFFICE PRIOR TO THE COMMENCEMENT OF ALL WORK.

BB. ALL SCAFFOLDING AND RIGGING AS REQUIRED FOR HVAC INSTALLATION.

CC. ALL POWER WIRING AS CONTROL WIRING.

DD. ALL SPECIAL AND PROGRESS INSPECTIONS AS REQUIRED BY THE NEW YORK STATE BUILDING CODE, ARE THE RESPONSIBILITY OF THE HVAC CONTRACTOR.

EE. FURNISH "EQUIPMENT USE PERMITS" AS REQUIRED.

FF. IT IS NOT THE INTENTION OF THESE SPECIFICATIONS TO DESCRIBE, NOR THE CONTRACT DRAWINGS TO SHOW IN DETAIL, ALL THE VARIOUS PIECES OF APPARATUS AND APPURTENANCES AND THEIR CONNECTIONS. THIS CONTRACTOR SHALL, AS PART OF THE CONTRACT, FURNISH AND INSTALL ALL INCIDENTALS, SUCH AS PIPING FITTINGS, VALVES, ETC. REQUIRED TO COMPLETE THE INSTALLATION OF THE EQUIPMENT. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL, ELECTRICAL, PLUMBING, SPRINKLER, FIRE ALARM, AND MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF FIXTURES AND EQUIPMENT INCLUDING TYPES AND QUANTITIES.

STANDARDS AND CODES:

A. 2025 NEW YORK STATE BUILDING CODES.
B. 2025 NEW YORK STATE ENERGY CONSERVATION CONSTRUCTION CODE.
C. ASHRAE STANDARDS AS APPLICABLE.
D. SMACNA MANUALS AS APPLICABLE.
E. NATIONAL FIRE PROTECTION ASSOCIATION.
F. ALL EQUIPMENT SHALL BE UNDERWRITERS LABORATORIES INC. (U.L.) APPROVED.

REFRIGERATION WORK:

ALL REFRIGERATION WORK, INCLUDING THE CHARGING AND/OR RECLAIMING OF REFRIGERANT, SHALL BE CONDUCTED BY EPA CERTIFIED TECHNICIANS AND PREFORMED IN ACCORDANCE WITH THE FEDERAL CLEAN AIR ACT AND AS AMMENDED BY LOCAL JURISDICTION.

EXAMINATION OF EXISTING CONDITIONS:

BEFORE SUBMITTING PROPOSALS BIDDERS SHALL VISIT THE SITE AND CAREFULLY EXAMINE THOSE PORTIONS OF THE BUILDING AFFECTED BY THE WORK SO AS TO FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THE WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE, AS DETERMINED BY THE ARCHITECT, WILL NOT BE RECOGNIZED.

PERMITS AND CERTIFICATES:

THIS CONTRACTOR SHALL GIVE NECESSARY NOTICES, FILE DRAWINGS AND SPECIFICATIONS WITH THE DEPARTMENTS HAVING JURISDICTION, OBTAIN PERMITS OR LICENSES NECESSARY TO CARRY OUT THIS WORK AND PAY ALL FEES REQUIRED.

SUBMITTALS:

ELECTRONIC (E-MAIL) OR FAXED SUBMISSIONS OF SHOP DRAWINGS WILL NOT BE ACCEPTED. ALL SHOP DRAWINGS OR CUT SHEETS MUST BE SUBMITTED AS PRINTED COPIES IN SUITABLE QUANTITIES FOR DISTRIBUTION (MINIMUM 5 COPIES OR AS SPECIFIED BY ARCHITECT/ENGINEER)

PRIOR TO SHIPMENT OF EQUIPMENT, TO ANY FABRICATION OF DUCTWORK OR PIPING, OR THE START OF INSTALLATION OF SYSTEM COMPONENTS, SUBMIT COORDINATED SHOP DRAWINGS, CATALOG CUT SHEETS, AND SCHEDULES TO THE ENGINEER FOR APPROVAL. MATERIALS AND EQUIPMENT REQUIRING SHOP DRAWING SUBMITTAL, AND OTHER ITEMS REQUIRING SUBMISSION, INCLUDE BUT NOT LIMITED TO THE FOLLOWING:

A. BOILERS AND ALL ANCILLARY EQUIPMENT AND ACCESSORIES.
B. AIR CONDITIONING AND AIR HANDLING EQUIPMENT.
C. ALL PIPING MATERIALS AND ACCESSORIES.
D. HANGERS AND SUPPORT INCLUDING VIBRATION ISOLATION EQUIPMENT.
E. SHEET METAL STANDARDS AND DETAILS.
F. DUCTWORK LAYOUT.
G. PIPING LAYOUT.
H. INSULATION (ALL TYPES).
I. ELECTRIC HEATERS AND ACCESSORIES.
J. DAMPERS (ALL TYPES).
K. FANS AND ACCESSORIES.
L. CURBS AND PITCH POCKETS.
M. ALL DUCTWORK ACCESSORIES.
N. GRILLES, REGISTERS AND DIFFUSERS.
O. INSTRUMENTATION.
P. MOTOR CONTROLLERS.
Q. CONTROL DIAGRAMS AND SEQUENCE OF OPERATION.
R. TEMPERATURE CONTROL DEVICES.
S. COORDINATED LAYOUT DRAWINGS.
T. AS- BUILT DRAWINGS.
U. WARRANTEES AND GUARANTEES.
V. CERTIFICATIONS, BALANCING AND TEST REPORTS.
W. OPERATING AND MAINTENANCE MANUALS.
X. EQUIPMENT USE PERMITS.

SHOP DRAWINGS SHOWING MANUFACTURER'S PRODUCT DATA SHALL CONTAIN DETAILED DIMENSIONAL DRAWINGS, ACCURATE AND COMPLETE DESCRIPTION OF MATERIALS OF CONSTRUCTION, MANUFACTURER'S PUBLISHED PERFORMANCE CHARACTERISTICS AND CAPACITY RATINGS (PERFORMANCE DATA, ALONE, IS NOT ACCEPTABLE), ELECTRICAL REQUIREMENTS AND WIRING DIAGRAMS. DRAWING SHALL CLEARLY INDICATE LOCATION (TERMINATION BLOCK OR WIRE NUMBER), VOLTAGE AND FUNCTION FOR ALL FIELD TERMINATIONS, AND OTHER INFORMATION NECESSARY TO DEMONSTRATE COMPLIANCE WITH ALL REQUIREMENTS OF CONTRACT DOCUMENTS.

PROVIDE SHOP DRAWING SUBMITTALS SHOWING DETAILS OF DUCTWORK AND PIPING CONNECTIONS TO ALL HVAC EQUIPMENT. IF CONNECTION DETAILS ARE NOT SUBMITTED AND CONNECTIONS ARE FOUND TO BE INSTALLED INCORRECTLY IN THE FIELD, THIS CONTRACTOR SHALL REINSTALL THEM WITHIN THE ORIGINAL CONTRACT PRICE.

ALL PIPING, DUCTWORK AND EQUIPMENT LAYOUTS SHALL BE SUBMITTED ON SCALE $\frac{3}{8}$" = 1'-0" DRAWINGS. AND SHALL BE COORDINATED AND STAMPED BY ALL TRADES. SHOP DRAWINGS SHALL SHOW LOCATION OF ALL EXISTING AND NEW EQUIPMENT, EXISTING WORK AND NEW WORK.

AFTER SUBSTANTIAL COMPLETION OF ALL WORK, SUBMIT THE FOLLOWING:

A. SUBMIT FIVE (5) COPIES OF ALL AIR BALANCING AND HYDRONIC BALANCING REPORTS FOR APPROVAL.

B. SUBMIT A COMPLETE SET OF REPRODUCIBLE "AS BUILT" RECORD DRAWINGS AND THREE (3) SETS OF PRINTS OR BUILDING FILES AT COMPLETION OF THE PROJECT, TO INCLUDE DUCTWORK, PIPING AND EQUIPMENT DRAWINGS. SCALE $\frac{3}{8}$"=1'-0".

C. SUBMIT TWO (2) SETS OF OPERATING AND MAINTENANCE MANUALS FOR EACH PIECE OF HEATING, VENTILATING AND AIR CONDITIONING EQUIPMENT INSTALLED UNDER THIS CONTRACT. SUBMIT EACH SET IN A THREE RING BINDER, WITH A TYPED TABLE OF CONTENTS AND THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE CONTRACTOR, AND THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE MANUFACTURER AND THE LOCAL DISTRIBUTOR FOR EACH PIECE OF EQUIPMENT.

SUBSTITUTIONS:

CONTRACTOR'S SUBSTITUTION OF PRODUCTS OTHER THAN THOSE LISTED MAY NOT BE PERMITTED. SUBMITTALS WITH MANUFACTURERS NOT ACCEPTABLE TO THE CONSULTANTS MAY BE REJECTED WITHOUT COMMENT.

ANY OWNER CONSULTANT COSTS MADE NECESSARY BY CONTRACTOR REVISIONS REVISIONS OR SUBSTITUTIONS SHALL BE BORNE TO THE CONTRACTOR. THIS INCLUDES ADDITIONAL FILING, EXPEDITING,PRINTING AND ENGINEERING COSTS.

SCAFFOLDING AND RIGGING:

CONTRACTOR SHALL PROVIDE ALL SCAFFOLDING, RIGGING AND SERVICES NECESSARY FOR ERECTION AND DELIVERY ONTO THE PREMISES OF ALL MATERIALS FURNISHED AND/OR INSTALLED UNDER THIS SECTION OF THE SPECIFICATIONS AND REMOVE SAME FROM PREMISES WHEN NO LONGER REQUIRED.

CLEAN UP:

CONTRACTOR SHALL MAINTAIN CONSTRUCTION SITE IN A CLEAN AND ORDERLY CONDITION AND SHALL REMOVE ALL TRASH FROM THE PREMISES ON A DAILY BASIS AND PRIOR TO ACCEPTANCE OF THE WORK AS DIRECTED BY THE OWNER.

REMOVAL OF EXISTING WORK:

REMOVAL AND RELOCATION OF CERTAIN EXISTING WORK WILL BE NECESSARY FOR THE PERFORMANCE OF GENERAL WORK. ALL EXISTING CONDITIONS CANNOT BE COMPLETELY DETAILED ON THE DRAWINGS. CONTRACTOR SURVEYING THE SITE SHALL MAKE ALL NECESSARY CHANGES REQUIRED BASED ON EXISTING CONDITIONS FOR PROPER INSTALLATION OF NEW YORK AND INCLUDE ALL THE MATERIALS AND REQUIRED WORK IN HIS BID PRICE. NO ALLOWANCE WILL BE MADE FOR FAILURE TO DO SO. COORDINATE TIMETABLE FOR ALL CONSTRUCTION OPERATIONS WITH BUILDING OWNER.

GUARANTEE:

THIS CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR PROMPTLY, AND ASSUME FULL RESPONSIBILITY OF ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND/OR EQUIPMENT IN WHICH DEFECTS OCCUR WITHIN ONE YEAR FROM DATE OF ACCEPTANCE BY OWNER.

WARRANTIES:

THIS CONTRACTOR SHALL FURNISH THE OWNER WITH MANUFACTURER WARRANTY INFORMATION FOR EACH INDIVIDUAL PIECE OF MAJOR HVAC EQUIPMENT,INCLUDING PUMPS, BOILER, BREECHING, AIR CONDITIONING UNITS, COILS, CABINET AND UNIT HEATERS, FINNED TUBE RADIATION, FAN COIL UNITS, AIR HANDLING UNITS, FANS, CONTROLS, ETC., AND ALL ASSOCIATED ACCESSORIES.

OBTAIN WARRANTIES EXECUTED IN DUPLICATE BY RESPONSIBLE SUBCONTRACTORS, SUPPLIERS, AND MANUFACTURERS, WITHIN TEN (10) DAYS AFTER COMPLETION OF APPLICABLE ITEM OF WORK. EXCEPT ITEMS PUT INTO USE WITH OWNERS PERMISSION, LEAVE DATE OF BEGINNING OF TIME OF WARRANTY UNTIL THE DATE OF SUBSTANTIAL COMPLETION IS DETERMINED.

DUCTWORK AND AIR DISTRIBUTION DEVICES:

A. EXCEPT AS OTHERWISE NOTED, ALL DUCT WORK AND SHEET METAL WORK SHALL BE IN ACCORDANCE WITH LATEST EDITION OF SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION INC. (SMACNA) "DUCT MANUAL AND SHEET METAL CONSTRUCTION FOR VENTILATING AND AIR CONDITIONING SYSTEMS, SECTION 1 - LOW VELOCITY SYSTEMS AND SECTION 2 - HIGH VELOCITY SYSTEMS", SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL AND ADC AND TIMA FLEXIBLE DUCT PERFORMANCE STANDARDS.

B. SHEET METAL MATERIALS:

1. GALVANIZED STEEL: ASTM A-527 LOCK FORMING QUALITY GALVANIZING. ASTM A-525 COATING DESIGNATION G-90.

C. MINIMUM SHEET METAL GAUGES SHALL BE AS FOLLOWS:
(AS PER SMACNA RECOMMENDED GUIDELINES)

DUCT CONSTRUCTION MINIMUM SHEET METAL THICKNESS

RECTANGULAR DUCTS

LONGEST SIDE OF DUCT (INCHES)	STEEL (MINIMUM THICKNESS, NOMINAL)	ALUMNINUM (MINIMUM THICKNESS, NOMINAL)
THROUGH 12	0.022 INCH (26 GAGE, GALV.)	0.020 INCH (NO. 24 B&S GAGE)
13 THROUGH 30	0.028 INCH (24 GAGE, GALV.)	0.025 INCH (NO. 22 B&S GAGE)
31 THROUGH 54	0.034 INCH (22 GAGE, GALV.)	0.032 INCH (NO. 20 B&S GAGE)
55 THROUGH 84	0.040 INCH (20 GAGE, GALV.)	0.040 INCH (NO. 18 B&S GAGE)
OVER 84	0.052 INCH (18 GAGE, GALV.)	0.051 INCH (NO. 16 B&S GAGE)

ROUND DUCTS

DUCT DIAMETER (INCHES)	SPIRAL SEAM DUCT	LONGITUDINAL SEAM DUCT	FITTINGS
	STEEL (MINIMUM THICKNESS, NOMINAL)	STEEL (MINIMUM THICKNESS, NOMINAL)	STEEL (MINIMUM THICKNESS, NOMINAL)
THROUGH 12	0.019 INCH (28 GAGE, GALV.)	0.022 INCH (26 GAGE, GALV.)	0.022 INCH (26 GAGE, GALV.)
13 THROUGH 18	0.022 INCH (26 GAGE, GALV.)	0.028 INCH (24 GAGE, GALV.)	0.028 INCH (24 GAGE, GALV.)
19 THROUGH 28	0.028 INCH (24 GAGE, GALV.)	0.034 INCH (22 GAGE, GALV.)	0.034 INCH (22 GAGE, GALV.)
29 THROUGH 36	0.034 INCH (22 GAGE, GALV.)	0.040 INCH (20 GAGE, GALV.)	0.040 INCH (20 GAGE, GALV.)
37 THOUGH 52	0.040 INCH (20 GAGE, GALV.)	0.052 INCH (18 GAGE, GALV.)	0.052 INCH (18 GAGE, GALV.)

D. DUCTWORK SHALL HAVE PRESSURE- VELOCITY CLASSIFICATIONS AS FOLLOW:

DUCT CONSTRUCTION CLASS	STATIC PRESSURE RATING	PRESSURE	SMACNA LEAKAGE CLASS
2"	2"	POS. OR NEG.	6
1"	1"	POS. OR NEG.	6
$\frac{1}{2}$"	$\frac{1}{2}$"	POS. OR NEG.	6

E. WHEN MAKING OFFSETS AND TRANSFORMATIONS NECESSARY TO ACCOMMODATE STRUCTURAL CONDITIONS, PRESERVE FULL CROSS SECTIONAL AREA OF DUCTWORK SHOWN ON DRAWINGS.

F. FABRICATION:

1. FABRICATE DUCTWORK FROM GALVANIZED SHEET METAL OF THE GAUGES SPECIFIED.

G. DISSIMILAR METALS: SEPARATE DISSIMILAR METALS USED FOR DUCTWORK WITH 10 OZ. CANVAS IMPREGNATED WITH ZINC CHROMATE. NE SEPARATION IS REQUIRED BETWEEN SCREWS OR RIVETS AND THE MATERIALS THEY ARE INSERTED IN.

H. SEALING REQUIREMENTS FOR CLASS A, LEAKAGE CLASS 6, GALVANIZED, NON WELDED ALUMINUM OR NON WELDED STAINLESS STEEL DUCTWORK.

1. TRANSVERSE JOINTS

a. DURING ASSEMBLY SEAL ALL FLANGED TRANSVERSE JOINTS WITH SEALING TAPE OF QUALITY EQUAL TO HARDCAST INC. 1902-FR. CORNERS SHALL BE SEALED AS DESCRIBED BY SMACNA AND WHEN APPLICABLE PER MANUFACTURERS PUBLISHED PROCEDURES.
b. SEAL ALL NON FLANGED TRANSVERSE JOINTS WITH HARDCAST INC. VERSA GRIP 102 OR APPROVED EQUAL.

2. LONGITUDINAL SEAMS

a. SEAL ALL LONGITUDINAL SEAMS DURING DUCTWORK WITH HARDCAST INC. COLD SEAL 1001 OR APPROVED EQUAL

3. JOINTS AND DUCTWALL PENETRATIONS

a. SEAL ALL DUCT JOINTS AT TAKEOFFS, ACCESS DOORS, DAMPER BEARING PENETRATIONS (VENTLOK HIVEL 641 AND 609), AND FLEXIBLE DUCT CONNECTIONS ETC., WITH HARDCAST INC. VERSAGRIP 102 OR APPROVED EQUAL.

I. CONSTRUCTION:

1. NO SHARP METAL EDGES SHALL EXTEND INTO AIR STREAMS.

2. INSTALL DRIVE SLIPS ON AIR LEAVING SIDE OF DUCT WITH SHEET METAL SCREWS ON 6" CENTERS.

3. SPIN IN COLLARS SHALL NOT BE USED.

J. JOINTS:

1. LONGITUDINAL LOCK SEAMS SHALL BE DOUBLE LOCKED AND FLATTENED TO MAKE TIGHT JOINTS.

2. MAKE TRANSVERSE JOINTS, FIELD CONNECTIONS, COLLAR ATTACHMENTS AND FLEXIBLE CONNECTIONS TO DUCT AND EQUIPMENT WITH SHEET METAL SCREWS OR BOLTS AND NUTS. DO NOT USE RIVETS AND STAPLES.

K. PREFABRICATED TRANSVERSE DUCT JOINTS:

1. TRANSVERSE JOINTS IN GALVANIZED SHEET METAL DUCT WORK MAY BE MADE WITH GALVANIZED GASKETED FRAME AND ANGLE DUCT JOINT SYSTEM BY DUCTMATE, TDF, TDC OR APPROVED EQUAL. ANGLES SHALL BE AT LEAST 20 GAUGES. PREFABRICATED TRANSVERSE DUCT JOINTS SHALL NOT BE USED FOR DUCT 16 GA. AND HEAVIER, NOR FOR 23 GA. AND LIGHTER.

L. ELBOWS AND BENDS

1. ELBOWS AND BENDS FOR RECTANGULAR DUCTS SHALL HAVE CENTERLINE RADIUS OF 1.5 TIMES THE DUCT WIDTH AND FUME HOOD EXHAUST SHALL BE FULL RADIUS WHENEVER POSSIBLE.

2. WHERE CENTERLINE RADIUS IS LESS THAN 1.5 TIMES DUCT WIDTH (ON SUPPLY, RETURN AND EXHAUST DUCTWORK), ELBOWS SHALL BE RADIUS THROAT WITH RADIUS HEEL AND FULL LENGTH SPLITTER VANES WHEN REQUIRED. WHEN CENTERLINE RADIUS (R) DIVIDED BY THE DUCT WIDTH (W) IS LESS THAN 1.5, PROVIDE THE FOLLOWING NUMBER OF SPLITTER VANES: R/W BETWEEN 1.49 AND 0.7 = 1; R/W BETWEEN 0.69 AND 0.6 = 2; R/W BETWEEN 0.59 AND 0.55 = 3. MINIMUM INSIDE RADIUS (NOT CENTERLINE) SHALL BE 2". INSTALL VANES IN ACCORDANCE WITH SMACNA.

3. FOR ROUND DUCTWORK PROVIDE STAMPED ELBOWS, WITH CENTERLINE RADII EQUAL TO 1-1/2 TIMES DUCT DIAMETER, OR GORED ELBOWS AS FOLLOWS:

ELBOW ANGLE	NUMBER OF GORES
0° - 36°	2
37° - 72°	3
73° - 90°	5

4. SQUARE THROAT ELBOWS SHALL HAVE DOUBLE THICKNESS TURNING VANES. SECURELY FASTEN VANES TO RUNNERS FOR QUIET, VIBRATION FREE OPERATION.

M. ROUND DUCTWORK:

1. SPIRAL SEAM CONSTRUCTION. GALVANIZED STEEL. GAUGES: HIGH PRESSURE DUCT MANUAL, LATEST EDITION.

2. FITTINGS: HIGH PRESSURE DUCT MANUAL. CONICAL TEES AND CROSSES, UNLESS OTHERWISE PERMITTED.

3. JOINTS:

a. INTERIOR SLIP COUPLING BEADED AT CENTER: FASTENED TO DUCT WITH SCREWS. SEALING COMPOUND APPLIED CONTINUOUSLY AROUND JOINT BEFORE ASSEMBLING AND AFTER FASTENING. WRAP JOINTS WITH 3 INCH DUCT TAPE.

N. FLEXIBLE DUCTWORK: FLEXIBLE DUCTWORK MAY BE USED ABOVE ACOUSTICAL TILE SUSPENDED CEILINGS AND SHALL BE LIMITED TO 3'-0" IN LENGTH, AS PER SECTION 603.6 OF THE NEW YORK STATE MECHANICAL CODE.

O. FIRE DAMPERS: SIMILAR TO RUSKIN SPRING LOADED CURTAIN TYPE IBD WITH BLADES OUTSIDE AIR STREAM, GALVANIZED STEEL CONSTRUCTION, EQUIPPED WITH FUSIBLE LINK, UL LISTED AND INSTALLED IN CONFORMANCE WITH UL555 AND NFPA STANDARD 90A AND APPROVED FOR USE BY ALL AUTHORITIES HAVING JURISDICTION.

P. VOLUME DAMPERS: GALVANIZED STEEL PER SMACNA " LOW VELOCITY MANUAL", EXCEPT PROVIDE BEARING AT ONE END OF DAMPER ROD AND QUADRANT, WITH LEVER AND LOCK SCREW AT OTHER END. FOR INSULATED DUCTS, PROVIDE 2" HANDLE EXTENSION TO CLEAR INSULATION, INSTALL WITH LEVERS ACCESSIBLE. BALANCING DAMPERS SHALL BE THE OPPOSED BLADE TYPE. (DAMPERS LARGER THAN 12" IN HEIGHT SHALL BE OPPOSED MULTIBLADE TYPE.)

PROVIDE VOLUME DAMPERS AT FOLLOWING LOCATIONS:
1. ALL DUCT SPLITS AND BRANCH CONNECTIONS OF SUPPLY, RETURN AND EXHAUST SYSTEMS.
2. DUCT SPLITS ABOVE 36 INCH DEPTH
3. DUCTS CONNECTING TO COMMON PLENUM
4. FIVE FEET UPSTREAM WITH INDUCTS SERVING SINGLE OUTLET
5. AT OPEN RETURN DUCT IN HUNG CEILING
6. AS NOTED ON DESIGN DRAWINGS

Q. ACCESS DOORS: INSULATED OR UN-INSULATED, SAME AS DUCT.

1. PROVIDE MINIMUM 20" x 14" IN MAIN DUCT AND 12" x 6" ON BRANCH DUCTS, UNLESS OTHERWISE NOTED, AT FIRE DAMPERS.

2. ALL ACCESS DOORS TO BE HINGED, WITH LATCH SIMILAR TO VENTLOCK #100.

3. GAUGES OF DOOR MATERIALS, NUMBER OF HINGES, NUMBER AND TYPE OF DOOR LOCKS SHALL BE AS REQUIRED BY SMACNA DUCT CONSTRUCTION STANDARDS.

R. INDOOR FLEXIBLE CONNECTIONS: NEOPRENE COATED GLASS FIRE RETARDANT FABRIC, 30 OZ. PER SQUARE YARD WITH SEWED AND CEMENTED SEAMS, SIMILAR TO VENT FABRICS.

S. EXHAUST REGISTERS: SEE MECHANICAL SCHEDULES

T. RETURN GRILLES: SEE MECHANICAL SCHEDULES

PIPING AND FITTINGS:

A. ALL PIPING AND FITTINGS SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE FOLLOWING CODES AND STANDARDS:
AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM)
AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTING INDUSTRY (MSS).

B. INSTALL PIPING SYSTEMS USING THE BEST STANDARD PRACTICES OF THE TRADE TO MAKE THE CONNECTED EQUIPMENT AND SYSTEM COMPONENTS COMPLETE AND READY FOR REGULAR OPERATION. INSTALLATION SHALL BE IN ACCORDANCE WITH ALL WRITTEN INSTALLATION PROCEDURES, PIPING ACCESSORY MANUFACTURER'S RECOMMENDATIONS, REQUIREMENTS OF BUILDING SERVICES PIPING (ANSI B31.1) AND POWER PIPING (ANSI B31.9) AS APPLICABLE, AND AS SPECIFIED.

C. PROVIDE PIPE FLEXIBILITY AND EXPANSION BY BENDS, SWING JOINTS, LOOPS, OFFSETS, MECHANICAL COUPLING DEVICES AND EXPANSION JOINTS. SUPPORT, ANCHOR AND GUIDE PIPING TO PRESERVE ALIGNMENT AND DIRECT EXPANSION. REFER TO "EXPANSION PROVISIONS" BELOW.

D. PIPE MATERIALS AND FITTING MATERIALS SHALL BE AS INDICATED IN SCHEDULE OF PIPE AND FITTING MATERIALS BELOW:

SERVICE	PIPE MATERIAL / WEIGHT	FOR TYPE OF JOINTS	FITTING MATERIALS	PRESSURE RATING PSI
HEATING HOT WATER (3" DIA & LESS)	COPPER/ TYPE L	SOLDERED COPPER	WROUGHT	125
CONDENSATE DRAIN	COPPER/ TYPE M	SOLDERED	WROUGHT	125
REFRIGERANT	COPPER/ TYPE L	SOLDERED	WROUGHT	125

F. NO PIPING SHALL BE LESS THAN $\frac{3}{4}$", UNLESS OTHERWISE NOTED.

G. PROVIDE UNION CONNECTIONS AT EACH PIECE OF EQUIPMENT AND ON EACH SIDE OF ALL VALVES AND IN-LINE EQUIPMENT.

H. PROVIDE VALVED AND CAPPED CONNECTIONS AT ALL POINTS IN PIPING SYSTEMS REQUIRED FOR DRAINING SYSTEMS.

I. CONDENSATE DRAIN LINE MUST HAVE A DIAMETER EQUAL TO OR GREATER THAN THE EXIT DIAMETER OF THE DRAIN SEAL DEVICE. LINE LENGTH MUST BE SHORTEST PATH TO CONDENSATE DISPOSAL AREA, AND MUST BE SLOPED AWAY FROM THE DRAIN SEAL AT A RATE OF NO LESS THAN $\frac{1}{8}$" PER FOOT.

J. PROVIDE DIELECTRIC FITTINGS AT CONNECTIONS OF DISSIMILAR MATERIALS TO EFFECTIVELY ISOLATE FERROUS FROM NON-FERROUS PIPING (ELECTRICAL CONDUCTANCE), PREVENT GALVANIC ACTION AND STOP REACTIONS.

K. PROVIDE ECCENTRIC REDUCING COUPLINGS TO BRING PIPES FLUSH ON TOP FOR WATER SERVICE.

L. FIT FLANGED JOINTS WITH JOHNS-MANVILLE OR APPROVED RING GASKETS. FLANGES SHALL BE FACED AND DRILLED TO ASA STANDARDS AND FITTED WITH SEMI FINISHED HEXAGON MACHINE BOLTS AND NUTS PROPER NUMBER AND SIZE.

M. MAKE SCREW JOINTS TIGHT WITH TEFLON (POLYTETRAFLUOREETHYLENE) TAPE OR LITHARGE-GLYCERIN MIXTURE APPLIED TO MALE THREADS. USED TAPERED THREADS.

N. REFRIGERANT PIPING INSTALLATION SHALL BE IN ACCORDANCE WITH THE AIR CONDITIONING MANUFACTURERS WRITTEN INSTRUCTIONS.

MINIMUM DUCTWORK INSULATION

DUCTWORK LOCATION	FLAME SPREAD RATING	SMOKE DEVELOPED INDEX RATING	INSULATION MEAN TEMP. RATING	MINIMUM INSTALLED INSULATION VALUE
CONDITIONED SPACE	25	50	75°F	R-6
UNCONDITIONED SPACE	25	50	75°F	R-8

DUCTWORK INSULATION NOTES:
1. REFER TO MECHANICAL SPECIFICATION DRAWINGS FOR ADDITIONAL INFORMATION.
2. ALL MINIMUM REQUIRED PIPE INSULATION THICKNESS VALUES COMPLY WITH THE 2025 NEW YORK STATE ENERGY CONSERVATION CODE.

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."
This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-20-2026	ISSUED FOR 90%CD REVIEW
09-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL SPECIFICATIONS

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

M-7.1

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

WATER SYSTEM SPECIALTIES- GENERAL:

A. ALL PIPING SHALL BE SO PITCHED THAT ALL AIR IN THE SYSTEM CAN BE VENTED THROUGH AUTOMATIC AIR VENTS. ALL PIPING SHALL BE ARRANGED SO THAT ENTIRE SYSTEM MAY BE DRAINED. CONNECTIONS TO EQUIPMENT SHALL BE TAKEN OFF THE TOP OF THE MAINS FOR UPFEED AND THE BOTTOM OF THE MAINS FOR DOWNFEED AT EITHER A 45 DEGREE ANGLE OR A 90 DEGREE ANGLE FROM HORIZONTAL PLANE. PIPING SHALL BE INSTALLED SO AS TO AVOID TRAPPING OF AIR. NO PIPING SHALL BE LESS THAN $\frac{3}{4}$ INCH UNLESS OTHERWISE NOTED. FOR PIPE SIZES NOT INDICATED ON PLANS, SEE MANUFACTURER'S EQUIPMENT CONNECTION DETAILS, PROVIDE FITTINGS FOR CHANGE IN PIPE SIZE FOR FINAL CONNECTION AT EQUIPMENT REQUIRED. PROVIDE UNION CONNECTIONS AT EACH PIECE OF EQUIPMENT AND ON EACH SIDE OF ALL VALVES. PROVIDE VALVED AND CAPPED CONNECTIONS AT ALL POINTS IN PIPING SYSTEMS REQUIRED FOR DRAINING SYSTEMS.

B. AVOID ENTRY OF FOREIGN MATTER INTO PIPING DURING CONSTRUCTION. AFTER COMPLETION OF PIPING, FLUSH SYSTEM WITH WATER. REMOVE AND CLEAN STRAINERS AND BLOW OFF ALL PIPING LOW POINTS AT THE END OF FLUSH PERIOD.

C. TRAP SEAL IN CONDENSATE DRAIN PIPING SHALL BE MINIMUM ONE INCH GREATER THAN STATIC PRESSURE IN SYSTEM.

D. PROVIDE AS REQUIRED: AUTOMATIC AIR VENTS, MANUAL AIR VENTS, AND RELIEF AIR VALVES.

E. COMPRESSION AND FLARED FITTINGS: CAST BRASS ANSI B16.26. PROVIDE DIELECTRIC GASKETS FOR JOINTS OF DISSIMILAR METALS: ISOLATING GASKETS, SLEEVES AND WASHERS BETWEEN FLANGES, BOLTS AND NUTS.

F. PROVIDE $\frac{1}{2}$ INCH DRAIN VALVE AND CAPPED CONNECTIONS AT LOW POINTS. PROVIDE $\frac{3}{4}$ INCH CAPPED CONNECTION FOR DRAINING CONNECTION AT THE LOWEST POINT IN THE SYSTEM AND IN EQUIPMENT ROOM.

G. FOR MANUAL AIR VENTS, PROVIDE LINE SIZE AIR CHAMBER WITH $\frac{1}{2}$ INCH VALVE. PROVIDE VALVES AT ALL HIGH POINTS AND WHERE FLOW CHANGES HORIZONTAL TO DOWNWARD.

H. INSTALL EXPANSION TANKS FOR HEATING WATER SYSTEMS.

I. INSTALL AIR SEPARATOR (AS) IN HOT WATER PIPING SYSTEMS TO ALLOW AIR TO ESCAPE.

1. PROVIDE AUTOMATIC AIR VENT EQUAL TO TACO HY-VEBT #400

EXPANSION PROVISIONS:

A. INSTALLATION OF PIPING MUST ALLOW FOR EXPANSION USING OFFSETS, LOOPS, SWING JOINTS, EXPANSION JOINTS, ETC. AS SHOWN AND NECESSARY TO PREVENT UNDUE STRAIN. TAKE-OFFS FROM MAINS TO RUNOUTS SHALL NOT HAVE LESS THAN THREE ELBOW SWINGS.

B. MAINS AND RISERS WITH LOOPS OR OFFSETS SHALL BE SECURELY ANCHORED TO STRUCTURE SO AS TO IMPART EXPANSION TOWARDS LOOP OR OFFSETS. ANCHOR SHALL BE CONSTRUCTED OF HEAVY FORGED WROUGHT IRON, SECURED TO PIPE AND TO STRUCTURE. PROVIDE VIBRATION ISOLATION AS REQUIRED.

C. PROVIDE PIPE ALIGNMENT GUIDES AS REQUIRED TO GUIDE EXPANDING PIPE TO MOVE FREELY FROM ANCHOR POINTS TOWARD EXPANSION JOINTS, OFFSET, ETC.

PIPE HANGERS:

A. PIPE HANGERS FOR 2" PIPE AND SMALLER SHALL BE "GRINNELL" FIG. NO. CT65 ADJUSTABLE WROUGHT IRON. FOR 2-1/2" TO 4" PIPE THE HANGERS SHALL BE "GRINNELL" FIG. NO. CT266 ADJUSTABLE WROUGHT IRON OR APPROVED EQUAL. HANGER RODS SHALL BE OF THE FOLLOWING DIAMETERS

PIPE SIZE	ROD DIAMETER	MAXIMUM SPACING
1-1/4" AND BELOW	$\frac{3}{8}$"	6'-0"
1-1/2" TO 2"	$\frac{3}{8}$"	8'-0"
2-1/2" TO 3"	$\frac{1}{2}$"	8'-0"

B. FOR PIPING IN MECHANICAL EQUIPMENT ROOM: SPRING HANGER ISOLATORS SIMILAR TO MASON INDUSTRIES TYPE 30N OR APPROVED EQUAL.

C. PROVIDE PIPE STANDS, SUPPORTS, HANGERS AND OTHER SUPPORTING APPLIANCES AS NECESSARY TO SUPPORT WORK REQUIRED BY CONTRACT DOCUMENTS.

D. SELECT AND SIZE PIPE HANGERS AND SUPPORTS IN COMPLIANCE WITH THE LATEST EDITION OF MSS MANUALS SP-58, SP-69 AND SP-89.

PIPING TESTS:

A. WORK OF THIS CONTRACTOR SHALL INCLUDE THE FURNISHING OF ALL TESTING INSTRUMENTS, GAUGES, PUMPS AND OTHER EQUIPMENT REQUIRED OR NECESSARY TESTS, REQUIRED BY CODE AND REGULATIONS AS REQUIRED BY THE LOCAL INSPECTOR.

B. TESTS: NO TEST SHALL BE STARTED UNTIL SYSTEMS HAVE BEEN CLEANED. PROVIDE TEMPORARY PIPING AND CONNECTIONS FOR TESTING, FLUSHING OR DRAINING SYSTEMS TO BE TESTED. IF LEAKS DEVELOP, REPAIRS SHALL BE MADE AND TESTS REPEATED. TESTS SHALL BE CONTINUED UNTIL SYSTEMS OPERATE WITHOUT ADJUSTMENTS AND REPAIR TO EQUIPMENT OR PIPING. TESTS ARE FURTHER SPECIFIED UNDER OTHER PARAGRAPHS OF THIS SECTION. TEST REQUIREMENTS SPECIFICALLY INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

C. ALL PIPING INSTALLED SHALL BE TESTED AS DESCRIBED BELOW.

D. HYDROSTATIC TEST OF PIPING:

1. HOT WATER SUPPLY AND RETURN PIPING SHALL BE TESTED AT NO LESS THAN 80-POUNDS PER SQUARE IN HYDROSTATIC PRESSURE MAINTAINED FOR AT LEAST FOUR (4) HOURS.
2. CONDUCT HYDROSTATIC LEAK TESTS IN ACCORDANCE WITH ANSI B3.3, POWER PIPING CODE.
3. TESTING MEDIUM SHALL BE WATER AT AMBIENT TEMPERATURE.
4. WHEN DESIGNATED TEST PRESSURE IS APPLIED, CONNECTIONS SHALL BE INSPECTED BY ARCHITECTS/ENGINEERS REPRESENTATIVE FOR ACCEPTANCE.
5. LEAKS DISCOVERED DURING TESTING SHALL BE REPAIRED AT NO COST TO THE OWNER; RETEST SYSTEM.
6. ISOLATE SYSTEM PIPING FROM SYSTEM COMPONENTS DURING TEST.
7. TEST PRESSURIZED PIPING SYSTEM TO 150% OF DESIGN OPERATING PRESSURE, NO MORE THAT 125 PSI AND NO LESS THAN 80 PSI.

E. REFRIGERANT PIPING SHALL BE LEAK TESTED USING NITROGEN AND REFRIGERANT CHARGE WITH ELECTRONIC LEAK DETECTOR. AFTER REPAIRING LEAKS, RETEST AS REQUIRED. AFTER LEAK TEST, DEHYDRATE BY PRODUCING AND HOLDING VACUUM OF 2.5 INCH HG. MAINTAIN VACUUM FOR 24 HOURS WITH MAX 0.05 PRESSURE RISE. IF LEAKAGE EXCEEDS 0.05 INCH REPEAT ALL OF TEST BEFORE DEHYDRATION.

VALVES:

A. PIPING SERVICE VALVES SHALL BE:

GATE VALVE: "JENKINS" FIGURE 270-U, 400 LB W.O.G., OR APPROVED EQUAL.
BALANCING VALVE: "JENKINS" FIGURE 32-A, 400 LB W.O.G., OR APPROVED EQUAL.
CHECK VALVE: "JENKINS" FIGURE 1272,250 LB W.O.G., OR APPROVED EQUAL.
STRAINER: "WALWORTH" FIGURE 3699.5, 400 LB W.O.G., OR APPROVED EQUAL.

B. VALVES (FOR COPPER PIPING):

GATE VALVE: "JENKINS" FIG. 1242 OR EQUAL.
GLOBE VALVE: "JENKINS" FIG. 95SJ OR EQUAL.
CHECK VALVE: "JENKINS" FIG. 1222 OR EQUAL.
STRAINER: "WALWORTH" FIG. 3699.5 OR EQUAL.

C. VALVES FOR FINNED TUBE RADIATION:

SELF CONTAINED THERMOSTATIC CONTROL VALVE: SIMILAR TO DANFOSS RA 2000 VALVE (CONFIGURED AS REQUIRED TO SUIT ACTUAL CONDITIONS) WITH COMBINED DIAL/OPERATOR/SENSOR.

INSULATION:

A. ALL INSULATION MATERIALS, INCLUDING JACKETS, FACING, ADHESIVE, COATINGS, AND ACCESSORIES ARE TO BE FIRE HAZARD RATED AND LISTED BY UNDERWRITERS LABORATORIES INC., USING STEINER TUNNEL TEST METHOD FOR FIRE HAZARD CLASSIFICATION OF BUILDING MATERIALS, STANDARD UL 723 (ASTM E084), (ASA A2.5-1963). FLAMESPREAD: MAXIMUM 25. FUEL CONTRIBUTED AND SMOKE DEVELOPED: MAXIMUM 50. FLAMEPROOFING TREATMENTS SUBJECT TO DETERIORATION FROM MOISTURE OR HUMIDITY ARE NOT ACCEPTABLE.

B. INSTALL INSULATION, MASTICS, ADHESIVES, COATINGS, COVERS, WEATHER-PROTECTION AND OTHER WORK EXACTLY AS REQUIRED BY MANUFACTURER'S RECOMMENDATIONS.

C. ACCEPTABLE MANUFACTURERS INCLUDE CERTAIN-TEED, KNAUF, MANVILLE PRODUCTS, AND OWENS-CORNING. ANY SUBSTITUTIONS MUST BE APPROVED BY THE ENGINNER.

D. DUCT INSULATION:

1. MATERIALS SHALL MEET THE REQUIREMENTS OF ADHESIVE AND SEALANT COUNCIL STANDARDS AND SMANCA.

a. CONDITIONED SPACE: MINIMUM 2" THICK FIBERGLASS BLANKET, WITH FACTORY APPLIED FOIL/KRAFT VAPOR BARRIER FACING, FLAME SPREAD/SMOKE DEVELOPED RATING OF 25/50. DUCT INSULATION SHALL HAVE A MINIMUM OF R-6 INSTALLED INSULATION VALUE.

b. INDOORS UNCONDITIONED SPACE : MINIMUM 2" THICK FIBERGLASS BLANKET, WITH FACTORY APPLIED FOIL/KRAFT VAPOR BARRIER FACING, FLAME SPREAD/SMOKE DEVELOPED RATING OF 25/50. DUCT INSULATION SHALL HAVE A MINIMUM OF R-8 INSTALLED INSULATION VALUE.

c. OUTDOORS UNCONDITIONED SPACE : MINIMUM 1-1/2" THICK RIGID FIBERGLASS BOARD WITH FIELD APPLIED VAPOR BARRIER FOIL JACKETING FOR WEATHER PROTECTION. TAPER INSULATION TO PITCH 1/8" PER FOOT FROM THE CENTER OF THE DUCT TO PREVENT WATER PONDING. INSTALLED DUCT INSULATION SHALL HAVE A MINIMUM OF R-8 INSULATION VALUE.

c. ASTM E-84 MINIMUM FIRE HAZARD RATINGS SHALL BE 25 FLAME SPREAD, 50 FUEL CONTRIBUTED AND 50 SMOKE DEVELOPED.

2. ALL SUPPLY AIR DUCTWORK TO BE INSULATED WITH FLEXIBLE BLANKET INSULATION AND HAVE A MINIMUM OF R-6 INSULATION VALUE.

3. ALL OUTSIDE AIR INTAKE DUCTWORK TO BE INSULATED WITH FLEXIBLE BLANKET INSULATION AND HAVE A MINIMUM OF R-8 INSULATION VALUE.

4. ALL COMBUSTION AIR INTAKE DUCTWORK TO BE INSULATED WITH RIGID FIBERGLASS BOARD INSULATION.

5. INSULATION SHALL BE CONTINUOUS THROUGH WALL AND CEILING OPENINGS AND IN SLEEVES.

6. BOILER BREECHING SHALL BE INSULATED WITH 2" THICK JOHNS-MANVILLE "THERMO-12" BLOCKS, OR APPROVED EQUAL, HYDROUS CALCIUM SILICATE INSULATION, HAVING AND AVERAGE THERMAL CONDUCTIVITY NOT TO EXCEED 0.42 BTU/INCH/ SQ. FT./ F/HR AT A MEAN TEMPERATURE OF 200 DEGREES FAHRENHEIT.

INSULATION SHALL BE INSTALLED WITH JOINTS TIGHTLY BUTTED AND STAGGERED AND SECURED WITH 16. GA. GALVANIZED, ANNEALED STEEL WIRE ON SQUARE OR RECTANGULAR SURFACES OR $\frac{1}{2}$" x .015 GALVANIZED STEEL BANDS ON 12" MAXIMUM CENTERS ON CYLINDRICAL AREAS.WHERE REQUIRED, WELDED STUDS, CLIPS OR ANGLES SHALL BE PROVIDED AS ANCHORS FOR WIRES AND BANDS.

ON BREECHING WITH PROJECTING STIFFENERS, 6" SQUARE NO. 6 GA. WELDED WIRE FABRIC SHALL BE WIRED TO STIFFENERS AND INSULATION SECURED BY WIRING AND FABRIC.

OVER THE INSULATION, 1" HEXAGONAL MESH WIRE SHALL BE TIGHTLY STRETCHED IN PLACE WITH EDGES LACED TOGETHER. FINISH SHALL BE JOHNS-MANVILLE NO. 375 INSULATING AND FINISHING CEMENT OR APPROVED EQUAL, APPLIED $\frac{1}{4}$" THICK IN ONE COAT, TROWELLED TO SMOOTH FINISH. ALL CORNERS ARE TO BE REINFORCED WITH CORNER BEAD.

E. PIPE INSULATION:

1. NO PIPING IS TO BE INSULATED UNTIL ALL TESTS DESCRIBED ABOVE HAVE BEEN SUCCESSFULLY PASSED.
2. HOT WATER AND CHILLED WATER PIPING SHALL BE INSULATED WITH FIBERGLASS, MOLDED, ONE PIECE, MAXIMUM .26 K-FACTOR AT 75 DEGREES F. MEAN TEMPERATURE, VAPOR SEALED.
3. ALL SERVICE OR ALL PURPOSE INSULATION JACKET: LAMINATE OF WHITE KRAFT FACING, GLASS SCRIM REINFORCING AND ALUMINUM FOIL.
4. DENSITY OF ALL FIBERGLASS PIPING INSULATION SHALL NOT BE LESS THAN 3 LBS/CU. FT.
5. FITTINGS AND VALVES SHALL BE INSULATED WITH JOHNS-MANVILLE ZESTON OR APPROVED EQUAL FITTING COVERS OVER A FIBERGLASS INSERT PRECUT TO A SPECIFIC SIZE, SHAPE AND THICKNESS FOR THE SPECIFIC FITTING INVOLVED. FITTING COVERS SHALL BE SUITABLE FOR PAINTING.
6. ALL INSULATION SHALL BE IN CONFORMANCE WITH LATEST U.L. AND NFPA 90A REQUIREMENTS.
7. REFRIGERANT SUCTION LINES, HOT GAS BY PASS LINES, AND OUTDOOR LIQUID LINES SHALL BE INSULATED WITH FLEXIBLE, CLOSED CELL ELASTOMERIC INSULATION IN TUBULAR FORM, SIMILAR TO ARMAFLEX. ALL OUTDOOR EXPOSED PIPING TO BE PROVIDED WITH ALUMINUM WEATHERPROOF JACKETING. ALL SEAMS MUST BE LOCATED ON THE LOWER HALF OF THE PIPE.
8. CONDENSATE DISCHARGE PIPING SHALL BE INSULATED WITH FIBERGLASS AND ASJ JACKET (NO STAPLES).
9. SCHEDULE.

MINIMUM PIPE INSULATION

PIPE SERVICE	CONDUCTIVITY RANGE (K-VALUE)	INSULATION MEAN TEMP. RATING	NOMINAL PIPE DIAMETER (INCHES) < 1	1 TO < 1.5	1.5 TO < 4	4 TO < 8	8+
			INSULATION THICKNESS REQUIRED (INCHES)				
CONDENSATE PIPING	0.21-0.27	75°F	0.5	0.5	1	1	1
COOLING ONLY REFRIGERANT PIPING	0.20-0.26	50°F	0.5	1	1	1	1.5
HEAT PUMP REFRIGERANT PIPING	0.25-0.29	125°F	1.5	1.5	2	2	2
HEATING HOT WATER SUPPLY & RETURN PIPING	0.25-0.29	125°F	1.5	1.5	2	2	2

PIPE INSULATION NOTES:
1. REFER TO MECHANICAL SPECIFICATION DRAWINGS FOR ADDITIONAL INFORMATION.
2. ALL MINIMUM REQUIRED PIPE INSULATION VALUES COMPLY WITH THE 2025 NEW YORK STATE ENERGY CONSERVATION CODE (2025-NYSECC).
3. PIPE INSULATION EXPOSED TO WEATHER AND/OR DIRECT SUNLIGHT SHALL BE PROTECTED WITH ALUMINUM JACKETING TO MINIMIZE DEGREDATION OF PIPE INSULATION OVER TIME.

CONDENSATE PUMPS:

A. AUTOMATIC CONDENSATE VERTICAL PUMPS.

B. FLOAT OPERATED CONTROL AND SECOND FLOAT SWITCH TO OPERATE A WARNING SIGNAL AND REPLAY TO STOP THE AIR CONDITIONING UNIT. (PROVIDE REQUIRED REPLY).

C. SIMILAR TO LITTLE GIANT NO. VCL-45S, UL LISTED, 115 VOLTS, 1/5 HP, 3.5 AMPS, 15 FT HEAD, 389 GALLONS PER HOUR CAPACITY.

METERS, GAUGES AND INDICATORS:

A. REFER TO EQUIPMENT MANUFACTURERS FOR ALL REQUIRE METER, GAUGES, INDICATORS, THERMOMETERS AND PRESSURE GAUGES AND THEIR EXACT LOCATION AND MOUNTING REQUIREMENTS FOR ALL EQUIPMENT INSTALLED OR MODIFIED UNDER THIS PROJECT.

B. PRESSURE GAUGES:

1. INSTALL PRESSURE GAUGES AT INLET AND OUTLET OF EACH PUMP AND HEAT EXCHANGER AND WHEREVER SHOWN ON DRAWINGS.
2. WATER SERVICE: PROVIDE BRASS SHUTOFF COCK AND PRESSURE SNUBBER.
3. PRESSURE GAUGES SHALL BE 4" DIAMETER BOURDON SPRING TYPE AS MANUFACTURED BY U.S. GAUGE, LONERGAN, TRERICE, MARCH, ASHCROFT, OR APPROVED EQUAL.
4. ALL GAUGES SHALL BE FITTED SO AS TO BE READILY READABLE FROM THE FLOOR.

C. THERMOMETERS:

1. INSTALL THERMOMETERS AT INLET AND OUTLET OF EACH WATERSIDE HEAT EXCHANGER AND WHERE SHOWN ON DRAWINGS.
2. THERMOMETERS SHALL BE OF SEPARABLE WELL, ADJUSTABLE 9" VERTICAL TYPE DIAL AS MANUFACTURED BY AMERICA, TRERICE, WEISS, OR APPROVED EQUAL.
3. ALL THERMOMETERS SHALL BE INSTALLED IN SUCH A MANNER AS TO CAUSE A MINIMUM OF RESTRICTION OF FLOW IN THE PIPES AND SO THAT THEY CAN BE EASILY READ FROM THE FLOOR.
4. INSTALL ALL PIPE MOUNTED THERMOMETERS IN THERMOWELLS FILLED WITH HEAT TRANSFER COMPOUND.
5. SELECT AND INSTALL THERMOMETERS/THERMOWELLS SO THAT TIP OF STEM IS AT LEAST MIDSPAN OF THE PIPE CROSS SECTION BUT LESS THAN THE PIPE DIAMETER.

VIBRATION ISOLATION:

A. PROVIDE VIBRATION ISOLATION FOR EQUIPMENT, PIPING AND DUCTWORK. PROVIDE SUPPLEMENTARY STEEL WHERE EQUIPMENT CANNOT SUSTAIN POINT SPRING LOADS.

B. SEISMIC RESTRAINT: THIS CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL ISOLATED EQUIPMENT AS REQUIRED IN ACCORDANCE WITH THE REGULATIONS OF THE AUTHORITIES HAVING JURISDICTION.

C. PROVIDE LEVELING DEVICE AND APPROVED RESILIENT RESTRAINING DEVICES AS REQUIRED TO LIMIT EQUIPMENT AND PIPING MOTION IN EXCESS OF $\frac{1}{4}$ INCH.

D. RUBBER PADS NOT ACCEPTED.

E. ALL FLOOR MOUNTED EQUIPMENT SHALL BE ERECTED ON FOUR INCH (MINIMUM) CONCRETE PADS PROVIDED UNDER GENERAL CONSTRUCTION OVER THE COMPLETE FLOOR AREA OF THE EQUIPMENT, COORDINATE WITH GENERAL CONTRACTOR.

F. UNLESS OTHERWISE NOTED, SPRING TYPE VIBRATION ISOLATORS SHALL BE USED FOR ALL EQUIPMENT DRIVEN BY MOTORS OF 3 HP AND LARGER.

G. UNLESS OTHERWISE NOTED, EQUIPMENT DRIVEN BY MOTORS 2 HP AND SMALLER SHALL BE ISOLATED BY MEANS OF ELASTOMETIC MOUNTS OR ELASTOMERIC HANGERS PROPERLY SIZED FOR $\frac{1}{2}$ INCH DEFLECTION.

H. EQUIP SPRING ISOLATORS WITH SOUND DEADENING PADS AND LEVELING BOLTS.

I. ISOLATORS FOR EQUIPMENT INSTALLED OUTDOORS SHALL BE DESIGNED TO PROVIDE ADEQUATE RESTRAINT DUE TO NORMAL WIND CONDITIONS AND TO WITHSTAND WIND LOADS OF 30 LBS/SQ. FT. APPLIED TO ANY EXPOSED SURFACE OF THE ISOLATED EQUIPMENT.

J. PROVIDE WEATHERPROOF CONSTRUCTION FOR ISOLATORS EXPOSED TO OUTSIDE AIR CONDITIONS.

K. AT EACH EQUIPMENT LOCATION, PROVIDE THE REQUIRED DEFLECTION UNDER THE IMPOSED LOAD AND PRODUCE UNIFORM LOADING AND DEFLECTION EVEN WHEN EQUIPMENT WEIGHT IS NOT EVENLY DISTRIBUTED.

L. VIBRATION ISOLATORS: NOTE THAT WHERE LISTED, REFERENCE IS TO MASON INDUSTRIES INC.

M. SPRING ISOLATORS: FOR CEILING MOUNTED EQUIPMENT: TYPE 30N.
FOR FLOOR MOUNTED EQUIPMENT: TYPE SLF.

N. FLEXIBLE CONNECTORS: ELASTOMER TYPE FC-1; MANUFACTURED OF NYLON TIRE CORD AND EPDM, BOTH MOLDED AND CURED WITH HYDRAULIC PRESSES. STRAIGHT CONNECTORS TO HAVE TWO SPHERES REINFORCED WITH A MOLDED IN EXTERNAL DUCTILE IRON RING BETWEEN SPHERES. ELBOWS SHALL BE LONG RADIUS REDUCING TYPE, RATED 300 PSI AT 170 DEG. F. DROPPING IN A STRAIGHT LINE TO 170 PSI AT 250 DEG. F. FOR SIZES 1-1/2 INCH TO 12 INCH ELBOWS. ELBOWS SHALL BE RATED NO LESS THAN 90 PERCENT OF STRAIGHT CONNECTIONS. SIZE 10 INCH AND 12 INCH TO EMPLOY CABLES WITH NEOPRENE END FITTINGS ISOLATED FROM ANCHOR PLATES BY MEANS OF $\frac{1}{2}$ INCH BRIDGE BEARING NEOPRENE BUSHINGS. MINIMUM SAFETY FACTOR, 4 TO 1 AT MAXIMUM PRESSURE RATINGS. SUBMITTALS TO INCLUDE TEST REPORTS. MASON TYPE MFTNC SUPERFLEX.

O. EQUIPMENT ISOLATION: PROVIDE 1 INCH CLEARANCE BETWEEN EQUIPMENT OR STRUCTURAL BASES AND HOUSEKEEPING PAD. ISOLATING MOUNTING DEFLECTION, 1 INCH MINIMUM UNLESS OTHERWISE SPECIFIED OR SCHEDULED ON DRAWINGS.

P. INSTALLATION: IN ACCORDANCE WITH SPECIFICATIONS AND MANUFACTURER'S WRITTEN INSTRUCTIONS.

IDENTIFICATION OF EQUIPMENT AND CONTROLS:

ALL EQUIPMENT SHALL BE STENCILED OR LABELED WITH LAMACOID PLATES SCREWED THEREON WHICH SHALL INDICATE SYSTEM SERVICE AND UNIT DESIGNATION. ALL PIPING SYSTEMS SHALL BE IDENTIFIED AS TO THEIR CONTENT AND DIRECTION OF FLOW WITH MARKERS SIMILAR TO SETON SETMARK PIPE MARKERS EVERY 25 FEET OF HORIZONTAL RUN AND MINIMUM ONE PER ROOM. MOTOR STARTERS SHALL BE PROVIDED WITH LAMACOID PLATES, WHICH INDICATE SYSTEM SERVED. EACH MARKER BACKGROUND IS TO BE COLOR CODED WITH A CLEARLY PRINTED LEGEND TO IDENTIFY THE CONTENTS OF THE PIPE CONFORMANCE WITH "SCHEME FOR THE IDENTIFICATION OF PIPING SYSTEMS" (ASA A13.1-1956).

VALVE TAGS AND SYSTEM CHARTS:

MINIMUM 2 INCHES DIAMETER ALUMINUM TAGS WITH IDENTIFICATION NUMBER AND SYSTEM NUMBER FOR ALL VALVES AND CONTROLS. FASTEN WITH HEAVY ALUMINUM OR BRASS HOOKS OR CHAIN. CHART OF ALL SYSTEMS TO BE SCHEMATIC FLOW DIAGRAM WITH LOCATION AND FUNCTION OF ALL TAGGED VALVES. MOUNT ON WOOD PLAQUE WITH CLEAR PLASTIC LAMINATIONS COVERING DIAGRAMS.

SLEEVES AND PENETRATIONS:

A. PIPE SLEEVES: SLEEVES THROUGH FLOORS AND THROUGH EXTERIOR, STRUCTURAL AND FIRE RATED CONSTRUCTION SHALL BE HOT DIPPED GALVANIZED SCHEDULE 40 STEEL PIPE. SLEEVES THROUGH PARTITIONS AND NON FIRE RATED CONSTRUCTION SHALL BE 26 GAUGE GALVANIZED STEEL WITH LOCK LONGITUDINAL SEAMS, OR APPROVED PLASTIC PIPE.

B. DUCT SLEEVES AND OPENINGS: SLEEVES THROUGH FLOORS, THROUGH EXTERIOR, STRUCTURAL AND FIRE RATED CONSTRUCTION AND THROUGH SMOKE PARTITIONS THAT REQUIRE SMOKE DAMPERS SHALL BE SCHEDULE 40 GALVANIZED STEEL PIPE FOR ROUND DUCT AND SHALL MEET SMACNA FIRE DAMPER AND HEAT STOP GUIDE FOR RECTANGULAR AND FLAT OVAL DUCTS. FIREPROOF PACKING SHALL BE APPLIED TO SEAL ANY OPENINGS BETWEEN SLEEVE AND WALL. MATERIALS SHALL MAINTAIN THE FIRE RATING OF THE WALL, AND SHALL BE INSTALLED IN ACCORDANCE WITH THE SMACNA FIRE DAMPER AND HEAT STOP GUIDE. OPENINGS IN WALLS, PARTITIONS AND OTHER FIRE RATED CONSTRUCTION THAT DO NOT REQUIRE SMOKE DAMPERS SHALL MEET NFPA 90A, SECTION 3-3.8.

C. PIPE SLEEVE PACKING: PACKING BETWEEN THE PIPE AND THE SLEEVE (OR WALL OR SLAB OPENING) IN FIRE RATED WALLS OR SLABS SHALL BE IN COMBINATION OF FIREPROOF INSULATION AND FIREPROOF CAULK. THE COMBINATION OF MATERIALS SHALL HAVE THE SAME FORE RATING, IN HOURS, AS THE WALL OR SLAB, AS TESTED IN ACCORDANCE WITH THE LATEST EDITION OF ASTM-814 (UL 1479). THE COMBINATION OF MATERIALS SHALL BE CLASSIFIED BY UL, (FILL, VOID OR CAVITY MATERIALS) FOR THE FIRE RATING REQUIRED AND SHALL BE LISTED AS A NUMBERED SYSTEM IN THE UL FIRE RESISTANCE DIRECTORY. FIBERGLASS SHALL NOT BE USED AS THE INSULATION MATERIAL.

D. ACCEPTABLE FIREPROOF INSULATION MATERIALS SHALL BE KAOLIN (KAOWOOL BY BABCOCK AND WILCOX); CERAMIC FIBER BLANKET (FIBERFRAX BY STANDARD OIL) OR FIRE RATED MINERAL WOOL (THERMAFIBER BY USG). ACCEPTABLE FIREPROOF CAULKS SHALL BE SILICONE (FIRESTOP BY DOW CORNING, HILTI CS240); CERAMIC FIBER (FYREPUTTY BY STANDARD OIL) OR INTUMESCENT SYNTHETIC ELASTOMER (FIRE BARRIER CAULK BY 3M, HILTI CS2420)

E. PACKING FOR SLEEVES THAT DO NOT REQUIRE MAINTENANCE OF FIRE RATING SHALL BE OAKUM, SILICATE FOAM, CERAMIC FIBRE OR MINERAL FIBRE WITH APPROVED SEALANT. PACK OR FOAM TO WITHIN 1" OF WATERPROOF MASTIC SURFACE FINISH OR SILICONE CAULKING.

GENERAL BALANCING REQUIREMENTS:

A. PROVIDE QUALIFIED PERSONNEL, EQUIPMENT AND SERVICES FOR BALANCING AND ADJUSTING OF MECHANICAL SYSTEMS. SUBMIT RESUMES AT DEMONSTRATION OF BALANCING MEETING. PERSONNEL SHALL BE EXPERIENCED AND QUALIFIED TO PERFORM, RECORD, EVALUATE ALL PROCEDURES CONTAINED HERE AND/OR AS OUTLINED ON DRAWINGS.

B. SUBMIT PROCEDURES, RECORDING FORMS, AND TEST EQUIPMENT FOR REVIEW PRIOR TO BALANCING, AS FOLLOWS:

1. BALANCING PROCEDURE OR SEQUENCE AS CONTAINED HEREIN.
2. RECORDING FORMS USED FOR BALANCING MUST BE SUBMITTED TO ARCHITECT/ENGINEER FOR APPROVAL BEFORE BALANCING IS STARTED.
3. FAILURE TO SUBMIT FORMS MAY RESULT IN REJECTION OF ENTIRE SUBMITTAL.
4. SUBMIT DESCRIPTION OF BALANCING EQUIPMENT BEING USED.

C. BALANCING SHALL NOT BEGIN UNTIL ALL SYSTEMS HAVE BEEN INSTALLED COMPLETELY AND ARE CAPABLE OF NORMAL OPERATION.

AIR SYSTEM BALANCING:

A. A TESTING AGENCY CERTIFIED BY THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB) OR THE TESTING, ADJUSTING, AND BALANCING BUREAU (TABB) SHALL BALANCE, ADJUST AND TEST MOTORS, SYSTEMS, AIR MOVING EQUIPMENT AND DISTRIBUTION, SUPPLY, RETURN AND EXHAUST SYSTEMS, PER THE REQUIREMENTS BELOW, UP TO 3 SEPARATE TIMES TO SATISFY THE REQUIREMENTS OF THE ENGINEER:

1. ADJUST BLOWER RPM TO DESIGN REQUIREMENTS AND RECORD. TEST AND RECORD MOTOR FULL LOAD AMPERES. CONTRACTOR SHALL REPLACE SHEAVES AND PULLEYS AS NECESSARY TO ACHIEVE THE SPECIFIED PERFORMANCE.
2. MAKE PITOT TUBE TRANSVERSE OF MAIN SUPPLY, RETURN AND EXHAUST AND OBTAIN DESIGN CFM AT FANS.
3. TEST AND RECORD SYSTEM STATIC PRESSURE SUCTION AND DISCHARGE.
4. TEST AND RECORD ENTERING AIR TEMPERATURES.
5. BALANCE AND ADJUST SUPPLY AIR SYSTEMS IN FINISHED AREAS OF BUILDING:
   a. BALANCE AND ADJUST AS REQUIRED TO DELIVER VOLUME OF AIR IN EACH AIR OUTLET WITHIN 10% OF DESIGN FLOW SHOWN IN DRAWINGS.
   b. READJUST AIR VOLUMES AFTER OCCUPANCY, AS REQUIRED TO PROPERLY BALANCE HEATING AND COOLING LOADS THROUGHOUT CONDITIONED AREAS.
6. BALANCE SUPPLY AIR SYSTEMS IN UNFINISHED AREAS:
   a. SUPPLY AIR SYSTEMS SHALL BE BALANCED AFTER INSTALLATION OF ITEMS RELATED TO SAME SYSTEMS WITH EXCEPTION OF DUCT TAPS TO AIR DIFFUSERS IN INTERIOR ZONES.
   b. BALANCE AS REQUIRED TO DELIVER AIR VOLUME AT OUTLETS 10% OF DESIGN FLOW SHOWN IN DRAWINGS.
   c. PROVIDE SUFFICIENT TEMPORARY OPENINGS IN INTERIOR ZONE DUCT SYSTEMS TO ADJUST INTERIOR ZONE AIR VOLUMES.
   d. READJUST AIR VOLUMES AFTER COMPLETIONS AND OCCUPANCY, AS REQUIRED TO PROPERLY BALANCE HEATING AND COOLING LOADS THROUGHOUT CONDITIONED AREAS.
7. ADJUST TOILET EXHAUST AND RELIEF AIR SYSTEMS AS REQUIRED TO DELIVER AIR VOLUMES AT INLETS WITHIN 10% OF DESIGN FLOW.
8. ADJUST MISCELLANEOUS VENTILATION SYSTEMS AS REQUIRED TO DELIVER AIR VOLUMES AT INLETS AND OUTLETS WITHIN 10% OF DESIGN FLOW.
   a. BALANCING REPORT MUST BE PROVIDED ON AABC-TYPE FORMS.
   b. COMPILE TEST DATA AND SUBMIT TO ARCHITECT/ENGINEER FOR APPROVAL.
   c. IF QUESTIONS ARISE, TESTS OR PORTIONS OF TESTS SHALL BE REPEATED IN PRESENCE OF ARCHITECT/ENGINEER.

WATER BALANCING AND ADJUSTING:

A. MAKE ADJUSTMENTS AS REQUIRED TO DELIVER WATER VOLUMES AT COILS AND EQUIPMENT WITHIN A MAXIMUM OF 5% OF DESIGN FLOW, OR AS REQUIRED TO PROPERLY BALANCE COOLING AND HEATING LOADS THROUGHOUT CONDITIONED AREAS.

B. ADJUSTMENT IN WATER VOLUMES SHALL BE MADE IN MANNER SATISFACTORY TO ARCHITECT/ENGINEER.

C. REPORTS ON SYSTEM PERFORMANCE SHALL INCLUDE:

1. MANUFACTURER, SIZE, TYPE, LOCATION INCLUDING ROOM NUMBER, AND ZONE OF EACH COIL AND PIECE OF EQUIPMENT.
2. DESIGN AN ACTUAL WATER FLOW.
3. COMPLETE NAMEPLATE DATA FOR EACH PIECE OF EQUIPMENT REPORTED.
4. COMPLETE IDENTIFICATION OF DATA.

AUTOMATIC CONTROLS:

A. THIS CONTRACTOR IS TO FURNISH AND INSTALL, AS REQUIRED, ELECTRONIC ANALOG CONTROLS, ALL NECESSARY COMPONENTS, CONTROL WIRING, INTERLOCK WIRING, CONTRACTORS, RELAYS, STARTERS, CONTROL TRANSFORMERS, ALARMS, EQUIPMENTS, ETC. TO ACHIEVE DESIRED CONTROL OPERATION FOR THE AIR CONDITIONING AND HEATING SYSTEMS. MECHANICAL CONTRACTOR IS TO RETAIN THE SERVICES QUALIFIED AUTOMATIC CONTROL CONTRACTOR.

1. AIR CONDITIONING UNIT: SHALL BE CONTROLLED BY WALL MOUNTED 2-STAGE COOLING AND HEATING THERMOSTAT AND CONTROLS. UNIT TO CYCLE ON AND OFF TO MAINTAIN DESIGNED ROOM TEMPERATURE.
2. COMMERCIAL TOILET EXHAUST FANS: TO RUN VIA WALL MOUNTED PROGRAMMABLE 7 DAY TIME CLOCK.
3. RESIDENTIAL TOILET EXHAUST FANS: TO RUN VIA WALL MOUNTED SWITCHES.

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."
This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

DATE	ISSUED

06-22-2026 ISSUED FOR 100%DD/50%CD REVIEW
07-20-2026 ISSUED FOR 90%CD REVIEW
09-17-2026
ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL SPECIFICATIONS

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

M-7.2

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

4. HEATING SYSTEM: PROVIDE ELECTRONIC BOILER CONTROL WITH DOMESTIC HOT WATER PRIORITY.

5. SPLIT SYSTEM AC UNIT: TO BE CONTROLLED BY A WALL MOUNTED PROGRAMMABLE COOLING AND HEATING THERMOSTAT. PROVIDE HOT WATER CONTROL VALVE.

6. AT EACH ROOFTOP AC UNIT, A FIRESTAT SET AT 200 DEGREES F WILL SHUT THE SYSTEM DOWN IN THE EVENT OF EXCESSIVE HIGH TEMPERATURE.

7. EACH FAN OVER 2000 CFM SHALL BE PROVIDED WITH A NEW DUCT MOUNTED SMOKE DETECTOR OF THE IONIZATION TYPE IN THE SUPPLY DUCT OUT OF AND RETURN DUCT INTO EACH UNIT, WHICH WILL STOP THE SUPPLY FAN SHOULD PRODUCTS OF COMBUSTION BE SENSED. PROVIDE AUXILIARY CONTACTS AND MANUAL RESET SMOKE DETECTOR.

DUCT MOUNTED DETECTOR SHALL BE SIMILAR TO PYROTRONICS MODEL SA-31 SERIES 3X3 AIR DUCT HOUSING WITH POWER SUPPLY FOR SELF CONTAINED UNIT OPERATION AND WITH COVER SERIES 3 IONIZATION DETECTORS.

THE CONTRACTOR TO PROVIDE DETECTOR, WIRED BY ELECTRICAL CONTRACTOR.

B. EMERGENCY BOILER CUTOFF GLASS SWITCH:

1. THE CONTRACTOR SHALL FURNISH AND INSTALL A NEW REMOTE CONTROL SWITCH, ASCO OR APPROVED EQUAL, AT THE LOCATION SHOWN ON THE PLAN. THE SWITCH SHALL BE SURFACE MOUNTED TYPE, WITH ALL ALUMINUM CONSTRUCTION AND NEMA TYPE II DRIP PROOF ENCLOSURE. (CONTROL WIRING FOR THE SWITCH SHALL BE NEW AS RECOMMENDED BY MANUFACTURER).

C. INSTALL THE ELECTRICAL COMPONENTS FOR THE AUTOMATIC CONTROLS IN ACCORDANCE WITH THE LATEST NEC AND/OR AS AMENDED AND REVISED BY LOCAL GOVERNING CODES.

D. MOUNT ALL PIP MOUNTED LIQUID AND GAS TEMPERATURE CONTROLS AND INDICATING DEVICES IN THERMOWELLS.

E. PROVIDE A PETCOCK OR SHUTOFF VALVE FOR ALL PIPE MOUNTED PRESSURE CONTROLS AND INDICATING DEVICES, OTHER THAN SAFETY CONTROLS, TO FACILITATE SERVICE REMOVAL.

F. MECHANICAL CONTRACTOR SHALL INSTALL ALL AUTOMATIC CONTROL VALVES, THERMOSTATS, THERMOSTAT SUBBASES, SAFETY CONTROLS, WELLS AND OTHER PIPE MOUNTED CONTROL DEVICES FURNISHED BY THE AUTOMATIC CONTROL SUBCONTRACTOR UNDER THE SUPERVISION OF THE AUTOMATIC CONTROL CONTRACTOR.

FIRE EXTINGUISHERS:

THE CONTRACTOR SHALL FURNISH IN EACH BOILER ROOM ONE (1) 10 LB. ABC TYPE DRY CHEMICAL FIRE EXTINGUISHER AS MANUFACTURED BY KIDDIE & CO. OR APPROVED EQUAL, AND SHALL BE MOUNTED ON WALL BRACKET WITH HIGH VISIBILITY SIGN IN THE BOILER ROOM NEAR THE DOOR AND/OR AS DIRECTED BY THE ENGINEER.

CONSTRUCTION METHODS:

A. CONTRACTOR TO FOLLOW MANUFACTURER'S RECOMMENDATIONS AND BUILDING STANDARDS FOR PROPER MOUNTING OF ALL EQUIPMENT.

B. ALL FLOOR MOUNTED EQUIPMENT TO BE MOUNTED WITH VIBRATION ISOLATORS IN AN APPROVED MANNER. PROVIDE ADDITIONAL FRAMING AS REQUIRED.

C. SUPPORT ALL CEILING MOUNTED EQUIPMENT AND DUCTWORK FROM BUILDING STRUCTURE AND/OR FRAMING IN AN APPROVED MANNER. WHERE OVERHEAD CONSTRUCTION DOES NOT PERMIT FASTENING OF SUPPORTS AND EQUIPMENT, PROVIDE ADDITIONAL STEEL FRAMING AND SUBMIT FOR APPROVAL.

D. SEAL ALL WALL, FLOOR AND SLAB PENETRATIONS AS PER THE REQUIRED RATING OF SAME: TWO (2) HOURS FOR WALLS; AND THREE (3) HOURS AT STAIR ENCLOSURES, BEAMS AND FLOORS. COORDINATE WITH ARCHITECTURAL DRAWINGS.

E. SEAL OPENING AROUND DUCTS THROUGH PARTITIONS, WALLS, FLOORS AND SLABS (NOT IN SHAFTS) WITH MINERAL WOOL OR OTHER NONCOMBUSTIBLE MATERIALS AND FINISH AS DETERMINED BY ARCHITECT OR EXISTING BUILDING STANDARDS.

F. PROVIDE ALL NECESSARY FLASHING AND COUNTER FLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THIS BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF PIPES, DUCTS, AND CONDUITS, PROVIDE SLEEVES FOR DUCT AND PIPING.

G. CONTRACTOR TO COORDINATE EXACT LOCATION OF ALL EQUIPMENT, DUCT ROUTING WITH ARCHITECT, BUILDING OWNER AND OTHER TRADES.

EQUIPMENT START UP AND TESTING:

A. UPON COMPLETION OF ALL SYSTEMS, PROVIDE THE SERVICES OF AN EXPERIENCED AND COMPETENT MANUFACTURER'S REPRESENTATIVE TO START UP ALL HVAC SYSTEMS AND EQUIPMENT TO DE BUG ANY PROBLEMS. PROVIDE TEMPORARY FILTERS TO ELIMINATE CONSTRUCTION AND DEBRIS. INSTALL PERMANENT FILTERS PRIOR TO BUILDING OCCUPANCY BY OWNER.

B. AN ACTUAL TEST OF THE SPECIFIED EQUIPMENT SHALL BE CONDUCTED BY THE MANUFACTURER'S REPRESENTATIVE. DURING THE TEST, THE MANUFACTURER SHALL DEMONSTRATE TO THE SATISFACTION OF THE OWNER THAT THE SPECIFIED EQUIPMENT IS OPERATING IN CONFORMANCE WITH THESE SPECIFICATIONS.

C. UPON COMPLETION OF THE START UP AND TESTING WORK, THE MANUFACTURER SHALL CERTIFY IN WRITING THAT THE SPECIFIED EQUIPMENT HAS BEEN INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THAT ALL SYSTEM COMPONENTS ARE OPERATING PROPERLY, SAFELY, AND AT THE SPECIFIED PERFORMANCE REQUIREMENTS.

TRAINING:

AT THE COMPLETION OF CONSTRUCTION AND PRIOR TO OCCUPANCY OF THIS FACILITY, THIS CONTRACTOR MUST PROVIDE ON SITE DEMONSTRATION AND INSTRUCTION/TRAINING TO STAFF FOR USER PROCEDURES PERTAINING TO ALL HVAC SYSTEMS, CONTROLS AND MAINTENANCE REQUIREMENTS. CONTRACTOR MUST SUBMIT ALL "OPERATION AND MAINTENANCE" MANUALS AND "AS BUILT" DRAWINGS PRIOR TO SCHEDULING THIS TRAINING.

TESTING AND INSPECTIONS

A. THE CONTRACTOR SHALL PERFORM TESTS AND INSPECTIONS TO THE COMPLETE DUCT INSTALLATION FOR ANY LEAKS, DEFECTS OR DEFICIENCIES. ALL SUCH DEFICIENCIES DISCOVERED AS A RESULT OF THE TESTS SHALL BE IMMEDIATELY REPAIRED.

B. THE CONTRACTOR SHALL MAKE ALL NECESSARY ADJUSTMENTS AND CORRECTIONS TO THE HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS FOR THE PURPOSE OF EQUALIZING THE FLOW OF AIR. ANY DAMPERS, DEFLECTORS OR DIFFUSERS NECESSARY TO BRING ABOUT THESE ADJUSTMENTS SHALL BE PROVIDED BY THE CONTRACTOR. AIR BALANCING REPORT TO BE SUBMITTED TO ENGINEER FOR APPROVAL.

C. EQUIPMENT AND SYSTEMS WHICH NORMALLY OPERATE DURING CERTAIN SEASONS OF THE YEAR SHALL BE TESTED DURING THE APPROPRIATE SEASON. TESTS SHALL BE PERFORMED ON INDIVIDUAL EQUIPMENT, SYSTEMS AND THEIR RESPECTIVE CONTROLS.

D. WHENEVER THE EQUIPMENT OR SYSTEM UNDER TEST IS INTERRELATED WITH AND DEPENDS UPON THE OPERATION OF OTHER EQUIPMENT, SYSTEMS AND CONTROLS FOR PROPER OPERATION, THE LATTER SHALL BE OPERATED SIMULTANEOUSLY WITH THE EQUIPMENT OR SYSTEM BEING TESTED.

E. AIR LEAKAGE TEST - THE COMPLETE AIR HANDLING SYSTEMS, ALL VENTILATING EXHAUST SYSTEM, INCLUDING ALL CONVENTIONAL SUPPLY AND RETURN DUCTWORK, SHALL BE TESTED. LEAKAGE SHALL NOT TO EXCEED 5% OF RATED CFM AT RATED PRESSURE. ALL THE AIR LEAKS FOUND SHALL BE CORRECTED WITHIN ACCEPTABLE MARGIN.

F. THE CONTRACTOR SHALL DEMONSTRATE THAT ALL EQUIPMENT AND APPARATUS FULFILLS THE REQUIREMENTS OF THE SPECIFICATIONS,

G. ALL WORK PROVIDES UNDER THE CONTRACT SHALL OPERATE WITHOUT ANY OBJECTIONABLE NOISE OR VIBRATION. SHOULD OPERATION OF ANY ONE OR MORE SYSTEMS PRODUCE NOISE OR VIBRATION, WHICH IS IN THE OPINION OF THE ENGINEER OBJECTIONABLE, THE CONTRACTOR SHALL AT HIS OWN EXPENSE MAKE CHANGES IN EQUIPMENT, ETC. AND DO ALL WORK NECESSARY TO ELIMINATE NOISE OR VIBRATION.

H. THE CONTRACTOR SHALL TEST ECONOMIZER TO ENSURE PROPER OPERATION.

I. THE CONTRACTOR SHALL PROVIDE ALL REPORTS INDICATED ABOVE TO BUILDING OWNER WITHIN 90 DAYS OF RECEIPT OF OCCUPANCY.

REFRIGERANT PIPE TESTING

REFRIGERATING SYSTEMS FABRICATED, ASSEMBLED, OR ERECTED ON THE PREMISES SHALL BE TESTED BY THE MECHANICAL CONTRACTOR PER THESE REQUIREMENTS. TESTS SHALL INCLUDE BOTH THE HIGH SIDES AND LOW SIDES OF EACH SYSTEM. SYSTEM COMPONENTS THAT HAVE BEEN STRENGTH TESTED UNDER PRESSURE BY THE COMPONENT MANUFACTURER, FABRICATOR, OR ASSEMBLER ARE NOT REQUIRED TO BE STRENGTH TESTED AGAIN ON THE PREMISES UNLESS MODIFIED OR REPAIRED. AFTER INSTALLATION AND BEFORE BEING PLACED IN OPERATION, SYSTEM COMPONENTS NOT PREVIOUSLY STRENGTH TESTED SHALL BE STRENGTH TESTED BY THE MECHANICAL CONTRACTOR PER THESE REQUIREMENTS. AFTER SUCCESSFUL COMPLETION OF THE REQUIRED STRENGTH TESTS AND BEFORE BEING PLACED IN OPERATION, SYSTEM COMPONENTS AND FIELD INSTALLED CONNECTIONS SHALL BE LEAK TESTED FOR TIGHTNESS BY THE MECHANICAL CONTRACTOR PER THESE REQUIREMENTS.
INFORMATIVE NOTE: SYSTEM COMPONENTS THAT ARE STRENGTH TESTED PRIOR TO FIELD ASSEMBLY INCLUDE (BUT ARE NOT LIMITED TO), COMPRESSORS, CONDENSERS, PRECHARGED LINESETS, PRESSURE VESSELS, EVAPORATORS, REFRIGERANT BULK STORAGE TANKS, SAFETY DEVICES, PRESSURE GAGES AND CONTROL MECHANISMS.

EXPOSURE OF REFRIGERANT PIPING SYSTEM. REFRIGERANT PIPING AND JOINTS INSTALLED ON THE PREMISES SHALL BE EXPOSED FOR VISUAL INSPECTION AND TESTING PRIOR TO BEING COVERED OR ENCLOSED.

TEST GASES. THE MEDIUM USED FOR PRESSURE TESTING THE REFRIGERANT SYSTEM SHALL BE ONE OF THE FOLLOWING INERT GASES: OXYGEN–FREE NITROGEN, HELIUM, ARGON, OR PREMIXED NONFLAMMABLE OXYGEN–FREE NITROGEN WITH A TRACER GAS OF HYDROGEN OR HELIUM.

FIELD TEST APPARATUS. THE MEANS USED TO PRESSURIZE THE REFRIGERANT PIPING SYSTEM SHALL HAVE EITHER A PRESSURE LIMITING DEVICE OR A PRESSURE REDUCING DEVICE AND A TEST PRESSURE MEASURING DEVICE ON THE OUTLET SIDE. THE TEST PRESSURE MEASURING DEVICE SHALL HAVE AN ACCURACY OF ±3% OR LESS OF THE TEST PRESSURE AND SHALL HAVE A RESOLUTION OF 3% OR LESS OF THE TEST PRESSURE.

PIPING SYSTEM STRENGTH TEST. REFRIGERATING SYSTEM COMPONENTS AND REFRIGERANT PIPING SHALL BE TESTED BY THE MECHANICAL CONTRACTOR PER THESE REQUIREMENTS. SEPARATE TESTS FOR ISOLATED PORTIONS OF THE SYSTEM ARE PERMITTED, PROVIDED THAT ALL REQUIRED PORTIONS ARE TESTED AT LEAST ONCE. PRESSURIZE WITH TEST GAS FOR A MINIMUM OF TEN (10) MINUTES TO NOT LESS THAN THE LOWER OF (A) THE LOWEST DESIGN PRESSURE FOR ANY SYSTEM COMPONENT OR (B) THE LOWEST VALUE OF SET PRESSURE FOR ANY PRESSURE RELIEF DEVICES IN THE SYSTEM. THE DESIGN PRESSURES FOR DETERMINATION OF TEST PRESSURE SHALL BE THE PRESSURE IDENTIFIED ON THE LABEL NAMEPLATE OF THE CONDENSING UNIT, COMPRESSOR, COMPRESSOR UNIT, PRESSURE VESSEL, OR OTHER SYSTEM COMPONENT WITH A NAMEPLATE. A PASSING TEST RESULT SHALL HAVE NO RUPTURE OR STRUCTURAL FAILURE OF ANY SYSTEM COMPONENT OR REFRIGERANT PIPING. PRESSURE RELIEF DEVICES MAY NEED TO BE TEMPORARILY REMOVED AND REPLACED WITH PLUGS DURING THE STRENGTH TEST.
INFORMATIVE NOTE: STORED ENERGY DUE TO PRESSURE IS HAZARDOUS, AND SUDDEN RELEASE OF THAT ENERGY CAN CAUSE SERIOUS DAMAGE. TAKE APPROPRIATE SAFETY MEASURES TO PROTECT LIFE, LIMB, HEALTH, AND PROPERTY IN THE EVENT OF A TEST FAILURE.

LEAKAGE TEST. THE LEAK TEST SHALL BE BY THE MECHANICAL CONTRACTOR PER THESE REQUIREMENTS.

LEAK TESTING PROTOCOL. AFTER THE TIME TO COMPLETE THE STRENGTH TEST, CONTINUE TO PRESSURE TEST FOR A MINIMUM PERIOD AS SPECIFIED IN THIS SECTION. THE SYSTEM SHALL SHOW NO LOSS IN PRESSURE ON THE PRESSURE MEASURING DEVICE DURING THE PRESSURE TEST. CALCULATION OF THE PRESSURE DIFFERENTIAL BASED ON A CHANGE IN AMBIENT TEMPERATURE SHALL BE PERMITTED. A VACUUM OF 0.0097 PSI ABSOLUTE OR LOWER SHALL BE ACHIEVED. AFTER ACHIEVING A VACUUM, THE SYSTEM SHALL BE ISOLATED FROM THE VACUUM PUMP. THE SYSTEM PRESSURE SHALL NOT RISE ABOVE 0.029 PSI ABSOLUTE FOR A MINIMUM PERIOD AS SPECIFIED IN THIS SECTION.
INFORMATIVE NOTE: THE VACUUM PUMP SHOULD GRADUALLY CREATE A VACUUM TO AVOID FREEZING OF ANY MOISTURE IN THE PIPING SYSTEM.

CONTRACTOR OR ENGINEER DECLARATION. THE INSTALLING CONTRACTOR SHALL ISSUE A CERTIFICATE OF TEST, VERIFYING STRENGTH TEST IN ACCORDANCE WITH THIS SECTION AND LEAKAGE TEST IN ACCORDANCE WITH THIS SECTION, TO THE AHJ FOR ALL SYSTEMS CONTAINING 55 LB OR MORE OF REFRIGERANT. THE CERTIFICATE SHALL GIVE THE TEST DATE, PHOTOGRAPH OF THE PRESSURE GAGE AT THE TEST PRESSURE, REFRIGERANT DESIGNATION, TEST MEDIUM, AND THE FIELD TEST PRESSURE APPLIED TO THE HIGH SIDE AND THE LOW SIDE OF THE SYSTEM. THE CERTIFICATION OF TEST SHALL BE SIGNED BY THE INSTALLING CONTRACTOR OR REGISTERED DESIGN PROFESSIONAL AND SHALL BE MADE PART OF THE PUBLIC RECORD.

DURATION OF LEAK TEST

	PIPE LENGTH, L	MAXIMUM NOMINAL PIPE SIZE	MINIMUM PERIOD OF TEST
LEAK TEST	FT	NPS, IN.	HOURS
PRESSURE TEST	L<=100	NPS<=3/4	0.25
		3/4<NPS<=3	1.0
		3<NPS	24
	100<L<=200	NPS<=3	1.0
		3<NPS	24
	200<L	ANY	24
VACUUM TEST	L<=100	NPS<=3/4	1.0
		3/4<NPS<=3	8.0
		3<NPS	24
	100<L<=200	NPS<=3	8.0
		3<NPS	24
	200<L	ANY	24

INFORMATIVE NOTE: THE MAXIMUM NOMINAL PIPE SIZE IS THE LARGEST INTERCONNECTING FIELD PIPING INSTALLED.

DATE ISSUED

06-22-2026 ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026 ISSUED FOR 90%CD REVIEW
08-17-2026 ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

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PROPOSED NEW FACILITY
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MECHANICAL SPECIFICATIONS

PROJECT No. 2601
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

M-7.3

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."
This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

SEQUENCE OF OPERATIONS
(ALL SHALL BE LOCAL, PROGAMMABLE CONTROLS)

1. GAS-FIRED MAKEUP AIR ROOFTOP UNIT W/DX COOLING (MUA-1)

   1.1) DOAS SHALL RECEIVE SIGNAL FROM HOOD CONTROL PACKAGE AND TURN UP TO 100% OUTSIDE AIR DURING HOOD OPERATION.

2. KITCHEN EXHAUST FAN (KEF-1):

   2.1) REFER TO CAPTIVEAIRE DETAILS ON M-5 SERIES FOR SEQUENCE OF OPERATIONS FOR EXHAUST FANS CONNECTED TO KITCHEN HOOD.

   2.2) THE KITCHEN EXHAUST FAN SHALL BE INTERLOCKED WITH THE RANGE HOOD. THE FAN SPEED SHALL BE CONTROLLED BY THE POTENTIOMETER SPEED CONTROLLER AND SET BY THE AIR BALANCER TO MATCH THE KITCHEN RANGE HOOD AIRFLOW.

   2.3) THE KITCHEN HOOD SHALL BE PROVIDED WITH DEMAND CONTROLLED VENTILATION CONTROLS. REFER TO M-5.0 SERIES FOR ADDITIONAL INFORMATION.

3. VRF HEAT PUMP/HEAT RECOVERY SYSTEMS (VRF SYSTEMS)

   3.1) GENERAL:
   THE SPLIT SYSTEMS CONSIST OF AN OUTDOOR UNIT CONNECTED TO A NUMBER OF INDOOR UNITS THROUGH CONTROL WIRING AND REFRIGERANT PIPING.

   1) SPLIT SYSTEMS SHALL OPERATE 24 HOURS A DAY, SEVEN DAYS PER WEEK IN TIMED SCHEDULE (OR AS DIRECTED BY SCHOOL SCHEDULE).
   2) THERMOSTAT SHALL HAVE LOCAL SETPOINT AND ACTUAL SPACE TEMPERATURE READOUTS AND SHALL HAVE A SETPOINT OF 70°F ADJ.
   3) THE RESPECTIVE CONDENSATE PUMP FOR EACH AIR CONDITIONING UNIT SHALL BE ENERGIZED AT ALL TIMES REGARDLESS OF THE AIR CONDITIONING UNITS OPERATION.
   4) LEAK DETECTION SHALL BE PROVIDED IN THE AUXILIARY DRAIN PAN FOR EACH UNIT. WHEN THE LOCAL LEAK DETECTOR SENSES MOISTURE IN THE AUXILIARY DRAIN PAN,
   5) ON/OFF CONTROL: THE INDOOR UNITS CAN BE COMMANDED ON/OFF EITHER BY A SCHEDULE IN THE CENTRAL CONTROLLER OR AT THE REMOTE CONTROLLER. IF THE INDOOR UNIT IS OFF, THE OUTDOOR UNIT SHALL TURN OFF, WITH THE NIGHT SETBACK FUNCTION/MODE, THE SYSTEM SHALL CYCLE ON DURING UNOCCUPIED PERIODS AS NEEDED TO MAINTAIN UNOCCUPIED TEMPERATURE SET POINT.
   6) SPACE TEMPERATURE CONTROL: THE INDOOR UNIT SHALL MODULATE ITS INTERNAL LINEAR EXPANSION VALVE (LEV) TO MAINTAIN THE TEMPERATURE SET POINT VIA THE INDOOR UNIT'S INTERNAL CONTROLS.
   7) THE SET POINT IS ADJUSTABLE AT THE REMOTE CONTROLLER OR CENTRAL CONTROLLER. THE TEMPERATURE SET POINT CAN ALSO BE SCHEDULED AT THE REMOTE CONTROLLER OR THE CENTRAL CONTROLLER
   8) FAN/VANE CONTROL: FAN SPEED AND VANE DIRECTION (IF APPLICABLE) SHALL BE ADJUSTABLE BY THE USER AT THE REMOTE CONTROLLER AND/OR THE CENTRAL CONTROLLER.

5. ENERGY RECOVERY UNITS (ERVS):

   5.1) SYSTEM OPERATION SHALL BE INTERLOCKED WITH OPERATION OF VRF SYSTEM. ERV SHALL ENGAGE WHENEVER ASSOCIATED VRFCU IS OPERATIONAL.

IT RM/ELECTRIC RM SPLIT UNITS

GENERAL:

TEMPERATURE CONTROL:

INDOOR UNIT SEQUENCE OF OPERATIONS:

A. ON/OFF CONTROL: THE INDOOR UNITS CAN BE COMMANDED ON/OFF EITHER BY A SCHEDULE IN THE CENTRAL CONTROLLER OR AT THE REMOTE CONTROLLER. IF ALL INDOOR UNITS ARE OFF, THE OUTDOOR UNIT SHALL TURN OFF. WITH THE NIGHT SETBACK FUNCTION/MODE, THE SYSTEM SHALL CYCLE ON DURING UNOCCUPIED PERIODS AS NEEDED TO MAINTAIN UNOCCUPIED TEMPERATURE SET POINT.

B. HEATING MODE: THE INDOOR UNIT SHALL MODULATE ITS LINEAR EXPANSION VALVE (LEV) TO MAINTAIN TEMPERATURE SET POINT OF 72°F (ADJ.).

C. COOLING MODE: THE INDOOR UNIT SHALL MODULATE ITS LINEAR EXPANSION VALVE (LEV) TO MAINTAIN TEMPERATURE SET POINT OF 75°F (ADJ.).

D. SPACE TEMPERATURE CONTROL: THE INDOOR UNIT SHALL MODULATE ITS INTERNAL LINEAR EXPANSION VALVE (LEV) TO MAINTAIN THE TEMPERATURE SET POINT VIA THE INDOOR UNIT'S INTERNAL CONTROLS.

E. THE SET POINT IS ADJUSTABLE AT THE REMOTE CONTROLLER OR CENTRAL CONTROLLER. THE TEMPERATURE SET POINT CAN ALSO BE SCHEDULED AT THE REMOTE CONTROLLER OR THE CENTRAL CONTROLLER

F. FAN/VANE CONTROL: FAN SPEED AND VANE DIRECTION (IF APPLICABLE) SHALL BE ADJUSTABLE BY THE USER AT THE REMOTE CONTROLLER AND/OR THE CENTRAL CONTROLLER.

CABINET UNIT HEATERS:

TERMINAL HEATERS SHALL BE CONTROLLED BY A THERMOSTAT. UNIT HEATERS SHALL BE OPERATED TO MAINTAIN A SPACE TEMPERATURE SETPOINT OF 70 DEG. F (ADJ.). ON A CALL FOR HEAT, THE HEATER SHALL ENGAGE AND FAN SHALL CYCLE INTERMITTENTLY. PROVIDE PROGRAMMABLE THERMOSTAT IF AVAILABLE OPTION FOR UNIT HEATER CABINET SIZE.

ENVIRONMENTAL EXHAUST FANS:

THE TOILET EXHUAST FANS (TXF-1 & TXF-2) SHALL OPERATE CONTINUOUSLY ON A PROGRAMMABLE TIME CLOCK BASIS. DEFAULT OPERATION SHALL BE FAN OPERATION DURING NORMAL WORKING HOURS 7:00 AM (ADJ.) TO 8:00 PM (ADJ.). FAN SHALL RAMP UP TO AIRFLOW (CFM) NOTED ON PLANS AND IN MECHANICAL SCHEDULES.

UNIT HEATERS:

TERMINAL HEATERS SHALL BE CONTROLLED BY A THERMOSTAT. UNIT HEATERS SHALL BE OPERATED TO MAINTAIN A SPACE TEMPERATURE SETPOINT OF 60 DEG. F (ADJ.). ON A CALL FOR HEAT, THE HEATER SHALL ENGAGE AND FAN SHALL CYCLE INTERMITTENTLY. PROVIDE PROGRAMMABLE THERMOSTAT IF AVAILABLE OPTION FOR UNIT HEATER CABINET SIZE.

INLINE-MOUNTED EXHAUST FAN, STANDBY EXHAUST (EF-STANDBY):

THE IN-LINE EXHAUST FAN (EF-1) SHALL OPERATE CONTINUOUSLY ON A PROGRAMMABLE TIME CLOCK BASIS. DEFAULT OPERATION SHALL BE FAN OPERATION DURING NORMAL WORKING HOURS 7:00 AM (ADJ.) TO 8:00 PM (ADJ.). FAN SHALL RAMP UP TO AIRFLOW (CFM) NOTED ON PLANS AND IN MECHANICAL SCHEDULES.

ROOF-MOUNTED EXHAUST FAN, EMERGENCY EXHAUST (EF-EMEGENCY):

THE ROOF MOUNTED EXHAUST FAN (EF-1) SHALL OPERATE WITH GAS DETECTION SYSTEM. REFER TO THE GAS DETECTION SYSTEM FOR ADDITIONAL INFORMATION.

SINGLE ZONE VARIABLE AIR VOLUME SINGLE ZONE AIR HANDLER NOTES:

AIR HANDLING UNITS WILL BE MANUALLY INDEXED TO START OR STOP EITHER VIA THE LOCAL USER INTERFACE LOCATED AT THE AIR HANDLING SYSTEM'S CONTROL PANEL OR VIA THE LOCAL THERMOSTATS AND SENSORS LOCATED WITHIN THE SPACE BEING SERVED. THERMOSTATS SHALL BE PROVIDED WITH BACNET CONNECTION FOR FUTURE TIE-IN TO A BMS PANEL. THE LOCAL THERMOSTATS SHALL HAVE A DEAD BAND OF AT LEAST 5°F

UPON INITIAL POWER UP OF THE CONTROL PANEL AN ADJUSTABLE RE-START DELAY TIMER (1-5 MINUTES ADJUSTABLE), THE LOCAL CONTROLLER, WILL DELAY THE START OF THE SYSTEM UNTIL ITS TIME PERIOD HAS EXPIRED. THE TIME DELAY PROVIDES FOR A STAGGERED START OF EACH AIR HANDLING SYSTEM, SO THAT UPON A POWER FAILURE AND RESTORATION OF POWER, ALL AIR HANDLING SYSTEMS DO NOT RE-START AT THE SAME TIME.

OPERATION OF THE AIR HANDLER'S CONTROL SYSTEM WILL BE INTERLOCKED TO SUPPLY FAN OPERATION. WHEN INDEXED TO START AND AFTER THE EXPIRATION OF THE SYSTEM'S START DELAY TIMER THE AIR HANDLER'S LOCAL CONTROLLER WILL START THE SUPPLY FAN VIA ITS VARIABLE FREQUENCY DRIVE. THE SUPPLY FAN VARIABLE FREQUENCY DRIVE WILL ALLOW FOR SOFT START OF THE FAN AND FAN SPEED ADJUSTMENT FOR BALANCING OF THE SYSTEM.

UPON PROOF OF SUPPLY FAN OPERATION, AS SENSED BY A CURRENT SWITCH LOCATED AT THE SUPPLY FAN VARIABLE FREQUENCY DRIVE, THE CONTROL SYSTEM WILL BE ENABLED. IF SUPPLY FAN OPERATION IS NOT PROVEN AFTER A TIME DELAY OF 60 SECONDS (ADJUSTABLE) OR ONCE RUNNING LOSS OF SUPPLY FAN OPERATION OCCURS FOR ANY REASON THE CONTROL SYSTEM WILL BE DISABLED. ADDITIONALLY LOSS OF SUPPLY FAN OPERATION WILL CAUSE THE HEATING AND COOLING CONTROL VALVES RETURNED TO THEIR NORMAL CONDITION,

THE LOCAL CONTROLLER WILL MONITOR THE STATIC PRESSURE DROP ACROSS THE AIR FILTERS THROUGH A DIFFERENTIAL PRESSURE SWITCH AND SEND ALARM TO THE BMS FOR A DIRTY FILTER CONDITION.

ASSOCIATED MOTORIZED DAMPER INSTALLED ON THE INCOMING OUTSIDE AIR DUCT CONNECTION TO BE OPERATED VIA TIMECLOCK AND INTERLOCKED WITH AIR HANDLER WHENEVER AIR HANDLER IS RUNNING AND IN OCCUPIED MODE.

HEATING MODE (OCCUPIED TEMPERATURE SETPOINT – 70°F):

a. OCCUPIED MODE: SUPPLY AIR FAN SHALL RUN CONTINUOUSLY. THE OUTSIDE AIR AND EXHAUST AIR DAMPERS SHALL MOVE TO THE MINIMUM OUTDOOR AIR POSITION AND THE RETURN AIR DAMPER SHALL OPEN. ON A DROP IN TEMPERATURE, THE SUPPLY AIRFLOW WILL INCREASE AND BEGIN TO STAGE THE GAS HEATING OUTPUT TO MAINTAIN THE SUPPLY AIR THERMOSTAT SETPOINT.

b. UNOCCUPIED MODE: IN THE UNOCCUPIED MODE THE FAN AND GAS-FIRED FURNACE SHALL MODULATE TO MAINTAIN THE SUPPLY NIGHT SETBACK TEMPERATURE OF 55°F (ADJUSTABLE). THE OUTSIDE AIR INTAKE AND EXHAUST DISCHARGE DAMPERS SHALL REMAIN CLOSED AND THE RETURN AIR DAMPERS SHALL REMAIN OPEN.

COOLING MODE (OCCUPIED TEMPERATURE SETPOINT – 72°F):

a. OCCUPIED CYCLE: SUPPLY AIR FAN WILL RUN CONTINUOUSLY. IF THE ECONOMIZER CYCLE DOES NOT MAINTAIN THE COOLING SET-POINT, A COOLING CYCLE WILL RUN UNTIL THE SET-POINT IS MET. MODULATE TO MAINTAIN THE SUPPLY AIR THERMOSTAT COOLING TEMPERATURE SET-POINT OF 72°F (ADJUSTABLE).

DEMAND CONTROLLED VENTILATION FOR ROOFTOP UNITS

OPTIMIZED CONTROL OF VENTILATION (VENTILATION OPTIMIZATION)THE ACTUAL OUTDOOR AIRFLOW SHALL BE SENSED AT THE OUTDOOR AIR INTAKE OF THE RTU, AND CONTROLLED TO AN AIRFLOW SETPOINT DETERMINED ACCORDING TO ASHRAE STANDARD 62.1. WHEN THE CONCIERGE TIME-OF-DAY SCHEDULE INDICATES THAT A ZONE IS UNOCCUPIED, THE REQUIRED OUTDOOR AIRFLOW FOR THAT ZONE SHALL BE ZERO. WHEN THE SCHEDULE INDICATES THAT A ZONE IS OCCUPIED, THE REQUIRED OUTDOOR AIRFLOW FOR THAT ZONE SHALL EQUAL THE DESIGN OUTDOOR AIRFLOW, UNLESS THE ZONE IS EQUIPPED WITH OCCUPANCY SENSOR AND/OR A CARBON DIOXIDE (CO_2/2) SENSOR, OR USES A TIME-OF-DAY VENTILATION SCHEDULE, TO REDUCE THE REQUIRED OUTDOOR AIRFLOW DURING PERIODS OF PARTIAL OCCUPANCY. THE REQUIRED OUTDOOR-AIR FRACTION (CURRENT REQUIRED OUTDOOR AIRFLOW DIVIDED BY THE CURRENT PRIMARY AIRFLOW) SHALL BE CONTINUOUSLY CALCULATED FOR EACH ZONE (VAV TERMINAL UNIT). AT A FREQUENCY OF ONCE EVERY 10 MINUTES, THE CONCIERGE SHALL GATHER THIS DATA FROM ALL VAV TERMINAL UNITS, CALCULATE THE MINIMUM REQUIRED OUTDOOR AIRFLOW FOR THE SYSTEM ACCORDING TO ASHRAE 62.1, AND SEND THIS NEWLY-CALCULATED OUTDOOR AIRFLOW SETPOINT TO THE RTU CONTROLLER.

SEQUENCE OF OPERATIONS

ROOFTOP UNITS

OCCUPIED MODE:

DURING OCCUPIED PERIODS, THE SUPPLY FAN SHALL RUN CONTINUOUSLY AND THE OUTSIDE AIR DAMPER SHALL OPEN TO MAINTAIN MINIMUM VENTILATION REQUIREMENTS. THE UNIT CONTROLLER SHALL CONTROL THE SUPPLY FAN SPEED TO MAINTAIN THE CURRENT DUCT STATIC PRESSURE SETPOINT (ADJ.).THE DX COOLING SHALL STAGE AND GAS HEAT SHALL MODULATE TO MAINTAIN THE CURRENT DISCHARGE AIR TEMPERATURE SETPOINT. IF ECONOMIZING IS ENABLED THE OUTSIDE AIR DAMPER SHALL MODULATE TO MAINTAIN THE CURRENT DISCHARGE AIR TEMPERATURE SETPOINT.

UNOCCUPIED MODE:

WHEN THE SPACE TEMPERATURE IS BELOW THE UNOCCUPIED HEATING SETPOINT OF 60.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL START, THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED AND THE GAS HEAT SHALL BE ENABLED. WHEN THE SPACE TEMPERATURE RISES ABOVE THE UNOCCUPIED HEATING SETPOINT OF 60.0 DEG. F (ADJ.) PLUS THE UNOCCUPIED DIFFERENTIAL OF 4.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL STOP AND THE GAS HEAT SHALL BE DISABLED.

WHEN THE SPACE TEMPERATURE IS ABOVE THE UNOCCUPIED COOLING SETPOINT OF 85.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL START, THE OUTSIDE AIR DAMPER SHALL OPEN IF ECONOMIZING IS ENABLED AND REMAIN CLOSED IF ECONOMIZING IS DISABLED AND THE DX COOLING SHALL BE ENABLED. WHEN THE SPACE TEMPERATURE FALLS BELOW THE UNOCCUPIED COOLING SETPOINT OF 85.0 DEG. F (ADJ.) MINUS THE UNOCCUPIED DIFFERENTIAL OF 4.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL STOP, THE DX COOLING SHALL BE DISABLED AND THE OUTSIDE AIR DAMPER SHALL CLOSE.

OPTIMAL START:

THE CONCIERGE SHALL MONITOR THE SCHEDULED OCCUPIED TIME, OCCUPIED SPACE SETPOINTS AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL START OCCURS.

MORNING WARM-UP MODE:

DURING OPTIMAL START, IF THE AVERAGE SPACE TEMPERATURE IS BELOW THE OCCUPIED HEATING SETPOINT A MORNING WARM-UP MODE SHALL BE ACTIVATED. WHEN MORNING WARM-UP IS INITIATED, THE UNIT SHALL ENABLE THE HEATING AND SUPPLY FAN. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED. WHEN THE AVERAGE SPACE TEMPERATURE REACHES THE OCCUPIED HEATING SETPOINT (ADJ.), THE UNIT SHALL TRANSITION TO THE OCCUPIED MODE.

PRE-COOL MODE:

DURING OPTIMAL START, IF THE AVERAGE SPACE TEMPERATURE IS ABOVE THE OCCUPIED COOLING SETPOINT, PRE-COOL MODE SHALL BE ACTIVATED. WHEN PRE-COOL IS INITIATED, THE UNIT SHALL ENABLE THE FAN AND COOLING OR ECONOMIZER. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED, UNLESS ECONOMIZING. WHEN THE AVERAGE SPACE TEMPERATURE REACHES OCCUPIED COOLING SETPOINT (ADJ.), THE UNIT SHALL TRANSITION TO THE OCCUPIED MODE.

OPTIMAL STOP:

THE CONCIERGE SHALL MONITOR THE SCHEDULED UNOCCUPIED TIME, OCCUPIED SETPOINTS AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL STOP OCCURS. WHEN THE OPTIMAL STOP MODE IS ACTIVE THE UNIT CONTROLLER SHALL MAINTAIN THE SPACE TEMPERATURE TO THE SPACE TEMPERATURE OFFSET SETPOINT.

OCCUPIED BYPASS:

THE CONCIERGE SHALL MONITOR THE STATUS OF THE 'ON' AND 'CANCEL' BUTTONS OF THE SPACE TEMPERATURE SENSORS. WHEN AN OCCUPIED BYPASS REQUEST IS RECEIVED FROM A SPACE SENSOR, THE UNIT SHALL TRANSITION FROM ITS CURRENT OCCUPANCY MODE TO OCCUPIED BYPASS MODE AND THE UNIT SHALL MAINTAIN THE SPACE TEMPERATURE TO THE OCCUPIED SETPOINTS (ADJ.).

COOLING MODE:

THE UNIT CONTROLLER SHALL USE THE SPACE TEMPERATURE SENSOR AND SPACE TEMPERATURE COOLING SETPOINT TO CALCULATE THE DISCHARGE AIR COOLING SETPOINT AND DETERMINE WHEN TO INITIATE REQUESTS FOR COOLING. DISCHARGE AIR SETPOINT SHALL BE MAINTAINED BY MODULATING THE ECONOMIZER OR STAGING THE DX COOLING AS REQUIRED TO MAINTAIN THE DISCHARGE AIR SETPOINT. ONCE ALL ECONOMIZING REQUIREMENTS HAVE BEEN MET, COMPRESSOR OPERATION WILL BE ENABLED IF THE ECONOMIZER ALONE CANNOT MEET THE DEMAND. ONCE COMPRESSOR OPERATION IS STARTED, THE VARIABLE SPEED COMPRESSOR WILL BE MODULATED TO MAINTAIN THE DISCHARGE AIR TEMPERATURE TO THE ACTIVE DISCHARGE AIR COOLING SETPOINT. IF THE VARIABLE SPEED COMPRESSOR REACHES ITS MAXIMUM SPEED FOR STAGE ONE, AND THERE IS ADDITIONAL DEMAND FOR COOLING, THE CONTROLLER WILL ENERGIZE THE FIRST FIXED SPEED COMPRESSOR ON CIRCUIT TWO. ONCE THE FIRST FIXED SPEED COMPRESSOR IS ENERGIZED, THE VARIABLE COMPRESSOR SPEED WILL BE REDUCED TO ITS MINIMUM SPEED, THEN RELEASED BACK TO DISCHARGE AIR TEMPERATURE CONTROL. ADDITIONAL STAGES WILL RESPOND IN THE SAME MANNER. ONCE THE ACTIVE COOLING DEMAND HAS BEEN SATISFIED, COMPRESSORS WILL BEGIN STAGING DOWN IN REVERSE ORDER FROM THE STAGE UP SEQUENCE. ONCE THE UNIT HAS STAGED DOWN ALL FIXED COMPRESSORS, AND THERE IS NO LONGER A DEMAND FOR THE VARIABLE SPEED COMPRESSOR, THE COMPRESSOR WILL MODULATE DOWN TO ITS MINIMUM SPEED AND THEN WILL BE DE-ENERGIZED, WHILE ADHERING TO ALL SHUTDOWN REQUIREMENTS.

ECONOMIZER:

THE SUPPLY AIR SENSOR SHALL MEASURE THE DRY BULB TEMPERATURE OF THE AIR LEAVING THE EVAPORATOR COIL WHILE ECONOMIZING. WHEN ECONOMIZING IS ENABLED AND THE UNIT IS OPERATING IN THE COOLING MODE, THE ECONOMIZER DAMPER SHALL BE MODULATED BETWEEN ITS MINIMUM POSITION AND 100% TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT. THE ECONOMIZER DAMPER SHALL MODULATE TOWARD MINIMUM POSITION IN THE EVENT THE DISCHARGE AIR TEMPERATURE FALLS BELOW THE DISCHARGE LOW LIMIT TEMPERATURE SETPOINT. COMPRESSORS SHALL BE DELAYED FROM OPERATING UNTIL THE ECONOMIZER HAS OPENED TO 100%.

COMPARATIVE ENTHALPY:

OUTSIDE AIR (OA) ENTHALPY SHALL BE COMPARED WITH RETURN AIR (RA) ENTHALPY POINT. THE ECONOMIZER SHALL ENABLE WHEN OA ENTHALPY IS LESS THAN RA ENTHALPY – 3.0 BTU/LB. THE ECONOMIZER SHALL DISABLE WHEN OA ENTHALPY IS GREATER THAN RA ENTHALPY.

SUPPLY FAN:

THE SUPPLY FAN SHALL BE ENABLED WHILE IN THE OCCUPIED MODE AND CYCLED ON DURING THE UNOCCUPIED MODE. A DIFFERENTIAL PRESSURE SWITCH SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FAN. IF THE SWITCH DOES NOT OPEN WITHIN 40 SECONDS AFTER A REQUEST FOR FAN OPERATION A FAN FAILURE ALARM SHALL BE ANNUNCIATED AT THE CONCIERGE, THE UNIT SHALL STOP, REQUIRING A MANUAL RESET.

SUPPLY DUCT STATIC PRESSURE CONTROL:

THE UNIT CONTROLLER SHALL MODULATE THE SUPPLY FAN OUTPUT AS REQUIRED TO MAINTAIN THE DUCT STATIC PRESSURE SETPOINT. IF THE DUCT STATIC PRESSURE FALLS BELOW THE SUPPLY AIR STATIC SETPOINT + DEADBAND, THE UNIT CONTROLLER SHALL INCREASE THE OUTPUT TO THE SUPPLY FAN TO MAINTAIN SETPOINT. IF THE DUCT STATIC PRESSURE RISES ABOVE THE SUPPLY AIR STATIC SETPOINT + DEADBAND, THE UNIT CONTROLLER SHALL DECREASE THE OUTPUT TO THE SUPPLY FAN TO MAINTAIN SETPOINT.

IF FOR ANY REASON THE SUPPLY AIR PRESSURE EXCEEDS THE FIXED SUPPLY AIR PRESSURE LIMIT OF 3.5 INCHES OF W.C. THE SUPPLY FAN SHALL SHUT DOWN. THE UNIT SHALL BE ALLOWED TO RESTART THREE TIMES. IF THE OVERPRESSURIZATION CONDITION OCCURS ON THE FOURTH RESTART, THE UNIT SHALL SHUT DOWN AND A MANUAL RESET DIAGNOSTIC IS DISPLAYED AT THE REMOTE PANEL AND/OR THE CONCIERGE SYSTEM.

BUILDING PRESSURE CONTROL:

THE POWER EXHAUST SHALL ENABLE WHEN THE ECONOMIZER DAMPER POSITION IS EQUAL TO OR GREATER THAN THE EXHAUST FAN SETPOINT.

FILTER STATUS:

A DIFFERENTIAL PRESSURE SWITCH SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER WHEN THE FAN IS RUNNING. IF THE SWITCH CLOSES FOR 2 MINUTES AFTER A REQUEST FOR FAN OPERATION A DIRTY FILTER ALARM SHALL BE ANNUNCIATED AT THE CONCIERGE.

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SEAL

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL
SEQUENCE OF OPERATIONS

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

M-8.1

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

ZRUM096BTE6 (92.54 kBtu/h) (99.59 kBtu/h)
Additional Refrigerant : 17.18 lbs (Precharged Refrigerant : 20.94 lbs)
Standard Combi. : ZRUM096BTE6

3/8:5/8:3/4
100.0 ft(0)

-15.0ft PRHR034C
3 1 #HRU-AHU-1-1

3/8:7/8
10.0 ft(0)
(ARBLN03321)

-15.0ft PRLK048A0 #EEV-AHU-1-1
(82.00 / -- kBtu/h) (82.00 kBtu/h)

2nd/EEV-AHU-1-1
-- (0 %) / -- (0 %) kBtu/h-- (0 %) kBtu/h

End Cap

ZRUM096BTE6 (92.54 kBtu/h) (99.59 kBtu/h)
Additional Refrigerant : 17.18 lbs (Precharged Refrigerant : 20.94 lbs)
Standard Combi. : ZRUM096BTE6

3/8:5/8:3/4
100.0 ft(0)

-15.0ft PRHR034C
3 1 #HRU-AHU-1-2

3/8:7/8
10.0 ft(0)
(ARBLN03321)

-15.0ft PRLK048A0 #EEV-AHU-1-2
(82.00 / -- kBtu/h) (82.00 kBtu/h)

2nd/EEV-AHU-1-2
-- (0 %) / -- (0 %) kBtu/h-- (0 %) kBtu/h

End Cap

DIAGRAM SYMBOL LEGEND	
DISPLAY	DESCRIPTION
///	POWER WIRE
	CONTROL WIRE
= =	REF. PIPE

CONT.No PAGE

PIPING AND CONTROLS		
SYMBOL	BRANCH PIPE MODEL NAME	
J1	CMY-R304S-G1	
SYMBOL	LIQUID PIPE/GAS PIPE SIZE	
P1	1/4	/ 1/2
P2	3/8	/ 5/8
P3	3/4	/ 1-1/8
P4	5/8	/ 3/4
SYMBOL	MODEL NUMBER	
CR	PAC-YIS3CRAU-J	

- Factory installed controllers are not drawn.

1~ 208-230V/60Hz FUSE CU-READY
16-2 AWG(S)
PUZ-AK18NL [CU-READY]
N/A
E
P1
TB4 G
N/A
TB5
PLA-AE18NL
Gp1
CR

AE-C400A
L1 L2 L3
1 ø 100-240V

3~ 208-230V/60Hz FUSE VRFCU-2-1
PURY-HM120TXU-A [VRFCU-2-1]
L1L2L3 TB7
052
TB3 G
Function setting 935 should be ON
(S)
P3
J1
VRFBC-2-1
CMB-M1012NU-MA-SV
16-2 AWG(S)
2core
TB2 TB3 TB1
072
G
1 2 3 4 5 6 7

~ 208-230V FUSE P2
~ 208-230V FUSE P1
L1L2 TB5 TB15 021 Gp2 PEFY-M20NMAU-A 16-2 AWG(S) CR
L1L2 TB5 TB15 022 Gp3 PEFY-M63NMAU-A CR
L1L2 TB5 TB15 023 Gp4 PEFY-CM63NEMU-A CR
L1L2 TB5 TB15 024 Gp5 PEFY-M20NMAU-A CR
L1L2 TB5 TB15 025 Gp6 PEFY-M20NMAU-A CR
L1L2 TB5 TB15 026 Gp7 PEFY-M20NMAU-A CR
L1L2 TB5 TB15 027 Gp8 PEFY-M20NMAU-A CR
TM1 TM4 TB5 030 Gp13 LGH-F300RVX2-E
TM1 TM4 TB5 031 Gp14 Wire to Group 2 LGH-F600RVX2-E

3~ 208-230V/60Hz FUSE VRFCU-1-1
PURY-EM72TXU-A [VRFCU-1-1]
L1L2L3 TB7
099
TB3 G
Function setting 935 should be ON
(S)
P4
J1
CMB-M106NU-MA-SV
16-2 AWG(S)
2core
TB2 TB3 TB1
078
G
1 2 3 4

~ 208-230V FUSE P1
~ 208-230V FUSE P2
L1L2 TB5 TB15 011 Gp9 PEFY-M63NMAU-A 16-2 AWG(S) CR
L1L2 TB5 TB15 012 Gp10 PEFY-M20NMAU-A CR
L1L2 TB5 TB15 013 Gp11 PEFY-M20NMAU-A CR
L1L2 TB5 TB15 014 Gp12 PEFY-M20NMAU-A CR

This drawing is schematic in nature. Final routing of piping & wiring shall be determined by the installing contractor and/or designer of record

Additional refrigerant charge is needed depending on the size and length of extended piping. Please refer the amount of pre-charge and the formula of calculation which is mentioned on the data book.

1.25mm²(16 AWG) : 1.25mm²(16 AWG) or more. 0.75mm²(20 AWG) : between 0.5mm²(24 AWG) and 0.75mm²(20 AWG).

AC-READY | VRF-2-1 | VRF-2-2 | VRF-2-3 | VRF-2-4 | VRF-2-5 | VRF-2-6 | VRF-2-6 | VRF-1-1 | VRF-1-2 | VRF-1-3 | VRF-1-4

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL
REFRIGERANT PIPING DIAGRAMS

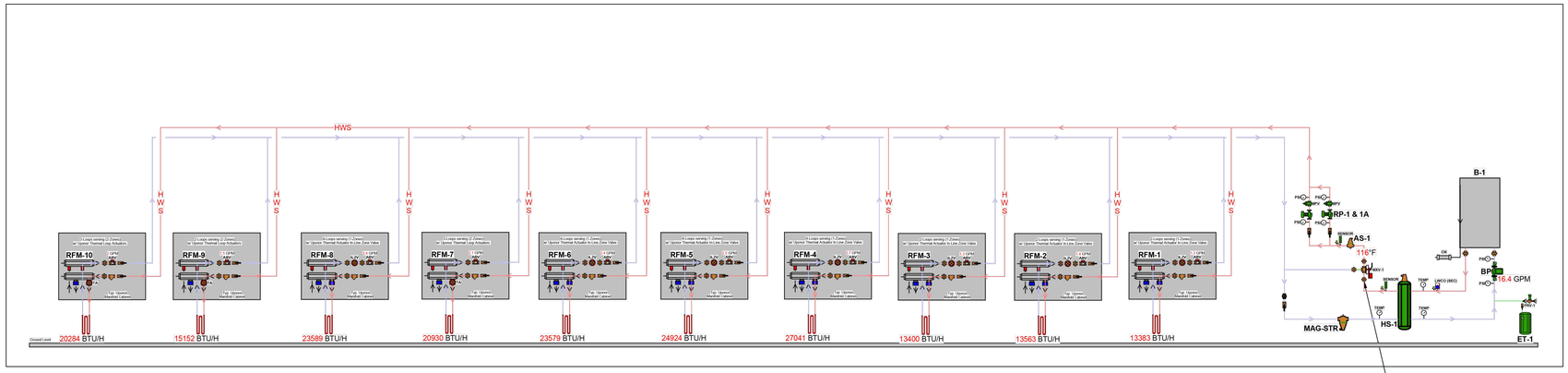
PROJECT No. 2501 EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

M-8.2

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS



RADIANT HEATING FLOW DIAGRAM

SCALE: NOT TO SCALE

BOILER FOR SNOW MELT SYSTEM (B-1):

SYSTEM ENABLE:

THE HEATING SYSTEM WILL AUTOMATICALLY START WHEN THE OUTSIDE AIR TEMPERATURE (OA-T) FALLS BELOW THE SYSTEM ENABLE SETPOINT (HTGOATLOCKOUT-SP) WHILE THE SYSTEM ENABLE (SYSTEM-EN) IS "ON". WHEN THE OUTSIDE AIR TEMPERATURE (OA-T) RISES ABOVE THIS SETPOINT (HTGOATLOCKOUT-SP) OR THE SYSTEM ENABLE (SYSTEM-EN) IS "OFF", THE HEATING SYSTEM WILL BE DISABLED.

BOILER CONTROL:

THIS SYSTEM CONSISTS OF THREE BOILERS (BLRX-EN). THE BURNERS SHALL BE CONTROLLED VIA THEIR OWN INTERNAL CONTROLS.

HOT WATER PUMP CONTROL:

WHEN ENABLED, PUMPS (BP-1, RP-1) WILL BE STARTED SO THAT MINIMUM FLOW IS MAINTAINED TO THE BOILERS THAT ARE RUNNING. AFTER THE BOILER IS COMMANDED OFF, THE PUMP (BP-1) WILL CONTINUE TO RUN FOR A SHORT TIME TO DISSIPATE THE HEAT. WHEN AN ADDITIONAL PUMP IS REQUIRED, THE PUMP (RP-1, RP-2) WITH THE LOWEST RUNTIME TOTAL SHALL BE ENABLED TO RUN. IF THE PUMP STATUS (RP-1,RP-2) DOES NOT MATCH THE COMMAND (RP-1,RP-2), AN ALARM WILL BE GENERATED AND THE PUMP WILL BE STOPPED. UPON LOSS OF STATUS (RP-1,RP-2), THE PUMP (RP-1,RP-2) WILL RESTART AFTER THE SYSTEM RESET (SYS-RESET) IS MANUALLY ACTIVATED.

PRIMARY LOOP PRESSURE CONTROL:

WHEN A PUMP STATUS (BP-1) IS VERIFIED, THE PUMP WILL MODULATED (BP-1) TO MAINTAIN THE SYSTEM DIFFERENTIAL PRESSURE (HW-DP) OF THE SYSTEM. IF THE PRIMARY FLOW (PHW-F) BELOW THE MINIMUM FLOW SETPOINT THE SYSTEM BYPASS VALVE (BYPV-O) WILL MODULATE OPEN TO PROVIDE MORE FLOW THRU THE BOILER.

BOILER FOR RADIANT HEATING SCHEDULE

BASIS OF DESIGN: NTI OR APPROVED EQUAL

GENERAL INFORMATION					CAPACITY (PERFORMANCE DATA)					HYDRONIC INFORMATION				ELECTRICAL				NATURAL GAS (HEATING)			DIMENSIONS AND WEIGHTS				
TAG	LOCATION	SERVICE	MANU.	MODEL	INPUT (MBH)	OUTPUT (MBH)	AHRI EFF (%)	INTERNAL HEAT EXCHANGERS	TURN-DOWN RATIO	EWT (°F)	LWT (°F)	MAX. WORKING PRESSURE (PSIG)	PRES. RELIEF VALVE SETTING (PSIG)	VOLT/PH/HZ	FLA	MCA	MOCP	MINIMUM INLET PRESSURE (PSIG)	MAXIMUM INLET PRESSURE (PSIG)	GAS CONNECTION (IN)	AIR INTAKE (IN)	VENT (IN)	DIMENSIONS (WxHxD) (IN)	OPERATING WEIGHT (LBS)	REMARKS
B-1	MEZZANINE	RADIANT HEATING	NTI	TFTN-285	285	270	95.0	1 (SS FIRETUBE)	10:1	140	120	160	50	120/1/60	12A	15A	20A	3.5" W.C.	10.5" W.C.	3/4" MPT	3" DIA.	3" DIA.	22"x34"x19"	180.0	(1)
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	

(1) INSTALLING CONTRACTOR SHALL PROVIDE A CONDENSATE NEUTRALIZER PER BOILER

HYDRAULIC SEPARATOR SCHEDULE

BASIS OF DESIGN: TACO OR APPROVED EQUAL

GENERAL INFORMATION							PHYSICAL DIMENSIONS AND WEIGHT					
ID	LOCATION	SERVICE	MANUFACTURER	MODEL NUMBER	WORKING FLUID	MAX WORKING PRESSURE (PSIG)	WIDTH (IN)	LENGTH (IN)	OPTIMUM TANK FLOW RATE (GPM)	CONN SIZE (IN)	DRY WEIGHT (LBS)	REMARKS
HS-1	MEZZANINE	BOILER FOR RADIANT	TACO	5902A-41	WATER	125 PSIG	16.5"	35"	63	2" HWS&R	130	(1)
–	–	–	–	–	–	–	–	–	–	–	–	

(1) HYDRAULIC SEPARATOR SHALL BE OF ASME CONSTRUCTION

PUMP SCHEDULE

BASIS OF DESIGN: TACO OR APPROVED EQUAL

ID	MODEL NO.	SERVICE	FLUID	PUMP PERFORMANCE DATA						APPROX. DIMENSION WxH	ELECTRICAL			APPROX. WEIGHT (LBS)	REMARKS
				GPM	HEAD FT. W.G.	RPM	MOTOR TYPE	IMPELLER	BHP	NAMEPLATE HP		V/PH/Hz	MCA	MFS		
BP-1	0034eP-F2	BOILER LOOP	WATER	50.0	30	–	ECM	PPS	170W	0.60 HP	7.1x8.1	115/1/60	1.9A	20A	35	(1)(2)(3)(4)(5)(6)(7)(8)
RP-1	VR-15L	RADIANT HEAT SYSTEM	WATER	86.0	25	–	ECM	PES GF-30	0.4	0.50 HP	14.2x9.8	110/1/60	2.9A	20A	35	(1)(2)(3)(4)(5)(6)(7)(8)
RP-1A	VR-15L	RADIANT HEAT SYSTEM	WATER	86.0	25	–	ECM	PES GF-30	0.4	0.50 HP	14.2x9.8	110/1/60	2.9A	20A	35	(1)(2)(3)(4)(5)(6)(7)(8)
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	

(1) CONTRACTOR SHALL PROVIDE PRESSURE GAUGES, ISOLATION VALVES AND FLOW CHECK DEVICES FOR ALL PUMPS PER TYP. PUMP DETAILS
(2) CONTRACTOR SHALL PROVIDE SUITABLE SYSTEM MATERIAL FLANGES FOR PUMPS (3) PUMPS SHALL INCLUDE A 0-10 VDC EXTERNAL MODULATED SIGNAL INPUT FOR SPEED REFERENCE AND OPERATION
(4) POTABLE WATER PUMPS SHALL BE CONSTRUCTED OF MATERIALS COMPLIANT WITH NSF-61G FOR LOW LEAD
(5) CONTRACTOR SHALL PROVIDE ANSI CLASS 125 FLANGES FOR PUMPS AND REFER TO MANUFACTURERS INSTRUCTIONS FOR APPLICABLE BOLT SIZES
(6) CONTRACTOR SHALL PROVIDE STANDARD ETHERNET CROSS-OVER CABLE BETWEEN PUMPS FOR DUTY/STANDBY MODE OF OPERATION
(7) PUMPS SHALL BE CONSTRUCTED OF MATERIALS COMPLIANT WITH NSF-61G FOR LOW LEAD IN POTABLE WATER APPLICATIONS
(8) PUMPS SHALL INCLUDE A 0-10 VDC ANALOG INPUT FOR OPERATIONAL SPEED CONTROL THROUGH EXTERNAL DEVICES

EXPANSION TANK SCHEDULE

BASIS OF DESIGN: FLEXCON OR APPROVED EQUAL

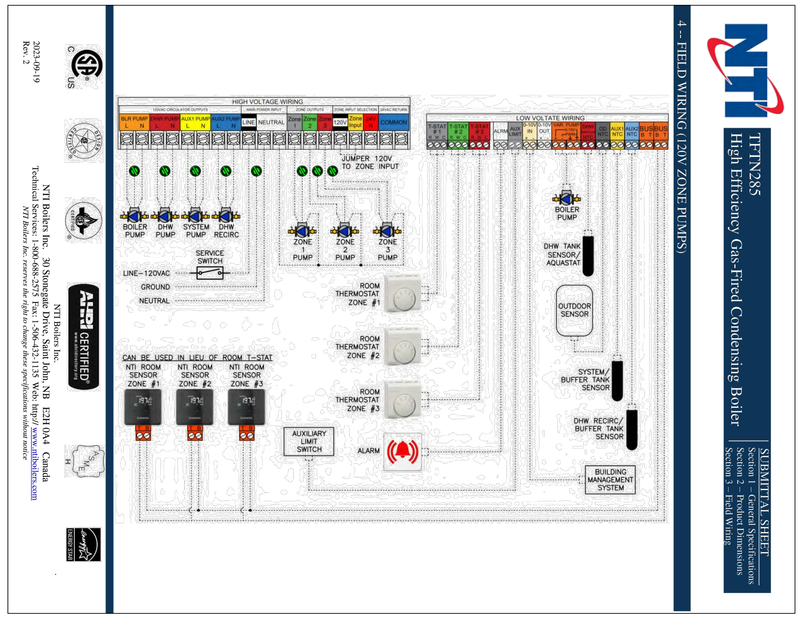
ID	LOCATION	MODEL NO.	SERVICE	TANK VOLUME	ACCEPTANCE GAL.	INITIAL CHARGE PSIG	WORKING PRESS. (PSIG)	APPROX. WEIGHT (LBS)	REMARKS
ET-1	MEZZANINE	HTX-60	B-1	6.0	3.0	12.0	125.0	12.0	(1)
–	–	–	–	–	–	–	–	–	

(1) EXPANSION TANK FACTORY AIR PRE-CHARGE MUST BE ADJUSTED TO SITE-SPECIFIC CONDITIONS IN THE FIELD BY THE INSTALLING CONTRACTOR PRIOR TO FILLING WITH FLUID

MAGNETIC DIRT SEPARATOR SCHEDULE

BASIS OF DESIGN: TACO OR APPROVED EQUAL

ID	LOCATION	MODEL NO.	SERVICE	SIZE DIAM.	CONNECTION TYPE	Cv	VELOCITY FT/SEC	APPROX. WEIGHT (LBS)	REMARKS
MAG-STR	MEZZANINE	49MD-200T-2	B-1	2"	NPT	71.0	5.0	20.0	NONE
–		–	–	–	–	–	–	–	



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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL
RADIANT HEATING
FLOW DIAGRAMS

PROJECT No. 2501 EMTEC.7611

CHECKED BY: MF/APS

DRAWING: M-9.1

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

Jaymus Burke
Wales Darby
2910 Express Drive South
5B Powder Horn Drive
Islandia/Warren, NY/NJ 11749 / 07059
Phone: 631-585-6800
Email:commercial@walesdarby.com

Water Supply Summary

Project #:(REV) PROPOSAL
July 16, 2026

Project Information

Project #: (REV) PROPOSAL
Name: REVISED - 7611 - Ellenville Fire District RFH Proposal
Location: 203 S Main Street Route 209 Ellenville, NY

Notes: Emtec Engineering

* RADIANT DESIGN IS BASED ON THE INFORMATION PROVIDED. CAPACITIES DEPICTED ARE BASED ON THE HEATING LOADS PROVIDED. RADIANT OUTPUTS AVAILABLE ARE BASED ON THE RADIANT INSTALLATION METHOD, FINISHED FLOOR COVERINGS & EXAMPLE FLOOR CONSTRUCTION DETAIL PROVIDED. NO FORMAL HEAT LOSS HAS BEEN PERFORMED BY WALES DARBY INC. *

** LOOP LENGTHS & PIPE SPACING ARE BASED ON THE APPLICATION AND REMOTE MANIFOLD LOCATION(S) DEPICTED. LOOP & LEADER LENGTHS ARE SUBJECT TO CHANGE BASED ON ACTUAL MANIFOLD SITE LOCATION(S). MANIFOLD LOCATIONS ARE TO COORDINATED AND APPROVED BY THE PROJECT ENGINEER, ARCHITECT AND ALL TRADES INVOLVED IN CONSTRUCTION, PRIOR TO PURCHASE OF MATERIALS. **

Supply Summary

Name	Temp	Total Fluid Vol	Total Flow	Head Loss[1]	Load[2]	# Circuits
Water Temperature	116	88.34	19.63	4.2	195,844	30

(1) Head loss includes manifolds, circuits, and supply/return piping if specified, may also contain control valve losses. (2) Load includes all panel back losses.

Length = ft Area = ft² Temperature = °F Flowrate = USGPM Heat Loss = Btu/hr Unit Heat Loss = Btu/(hr·ft²) Head Loss = ft water Volume = USG
Created Using LoopCAD 2026 Uponor(US) (7/22/2026) Version:26.0.0094 C

See end of report for important Notes and Disclaimers.

Manifold Summary

Manifold Name	Circuits	Flowrate	Required Temp.	Supplied Temp.	Manifold Type	S/R Length[1]	S/R Pipe	Manifold Head Loss	Circuit Head Loss	S/R Head Loss	Total Head Loss[2]
RFM-1	2	1.34	115	116	Stainless-steel, 1" with flow meter, B&I, ball valve	0	Copper-M, 3/4"	0.6	1.7	0.0	2.4
RFM-2	2	1.36	116	116	Stainless-steel, 1" with flow meter, B&I, ball valve	0	Copper-M, 3/4"	0.6	1.8	0.0	2.4
RFM-3	2	1.34	115	116	Stainless-steel, 1" with flow meter, B&I, ball valve	0	Copper-M, 3/4"	0.6	1.7	0.0	2.3
RFM-4	4	2.71	115	116	Stainless-steel, 1" with flow meter, B&I, ball valve	0	Copper-M, 3/4"	0.7	2.4	0.0	3.1
RFM-5	4	2.50	116	116	Stainless-steel, 1" with flow meter, B&I, ball valve	0	Copper-M, 3/4"	0.6	1.5	0.0	2.1
RFM-6	4	2.36	115	116	Stainless-steel, 1" with flow meter, B&I, ball valve	0	Copper-M, 3/4"	0.5	1.2	0.0	1.7
RFM-7	3	2.10	116	116	Stainless-steel, 1" with flow meter, B&I, ball valve	0	Copper-M, 3/4"	0.7	2.1	0.0	2.7
RFM-8	4	2.36	115	116	Stainless-steel, 1" with flow meter, B&I, ball valve	0	Copper-M, 3/4"	0.5	1.2	0.0	1.7
RFM-9	2	1.52	115	116	Stainless-steel, 1" with flow meter, B&I, ball valve	0	Copper-M, 3/4"	0.8	3.4	0.0	4.2
RFM-10	3	2.03	115	116	Stainless-steel, 1" with flow meter, B&I, ball valve	0	Copper-M, 3/4"	0.6	2.0	0.0	2.7
Total	30	19.63	-	-	-	-	-	0.8	3.4	4.2	4.2

(1) S/R Length = one way, (2) Total Head loss includes manifold, circuits and supply/return piping if specified.

Length = ft Area = ft² Temperature = °F Flowrate = USGPM Heat Loss = Btu/hr Unit Heat Loss = Btu/(hr·ft²) Head Loss = ft water Volume = USG
Created Using LoopCAD 2026 Uponor(US) (7/22/2026) Version:26.0.0094 C

See end of report for important Notes and Disclaimers.

Water Temperature (116 °F)

RFM-1 (116 °F, Stainless-steel, 1" with flow meter, B&I, ball valve, 2 Circuits)

Circuit	Rooms Served	Total Length	Tube Spacing	Area Covered	Tubing	Flowrate	Head Loss[1]	Temp Drop[3]	Load[2]	Actuator
M1.1	Apparatus Bay Area 1	225	12	214	hePEX 5/8"	0.67	1.7	20	6,691	No
M1.2	Apparatus Bay Area 1	225	12	214	hePEX 5/8"	0.67	1.7	20	6,691	No
Total	-	449		428	-	1.34	1.7	-	13,383	0

(1) Head loss for circuit tubing only. (2) Design Temp Drop (Estimated Actual Drop). (3) Required load. Includes panel back losses. Does not reflect maximum capacity of the circuit.

RFM-2 (116 °F, Stainless-steel, 1" with flow meter, B&I, ball valve, 2 Circuits)

Circuit	Rooms Served	Total Length	Tube Spacing	Area Covered	Tubing	Flowrate	Head Loss[1]	Temp Drop[3]	Load[2]	Actuator
M2.1	Apparatus Bay Area 2	221	12	214	hePEX 5/8"	0.68	1.8	20	6,782	No
M2.2	Apparatus Bay Area 2	220	12	214	hePEX 5/8"	0.68	1.8	20	6,782	No
Total	-	441		427	-	1.36	1.8	-	13,563	0

(1) Head loss for circuit tubing only. (2) Design Temp Drop (Estimated Actual Drop). (3) Required load. Includes panel back losses. Does not reflect maximum capacity of the circuit.

RFM-3 (116 °F, Stainless-steel, 1" with flow meter, B&I, ball valve, 2 Circuits)

Circuit	Rooms Served	Total Length	Tube Spacing	Area Covered	Tubing	Flowrate	Head Loss[1]	Temp Drop[3]	Load[2]	Actuator
M3.1	Apparatus Bay Area 3	221	12	214	hePEX 5/8"	0.67	1.7	20	6,700	No
M3.2	Apparatus Bay Area 3	221	12	214	hePEX 5/8"	0.67	1.7	20	6,700	No
Total	-	442		429	-	1.34	1.7	-	13,400	0

(1) Head loss for circuit tubing only. (2) Design Temp Drop (Estimated Actual Drop). (3) Required load. Includes panel back losses. Does not reflect maximum capacity of the circuit.

RFM-4 (116 °F, Stainless-steel, 1" with flow meter, B&I, ball valve, 4 Circuits)

Circuit	Rooms Served	Total Length	Tube Spacing	Area Covered	Tubing	Flowrate	Head Loss[1]	Temp Drop[3]	Load[2]	Actuator
M4.1	Apparatus Bay Area 7	251	12	245	hePEX 5/8"	0.76	2.4	20	7,629	No
M4.2	Apparatus Bay Area 7	251	12	245	hePEX 5/8"	0.76	2.4	20	7,629	No
M4.3	Apparatus Bay Area 4	193	12	187	hePEX 5/8"	0.59	1.2	20	5,891	No
M4.4	Apparatus Bay Area 4	193	12	187	hePEX 5/8"	0.59	1.2	20	5,891	No
Total	-	889		864	-	2.71	2.4	-	27,041	0

(1) Head loss for circuit tubing only. (2) Design Temp Drop (Estimated Actual Drop). (3) Required load. Includes panel back losses. Does not reflect maximum capacity of the circuit.

Length = ft Area = ft² Temperature = °F Flowrate = USGPM Heat Loss = Btu/hr Unit Heat Loss = Btu/(hr·ft²) Head Loss = ft water Volume = USG
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See end of report for important Notes and Disclaimers.

RFM-5 (116 °F, Stainless-steel, 1" with flow meter, B&I, ball valve, 4 Circuits)

Circuit	Rooms Served	Total Length	Tube Spacing	Area Covered	Tubing	Flowrate	Head Loss[1]	Temp Drop[3]	Load[2]	Actuator
M5.1	Apparatus Bay Area 8	210	12	203	hePEX 5/8"	0.65	1.5	20	6,488	No
M5.2	Apparatus Bay Area 8	210	12	203	hePEX 5/8"	0.65	1.5	20	6,488	No
M5.3	Apparatus Bay Area 5	193	12	186	hePEX 5/8"	0.60	1.2	20	5,974	No
M5.4	Apparatus Bay Area 5	193	12	186	hePEX 5/8"	0.60	1.2	20	5,974	No
Total	-	804		779	-	2.50	1.5	-	24,924	0

(1) Head loss for circuit tubing only. (2) Design Temp Drop (Estimated Actual Drop). (3) Required load. Includes panel back losses. Does not reflect maximum capacity of the circuit.

RFM-6 (116 °F, Stainless-steel, 1" with flow meter, B&I, ball valve, 4 Circuits)

Circuit	Rooms Served	Total Length	Tube Spacing	Area Covered	Tubing	Flowrate	Head Loss[1]	Temp Drop[3]	Load[2]	Actuator
M6.1	Apparatus Bay Area 9	193	12	187	hePEX 5/8"	0.59	1.2	20	5,891	No
M6.2	Apparatus Bay Area 9	193	12	187	hePEX 5/8"	0.59	1.2	20	5,891	No
M6.3	Apparatus Bay Area 6	193	12	187	hePEX 5/8"	0.59	1.2	20	5,898	No
M6.4	Apparatus Bay Area 6	193	12	187	hePEX 5/8"	0.59	1.2	20	5,898	No
Total	-	773		749	-	2.36	1.2	-	23,579	0

(1) Head loss for circuit tubing only. (2) Design Temp Drop (Estimated Actual Drop). (3) Required load. Includes panel back losses. Does not reflect maximum capacity of the circuit.

RFM-7 (116 °F, Stainless-steel, 1" with flow meter, B&I, ball valve, 3 Circuits)

Circuit	Rooms Served	Total Length	Tube Spacing	Area Covered	Tubing	Flowrate	Head Loss[1]	Temp Drop[3]	Load[2]	Actuator
M7.1	Apparatus Bay Area 10	236	12	230	hePEX 5/8"	0.72	2.1	20	7,173	Yes
M7.2	Apparatus Bay Area 12	236	12	230	hePEX 5/8"	0.72	2.1	20	7,168	Yes
M7.3	Gear Area 1	253	12	205	hePEX 5/8"	0.66	1.9	20	6,589	Yes
Total	-	726		666	-	2.10	2.1	-	20,930	3

(1) Head loss for circuit tubing only. (2) Design Temp Drop (Estimated Actual Drop). (3) Required load. Includes panel back losses. Does not reflect maximum capacity of the circuit.

Length = ft Area = ft² Temperature = °F Flowrate = USGPM Heat Loss = Btu/hr Unit Heat Loss = Btu/(hr·ft²) Head Loss = ft water Volume = USG
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RFM-8 (116 °F, Stainless-steel, 1" with flow meter, B&I, ball valve, 4 Circuits)

Circuit	Rooms Served	Total Length	Tube Spacing	Area Covered	Tubing	Flowrate	Head Loss[1]	Temp Drop[3]	Load[2]	Actuator
M8.1	Apparatus Bay Area 11	194	12	187	hePEX 5/8"	0.59	1.2	20	5,899	No
M8.2	Apparatus Bay Area 11	194	12	187	hePEX 5/8"	0.59	1.2	20	5,899	No
M8.3	Apparatus Bay Area 13	193	12	187	hePEX 5/8"	0.59	1.2	20	5,895	No
M8.4	Apparatus Bay Area 13	193	12	187	hePEX 5/8"	0.59	1.2	20	5,895	No
Total	-	774		749	-	2.36	1.2	-	23,589	0

(1) Head loss for circuit tubing only. (2) Design Temp Drop (Estimated Actual Drop). (3) Required load. Includes panel back losses. Does not reflect maximum capacity of the circuit.

RFM-9 (116 °F, Stainless-steel, 1" with flow meter, B&I, ball valve, 2 Circuits)

Circuit	Rooms Served	Total Length	Tube Spacing	Area Covered	Tubing	Flowrate	Head Loss[1]	Temp Drop[3]	Load[2]	Actuator
M9.1	Apparatus Bay Area 14	283	12	277	hePEX 5/8"	0.86	3.4	20	8,563	Yes
M9.2	Gear Area 2	222	12	208	hePEX 5/8"	0.66	1.7	20	6,589	Yes
Total	-	505		485	-	1.52	3.4	-	15,152	2

(1) Head loss for circuit tubing only. (2) Design Temp Drop (Estimated Actual Drop). (3) Required load. Includes panel back losses. Does not reflect maximum capacity of the circuit.

RFM-10 (116 °F, Stainless-steel, 1" with flow meter, B&I, ball valve, 3 Circuits)

Circuit	Rooms Served	Total Length	Tube Spacing	Area Covered	Tubing	Flowrate	Head Loss[1]	Temp Drop[3]	Load[2]	Actuator
M10.1	Apparatus Bay Area 15	233	12	226	hePEX 5/8"	0.71	2.0	20	7,054	Yes
M10.2	Apparatus Bay Area 15	233	12	226	hePEX 5/8"	0.71	2.0	20	7,054	Yes
M10.3	Radio Room Area	299	9	193	hePEX 5/8"	0.62	2.0	20	6,176	Yes
Total	-	764		645	-	2.03	2.0	-	20,284	3

(1) Head loss for circuit tubing only. (2) Design Temp Drop (Estimated Actual Drop). (3) Required load. Includes panel back losses. Does not reflect maximum capacity of the circuit.

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See end of report for important Notes and Disclaimers.

Disclaimers

The calculated values shown in this report are based on the data input by the user of the software. Inaccurate or erroneous data input will result in inaccurate or erroneous results. You are strongly advised to review all input data carefully, and to have the calculated results reviewed by an experienced heating professional to ensure reasonableness and suitability for your application.

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

MECHANICAL
RADIANT HEATING
DETAILS

PROJECT No. 2501 EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

M-9.2

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."
This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

KEY TO SYMBOLS

PIPING

- EXISTING CW PIPING TO REMAIN
- EXISTING CW PIPING TO BE REMOVED
- EXISTING HW PIPING TO REMAIN
- EXISTING HW PIPING TO BE REMOVED
- EXISTING HW RETURN PIPING TO REMAIN
- EXISTING HW RETURN PIPING TO BE REMOVED
- EXISTING SANITARY, WASTE PIPING UNDERGROUND TO REMAIN
- EXISTING SANITARY, WASTE PIPING UNDERGROUND TO BE REMOVED
- EXISTING WASTE VENT PIPING TO REMAIN
- EXISTING WASTE VENT PIPING TO BE REMOVED
- NEW CW PIPING
- NEW HW PIPING
- NEW HW RETURN PIPING
- NEW SANITARY, WASTE PIPING
- NEW SANITARY, WASTE PIPING UNDERGROUND
- NEW WASTE VENT PIPING
- GAS NEW GAS PIPING (LOW PRESSURE)
- SD NEW STORM DRAINAGE PIPING
- V NEW VACUUM PIPING
- N NEW NITROGEN PIPING
- O NEW OXYGEN PIPING
- HC NEW HIGH PRESSURE GAS PIPING
- IW NEW INDIRECT WASTE PIPING
- EXISTING PIPING TO REMAIN
- EXISTING PIPING TO BE REMOVED
- NEW PIPING
- DIRECTION OF FLOW
- PIPE TURNING UP
- PIPE TURNING DOWN
- BOTTOM PIPE TAP
- TOP PIPE TAP
- CAPPED PIPE
- PIPE BREAK

- C.O. CLEANOUT
- CODP CLEANOUT DECK PLATE
- COWP CLEANOUT WALL PLATE
- F&T TRAP
- LOW PRESSURE DRIP
- UNION
- STRAINER
- HB HOSE BIBB
- FFHB FROST FREE HOSE BIBB
- FD FLOOR DRAIN
- FLEXIBLE CONNECTION
- AUTOMATIC AIR VENT
- CAPPED PIPE
- FLD FUNNEL DRAIN
- TRAP
- DOUBLE CHECK VALVE
- RPZ REDUCED PRESSURE ZONE VALVE
- RD ROOF DRAIN

VALVES

- TRIPLE DUTY VALVE
- 3-WAY VALVE
- AUTOMATIC CONTROL VALVE
- BALL VALVE
- BASKET STRAINER
- BUTTERFLY VALVE
- CHECK VALVE
- FLOW CONTROL VALVE
- GATE VALVE
- GLOBE VALVE
- MOTOR OPERATED VALVE
- OUTSIDE SCREW YOKE
- PLUG VALVE
- PRESSURE REDUCING VALVE
- SHUTOFF BALANCING VALVE
- SOLENOID VALVE
- PRESSURE RELIEF VALVE
- GAS COCK
- SHUT OFF VALVE

INSTRUMENTATION

- G GAS DETECTOR
- TH TEMPERATURE AND HUMIDITY RECORDER
- LD LIQUID DETECTOR
- PRESSURE GUAGE
- F FLOW SWITCH
- THERMOMETER
- EP ELECTRIC PNEUMATIC SWITCH
- PE PNEUMATIC ELECTRIC SWITCH
- ESAP ENVIRONMENTAL SENSOR ALARM PANEL

EQUIPMENT

- PUMP
- PUMP
- M METER
- EQUIPMENT CLEARANCE ZONE

ANNOTATION

- CONNECT TO EXISTING
- LIMIT OF REMOVAL
- LAV 1 FIXTURE TYPE NO. OF FIXTURE UNITS
- PLUMBING RISER LABEL

NOTES:

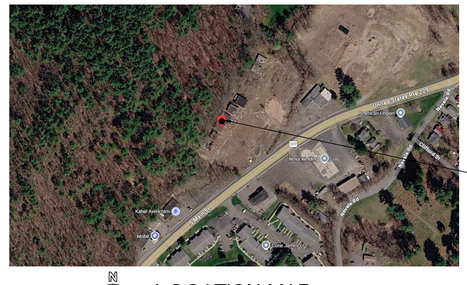
1. ALL WORK SHALL COMPLY WITH ALL LOCAL AND STATE CODES AND AUTHORITIES HAVING JURISDICTION.
2. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS AND ARRANGE ALL REQUIRED INSPECTIONS.
3. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS AND TRADES.
4. THESE DRAWINGS, AS PREPARED, ARE DIAGRAMMATIC BUT SHALL BE FOLLOWED AS CLOSELY AS CONSTRUCTION OF THE PROJECT AND THE WORK OF THE TRADES WILL PERMIT. EQUIPMENT LOCATIONS INDICATED ARE APPROXIMATE. COORDINATE EXACT LOCATIONS AND REQUIRED CLEARANCES WITH EQUIPMENT SUPPLIER AND ALL TRADES PRIOR TO INSTALLATION.
5. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL THE EQUIPMENT INDICATED WITHIN THESE DRAWINGS UNLESS OTHERWISE NOTED. VERIFY LOCATION AND DIMENSIONS IN THE FIELD PRIOR TO FABRICATION AND / OR INSTALLATION.
6. ALL ROOF PENETRATIONS SHALL BE AT THE CONTRACTOR'S EXPENSE. COORDINATE WITH GC'S ROOFING CONTRACTOR AS REQUIRED FOR ROOF WARRANTIES.
7. ALL PENETRATIONS OF EXISTING PIPING AND EQUIPMENT TO BE DEMOLISHED SHALL BE PATCHED AND SEALED APPROPRIATELY BY THE CONTRACTOR.
8. THE ENTIRE INSTALLATION SHALL BE GUARANTEED FREE OF DEFECTS AND CONTRACTOR SHALL REPAIR AND / OR REPLACE ANY DEFECTIVE MATERIALS OR EQUIPMENT AT NO COST TO THE OWNER FOR A MINIMUM PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY ARCHITECT OR ENGINEER.
9. ALL WORK SHALL BE SUBJECT TO THE ACCEPTANCE AND APPROVAL OF THE ARCHITECT AND OWNER. THE ARCHITECT SHALL BE NOTIFIED OF ANY AND ALL DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK. FAILURE OF PROPER NOTIFICATION DOES NOT RELIEVE THE CONTRACTOR. THE CONTRACTOR SHALL CORRECT ANY AND ALL WORK ARISING FROM SUCH FAILURE TO COORDINATE DISCREPANCIES TO THE SATISFACTION OF THE ARCHITECT WITHOUT ADDITIONAL COST TO THE OWNER.
10. ALL KITCHEN, PREP AREA AND SALES AREA EQUIPMENT WILL BE FURNISHED AND INSTALLED BY SEPARATE CONTRACTOR. EQUIPMENT WILL BE FURNISHED WITH TRIM, FAUCETS, ESCUTCHEONS, ETC. PLUMBING CONTRACTOR SHALL PROVIDE ALL ROUGH-IN TRAPS AND MAKE ALL FINAL CONNECTIONS (SEE EQUIPMENT SCHEDULE).
11. ALL PIPING TO BE CONCEALED IN HUNG CEILINGS, CHASES AND FURRED SPACES.
12. REFER TO EQUIPMENT SCHEDULE AND EQUIPMENT SPECIFICATIONS FOR EXACT LOCATIONS OF PLUMBING CONNECTIONS.
13. THE CONTRACTOR SHALL VERIFY DEPTH, SIZE, LOCATION OF ALL EXISTING UTILITIES IN FIELD PRIOR TO STARTING WORK.
14. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL PIPE HANGERS, AND SUPPORTS IN ACCORDANCE WITH THE LOCAL APPLICABLE CODES.
15. THE CONTRACTOR TO PROVIDE TRAP PRIMERS, DEEP SEAL TRAP OR TRAP SEAL ON ALL FLOOR DRAINS AS PER APPLICABLE CODE.
16. ALL PENETRATIONS REQUIRED FOR PLUMBING EQUIPMENT AND PIPING THROUGH ANY WALL SHALL BE PROPERLY SEALED OFF TO MAINTAIN THE INTEGRITY OF THE STRUCTURE.
17. ALL SHUT OFF AND ISOLATION VALVES SHALL BE BALL TYPE. ALL VALVES SERVING TOILETS AND SINKS SHALL BE ANGLE STOP TYPE.
18. PROVIDE AN INDIVIDUAL BALL VALVE AND BACK CHECK VALVE TO EACH INDIVIDUAL PIECE OF EQUIPMENT.
19. PROVIDE BACKFLOW PREVENTERS AT ALL EQUIPMENT AS REQUIRED BY CODE.
20. ANY PIPING ABOVE ELECTRICAL EQUIPMENT (PANELS, TRANSFORMERS, ETC) MUST BE INSTALLED AT LEAST 6 FT ABOVE AND PROVIDED WITH 2" DRIP PANS AND LEAK DETECTORS.

ABBREVIATIONS

ACS DR	ACCESS DOOR	FPS	FEET PER SECOND	REQD	REQUIRED
AFF	ABOVE FINISHED FLOOR	FT	FEET	RPM	REVOLUTIONS PER MINUTE
ACS PNL	ACCESS PANEL	FLD	FUNNEL DRAIN	RD	ROOF DRAIN
AUTO	AUTOMATIC	G	GAS	RM	ROOM
BFP	BACKFLOW PREVENTER	GA	GAUGE	RND	ROUND
BLDG	BUILDING	GC	GENERAL CONTRACTOR	RPZ	REDUCED PRESSURE ZONE DEVICE
BOP	BOTTOM OF PIPE	GAL	GALLON	SAN	SANITARY
BTU	BRITISH THERMAL UNIT	GPH	GALLONS PER HOUR	SK	SINK
BTUH	BTU PER HOUR	GPM	GALLONS PER MINUTE	SS	SERVICE, SLOP SINK
℄	CENTERLINE	HT	HEIGHT	SF, ☐	SQUARE FEET
CHR PL	CHROME PLATED	HB	HOSE BIB	SOV	SHUT-OFF VALVE
CLG	CEILING	HW	HOT WATER	ST PR	STATIC PRESSURE
CO	CLEAN OUT	HWR	HOT WATER RETURN	SPEC	SPECIFICATION
CODP	CLEAN OUT DECK PLATE	HWS	HOT WATER SUPPLY	SST	STAINLESS STEEL
COWP	CLEAN OUT WALL PLATE	HR	HOUR	SD	STORM DRAIN
COD	CONTINUED ON DRAWING	HZ	FREQUENCY	SEP TNK	SEPTIC TANK
CW	COLD (DOMESTIC) WATER	IN	INCH OR INCHES	TBR	TO BE REMOVED
CU FT	CUBIC FEET	IPS	IRON PIPE SIZE	TEMP	TEMPERATURE
CU IN	CUBIC INCHES	IW	INDIRECT WASTE	TOS	TOP OF STEEL
D	DROP	IW SP	INDIRECT WASTE STANDPIPE	TYP	TYPICAL
DEMO	DEMOLITION	INV	INVERT ELEVATION	UNO	UNLESS NOTED OTHERWISE
DF	DRINKING FOUNTAIN	KW	KILOWATT	V	VENT
DIA, ø	DIAMETER	LAV	LAVATORY	VTR	VENT THROUGH ROOF
DN	DOWN	LAVH	LAVATORY HANDICAPPED	W	WASTE
DWG	DRAWING	L	LENGTH	W/	WITH
DP	DISTRIBUTION POOL	LBS	POUNDS	W/O	WITHOUT
EA	EACH	LF	LINEAR FEET	WCV	WATER CLOSET FLUSH VALVE TYPE
EC	ELECTRICAL CONTRACTOR	LP	LEACHING POOL	WCVH	WATER CLOSET FLUSH VALVE TYPE HANDICAPPED
EJ	SEWAGE EJECTOR DISCHARGE	M	METER	WCT	WATER CLOSET FLUSH TANK TYPE
EL	ELEVATION	MAX	MAXIMUM	WCTH	WATER CLOSET FLUSH TANK TYPE HANDICAPPED
ELEC	ELECTRIC	MBH	THOUSAND BTU PER HOUR	WC	WATER COLUMN
EMER SHR	EMERGENCY SHOWER	MC	MECHANICAL CONTRACTOR	WG	WATER GAUGE
EQ	EQUAL	MIN	MINIMUM	WH	HOT WATER HEATER
EWC	ELECTRIC WATER COOLER	NFPA	NATIONAL FIRE PROTECTION ASSOC.	WMS	WIRE MESH SCREEN
EXIST	EXISTING	NC	NORMALLY CLOSED		
EXP	EXPANSION TANK	NIC	NOT IN CONTRACT		
°F	DEGREES FAHRENHEIT	NO	NORMALLY OPEN		
F & T	FLOAT AND THERMOSTATIC	#	NUMBER		
FAI	FRESH AIR INTAKE	NPT	NATIONAL PIPE THREAD		
FC	FLEXIBLE CONNECTION	NTS	NOT TO SCALE		
FD	FLOOR DRAIN	OAI	OUTSIDE AIR INTAKE		
FFHB	FROST FREE HOSE BIB	OD	OUTSIDE DIAMETER		
FFWH	FROST FREE WALL HYDRANT	PD	PRESSURE DROP		
FF EL	FINISHED FLOOR ELEVATION	PDISCH	PUMPED DISCHARGE		
FLA	FULL LOAD AMPERES	PRESS	PRESSURE		
FLR	FLOOR	PSI	POUNDS PER SQUARE INCH		
FLR SK	FLOOR SINK	R	RISE		
FPM	FEET PER MINUTE	REL	RELOCATED		

PLUMBING GENERAL DESCRIPTION OF WORK SCOPE

NEW PLUMBING FIXTURES AND UTILITIES FOR NEW FIRE DEPARTMENT BUILDING. NO CHANGE IN USE, OCCUPANCY, OR EGRESS UNDER THIS APPLICATION.



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LOCATION MAP

SCALE: N.T.S.

DRAWING NO. / TITLE

DRAWING NO.	TITLE
P-0.1	PLUMBING SYMBOLS, ABBREVIATIONS AND GENERAL NOTES
P-0.2	PLUMBING GENERAL NOTES
P-1.1	PLUMBING FIRST FLOOR SUPPLY UTILITIES
P-1.2	PLUMBING FIRST FLOOR SANITARY & VENT
P-1.3	PLUMBING MEZZANINE SUPPLY UTILITIES
P-1.4	PLUMBING MEZZANINE SANITARY & VENT
P-1.5	PLUMBING SECOND FLOOR SUPPLY UTILITIES
P-1.6	PLUMBING SECOND FLOOR & ATTIC SANITARY & VENT
P-5.1	PLUMBING DETAILS
P-5.2	PLUMBING DETAILS
P-5.3	PLUMBING DETAILS
P-6.1	PLUMBING RISER DIAGRAMS
P-6.2	PLUMBING RISER DIAGRAMS
P-6.3	PLUMBING RISER DIAGRAM
P-6.4	PLUMBING RISER DIAGRAM
P-7.1	PLUMBING SPECIFICATIONS

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SEAL

STATE OF NEW YORK · ANDREW P. SAGGESE · LICENSED PROFESSIONAL ENGINEER · 100741

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
208 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

PLUMBING
SYMBOLS, ABBREVIATIONS
AND GENERAL NOTES

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING: P-0.1

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

PLUMBING COMMISSIONING REQUIREMENTS

THE FOLLOWING SYSTEMS AND EQUIPMENT ARE REQUIRED TO BE COMMISSIONED IN ACCORDANCE WITH THE SECTIONS BELOW:

- GAS–FIRED (PROPANE) HOT WATER HEATER, PFHWH–1
- HOT WATER RECIRC PUMP, HWCP–1

MAINTENANCE INFORMATION AND SYSTEMS COMMISSIONING

GENERAL:

THIS SECTION COVERS THE PROVISION OF MAINTENANCE INFORMATION AND THE COMMISSIONING OF, AND THE FUNCTIONAL TESTING REQUIREMENTS FOR BUILDING SYSTEMS.

BUILDING OPERATIONS AND MAINTENANCE INFORMATION:

THE BUILDING OPERATIONS AND MAINTENANCE DOCUMENTS SHALL BE PROVIDED TO THE OWNER AND SHALL CONSIST OF MANUFACTURER'S INFORMATION, SPECIFICATIONS, AND RECOMMENDATIONS; PROGRAMMING PROCEDURES AND DATA POINTS; NARRATIVES; AND OTHER MEANS OF ILLUSTRATING TO THE OWNER HOW THE BUILDING, EQUIPMENT AND SYSTEMS ARE INTENDED TO BE INSTALLED, MAINTAINED AND OPERATED. REQUIRED REGULAR MAINTENANCE ACTIONS FOR EQUIPMENT AND SYSTEMS SHALL BE CLEARLY STATED ON A READILY VISIBLE LABEL. THE LABEL SHALL INCLUDE THE TITLE OR PUBLICATION NUMBER FOR THE OPERATION AND MAINTENANCE MANUAL FOR THAT PARTICULAR MODEL AND TYPE OF PRODUCT.

MECHANICAL SYSTEMS AND SERVICE-WATER HEATING SYSTEMS COMMISSIONING AND COMPLETION REQUIREMENTS:

PRIOR TO THE FINAL MECHANICAL AND PLUMBING INSPECTIONS, A COMMISSIONING AUTHORITY SHALL PROVIDE EVIDENCE OF MECHANICAL SYSTEMS COMMISSIONING AND COMPLETION IN ACCORDANCE WITH THE PROVISIONS OF THIS SECTION.

EXCEPTIONS: THE FOLLOWING SYSTEMS ARE EXEMPT:

1. MECHANICAL SYSTEMS AND SERVICE WATER HEATER SYSTEMS IN BUILDINGS WHERE THE TOTAL MECHANICAL EQUIPMENT CAPACITY IS LESS THAN 480,000 BTU/H COOLING CAPACITY AND 600,000 BTU/H COMBINED SERVICE WATER-HEATING AND SPACE-HEATING CAPACITY.
2. SYSTEMS INCLUDED IN SECTION C403.5 THAT SERVE INDIVIDUAL DWELLING UNITS AND SLEEPING UNITS.

COMMISSIONING PLAN

A COMMISSIONING PLAN SHALL BE DEVELOPED BY THE COMMISSIONING AUTHORITY AND SHALL INCLUDE THE FOLLOWING ITEMS:

1. A NARRATIVE DESCRIPTION OF THE ACTIVITIES THAT WILL BE ACCOMPLISHED DURING EACH PHASE OF COMMISSIONING INCLUDING THE PERSONNEL INTENDED TO ACCOMPLISH EACH ACTIVITY.
2. A LISTING OF SPECIFIC EQUIPMENT, APPLIANCES, OR SYSTEMS TO BE TESTED AND A DESCRIPTION OF THE TESTS TO BE PERFORMED.
3. FUNCTIONS TO BE TESTED INCLUDING, BUT NOT LIMITED TO, CALIBRATIONS AND ECONOMIZER CONTROLS.
4. CONDITIONS UNDER WHICH THE TEST WILL BE PERFORMED. TESTING SHALL AFFIRM WINTER AND SUMMER DESIGN CONDITIONS AND FULL OUTSIDE AIR CONDITIONS.
5. MEASURABLE CRITERIA FOR PERFORMANCE.

SYSTEMS ADJUSTING AND BALANCING

HVAC SYSTEMS SHALL BE BALANCED IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING STANDARDS. THE COMMISSIONING AGENT SHALL REVIEW AND PERFORM A SPOT CHECK VERIFICATION OF THE TESTING, ADJUSTING, AND BALANCING REPORT.

FUNCTIONAL PERFORMANCE TESTING

EQUIPMENT FUNCTIONAL PERFORMANCE TESTING SHALL DEMONSTRATE THE INSTALLATION AND OPERATION OF COMPONENTS, SYSTEMS, AND SYSTEM-TO-SYSTEM INTERFACING RELATIONSHIPS IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS SUCH THAT OPERATION, FUNCTION, AND MAINTENANCE SERVICEABILITY FOR EACH OF THE COMMISSIONED SYSTEMS IS CONFIRMED. TESTING WILL INCLUDE ALL MODES OF OPERATION, INCLUDING FULL-LOAD, PART-LOAD, AND THE FOLLOWING EMERGENCY CONDITIONS:

1. ALL MODES AS DESCRIBED IN THE SEQUENCE OF OPERATION.
2. REDUNDANT OR AUTOMATIC BACK-UP MODE.
3. PERFORMANCE OF ALARMS.
4. MODE OF OPERATION UPON LOSS OF POWER AND RESTORATION OF POWER.

EXCEPTIONS: UNITARY OR PACKAGED HVAC EQUIPMENT LISTED IN TABLES C403.3.2(1) THROUGH C403.3.2(3) THAT DO NOT REQUIRE SUPPLY AIR ECONOMIZERS.

CONTROLS TESTING

THE COMMISSIONING AGENT SHALL WITNESS TESTING OF THE HVAC AND SERVICE WATER-HEATING SYSTEMS AND DOCUMENT THAT CONTROL DEVICES, COMPONENTS, EQUIPMENT, AND SYSTEMS ARE CALIBRATED AND ADJUSTED AND OPERATE IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS. SEQUENCES OF OPERATION SHALL BE FUNCTIONALLY TESTED TO DOCUMENT THEY OPERATE IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.

PRELIMINARY COMMISSIONING REPORT.

THE COMMISSIONING AGENT SHALL PREPARE A PRELIMINARY COMMISSIONING REPORT OF TEST PROCEDURES AND RESULTS. THE REPORT SHALL BE ORGANIZED WITH MECHANICAL AND SERVICE HOT WATER FINDINGS IN SEPARATE SECTIONS TO ALLOW INDEPENDENT REVIEW. THE REPORT SHALL BE IDENTIFIED AS "PRELIMINARY COMMISSIONING REPORT" AND INCLUDE THE COMPLETED COMMISSIONING COMPLIANCE CHECKLIST IN FIGURE C408.2.4.

THE REPORT SHALL IDENTIFY THE FOLLOWING:

1. ITEMIZATION OF DEFICIENCIES FOUND DURING TESTING THAT HAVE NOT BEEN CORRECTED AT THE TIME OF THE REPORT PREPARATION.
2. DEFERRED TESTS THAT CANNOT BE PERFORMED AT THE TIME OF REPORT PREPARATION DUE TO CLIMATIC CONDITIONS.
3. CLIMATIC CONDITIONED REQUIRED FOR PERFORMANCE OF DEFERRED TESTS.
4. RESULTS OF FUNCTIONAL PERFORMANCE TESTS.
5. FUNCTIONAL PERFORMANCE TEST PROCEDURES USED DURING THE COMMISSIONING PROCESS, INCLUDING MEASURABLE CRITERIA FOR TEST ACCEPTANCE.

THE FOLLOWING CHECKLIST SHALL BE COMPLETED BY THE BUILDING OWNER OR OWNER'S AUTHORIZED AGENT:

Project Address: _____

Commissioning Authority: _____

Commissioning Plan (Section C408.2.1)

☐ Commissioning Plan was used during construction and includes all items required by Section C408.2.1

☐ Systems Adjusting and Balancing has been completed.

☐ HVAC Equipment Functional Testing has been executed. If applicable, deferred and follow-up testing is scheduled to be provided on:_____

☐ HVAC Controls Functional Testing has been executed. If applicable, deferred and follow-up testing is scheduled to be provided on:_____

☐ Economizer Functional Testing has been executed. If applicable, deferred and follow-up testing is scheduled to be provided on:_____

☐ Lighting Controls Functional Testing has been executed. If applicable, deferred and follow-up testing is scheduled to be provided on:_____

☐ Service Water Heating System Functional Testing has been executed. If applicable, deferred and follow-up testing is scheduled to be provided on:_____

☐ Manual, record documents and training have been completed or scheduled

☐ Preliminary Commissioning Report submitted to owner and includes all items required by Section C408.2.4

I hereby certify that the commissioning provider has provided me with evidence of mechanical, service water heating and lighting systems commissioning in accordance with the 2018 IECC.

Signature of Building Owner or Owner's Representative _____ Date_____

FIGURE C408.2.4

ACCEPTANCE OF REPORT:

BUILDINGS, OR PORTIONS THEREOF, SHALL NOT BE CONSIDERED ACCEPTABLE FOR FINAL INSPECTION PURSUANT TO SECTION C104.3 UNTIL THE CODE OFFICIAL HAS RECEIVED A LETTER OF TRANSMITTAL FROM THE BUILDING OWNER ACKNOWLEDGING THAT THE BUILDING OR OWNER'S AUTHORIZED AGENT HAS RECEIVED THE PRELIMINARY COMMISSIONING REPORT.

COPY OF REPORT:

THE BUILDING OFFICIAL SHALL BE PERMITTED TO REQUIRE THAT A COPY OF THE PRELIMINARY COMMISSIONING REPORT BE MADE AVAILABLE FOR REVIEW.

DOCUMENTATION REQUIREMENTS:

THE DOCUMENTS DESCRIBED IN THIS SECTION SHALL BE PROVIDED TO THE BUILDING OWNER OR OWNER'S AUTHORIZED AGENT WITHIN 90 DAYS OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.

SYSTEM BALANCING REPORT:

A WRITTEN REPORT DESCRIBING THE ACTIVITIES AND MEASUREMENTS COMPLETED.

FINAL COMMISSIONING REPORT:

THE COMMISSIONING AGENT SHALL PREPARE A FINAL COMMISSIONING REPORT. THE REPORT WILL INCLUDE THE FOLLOWING:

1. RESULTS OF FUNCTIONAL PERFORMANCE TESTS.
2. DISPOSITION OF DEFICIENCIES FOUND DURING TESTING, INCLUDING DETAILS OF CORRECTIVE MEASURES USED OR PROPOSED.
3. FUNCTIONAL PERFORMANCE TEST PROCEDURES USED DURING THE COMMISSIONING PROCESS INCLUDING MEASURABLE CRITERIA FOR TEST ACCEPTANCE.

EXCEPTION:

DEFERRED TESTING THAT CANNOT BE PERFORMED AT THE TIME OF REPORT PREPARATION DUE TO CLIMATIC CONDITIONS.

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08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

STATE OF NEW YORK · ANDREW P. SAGOSE · LICENSED PROFESSIONAL ENGINEER · 10074 · 17-20

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

PLUMBING
GENERAL NOTES

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

P-0.2

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

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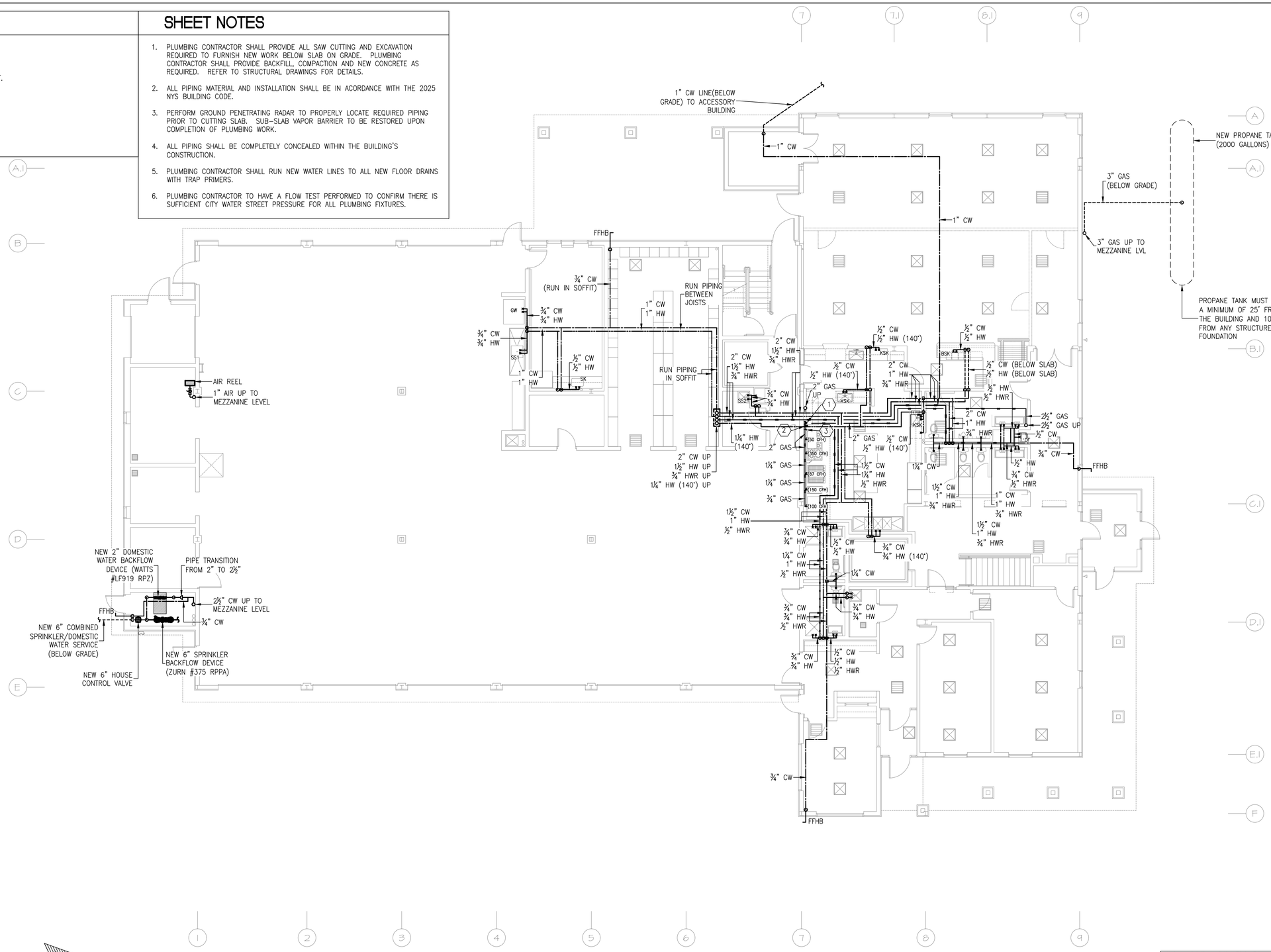
KEY NOTES

1. GAS PRESSURE REGULATOR.
2. GAS SOLENOID VALVE.
3. MANUAL EMERGENCY SHUT-OFF.

SHEET NOTES

1. PLUMBING CONTRACTOR SHALL PROVIDE ALL SAW CUTTING AND EXCAVATION REQUIRED TO FURNISH NEW WORK BELOW SLAB ON GRADE. PLUMBING CONTRACTOR SHALL PROVIDE BACKFILL, COMPACTION AND NEW CONCRETE AS REQUIRED. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.
2. ALL PIPING MATERIAL AND INSTALLATION SHALL BE IN ACORDANCE WITH THE 2025 NYS BUILDING CODE.
3. PERFORM GROUND PENETRATING RADAR TO PROPERLY LOCATE REQUIRED PIPING PRIOR TO CUTTING SLAB. SUB-SLAB VAPOR BARRIER TO BE RESTORED UPON COMPLETION OF PLUMBING WORK.
4. ALL PIPING SHALL BE COMPLETELY CONCEALED WITHIN THE BUILDING'S CONSTRUCTION.
5. PLUMBING CONTRACTOR SHALL RUN NEW WATER LINES TO ALL NEW FLOOR DRAINS WITH TRAP PRIMERS.
6. PLUMBING CONTRACTOR TO HAVE A FLOW TEST PERFORMED TO CONFIRM THERE IS SUFFICIENT CITY WATER STREET PRESSURE FOR ALL PLUMBING FIXTURES.



FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0" MEZZ. SQUARE FOOTAGE = 13,924

0 2' 4' 6' 8' 10' 20' 30' 50'

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STATE OF NEW YORK
ANDREW P. SAGGESE
100741
LICENSED PROFESSIONAL ENGINEER

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

PLUMBING
FIRST FLOOR
SUPPLY UTILITIES

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

P-1.1

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

KEY NOTES

1. NEW TRENCH DRAIN. ZURN, MODEL Z886-HDF-HPDE, 64' LONG WITH CATCH BASIN AT CENTER OF DRAIN.
2. NEW TRENCH DRAIN. ZURN, MODEL Z886-HDF-HPDE, 24' LONG WITH CATCH BASIN AT END OF DRAIN.
3. NEW TRENCH DRAIN. ZURN, MODEL Z886-HDF-HPDE, 16' LONG WITH CATCH BASIN AT END OF DRAIN.
4. 8" TRENCH (BELOW GRADE) TO SITE DRAINAGE. REFER TO CIVIL PLANS FOR CONTINUATION.
5. 4" SAN (BELOW GRADE) TO SITE DRAINAGE. REFER TO CIVIL PLANS FOR CONTINUATION.
6. 4" GW (BELOW GRADE) TO SITE DRAINAGE. REFER TO CIVIL PLANS FOR CONTINUATION.
7. 4" STORM (BELOW GRADE) TO SITE DRAINAGE. REFER TO CIVIL PLANS FOR CONTINUATION.
8. 2" PUMPED DISCHARGE TO RUN AND SPILL TO SERVICE SINK.
9. NEW TRENCH DRAIN. ZURN, MODEL Z886-HDF-HPDE. 14' LONG WITH CATCH BASIN AT END OF DRAIN.

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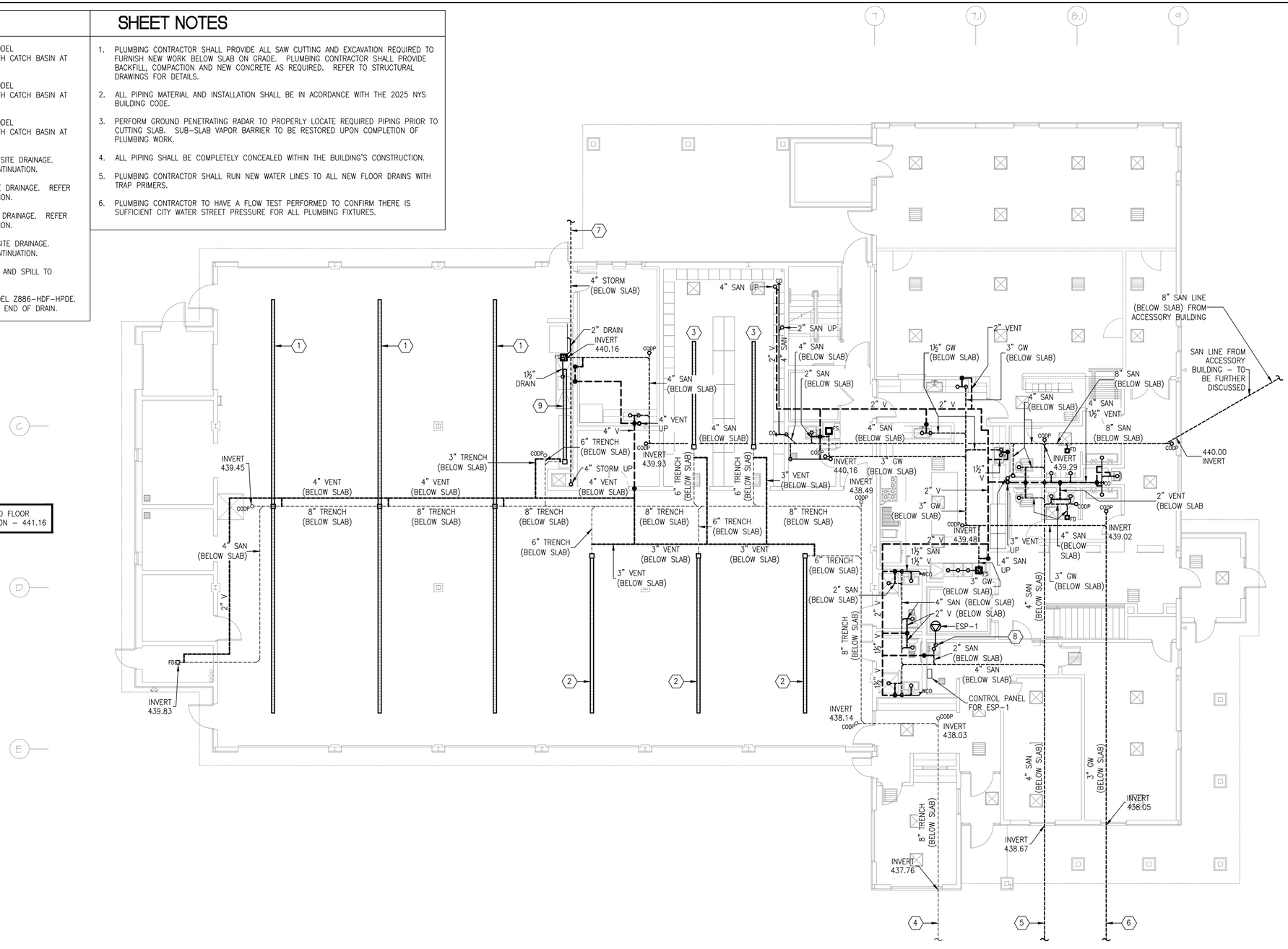

FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0" MEZZ. SQUARE FOOTAGE = 13,424

0 2' 4' 6' 8' 10' 20' 30' 50'

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PROPOSED NEW FACILITY
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ELLENVILLE, NY 12428

PLUMBING
FIRST FLOOR
SANITARY & VENT

PROJECT No. 2501 EMTEC: 7611

CHECKED BY: MF/APS

DRAWING: P-1.2

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

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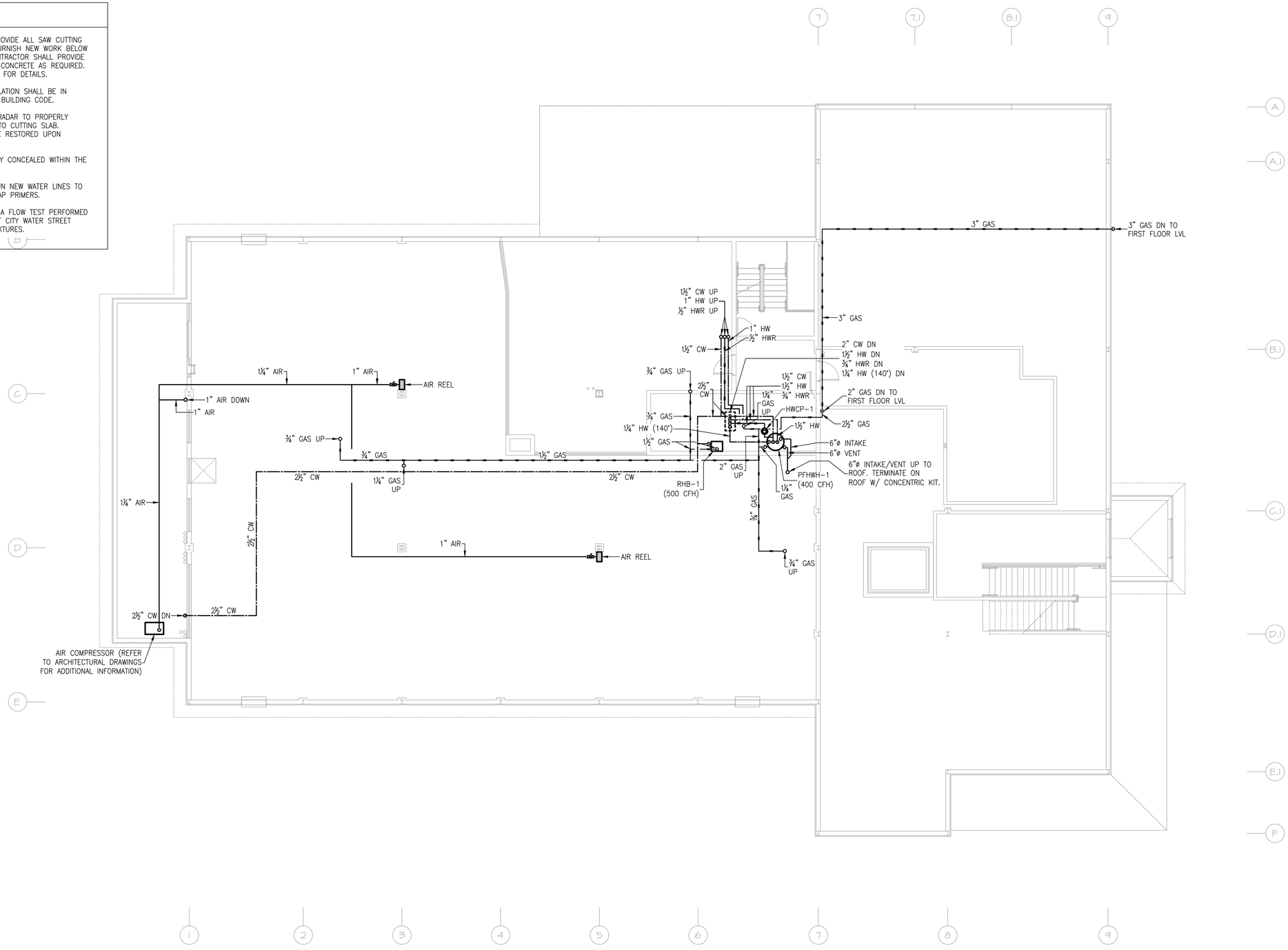

MEZZANINE FLOOR PLAN (PARTIAL)

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

MEZZ. SQUARE FOOTAGE = 1,982

0 4' 8' 20' 50'
2' 6' 10' 30'

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PLUMBING
MEZZANINE
SUPPLY UTILITES

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

P-1.3

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

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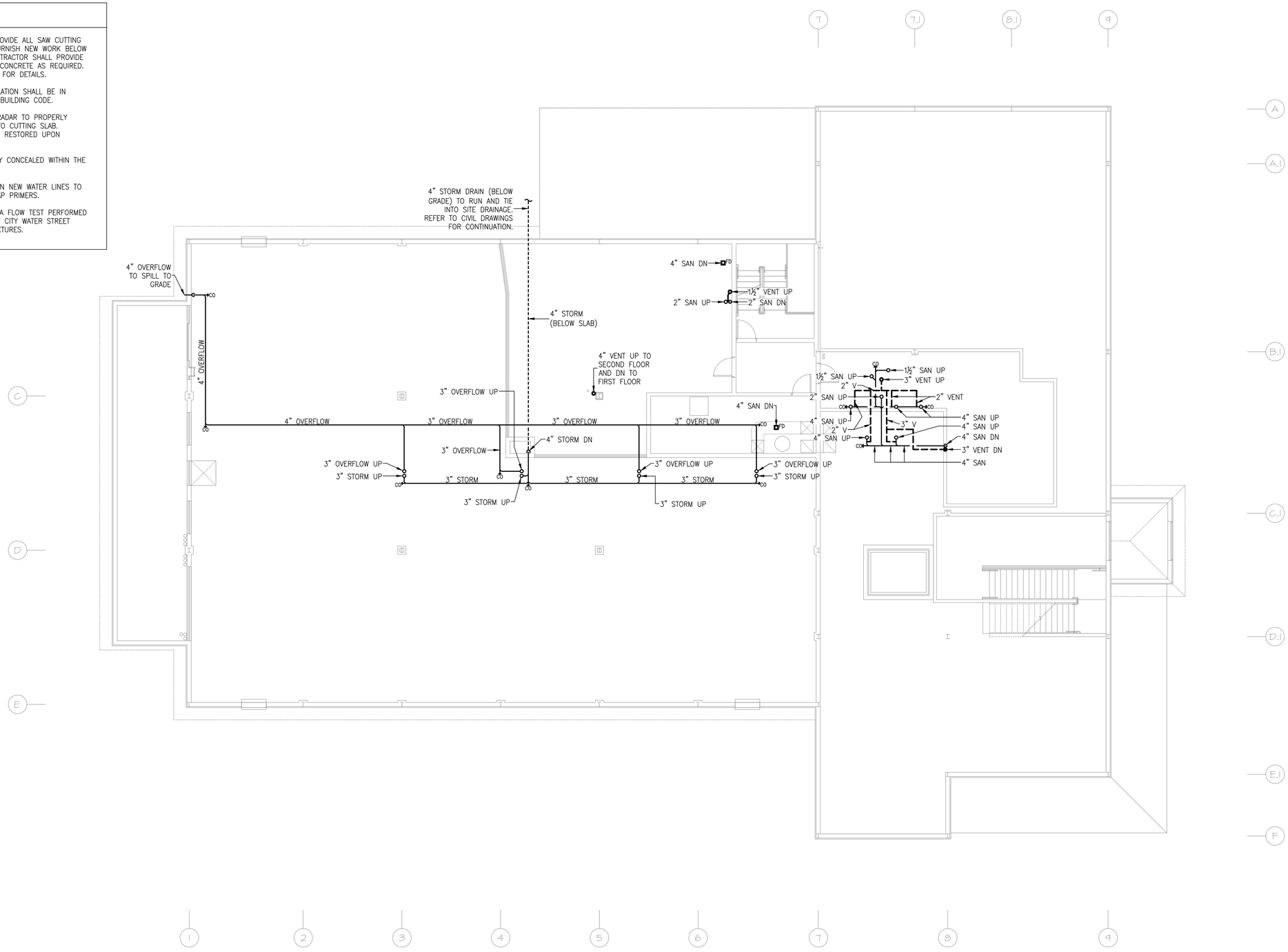

MEZZANINE FLOOR PLAN (PARTIAL)

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STATE OF NEW YORK · ANDREW P. SAGGESE · LICENSED PROFESSIONAL ENGINEER · 10074 · 2011 · 17-26

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PLUMBING
MEZZANINE
SANITARY & VENT

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

P-1.4

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

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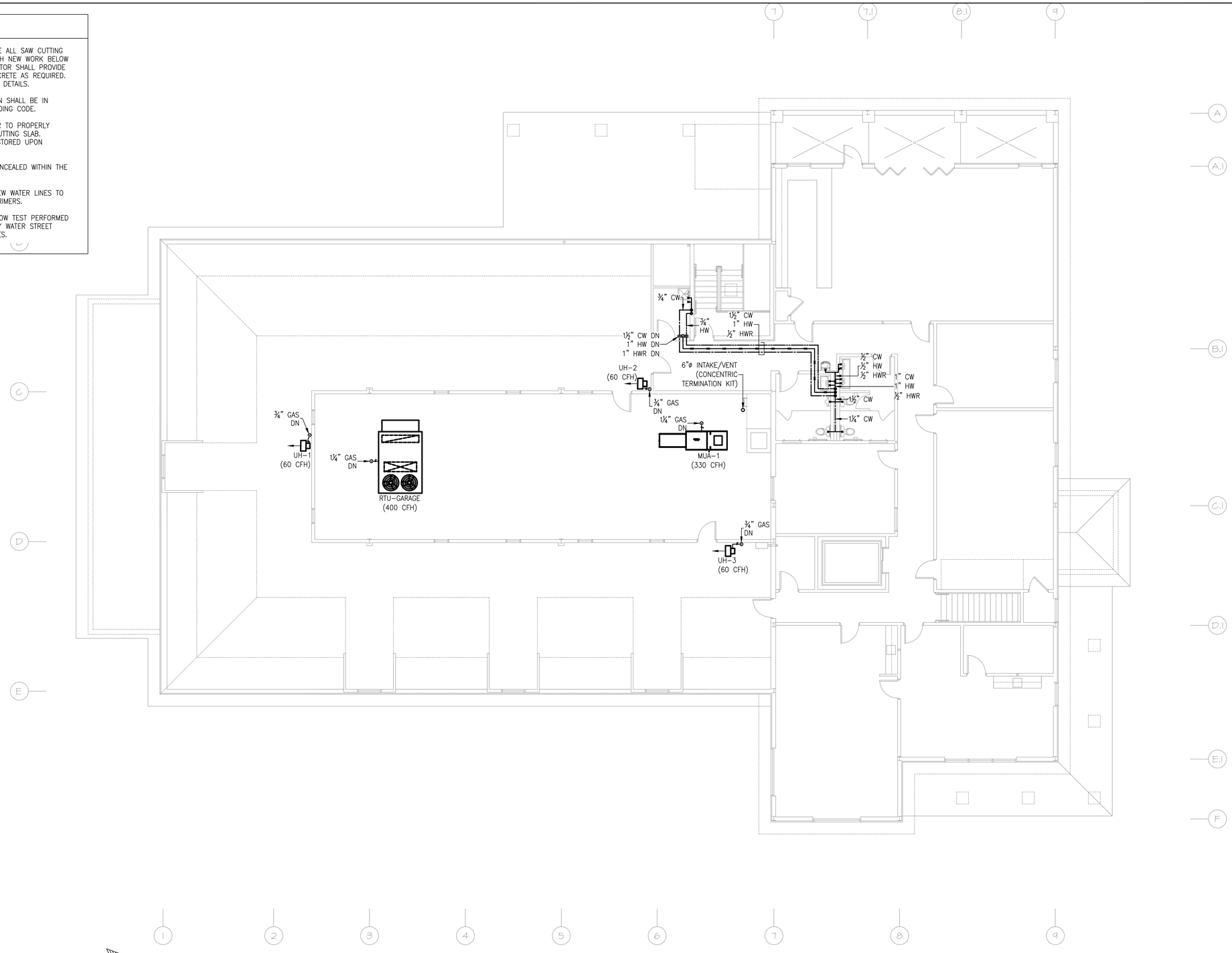

SECOND FLOOR PLAN

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

SQUARE FOOTAGE = 5,643
(NOT INCL. FLAT ROOF & ATTIC AREAS)

0 4' 8' 20' 50'
2' 6' 10' 30'

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PLUMBING
SECOND FLOOR
SUPPLY UTILITIES

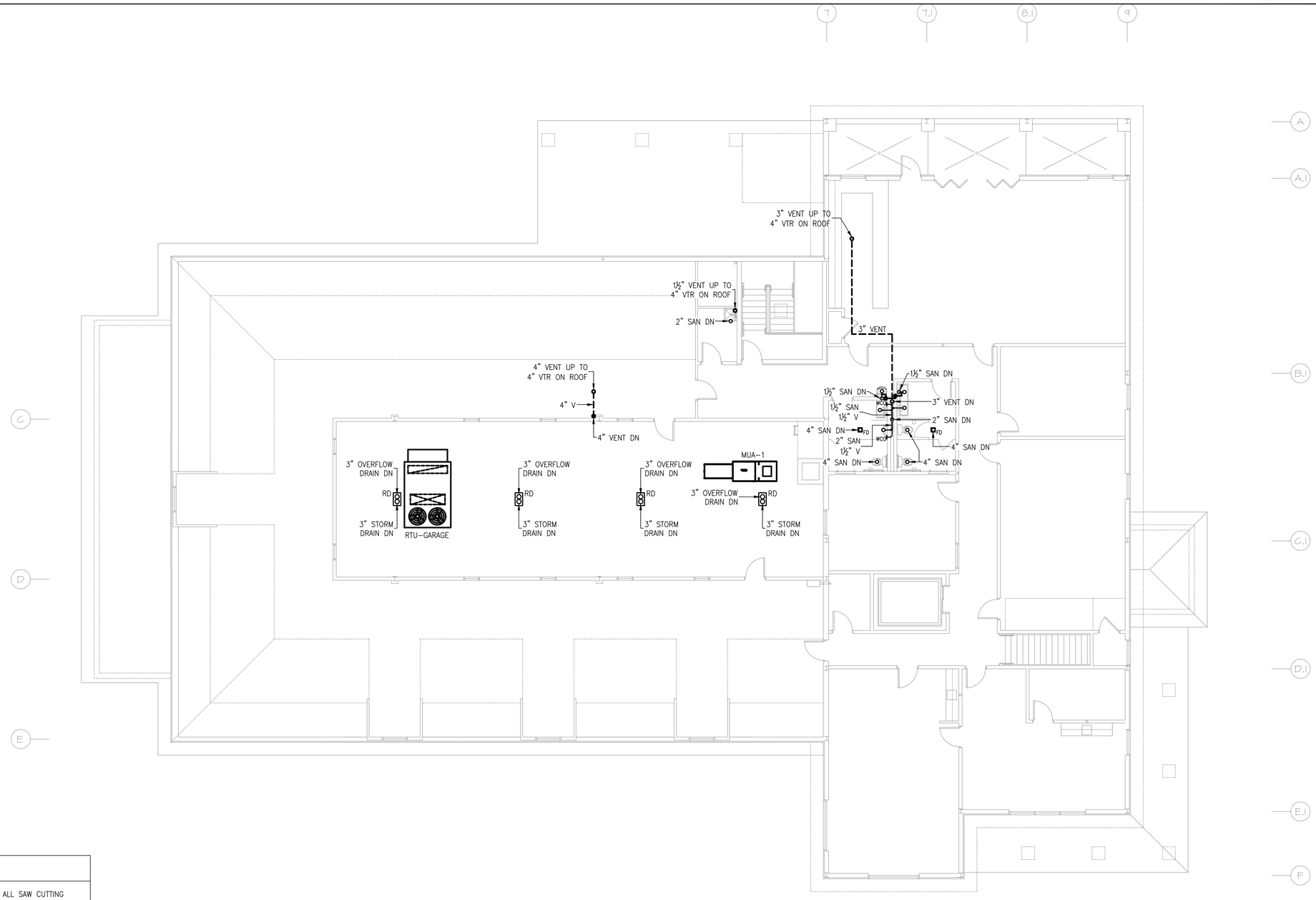
PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

P-1.5

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS



SHEET NOTES

1. PLUMBING CONTRACTOR SHALL PROVIDE ALL SAW CUTTING AND EXCAVATION REQUIRED TO FURNISH NEW WORK BELOW SLAB ON GRADE. PLUMBING CONTRACTOR SHALL PROVIDE BACKFILL, COMPACTION AND NEW CONCRETE AS REQUIRED. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.
2. ALL PIPING MATERIAL AND INSTALLATION SHALL BE IN ACORDANCE WITH THE 2025 NYS BUILDING CODE.
3. PERFORM GROUND PENETRATING RADAR TO PROPERLY LOCATE REQUIRED PIPING PRIOR TO CUTTING SLAB. SUB-SLAB VAPOR BARRIER TO BE RESTORED UPON COMPLETION OF PLUMBING WORK.
4. ALL PIPING SHALL BE COMPLETELY CONCEALED WITHIN THE BUILDING'S CONSTRUCTION.
5. PLUMBING CONTRACTOR SHALL RUN NEW WATER LINES TO ALL NEW FLOOR DRAINS WITH TRAP PRIMERS.
6. PLUMBING CONTRACTOR TO HAVE A FLOW TEST PERFORMED TO CONFIRM THERE IS SUFFICIENT CITY WATER STREET PRESSURE FOR ALL PLUMBING FIXTURES.

N

SECOND FLOOR PLAN

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

SQUARE FOOTAGE = 5,643
(NOT INCL. FLAT ROOF & ATTIC AREAS)

0 2' 4' 6' 8' 10' 20' 30' 50'

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07-20-2026	ISSUED FOR 90%CD REVIEW
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SEAL

STATE OF NEW YORK
ANDREW P. SAGOSE
LICENSED PROFESSIONAL ENGINEER
100741

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

PLUMBING
SECOND FLOOR & ATTIC
SANITARY & VENT

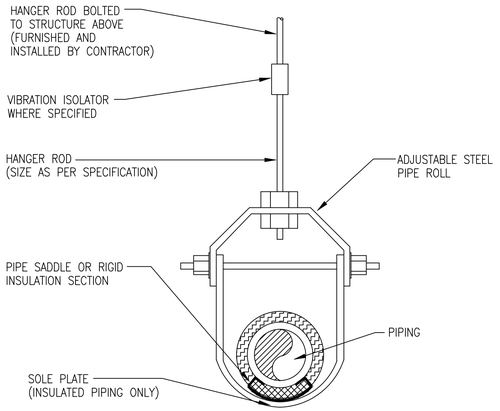
PROJECT No. 2601
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

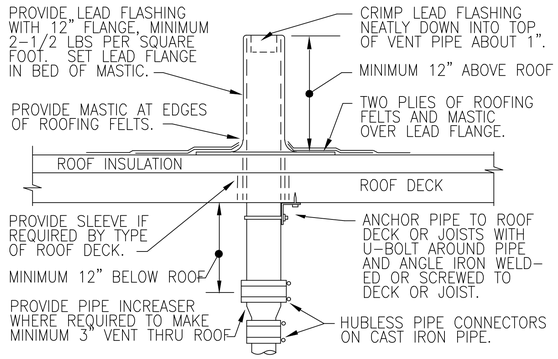
P-1.6

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS



SUSPENDED PIPING SUPPORT

NOT TO SCALE

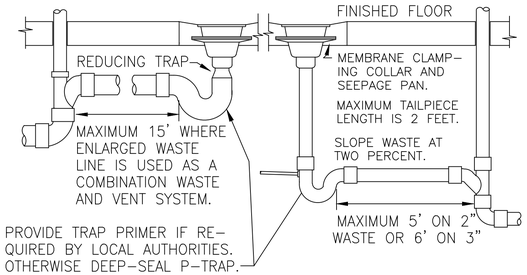


REFER TO PLANS FOR VTR PIPE SIZES AND LOCATIONS. LOCATE VTR MINIMUM THREE FEET FROM PROPERTY LINE, OR TEN FEET HORIZONTAL OR THREE FEET VERTICAL ABOVE ANY BUILDING OPENING OR FRESH AIR INTAKE, OR ONE FOOT FROM ANY VERTICAL SURFACE. PROVIDE 1/2" FIBERGLASS INSULATION WITH ALL-SERVICE JACKET ON VENT PIPE INSIDE BUILDING WITHIN TEN FEET OF VENT THRU ROOF LOCATION. AT CONTRACTOR'S OPTION, HE MAY USE A NEOPRENE OR FLEXIBLE PVC COUPLING CLAMPED TO FLASHING AND PIPE WITH SS SCREW CLAMPS. VERIFY FLASHING AND COUNTERFLASHING WITH ROOFING CONTRACTOR.

VENT THRU ROOF (VTR)

NO SCALE

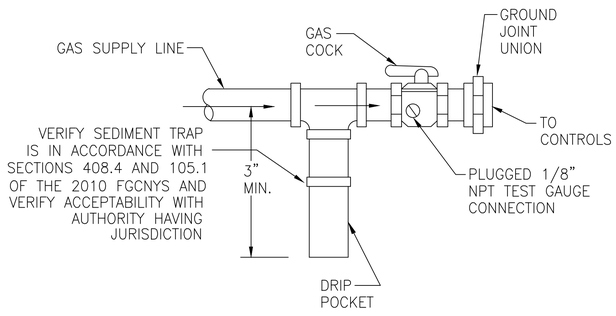
PROVIDE AN INDIVIDUAL VENT ON ALL FLOOR/HUB DRAINS. INSTALL VENT IN PARTITION OR CHASE WHERE SHOWN ON PLAN. HORIZONTAL VENT BELOW FLOOR IS NOT PERMITTED. IF FLOOR/HUB DRAINS ARE MORE THAN 5' ON A 2" WASTE OR 6' ON A 3" WASTE FROM THE PARTITION, PROVIDE A TRAP AND WASTE LINE TWO PIPE SIZES LARGER THAN THE DRAIN/SINK OUTLET, WITH A REDUCER ON THE TRAP INLET, AND VENT WITHIN 15 FEET. OTHER VENTING METHODS MAY BE USED IF APPROVED BY LOCAL CODE.



LOCATE FLOOR/HUB DRAINS WHERE SHOWN ON DIMENSIONED ARCHITECTURAL PLAN. IF FLOOR STRUCTURE INTERFERES WITH FLOOR/HUB DRAIN, MOVE SIDEWAYS IF POSSIBLE, OTHERWISE MOVE BACK. ALWAYS LOCATE WHERE EASILY ACCESSIBLE, BUT NOT IN FOOT TRAFFIC. IF SITUATION IS FLOOR SLAB ON GRADE, PROVIDE BACKFILL PER SPECIFICATIONS. IF CONCRETE FLOOR IS NOT EXISTING, SET DRAIN IN PLACE AND POUR AROUND IT. IF CONCRETE FLOOR IS EXISTING, SAW CUT OR CORE DRILL IT. SET DRAIN BODY IN PLACE AND POUR AROUND IT. RECESS TOP OF FLOOR SINKS 1/2" BELOW FLOOR SURFACE AND SLOPE FLOOR TO IT.

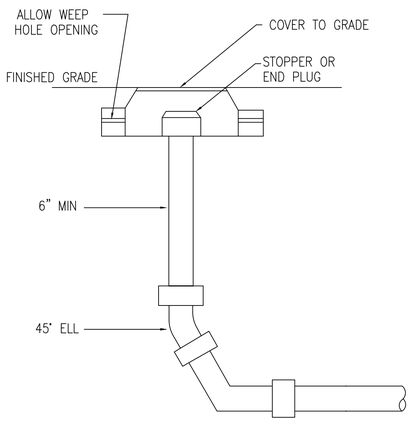
FLOOR/HUB DRAINS

NO SCALE



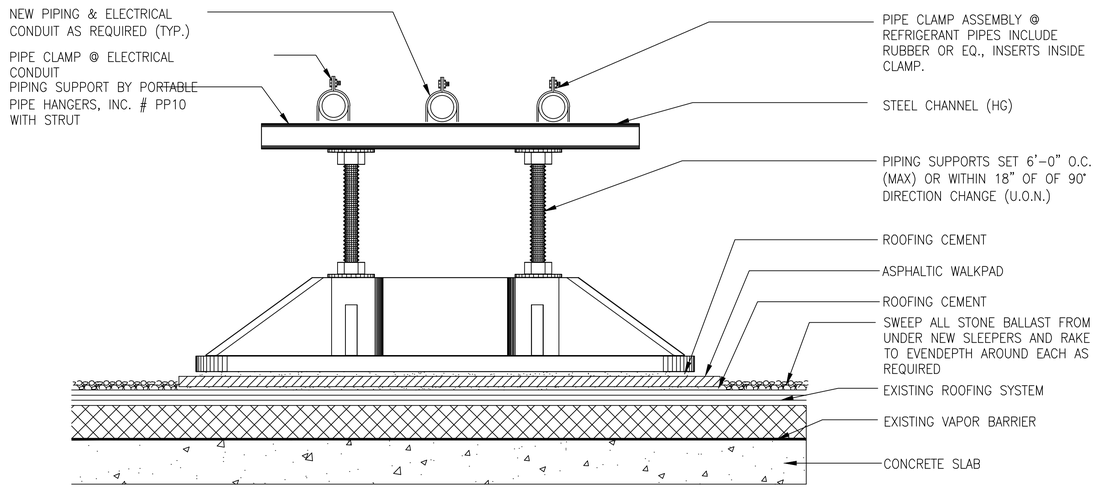
GAS EQUIPMENT TIE IN DETAIL

NO SCALE



CLEANOUT DETAIL

NO SCALE



DETAIL @ PIPING SUPPORT

NO SCALE

MAXIMUM HORIZONTAL HANGER SPACING (FEET)

PIPE SIZE	STEEL	COPPER	MINIMUM ROD SIZE INCHES
1/2	6	5	3/8
3/4	6	5	3/8
1	6	6	3/8
1 1/4	6	6	3/8
1 1/2	6	6	3/8
2	7	7	3/8
2 1/2	10	8	1/2
3	10	10	1/2
4	10	10	5/8
5	10	10	5/8
6	10	10	3/4
8	12	10	7/8
10	12	10	7/8

NOTE:
ALL PIPING & CONDUIT CLAMPS AND ASSOCIATED NUTS & BOLTS SHALL BE STAINLESS STEEL

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ELLENVILLE, NY 12428

PLUMBING DETAILS

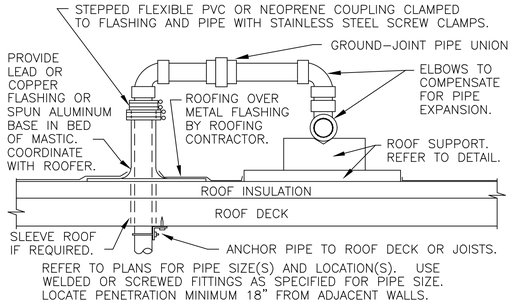
PROJECT No. 2601
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

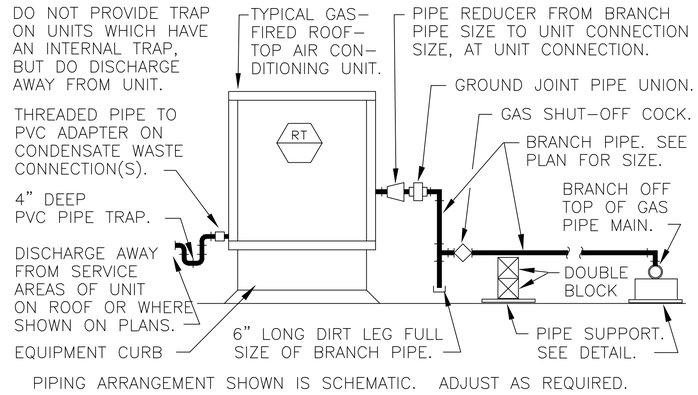
P-5.1

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS



ROOF PIPING PENETRATION DETAIL

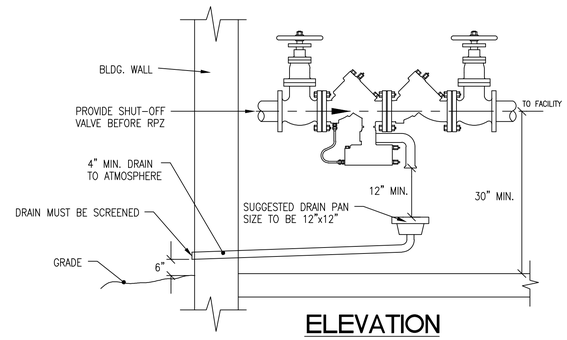
SCALE: NONE



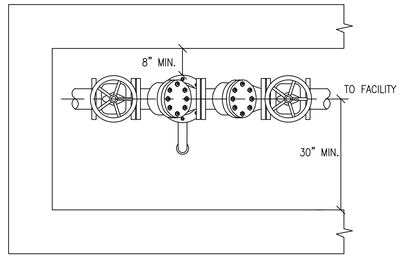
PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST AS REQUIRED.

RTU GAS TIE-IN DETAIL

SCALE: NONE



ELEVATION



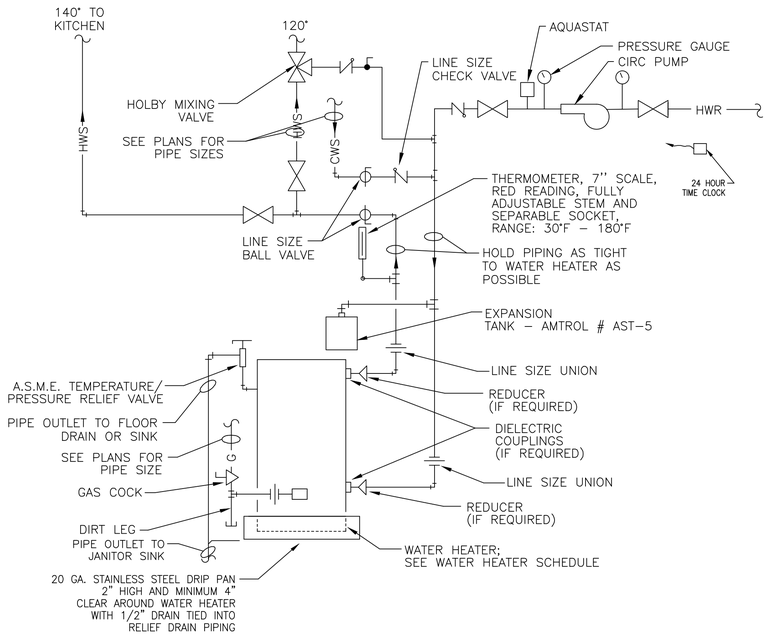
PLAN

RPZ WITH OS+Y VALVES DETAIL

NO SCALE

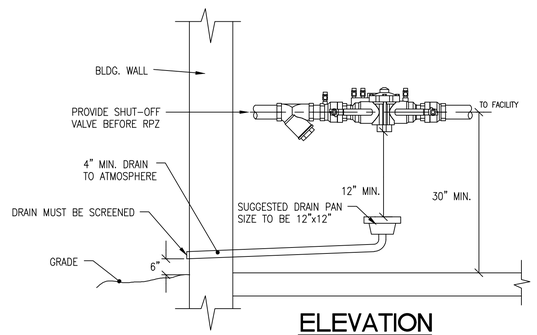
NOTES:

1. THIS DEVICE MUST BE PROTECTED AGAINST FREEZING.
2. TEST COCKS MUST BE POSITIONED TO FACILITATE TESTING. (30" MINIMUM CLEARANCE)
3. DRAINS CANNOT BE SUBJECT TO FLOODING AND MUST BE SCREENED.
4. PROPER MAINTENANCE MUST BE PERFORMED.
5. DEVICE FROM N.Y.S. APPROVED LIST.
6. DESTINATION OF DRAINAGE MUST BE SHOWN.
7. DEVICE MUST BE SUPPORTED TO THE WALL BEHIND THE DEVICE WITH THREADED RODS AND CLEVIS HANGER.
8. RESILIENT WEDGE OR BALL VALVES TO BE USED.
9. A SEPARATE SHUT OFF VALVE MUST BE INSTALLED.
10. DEVICE MAY NOT BE INSTALLED MORE THAN 5'-6" ABOVE THE FLOOR OR A SUITABLE PLATFORM.

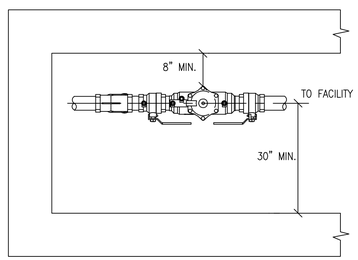


GAS-FIRED DOMESTIC WATER HEATER WITH CIRCULATING PUMP PIPING DETAIL

NO SCALE



ELEVATION



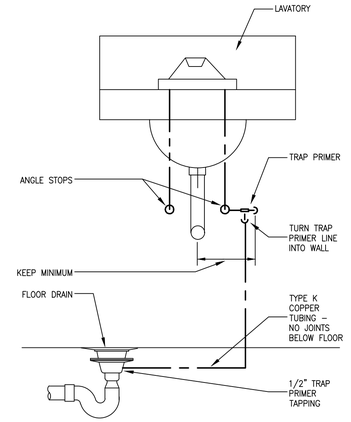
PLAN

RPZ DETAIL

NO SCALE

NOTES:

1. THIS DEVICE MUST BE PROTECTED AGAINST FREEZING.
2. TEST COCKS MUST BE POSITIONED TO FACILITATE TESTING (30" MINIMUM CLEARANCE).
3. ALL CONNECTIONS T'S, HOSE BIBS, IRRIGATION ETC. MUST BE INSTALLED AFTER (DOWNSTREAM) OF DEVICE.
4. DRAINS CANNOT BE SUBJECT TO FLOODING AND MUST BE SCREENED.
5. DESTINATION OF DRAINAGE MUST BE SHOWN.
6. PROPER MAINTENANCE MUST BE PERFORMED.
7. DEVICE MUST HAVE USC FOUNDATION FOR CROSS CONNECTION CONTROL APPROVAL.
8. DEVICE MUST BE ADEQUATELY SUPPORTED TO PREVENT LATERAL MOVEMENT. DEVICES 2" OR LARGER MUST BE SUPPORTED TO THE FLOOR.
9. SUPPORTS MUST BE PLACED WHERE THEY WILL NOT OBSTRUCT THE FUNCTION OR ACCESS TO RELIEF VALVE.
10. A SEPARATE SHUT OFF VALVE IS REQUIRED UPSTREAM OF THE ASSEMBLY.
11. ADEQUATE LIGHTING MUST BE PROVIDED.
12. DEVICE MAY NOT BE INSTALLED HIGHER THAN 5' ABOVE THE FLOOR OR A FIXED PLATFORM IS REQUIRED.
13. WHERE THE DISTANCE BETWEEN THE WATER METER AND DEVICE IS GREATER THAN 10' ALL EXPOSED PIPING MUST BE LABELED EVERY 5' DISPLAYING THE WORDS "FEED TO BACKFLOW PREVENTER DO NOT TAP".



TRAP PRIMER DETAIL

NO SCALE

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STATE OF NEW YORK · ANDREW P. SAGGESE · LICENSED PROFESSIONAL ENGINEER · 10074[illegible] · 17-29

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

PLUMBING DETAILS

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

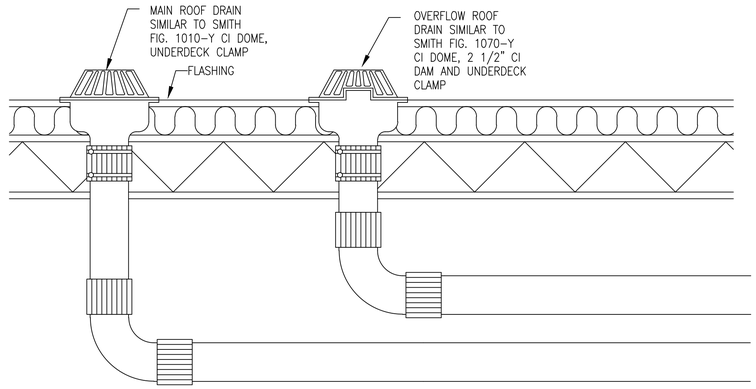
DRAWING:

P-5.2

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

NOTES:

1. All penetrations through rated walls, including but not limited to Boiler Rooms, Mechanical Equipment Rooms and Rated Shafts, shall be fire stopped per details sheets included in this drawing set. Refer to Architectural drawings for all wall ratings. Detail sheets show only a few common applications however, they do not show all applications. Contractor must use only firestop products that have been UL 1479 or ASTM E 814 tested for specific fire-rated construction conditions conforming to construction assembly type, penetrating item type, annular space requirements, and fire-rating involved for each separate instance.
2. *Details shown are typical details. If field conditions do not match requirements of typical details, approved alternate details shall be utilized. Field conditions and dimensions need to be verified for compliance with the details, including but not limited to the following:*
   - ** Minimum and maximum Width of Joints*
   - ** Type and thickness of fire-rated construction. The minimum assembly rating of the firestop assembly shall meet or exceed the highest rating of the adjacent construction.*
3. *If alternate details matching the field conditions are not available, manufacturer's engineering judgment drawings are acceptable. Drawings shall follow the International Firestop Council (IFC) Guidelines for Evaluating Firestop Systems Engineering Judgments.*
4. *References:*
   - ** 2013 Underwriter's Laboratories Fire Resistance Directory, Volume 2*
   - ** NFPA 101 Life Safety Code*
   - ** All governing local and regional building codes*
5. *Firestop System installation must meet requirements of ASTM E-814 (UL 1479) tested assemblies that provide a fire rating equal to that of construction being penetrated.*
6. *All rated through-penetrations shall be prominently labeled with the following information:*
   - ** ATTENTION: Fire Rated Assembly*
   - ** UL System #*
   - ** Product(s) used*
   - ** Hourly Rating (F-Rating)*
   - ** Installation Date*

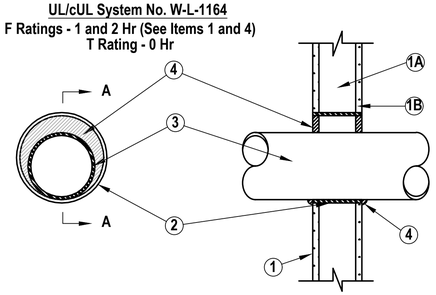


TYPICAL ROOF DRAIN AND OVERFLOW DRAIN DETAIL

NO SCALE

REFER TO ARCHITECTURAL DETAILS FOR ADDITIONAL INFORMATION

UL/cUL System No. W-L-1164
F Ratings - 1 and 2 Hr (See Items 1 and 4)
T Rating - 0 Hr



SECTION A-A

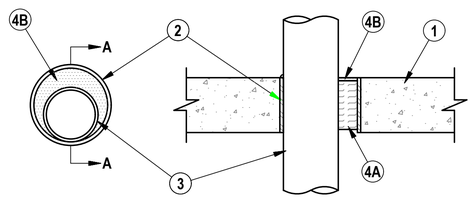
1. Wall Assembly The 1 or 2 hr fire–rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs –Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2–1/2 in. wide and spaced max 24 in. OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. wider and 4 to 6 in. higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board – The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening in steel stud walls is 32in.. Max diam of openings in wood stud walls is 14–1/2 in.

   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Steel Sleeve – Nom 32 in. diam (or smaller) Schedule 40 (or heavier) steel pipe sleeve friction fit in nom 32 in. diam circular opening cut through gyp–sum wallboard layers. Length of steel sleeve to be equal to thickness of wall.
3. Through–Penetrant – One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and the steel sleeve shall be min of 0 in. (point contact) to max 1–7/8 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe – Nom 30 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe – Nom 30 in. diam (or smaller) service weight (or heavier) cast iron soil pipe or Class 50 (or heavier) ductile iron pressure pipe.
   C. Conduit – Nom 4 in. diam (or smaller) steel electrical metallic tubing.
   D. Copper Tubing – Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe – Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
4. Fill, Void or Cavity Material*–Sealant – Min 5/8 in. and 1–14 in. thickness of fill material applied within annulus, flush with both surfaces of wall assembly for 1 or 2 hr rated walls, respectively. Min 1/2 in. diam bead of caulk applied to the penetrant/wallboard interface at the point contact location on both sides of wall.

FIRESTOP OF METAL PIPING THROUGH GYPSUM RATED WOOD OR STEEL WALL DETAIL

N.T.S.

UL/cULSystem No. C-AJ-1421
F Rating - 2 and 3 Hr (See Item 4B)
T Rating = 0 Hr



SECTION A-A

1. Floor or Wall Assembly – Min 4–1/2 in. (114 mm) thick reinforced lightweight or normal weight (100–150 pcf or 1600–2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 6 in. (152 mm).
2. Metallic Sleeve – (Optional) Nom 6 in. (152 mm) diam (or smaller) Schedule 40 (or heavier) steel sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces.
3. Through–Penetrant – One metallic pipe or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between pipe, tube or conduit and periphery of opening shall be min 0 in. (0 mm) (point contact) to max 5–3/8 in. (137 mm). Pipe or conduit to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes or conduits may be used:
   A. Steel Pipe – Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe – Nom 4 in. (102 mm) diam (or smaller) cast or ductile iron pipe.
   C. Copper Pipe – Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.
   D. Copper Tubing – Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Conduit – Nom 4 in. (102 mm) diam (or smaller) steel conduit.
   F. Conduit – Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT).
4. Firestop System – The firestop system shall consist of the following:
   A. Packing Material – Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material* – Sealant – Min 1/4 in. (6 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall. For 3 Hr rated assemblies, a min 1/4 in. (6 mm) diam bead of fill material shall be applied at the concrete/pipe interface at the point contact location on the top surface of floor and on both surfaces of wall.

FIRESTOP OF METAL PIPING THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL DETAIL

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

PLUMBING DETAILS

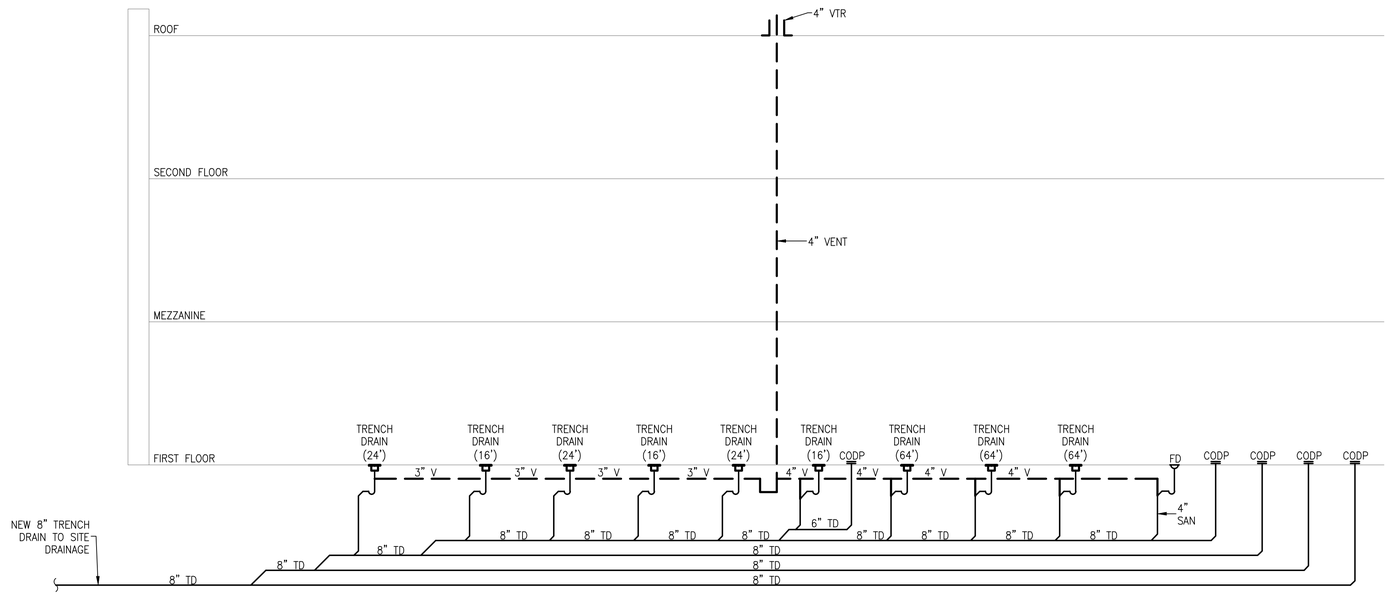
PROJECT No. 2501 EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

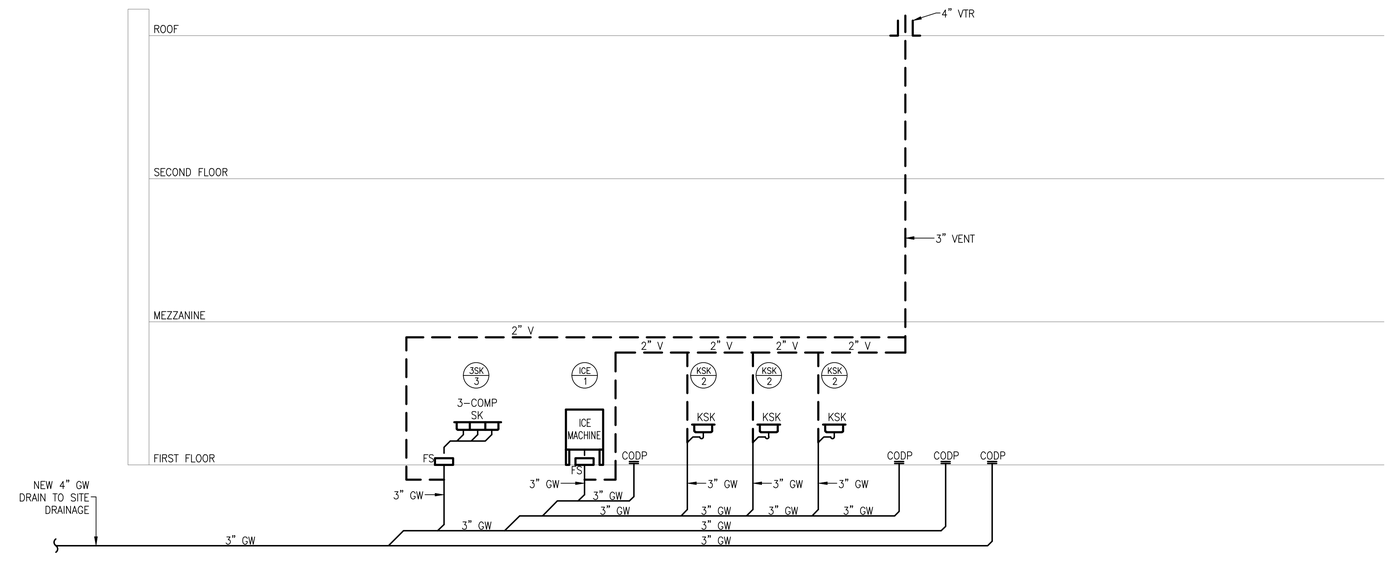
P-53

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS



TRENCH DRAINAGE RISER DIAGRAM

SCALE: NONE



GREASE WASTE DRAINAGE RISER DIAGRAM

SCALE: NONE

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PROPOSED NEW FACILITY
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ELLENVILLE, NY 12428

PLUMBING
RISER DIAGRAMS

PROJECT No. 2501
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CHECKED BY: MF/APS

DRAWING:

P-6.1

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

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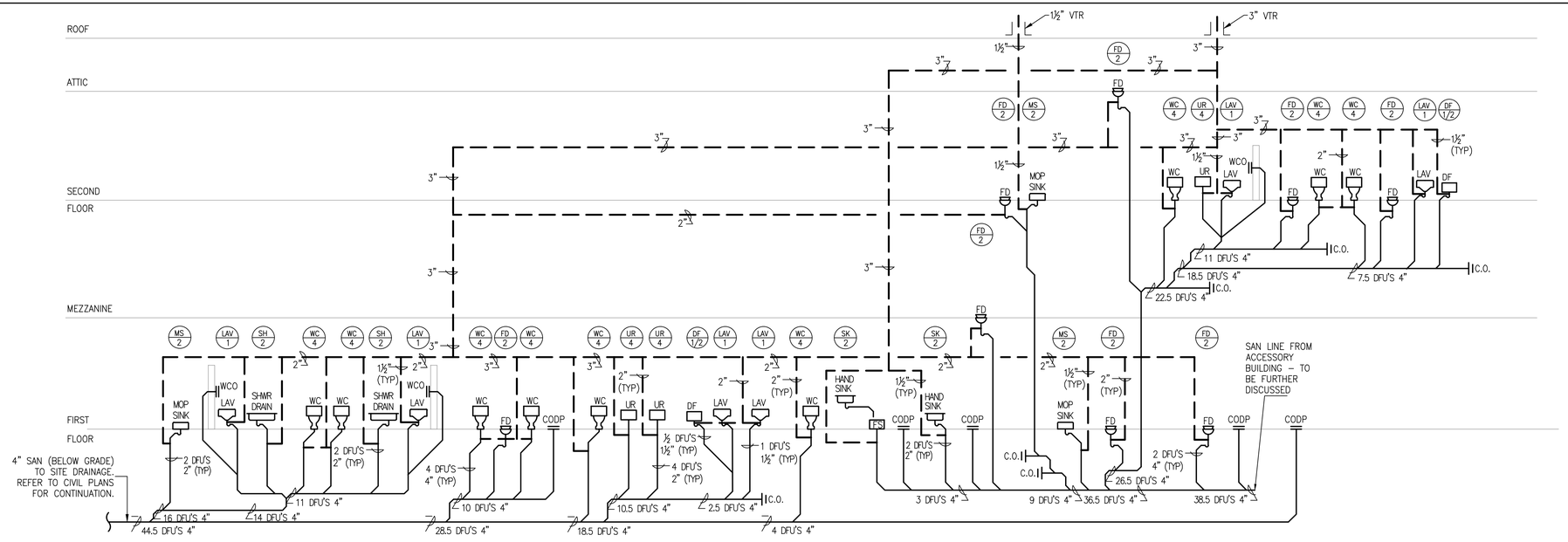
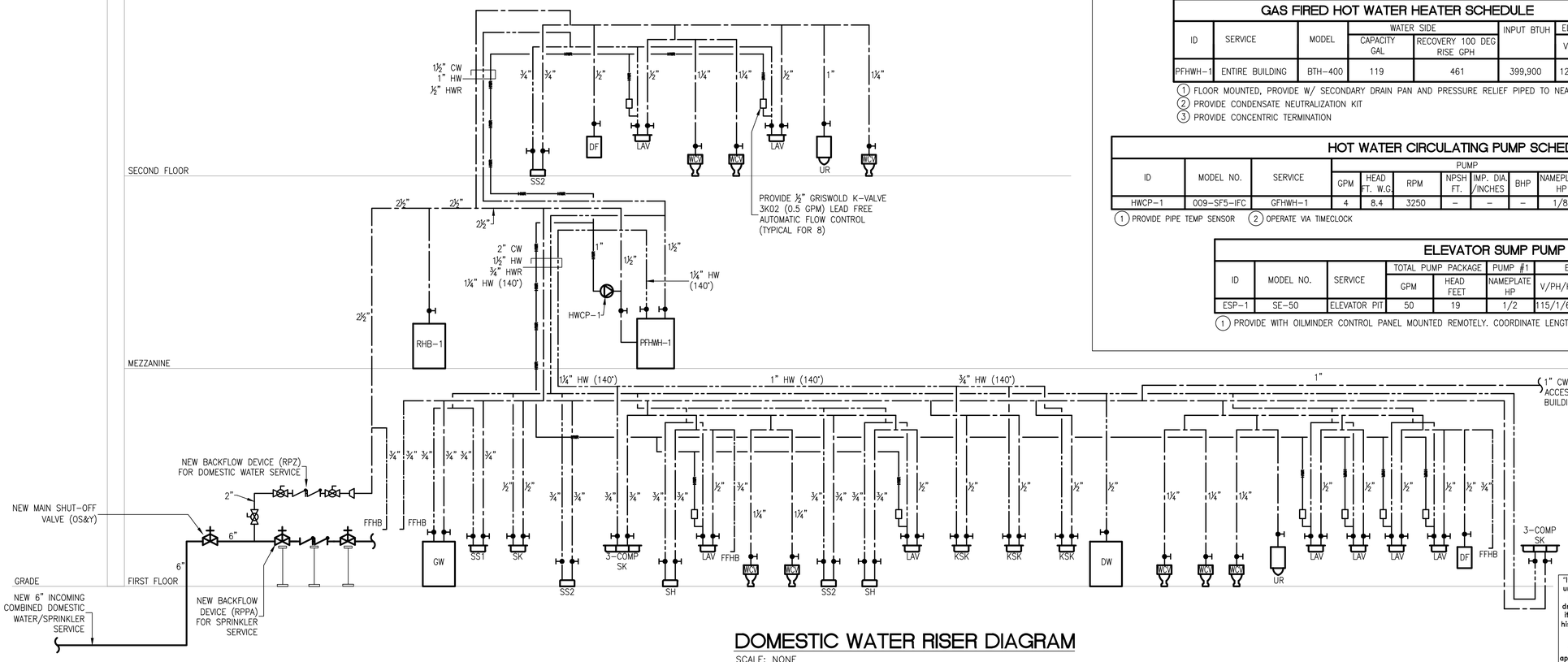


SANITARY RISER DIAGRAM

SCALE: NONE



DOMESTIC WATER RISER DIAGRAM

SCALE: NONE

GAS FIRED HOT WATER HEATER SCHEDULE

BASIS OF DESIGN AO SMITH

ID	SERVICE	MODEL	WATER SIDE		INPUT BTUH	ELECTRICAL		APPROX. WEIGHT (LBS)	REMARKS
			CAPACITY GAL	RECOVERY 100 DEG RISE GPH		V/PH/Hz	MCA		
PFHWH-1	ENTIRE BUILDING	BTH-400	119	461	399,900	120/1/60	–	825	①②③

① FLOOR MOUNTED, PROVIDE W/ SECONDARY DRAIN PAN AND PRESSURE RELIEF PIPED TO NEAREST DRAIN
② PROVIDE CONDENSATE NEUTRALIZATION KIT
③ PROVIDE CONCENTRIC TERMINATION

HOT WATER CIRCULATING PUMP SCHEDULE

BASIS OF DESIGN TACO

ID	MODEL NO.	SERVICE	PUMP						ELECTRICAL			APPROX. WEIGHT (LBS)	REMARKS
			GPM	HEAD FT. W.G.	RPM	NPSH FT.	IMP. DIA. /INCHES	BHP	NAMEPLATE HP	V/PH/Hz	MCA	MFS	
HWCP-1	009-SF5-IFC	GFHWH-1	4	8.4	3250	–	–	–	1/8	115/1/60	1.4	–	9.5	①②

① PROVIDE PIPE TEMP SENSOR ② OPERATE VIA TIMECLOCK

ELEVATOR SUMP PUMP

BASIS OF DESIGN STANCOR

ID	MODEL NO.	SERVICE	TOTAL PUMP PACKAGE		PUMP #1	ELECTRICAL			APPROX. WEIGHT (LBS)	REMARKS
			GPM	HEAD FEET	NAMEPLATE HP	V/PH/Hz	FLA	MFS		
ESP-1	SE-50	ELEVATOR PIT	50	19	1/2	115/1/60	8	–	–	①

① PROVIDE WITH OILMINDER CONTROL PANEL MOUNTED REMOTELY. COORDINATE LENGTH OF POWER CORD WITH FLOOR PLAN

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PLUMBING
RISER DIAGRAMS

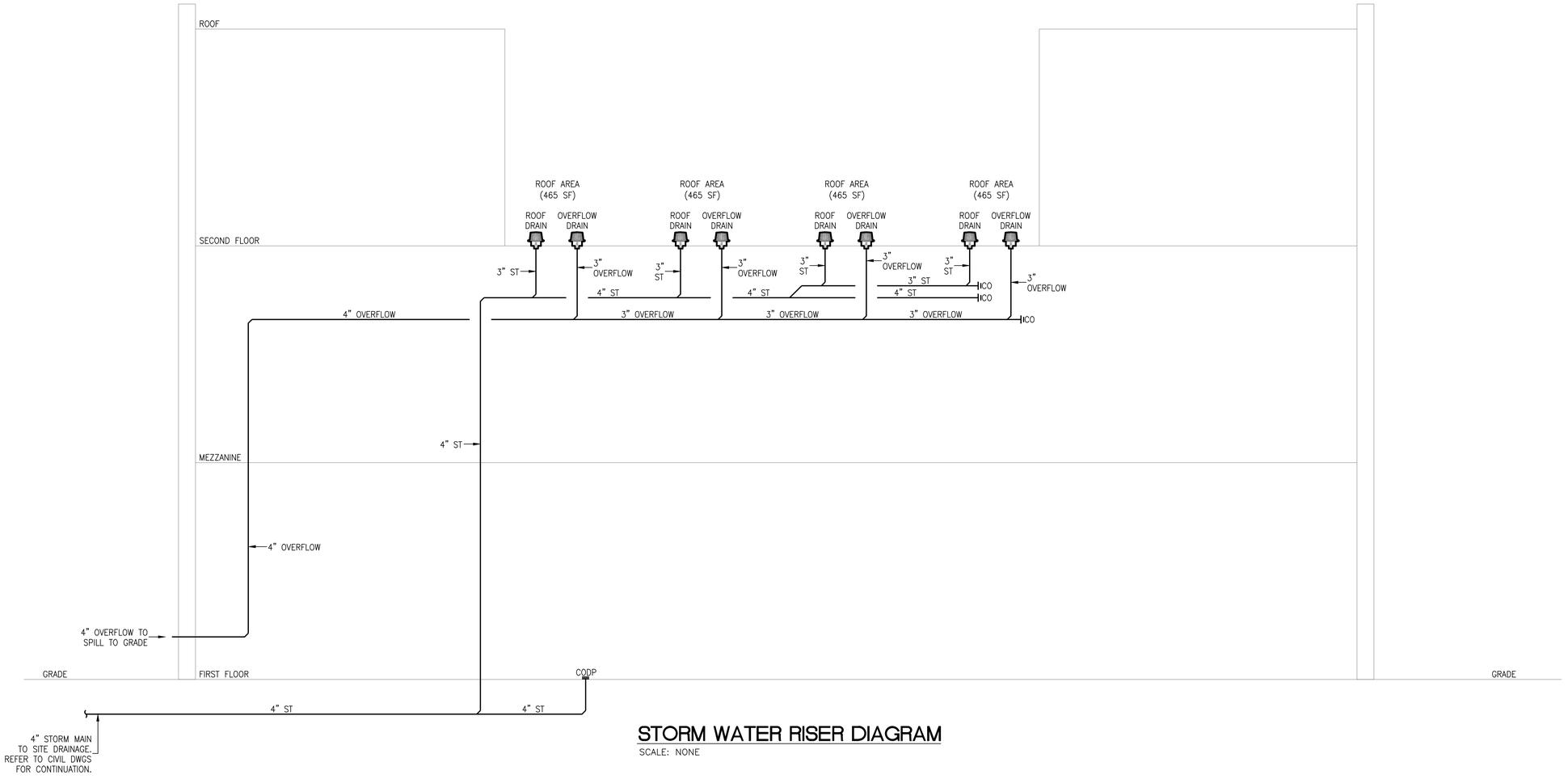
PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

P-6.2

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS



STORM WATER RISER DIAGRAM

SCALE: NONE

PLUMBING FIXTURES AND EQUIPMENT

ID	ITEM	W	V	CW	HW	FIXTURE SUPPORT	BASIS OF DESIGN
SS2	SERVICE SINK – MOP BASIN	2"	1½"	¾"	¾"	FLOOR MOUNTED	MUSTEE 63M MOP SERVICE BASIN – 24"x24"x10" WITH SERVICE SINK FAUCET MODEL 63.600A HEAVY-DUTY CHROME PLATED BRASS, 8" CENTERS
SS1	SERVICE SINK	2"	1½"	¾"	¾"	FLOOR MOUNTED	MUSTEE 12C UTILITUB; 18" POLYPROPYLENE LAUNDRY TUB SINK WITH STEEL LEGS AND FAUCET KIT
WCV	RESTROOM TOILET	4"	2"	1 ¼"	–	FLOOR MOUNTED	AMERICAN STANDARD AFWALL MILLENIUM FLOWISE 1.28 GPF FLUSHOMETER TOILET SYSTEM WITH EVERCLEAN SELECTRONIC FLUSH VALVE MODEL 3351.528 WITH MAXIMUM 1.28 GPF. AMERICAN STANDARD SEAT #5905.100 EXTRA HEAVY DUTY OPEN FRONT LESS COVER.
LAV1	RESTROOM LAVATORY	1½"	1½"	½"	½"	WALL MOUNTED	BRADLEY VERGE WAS BASIN LVA SERIES #LVAD1 WITH WASHBAR DUO WBD1. WATER TEMPERATURE ADJUSTED BY MASTER CONTROL BOX. ASSE 1070 COMPLIANT MIXING VALVE (LEONARD, MODEL #170-LF)
DF	DRINKING FOUNTAIN SINGLE	1½"	1¼"	½"	–	WALL MOUNTED	ELKAY EZH2O BOTTLE FILLING STATION & SINGLE ADA COOLER HIGH EFFICIENCY FILTERED 8 GPH LIGHT GRAY MODEL LZSG8WSLK
UR	URINAL	4"	2"	1"	–	WALL MOUNTED	AMERICAN STANDARD ALLBROOK URINAL SYSTEM SELECTRONIC FLUSH VALVE BARRIER FREE MODEL 6541.610 WITH 0.5 GPF MAXIMUM.
SHWR	SHOWER	3"	1½"	½"	½"	FLOOR MOUNTED	MUSTEE CAREGIVER 3254 BARRIER-FREE SHOWER FLOOR COMPLIES WITH ADA (WITHOUT 360.100 ENTRY RAMP ADA). AMERICAN STANDARD FLOWISE COMMERCIAL SHOWER SYSTEMS 1.5 GPM SHOWER SYSTEM KIT WITH HAND SHOWER MODEL 1662.211. PLUMBING CONTRACTOR SHALL PROVIDE HUBLESS STAINLESS STEEL CLAMPS FOR DRAIN CONNECTION AND SHALL PROVIDE NEW BRASS P-TRAP WITH MECHANICAL TRAP PRIMER.
FFHB	HOSE BIBB – OUTDOORS	–	–	¾"	–	WALL MOUNTED	JAY R. SMITH 5509QT ¼ TURN NON-FREEZE WALL HYDRANT WITH INTEGRAL VACUUM BREAKER AND STAINLESS STEEL BOX.
FD	FLOOR DRAIN	2"	2"	–	–	FLOOR MOUNTED	WADE 1100-STD WITH TRAP PRIMER TAP AND 6" COVER
LAV2	RESTROOM LAVATORY	1½"	1½"	½"	½"	WALL MOUNTED	BRADLEY VERGE WAS BASIN LVA SERIES #LVAD2 WITH WASHBAR DUO WBD1. WATER TEMPERATURE ADJUSTED BY MASTER CONTROL BOX. ASSE 1070 COMPLIANT MIXING VALVE (LEONARD, MODEL #170-LF)

1. ALL PLUMBING FIXTURES TO BE APPROVED BY ARCHITECTS AND OWNER PRIOR TO PURCHASE AND/OR INSTALLATION.

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PLUMBING
RISER DIAGRAM

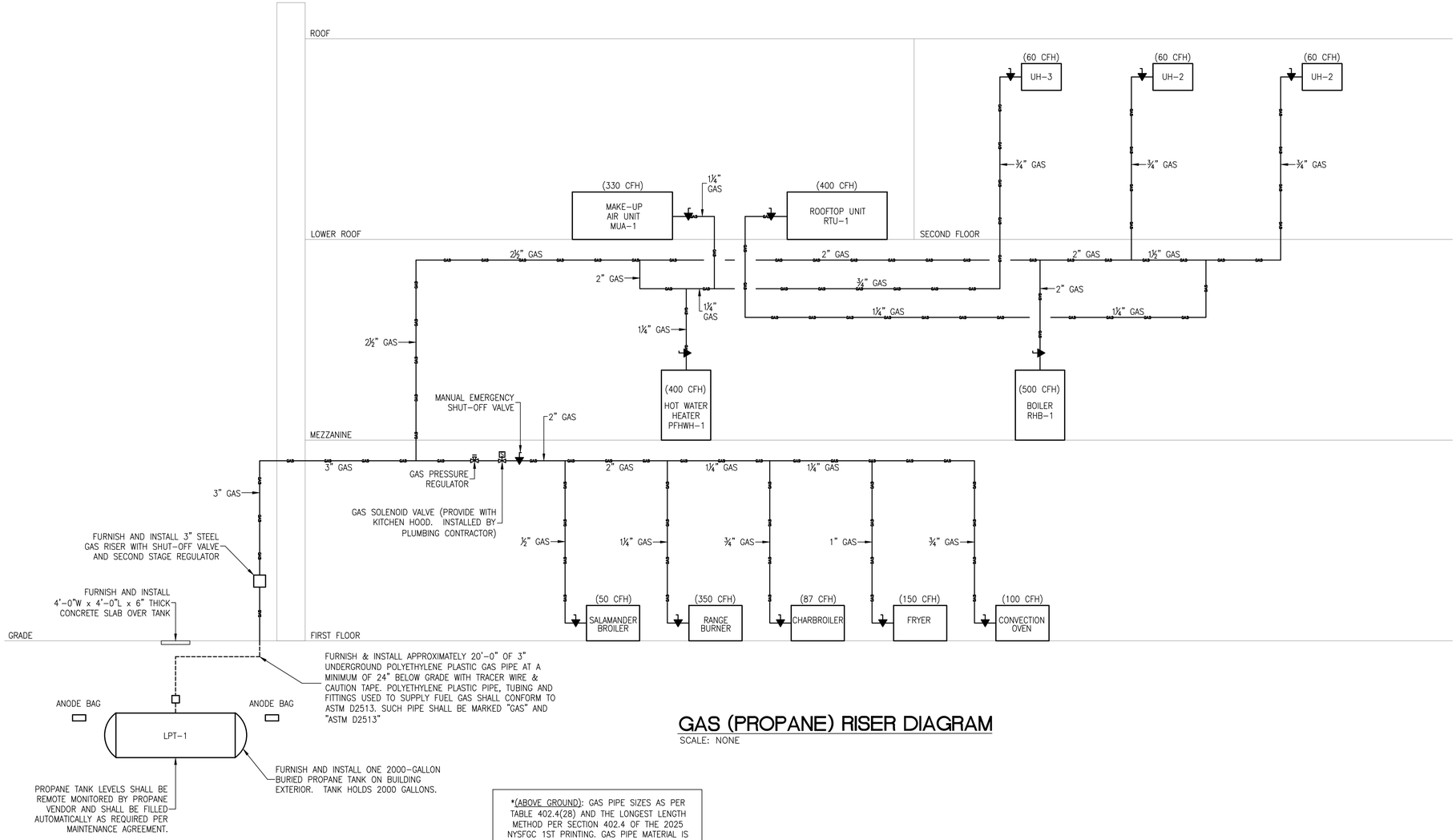
PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

P-6.3

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS



GAS (PROPANE) RISER DIAGRAM

SCALE: NONE

GAS PIPE SIZES AS PER TABLE 402.4(28) AND THE LONGEST LENGTH METHOD PER SECTION 402.4.1 OF THE 2025 NYSFGC 1ST PRINTING. GAS PIPE MATERIAL IS SCHEDULE 40 METALLIC PIPE.

(ABOVE GROUND): GAS PIPE SIZES AS PER TABLE 402.4(28) AND THE LONGEST LENGTH METHOD PER SECTION 402.4 OF THE 2025 NYSFGC 1ST PRINTING. GAS PIPE MATERIAL IS SCHEDULE 40 GALVANIZED STEEL PIPE FOR A PROPANE SYSTEM.

(UNDERGROUND): GAS PIPE SIZES AS PER TABLE 402.4(35) AND LONGEST LENGTH METHOD PER SECTION 402.4 OF THE 2025 NYSFGC 1ST PRINTING. GAS PIPE MATERIAL IS POLYETHYLENE PLASTIC PIPE FOR A PROPANE SYSTEM. POLYETHYLENE PLASTIC PIPE, TUBING AND FITTINGS USED TO SUPPLY FUEL GAS SHALL CONFORM TO ASTM D2513. SUCH PIPE SHALL BE MARKED "GAS" AND "ASTM D2513"

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PLUMBING
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PROJECT No. 2501
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DRAWING:

P-6.4

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

GENERAL:

EACH BIDDER SUBMITTING HIS PROPOSAL SHALL EXAMINE ALL DRAWINGS RELATING TO THIS WORK AND VERIFY ALL GOVERNING CONDITIONS AT THE BUILDING AND SHALL BECOME FULLY INFORMED AS TO THE EXTENT AND CHARACTER OF THE WORK REQUIRED AND ITS RELATION TO OTHER WORK. NO CONSIDERATION WILL BE GRANTED FOR ANY ALLEGED MISUNDERSTANDING OF MATERIALS TO BE FURNISHED OR WORK TO BE DONE, IS BEING UNDERSTOOD THAT THE SUBMISSION OF A PROPOSAL IS AN AGREEMENT TO ALL ITEMS AND CONDITIONS REFERRED TO HEREIN OR INDICATED ON THE ACCOMPANYING DRAWINGS.

WORK INCLUDED:

THE WORK INCLUDES FURNISHING AND INSTALLATION OF ALL MATERIALS AND LABOR NECESSARY TO COMPLETE AND MAKE READY FOR OPERATION BY THE OWNER ALL PLUMBING WORK AS SHOWN ON THE DRAWINGS AND HEREINAFTER SPECIFIED, INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:

A. ALTERATIONS AND ADDITIONS TO EXISTING SANITARY WASTE AND VENT PIPING INCLUDING PIPING VALVES AND CONNECTIONS TO ALL FIXTURES AND EQUIPMENT.

B. ALTERATIONS AND ADDITIONS TO EXISTING DOMESTIC HOT AND COLD WATER PIPING INCLUDING RELOCATIONS, REPLACEMENTS AND CONNECTIONS TO ALL FIXTURES AND EQUIPMENT.

C. ALTERATIONS TO EXISTING NATURAL GAS PIPING INCLUDING METER ASSEMBLIES, PIPING AND CONNECTIONS TO ALL FIXTURES AND EQUIPMENT.

D. SLEEVES HANGERS AND SUPPORTS.

E. INSULATION FOR ALL NEW HOT AND COLD WATER PIPING.

F. REMOVALS OF EXISTING FIXTURES AND PIPING AS REQUIRED.

G. CUTTING AND PATCHING AS NECESSARY FOR ACCESS TO EXISTING PLUMBING.

H. ROUGH PATCHING OF CEILINGS AND FURRINGS.

I. PROVIDE ALL FIXTURES AND REQUIRED TRIMMINGS.

J. FINAL CONNECTIONS AND INSTALLATIONS OF ALL FIXTURES AND TRIMMINGS.

K. SHOP DRAWINGS.

L. APPLY FOR, OBTAIN AND PAY FOR ALL REQUIRED PERMITS, CERTIFICATES, INSPECTIONS AND APPROVALS REQUIRED FOR ALL PLUMBING WORK.

M. IT IS NOT THE INTENTION OF THESE SPECIFICATIONS TO DESCRIBE., NOR THE CONTRACT DRAWINGS TO SHOW IN DETAIL, ALL VARIOUS PIECES OF APPARATUS AND APPURTENANCES AND THEIR CONNECTIONS. THIS CONTRACTOR SHALL, AS PART OF THE CONTRACT, FURNISH AND INSTALL ALL INCIDENTALS, SUCH AS PIPING, FITTINGS, VALVES, ETC. REQUIRED TO COMPLETE THE INSTALLATION OF EQUIPMENT. THIS CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS AND PLUMBING DRAWINGS FOR EXACT LOCATION OF FIXTURES INCLUDING TYPE AND QUANTITIES.

N. WHERE DUE TO UNION REGULATIONS OR TRADE AGREEMENTS, IF ANY OF THE WORK SHOWN ON THE DRAWINGS OR SPECIFIED HEREIN IS NOT CONSIDERED PLUMBER'S WORK, THIS CONTRACTOR SHALL SUB- CONTRACT THE WORK IN QUESTION, BUT THIS CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE COMPLETE INSTALLATION.

EXAMINATION OF EXISTING CONDITIONS:

BEFORE SUBMITTING PROPOSALS BIDDERS SHALL VISIT THE SITE AND CAREFULLY EXAMINE THOSE PORTIONS OF THE BUILDING AFFECTED BY THIS WORK SO AS TO FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THE WORK. SUBMISSION OF THE PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE WITH LATER CLAIMS FOR LABOR OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE, AS DETERMINED BY THE ARCHITECT, WILL NOT BE RECOGNIZED.

PERMITS AND CERTIFICATES:

THIS CONTRACTOR SHALL GIVE NECESSARY NOTICES, FILE DRAWINGS AND SPECIFICATIONS WITH THE DEPARTMENTS HAVING JURISDICTION, OBTAIN PERMITS OR LICENSES NECESSARY TO CARRY OUT THIS WORK, AND PAY ALL FEES REQUIRED.

SUBMITTALS:

MANUFACTURER'S CATALOG CUTS AND SHOP DRAWINGS FOR THE FOLLOWING APPARATUS, GIVING FULL DESCRIPTION AND OTHER PERTINENT FACTS, SHALL BE SUBMITTED AND THEIR APPROVAL SECURED BEFORE EQUIPMENT IN QUESTION IS ORDERED, BUILT, OR INSTALLED.

1. ALL PIPING AND SUPPORTS.
2. FLOOR DRAINS.
3. VALVES.
4. ALL PLUMBING FIXTURES AND TRIM.
5. COORDINATED PIPING LAYOUT PLAN.

PLUMBING CONTRACTOR SHALL SUBMIT REPRODUCIBLE "AS-BUILT" RECORD DRAWINGS, MINIMUM SCALE $\frac{1}{8}$ INCH = 1'-0", INDICATING THE ACTUAL AND TRUE INSTALLATION OF ALL PIPING AND EQUIPMENT.

QUANTITIES AND TYPES OF SUBMITTALS SHALL BE AS REQUIRED BY ARCHITECT.

REMOVAL OF EXISTING WORK:

A. REMOVE AND/OR RELOCATE ANY EXISTING PLUMBING WORK WHICH INTERFERES WITH INSTALLATION OF NEW WORK.

SCAFFOLDING AND RIGGING:

CONTRACTOR SHALL PROVIDE ALL SCAFFOLDING, RIGGING AND SERVICES NECESSARY FOR ERECTION AND DELIVERY ONTO THE PREMISES OF ALL MATERIALS FURNISHED AND/OR INSTALLED UNDER THIS SECTION OF THE SPECIFICATIONS AND REMOVE SAME FROM PREMISES WHEN NO LONGER REQUIRED.

CLEAN UP:

CONTRACTOR SHALL MAINTAIN CONSTRUCTION SITE IN A CLEAN AND ORDERLY CONDITION AND SHALL REMOVE ALL TRASH FROM THE PREMISES PRIOR TO ACCEPTANCE OF WORK.

GUARANTEE:

THE CONTRACTOR GUARANTEES BY HIS ACCEPTANCE OF THE CONTRACT THAT ALL WORK INSTALLED WILL BE FREE FROM ANY AND ALL DEFECTS FOR A PERIOD OF ONE YEAR FORM DATE OF ACCEPTANCE OF WORK.

STANDARDS AND CODES:

A. NEW YORK STATE BUILDING CODES.

B. BUILDING STANDARDS AND REQUIREMENTS.

TESTING AND ADJUSTMENTS:

WORK OF THIS CONTRACTOR SHALL INCLUDE THE FURNISHING OF ALL TESTING INSTRUMENTS, GAUGES, PUMPS, SMOKE MACHINES, AND OTHER EQUIPMENT REQUIRED OR NECESSARY FOR TESTS, REQUIRED BY CODE AND REGULATIONS AS REQUIRED BY THE LOCAL INSPECTOR.

A. DOMESTIC WATER SYSTEM

1. DOMESTIC COLD WATER SYSTEM: SHALL BE TESTED TO HYDROSTATIC PRESSURE OF 100 POUNDS PER SQUARE INCH; AND PROVED TIGHT AS THE PRESSURE FIXTURES ARE INSTALLED.
2. THE TEST PRESSURE SHALL BE HELD FOR A PERIOD NOT LESS THAN TWO (2) HOURS. IF THE PRESSURE DROPS, ALL REPAIRS AND ALTERATIONS IN THE PIPING SYSTEM NECESSARY TO MEET THE TEST SHALL BE MADE.

B. SANITARY DRAINAGE SYSTEM

1. THE ENTIRE PIPING OF THE SANITARY DRAINAGE SYSTEMS SHALL BE TESTED WITH WATER IN ACCORDANCE WITH NEW YORK STATE BUILDING CODES AND THE LOCAL PLUMBING INSPECTOR'S REQUIREMENTS AND PROVED TIGHT BEFORE THE PIPING IS CONCEALED OR FIXTURES CONNECTED.
2. ALL DRAINAGE AND VENT SYSTEMS SHALL BE FILLED WITH WATER AND PROVEN TIGHT UNDER A 10'-0" HEAD OVER NEW WORK FOR A MINIMUM OF TWO (2) HOURS. WATER LEVEL MUST REMAIN CONSTANT THROUGHOUT TEST WITHOUT ADDING WATER.

C. NATURAL GAS SYSTEM

1. TEST IN ACCORDANCE WITH NEW YORK STATE BUILDING CODES, LOCAL INSPECTOR'S REQUIREMENTS, AND LOCAL UTILITY CO. RULES AND REGULATIONS.
2. TEST LOW PRESSURE SYSTEMS FOR 20 MINUTES WITHOUT DROP IN PRESSURE USING APPROVED MERCURY GAUGE. SET AIR PRESSURE AT 7 TO 10 INCHES OF MERCURY.

PIPING MATERIALS:

A. SOIL, WASTE, AND VENT PIPING BELOW GROUND SHALL BE SERVICE WEIGHT CAST IRON PIPE WITH BELL & SPIGOT JOINTS. JOINTS SHALL BE MADE WITH PUSH ON STYLE NEOPRENE GASKETS AS MANUFACTURED BY TYLER PIPE CO. OR APPROVED EQUAL.

B. SOIL, WASTE, AND VENT PIPING ABOVE GROUND SHALL BE HUBLESS, SERVICE WIEGHT, CAST IRON SOIL PIPE AND FITTINGS. JOINTS SHALL BE MADE WITH CISPI STYLE COUPLINGS AS MANUFACTURED BY "HUSKY" OR "CLAMP-ALL".

C. DOMESTIC WATER PIPING SHALL BE SEAMLESS DRAWN OR EXTRUDED HARD TEMPER TYPE "L" COPPER TUBING, ASTM B-88, WITH SOLDER JOINT FITTINGS. FITTINGS SHALL BE COPPER. JOINTS SHALL BE MADE WITH A SOLDER ALLOY (95/5) CONSISTING OF TIN-ANTIMONY AND SHALL CONFORM TO ASTM SPECIFICATION B-32.

D. INDIRECT WASTE PIPING SHALL BE SIMILAR TO THAT AS SPECIFIED FOR WATER PIPING EXCEPT PROVIDE WITH "DWV" PATTERNED FITTING.

E. NATURAL GAS PIPING:

1. INTERIOR NATURAL GAS PIPING SHALL MEET LOCAL GAS COMPANY GUIDELINES.
2. PIPING SHALL BE SCHEDULE 40 BLACK STEEL WITH MAKERS NAME ROLLED IN THE METAL.
3. FOR PIPE 3" AND SMALLER, PROVIDE 150 POUND MALLEABLE IRON SCREWED FITTINGS.
4. ALL SHOULDER NIPPLES SHALL BE MADE OF EXTRA HEAVY PIPE. CLOSE NIPPLES SHALL NOT BE PERMITTED.

PIPING SYSTEM VALVES:

A. DOMESTIC WATER VALVES TABULATED HEREIN HAVE BEEN SELECTED FROM THE CATALOG OF THE STOCKHAM CO. APPROVED EQUALS OF JENKINS CO., CRANE CO. AND APOLLO CO. WILL BE REVIEWED.

BALL VALVES	THREADED	S216BRRT	FOR 2" AND SMALLER
	SOLDER ENDS	S216BRRS	

B. NATURAL GAS VALVES (COCKS)

1. LOW PRESSURE NATURAL GAS VALVES SHALL BE AGA STANDARD GAS COCKS. 2" AND SMALLER GAS COCKS SHALL BE EQUAL TO HOMESTEAD NO. 601. 2$\frac{1}{2}$" AND LARGER GAS COCKS SHALL BE FLANGED, IRON BODY LUBRICATED PLUG TYPE 175 PSI WOG EQUAL TO HOMESTEAD NO. 602. PROVIDE OPERATING WRENCHES WITH EACH VALVE.

HANGERS AND SUPPORTS:

A. SUPPORTS AND HANGERS SHALL BE PROVIDED FOR HORIZONTAL AND VERTICAL PIPING. THE HANGER DESIGN SHALL CONFORM TO THE ASA CODE FOR PRESSURE PIPING. HANGERS SHALL BE KEPT OUTSIDE OF PIPE INSULATION.

B. PIPES AND SUPPORTS SHALL BE OF THE FOLLOWING TYPES AND FIGURE NUMBERS, MANUFACTURED BY C&P, F&M, GRINNELL OR EQUAL AS APPROVED.

	C&P	F&M	GRINNELL
BEAM CLAMP	268	282	- - -
CLEVIS HANGER	100	239	260
180° SHIELD	265P	80	- - -
PIPE SADDLE	351	170 & 1700 SERIES	180 SERIES

C. INSULATION PROTECTION: FOR ALL INSULATED PIPE, FURNISH CLEVIS HANGERS WITH WELDED SHIELDS AND EQUAL TO C&P INC., FIG. 100-SH.

INSULATING MATERIALS:

A. INSULATION SHALL BE GLASS FIBER WITH A MAXIMUM K FACTOR OF 0.23 AT 75° F MEAN TEMPERATURE WITH FACTORY APPLIED ALL SERVICE VAPOR BARRIER JACKET. DENSITY SHALL BE NOT LESS THAN 3 LBS. PER CUBIC FOOT.

B. INSULATION SHALL BE HEAVY DENSITY FIBERGLASS SECTIONAL PIPE INSULATION ASMADE BY OWENS-CORNING FIBERGLASS CORP, OR CSG'S "SNAP ON", OR MANVILLE "FLAME SAFE" FIBERGLASS INSULATION.

C. FITTINGS AND VALVES: ZESTON 25/50 RATED - 20 MIL PVC COVERS OVER FIBERGLASS INSULATION.

D. INSTALL INSULATION ON PIPE SYSTEM SUBSEQUENT TO TESTING AND ACCEPTANCE OF TESTS.

PIPE INSULATION TABLE

SERVICE	INSULATION CONDUCTIVITY (BTU•IN.)/(H•FT²•°F)	MINIMAL PIPE/TUBE SIZE (INCHES)			
		<1	1 TO 1 1/2	1 1/2 TO <4	4 TO <8
DOMESTIC COLD WATER	0.21 – 0.27	0.5	0.5	1.0	1.0
DOMESTIC HOT WATER	0.21 – 0.28	1.0	1.0	1.5	1.5
DOMESTIC HOT WATER RETURN	0.21 – 0.28	1.0	1.0	1.5	1.5

ALL PIPING, FITTINGS, VALVES, ETC. SHALL BE INSULATED PER THIS TABLE.

CLEANOUTS:

A. PROVIDE EASILY ACCESSIBLE CLEANOUTS WHERE INDICATED; AT BASE OF VERTICAL STACKS AT ENDS OF HORIZONTAL DRAINAGE LINES AND AT INTERVALS NOT EXCEEDING 50 FT., AT EACH CHANGE OF DIRECTION, ON HAND HOLES OF RUNNING TRAPS, AND WHERE INDICATED TO MAKE ENTIRE DRAINAGE SYSTEM ACCESSIBLE FOR RODDING. PROVIDE AT LEAST 18 INCH CLEARANCE TO PERMIT ACCESS TO CLEANOUT PLUGS.

B. CLEANOUTS FOR CAST IRON PIPE SHALL CONSIST OF TAPPED EXTRA HEAVY CAST IRON FERRULE CAULKED INTO CAST IRON FITTINGS, AND EXTRA HEAVY BRASS SCREW PLUG WITH SOLID HEXAGONAL NUT.

C. CLEANOUTS TURNING OUT THROUGH WALLS AND UP THROUGH FLOORS SHALL BE MADE BY LONG SWEEP ELLS OF "Y" AND $\frac{1}{8}$ BENDS WITH PLUGS AND FACE OR DECK PLATES TO CONFORM TO ARCHITECTURAL FINISH IN ROOM. WHERE NO DEFINITE FINISH IS INDICATED ON THE ARCHITECTURAL AND/OR MECHANICAL DRAWINGS, WALL PLATES SHALL BE CHROME PLATED CAST BRASS AND FLOOR PLATES SHALL BE NICKEL BRONZE. SCREWS IN CLEANOUTS IN FINISHED AREAS SHALL BE VANDAL PROOF.

D. CLEANOUTS SHALL BE FULL SIZE AT THE PIPE UP TO AND INCLUDING 6 INCH PIPE.

E. CLEANOUTS IN FINISHED AREAS SHALL BE ZURN Z-1420-3 OR Z-1420-7 WITH RECESS FOR TILE FLOORS.

PLUMBING FIXTURES:

A. REFER TO ARCHITECTURAL DOCUMENTS FOR FIXTURE SPECIFICATIONS.

B. PROVIDE ALL INCIDENTAL TRIM (ANGLE STOPS, TRAPS, SUPPORTS, SUPPLIES, NIPPLES, ETC.) AS REQUIRED FROM COMPLETE INSTALLATION OF FIXTURES SPECIFIED BY OTHERS. ALL INCIDENTALS SHALL BE CHROME PLATED. ESCUTCHEONS SHALL BE SET SCREW TYPE. TRAPS SHALL HAVE CLEANOUTS.

CONSTRUCTION METHODS:

A. CONTRACTOR TO FOLLOW MANUFACTURER'S RECOMMENDATIONS AND BUILDING STANDARDS FOR PROPER MOUNTING OF ALL EQUIPMENT.

B. ALL FLOOR MOUNTED EQUIPMENT TO BE MOUNTED WITH VIBRATION ISOLATORS IN AN APPROVED MANNER. PROVIDE ADDITIONAL FRAMING AS REQUIRED.

C. SUPPORT ALL CEILING MOUNTED EQUIPMENT FROM BUILDING STRUCTURE AND/OR FRAMING IN AN APPROVED MANNER. WHERE OVERHEAD CONSTRUCTION DOES NOT PERMIT FASTENING OF SUPPORTS AND EQUIPMENT, PROVIDE ADDITIONAL STEEL FRAMING AND SUBMIT FOR APPROVAL.

D. SEAL ALL WALL, FLOOR AND SLAB PENETRATIONS AS PER THE REQUIRED RATING OF SAME: TWO (2) HOURS FOR WALLS; AND THREE (3) HOURS AT STAIR ENCLOSURES, BEAMS AND FLOORS. COORDINATE WITH ARCHITECTURAL DRAWINGS.

E. SEAL OPENING AROUND PIPES THROUGH PARTITIONS, WALLS, FLOORS AND SLABS (NOT IN SHAFTS) WITH MINERAL WOOL OR OTHER NONCOMBUSTIBLE MATERIALS AND FINISH AS DETERMINED BY ARCHITECT OR EXISTING BUILDING STANDARDS.

F. PROVIDE ALL NECESSARY FLASHING AND COUNTER FLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THIS BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF PIPES AND CONDUITS, PROVIDE SLEEVES FOR PIPING.

G. CONTRACTOR TO COORDINATE EXACT LOCATION OF ALL EQUIPMENT WITH ARCHITECT, BUILDING OWNER AND OTHER TRADES.

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This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

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06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

STATE OF NEW YORK
ANDREW P. SAGGESE
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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

PLUMBING SPECIFICATIONS

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

P-7.1

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

KEY TO SYMBOLS

- EXISTING SPRINKLER PIPING TO REMAIN
- EXISTING SPRINKLER PIPING TO BE REMOVED
- NEW SPRINKLER PIPING
- PIPE TURNING UP
- PIPE TURNING DOWN
- BOTTOM PIPE TAP
- TOP PIPE TAP
- CAPPED PIPE
- PIPE BREAK
- NEW CONCEALED PENDENT SPRINKLER HEAD
- NEW SEMI-CONCEALED PENDENT SPRINKLER HEAD
- NEW UPRIGHT SPRINKLER HEAD
- EXISTING SPRINKLER HEAD TO BE REMOVED
- E — EXISTING SPRINKLER HEAD TO REMAIN
- R — EXISTING SPRINKLER RELOCATED
- NEW SIDEWALL SPRINKLER HEAD
- DRY PENDENT HEAD
- DRY UPRIGHT HEAD
- DRY SIDEWALL HEAD
- OS & Y CONTROL VALVE
- WATER FLOW SWITCH (FLOW ALARM)
- PIPE RISER
- HYDRAULIC REFERENCE POINTS
- SIAMESE FIRE DEPARTMENT CONNECTION
- FACP — FIRE ALARM CONTROL PANEL
- FIRE HOSE CABINET
- HR — HOSE REEL
- FDV — FIRE DEPARTMENT VALVE
- PG — PRESSURE GAUGE
- CHECK VALVE
- GATE VALVE
- BUTTERFLY VALVE
- BALL VALVE
- PRESSURE REDUCING VALVE
- GLOBE VALVE
- PIV, POST INDICATOR VALVE
- FIRE HOSE RACK
- HYDRANT, ONE HOSE OUTLET
- PUBLIC HYDRANT, TWO HOSE OUTLETS
- POST INDICATOR AND VALVE
- KEY-OPERATED VALVE
- VALVE IN PIT (OS & Y SHOWN)
- NON-INDICATING VALVE
- FIRE PUMP WITH DRIVES
- DELUGE VALVE
- ALARM CHECK VALVE
- DRY PIPE VALVE
- DRY PIPE VALVE WITH QUICK OPENING DEVICE
- PRESSURE DETECTOR/ SWITCH
- WATER MOTOR ALARM
- ELECTRIC ALARM BELL
- AUTOMATICALLY ACTUATED WET EXTINGUISHING
- AUTOMATICALLY ACTUATED DRY EXTINGUISHING
- T — TAMPER SWITCH
- F — FLOW SWITCH
- TIE INTO EXISTING PIPING

ABBREVIATIONS

ACV	ALARM CHECK VALVE	GAL	GALLON
AFF	ABOVE FINISHED FLOOR	GPM	GALLONS PER MINUTE
ALM	ALARM	GEN	GENERATOR
AFA	AUTOMATIC FIRE ALARM	HC	HOSE CABINET
ASKLR	AUTOMATIC SPRINKLERS	HCONN	HOSE CONNECTION
ATS	AUTOMATIC TRANSFER SWITCH	HYD	HYDRANT
AUTO	AUTOMATIC	IN	INCH, INCHES
AVE	AVENUE	JP	JOCKEY PUMP
BM	BEAM	NC	NORMALLY CLOSED
BOP	BOTTOM OF PIPE	NO	NORMALLY OPEN
BLDG	BUILDING	NIC	NOT IN CONTRACT
CI	CAST IRON	#	NUMBER
CONC	CONCRETE	OS & Y	OUTSIDE SCREW & YOKE VALVE
COD	CONTINUED ON DRAWING	PIV	POST INDICATOR VALVE
DCDV	DOUBLE CHECK DETECTOR VALVE	PRESS	PRESSURE
DCV	DOUBLE CHECK VALVE	PSI	UNIT OF PRESSURE (POUNDS PER SQUARE INCH)
DIA, ø	DIAMETER		
DOM	DOMESTIC	RPM	REVOLUTIONS PER MINUTE
DH	DOUBLE HYDRANT	RPZ	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
DN	DOWN		
DPV	DRY PIPE VALVE	RF	ROOF
EMD	ELECTRIC MOTOR DRIVEN	RM	ROOM
ELEV	ELEVATOR	SPKLR	SPRINKLER
EXIST	EXISTING	SPHD	SPRINKLER HEAD
FCA	FLOOR CONTROL ASSEMBLY	SPR	SPRINKLER LINE
FT	FEET	ST	STREET
FDPC	FIRE DEPARTMENT PUMPER CONNECTION	TK	TANK
FP	FIRE PUMP	TS	TAMPER SWITCH
FSP	FIRE STAND PIPE	WFS	WATER FLOW SWITCH
FLR	FLOOR	v	VOLTS

FIRE SPRINKLER GENERAL DESCRIPTION OF WORK SCOPE

RUN NEW COMBINED SPRINKLER/DOMESTIC WATER SERVICE TO BUILDING. INSTALL NEW BACKFLOW DEVICE (RPPA) ON NEW MAIN SPRINKLER SERVICE ONCE IT ENTERS THE BUILDING. INSTALL NEW BRANCH PIPING AND SPRINKLER HEADS FOR ENTIRE BUILDING.

CONTRACTOR SHALL COORDINATE WITH BUILDING SUPER ANY SYSTEM SHUT DOWN AND PROVIDE CERTIFIED FIRE WATCH FOR THE TIME THE SYSTEM SHALL BE SHUT DOWN. SYSTEM SHALL BE SHUT DOWN FOR TIE IN ONLY AND RE-ENERGIZED BEFORE END OF WORK DAY.

SPRINKLER DESIGN CRITERIA

1. THE SPRINKLER SYSTEM IN THIS BUILDING SHALL BE IN ACCORDANCE WITH THE 2025 NYS BUILDING CODE AND NFPA-13 2022.
2. OCCUPANCY CRITERIA

A. LIGHT HAZARD – OFFICE AREAS AND CORRIDORS, BATHROOMS DENSITY 0.1 GPM/ SQ. FT. OVER MOST HYDRAULICALLY REMOTE 1500 SQ. FT. MAXIMUM COVERAGE PER SPRINKLER HEAD 225 SQ. FT.

B. ORDINARY HAZARD GROUP 1 – MECHANICAL AND ELECTRICAL EQUIPMENT ROOMS. DENSITY 0.15 GPM PER SQ. FT OVER MOST HYDRAULICALLY REMOTE 1500 SQ. FT. MAXIMUM COVERAGE PER SPRINKLER HEAD 130 SQ. FT.

3. HYDRAULICALLY CALCULATED SYSTEMS SHALL MEET THE FOLLOWING CRITERIA:

A. EXACT LOCATION OF SPRINKLER HEADS IN FINISHED AREAS WITH SUSPENDED CEILINGS SHALL BE AS INDICATED ON ARCHITECTURAL REFLECTED CEILING PLANS WITH HEADS IN CENTER OF TILES.

B. EQUIVALENT FITTING LENGTHS USED IN HYDRAULIC CALCULATIONS SHALL BE IN ACCORDANCE WITH NFPA STANDARD NO. 13, 2022 AS REFERENCED BY THE NYS BUILDING CODE. WHEREVER FITTINGS ARE USED IN CONJUNCTION WITH SCHEDULE 40 PIPE, EQUIVALENT FITTING LENGTHS INDICATED IN NFPA 13 SHALL BE INCREASED BY 30%

C. DISCHARGE FROM EACH SPRINKLER HEAD SHALL NOT BE LESS THAN REQUIRED FOR AREA COVERED BY THE HEAD. AREA COVERAGE PER HEAD SHALL BE DETERMINED IN ACCORDANCE WITH NFPA STANDARD NO. 13, AS REFERENCED BY NYS BUILDING CODE.

D. HYDRAULIC CALCULATIONS SHALL BE BROUGHT BACK TO CONNECTION TO WATER SUPPLY.

4. FLOW TEST DATA

A. CONTRACTOR SHALL OBTAIN FLOW DATA INDICATING RESIDUAL PRESSURES ASSOCIATED WITH BUILDING SYSTEM AND SUBMIT DATA WITH HYDRAULIC CALCULATIONS

B. THESE HYDRAULIC CALCULATIONS ALONG WITH PUMP OR WATER FLOW TEST ARE TO BE SUBMITTED FOR APPROVAL TO THE ENGINEER AND TO THE INSURANCE UNDERWRITER HYDRAULIC CALCULATIONS SHALL BE BROUGHT BACK TO THE LOCATION OF THE PUMP OR WATER FLOW TEST.

C. CONSTRUCTION MAY ONLY BEGIN WHEN APPROVALS ARE GRANTED.

D. RESULT OF HYDRAULIC CALCULATIONS SHALL INDICATE MINIMUM 10% PRESSURE SAFETY MARGIN, I.E., EXCESS OF PRESSURE AVAILABLE OVER PRESSURE REQUIRED.

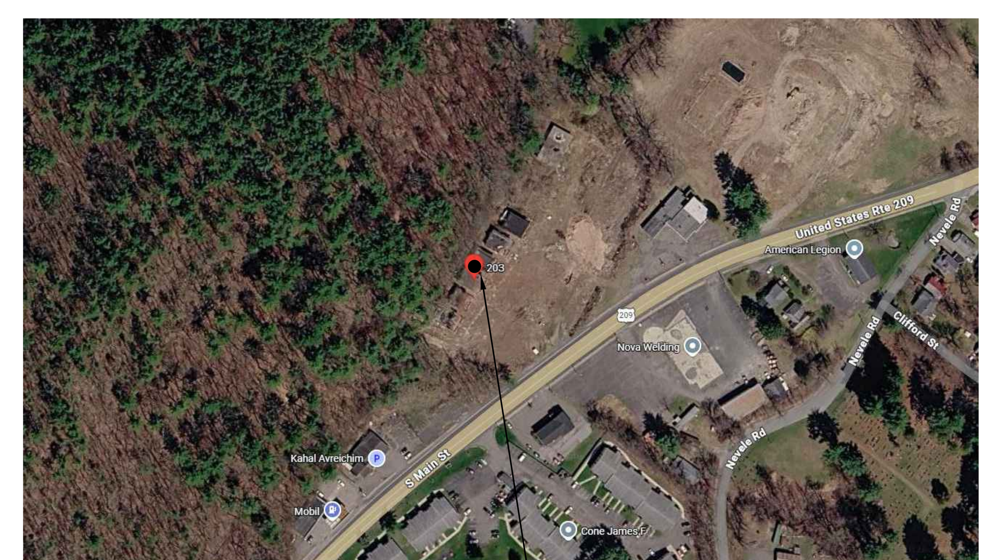
E. WATER SUPPLY INFORMATION SHALL BE LISTED ON CALCULATIONS AND CURRENT AVAILABLE PRESSURE AT FLOOR. SEE RISER DIAGRAM.

CONSTRUCTION GENERAL NOTES

1. THE SPRINKLER CONTRACTOR WILL BE HELD RESPONSIBLE TO HAVE VISITED AND EXAMINED THE PREMISES BEFORE SUBMITTING HIS PROPOSAL, IN ORDER TO UNDERSTAND THE EXISTING CONDITIONS RELATED TO HIS WORK.
2. ALL MATERIALS AND APPARATUS SHALL BE INSTALLED IN ACCORDANCE WITH ALL THE RULES AND REGULATIONS OF THE NEW YORK BUILDING CODES AND ALL OTHER AUTHORITIES HAVING JURISDICTION AND NFPA.
3. PROCUREMENT OF ALL PERMITS AND CERTIFICATES FOR THE INSTALLATION OF THESE SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH ALL THE RULES AND REGULATIONS OF THE NEW YORK STATE BUILDING CODES AND ALL OTHER AUTHORITIES HAVING JURISDICTION.
4. THE SPRINKLER CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES AND ALL EXISTING CONDITIONS, AND PROVIDE OFFSETS IN PIPING SYSTEMS TO AVOID STRUCTURAL, ARCHITECTURAL, MECHANICAL AND ELECTRICAL INTERFERENCES, WHETHER INDICATED OR NOT.
5. PROVIDE COMPLETE SPRINKLER COVERAGE IN ALL AREAS, REFER TO AND COORDINATE WITH THE LATEST ARCHITECTURAL REFLECTED CEILING PLANS AND DETAILS. SPRINKLER HEADS SHALL BE CENTERED IN TILE OR ALIGNED WITH LIGHTS, DIFFUSERS, ETC. ANY SPRINKLER HEAD, MODIFICATIONS REQUIRED TO MEET THE DESIGN CRITERIA MUST BE PROVIDED AND APPROVED BY THE ARCHITECT.
6. PROVIDE SPRINKLER HEAD COMPLETE WITH PIPING, FITTINGS, HANGERS WITH ATTACHMENT TO EXISTING BUILDING STRUCTURE.
7. EXISTING PIPING DAMAGES AS A RESULT OF PERFORMING THE WORK OF THIS CONTRACT SHALL BE REPAIRED OR REPLACED AS REQUIRED WITH MATERIAL AND FINISH TO MATCH EXISTING.
8. ALL AREAS WITHOUT HUNG CEILINGS, ELECTRICAL ROOMS, MECHANICAL ROOMS, STORAGE AREAS ETC., PROVIDE WITH EXPOSED UPRIGHT OR PENDANT SPRINKLER HEADS WITH SPRINKLER GUARDS IN AREAS SUBJECT TO ACCIDENTAL DAMAGE.
9. CONTRACTOR IS RESPONSIBLE FOR PROVIDING COMPLETE COVERAGE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NEW YORK STATE BUILDING CODE AND NFPA STANDARDS, LOCAL FIRE DEPARTMENT AND THE DESIGN CRITERIA.
10. LOCATION AND TYPE OF SPRINKLER HEADS IN THE AREAS WITHOUT HUNG CEILINGS SHALL BE FULLY COORDINATED WITH THE EXPOSED STRUCTURAL (BEAMS, COLUMNS, ETC.) ALL OF THE ABOVE ELEMENTS WHICH IMPACT THE SPRINKLER SYSTEM MUST BE INDICATED ON THE SHOP DRAWINGS FOR REVIEW AND APPROVAL.
11. BEFORE COMMENCEMENT OF ANY WORK, COMPLETE AND DETAILS WORKING PLANS SHALL HAVE BEEN SUBMITTED AND APPROVED BY THE BUILDING MANAGEMENT.
12. PROVIDE SPRINKLER HEADS ABOVE AND BELOW ALL DUCTS OR CLUSTERS OF DUCTS, PIPES OR CONDUITS OVER 48" WIDE.
13. PLACE ALL PENDANT TYPE SPRINKLER HEADS IN CENTER OF TILE OR CENTERED WITH LIGHTS, DIFFUSERS OR SIMILAR ELEMENTS OF CEILING.
14. ALL FLOOR PENETRATIONS, CORE DRILLING, ETC. SHALL BE APPROVED BY LANDLORD.
15. BASE BUILDING ARCHITECT AND STRUCTURAL ENGINEERS SHALL REVIEW METHOD OF SUPPORTING SPRINKLER PIPING.
16. ANY PIPING ABOVE ELECTRICAL EQUIPMENT (PANELS, TRANSFORMERS, ETC) MUST BE INSTALLED AT LEAST 6 FT ABOVE AND PROVIDED WITH 2" DRIP PANS AND LEAK DETECTORS.

SPRINKLER NOTES

1. THE SPRINKLER SYSTEM SHALL BE HYDRAULICALLY CALCULATED AND SHALL CONFORM TO NFPA 13.
2. THE INSTALLATION, COMPONENTS, SIZING, SPACING, LOCATION, POSITION AND TYPE OF SYSTEM SHALL CONFORM TO NFPA 13.
3. ALL EQUIPMENT SHALL BE LISTED OR APPROVED FOR FIRE PROTECTION SERVICE.
4. SPRINKLERS ARE TO BE PROTECTED AGAINST FREEZING AND INJURY. PROPERTY OWNER IS TO MAINTAIN A MINIMUM OF 40°F IN ALL AREAS OF WET PIPING.
5. INSPECTION AND TEST OF SPRINKLER SYSTEM SHALL BE CONDUCTED AS SPECIFIED IN NFPA 13.
6. THE OCCUPANCY OF THE AREAS ARE TO BE SPRINKLERED IN ACCORDANCE WITH NFPA AND AS SPECIFIED ON PLANS.
7. WATER SUPPLY TEST PIPES AND GAUGES SHALL BE PROVIDED AS SPECIFIED IN NFPA 13.
8. PIPING SPECIFICATIONS, SYSTEM TEST PIPES, PROTECTION AGAINST CORROSION, DRAINAGE, FITTINGS, VALVES, HANGERS, GUARDS AND SHIELDS SHALL BE IN ACCORDANCE WITH NFPA 13.
9. STOCK OF EXTRA SPRINKLER HEADS WILL BE FURNISHED AS PER NFPA 13 (REQUIRED FOR EACH TEMPERATURE RATING.)
10. SPACING, LOCATION AND POSITION OF SPRINKLER HEADS WILL BE IN ACCORDANCE WITH NFPA 13.
11. 1" TO 12" MINIMUM CLEARANCE OF SPRINKLER DEFLECTOR TO CEILING AS PER NFPA 13.
12. DISTANCE OF SPRINKLERS FROM HEAT SOURCES SHALL BE IN ACCORDANCE WITH NFPA 13.
13. DRAINAGE TO CONFORM TO SECTION 4-6.3.
14. ALL VALVES SHALL BE IDENTIFIED AS REQUIRED BY NFPA 13.
15. ALL VALVE CONNECTIONS TO WATER SUPPLIES AND IN THE SUPPLY TO SPRINKLERS SHALL BE APPROVED O.S.&Y OR APPROVED INDICATOR TYPE.
16. DRAIN VALVES AND TEST VALVES SHALL BE APPROVED TYPE AS PER NFPA 13.
17. HANGERS SHALL BE OF A TYPE APPROVED FOR USE WITH THE PIPE OR TUBE INVOLVED IN ACCORDANCE WITH NFPA 13.
18. PROVISIONS SHOULD BE MADE TO FACILITATE FLUSHING SYSTEM PIPING BY PROVIDING FLUSHING CONNECTION CONSISTING OF CAPPED NIPPLE 4" LONG ON THE END OF THE CROSS MAIN AS PER NFPA 13.
19. SPRINKLER HEADS SHALL BE AN APPROVED TYPE AS PER NFPA 13.
20. TEMPERATURE RATINGS SHALL COMPLY WITH NFPA 13.
21. 18" MINIMUM CLEARANCE TO BELOW SPRINKLER DEFLECTOR AS PER NFPA 13.
22. UNDERGROUND PIPING IS TO BE SUPPORTED WITH RODDING, BLOCKING AND CLAMPING AS PER NFPA 24 REQUIREMENTS.
23. CURB BOX VALVE IS TO BE PROVIDED AS PER NFPA.
24. INTERCONNECTION OF ALARM DEVICES TO BUILDING FIRE ALARM SYSTEM SHALL BE BY OTHERS.
25. ALL REQUIRED SIGNAGE SHALL BE PROVIDED IN ACCORDANCE WITH NFPA.
26. ALL PIPE TO BE AS FOLLOWS:
    MAINS 2½" & LARGER TO BE BLACK STEEL SCHEDULE 10.
    BRANCHES 2" & SMALLER TO BE BLACK STEEL SCHEDULE 40.
27. ALL FITTINGS TO BE AS FOLLOWS:
    MAINS 2½" & LARGER TO BE GROOVED TYPE FITTING.
    BRANCHES 2" & SMALLER TO BE CL THREADED.
28. CONTRACTOR'S MATERIAL AND TEST CERTIFICATED FOR ABOVE GROUND AND (WHERE APPLICABLE) UNDER GROUND PIPE" SHALL BE SUBMITTED TO THE FIRE MARSHALL PRIOR TO APPROVAL OF THE INSTALLATION.
29. FIRE PROTECTION EQUIPMENT, ROOMS CONTAINING CONTROLS FOR AIR-CONDITIONING SYSTEMS, SPRINKLER RISERS, AND SPRINKLER VALVES SHALL BE IDENTIFIED FOR USE OF THE FIRE DEPARTMENT WITH APPROVED SIGNS OF DURABLE MATERIAL PERMANENTLY INSTALLED AND READILY VISIBLE.
30. CONTRACTOR SHALL PROVIDE HYDRAULIC CALCULATIONS AS PER THE FOLLOWING:
    A. THE CONTRACTOR WILL SIZE THE SYSTEM BY PERFORMING FULL HYDRAULIC CALCULATIONS FOR THE SPRINKLER SYSTEM. THE SYSTEM SHALL BE INSTALLED TO UTILIZE 90% OR LESS OF AVAILABLE PRESSURE AT DESIGN FLOW. THE SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED TO THE ARCHITECT, OWNER'S INSURANCE AGENCY AND THE AUTHORITY HAVING JURISDICTION FOR APPROVAL BEFORE DOING THE WORK.
    B. DESIGN CRITERIA:
    OFFICE/COMMON AREAS – LIGHT HAZARD OCCUPANCY, DENSITY– 0.10 GPM/SQ.FT.AREA– MOST REMOTE 1500 SQ.FT. (WET) COVERAGE– NOT TO EXCEED 225 SQ.FT. PER HEAD
    MECHANICAL/UTILITY ROOMS – ORDINARY HAZARD OCCUPANCY – GROUP 1, DENSITY– 0.15 GPM/SQ.FT.AREA– MOST REMOTE 1500 SQ.FT. (WET) COVERAGE– NOT TO EXCEED 130 SQ.FT. PER HEAD
    PARKING GARAGE – ORDINARY HAZARD OCCUPANCY – GROUP 1, DENSITY – 0.15 GPM/SQ.FT. AREA – MOST REMOTE 1,500 SQ.FT. X 30% INCREASE = 1,950 SQ.FT. (DRY) COVERAGE – NOT TO EXCEED 130 SQ.FT. PER HEAD.
    C. ADD A WATER ALLOWANCE FOR INSIDE AND OUTSIDE HOSE STREAMS TO THE SPRINKLER REQUIREMENTS AT THE CONNECTION TO THE DISTRIBUTION MAIN IN ACCORDANCE WITH NFPA REQUIREMENTS.
    D. CONTRACTOR SHALL OBTAIN RECENT HYDRANT FLOW TEST INFORMATION AT THE HYDRANT NEAREST TO THE NEW SPRINKLER SERVICE MAIN CONNECTION TO PROVIDE THE FOLLOWING:
    STATIC PRESSURE:–PSI. RESIDUAL PRESSURE:–PSI. FLOW:–GPM. DATE:–HYDRANT NUMBER:–
    E. CONTRACTOR'S DESIGN SHALL MEET ALL OF THE REQUIREMENTS ABOVE AND SHALL CONFORM TO ALL OF THE HYDRAULIC DESIGN DATA OBTAINED FROM THE HYDRANT FLOW TEST.
    F. PIPE SIZES SHOWN ON THE DESIGN DRAWINGS ARE ESTIMATES AND ARE SUBJECT TO REASONABLE MODIFICATION PROVIDING THAT HYDRAULIC CALCULATIONS ARE ACCEPTABLE AND MEET THE REQUIREMENTS OF NFPA.



BUILDING LOCATION

LOCATION MAP

SCALE: N.T.S.

N

NOTES:

1) THIS PORTION OF THE PROJECT SHALL BE CONSTRUCTED WITH SWAY BRACING AS PER NFPA 13.

2) ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH NFPA 13-2022.

DRAWING NO.	TITLE
FS-0.1	FIRE SPRINKLER SYMBOLS, ABBREVIATIONS AND GENERAL NOTES
FS-1.1	FIRE SPRINKLER FIRST FLOOR PLAN
FS-1.2	FIRE SPRINKLER MEZZANINE PLAN
FS-1.3	FIRE SPRINKLER SECOND FLOOR PLAN
FS-5.1	FIRE SPRINKLER DETAILS
FS-5.2	FIRE SPRINKLER DETAILS
FS-6.1	FIRE SPRINKLER RISER DIAGRAM
FS-7.1	FIRE SPRINKLER SPECIFICATIONS

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SEAL

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

FIRE SPRINKLER
SYMBOLS, ABBREVIATIONS
AND GENERAL NOTES

PROJECT No. 2501 EMTEC: 7611

CHECKED BY: MF/APS

DRAWING: FS-0.1

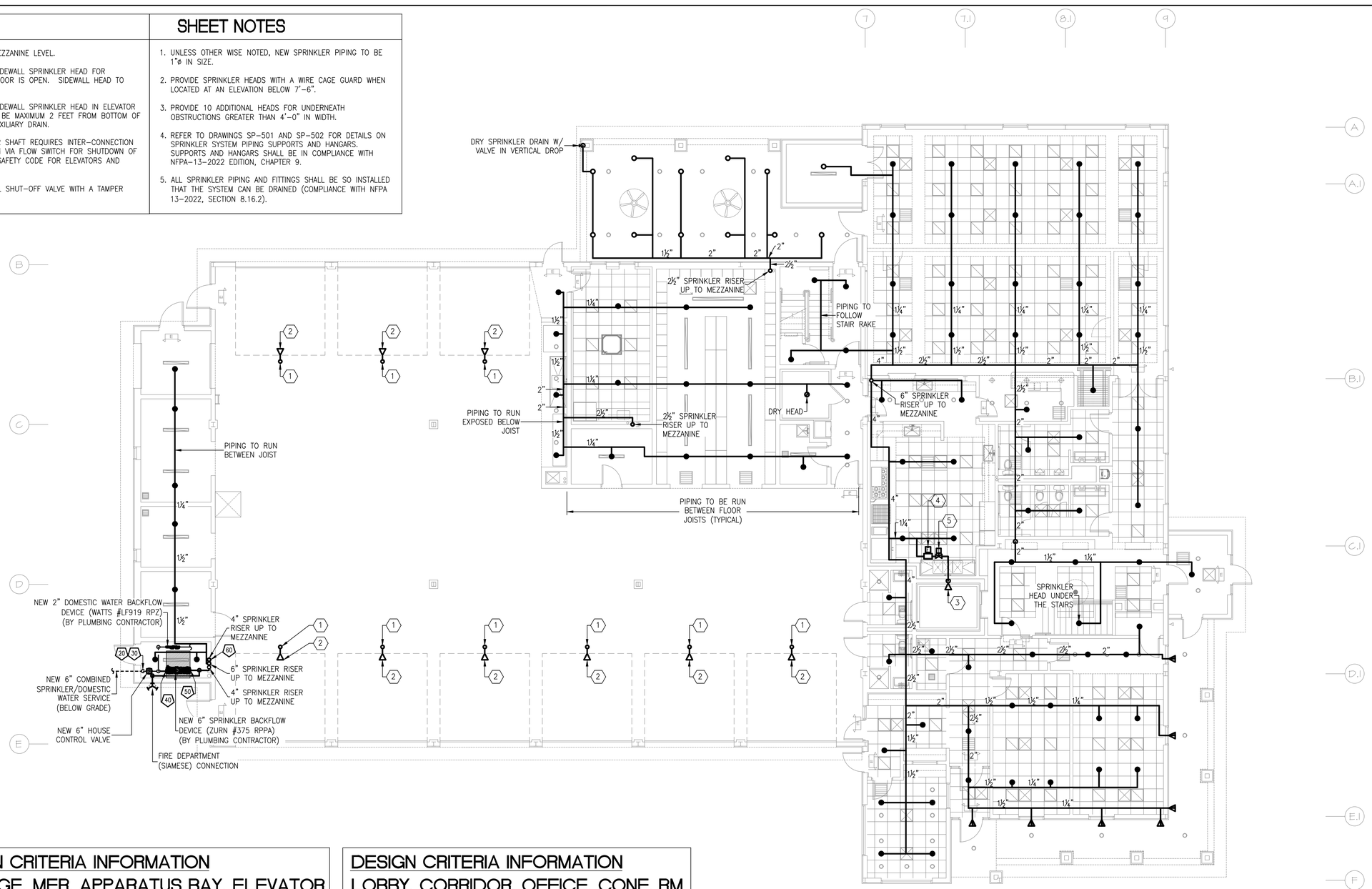
EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

KEY NOTES

1. 1" SPRINKLER LINE UP TO MEZZANINE LEVEL.
2. FURNISH AND INSTALL NEW SIDEWALL SPRINKLER HEAD FOR COVERAGE WHEN OVERHEAD DOOR IS OPEN. SIDEWALL HEAD TO HAVE EXTENDED COVERAGE.
3. FURNISH AND INSTALL NEW SIDEWALL SPRINKLER HEAD IN ELEVATOR SHAFT. SPRINKLER HEAD TO BE MAXIMUM 2 FEET FROM BOTTOM OF ELEVATOR PIT FLOOR WITH AUXILIARY DRAIN.
4. SPRINKLER HEAD IN ELEVATOR SHAFT REQUIRES INTER-CONNECTION WITHT HE FIRE ALARM SYSTEM VIA FLOW SWITCH FOR SHUTDOWN OF ELEVATOR PER ASME A17.1 "SAFETY CODE FOR ELEVATORS AND ESCALATORS".
5. FURNISH AND INSTALL MANUAL SHUT-OFF VALVE WITH A TAMPER SWITCH.

SHEET NOTES

1. UNLESS OTHER WISE NOTED, NEW SPRINKLER PIPING TO BE 1"ø IN SIZE.
2. PROVIDE SPRINKLER HEADS WITH A WIRE CAGE GUARD WHEN LOCATED AT AN ELEVATION BELOW 7'-6".
3. PROVIDE 10 ADDITIONAL HEADS FOR UNDERNEATH OBSTRUCTIONS GREATER THAN 4'-0" IN WIDTH.
4. REFER TO DRAWINGS SP-501 AND SP-502 FOR DETAILS ON SPRINKLER SYSTEM PIPING SUPPORTS AND HANGARS. SUPPORTS AND HANGARS SHALL BE IN COMPLIANCE WITH NFPA-13-2022 EDITION, CHAPTER 9.
5. ALL SPRINKLER PIPING AND FITTINGS SHALL BE SO INSTALLED THAT THE SYSTEM CAN BE DRAINED (COMPLIANCE WITH NFPA 13-2022, SECTION 8.16.2).



DESIGN CRITERIA INFORMATION
STORAGE, MER, APPARATUS BAY, ELEVATOR

1.	DESIGN DENSITY =	.15 GPM/SF
2.	AREA OF APPLICATION =	1500 SQ. FT.
3.	COVERAGE PER SPRINKLER =	130 SQ. FT. (MAX.)
4.	"K" FACTOR =	5.6
5.	OCCUPANCY CLASSIFICATION =	ORDINARY GROUP 1
6.	MAX DISTANCE BETWEEN SPRINKLER HEADS =	12 FEET
7.	MAX DISTANCE HEAD TO WALL/OBSTRUCTION =	6 FEET

DESIGN CRITERIA INFORMATION
LOBBY, CORRIDOR, OFFICE, CONF. RM

1.	DESIGN DENSITY =	.10 GPM/SF
2.	AREA OF APPLICATION =	1500 SQ. FT.
3.	COVERAGE PER SPRINKLER =	225 SQ. FT. (MAX.)
4.	"K" FACTOR =	5.6
5.	OCCUPANCY CLASSIFICATION =	LIGHT HAZARD
6.	MAX DISTANCE BETWEEN SPRINKLER HEADS =	15 FEET
7.	MAX DISTANCE HEAD TO WALL/OBSTRUCTION =	7 FEET 6 INCHES

SPRINKLER HEADS

NEW PENDENT - 93 HEADS
NEW UPRIGHT - 12 HEADS
NEW SIDEWALL - 10 HEAD
NEW SIDEWALL (DRY) - 7 HEADS

FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0" MEZZ. SQUARE FOOTAGE = 13,924

0 2' 4' 6' 8' 10' 20' 30' 50'

DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

STATE OF NEW YORK · ANDREW P. SAGOSE · LICENSED PROFESSIONAL ENGINEER · 10074 · 17-26

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
208 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

FIRE SPRINKLER
FIRST FLOOR
PLAN

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

FS-1.1

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EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

SHEET NOTES

1. UNLESS OTHER WISE NOTED, NEW SPRINKLER PIPING TO BE 1"ø IN SIZE.
2. PROVIDE SPRINKLER HEADS WITH A WIRE CAGE GUARD WHEN LOCATED AT AN ELEVATION BELOW 7'-6".
3. PROVIDE 10 ADDITIONAL HEADS FOR UNDERNEATH OBSTRUCTIONS GREATER THAN 4'-0" IN WIDTH.
4. REFER TO DRAWINGS SP-501 AND SP-502 FOR DETAILS ON SPRINKLER SYSTEM PIPING SUPPORTS AND HANGARS. SUPPORTS AND HANGARS SHALL BE IN COMPLIANCE WITH NFPA-13-2022 EDITION, CHAPTER 9.
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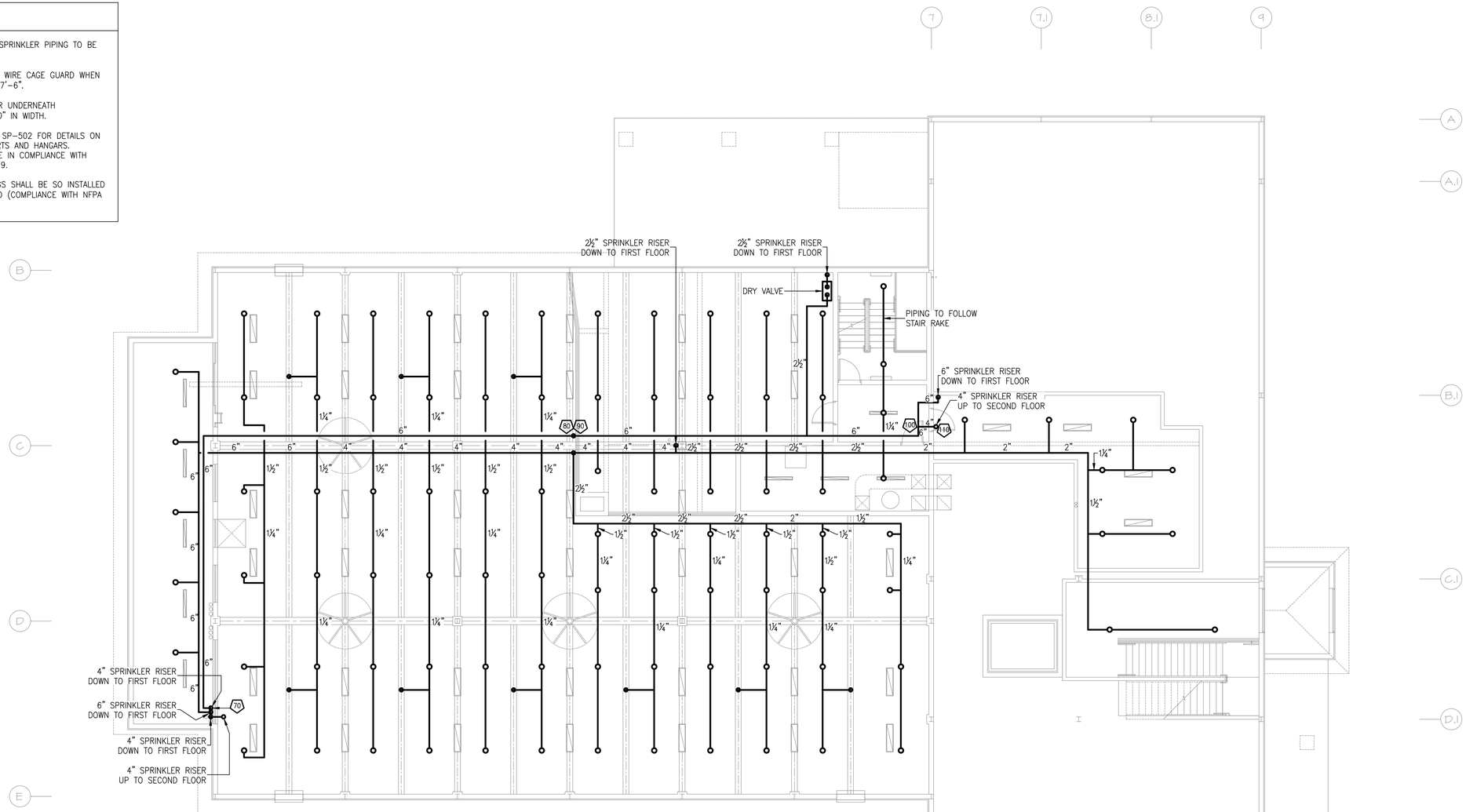

DESIGN CRITERIA INFORMATION
STORAGE, MER, APPARATUS BAY, ELEVATOR

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2.	AREA OF APPLICATION =	1500 SQ. FT.
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5.	OCCUPANCY CLASSIFICATION =	ORDINARY GROUP 1
6.	MAX DISTANCE BETWEEN SPRINKLER HEADS =	12 FEET
7.	MAX DISTANCE HEAD TO WALL/OBSTRUCTION =	6 FEET

DESIGN CRITERIA INFORMATION
LOBBY, CORRIDOR, OFFICE, CONF. RM

1.	DESIGN DENSITY =	.10 GPM/SF
2.	AREA OF APPLICATION =	1500 SQ. FT.
3.	COVERAGE PER SPRINKLER =	225 SQ. FT. (MAX.)
4.	"K" FACTOR =	5.6
5.	OCCUPANCY CLASSIFICATION =	LIGHT HAZARD
6.	MAX DISTANCE BETWEEN SPRINKLER HEADS =	15 FEET
7.	MAX DISTANCE HEAD TO WALL/OBSTRUCTION =	7 FEET 6 INCHES

SPRINKLER HEADS

NEW UPRIGHT - 93 HEADS

N

MEZZANINE FLOOR PLAN (PARTIAL)

SCALE: 1/8" = 1'-0" MEZZ. SQUARE FOOTAGE = 1,982

0 2' 4' 6' 8' 10' 20' 30' 50'

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SEAL

STATE OF NEW YORK · ANDREW P. SAGOSE · LICENSED PROFESSIONAL ENGINEER · 10741 · 2021 · 2026

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

FIRE SPRINKLER MEZZANINE PLAN

PROJECT No. 2501 EMTEC: 7611

CHECKED BY: MF/APS

DRAWING: FS-1.2

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

SHEET NOTES

1. UNLESS OTHER WISE NOTED, NEW SPRINKLER PIPING TO BE 1"ø IN SIZE.
2. PROVIDE SPRINKLER HEADS WITH A WIRE CAGE GUARD WHEN LOCATED AT AN ELEVATION BELOW 7'-6".
3. PROVIDE 10 ADDITIONAL HEADS FOR UNDERNEATH OBSTRUCTIONS GREATER THAN 4'-0" IN WIDTH.
4. REFER TO DRAWINGS SP-501 AND SP-502 FOR DETAILS ON SPRINKLER SYSTEM PIPING SUPPORTS AND HANGARS. SUPPORTS AND HANGARS SHALL BE IN COMPLIANCE WITH NFPA-13-2022 EDITION, CHAPTER 9.
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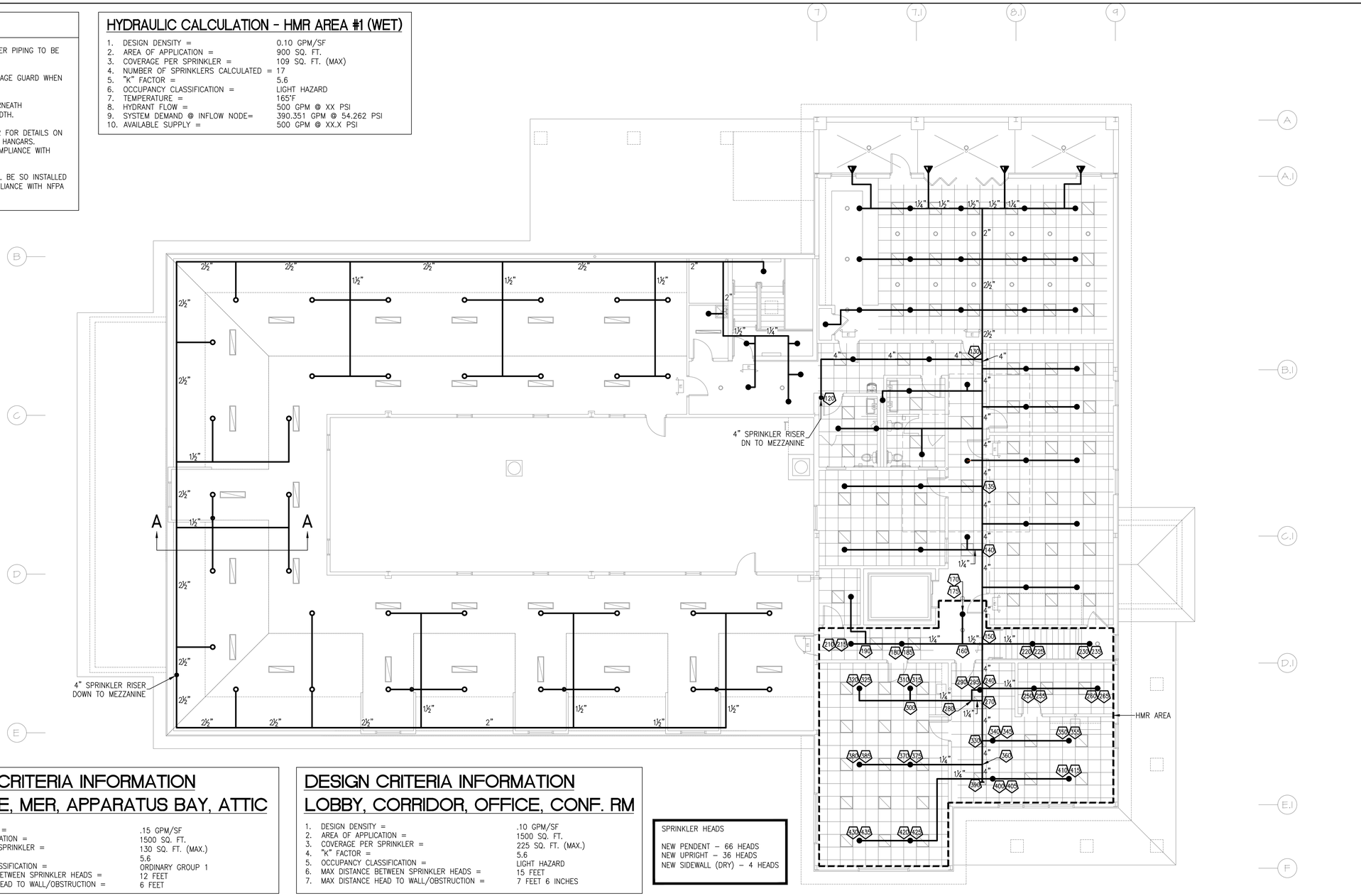
HYDRAULIC CALCULATION - HMR AREA #1 (WET)

1.	DESIGN DENSITY =	0.10 GPM/SF
2.	AREA OF APPLICATION =	900 SQ. FT.
3.	COVERAGE PER SPRINKLER =	109 SQ. FT. (MAX)
4.	NUMBER OF SPRINKLERS CALCULATED =	17
5.	"K" FACTOR =	5.6
6.	OCCUPANCY CLASSIFICATION =	LIGHT HAZARD
7.	TEMPERATURE =	165°F
8.	HYDRANT FLOW =	500 GPM @ XX PSI
9.	SYSTEM DEMAND @ INFLOW NODE=	390.351 GPM @ 54.262 PSI
10.	AVAILABLE SUPPLY =	500 GPM @ XX.X PSI



DESIGN CRITERIA INFORMATION
STORAGE, MER, APPARATUS BAY, ATTIC

1.	DESIGN DENSITY =	.15 GPM/SF
2.	AREA OF APPLICATION =	1500 SQ. FT.
3.	COVERAGE PER SPRINKLER =	130 SQ. FT. (MAX.)
4.	"K" FACTOR =	5.6
5.	OCCUPANCY CLASSIFICATION =	ORDINARY GROUP 1
6.	MAX DISTANCE BETWEEN SPRINKLER HEADS =	12 FEET
7.	MAX DISTANCE HEAD TO WALL/OBSTRUCTION =	6 FEET

DESIGN CRITERIA INFORMATION
LOBBY, CORRIDOR, OFFICE, CONF. RM

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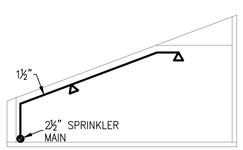
5.	OCCUPANCY CLASSIFICATION =	LIGHT HAZARD
6.	MAX DISTANCE BETWEEN SPRINKLER HEADS =	15 FEET
7.	MAX DISTANCE HEAD TO WALL/OBSTRUCTION =	7 FEET 6 INCHES

SPRINKLER HEADS

NEW PENDENT - 66 HEADS
NEW UPRIGHT - 36 HEADS
NEW SIDEWALL (DRY) - 4 HEADS



SECTION 'A-A'
NTS

SECOND FLOOR PLAN

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

SQUARE FOOTAGE = 5643
(NOT INCL. FLAT ROOF & ATTIC AREAS)

0 2' 4' 6' 8' 10' 20' 30' 50'

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

FIRE SPRINKLER
SECOND FLOOR
PLAN

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

FS-13

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

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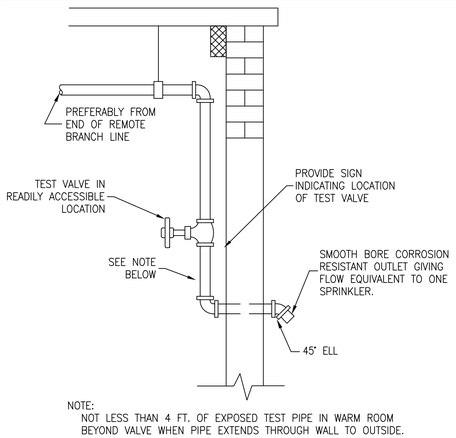
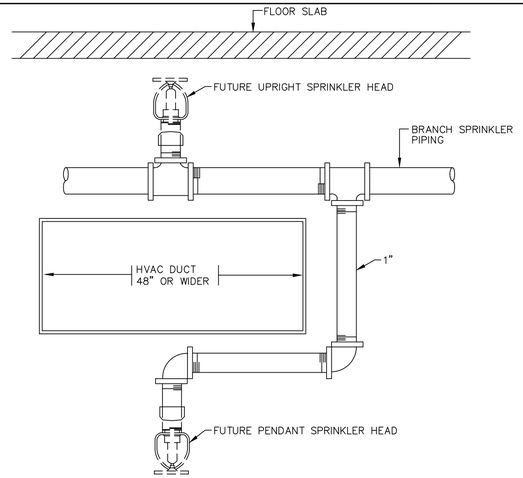


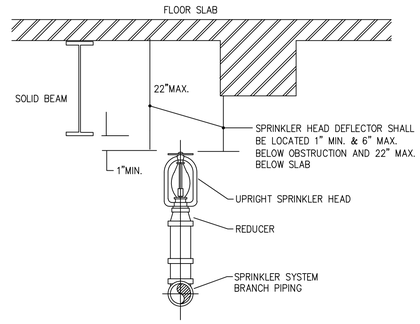
NOTE:
NOT LESS THAN 4 FT. OF EXPOSED TEST PIPE IN WARM ROOM BEYOND VALVE WHEN PIPE EXTENDS THROUGH WALL TO OUTSIDE.

SYSTEM TEST CONNECTION ON WET PIPE SYSTEM



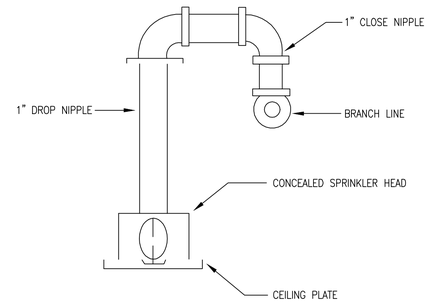
DUCT INTERFERENCE DETAIL

NO SCALE



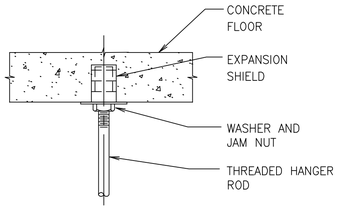
UPRIGHT SPRINKLER DETAIL

NO SCALE



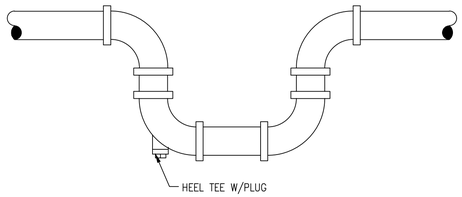
RETURN BEND (CONCEALED HEAD) DETAIL

NO SCALE



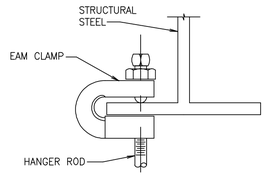
TYPICAL EXPANSION SHIELD

SCALE: NONE



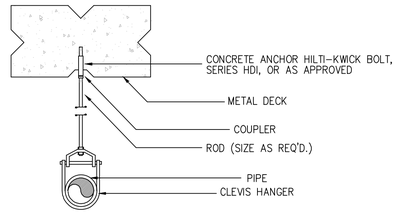
TYPICAL LOW-POINT DRAIN

NO SCALE



TYPE 'B' ATTACHMENT TO STEEL BEAM

SCALE: NONE

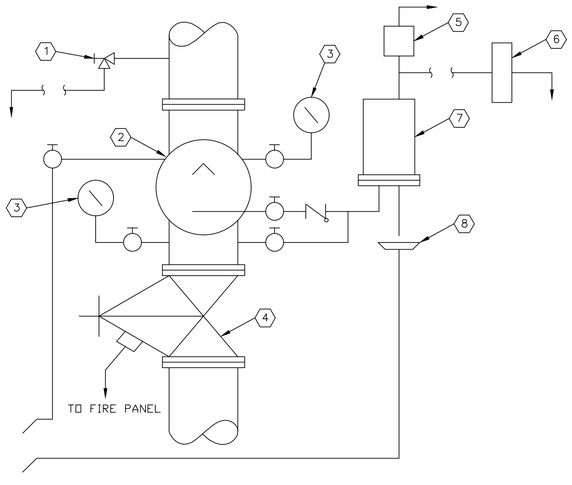


TYPICAL HANGER DETAIL

SCALE: NONE

LEGEND

1. MAIN DRAIN CHECK VALVE
2. ALARM CHECK VALVE
3. WATER PRESSURE GAUGES
4. OS&Y GATE VALVE WITH TAMPER SWITCH
5. WATER FLOW ALARM SWITCH
6. WATER MOTOR GONG
7. RETARDING CHAMBER
8. DRIP CUP

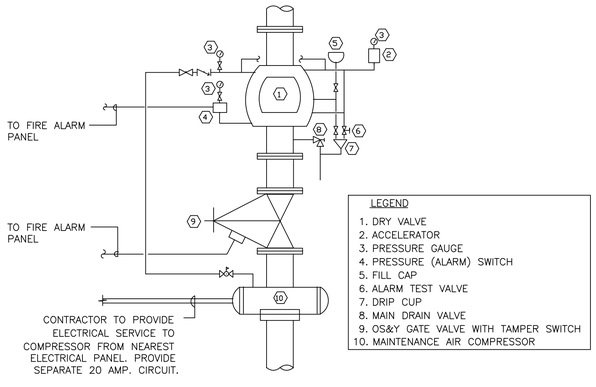


ALARM CHECK VALVE DETAIL

SCALE: NONE

NOTES:

1. DRY VALVE PIPING IS SHOWN SCHEMATICALLY. CONTRACTOR SHALL PROVIDE DRY VALVE PIPING TRIM ARRANGEMENT IN ACCORDANCE WITH DRY VALVE MANUFACTURER'S STANDARDS.
2. PROVIDE DRY VALVES AS MANUFACTURED BY "CENTRAL SPRINKLER CORP."; OR APPROVED EQUAL.
3. MAINTENANCE AIR COMPRESSOR TO BE A VIKING MODEL D-1, 1/4 HP, 120V/1PH, 50 PSI CONT. OPERATING PRESSURE, 75 PSI RELIEF VALVE, PRESSURE SWITCH, FM AND UL APPROVED; OR APPROVED EQUAL.

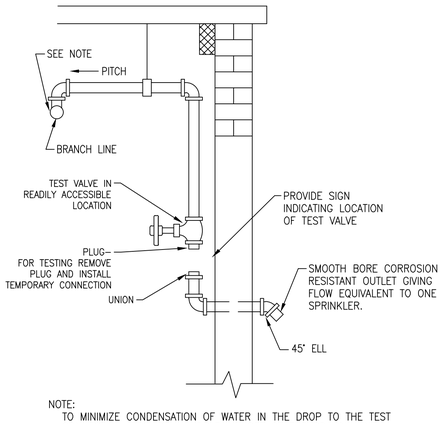


LEGEND

1. DRY VALVE
2. ACCELERATOR
3. PRESSURE GAUGE
4. PRESSURE (ALARM) SWITCH
5. FILL CAP
6. ALARM TEST VALVE
7. DRIP CUP
8. MAIN DRAIN VALVE
9. OS&Y GATE VALVE WITH TAMPER SWITCH
10. MAINTENANCE AIR COMPRESSOR

DRY VALVE DETAIL

NOT TO SCALE



NOTE:
TO MINIMIZE CONDENSATION OF WATER IN THE DROP TO THE TEST CONNECTION, PROVIDE A NIPPLE-UP OFF OF THE BRANCH LINE.

SYSTEM TEST CONNECTION ON DRY PIPE SYSTEM

NO SCALE

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

FIRE SPRINKLER DETAILS

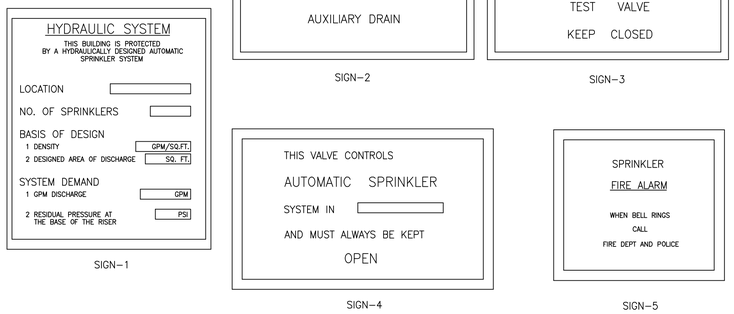
PROJECT No. 2601
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

FS-5.1

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

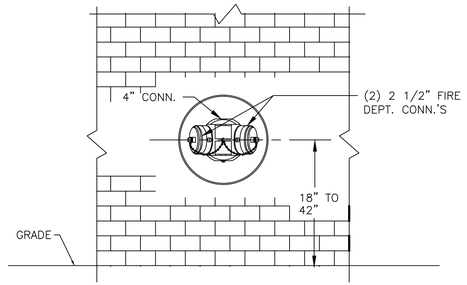


TYPICAL SIGNS

SCALE: NONE

NOTES

1. SPRINKLER CONTRACTOR TO COORDINATE HEIGHT & LOCATION OF FIRE DEPT. CONNECTION WITH LOCAL FIRE DEPARTMENT.
2. SPRINKLER CONTRACTOR TO COORDINATE THREADS ON FIRE DEPT. CONNECTION WITH LOCAL FIRE DEPARTMENT.



FIRE DEPARTMENT CONNECTION DETAIL

SCALE: NONE

NOTES:

1. All penetrations through rated walls, including but not limited to Boiler Rooms, Mechanical Equipment Rooms and Rated Shafts, shall be fire stopped per details sheets included in this drawing set. Refer to Architectural drawings for all wall ratings. Detail sheets show only a few common applications however, they do not show all applications. Contractor must use only firestop products that have been UL 1479 or ASTM E 814 tested for specific fire-rated construction conditions conforming to construction assembly type, penetrating item type, annular space requirements, and fire-rating involved for each separate instance.
2. *Details shown are typical details. If field conditions do not match requirements of typical details, approved alternate details shall be utilized. Field conditions and dimensions need to be verified for compliance with the details, including but not limited to the following:*
   - ** Minimum and maximum Width of Joints*
   - ** Type and thickness of fire-rated construction. The minimum assembly rating of the firestop assembly shall meet or exceed the highest rating of the adjacent construction.*
3. *If alternate details matching the field conditions are not available, manufacturer's engineering judgment drawings are acceptable. Drawings shall follow the International Firestop Council (IFC) Guidelines for Evaluating Firestop Systems Engineering Judgments.*
4. *References:*
   - ** 2013 Underwriter's Laboratories Fire Resistance Directory, Volume 2*
   - ** NFPA 101 Life Safety Code*
   - ** All governing local and regional building codes*
5. *Firestop System installation must meet requirements of ASTM E-814 (UL 1479) tested assemblies that provide a fire rating equal to that of construction being penetrated.*
6. *All rated through-penetrations shall be prominently labeled with the following information:*
   - ** ATTENTION: Fire Rated Assembly*
   - ** UL System #*
   - ** Product(s) used*
   - ** Hourly Rating (F-Rating)*
   - ** Installation Date*

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

FIRE SPRINKLER DETAILS

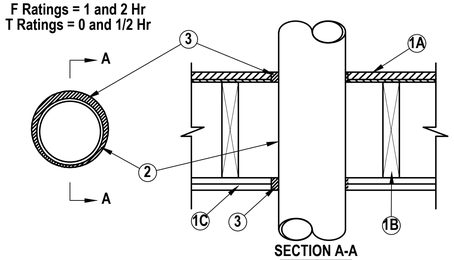
PROJECT No. 2501 EMTEC: 7611

CHECKED BY: MF/APS

DRAWING: FS-5.2

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

UL/cUL System No. F-C-1059
F Ratings = 1 and 2 Hr
T Ratings = 0 and 1/2 Hr



SECTION A-A

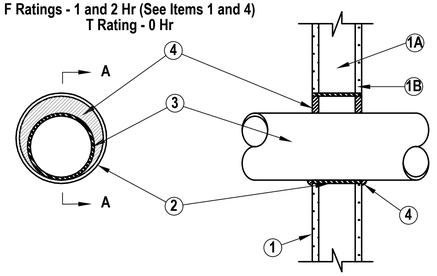
1. Floor–Ceiling Assembly – The 1 or 2 hr fire–rated solid or trussed lumber joist floor–ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor–Ceiling Designs in the UL Fire Resistance Directory. The F Rating of the firestop system is equal to the rating of the floor–ceiling and wall assemblies. The general construction features of the floor–ceiling assembly are summarized below:
   A. Flooring System – Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture as specified in the individual Floor–Ceiling Design. Max diam of opening shall be 7–5/8 in.
   B. Wood Joists – Nom 10 in deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members with bridging as required and with ends firestopped.
   C. Gypsum Board – Thickness, type, number of layers and fasteners shall be as specified in the individual Floor–Ceiling Design. Diam of opening shall be 1 in. larger than the outside diam of pipe (Item 2).
   D. Furring Channels – (Not Shown) (As required) Resilient galvanized steel furring installed in accordance with the manner specified in the individual L500 Series Designs in the Fire Resistance Directory.

1.1 Chase Wall – (Not Shown, Optional) – The through penetrants (Item 2) may be routed through a 1 or 2 hr fireratedsingle, double or staggered wood stud/gypsum wallboard chase wall having a fire rating consistent with that of the floor–ceiling assembly. The chase wall shall be constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs – Nom 2 by 8 in. lumber or double nom 2 by 6 in. lumber studs.
   B. Sole Plate – Nom 2 by 8 in. lumber or parallel 2 by 6 in. lumber plates, tightly butted.
   C. Top Plate – The double top plate shall consist of two nom 2 by 8 in. lumber plates or two sets of nom 2 by 6 in. lumber plates tightly butted. Max diam of opening is 7–5/8 in.
   D. Gypsum Board – Thickness, type, number or layers and fasteners shall be as specified in individual Wall and Partition Designs.
2. Through Penetrants – One metallic tubing, pipe or conduit to be installed concentrically or eccentrically within the firestop system. Annular space between pipe or conduit and edge of opening to be min 1/4 in. and max 3/4 in. Pipe, tubing or conduit to be rigidly supported on both sides of floor–ceiling assembly. The following types and sizes of metallic pipes, tubing or conduit may be used:
   A. Steel Pipe – Nom 6 in. diam (or smaller) Schedule 40 (or heavier) steel pipe.
   B. Iron Pipe – Nom 6 in. diam (or smaller) cast or ductile pipe.
   C. Conduit – Nom 4 in. diam (or smaller) steel electrical metallic tubing or nom 6 in. diam (or smaller) steel conduit.
   D. Steel Flexible Metal Conduit – Nom 2 in. diam (or smaller) steel flexible metal conduit.
3. Fill, Void or Cavity Material –Sealant – Min 5/8 in. or 1–1/4 in. thickness of sealant applied within annular space, flush with the bottom surface of gypsum wallboard or lower top plate for 1 and 2 hr floors respectively. Min. 3/4 in. thickness of sealant applied within annular space, flush with top surface of floor.

FIRESTOP OF METAL CONDUIT THROUGH WOOD FLOOR/CEILING RATED DETAIL

N.T.S.

UL/cUL System No. W-L-1164
F Ratings - 1 and 2 Hr (See Items 1 and 4)
T Rating - 0 Hr



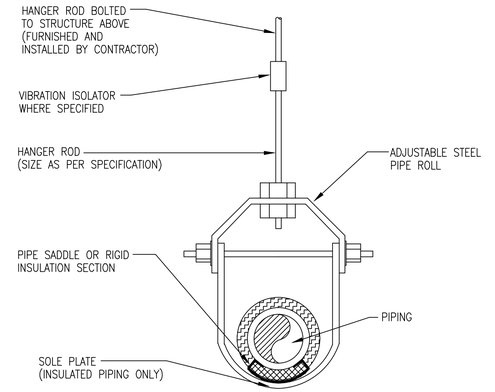
SECTION A-A

1. Wall Assembly The 1 or 2 hr fire–rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs –Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2–1/2 in. wide and spaced max 24 in. OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. wider and 4 to 6 in. higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board – The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening in steel stud walls is 32in.. Max diam of openings in wood stud walls is 14–1/2 in.

   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Steel Sleeve – Nom 32 in. diam (or smaller) Schedule 40 (or heavier) steel pipe sleeve friction fit in nom 32 in. diam circular opening cut through gyp–sum wallboard layers. Length of steel sleeve to be equal to thickness of wall.
3. Through–Penetrant – One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and the steel sleeve shall be min of 0 in. (point contact) to max 1–7/8 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe – Nom 30 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe – Nom 30 in. diam (or smaller) service weight (or heavier) cast iron soil pipe or Class 50 (or heavier) ductile iron pressure pipe.
   C. Conduit – Nom 4 in. diam (or smaller) steel electrical metallic tubing.
   D. Copper Tubing – Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe – Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
4. Fill, Void or Cavity Material*–Sealant – Min 5/8 in. and 1–14 in. thickness of fill material applied within annulus, flush with both surfaces of wall assembly for 1 or 2 hr rated walls, respectively. Min 1/2 in. diam bead of caulk applied to the penetrant/wallboard interface at the point contact location on both sides of wall.

FIRESTOP OF METAL PIPING THROUGH GYPSUM RATED WOOD OR STEEL WALL DETAIL

N.T.S.



SUSPENDED PIPING SUPPORT

NOT TO SCALE

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."
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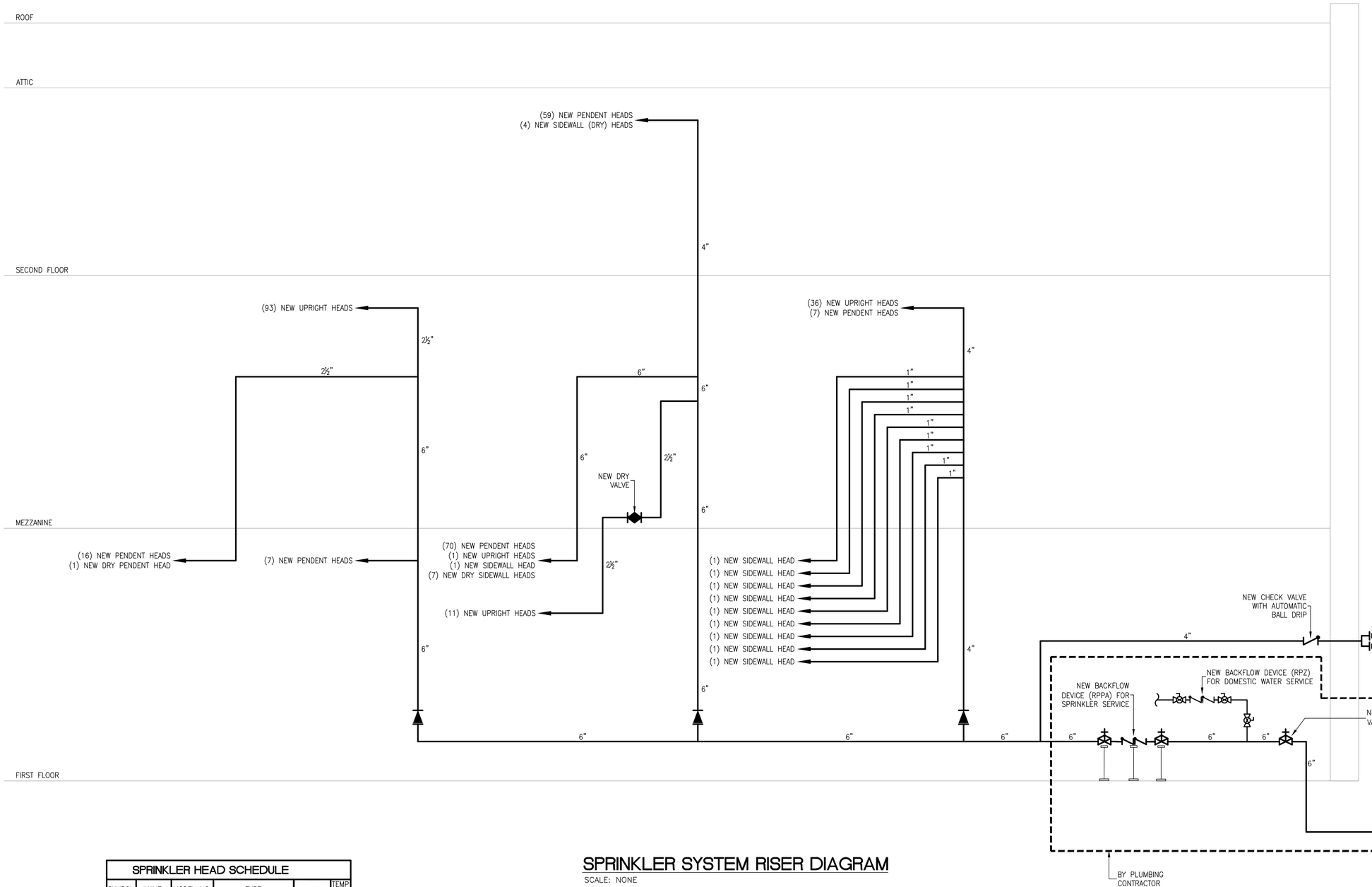

SPRINKLER SYSTEM RISER DIAGRAM

SCALE: NONE

SPRINKLER HEAD SCHEDULE					
SYMBOL	MAKE	MODEL NO.	TYPE	K FACTOR	TEMP (°F)
●	RELIABLE	G5-56	CONCEALED PENDENT	5.6	155
○	RELIABLE	F1FR56	UPRIGHT	5.6	155
◁	RELIABLE	F1FR56	SIDEWALL	5.6	155
◀	RELIABLE	F3QR56	SIDEWALL (DRY)	5.6	155

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This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

DATE	ISSUED
08-22-2026 ISSUED FOR 100%DD/50%CD REVIEW	
07-20-2026 ISSUED FOR 90%CD REVIEW	
09-17-2026 ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES	

SEAL

STATE OF NEW YORK
ANDREW P. SAGGESE
100741
LICENSED PROFESSIONAL ENGINEER

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ARCHITECTS - PLANNERS
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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

FIRE SPRINKLER RISER DIAGRAM

PROJECT No. 2501 EMTEC: 7611

CHECKED BY: MF/APS

DRAWING:

FS-6.1

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

SPRINKLER SPECIFICATIONS

1. GENERAL CONDITIONS

   A. THE "GENERAL CONDITIONS" OF THE CONTRACT FOR CONSTRUCTION OF THE AMERICAN INSTITUTE OF ARCHITECTS CURRENT EDITION SHALL FORM A PART OF THIS SPECIFICATION EXCEPT AS OTHERWISE HEREIN PROVIDED.

   B. INCLUDE ALL LABOR, MATERIALS AND APPLIANCES REQUIRED FOR THE FURNISHING, INSTALLING AND TESTING, COMPLETE AND READY FOR OPERATION IN A MANNER SATISFACTORY TO THE ARCHITECT, INCLUDING ALL WORK SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.

   C. THE INSTALLATION SHALL BE ACCOMPLISHED BY AN AUTHORIZED (FIRE STANDPIPE) AND (SPRINKLER) CONTRACTOR RECOGNIZED AS A FULLY EXPERIENCED SPECIALIST IN THE INSTALLATION OF (FIRE STANDPIPE) AND (AUTOMATIC SPRINKLER SYSTEMS) BY THE BUILDING DEPARTMENT OF THE CITY OF NEW YORK.

2. LAWS AND ORDINANCES

   A. ALL NEW YORK STATE LAWS AND REGULATIONS AND OSHA RECOMMENDATIONS, GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY MADE A PART OF THESE SPECIFICATIONS. RESPONSIBILITY FOR COMPLIANCE TO THEIR PROVISIONS IS INCLUDED.

3. NOTICE TO BIDDERS

   A. BEFORE SUBMITTING PROPOSALS, EXAMINE THE SPECIFICATIONS AND ALL DRAWINGS RELATING TO THE WORK AND BECOME FULLY INFORMED AS TO THE EXTENT AND CHARACTER OF THE WORK.

4. EXAMINATION OF EXISTING CONDITIONS

   A. VISIT AND CAREFULLY EXAMINE THOSE PORTIONS OF THE BUILDING AFFECTED BY THIS WORK SO AS TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THE WORK, BEFORE SUBMITTING PROPOSALS.

   B. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT, OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD SUCH EXAMINATION BEEN MADE, WILL NOT BE RECOGNIZED.

5. PERMITS AND CERTIFICATES

   A. INSTALL ALL WORK IN FULL ACCORDANCE WITH THE REQUIREMENTS OF ALL LOCAL AND GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION OVER THESE MATTERS, AS WELL AS WITH ANY REQUIREMENTS OF THE NFPA 13 (2016), UL, FM, BS&A, MEA AND OTHER APPLICABLE CODES.

   B. GIVE NECESSARY NOTICES AND OBTAIN PERMITS OR LICENSES NECESSARY TO CARRY OUT THIS WORK AND PAY ALL FEES THEREFOR.

   C. ARRANGE FOR INSPECTIONS AND TESTS OF ANY OR ALL PARTS OF THE WORK AS REQUIRED BY AUTHORITIES OR UTILITY COMPANIES HAVING JURISDICTION AND PAY ALL CHARGES FOR SAME.

   D. PAY ALL COSTS FOR, AND FURNISH TO THE OWNER, ALL CERTIFICATES NECESSARY AS EVIDENCE THAT THE WORK INSTALLED CONFORMS WITH ALL REGULATIONS AS THEY APPLY TO THIS WORK.

6. SHOP DRAWINGS

   A. APPROVED SPRINKLER PIPING DRAWINGS: WORKING PLANS, PREPARED ACCORDING TO NFPA 13 (2016), THAT HAVE BEEN APPROVED BY AUTHORITIES HAVING JURISDICTION, INCLUDING HYDRAULIC CALCULATIONS IF APPLICABLE BEFORE ORDERING OR INSTALLING EQUIPMENT OR MATERIAL.

   B. SHOP DRAWINGS FOR PIPING AND SIMILAR DISTRIBUTION SERVICES SHALL SHOW BY DIMENSION THE EXACT SIZE AND LOCATION OF EACH ELEMENT OF THE SYSTEM IN BOTH THE HORIZONTAL AND VERTICAL PLANE, AS WELL AS RELATIONSHIP TO THE BUILDING STRUCTURE, ARCHITECTURAL CONSTRUCTION, EQUIPMENT AND THE WORK OF OTHER TRADES. WHERE NEW WORK IS ADDED TO AN EXISTING STRUCTURE, THE SHOP DRAWINGS SHALL SHOW THE LOCATION OF ALL EXISTING SERVICES AND EQUIPMENT. THE WORK DESCRIBED IN ANY SHOP DRAWING SUBMISSION SHALL BE CAREFULLY CHECKED BY THIS CONTRACTOR FOR ALL CLEARANCES, FIELD CONDITIONS, MAINTENANCE OF ARCHITECTURAL CONDITIONS AND PROPER COORDINATION WITH ALL TRADES ON THE JOB.

   C. AT THE COMPLETION OF THE INSTALLATION, THE CONTRACTOR SHALL TURN OVER TO THE OWNER FOR RECORD PURPOSES ONE SET OF REPRODUCIBLE APPROVED, AS-INSTALLED SHOP DRAWINGS.

7. SUBMITTALS

   A. SUBMIT NAMES, SIZES, CATALOG NUMBERS AND/OR SAMPLES OF THE FOLLOWING MATERIALS:

SPRINKLER HEADS	FITTINGS
PIPE	
SPRINKLER HEAD CABINET	
SLEEVES AND ESCUTCHEONS	HANGERS

8. AS-BUILT DRAWINGS

   A. UPON COMPLETION OF THE WORK, FURNISH RECORD DRAWINGS SHOWING THE EXACT LOCATION OF WORK INSTALLED. DRAWINGS SHALL BE MARKED "AS-BUILT RECORD DRAWINGS" AND CARRY CONTRACTOR'S NAME AND ADDRESS. DRAWINGS SHALL BE ISSUED IN PDF FORMAT.

9. CUTTING, CORE DRILLING, CHOPPING, ALTERING AND PATCHING

   A. THIS CONTRACTOR SHALL PERFORM ALL CUTTING, CORE DRILLING, CHOPPING, ALTERING AND PATCHING AS REQUIRED FOR THE INSTALLATION OF THE WORK PERFORMED UNDER THE SPRINKLER CONTRACT, INCLUDING THE RESTORING OF EXISTING WORK THAT IS DAMAGED AND/OR ALTERED DUE TO REMOVAL WORK. ALL MATERIALS AND WORKMANSHIP REQUIRED IN CONNECTION WITH CUTTING, ALTERING AND PATCHING SHALL MATCH THE EXISTING WORK IN EVERY RESPECT.

10. SHUT-DOWNS

   A. WHEN INSTALLATION OF NEW WORK REQUIRES THE SHUT-DOWN OF AN OPERATING SYSTEM, THE CONNECTION OF THE NEW WORK SHALL BE PERFORMED ONLY AFTER GIVING AT LEAST 72 HOURS (3 WORKING DAYS) NOTICE AND OBTAINING THE WRITTEN AUTHORIZATION OF THE OWNER. DURING CONNECTION OF NEW WORK THE SYSTEM MUST BE TURNED ON AND OFF AT THE BEGINNING AND ENDING OF EACH WORK DAY.

11. WORK IN EXISTING BUILDING

   A. PERFORM THE WORK IN THE EXISTING BUILDING WHEN AND AS DIRECTED, AND GENERALLY IN ACCORDANCE WITH THE SEQUENCE OF OPERATIONS. CAUTION IS HEREBY GIVEN THAT THE WORK SHALL BE PERFORMED SO AS TO CAUSE THE LEAST POSSIBLE INCONVENIENCE AND DISTURBANCE TO THE OCCUPANTS.

   B. THE PROPOSAL FOR WORK IN THE EXISTING BUILDING SHALL BE PREDICATED ON THE PERFORMANCE OF THE WORK DURING REGULAR WORKING HOURS. WHEN SO DIRECTED, HOWEVER, INSTALL WORK ON OVERTIME AND THE ADDITIONAL COST AND CHARGES THEREFOR SHALL BE ONLY THE "PREMIUM" PORTION OF THE WAGES PAID.

   C. SCRAP AND DEBRIS, EXCEPT AS OTHERWISE SPECIFIED, SHALL BE DISPOSED OF AND/OR REMOVED FROM THE SITE.

12. MATERIALS AND INSTALLATION

   A. SYSTEM AND COMPONENT PARTS SHALL BE THE PRODUCTS OF A MANUFACTURER EQUIPPED AND EXPERIENCED IN THE MANUFACTURING OF (FIRE STANDPIPE) AND (SPRINKLER SYSTEMS). DEVICES SHALL BE UNDERWRITERS LABORATORIES AND/OR FACTORY MUTUAL APPROVED AND SHALL HAVE A CURRENT LISTING IN THEIR RESPECTIVE "APPROVED EQUIPMENT" LISTS. COMPONENTS AND PARTS SHALL BE SUBJECT TO THE ACCEPTANCE OF THE ARCHITECT.

   B. PIPE SHALL BE BLACK STEEL, SCHEDULE 40.

   C. PIPING FOR SPRINKLER SYSTEMS MAY BE SCHEDULE 10 ROLLED GROOVE WITH COUPLINGS AND FITTINGS FOR PIPING 2-1/2" AND LARGER.

   D. THREADS SHALL BE FULL AND CLEAN CUT AND BURRS FORMED IN CUTTING SHALL BE REAMED. WHEN ASSEMBLING PIPE, CARE SHALL BE TAKEN THAT THE PIPE DOES NOT EXTEND INTO THE FITTING OBSTRUCTING THE WATERWAY. JOINT COMPOUND SHALL BE APPLIED TO THE THREADS OF THE PIPE AND NOT TO THE FITTINGS OR SPRINKLERS. PIPES SHALL BE STRAIGHTENED BEFORE INSTALLATION TO PREVENT POCKETS. PIPES SHALL PITCH NOT LESS THAN 1/4" IN 10 FEET.

   E. FITTINGS, UNLESS OTHERWISE SPECIFIED, SHALL BE BLACK CAST IRON STANDARD MALLEABLE FITTINGS.

   F. SCREWED FITTINGS FOR SPRINKLER SYSTEMS SHALL BE 175# CAST IRON, ANSI B16.4.

   G. FLANGED FITTINGS FOR SPRINKLER SYSTEMS SHALL BE 175# CAST IRON ANSI B16.1.

   H. THREADED AND MECHANICAL FITTINGS FOR FIRE STANDPIPE SHALL BE OF REQUIRED PRESSURE RATING FOR THE THEIR RESPECTIVE PRESSURE ZONES.

   I. COUPLINGS SHALL NOT BE USED EXCEPT WHERE PIPE IS MORE THAN 20 FEET IN LENGTH BETWEEN FITTINGS.

   J. A ONE-PIECE REDUCING FITTING SHALL BE USED WHEREVER A CHANGE IS MADE IN THE SIZE. THE USE OF BUSHINGS OR REDUCING FLANGES WILL NOT BE PERMITTED.

   K. UNIONS SHALL BE OF THE HEAVY GROUND TYPE AND SHALL BE USED ONLY ON PIPES 2" AND SMALLER.

   L. CUT OR ROLLED GROOVES IN PIPE FOR USE WITH MECHANICAL GROOVED COUPLINGS SHALL BE MADE WITH AN APPROVED MACHINE MANUFACTURED BY THE SUPPLIER OF THE COUPLINGS. MECHANICAL COUPLINGS SHALL BE VICTAULIC #07 "ZERO-FLEX".

   M. INSTALL SPRINKLER HEADS IN ALL AREAS ON TRUE AXIS LINE IN BOTH DIRECTIONS WITH A MAXIMUM DEVIATION OF 1/2" ñ FROM THE AXIS LINE ESTABLISHED BY THE ARCHITECT FOR THE USE OF ALL TRADES. AT THE COMPLETION OF THE INSTALLATION, REMOVE AND REINSTALL ANY SPRINKLER HEADS FOUND TO EXCEED THE ABOVE-MENTIONED TOLERANCE.

13. HANGERS

   A. SUPPORT ALL PIPING WITH ACCEPTABLE HANGERS, ANCHORS, FRICTION HANGERS, AND SUPPORTS AS INDICATED OR SPECIFIED. HANGERS SHALL BE OF HEAVY IRON OR STEEL CONSTRUCTION. NO CAST STEEL OR CAST IRON SHALL BE USED. HANGERS SHALL HAVE NUT ABOVE AND BELOW HANGER. UPPER NUT SHALL BE LOCKED AGAINST HANGER TO PREVENT LOOSENING BY VIBRATION.

   B. SUPPORT HORIZONTAL PIPING AS FOLLOWS:

      (1) PIPING 1" SIZE AND SMALLER: ADJUSTABLE RING HANGER NOT MORE THAN 8'-0" APART.

      (2) PIPING 1-1/4" AND LARGER: CLEVIS HANGER NOT MORE THAN 10'-0" APART.

      (3) PIPING SUPPORTED FROM WALL SHALL BE PROVIDED WITH WELDED ANGLE IRON BRACKETS.

   C. PROVIDE HANGERS ON EVERY BRANCH OVER 3'-0" LONG.

   D. NO CHAIN, METAL STRAP OR WIRE WILL BE PERMITTED FOR THE SUPPORT OF ANY PIPING.

14. SPRINKLERS

   A. ANY NEW SPRINKLER HEADS TO MATCH EXISTING.

   B. EXISTING SPRINKLER HEADS SHALL BE REUSED.

15. TESTS

   A. THE SPRINKLER SYSTEM SHALL BE HYDROSTATICALLY TESTED UNDER A PRESSURE OF 200 PSI FOR TWO HOURS AND ANY DEFECTS OR LEAKS SHALL BE REMEDIED. CAULKING OF THREADS SHALL NOT BE PERMITTED.

   B. APPROVAL OF AUTHORITIES HAVING JURISDICTION SHALL BE OBTAINED IN WRITING BEFORE FINAL ACCEPTANCE OF THIS WORK.

16. GUARANTEE

   A. NEITHER THE FINAL CERTIFICATE OF PAYMENT NOR ANY PROVISION IN THE CONTRACT DOCUMENTS, NOR PARTIAL OR ENTIRE OCCUPANCY OF THE AREAS BY THE OWNER SHALL CONSTITUTE AN ACCEPTANCE OF WORK NOT DONE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS OR RELIEVE THE CONTRACTOR OF LIABILITY IN RESPECT TO ANY EXPRESS WARRANTIES OR RESPONSIBILITY FOR FAULTY MATERIALS OR WORKMANSHIP. THE CONTRACTOR SHALL REMEDY ANY DEFECTS OR INADEQUACIES IN THE WORK AND PAY FOR ANY DAMAGE TO OTHER WORK RESULTING THEREFROM, WHICH SHALL APPEAR WITHIN ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. THE OWNER WILL GIVE NOTICE OF OBSERVED DEFECTS OR INADEQUACIES WITH REASONABLE PROMPTNESS.

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DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

STATE OF NEW YORK · ANDREW P. SAGOSE · LICENSED PROFESSIONAL ENGINEER · 100741

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

FIRE SPRINKLER SPECIFICATIONS

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: MF/APS

DRAWING: FS-7.1

EMTEC PROJECT NO. 7611 DRAWN BY: MF CHECKED BY: APS

SYMBOL LIST

SYMBOL	DESCRIPTION
FACP	FIRE ALARM CONTROL PANEL
FAA	FIRE ALARM ANNUNCIATOR
FAC	FIRE ALARM COMMUNICATOR (CELLURAL AND/OR INTERNET PROTOCOL)
DACT	DIGITAL ALARM COMMUNICATOR TRANSMITTER
BATT	BATTERY CABINET
APS	AUXILLARY POWER SUPPLY PANEL FOR AUDIBLE SIGNAL
NAC	NOTIFICATION APPLIANCE CIRCUIT POWER BOOSTER EXTENDER PANEL FOR VISUAL SIGNAL
EVAC	VOICE EVACUATION CONTROL UNIT
AMP	AMPLIFIER RACK
MIC	REMOTE VOICE EVACUATION MICROPHONE
F	FIRE ALARM MANUAL PULL STATION
S	FIRE ALARM PHOTOELECTRIC SMOKE DETECTOR
H A/Y	FIRE ALARM HEAT DETECTOR – COMBINATION RATE OF RISE AND FIXED TEMPERATURE DEVICE
S CO/SB	MULTI–CRITERIA FIRE AND CARBON MONOXIDE DETECTOR INSTALLED ON SOUNDER BASE FOR LOCAL NOTIFICATION
SBLF S CO/SBLF	MULTI–CRITERIA FIRE/SMOKE AND CARBON MONOXIDE DETECTOR INSTALLED ON SOUNDER BASE WITH 520 Hz LOW FREQUENCY SOUNDER CAPABILITY FOR LOCAL ALARM
CO/SB	CARBON MONOXIDE DETECTOR–CEILING MOUNTED FOR LOCAL SOUND ALARM ONLY. PROVIDE WITH ADDRESSABLE INPUT MODULE
R S	FIRE ALARM SMOKE DETECTOR WITH SENSOR FOR DUCT. R = RETURN AIR; S= SUPPLY AIR
RI	FIRE ALARM REMOTE INDICATOR LAMP – CEILING MOUNT
RI	FIRE ALARM REMOTE INDICATOR LAMP – WALL MOUNT
H F	FIRE ALARM HORN – WALL MOUNT.
75	FIRE ALARM HORN/VISIBLE (STROBE) – WALL MOUNT. NUMBER DENOTES MINIMUM CANDELA OUTPUT
75 C	FIRE ALARM HORN/VISIBLE (STROBE) – CEILING MOUNT. NUMBER DENOTES MINIMUM CANDELA OUTPUT
75	FIRE ALARM VISIBLE (STROBE) – WALL MOUNT. NUMBER DENOTES MINIMUM CANDELA OUTPUT
75	FIRE ALARM VISIBLE (STROBE) – CEILING MOUNT. NUMBER DENOTES MINIMUM CANDELA OUTPUT
AIM	ADDRESSABLE SINGLE OR DUAL INPUT MONITOR MODULE
AOM	ADDRESSABLE OUTPUT CONTROL MODULE
CR	ADDRESSABLE CONTROL RELAY
R	AUXILIARY RELAY
EOL Re	END OF LINE RESISTOR
WF	FLOW DETECTOR/SWITCH
VS	VALVE SUPERVISORY SWITCH
PS	PRESSURE DETECTOR/SWITCH
EL	DENOTES ELEVATOR RECALL
MP	DENOTES MOISTURE PROOF
WP	DENOTES WEATHER PROOF
PA	DENOTES PRE–ACTION
UF	DENOTES UNDER FLOOR
K	ACCESS FEATURE – FIRE DEPARTMENT KEY BOX
ANSUL	KITCHEN HOOD FIRE SUPPRESSION SYSTEM
F PS	BELL (SINGLE STROKE) – 12 or 24 VOLTS OPERATIONAL (FURNISHED BY OTHERS, INSTALLED AND WIRED BY THIS CONTRACTOR)

FLOOD RESISTANT CONSTRUCTION

INSTALLATION OF A MANUAL AND AUTOMATIC SMOKE DETECTION FIRE ALARM SYSTEM AND MONITORING OF SPRINKLER SYSTEM.

LOCATION MAP

SCALE: N.T.S.

DESIGNED FIRE ALARM SYSTEM BASED UPON ASSEMBLY OCCUPANCY CLASSIFICATION WITH LESS THAN 1000 PEOPLE

FIRE ALARM GENERAL DESCRIPTION OF WORK SCOPE

INSTALLATION OF A MANUAL AND AUTOMATIC SMOKE DETECTION FIRE ALARM SYSTEM AND MONITORING OF SPRINKLER SYSTEM.

DRAWING NO.	TITLE
FA-0.1	FIRE ALARM SYMBOLS, ABBREVIATIONS AND GENERAL NOTES
FA-0.2	FIRE ALARM GENERAL NOTES
FA-1.1	FIRE ALARM FIRST FLOOR PLAN
FA-1.2	FIRE ALARM MEZZANINE PLAN
FA-1.3	FIRE ALARM SECOND FLOOR PLAN
FA-5.1	FIRE ALARM DETAILS
FA-5.2	FIRE ALARM DETAILS
FA-6.1	FIRE ALARM RISER DIAGRAM
FA-7.1	FIRE ALARM SPECIFICATIONS
FA-7.2	FIRE ALARM SPECIFICATIONS

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08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

STATE OF NEW YORK · ANDREW R. SOLANO · 053455 · PROFESSIONAL ENGINEER · LICENSED

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

FIRE ALARM SYMBOLS, ABBREVIATIONS AND GENERAL NOTES

PROJECT No. 2501 EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING: FA-0.1

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS

FIRE ALARM GENERAL NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH LATEST VERSION OF BUILDING CODE OF NEW YORK STATE, LOCAL AUTHORITY HAVING JURISDICTION ORDINANCE, NFPA 72 AND NATIONAL ELECTRIC CODE REQUIREMENTS.
2. ALL NEW FIRE ALARM EQUIPMENT, DEVICES AND APPLIANCES SHALL BE UL LISTED AND AS SPECIFIED ON SYMBOL LIST ON THIS DRAWINGS SET.
3. ALL FIRE ALARM CIRCUITS SHALL BE SIZED TO A MAXIMUM OF 80% OF CAPACITY.
4. ALL FIRE ALARM CIRCUITS SHALL BE WIRED USING NFPA CLASS A; STYLE 6, WITH THE EXCEPTION OF THE NETWORK CIRCUIT WHICH SHALL BE NFPA CLASS X. ALL NOTIFICATION APPLIANCES SHALL BE WIRED USING NFPA CLASS B STYLE Z CIRCUIT TYPE. T-TAPPING IS NOT ALLOWED FOR ALL CIRCUIT CLASSES.
5. ALL LOW VOLTAGE FIRE ALARM CONDUCTORS SHALL BE PROTECTED BY EITHER BUILDING CONSTRUCTION OR CONDUIT TO 10 FEET ABOVE THE FINISHED FLOOR. FIRE ALARM CONDUCTORS LOCATED IN LOADING DOCKS, GARAGES, MECHANICAL, ELECTRICAL ROOMS OR IN OTHER LOCATION WHEN SUBJECT TO MECHANICAL DAMAGE SHALL BE ENTIRELY IN RIGID CONDUIT OR EMT. IN ALL OTHER AREAS, WIRE MAY BE RUN WITHOUT CONDUIT ABOVE 10 FT AND SHALL BE FASTENED TO BUILDING WALL OR CEILING EVERY 3 FEET OR LESS, UNLESS OTHERWISE NOTED.
6. CONDUITS MAY NOT ENTER THE TOP OF ANY FIRE ALARM EQUIPMENT CABINET.
7. ALL FIRE ALARM EQUIPMENT SHALL BE INSTALLED WITH AESTHETICS IN MIND. CABINETS SHALL BE SEMI FLUSH MOUNTED AND CABLE TRAYS SHALL BE HIDDEN.
8. ALL FIRE ALARM CABINETS AND SYSTEM JUNCTION BOXES PLATES SHALL BE PAINTED RED. ALL FIRE ALARM CABINETS SHALL BE CLEARLY LABELED WITH ENGRAVED LABEL.
9. EACH FIRE ALARM DEVICE AND/OR APPLIANCES SHALL BE LABELED WITH ITS DIGITAL ADDRESS USING 'P-TOUCH' WHITE TAPE AND BLACK LETTERS.
10. ALL REMOTE LAMPS SHALL BE LABELED USING 'P-TOUCH' LABEL CONTAINING THE ASSOCIATED FA DETECTOR INFORMATION (DIGITAL ADDRESS) AND ITS LOCATION.
11. ALL FIRE ALARM WIRES SHALL BE CLEARLY LABELED IN JUNCTION BOXES AND CABINETS. ALL TERMINALS SHALL BE NUMBERED AND LABELED. ALL CONNECTIONS SHALL BE EITHER SOLDERED, APPROVED TERMINAL STRIPS OR SCOTCH LOCKS.
12. WHEN PENETRATING THRU 1-HR OR 2-HR FIRE RATED WALL, CEILING OR FLOOR, THE FIRE ALARM CIRCUIT SHALL BE SUBJECT TO FIRE STOPPING REQUIREMENTS AND SHALL BE ENCLOSED IN CONDUIT. UTILIZE APPROVED UL FIRE STOPPING METHOD. REFER TO FA-501.00 FOR REFERENCES.
13. FIRE ALARM CABLES SHALL NOT BE MIXED WITH NON FIRE ALARM CABLING. LOW VOLTAGE FIRE ALARM CABLING SHALL NOT BE MIXED OR WIRED NEAR ANY AC CIRCUIT.
14. JUNCTION OR BACK BOXES FOR ALL FA EQUIPMENT, DEVICES AND APPLIANCES SHALL BE RECESSED AND CABLES CONCEALED IN SPACES WITH GYPSUM WALLS, AND GYPSUM OR HUNG CEILING.
15. ALL LOW VOLTAGE WIRING SHALL BE FPLP 150 DEGREE C CERTIFIED WIRE. ALL NOTIFICATION CIRCUITS SHALL BE A MINIMUM OF 14 AWG AND ALL INITIATION FIRE ALARM CIRCUITS SHALL BE 16 AWG MINIMUM.
16. POLARITY SHALL BE OBSERVED ON ALL CIRCUITS. T-TAPPING SHALL NOT BE ALLOWED ON ANY NOTIFICATION CIRCUITS (HORN, STROBE OR SPEAKER).
17. ALL WIRING SHALL BE INSPECTED TO ASSURE THERE ARE NO OPENS, SHORTS OR EARTH GROUNDS. PERFORM PRE-TESTING AND TESTING PER NFPA 72
18. SHIELDED CONDUCTORS OR RUNNING IN SEPARATE RACEWAY SHALL BE AS INSTRUCTED BY THE FIRE ALARM MANUFACTURER'S DOCUMENTATION. ALL NON-POWER LIMITED WIRING, INCLUDING CIRCUITS FOR CENTRALIZED AMPLIFIERS SHALL BE RUN IN A SEPARATE RACEWAY.
19. FIRE ALARM EQUIPMENT SHALL BE POWERED FROM DEDICATED CIRCUIT BREAKER IN DESIGNATED ELECTRICAL PANEL. THE CIRCUIT BREAKER SHALL BE IDENTIFIED AS "FIRE ALARM CONTROL PANEL" UTILIZING RED NAMEPLATE WITH ENGRAVED WHITE LETTERS AND PROVIDED WITH AN APPROVED BREAKER LOCKING DEVICE. ALL WIRING SHALL BE #12 MINIMUM THHN OR EQUIVALENT RUN IN ¾" INCH EMT/RGS AND IN ACCORDANCE WITH NEC REQUIREMENTS. EQUIPMENT GROUNDING WIRE SHALL BE #12 MINIMUM. PROVIDE LABEL ON BACK OF FACP DOOR INDICATING POWER FEED SOURCE, LOCATION AND CIRCUIT BREAKER NUMBER.
20. FIRE ALARM CONTROL PANEL AND OTHER FIRE ALARM SUB-SYSTEM CONTROL EQUIPMENT SHALL BE PROVIDED WITH SECONDARY POWER SOURCE IN FORM OF DEDICATED STORAGE BATTERIES. THE SECONDARY POWER SOURCE SHALL MEET REQUIREMENTS OF APPLICABLE VERSION OF NFPA 72. AT MINIMUM IT SHALL HAVE SUFFICIENT CAPACITY TO OPERATE FIRE ALARM SYSTEM UNDER QUIESCENT LOAD FOR A MINIMUM OF 24 HOURS AND THEN OPERATE THE SYSTEM DURING EMERGENCY CONDITION FOR PERIOD OF 15 MINUTES AT MAXIMUM CONNECTED LOAD. PROVIDE ALL NECESSARY BATTERY CALCULATION FOR AHJ AND ENGINEER OF RECORD REVIEW AND APPROVAL.
21. REQUIRED 24 VDC POWER TO ALL ADDRESSABLE CONTROL RELAYS SHALL BE PROVIDED FROM FIRE ALARM CONTROL PANEL.
22. PROVIDE INDEPENDENT AND DEDICATED 120VAC POWER TO ALL MOTORIZED FIRE SMOKE AND/OR SMOKE DAMPERS. POWER CIRCUIT SHALL BE OBTAINED FROM LOCAL ELECTRICAL PANEL(S) WITH SPARE OR SPACE CAPACITY. HE FSD's AND/OR SD's ARE FURNISHED BY OTHER TRADE AND WIRED BY THIS CONTRACTOR. IF THE MOTORIZED DEVICES PROVIDED OPERATE ON VOLTAGE OTHER THAN 120VAC, THIS CONTRACTOR SHALL PROVIDE DEDICATED 120VAC ALONG WITH APPROPRIATE VOLTAGE POWER SUPPLY (INCLUDING A STEP DOWN TRANSFORMER(S)) ACCORDINGLY.
23. FACP SHALL BE EQUIPPED WITH A DIGITAL COMMUNICATOR FOR AUTOMATIC COMMUNICATION WITH AN APPROVED CENTRAL STATION DESIGNATED BY OWNER. THE DIALER SHALL BE CAPABLE OF COMMUNICATE FOLLOWING EVENTS: FIRE ALARM, CARBON MONOXIDE ALARM, MANUAL STATION ACTIVATION, SUPERVISORY, AND TROUBLE. REFER TO FIRE ALARM I/O MATRIX FOR REQUIREMENTS AND DETAILS.
24. ALL CEILING MOUNT DEVICES MUST BE SECURELY FASTENED TO BUILDING STRUCTURE OR CONSTRUCTION FIXED ELEMENTS.
25. DUCT MOUNTED SMOKE DETECTORS SHALL BE MOUNTED ON DUCTWORK IN STRICT ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. AIR SAMPLING TUBE MUST PENETRATE ENTIRE WIDTH OR DEPTH OF THE AIR DUCT. ALL DUCT DETECTORS SHALL BE PROVIDED WITH A REMOTE LED WHEN CONCEALED OR NOT VISIBLE WHILE STANDING ON FLOOR BELOW.
26. PROVIDE ADDRESSABLE CONTROL RELAYS, AND IF NECESSARY AUXILIARY RELAYS FOR ALL HVAC AND VENTILATION EQUIPMENT DESIGNATED TO BE SHUTDOWN. FANS RESET TO BE CONTROLLED BY FIRE ALARM CONTROL PANEL. RESTART OF THE FANS SHALL OCCUR AUTOMATICALLY, UPON MANUAL RESET OF THE FIRE ALARM CONTROL PANEL.
27. NOTIFICATION WALL MOUNTED APPLIANCE SHALL BE MOUNTED SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 80 INCHES AND NOT GREATER THAN 96 INCHES ABOVE THE FINISH FLOOR. WHERE LOW CEILING HEIGHT DO NOT PERMITS MOUNTING AT MINIMUM OF 80 INCHES, THE VISIBLE APPLIANCE SHALL BE MOUNTED WITHIN 6 INCHES OF THE CEILING.
28. ALL STROBE LIGHTS SHALL BE ADA AND UL-1971 APPROVED/LISTED. THE MINIMUM CANDELA AS INDICATED ON FLOOR PLAN.
29. ALL STROBE DEVICES AND STROBE ELEMENT OF AUDIBLE APPLIANCE SHALL REMAIN ACTIVE, AFTER SILENCE FUNCTION OCCURS.
30. PROVIDE NECESSARY CONTROL AND AUXILIARY RELAYS FOR FAN AND/OR OTHER EQUIPMENT SHUTDOWN, DOOR RELEASE, DAMPER CONTROL, ELEVATOR CONTROL, ETC. THEY SHALL BE WIRED A MAXIMUM OF 3 FT FROM THE CONTROLLED DEVICE. THE AUXILIARY RELAY SHALL FUNCTION WITHIN THE REQUIRED VOLTAGE AND CURRENT OF THE CONTROLLED DEVICE. SLAVE OR INTERPOSING RELAYS SHALL BE INCLUDED AND POWERED BY THE FIRE ALARM CONTROL PANEL OR INDEPENDENT DEDICATED POWER SUPPLY WHERE NECESSARY, IN A FAIL-SAFE (FIRE FUNCTION) POSITION. POWER TO THE INTERPOSING RELAY SHALL BE MONITORED BY THE FIRE ALARM SYSTEM.
31. PROVIDE ADDRESSABLE CONTROL RELAYS, AND IF NECESSARY AUXILIARY RELAYS FOR ALL HVAC AND VENTILATION EQUIPMENT DESIGNATED TO BE SHUTDOWN. UPON FIRE ALARM CONTROL PANEL RESET, FANS RESTART TO BE IMPLEMENTED BY FIRE ALARM CONTROL PANEL. EACH AFFECTED FANS SHALL HAVE DEDICATED PUSH-BOTTON CONTROL AT THE FACP AND BE RESTARTED MANUALLY.
32. FIRE ALARM SYSTEM (FACP) SHALL BE EQUIPPED WITH AN ALARM VERIFICATION FEATURE TO REDUCE UNWANTED ALARM SIGNALS FROM TRANSIENT CONDITION(S). THE ALARM VERIFICATION IS APPLICABLE ONLY TO SMOKE DETECTORS.
33. UPON THE PROJECT COMPLETION, THE INSTALLING CONTRACTOR SHALL PREPARE AS-BUILT FIRE ALARM DRAWINGS AND FURNISH THEM IN DIGITAL FORM (PDF Format) TO THE PROJECT ENGINEER AND VERIZON ALONG WITH CUT SHEETS, AS PART OF CLOSE-OUT PACKAGE. THE DRAWINGS MUST CONTAIN FLOOR PLANS AND RISER DIAGRAM WITH ALL FIRE ALARM EQUIPMENT DEVICES AND APPLIANCES INDICATED ALONG WITH THEIR DIGITAL ADDRESSES.
34. INSTALLING CONTRACTOR SHALL FULFILL ALL LOCAL TOWN AND AHJ REQUIREMENTS FOR PROPER FILING OF PROJECT APPLICATION. HE/SHE IS RESPONSIBLE TO PREPARE FILING DOCUMENTS (DRAWINGS, CUT SHEETS AND CALCULATIONS) AND FILE IT WITH LOCAL AHJ. ALL COST ASSOCIATED WITH THIS PROCESS, INCLUDING PERMIT AND FILLING, IS THE CONTRACTOR RESPONSIBILITIES.

FIRE ALARM SYSTEM FILING AND INSPECTION NOTES:

1. INSTALLING CONTRACTOR IS RESPONSIBLE TO FULFILL FIRE MARSHAL REQUIREMENTS FOR PROPER FILING OF THIS PROJECT APPLICATION AND OBTAIN THE AUTHORITY HAVING JURISDICATION (AHJ) PERMIT PRIOR STARTING INSTALLATION WORK. ALL COST ASSOCIATED WITH THIS PROCESS IS THE CONTRACTOR RESPONSIBILITIES.
2. THIS CONTRACTOR SHALL PREPARE THE LOCAL AHJ COMPLAINT FILING DRAWINGS, BATTERY CALCULATIONS AND EQUIPMENT CUT SHEETS AND SUBMIT TO THE LOCAL AHJ OFFICE.
3. LOCATIONS OF ALL FIRE ALARM EQUIPMENT, DEVICES AND APPLIANCES SHALL BE SUBJECT TO THE LOCAL AHJ VERIFICATION AND APPROVAL. IF ANY CHANGES/ADDITIONS MUST BE MADE TO FILING DRAWINGS, OR IF THE FILING PACKAGE IS REJECTED BY LOCAL AHJ, THE CONTRACTOR SHALL BE RESPONSIBLE TO CORRECT THE SUBMITTAL AND RE-FILE. ALL COST ASSOCIATED WITH THIS PROCESS IS THE CONTRACTOR RESPONSIBILITIES.
4. IF ANY CHANGES ARE MADE TO FIRE ALARM SYSTEM DURING INSTALLATION PHASE, AS BUILT PLANS SHALL BE PREPARED BY THE CONTRACTOR AND RE-FILED WITH THE LOCAL AHJ PRIOR THE AHJ SYSTEM INSPECTION.
5. UPON COMPLETION OF THE FIRE ALARM SYSTEM INSTALLATION THIS CONTRACTOR SHALL SCHEDULE WITH ENGINEER OF RECORD AND PERFORM THE FIRE ALARM SYSTEM VERIFICATION PRE-TEST. THE LOCAL AHJ SYSTEM ACCEPTANCE TEST SHALL NOT BE SCHEDULED, UNTIL THE SUCCESSFUL PRE-TEST HAS BEEN COMPLETED AND WITNESSED BY ENGINEER OF RECORD.
6. AFTER SUCCESSFUL SYSTEM TESTING AND APPROVAL BY THE LOCAL AHJ, THE FIRE ALARM SYSTEM INSTALLER SHALL PROVIDE OWNER WITH (1) ONE FULL SIZE PRINT SET OF AS-BUILT DRAWINGS AS WELL AS ITS AutoCAD DRAWINGS FILES.

FIRE ALARM SYSTEM I/O MATRIX

SYSTEM INPUTS \ SYSTEM OUTPUTS	CONTROL UNIT ANNUNCIATION					NOTIFICATION								FIRE SAFETY CONTROL									
	ACTIVATE APPROVED COMMON ALARM SIGNAL NOTIFICATION APPLIANCES THROUGHOUT THE BUILDING	ACTIVATE APPROVED COMMON ALARM SIGNAL NOTIFICATION APPLIANCES TEMPORAL "4" AT INDEPENDENT SOUNDER BASES	ACTIVATE APPROVED COMMON SUPERVISORY SIGNAL NOTIFICATION APPLIANCES THROUGHOUT THE BUILDING	ACTIVATE APPROVED COMMON TROUBLE SIGNAL INDICATOR AND AUDIBLE ALARM TONE THROUGHOUT THE BUILDING	DISPLAY CHANGE OF STATUS	TRANSMIT ALARM CONDITION TO FACP AND ANY ANNUNCIATOR(S). DISPLAY SOURCE OF ALARM AT FACP AND ANNUNCIATOR(S) AND ACTIVATE AUDIO/VISUAL ALARM SIGNAL AT FACP AND ANNUNCIATOR(S)	TRANSMIT SUPERVISORY CONDITION TO FACP AND ANY ANNUNCIATOR(S). DISPLAY SOURCE OF SUPERVISORY CONDITION AT FACP AND ANNUNCIATOR(S) AND ACTIVATE AUDIO/VISUAL ALARM SIGNAL AT FACP AND ANNUNCIATOR(S)	TRANSMIT TROUBLE CONDITION TO FACP AND ANY ANNUNCIATOR(S). DISPLAY SOURCE OF TROUBLE AT FACP AND ANNUNCIATOR(S) AND ACTIVATE AUDIO/VISUAL ALARM SIGNAL AT FACP AND ANNUNCIATOR(S)	TRANSMIT "SMOKE, HEAT OR CARBON MONOXIDE" ALARM SIGNAL TO FIRE DEPARTMENT VIA AN APPROVED CENTRAL STATION MONITORING COMPANY	TRANSMIT "MANUAL" ALARM SIGNAL TO FIRE DEPARTMENT VIA AN APPROVED CENTRAL STATION MONITORING COMPANY	TRANSMIT "SUPERVISORY" ALARM SIGNAL TO FIRE DEPARTMENT VIA AN APPROVED CENTRAL STATION MONITORING COMPANY	TRANSMIT "TROUBLE" SIGNAL TO FIRE DEPARTMENT VIA AN APPROVED CENTRAL STATION MONITORING COMPANY	RELEASE FIRE DEPARTMENT DESIGNATED ELEVATOR DOORS.	PERFORM A PHASE 1 ELEVATOR RECALL. CAUSING CAR(S) TO PARK IN THE LOBBY OF MAIN FLOOR.	PERFORM A PHASE 1 ELEVATOR RECALL. CAUSING CAR(S) TO PARK IN THE ALTERNATELY PROGRAMMED FLOOR.	ONCE ELEVATOR RECALL IS COMPLETED. PERFORM ELEVATOR POWER SOURCE SHUNT TRIP	ELEVATOR HAT FLASH	RELEASE ALL MAGNETICALLY HELD OPEN FIRE DOORS AND DOORS HAVING SECURITY DOOR THROUGHOUT THE BUILDING	SHUTDOWN ALL CARBON MONOXIDE PRODUCING APPLIANCES AND ACTIVATED CO DETECTOR AND THROUGHOUT THE BUILDING	SHUTDOWN ALL FAN SYSTEMS OVER 2000 CFM AND OTHERS DESIGNATED ON FA DRAWING THROUGHOUT THE BUILDING	CLOSE ALL FIRE/SMOKE AND/OR SMOKE DAMPERS THROUGHOUT THE BUILDING	REMOTELY DISPLAY ACTIVE STATUS
1 AREA SMOKE DETECTOR	●				●	●	●		●				●	●	●			●		●	●	●
2 AREA HEAT DETECTOR	●				●	●	●		●				●	●	●			●		●	●	●
3 MANUAL PULL STATION	●				●	●	●			●			●	●	●			●		●	●	●
4 DUCT SMOKE DETECTOR	●				●	●	●		●				●	●	●			●		●	●	●
5 AREA CARBON MONOXIDE DETECTOR		●			●	●	●		●				●	●	●			●	●	●	●	●
6 MAIN FLOOR ELEVATOR SMOKE DETECTOR	●				●	●	●		●				●	●	●			●		●	●	●
7 ALTERNATE FLOOR ELEVATOR SMOKE DETECTOR	●				●	●	●		●				●	●	●			●		●	●	●
8 ELEVATOR POWER MONITOR			●		●																	●
9 SPRINKLER SYSTEM WATER FLOW SWITCH	●				●			●	●			●			●	●	●	●		●	●	●
10 SPRINKLER SYSTEM TAMPER SWITCH					●			●	●			●										●
11 SMOKE AND HEAT DETORS IN SPRINK ELEV. RM AND SHAFT	●				●	●			●						●	●	●	●		●	●	●
12 FIRE ALARM AC POWER FAILURE				●	●			●					●	●								●
13 FIRE ALARM SYSTEM LOW BATTERY				●	●			●					●									●
14 OPEN CIRCUIT OR GROUND FAULT				●	●			●					●									●
15 NOTIFICATION APPLIANCE CIRCUIT SHORT				●	●			●					●									●

1. BUILDING IS EQUIPPED WITH EXISTING LOCAL FIRE DEPARTMENT AUTHORITY HAVING JURISDICTION INSPECTED AND APPROVED FIRE ALARM SYSTEM, WHICH OPERATES PER THE AUTHORITY APPROVED INITIATION, NOTIFICATION, AND REPORTING SEQUENCES.
2. CONTRACTOR SHALL COORDINATE WITH BUILDING FIRE ALARM SERVICE VENDOR FOR PROGRAMMING AND VERIFY THAT THE ABOVE SEQUENCE OF OPERATION DEVICES NOT CONFLICT WITH THE EXISTING MODIFIED SYSTEM.

FIRE ALARM SYSTEM I/O MATRIX

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ELLENVILLE, NY 12428

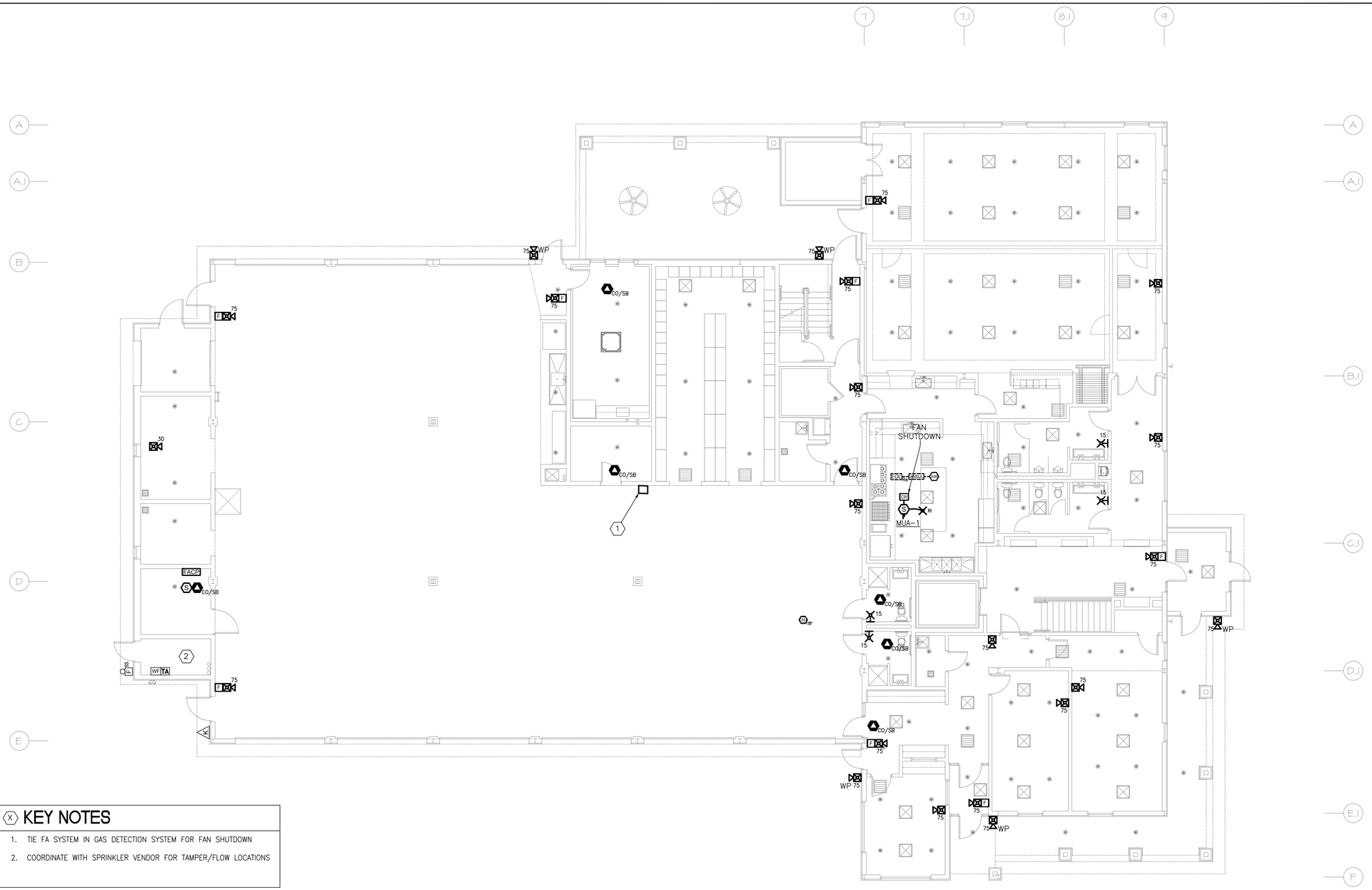
FIRE ALARM GENERAL NOTES

PROJECT No. 2501 EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING: FA-0.2

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS



KEY NOTES

1. TIE FA SYSTEM IN GAS DETECTION SYSTEM FOR FAN SHUTDOWN
2. COORDINATE WITH SPRINKLER VENDOR FOR TAMPER/FLOW LOCATIONS

N

FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0" MEZZ. SQUARE FOOTAGE = 13,924

0 2' 4' 6' 8' 10' 20' 30' 50'

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
208 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

FIRE ALARM FIRST FLOOR PLAN

PROJECT No. 2501 EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING: FA-11

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS

N

MEZZANINE FLOOR PLAN (PARTIAL)

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

MEZZ. SQUARE FOOTAGE = 1,982

0 2' 4' 6' 8' 10' 20' 30' 50'

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FIRE ALARM MEZZANINE PLAN

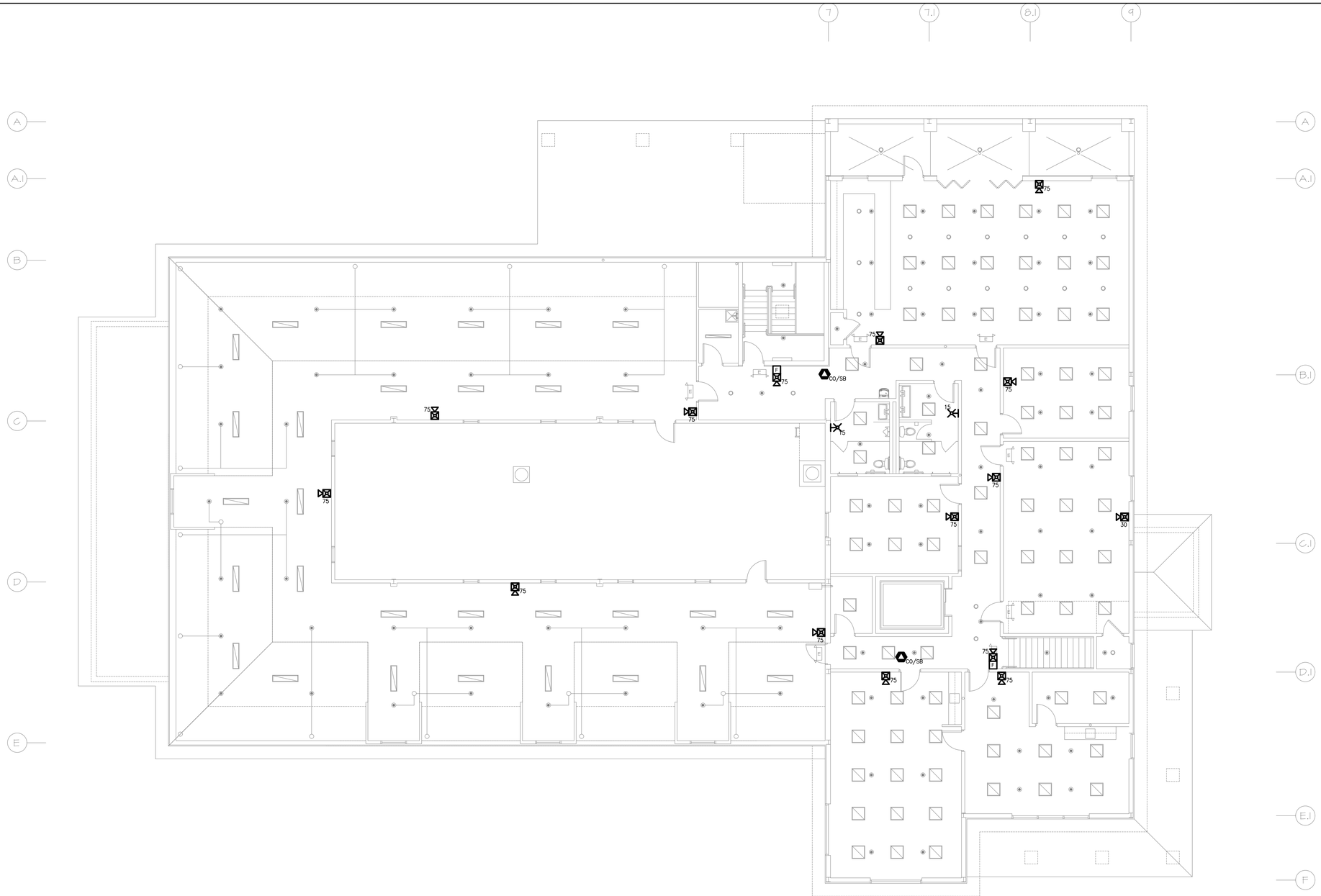
PROJECT No. 2501 EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING:

FA-1.2

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS



SECOND FLOOR PLAN

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

SQUARE FOOTAGE = 5643
(NOT INCL. FLAT ROOF & ATTIC AREAS)

0 2' 4' 6' 8' 10' 20' 30' 50'

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FIRE ALARM
SECOND FLOOR
PLAN

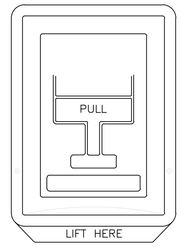
PROJECT No. 2501
EMTEC. 7611

CHECKED BY: JE/ARS

DRAWING:

FA-1.3

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS

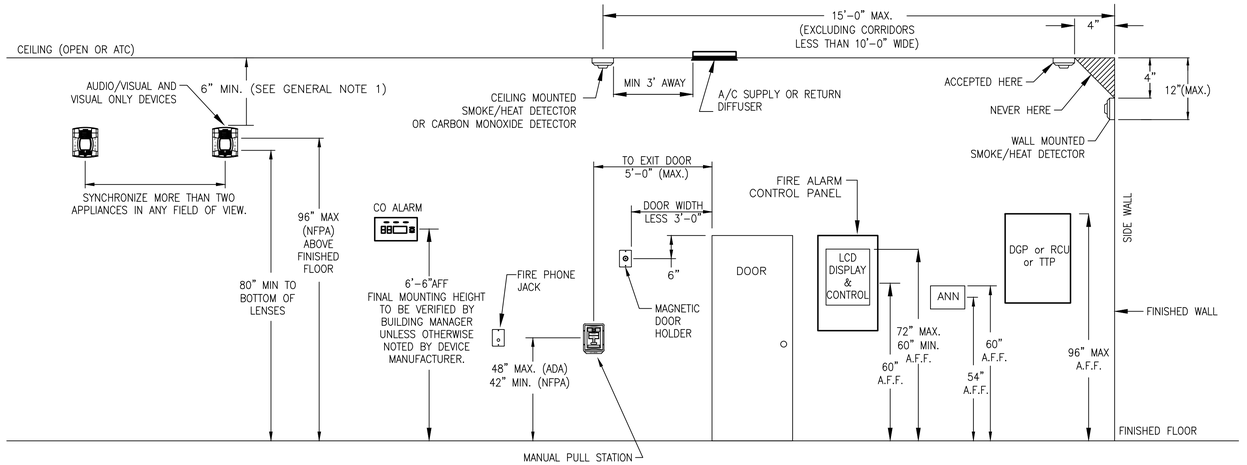


NOTES:

1. REFERENCE SPECIFICATIONS FOR REQUIREMENTS, DETAILS AND SIGNAGE.

TYPICAL PULL STATION DETAIL

SCALE: NONE



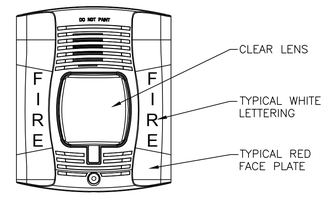
GENERAL NOTES:

1, 6" MINIMUM IF DEVICE CANNOT BE LOCATED AS SHOWN BECAUSE CEILING HEIGHT IS INSUFFICIENT.

2. DETAIL NOT INTENDED TO SHOW SPATIAL RELATIONSHIP OF DEVICES. REFERENCE FLOOR PLANS FOR ACTUAL LOCATIONS.

3. REFER TO THE PROPER DEVICE INSTALLATION INSTRUCTIONS FOR BACKBOX MOUNTING HEIGHT.

TYPICAL EQUIPMENT, DEVICES AND APPLIANCES MOUNTING HEIGHT



NOTE:

1. STROBES AND HORN/STROBES ACTIVATE IN ALL SPACES ON BULIDING FIRE ALARM.

TYPICAL NOTIFICATION DEVICE DETAIL

SCALE: NONE

DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-20-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

STATE OF NEW YORK · ANDREW R. SOLANO · 053455 · LICENSED PROFESSIONAL ENGINEER

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

FIRE ALARM DETAILS

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING:

FA-5.1

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS

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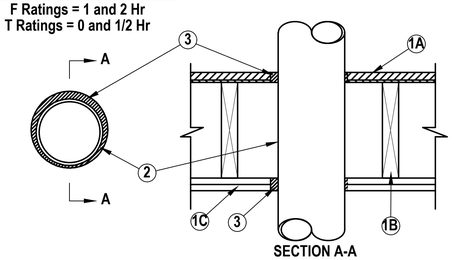
UL/cUL System No. F-C-1059

F Ratings = 1 and 2 Hr
T Ratings = 0 and 1/2 Hr



SECTION A-A

1. Floor–Ceiling Assembly – The 1 or 2 hr fire–rated solid or trussed lumber joist floor–ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor–Ceiling Designs in the UL Fire Resistance Directory. The F Rating of the firestop system is equal to the rating of the floor–ceiling and wall assemblies. The general construction features of the floor–ceiling assembly are summarized below:
   - A. Flooring System – Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture as specified in the individual Floor–Ceiling Design. Max diam of opening shall be 7–5/8 in.
   - B. Wood Joists – Nom 10 in deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members with bridging as required and with ends firestopped.
   - C. Gypsum Board – Thickness, type, number of layers and fasteners shall be as specified in the individual Floor–Ceiling Design. Diam of opening shall be 1 in. larger than the outside diam of pipe (Item 2).
   - D. Furring Channels – (Not Shown) (As required) Resilient galvanized steel furring installed in accordance with the manner specified in the individual L500 Series Designs in the Fire Resistance Directory.

1.1 Chase Wall – (Not Shown, Optional) – The through penetrants (Item 2) may be routed through a 1 or 2 hr fireratedsingle, double or staggered wood stud/gypsum wallboard chase wall having a fire rating consistent with that of the floor–ceiling assembly. The chase wall shall be constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   - A. Studs – Nom 2 by 8 in. lumber or double nom 2 by 6 in. lumber studs.
   - B. Sole Plate – Nom 2 by 8 in. lumber or parallel 2 by 6 in. lumber plates, tightly butted.
   - C. Top Plate – The double top plate shall consist of two nom 2 by 8 in. lumber plates or two sets of nom 2 by 6 in. lumber plates tightly butted. Max diam of opening is 7–5/8 in.
   - D. Gypsum Board – Thickness, type, number or layers and fasteners shall be as specified in individual Wall and Partition Designs.

2. Through Penetrants – One metallic tubing, pipe or conduit to be installed concentrically or eccentrically within the firestop system. Annular space between pipe or conduit and edge of opening to be min 1/4 in. and max 3/4 in. Pipe, tubing or conduit to be rigidly supported on both sides of floor–ceiling assembly. The following types and sizes of metallic pipes, tubing or conduit may be used:
   - A. Steel Pipe – Nom 6 in. diam (or smaller) Schedule 40 (or heavier) steel pipe.
   - B. Iron Pipe – Nom 6 in. diam (or smaller) cast or ductile pipe.
   - C. Conduit – Nom 4 in. diam (or smaller) steel electrical metallic tubing or nom 6 in. diam (or smaller) steel conduit.
   - D. Steel Flexible Metal Conduit – Nom 2 in. diam (or smaller) steel flexible metal conduit.

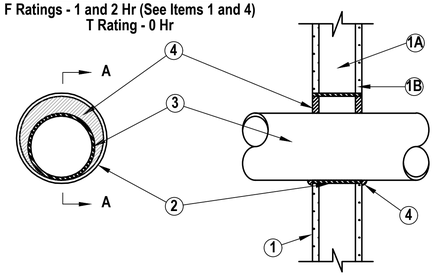
3. Fill, Void or Cavity Material –Sealant – Min 5/8 in. or 1–1/4 in. thickness of sealant applied within annular space, flush with the bottom surface of gypsum wallboard or lower top plate for 1 and 2 hr floors respectively. Min. 3/4 in. thickness of sealant applied within annular space, flush with top surface of floor.

FIRESTOP OF METAL CONDUIT THROUGH WOOD FLOOR/CEILING RATED DETAIL

N.T.S.

UL/cUL System No. W-L-1164

F Ratings - 1 and 2 Hr (See Items 1 and 4)
T Rating - 0 Hr



SECTION A-A

1. Wall Assembly The 1 or 2 hr fire–rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   - A. Studs –Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2–1/2 in. wide and spaced max 24 in. OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. wider and 4 to 6 in. higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. clearance is present between the penetrating item and the framing on all four sides.
   - B. Gypsum Board – The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening in steel stud walls is 32in.. Max diam of openings in wood stud walls is 14–1/2 in.

   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Steel Sleeve – Nom 32 in. diam (or smaller) Schedule 40 (or heavier) steel pipe sleeve friction fit in nom 32 in. diam circular opening cut through gyp–sum wallboard layers. Length of steel sleeve to be equal to thickness of wall.
3. Through–Penetrant – One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and the steel sleeve shall be min of 0 in. (point contact) to max 1–7/8 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   - A. Steel Pipe – Nom 30 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
   - B. Iron Pipe – Nom 30 in. diam (or smaller) service weight (or heavier) cast iron soil pipe or Class 50 (or heavier) ductile iron pressure pipe.
   - C. Conduit – Nom 4 in. diam (or smaller) steel electrical metallic tubing.
   - D. Copper Tubing – Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   - E. Copper Pipe – Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
4. Fill, Void or Cavity Material*–Sealant – Min 5/8 in. and 1–14 in. thickness of fill material applied within annulus, flush with both surfaces of wall assembly for 1 or 2 hr rated walls, respectively. Min 1/2 in. diam bead of caulk applied to the penetrant/wallboard interface at the point contact location on both sides of wall.

FIRESTOP OF METAL PIPING THROUGH GYPSUM RATED WOOD OR STEEL WALL DETAIL

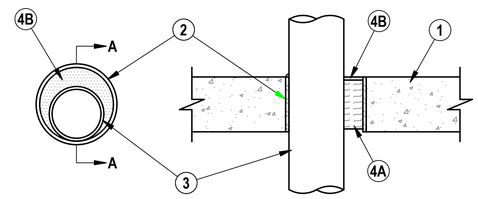
N.T.S.

NOTES:

1. All penetrations through rated walls, including but not limited to Boiler Rooms, Mechanical Equipment Rooms and Rated Shafts, shall be fire stopped per details sheets included in this drawing set. Refer to Architectural drawings for all wall ratings. Detail sheets show only a few common applications however, they do not show all applications. Contractor must use only firestop products that have been UL 1479 or ASTM E 814 tested for specific fire-rated construction conditions conforming to construction assembly type, penetrating item type, annular space requirements, and fire-rating involved for each separate instance.
2. Details shown are typical details. If field conditions do not match requirements of typical details, approved alternate details shall be utilized. Field conditions and dimensions need to be verified for compliance with the details, including but not limited to the following: * Minimum and maximum Width of Joints * Type and thickness of fire-rated construction. The minimum assembly rating of the firestop assembly shall meet or exceed the highest rating of the adjacent construction.
3. If alternate details matching the field conditions are not available, manufacturer's engineering judgment drawings are acceptable. Drawings shall follow the International Firestop Council (IFC) Guidelines for Evaluating Firestop Systems Engineering Judgments.
4. References:
   * 2013 Underwriter's Laboratories Fire Resistance Directory, Volumes 1 & 2
   * NFPA 101 Life Safety Code
   * NFPA 70 - National Electric Code
   * All governing local and regional building codes
5. Firestop System installation must meet requirements of ASTM E-814 (UL 1479) tested assemblies that provide a fire rating equal to that of construction being penetrated.
6. All rated through-penetration assemblies shall be prominently labeled with the following information:
   * ATTENTION: Fire Rated Assembly
   * UL System # * Product(s) used
   * Hourly Rating (F-Rating)
   * Installation Date
7. For outlet boxes requiring protection, use only Wall Opening Protective Materials, category CLIV as classified by Underwriter's Laboratories, Fire Resistance Directory (Volume 1.)

UL/cULSystem No. C-AJ-1421

F Rating - 2 and 3 Hr (See Item 4B)
T Rating = 0 Hr



SECTION A-A

1. Floor or Wall Assembly – Min 4–1/2 in. (114 mm) thick reinforced lightweight or normal weight (100–150 pcf or 1600–2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 6 in. (152 mm).
2. Metallic Sleeve – (Optional) Nom 6 in. (152 mm) diam (or smaller) Schedule 40 (or heavier) steel sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces.
3. Through–Penetrant – One metallic pipe or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between pipe, tube or conduit and periphery of opening shall be min 0 in. (0 mm) (point contact) to max 5–3/8 in. (137 mm). Pipe or conduit to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes or conduits may be used:
   - A. Steel Pipe – Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   - B. Iron Pipe – Nom 4 in. (102 mm) diam (or smaller) cast or ductile iron pipe.
   - C. Copper Pipe – Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.
   - D. Copper Tubing – Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.
   - E. Conduit – Nom 4 in. (102 mm) diam (or smaller) steel conduit.
   - F. Conduit – Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT).
4. Firestop System – The firestop system shall consist of the following:
   - A. Packing Material – Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of fill material.
   - B. Fill, Void or Cavity Material* – Sealant – Min 1/4 in. (6 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall. For 3 Hr rated assemblies, a min 1/4 in. (6 mm) diam bead of fill material shall be applied at the concrete/pipe interface at the point contact location on the top surface of floor and on both surfaces of wall.

FIRESTOP OF METAL PIPING THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL DETAIL

N.T.S.

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This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

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Ronkonkoma, NY 11779
P.631.981.3990|F.631.981.3971|www.emtec-engineers.com

PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

FIRE ALARM DETAILS

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING:

FA-5.2

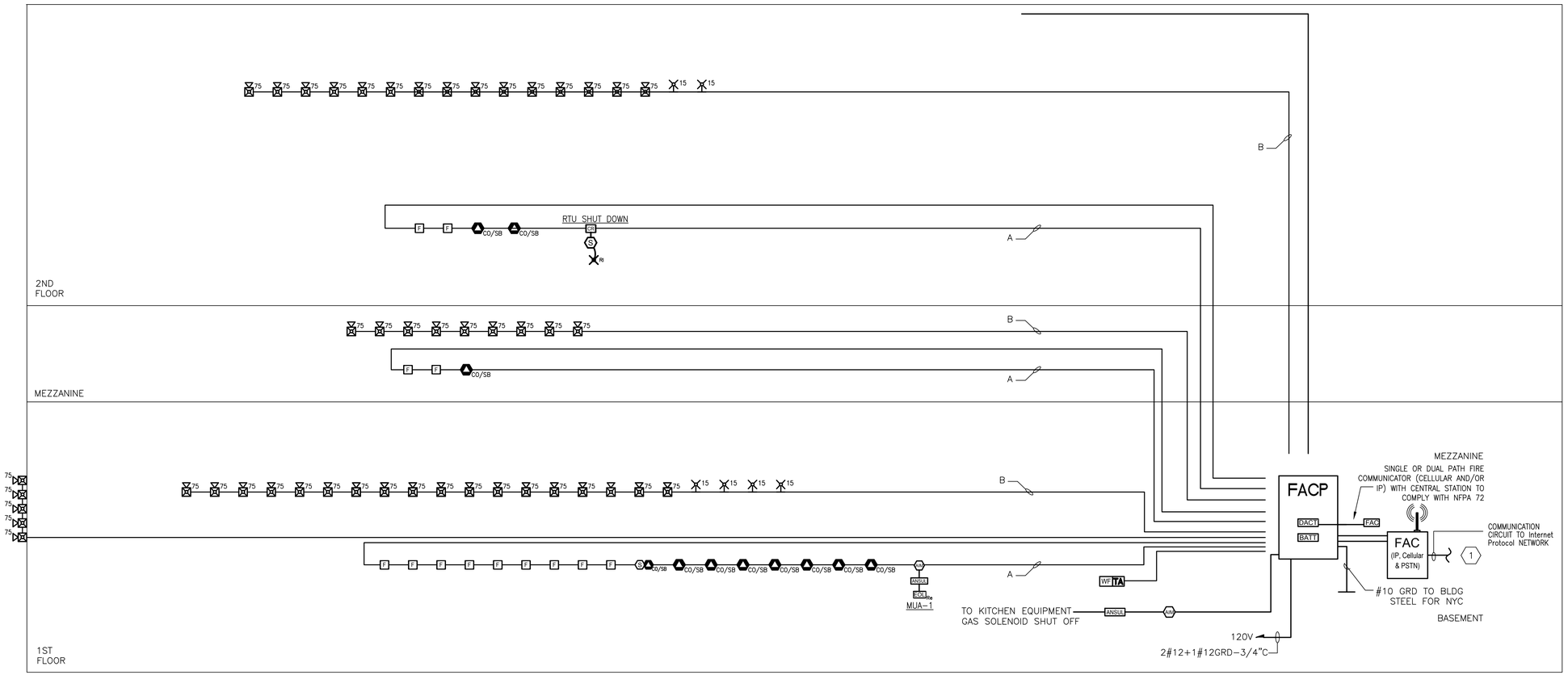
EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS

WIRE LEGEND

ID	DESCRIPTION	TYPE	REMARKS
A	SLC LOOP	1PR #16 TWISTED UNSHIELDED	(1)(2)
B	NAC CIRCUIT	1PR #14 TWISTED	(1)(2)
C	POWER – 24VDC	1PR #14 TWISTED IN 3/4"	(2)
D	COMMUNICATION	1PR #16 TWISTED SHIELDED IN 3/4"C.	(2)
E	MONITORING	1PR #16 TWISTED	(1)(2)
F	POWER – 120VAC	2#10+1#10GRD–3/4"C.	(2)

(1) ALL LOW VOLTAGE FIRE ALARM CONDUCTORS SHALL BE PROTECTED BY EITHER BUILDING CONSTRUCTION OR CONDUIT TO 10 FEET ABOVE THE FINISHED FLOOR. FIRE ALARM CONDUCTORS LOCATED IN LOADING DOCKS, GARAGES, MECHANICAL, ELECTRICAL/POWER OR GENERATOR ROOMS OR IN OTHER LOCATION WHEN SUBJECT TO MECHANICAL DAMAGE SHALL BE ENTIRELY IN RIGID CONDUIT OR EMT. CONDUCTORS RUN VERTICALLY SHALL BE ENTIRELY PROTECTED REGARDLESS OF HEIGHT AND LOCATION. IN ALL OTHER AREAS, WIRE MAY BE RUN WITHOUT CONDUIT ABOVE 10 FT AND SHALL BE FASTENED TO BUILDING WALL OR CEILING EVERY 3 FEET OR LESS, UNLESS OTHERWISE NOTED.

(2) SUBJECT TO ALLOWABLE VOLTAGE DROP NOT TO EXCEED 5% (DETERMINED BY THIS CONTRACTOR) SHALL BE INCREASED ACCORDINGLY.



FIRE ALARM RISER DIAGRAM

SCALE: NONE

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

FIRE ALARM RISER DIAGRAM

PROJECT No. 2501 EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING: FA-6.1

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS

16610 FIRE ALARM SPECIFICATION

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. The general provisions of the contract including General and Special Conditions and General Requirements shall apply to all work under this Section.

1.2 DESCRIPTION OF WORK

A. The work includes providing all labor, materials, equipment, accessories, services and tests necessary to complete and make ready for operation by the Owner a fire alarm system. Perform an acceptance test and make adjustments as required by the authorities having jurisdiction.

B. Provide as shown on drawings a fire alarm system consisting of the following:

1. A fire alarm control panel with microprocessor based electronics, power supplies, amplifiers and batteries.
2. Automatic and manual initiating devices.
3. Audible and visual notification appliances.
4. Control outputs to ventilation systems.
5. Raceways, wiring and accessories as required for a complete and operable system.

C. The Contractor shall prepare all required drawings, wiring and riser diagrams, and make necessary submissions and obtain all approvals as required by local Building Department and Fire Prevention Agency.

D. All work shall be performed by qualified personnel, with all necessary licenses as required by the local agency having jurisdiction.

E. The equipment shall be listed by Underwriters Laboratories.

F. The exact location of all equipment shall be coordinated with existing equipment, HVAC ducts, etc

G. Under no circumstances shall the input power to the control panel (120 VAC) or auxiliary 24 VDC power from the power supply of the panel be utilized for auxiliary external control functions (e.g. Fusible links, damper, etc.).

H. All initiating and indicating circuits are polarized and supervised. Polarity must be observed and no parallel-branching (tee-tapping) will be permitted.

I. Actuation of any new actuating device shall perform the function as performed by similar devices on this Floor and other Floors and as required by Code.

J. Fan system shutdown shall perform the same functions as similar devices on this Floor and other Floors and as required by Local Code.

1.3 STANDARDS

A. The system shall conform to the following latest National Fire Protection Association Bulletins, and shall be installed as per all local Building and Fire Marshal/Department requirements.

B. Except as modified by governing codes and by the Contract Documents, comply with the latest applicable provisions and latest recommendations of the following:

1. National Fire Alarm Code (NFPA 72)
2. Uniform Building Code
3. Uniform Fire Code
4. American National Standard Institute
5. National Electrical Manufacturers Association
6. Underwriters Laboratories
7. Applicable National Fire Protection Association Standards
8. Americans with Disabilities Act (ADA)
9. National Electric Code (NFPA 70)

1.4 SUBMITTALS

A. Submit prior to ordering equipment:

1. Wiring diagrams showing connections between all system components.
2. Description of system operation.
3. Annunciator schedule showing titles for each fire alarm and supervisory zone.
4. Manufacturer's literature marked to show model and catalog number for all equipment.
5. Manufacturer's installation instructions, operations and maintenance instructions.
6. A complete layout of the entire system including conduit routing, conduit sizes, wire sizes and types.
7. Provide a color code schedule for wiring.
8. Battery sizing calculations indicating circuit loading and power supply loading. Voltage drop calculations shall be submitted for all notification appliance circuits exceeding 1.5 Amps or 300' length.
9. Submittals shall be as a complete set. Partial submittal will not be acceptable.
10. Drawings shall not be on less than 8-1/2 by 11 inch sheets and shall identify all symbols used.

B. Submit prior to building occupancy

1. Contractor shall submit, upon completion of system verification, a point-by-point check list indicating the date and time of each item inspected and issue a Record of Completion confirming that the inspection has been completed and the system is installed and functioning in accordance with the specifications.

1.5 RECORD DOCUMENTS, OPERATIONS AND MAINTENANCE MANUALS

A. Complete record documents before scheduling acceptance test. Record documents shall include all information required by the above SUBMITTALS section.

1.6 GUARANTEE

A. All equipment and systems shall be guaranteed for a period of one year following acceptance of the system by the Owner.

1.7 CIRCUITING GUIDELINES

A. Each addressable analog loop shall be circuited as shown on the drawings but device loading is not to exceed 80% of loop capacity in order to leave for space for future devices.

B. Notification appliance circuits shall not be loaded more than 75% of their rated output.

C. Each of the following types of remote equipment associated with the fire alarm system shall be provided with a control relay contact as shown on the drawings, but shall be typically as follows:

1. HVAC fan systems: Provide one (1) shutdown control relay contact for each HVAC fan system.
2. HVAC supply fans: Provide one (1) shutdown control relay contact for each HVAC supply fan over 15,000 CFM.
3. HVAC return fans: Provide one (1) shutdown control relay contact for each HVAC return fan over 2,000 CFM.

1.8 FIRE ALARM SYSTEM SEQUENCE OF OPERATION

A. The system shall identify any off normal condition and log each condition into the system database as an event.

1. The system shall automatically display on the control panel Liquid Crystal Display the first event of the highest priority by type. The priorities and types shall be alarm, supervisory, trouble, and monitor.
2. The system shall have a Queue operation, and shall not require event acknowledgment by the system operator. The system shall have a labeled color coded indicator for each type of event; alarm - red, supervisory - yellow, trouble - yellow, monitor - green. When an unseen event exists for a given type, the indicator shall flash. When all events of a given type have been displayed, the indicator shall change from flashing to steady.
3. For each event, the display shall include the current time, the total number of events, the type of event, the time the event occurred and up to a 40 character custom user description.
4. The user shall be able to review each event by simply selecting scrolling keys (up-down) for each event type.
5. New alarm, supervisory, or trouble events shall sound a silenceable audible signal at the control panel.

B. Operation of any alarm initiating device shall automatically:

1. Update the control/display as described above (A1.)
2. Sound all alarm signals throughout the building at the evacuation rate.
3. Turn on all strobe lights throughout the building.
4. Turn on a red alarm LED at the fire alarm control panel.
5. Operate the alarm relay contacts to initiate the transmission of an alarm to a central station agency via leased telephone lines.
6. Operate control relay contacts to shutdown all HVAC units.
7. Operate control relay contacts to release all magnetically held smoke doors throughout the building if any.
8. Visually annunciate the zone of alarm on the remote annunciator panel. The visual indication shall remain on until the alarm condition is reset to normal.
9. Elevator lobby detectors shall recall the elevator to the primary designated floor, or if the primary detector is activated then to the secondary designated floor.

C. The entire fire alarm system wiring shall be electrically supervised to automatically detect and report trouble conditions to the fire alarm control panel. Any opens, grounds or disarrangement of system wiring and shorts across alarm bell/strobe wiring shall automatically:

1. Update the control/display as described above (A1.)
2. Operate the supervisory relay contacts to initiate the transmission of an alarm to a central station agency via leased telephone lines.
3. Visually and audibly annunciate a general trouble condition, on the remote annunciator panel. The visual indication shall remain on until the trouble condition is repaired.

PART 2 - PRODUCTS

2.1 BASE BID MANUFACTURERS

A. GE-Edwards Systems Technology (GE-EST)

B. Notifier

C. Siemens

2.2 GENERAL

A. Any equipment proposed as equal to that herein specified must be proven by the Contractor. Submit to the Engineer: the manufacturer's name, model numbers of substitute equipment and materials, engineering data sheets, and a list of ten (10) installations of similar equipment which have been satisfactorily installed and in continuous operation on a user's premises over a period of three (3) years. See section 16000 for additional substitution request requirements.

B. The catalog numbers used below are those of GE-Edwards Systems Technology (GE-EST) as provided by Electrical Technology Inc., 35 Doyle Court, E. Northport, NY, 631-499-0300, and constitute the type and quality of equipment to be furnished.

C. The Fire Alarm Control Panel shall have the capability to be expanded for future additions/alterations.

2.3 FIRE ALARM CONTROL PANEL (MAIN)

A. The fire alarm control panels shall be Edwards Systems Technology (GE-EST) Type ID500 series as supplied by Electrical Technology Inc., and shall incorporate all control electronics, relays, and necessary modules and components in a surface or recessed mounted cabinet as indicated on the drawings. The operating controls

B. All equipment and components shall be the manufacturer's current model. The materials, appliances, equipment and devices shall be tested and listed by a nationally recognized approval agency for use as part of a protected premises protective signaling (fire alarm) system. The authorized representative of the manufacturer of the major equipment, such as control panels, shall be responsible for the satisfactory installation of the complete system.

C. The contractor shall provide, from the acceptable manufacturer's current product lines, equipment and components, which comply, with the requirements of these specifications. Equipment or components, which do not provide the performance and features, required by these specifications are not acceptable, regardless of manufacturer.

D. The control panel shall be a multi-processor-based system designed specifically for fire and releasing system applications. The control panel shall be listed and approved for the application standard(s) as listed under the General section.

E. The control panel shall include all required hardware, software and system programming to provide a complete and operational system. The control panel shall assure that life safety takes precedence among all panel activities.

F. The control panel shall include the following capacities:

1. Support up to 250 analog/addressable points
2. Support up to 8 fully supervised remote annunciators.
3. Support digital dialer with multiple communication protocols
4. Support up to 1000 chronological events.

G. The control panel shall include the following features:

1. Ability to download or upload site applications from a computer through a single point of connection on the system.
2. Provide electronic addressing of analog/addressable devices.
3. Provide an operator interface display that shall include functions required to annunciate, command and control system functions.
4. Provide an internal audible signal with different programmable patters to distinguish between alarm, supervisory, trouble and monitor conditions.
5. Provide a discreet system control switch provided for reset, alarm silence, panel silence, drill switch, up/down/right/left switches, status switch and help switch.
6. Provide system reports that provide detailed description of the status of system parameters for corrective action or for preventative maintenance programs. Reports shall be displayed by the operator interface or capable of being printed on a printer.
7. Provide an authorized operator with the ability to operate or modify system functions like system time, date, passwords, holiday dates, restart the system and clear control panel event history file.
8. Provide an authorized operator to perform test functions within the installed system.

H. Supervision of system components, wiring, initiating devices and software shall be provided by the control panel. Failure or fault of system component or wiring shall be indicated by type and location on the LCD display. Software and processor operation shall be independently monitored for failure. The system shall provide fail-safe operation, with a backup level of system operation.

I. Annunciation

1. The system shall be designed and equipped to receive, monitor, and annunciate signals from devices and circuits installed throughout the building. Standard LED annunciators may be combined in common enclosures provided that the groups of LEDs comprising each of the required annunciators are separated from one another (Fire, Supervisory, Trouble and Status) and clearly labeled.
2. Manufacturer's standard control switches shall be acceptable if they provide the required operation, including performance, supervision and position indication. If the manufacturers' standard switches do not comply with these requirements, fabrication of custom manual controls acceptable to the owner is required.
3. Receipt of alarm, trouble, and supervisory signals shall activate integral audible devices at the control panel(s) and at each remote annunciation device. The integral audible devices shall produce a sound output upon activation of not less than 70 dBA at 10 feet.

J. Power Supply

1. Each system power supply shall be a minimum of 6 amps @ 24 vdc.
2. Upon failure of normal (AC) power, the affected portion(s) of the system shall automatically switch over to secondary power without losing any alarm, trouble or operator acknowledgment signals.
3. Each system power supply shall be annunicated individually and shall annunciate as a trouble signal, identifying the inoperable power supply.
4. All standby batteries shall be continuously monitored by the system. Low battery and disconnection of battery power supply conditions shall immediately annunciate as a trouble signal, identifying the deficient batteries.
5. All system power supplies shall be capable of recharging their associated batteries, from a fully discharged condition to a capacity sufficient to allow the system to perform consistent with the requirements of this section, in 48 hours maximum.
6. The AC power circuit shall be installed in conduit raceway. The power circuit disconnect means shall be clearly labeled FIRE ALARM CIRCUIT CONTROL and shall have a red marking.The location of the circuit disconnect shall be labeled permanently inside the each control panel.

2.4 REMOTE LCD ANNUNCIATOR

A. Provide a remote lcd annunciator, with the same 'look and feel' as the facu operator interface. the remote lcd annunciator shall use the same primary acknowledge, silence, and reset keys; status leds and lcd display as the facu.

B. Annunciator shall have super-twist lcd display with two lines of 40 characters each. annunciator shall be provided with four (4) programmable control switches and associated leds.

C. Under normal conditions the lcd shall display a 'system is normal' message and the current time and date.

D. Should an abnormal condition be detected the appropriate led (alarm, supervisory or trouble) shall flash. the unit audible signal shall pulse for ALARM CONDITIONS AND SOUND STEADY FOR TROUBLE AND SUPERVISORY CONDITIONS.

E. THE LCD SHALL DISPLAY THE FOLLOWING INFORMATION RELATIVE TO THE ABNORMAL CONDITION OF A POINT IN THE SYSTEM:

1. 40 CHARACTER CUSTOM LOCATION LABEL.
2. TYPE OF DEVICE (E.G., SMOKE, PULL STATION, WATERFLOW).
3. POINT STATUS (E.G., ALARM, TROUBLE).

F. OPERATOR KEYS SHALL BE KEY SWITCH ENABLED TO PREVENT UNAUTHORIZED USE. THE KEY SHALL ONLY BE REMOVABLE IN THE DISABLED POSITION. ACKNOWLEDGE, SILENCE AND RESET OPERATION SHALL BE THE SAME AS THE FACU.

2.5 SMOKE CONTROL SYSTEM

A. Smoke control system: provide a smoke control system which is ul 864 (uukl product category) listed for smoke control system service. the system shall provide automatic operation of smoke exhaust fans, makeup air fans, air handling units, and dampers in accordance with the smoke control sequence indicated on the drawings. the smoke control system shall be located in the fire command center.

B. Provide and install smoke control relays within 3 feet of each smoke exhaust fan controller, makeup air fan controller, air handling units controller, and damper controlled by the smoke control system. the building automation/temperature control system contractor shall terminate the relays to the fan controllers, air handling unit controllers, and dampers.

C. Provide and install addressable modules to monitor status/operation of each smoke exhaust fan, makeup air fan, air handling unit, and damper controlled by the smoke control system. the fire alarm contractor shall terminate the modules to status indicators.

D. Enclosure: Finish to match fire alarm control units. the locking cover/display assembly is hinged on the left. key and lock shall be common to all secured fire alarm system enclosures.

2.6 SMOKE CONTROL SYSTEM GRAPHIC ANNUNCIATOR - LED TYPE

A. Annunciator unit (zoned system): provide an led-indicating light located on the graphic annunciator to indicate the status for all smoke control equipment. in addition, in systems with two or more smoke control system graphic annunciators, each annunciator shall be programmable to allow multiple annunciators to have equal operation priority or to allow hierarchal priority control to be assigned to individual annunciators (locations).

B. Fans, Dampers, and other operating equipment in normal status shall be indicated by a green led. Fans, dampers, and other operating equipment in off or closed status shall be indicated by a red led. fans, dampers, and other operating equipment in fault status shall be indicated by a yellow led. the annunciator shall graphically depict the building arrangement and smoke control system zones. fans, major ducts, dampers, and airflow direction shall be indicated.

C. Provide hoa switches labeled 'on-auto-off' on the annunciator to permit fire-fighters manual control of each individual smoke control fan or air handling unit. hoa switches labeled 'open-auto-close' shall be provided on the annunciator for each individual smoke control damper.

D. Provide a toggle or push-button switch to test the leds mounted on the unit. the test switch does not require key operation.

E. Provide a hoa switch labeled 'open-auto-lock' on the annunciator for each stairway to permit fire-fighters manual control of stairway door locks in accordance with local codes.

F. In the normal switch position, the fans, air handling units, or dampers operate automatically as controlled by the building automation/temperature control system. automatic controls can be overridden with the hoa switches provided on the graphic annunciator. the operation of the hoa switches shall permit manual control and override of any conflicting signal from the building automation/temperature control system or any other system.

G. Enclosure: Finish to match fire alarm control units. the locking cover/display assembly is hinged on the left. key and lock shall be common to all secured fire alarm system enclosures.

2.7 SIGNATURE SERIES INTELLIGENT ADDRESSABLE ANALOG DEVICES

A. ALL DEVICES - GENERAL

1. Each remote device shall have a microprocessor with non-volatile memory to support its functionality and serviceability. Each device shall store as required for its functionality the following data: device serial number, device address, device type, personality code, date of manufacture, hours in use, number of alarms and troubles, time and date of last alarm, amount of environmental compensation left/used, last maintenance date, job/project number, current detector sensitivity values, diagnostic information (trouble codes) and algorithms required to process sensor data and perform communications with the loop controller.
2. Each device shall be capable of electronic addressing, either automatically or application programmed assigned, to support physical/electrical mapping and supervision by location. Setting a device's address by physical means shall not be necessary.

B. INTELLIGENT DETECTORS - GENERAL

1. The System Intelligent Detectors shall be capable of full digital communications using both broadcast and polling protocol. Each detector shall be capable of performing independent fire detection algorithms. The fire detection algorithm shall measure sensor signal dimensions, time patterns and combine different fire parameters to increase reliability and distinguish real fire conditions from unwanted deceptive nuisance alarms. Signal patterns that are not typical of fires shall be eliminated by digital filters. Devices not capable of combining different fire parameters or employing digital filters shall not be acceptable.
2. Each detector shall have an integral microprocessor capable of making alarm decisions based on fire parameter information stored in the detector head. Distributed intelligence shall improve response time by decreasing the data flow between detector and analog loop controller. Detectors not capable of making independent alarm decisions shall not be acceptable. Maximum total analog loop response time for detectors changing state shall be 0.5 seconds.
3. Each detector shall have a separate means of displaying communication and alarm status. A green LED shall flash to confirm communication with the analog loop controller. A red LED shall flash to display alarm status.
4. The detector shall be capable of identifying up to 32 diagnostic codes. This information shall be available for system maintenance. The diagnostic code shall be stored at the detector.
5. Each smoke detector shall be capable of transmitting pre-alarm and alarm signals in addition to the normal, trouble and need cleaning information. It shall be possible to program control panel activity to each level. Each smoke detector may be individually programmed to operate at any one of five (5) sensitivity settings.
6. Each detector microprocessor shall contain an environmental compensation algorithm which identifies and sets ambient Environmental Thresholds approximately six times an hour. The microprocessor shall continually monitor the environmental impact of temperature, humidity, other contaminates as well as detector aging. The process shall employ digital compensation to adapt the detector to both 24 hour long term and 4 hour short term environmental changes. The microprocessor shall monitor the environmental compensation value and alert the system operator when the detector approaches 80% and 100% of the allowable environmental compensation value. Differential sensing algorithms shall maintain a constant differential between selected detector sensitivity and the learned base line sensitivity. The base line sensitivity information shall be updated and permanently stored at the detector approximately once every hour.
7. The intelligent analog detectors shall be suitable for mounting on any Signature Series detector mounting base.

C. INTELLIGENT DETECTORS

1. Fixed Temperature/Rate of Rise Heat Detector, GE-SIGA-HRS.
   a. Provide intelligent combination fixed temperature/rate-of-rise heat detectors GE-SIGA-HRS. The heat detector shall have a low mass thermistor heat sensor and operate at a fixed temperature and at a temperature rate-of-rise. It shall continually monitor the temperature of the air in its surroundings to minimize thermal lag to the time required to process an alarm. The integral microprocessor shall determine if an alarm condition exists and initiate an alarm based on the analysis of the data. Systems using central intelligence for alarm decisions shall not be acceptable. The intelligent heat detector shall have a nominal fixed temperature alarm point rating of 135oF (57oC) and a rate-of-rise alarm point of 15oF (9oC) per minute unless otherwise shown on design drawings. The heat detector shall be rated for ceiling installation at a minimum of 70 ft (21.3m) centers and be suitable for wall mount applications.
   b. Photoelectric Smoke Detector, GE-SIGA-PS
2. Provide intelligent photoelectric smoke detectors GE-SIGA-PS. The analog photoelectric detector shall utilize a light scattering type photoelectric smoke sensor to sense changes in air samples from its surroundings. The integral microprocessor shall dynamically examine values from the sensor and initiate an alarm based on the analysis of data. Systems using central intelligence for alarm decisions shall not be acceptable. The detector shall continually monitor any changes in sensitivity due to the environmental effects of dirt, smoke, temperature, aging and humidity. The information shall be stored in the integral processor and transferred to the analog loop controller for retrieval using a laptop PC. The photo detector shall be rated for ceiling installation at a minimum of 30 ft (9.1m) centers and be suitable for wall mount applications. The photoelectric smoke detector shall be suitable for direct insertion into air ducts up to 3 Ft (0.91m) high and 3 Ft (0.91m) wide with air velocities up to 5,000 Ft/min. (0-25.39 m/sec) without requiring specific duct detector housings or supply tubes.
   a. The percent smoke obscuration per foot alarm set point shall be field selectable to any of five sensitivity settings ranging from 1.0% to 3.5%. The photo detector shall be suitable for operation in the following environment:
      - Temperature: 32F to 120F (0C to 49C)
      - Humidity: 0-93% RH, non-condensing
      - Elevation: no limit
3. Standard Detector Mounting Bases, GE-SIGA-SB). Provide standard detector mounting bases GE-SIGA-SB suitable for mounting on North American 1-gang, 3" or 4" octagon box and 4 square box. The base shall, contain no electronics, support all Signature Series detector types and have the following minimum requirements:
   a. Removal of the respective detector shall not affect communications with other detectors.
   b. Terminal connections shall be made on the room side of the base. Bases which must be removed to gain access to the terminals shall not be acceptable.
   c. The base shall be capable of supporting one (1) Signature Series GE-SIGA-LED Remote Alarm LED Indicator. Provide remote LED alarm indicators where shown on the plans.
4. Relay Detector Mounting Bases, GE-SIGA-RB. Provide relay detector mounting bases GE-SIGA-RB suitable for mounting on North American 1-gang, 3 or 4 octagon box and 4 square box. The relay base shall support all Signature Series detector types and have the following minimum requirements:
   a. The relay shall be a bi-stable type and selectable for normally open or normally closed operation.
   b. The position of the contact shall be supervised.
   c. The relay operation shall be exercised by the detector processor upon power up.
   d. The relay shall automatically de-energize when a detector is removed.
   e. The operation of the relay base shall be controlled by its respective detector processor. Detectors operating standalone mode shall operate the relay upon changing to alarm state. Relay bases not controlled by the detector microprocessor shall not be acceptable.
   f. Form C Relay contacts shall have a minimum rating of 2 amp @ 30 Vdc and be listed for pilot duty.
   g. Removal of the respective detector shall not affect communications with other detectors.
   h. Terminal connections shall be made on the room side of the base. Bases which must be removed to gain access to the terminals shall not be acceptable.
5. Intelligent Duct Smoke Detector Housing, GE-SIGA-SD. Provide smoke duct detector GE-SIGA-SD, along with a standard, relay or isolator detector mounting base. Provide for variations in duct air velocity between 300 and 4000 Feet per minute (300 to 1000 Feet per minute for ion-photo-heat detector). Protect the measuring chamber from damage and insects. Provide an air exhaust tube and an air sampling inlet tube which extends into the duct air stream up to ten feet. Provide drilling templates and gaskets to facilitate locating and mounting the housing. Provide five one gang knockouts for mounting optional Signature Series modules. Finish the housing in baked red enamel. Provide remote alarm LEDs GESIGA-SD-LED and Remote Test Stations GE-SIGA-SD-TRM as shown on the plans.

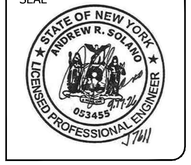
D. INTELLIGENT MODULES -

1. GENERAL
   a. It shall be possible to address each Intelligent Signature Series module without the use of DIP or rotary switches. Devices using DIP switches for addressing shall not be acceptable. The personality of multifunction modules shall be programmable at site to suit conditions and may be changed at any time using a personality code downloaded from the Analog Loop Controller. Modules requiring EPROM, PROM, RAM changes or DIP switch and/or jumper changes shall not be acceptable. The modules shall have a minimum of 2 diagnostic LEDs mounted behind a finished cover plate. A green LED shall flash to confirm communication with the loop controller. A red LED shall flash to display alarm status. The module shall be capable of storing up to 24 diagnostic codes which can be retrieved for troubleshooting assistance. Input and output circuit wiring shall be supervised for open and ground faults. The module shall be suitable for operation in the following environment:
   b. Temperature: 32oF to 120oF (0oC to 49oC)
   c. Humidity: 0-93% RH, non-condensing
2. SINGLE INPUT MODULE, GE-SIGA-CT1
   a. Provide intelligent single input modules GE-SIGA-CT1. The Single Input Module shall provide one (1) supervised Class B input circuit capable of a minimum of 4 personalities, each with a distinct operation. The module shall be suitable for mounting on North American 2" (64mm) deep 1-gang boxes and 1" (38mm) deep 4 square boxes with 1-gang covers. The single input module shall support the following circuit types:
      - Normally-Open Alarm Latching (Manual Stations, Heat Detectors, etc.)
      - Normally-Open Alarm Delayed Latching (Waterflow Switches)
      - Normally-Open Active Non-Latching (Monitor, Fans, Dampers, Doors, etc.)
      - Normally-Open Active Latching (Supervisory, Tamper Switches)
3. DUAL INPUT MODULE, GE-SIGA-CT2
   a. Provide intelligent dual input modules GE-SIGA-CT2. The Dual Input Module shall provide two (2) supervised Class B input circuits each capable of a minimum of 4 personalities, each with a distinct operation. The module shall be suitable for mounting on North American 2" (64mm) deep 1-gang boxes and 1" (38mm) deep 4 square boxes with 1-gang covers. The dual input module shall support the following circuit types:

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."
This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL



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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

FIRE ALARM SPECIFICATIONS

PROJECT No. 2501 EMTEC.7611

CHECKED BY: JE/ARS

DRAWING: FA-7.1

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS

c. Humidity: 0-93% RH, non-condensing

2. SINGLE INPUT MODULE, GE-SIGA-CT1

a. Provide intelligent single input modules GE-SIGA-CT1. The Single Input Module shall provide one (1) supervised Class B input circuit capable of a minimum of 4 personalities, each with a distinct operation. The module shall be suitable for mounting on North American 2 (64mm) deep 1-gang boxes and 1 (38mm) deep 4 square boxes with 1-gang covers. The single input module shall support the following circuit types:

- Normally-Open Alarm Latching (Manual Stations, Heat Detectors, etc.)
- Normally-Open Alarm Delayed Latching (Waterflow Switches)
- Normally-Open Active Non-Latching (Monitor, Fans, Dampers, Doors, etc.)
- Normally-Open Active Latching (Supervisory, Tamper Switches)

3. DUAL INPUT MODULE, GE-SIGA-CT2

a. Provide intelligent dual input modules GE-SIGA-CT2. The Dual Input Module shall provide two (2) supervised Class B input circuits each capable of a minimum of 4 personalities, each with a distinct operation. The module shall be suitable for mounting on North American 2 (64mm) deep 1-gang boxes and 1 (38mm) deep 4 square boxes with 1-gang covers. The dual input module shall support the following circuit types:

- Normally-Open Alarm Latching (Manual Stations, Heat Detectors, etc.)
- Normally-Open Alarm Delayed Latching (Waterflow Switches)
- Normally-Open Active Non-Latching (Monitor, Fans, Dampers, Doors, etc.)
- Normally-Open Active Latching (Supervisory, Tamper Switches)

4. MONITOR MODULE, GE-SIGA-UTM & SIGA-MM1

a. Provide intelligent monitor modules SIGE-UTM & SIGA-MM1. The Monitor Module shall be factory set to support one (1) supervised Class B Normally-Open Active Non-Latching Monitor circuit. The monitor module shall be suitable for mounting on North American 2 (64mm) deep 1-gang boxes and 1 (38mm) deep 4 square boxes with 1-gang covers.

b. Provide intelligent control relay modules GE-SIGA-CR. The Control Relay Module shall provide one form C dry relay contact rated at 2 amps @ 24 Vdc to control external appliances or equipment shutdown. The control relay shall be rated for pilot duty and releasing systems. The position of the relay contact shall be confirmed by the system firmware. The control relay module shall be suitable for mounting on North American 2 (64mm) deep 1-gang boxes and 1 (38mm) deep 4 square boxes with 1-gang covers.

E. INTELLIGENT MANUAL PULL STATIONS -

1. GENERAL

a. It shall be possible to address each Signature Series fire alarm pull station without the use of DIP or rotary switches. Devices using DIP switches for addressing shall not be acceptable. The manual stations shall have a minimum of 2 diagnostic LEDs mounted on their integral, factory assembled single or two stage input module. A green LED shall flash to confirm communication with the loop controller. A red LED shall flash to display alarm status. The station shall be capable of storing up to 24 diagnostic codes which can be retrieved for troubleshooting assistance. Input circuit wiring shall be supervised for open and ground faults. The fire alarm pull station shall be suitable for operation in the following environment:

- Temperature: 32oF to 120oF (0oC to 49oC)
- Humidity: 0-93% RH, non-condensing

2. DOUBLE ACTION MANUAL PULL STATION, SIGA-278

a. Provide intelligent double action, single stage fire alarm stations SIGA-278. The fire alarm station shall be of lexan construction with an internal toggle switch. Provide a key locked test feature. Finish the station in red with white lettering. The manual station shall be suitable for mounting on North American 2 (64mm) deep 1-gang boxes and 1 (38mm) deep 4 square boxes with 1-gang covers.

3. PROTECTIVE COVERS, MINI STOPPER II - STI 6540

a. Provide protective covers without horn - with horn housing SHELL at all manual pull stations in public spaces.

F. NOTIFICATION APPLIANCES

1. General

a. All appliances shall be UL Listed for Fire Protective Service.

b. All strobe appliances or combination appliances with strobes shall be capable of providing the Equivalent Facilitation which is allowed under the Americans with Disabilities Act Accessibilities Guidelines (ADAAG)), and shall be UL 1971, and ULC S526 Listed.

c. All appliances shall be of the same manufacturer as the Fire Alarm Control Panel specified to insure absolute compatibility between the appliances and the control panels, and to insure that the application of the appliances are done in accordance with the single manufacturer's instructions.

d. Any appliances which do not meet the above requirements, and are submitted for use must show written proof of their compatibility for the purposes intended. Such proof shall be in the form of documentation from all manufacturers which clearly states that their equipment (as submitted) are 100% compatible with each other for the purposes intended.

2. Self-Synchronized Strobes

a. 1-Gang Strobes, Genesis Series. Provide strobes manufactured by GE-EST, Cat No. GIRF-VM. (White face plates may be used based upon approval of local jurisdiction only)

3. Horns

a. 1-Gang Horns, Genesis Series. Provided horns manufactured by GE-EST, Cat. No. GIRF-HD Series. (White face plates may be used based upon approval of local jurisdiction only)

4. Horn/Strobes

a. 1-Gang Horn/Strobes, Genesis Series. Provided horns/strobes manufactured by GE-EST, Cat. No. GIRF-HDVM. (White face plates may be used based upon approval of local jurisdiction only)

5. Remote LED Alarm Lamps

a. SIGA-LED Remote lamp indicator light.

G. ANCILLARY DEVICES

1. Remote Relays

a. Multi Voltage Control Relays, MR-100 Series

(1). Provide remote control relays connected to supervised ancillary circuits for control of fans, dampers, door releases, etc. Relay contact ratings shall be SPDT and rated for 10 amperes at 115 Vac. A single relay may be energized from a voltage source of 24 Vdc, 24 Vac, 115 Vac, or 230 Vac. A red LED shall indicate the relay is energized. A metal enclosure shall be provided.

2.8 FIRE ALARM CABLE

A. Initiating circuits shall be 2 conductor #16 type FPL of FPLP cable as required. Where installed in conduit, THHN conductors may be substituted for fire alarm cable.

B. Notification circuits shall be 2 conductor #14 type FPL or FPLP cable as required minimum size #14 AWG. Where installed in conduit, THHN conductors may be substituted for fire alarm cable.

PART 3 - EXECUTION

3.1 WIRING

A. Label wiring at all termination points.

B. Contractor shall clearly re-label all Fire Alarm Control Panels with new zones with typed labels.

C. In general, it is the intent of this specification that all fire alarm wiring be run concealed within walls and/or above ceilings, wherever possible and shall be UL approved "Power Limited Fire Protective" plenum rated cable.

D. Exposed cable shall be run in such a manner as to prevent damage or wherever cable is exposed to damage, it shall be run in EMT or IMC conduits. All exposed cable below 10Feet shall be run in conduit.

E. Minimum size conduit for fire and smoke detection wiring shall be 3/4".

F. All conduits must enter the sides of panel(s). Connections to top of panel are not permitted.

G. Splices are prohibited.

3.2 DETECTOR INSTALLATION

A. Smoke detectors shall not be installed until after the construction clean up of all trades is final.

B. Contractor shall arrange for the zone contractor to clean all existing smoke detector heads in area of work identified on contract documents.

C. Any smoke detectors installed prior to the final construction clean up shall be cleaned or replaced with new detectors.

D. No automatic detector shall be mounted within the air flow of a supply air register. A minimum of 36" shall be provided between detector location and air register.

3.3 LOCATION OF EQUIPMENT

A. Instruments shall be located as shown on the drawings. In general:

B. Smoke/Heat Detectors - Ceiling Mounted.

C. Strobe/Horns - Wall mounted 80" AFF or 6" below ceiling, whichever is lower.

D. Pull Stations -Wall mounted 4' - 0" AFF

3.4 ACCEPTANCE TEST

A. Prior to scheduling acceptance test, check system and perform preliminary testing to verify that the systen operates correctly and is ready for an acceptance test.

B. A factory trained technician shall supervise the final connections. He shall test and adjust all equipment upon completion of the installation. Each detector, station, and signal shall be tested by the Contractor in the presence of the Architect/Design Professional.

C. Contractor shall engage the services of the Owner's zone contractor to perform final check out of Fire Alarm system and connections to Fire Alarm panel.

D. Perform an acceptance test in the presence of the Owner and/or his representative and the local fire prevention agencies. All tests, as required by the Architect/Design Professional or local fire prevention agencies, shall be performed by the Contractor.

E. Tests shall be repeated as required with no additional cost to the Owner.

F. Test all functions of the systen in accordance with the inspection, testing and maintenance requirements of the National Fire Alarm Code. Record each device and function tested.

G. Whenever shutdown of the fire Alarm system is required to perform construction work, contractor shall arrange for such shutdown to be performed by the Owner's zone contractor.

H. Tests shall include but not be limited to:

1. Set and record sensitivity of detectors in installed locations.

2. Activate each detector and verify operation of all control panel functions.

3. Test and verify all automatic functions (ie., fan shutdown).

4. Verify all control panel functions, including alarm and trouble conditions.

I. Final "As-Built" schematics shall be provided by the Contractor upon satisfactory completion of all testing and acceptance of same.

J. Contractor shall instruct the Owner's representatives in complete operation, adjustment, and maintenance of the system. Prior to acceptance by the Owner, the Contractor shall provide four (4) copies of operating and maintenance manuals for the system installed.

K. Upon completion of all work, contractor shall prepare a new fire zone map for each floor affected by renovation in accordance with owner's Standards and shall mount within a frame adjacent to FACP.

3.5 GUARANTEE

A. A statement of acceptance and approval shall be provided to the office of the Architect/Design Professional.

B. The Contractor shall guarantee all wiring and equipment to be free from inherent mechanical and electrical defects for a period of one (1) year from the date of acceptance.

C. The manufacturer's representative shall guarantee all equipment to be free from inherent mechanical and electrical defects for a period of one (1) year from date of acceptance.

D. The Contractor shall arrange to have the manufacturer's representative make available to the Owner a local service department which shall stock standard parts on the premises. Warranty service is to be provided during normal working hours, at no cost to the Owner, for a period of twelve (12) months from the date of acceptance of the installation.

END OF SECTION 16610

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."
This plan is approved only for the work indicated on the application specification sheet, all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

STATE OF NEW YORK · ANDREW R. SOLANO · 053455 · PROFESSIONAL ENGINEER · LICENSED

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

FIRE ALARM SPECIFICATIONS

PROJECT No. 2501 EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING: FA-7.2

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS

SYMBOL LIST

SYMBOL	DESCRIPTION
GENERAL	
	HOME RUN. NO. OF ARROWS INDICTED NO. OF CIRCUITS
	HASH MARKS INDICATE #12 AWG CONDUCTORS IN EXCESS OF TWO.
	CONCEALED CIRCUITING RUN IN HUNG SPACE &/ OR WALLS
	CIRCUITING RUN IN OR BELOW SLAB
	CONDUIT IN SLAB RUN TO NEAREST WALL OR COLUMN
	WIRING/ CDT TURNING UP
	WIRING/ CDT TURNING DOWN
LV	LOW VOLTAGE WIRING
J J	JUNCTION BOX EXPOSED OR WALL MTD
	LIGHTING & APPLIANCE PANELBOARD SURFACE MOUNTED
	LIGHTING & APPLIANCE PANELBOARD RECESSED MOUNTED
	LINE CIRCUIT BREAKER
TC	TIME CLOCK
1/4 200	MOTOR, NUMERICAL INDICATES HORSEPOWER OR WATTAGE
	MAGNETIC MOTOR STARTER (FBO)
	DISCONNECT SWITCH. 30A–3P NON–FUSIBLE UNLESS OTHERWISE NOTED
60A/3P 45A	SWITCH & FUSE SIZE. TOP NO. INDICATES SWITCH, LOWER NO. INDICATES FUSE SIZE
EPO	EMERGENCY POWER OFF SWITCH (ie: BOILER,ETC.)
ANNN	CABINET HEATER WITH FAN AND/OR ELECTRIC COIL
HWH	HOT WATER HEATER
HD	ELECTRIC HAND DRYER (42"AFF)
TB	ELECTRICAL TERMINAL BLOCK
	PUSH BUTTON CONTROL
LD	LEAK DETECTION SENSOR
RCM4	LEAK DETECTION PANEL
POWER AND COMMUNICATIONS	
	DUPLEX RECEPTACLE
	SINGLE RECEPTACLE
	QUAD RECEPTACLE
DD	FLOOR MOUNTED DUPLEX RECEPTACLE, "DD" DENOTES QUAD
	DUPLEX RECEPTACLE W/ GROUND FAULT CIRCUIT INTERRUPTER
	1/2 SWITCHED DUPLEX RECEPTACLE
S	COMBINATION SWITCH OUTLET
	SPECIAL RECEPTACLE AS INDICATED ON DWG.
	COMMUNICATION FLOOR BOX (FLUSH MTD.) (SEE COMMUNICATION SYMBOL TYPES FOR MORE INFORMATION)
	POWER FLOOR BOX (FLUSH MTD.) (DUP. OR QUAD)
	COMBINATION POWER AND TELEPHONE OR DATA FLOOR BOX (SEE TELE/DATA SYMBOLS FOR MORE INFORMATION ON CABLING).
T D P	FLUSH FLOOR MOUNTED JUNCTION BOXES FOR FURNITURE POWER WITH ADAPTER PLATES FOR POWER AND COMMUNICATION WIRING TO LANDSCAPE/WORK STATION FURNITURE. "T"=TELEPHONE, "D"=DATA, "P"= POWER.
	DUPLEX RECEPTACLE MTD IN PARTITION
	COMMUNICATION RECEPTACLE MTD IN PARTITION (SEE TELE/DATA SYMBOLS FOR MORE INFO. ON CABLING).
PP	POWER/COMMUNICATION POLE
	COMMUNICATIONS OUTLET W/ 3/4" CONDUIT & DRAGLINE RUN TO ACCESSIBLE LOCATION FOR FUTURE CABLING (FBO)
	TELEPHONE OUTLET W/ 3/4" CONDUIT & DRAGLINE RUN TO ACCESSIBLE LOCATION FOR FUTURE CABLING (FBO)
	COMBINATION DATA/TEL OUTLET W/ 3/4" CONDUIT & DRAGLINE RUN TO ACCESSIBLE LOCATION FOR FUTURE CABLING (FBO)
S_{2P}	DOUBLE POLE SINGLE THROW SWITCH
S_{1P}	SINGLE POLE SINGLE THROW SWITCH

SYMBOL LIST

SYMBOL	DESCRIPTION
LIGHTING	
E	DC EMERGENCY LIGHT – PENDANT
	WEATHERPROOF WALL MOUNTED LIGHT FIXTURE
	BATTERY OPERATED EMERGENCY LIGHT
	EXIT LIGHT, ARROW INDICATES DIRECTION (CLG. OR WALL MTD)
S^a	SINGLE POLE SWITCH; "a" INDICATES SWITCH CONTROL
S_3	THREE–WAY SWITCH
S_4	FOUR–WAY SWITCH
S_P	SWITCH & PILOT
S_T	MOTOR THERMAL SWITCH
S_V	VARIABLE SPEED SWITCH
S_K	KEYED SWITCH
S_{K3}	KEYED SWITCH (THREE–WAY)
S_D	DIMMER SWITCH
$S_{R/L}$	SINGLE POLE SWITCH TO RAISE AND LOWER PROJECTION SCREEN
S_{SPDT}	SINGLE POLE DOUBLE THROW SWITCH
S_{SPST}	SINGLE POLE SINGLE THROW SWITCH
$S_{OR\#}$	MOMENTARY OVERRIDE SWITCH "#" INDICATES SWITCH NUMBER
S_{TIMER}	120V SINGLE GANG RECESSED WALL TIMER (LENGTH OF TIME AS INDICATED ON DWGS)
S_M	MOMENTARY SWITCH
S	WALL MOUNTED VACANCY SENSOR
A	VACANCY SENSOR, LETTER INDICATES MODEL AND MOUNTING
S	VACANCY SENSOR POWER PACK, S = SLAVE PACK
C	LIGHTING CONTACTOR
ACCUITY SYMBOLS	
S^{VS}	120V WALL MOUNTED VACANCY SENSOR
$S^{LV1,2,4,D}$	ONE, TWO OR FOUR BUTTON LOW VOLTAGE WALL/DIMMER SWITCH WHEN "D" INDICATED ALSO
S^{LVKS}_{SPDT}	LOW VOLTAGE WALL/KEY SWITCH SINGLE POLE DOUBLE THROW
LV DTVS	LOW VOLTAGE CEILING MOUNTED DUAL TECHNOLOGY VACANCY SENSOR
LV PIPS	LOW VOLTAGE CEILING MOUNTED PASSIVE INFRARED PHOTOCELL SENSOR
LV DTPS	LOW VOLTAGE CEILING MOUNTED DUAL TECHNOLOGY PHOTOCELL SENSOR
SA D	POWER PACK, "SA" = SEMI AUTOMATIC–MANUAL ON, "D" = DIMMING SLAVE PACK
H	HUB
NEC	nLIGHT ECLYPSE TIME–BASED CONTROL
S^{NEC}	nLIGHT ECLYPSE WALLPAD
BP	BRIDGEPORT WITH POWER SUPPLY
PS	POWER SUPPLY INPUT (120/277V)

ELECTRICAL GENERAL DESCRIPTION OF WORK SCOPE

INSTALLATION OF NEW ELECTRICAL SYSTEMS INCLUDING BUT NOT LIMITED TO ELECTRICAL AND MECHANICAL EQUIPMENT, RECEPTACLES, LIGHTING, LIGHTING CONTROLS, CIRCUITRY, ETC.

ABBREVIATIONS:

A	AMPERE
AC	AIR CONDITIONING UNIT
ACC	AIR COOLED CONDENSING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
AHU	AIR HANDLING UNIT
AFF	ABOVE FINISHED FLOOR
ANN	ANNUNCIATOR
ARF	ABOVE RAISED FLOOR
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
BLDG	BUILDING
C	CONDUIT OR CONTACTOR
CAB	CABINET
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLG	CEILING
CLOS	CLOSET
COMM	COMMUNICATIONS
CONT	CONTINUATION
CORR	CORRIDOR
CNTR	CONTROL
CMPTR	COMPUTER
CT	COUNTER TOP
CU	COPPER
D/S	DISCONNECT SWITCH
DN	DOWN
DWG	DRAWING
DG	DIESEL GENERATOR
E	EXISTING TO REMAIN
EC	EMPTY CONDUIT
EG	EQUIPMENT GROUND
ELECT	ELECTRICAL
EMERG	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EQPT	EQUIPMENT
ER	EXISTING TO BE RELOCATED
EVC	ELECTRICAL VEHICLE CHARGING STATION
EXIST	EXISTING
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FDR	FEEDER
FIN FLR	FINISHED FLOOR
FIXT	FIXTURE
FBO	FURNISHED BY OTHERS
FLA	FULL LOAD AMPERES
FLR	FLOOR
FLUOR	FLUORESCENT
GRD	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTING
GFI	GROUND FAULT CIRCUIT INTERRUPTING
HC	HUNG CEILING
HH	HANDHOLE
HP	HORSEPOWER
HR	HOUR
HT	HEIGHT
HZ	HERTZ
IG	ISOLATED GROUND
IMC	INTERMEDIATE METALLIC CONDUIT
INCAND	INCANDESCENT
J	JUNCTION BOX
JB	JUNCTION BOX
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT AMPERE
KW	KILOWATT
LRA	LOCKED ROTOR AMPERE
LTG	LIGHTING
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERE
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MER	MECHANICAL EQUIPMENT ROOM
MH	MANHOLE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
MTD	MOUNTED
MTG	MOUNTING
MTR	MOTOR
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
P	POLE
PB	PULL BOX
PH	PHASE (ø)
PNL	PANEL
PWR	POWER
R	RELOCATED
RECPT	RECEPTACLE
RGS	RIGID STEEL CONDUIT
RM	ROOM
RTU	ROOF TOP UNIT
SD	SMOKE DETECTOR
SPEC	SPECIFICATION
SPKLR	SPRINKLER
SS	STAINLESS STEEL
SW	SWITCH
SWGR	SWITCH GEAR
TB	TERMINAL BLOCK
TC	TIME CLOCK
TEL	TELEPHONE
TRANS	TRANSFORMER
TYP	TYPICAL
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTABLE POWER SUPPLY
V	VOLT OR VOLTAGE
VIF	VERIFY IN FIELD
W	WATT
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
XP	EXPLOSION PROOF

DRAWING NO. / TITLE

DRAWING NO.	TITLE
E–0.1	ELECTRICAL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES
E–0.2	ELECTRICAL GENERAL NOTES
E–1.0	ELECTRICAL SITE PLAN
E–1.1	ELECTRICAL FIRST FLOOR LIGHTING PLAN
E–1.2	ELECTRICAL MEZZANINE LIGHTING PLAN
E–1.3	ELECTRICAL SECOND FLOOR LIGHTING PLAN
E–2.1	ELECTRICAL FIRST FLOOR POWER PLAN
E–2.2	ELECTRICAL MEZZANINE POWER PLAN
E–2.3	ELECTRICAL SECOND FLOOR POWER PLAN
E–2.4	ROOF PLAN/SOLAR LAYOUT
E–5.1	ELECTRICAL DETAILS
E–5.2	ELECTRICAL DETAILS
E–6.1	ELECTRICAL RISER DIAGRAM
E–6.2	ELECTRICAL SCHEDULES
E–7.1	ELECTRICAL SPECIFICATIONS

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."
This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

STATE OF NEW YORK · ANDREW R. SOLANO · 053455 · 8/17/26 · LICENSED PROFESSIONAL ENGINEER

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ELECTRICAL
SYMBOLS ABBREVIATIONS
AND GENERAL NOTES

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING: E–0.1

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS

LIGHTING SYSTEMS COMMISSIONING NOTES:

FUNCTIONAL TESTING:

IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2025 NEW YORK STATE ENERGY CONSERVATION CODE SECTION C408.3, PRIOR TO PASSING FINAL INSPECTION, THE REGISTERED DESIGN PROFESSIONAL SHALL PROVIDE EVIDENCE THAT THE LIGHTING CONTROL SYSTEMS HAVE BEEN TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S INSTRUCTIONS. FUNCTIONAL TESTING SHALL BE IN ACCORDANCE WITH SECTIONS C408.3.1.1 THROUGH C408.3.1.3 FOR THE APPLICABLE CONTROL TYPE.

OCCUPANT SENSOR CONTROLS:

WHERE OCCUPANT SENSOR CONTROLS ARE PROVIDED, THE FOLLOWING PROCEDURES SHALL BE PERFORMED:

1. CERTIFY THAT THE OCCUPANT SENSOR HAS BEEN LOCATED AND AIMED IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS
2. FOR PROJECTS WITH SEVEN OR FEWER OCCUPANT SENSORS, EACH SENSOR SHALL BE TESTED.
3. FOR PROJECTS WITH MORE THAN SEVEN OCCUPANT SENSORS, TESTING SHALL BE DONE FOR EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY. WHERE MULTIPLES OF EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY ARE PROVIDED, NOT LESS THAN 10 PERCENT AND IN NO CASES FEWER THAN ONE, OF EACH COMBINATION SHALL BE TESTED UNLESS OTHERWISE NOTED. WHERE 30 PERCENT OR MORE OF THE TESTED CONTROLS FAIL, ALL REMAINING IDENTICAL COMBINATIONS SHALL BE TESTED.

VERIFY THE FOLLOWING:

3.1 WHERE OCCUPANT SENSOR CONTROLS INCLUDE STATUS INDICATORS, VERIFY CORRECT OPERATION.
3.2 THE CONTROLLED LIGHTS TURN OFF OR DOWN TO THE PERMITTED LEVEL WITHIN THE REQUIRED TIME.
3.3 FOR AUTO-ON OCCUPANT SENSOR CONTROLS, THE LIGHTS TURN ON TO THE PERMITTED LEVEL WHEN THE OCCUPANT ENTERS THE SPACE.
3.4 FOR MANUAL-ON OCCUPANT SENSOR CONTROLS, THE LIGHTS TURN ON ONLY WHEN MANUALLY ACTIVATED.
3.5 THE LIGHTS ARE NOT INCORRECTLY TURNED ON BY MOVEMENT IN ADJACENT AREAS OR BY HVAC OPERATION.

TIME-SWITCH CONTROLS:

WHERE TIME-SWITCH CONTROLS ARE PROVIDED, THE FOLLOWING PROCEDURES SHALL BE PERFORMED:

1. CONFIRM THAT THE TIME-SWITCH CONTROL IS PROGRAMMED WITH ACCURATE WEEKDAY, WEEKEND AND HOLIDAY SCHEDULES.
2. PROVIDE DOCUMENTATION TO THE OWNER OF TIME-SWITCH CONTROLS PROGRAMMING INCLUDING WEEKDAY, WEEKEND, HOLIDAY SCHEDULES, AND SET-UP AND PREFERENCE PROGRAM SETTINGS.
3. VERIFY THE CORRECT DATE AND TIME IN THE TIME-SWITCH.
4. VERIFY THAT ANY BATTERY BACK-UP IS INSTALLED AND ENERGIZED.
5. VERIFY THAT THE OVERRIDE TIME LIMIT IS SET TO NOT MORE THAN 2 HOURS.
6. SIMULATE OCCUPIED CONDITION. VERIFY AND DOCUMENT THE FOLLOWING:

6.1 ALL LIGHTS CAN BE TURNED ON AND OFF BY THEIR RESPECTIVE AREA CONTROL SWITCH.
6.2 THE SWITCH ONLY OPERATES LIGHTING IN THE ENCLOSED SPACE IN WHICH THE SWITCH IS LOCATED.

7. SIMULATE UNOCCUPIED CONDITION. VERIFY AND DOCUMENT THE FOLLOWING:

7.1 NONEXEMPT LIGHTING TURNS OFF
7.2 MANUAL OVERRIDE SWITCH ALLOWS ONLY THE LIGHTS IN THE ENCLOSED SPACE WHERE THE OVERRIDE SWITCH IS LOCATED TO TURN ON OR REMAIN ON UNTIL THE NEXT SCHEDULED SHUTOFF OCCURS.

DAYLIGHT RESPONSIVE CONTROLS.

WHERE DAYLIGHT RESPONSIVE CONTROLS ARE PROVIDED, THE FOLLOWING SHALL BE VERIFIED:

1. CONTROL DEVICES HAVE BEEN PROPERLY LOCATED, FIELD CALIBRATED AND SET FOR ACCURATE SETPOINTS AND THRESHOLD LIGHT LEVELS.
2. DAYLIGHT CONTROLLED LIGHTING LOADS ADJUST TO LIGHT LEVEL SETPOINTS IN RESPONSE TO AVAILABLE DAYLIGHT.
3. THE CALIBRATION ADJUSTMENT EQUIPMENT IS LOCATED FOR READY ACCESS ONLY BY AUTHORIZED PERSONNEL.

DOCUMENTS REQUIRED TO BE PROVIDED:

ALL DOCUMENTS DESCRIBED IN THIS SECTION SHALL BE PROVIDED TO THE BUILDING OWNER OR OWNER'S AUTHORIZED AGENT WITHIN 90 DAYS OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.

CONSTRUCTION DOCUMENTS SHALL INCLUDE THE LOCATION AND CATALOGUE NUMBER OF EACH PIECE OF EQUIPMENT.

MANUALS:

AN OPERATING AND MAINTENANCE MANUAL SHALL BE PROVIDED AND INCLUDE THE FOLLOWING:

1. NAME AND ADDRESS OF NOT LESS THAN ONE SERVICE AGENCY FOR INSTALLED EQUIPMENT.
2. A NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING RECOMMENDED SETPOINTS.
3. SUBMITTAL DATA INDICATING ALL SELECTED OPTIONS FOR EACH PIECE OF LIGHTING EQUIPMENT AND LIGHTING CONTROLS.
4. OPERATION AND MAINTENANCE MANUALS FOR EACH PIECE OF LIGHTING EQUIPMENT. REQUIRED ROUTINE MAINTENANCE ACTIONS, CLEANING AND RECOMMENDED RELAMPING SHALL BE CLEARLY IDENTIFIED.
5. A SCHEDULE FOR INSPECTING AND RECALIBRATING ALL LIGHTING CONTROLS.

REPORT:

A REPORT OF TEST RESULTS SHALL BE PROVIDED AND INCLUDE THE FOLLOWING:

1. RESULTS OF FUNCTIONAL PERFORMANCE TESTS.
2. DISPOSITION OF DEFICIENCIES FOUND DURING TESTING, INCLUDING DETAILS OF CORRECTIVE MEASURES USED OR PROPOSED.

GENERAL NOTES:

1. ALL ELECTRICAL WORK SHALL COMPLY WITH THE LATEST EDITION OF NATIONAL ELECTRIC CODE (NEC), BUILDING CODE OF NEW YORK STATE AND ALL OTHER APPLICABLE LOCAL CODES.
2. THE MINIMUM SIZE WIRE SHALL BE #12 COPPER AND ALL WIRE SHALL BE ENCLOSED IN CONDUIT WITH A MINIMUM SIZE OF 3/4".
3. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH RESPONSIBLE TRADES TO CUT, PATCH AND REPAIR ALL WALL, FLOOR AND CEILING PENETRATIONS AS NEEDED, TO MATCH.
4. ALL FIRE RATED WALL PENETRATIONS MUST BE FIRE STOPPED, INCLUDING ANY AIR PIPING, CONDUIT, CABLE TRAYS, ETC.
5. PROVIDE ALL REQUIRED PULLBOXES AND MISCELLANEOUS HARDWARE FOR ALL CONDUIT RUNS. ALL CONDUITS SHALL BE PROPERLY SUPPORTED.
6. ALL EQUIPMENT IS NEW UNLESS OTHERWISE NOTED.
7. BALANCE PANELBOARD LOADS EQUALLY OVER ALL PHASES.
8. UNLESS OTHERWISE NOTED, ALL EQUIPMENT INSTALLED INDOORS SHALL HAVE NEMA 1 ENCLOSURE AND ALL EQUIPMENT INSTALLED OUTDOORS SHALL HAVE NEMA 3R ENCLOSURES.
9. PROVIDE LIQUIDTITE FLEXIBLE CONDUIT CONNECTIONS AT ALL EQUIPMENT SUBJECT TO VIBRATION.
10. ALL PANELBOARDS AND ELECTRICAL DISTRIBUTION EQUIPMENT FURNISHED OR UTILIZED UNDER THIS PROJECT SHALL BE PROVIDED WITH PHENOLIC NAMEPLATES INDICATING THE PANEL NAME AND WHERE IT IS FED FROM.
11. CIRCUIT NUMBERS SHOWN ON PLANS ARE FOR REFERENCE PURPOSES ONLY.
12. REFER TO SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
13. WHERE APPLICABLE, POWER PANEL DIRECTORIES MUST BE UPDATED TO INDICATE NEW CIRCUITS.
14. ALL EXISTING LIGHTING/EQUIPMENT/DEVICES AND ASSOCIATED CIRCUITRY NOT SHOWN ON THESE DRAWINGS SHALL REMAIN UNLESS OTHERWISE NOTED. CONTRACTOR SHALL REWORK EXISTING WIRING TO MAINTAIN SERVICE TO EXISTING DEVICES NOT AFFECTED BY THIS WORK.
15. CONTRACTOR SHALL RELOCATE EXISTING DEVICES (IE. OUTLETS, SWITCHES, ETC.) AS NOTED ON THE DRAWINGS. IF DEVICE APPEARS FAULTY OR DAMAGE BY VISUAL INSPECTION, CONTRACTOR SHALL NOTIFY FIELD REPRESENTATIVE AND SHALL REPLACE DEVICE WITH NEW OF SAME MODEL AND RATING. CONTRACTOR SHALL INCLUDE A UNIT PRICE AS PART OF HIS BID FOR REPLACEMENT OF EACH DEVICE IN-KIND NOTED ON DRAWING TO BE RELOCATED.
16. ANY DISCREPANCIES SHALL BE DIRECTED TO ARCHITECT PRIOR TO BIDDING. WHERE DISCREPANCIES CANNOT BE RESOLVED PRIOR TO SUBMITTING BIDS, CONTRACTOR TO PROCEED BASED ON MORE COSTLY OR RESTRICTIVE INTERPRETATION.

GROUNDING NOTES:

1. GROUND ALL ELECTRICAL WORK IN ACCORDANCE WITH THE LATEST STANDARDS OF THE NATIONAL ELECTRICAL CODE.
2. ALL GROUND CABLE SHALL BE STRANDED COPPER WITH TYPE THWN INSULATION AND GREEN OUTER TEXTILE OR COTTON BRAID JACKET.
3. GROUNDING CONDUCTORS LARGER THAN #6 SHALL HAVE A MINIMUM BENDING RADIUS OF 12". GROUNDING CONDUCTORS #6 OR SMALLER SHALL HAVE A MINIMUM BENDING RADIUS OF 8".
4. ALL DETAILS ARE SHOWN IN GENERAL TERMS. ACTUAL GROUNDING INSTALLATION AND CONSTRUCTION MAY VARY DUE TO SITE SPECIFIC CONDITIONS.
5. ALL GROUND CONNECTORS SHALL BE TO A CLEANED AND BRIGHTENED METALLIC SURFACE. UTILIZE STAR WASHERS AT GROUND CONNECTIONS.
6. ALL CONDUITS TO BE GROUNDED USING BONDING BUSHINGS AT EACH END.
7. REFER TO SPECIFICATION FOR ADDITIONAL REQUIREMENTS.

LIGHTING CONTROL NOTES:

1. MAXIMUM LOAD SWITCHING PER POWER PACK IS 20 AMPERES AT 120VAC. PROVIDE ADDITIONAL POWER PACKS AS REQUIRED.
2. MAXIMUM NUMBER OF VACANCY SENSORS OR LOW VOLTAGE DIGITAL TIME SWITCHES CONNECTED TO ONE POWER PACK IS NINE (9).
3. CONTRACTOR SHALL SET EACH MOTION SENSOR FOR 30 MINUTE MINIMUM TIME DELAY.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBLY TO LOCATE AND AIM THE VACANCY SENSORS FOR COMPLETE COVERAGE PER THE MANUFACTURER'S RECOMMENDATIONS. THE LOCATION OF SENSORS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC ONLY.
5. UPON COMPLETION OF INSTALLATION, THE SYSTEM SHALL BE COMMISSIONED BY THE FACTORY AUTHORIZED TECHNICIAN WHO WILL VERIFY ALL ADJUSTMENTS AND SENSOR PLACEMENT TO ENSURE A FULLY FUNCTIONAL LIGHTING CONTROL SYSTEM.
6. THE CONTRACTOR SHALL ALSO SUPPLY ON SITE TRAINING TO FAMILIARIZE THE OWNER WITH THE USE, ADJUSTMENT AND PROBLEM SOLVING OF THE LIGHTING CONTROL SYSTEM.

SHOP DRAWING SUBMITTAL REQUIREMENTS

1. IN ADDITION TO THE SHOP DRAWING SUBMITTAL REQUIRED FOR THE ELECTRICAL SERVICE ENTRY AND DISTRIBUTION EQUIPMENT, THE ELECTRICAL CONTRACTOR SHALL PREPARE AND INCLUDE THE FOLLOWING FOR THE PROJECT DESIGN ENGINEER REVIEW AND APPROVAL PRIOR TO RELEASING ANY EQUIPMENT FOR FABRICATION:
   a. SHORT CIRCUIT CALCULATION
   b. COORDINATION STUDY, UTILIZING THE PROPOSED TO BE INSTALLED EQUIPMENT
   c. ARC FLASH STUDY.

   THE SHOP DRAWINGS SUBMITTAL WITHOUT ABOVE CALCULATIONS AND/OR REPORTS SHALL BE CONSIDERED INCOMPLETE, AND RETURNED WITHOUT ACTION TO THE ELECTRICAL CONTRACTOR.
2. BASED ON THE ABOVE CALCULATIONS, ALL LSI CIRCUIT BREAKERS SHALL BE SET/ADJUSTED ACCORDINGLY BY THIS CONTRACTOR.

EMERGENCY RESPONDER RADIO COMMUNICATION SYSTEM (ERRCS)

1. UPON SUBSTANTIAL COMPLETION OF EXTERIOR AND INTERIOR BUILDING WALLS, WINDOWS AND DOORS, THE BUILDING MUST BE TESTED FOR EMERGENCY RESPONDER COMMUNICATION SIGNAL STRENGTH TO ASSIST IN DETERMINING IF AN ERRCS MAY BE REQUIRED PER NYS FIRE CODE SECTION 510. COST OF PRELIMINARY TESTING SHALL BE INCLUDED IN CONTRACTORS BID.
2. REFER TO E5.05 AND E5.06 SHEETS FOR ADDITIONAL INFORMATION AS REFERENCE ONLY.
3. CONTACT: BENNETT TIESINGA AT (516) 631-9876 FOR ADDITIONAL INFORMATION.

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06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

ELECTRICAL GENERAL NOTES

PROJECT No. 2501 EMTEC: 7611

CHECKED BY: JE/ARS

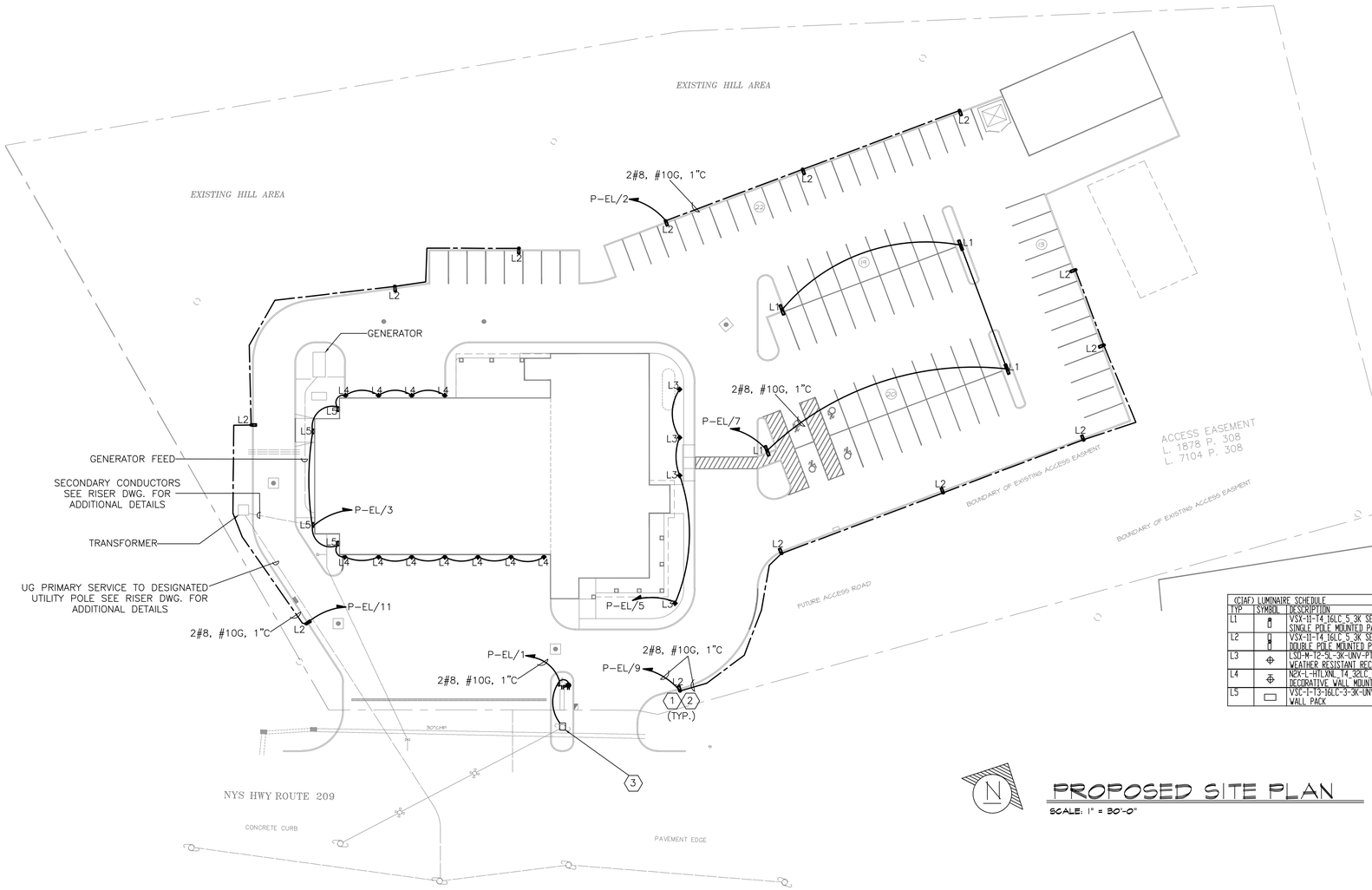
DRAWING:

E-0.2

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS

KEY NOTES

1. INSTALL ALL WORK IN ACCORDANCE WITH THE NEC LOCAL AUTHORITY REQUIRMENTS.
   - 1.1. PROVIDE WEATHERPROOF FUSED DISCONNECT/TAP ENCLOSURE WHERE REQUIRED
   - 1.2. BOND POLE, HANDHOLE COVER AND GROUNDING CONDUCTOR TOGETHER.
   - 1.3. GROUNDING CONDUCTOR SHALL BE CONTINUOUS FROM SOURCE TO POLE.
   - 1.4. TAP FUSE SIZE: 5A, TIME DELAY TYPE UNLESS FIXTURE MANUFACTURER REQUIRES OTHERWISE.
   - 1.5. 2#12THWN + #12G FROM FUSE TO FIXTURE.
2. SEE DWG E5.2 FOR ADDITIONAL LIGHTING POLE BASE DETAILS.
3. EC TO STUB UP 3/4" INTO POLE FOR TRAFFIC LIGHT.



(CIAF) LUMINAIRE SCHEDULE

TYP	SYMBOL	DESCRIPTION	LAMP	WATTS	VOLTAGE	LUMENS	QTY
L1		VSX-II-T4-16LC-5-3K SCRITES SINGLE POLE MOUNTED PARKING LOT LIGHT	(1)	26	120V	6000	13
L2		VSX-II-T4-16LC-5-3K SCRITES DOUBLE POLE MOUNTED PARKING LOT LIGHT	(1)	52	120V	5035	4
L3		LSU-M-12-SL-3K-UNV-PTD-BK-LDL-PCR-XXX WEATHER RESISTANT RECESSED LIGHT FIXTURE	(1)	52	120V	6170	4
L4		NCX-L-HTLYNL_T4_3ELC_3-3K SCRITES DECORATIVE WALL MOUNTED LANTERN	(1)	34	120V	4800	11
L5		VSC-I-T3-16LC-3-3K-UNV-PCR-XXX WALL PACK	(1)	18	120V	4800	4

PROPOSED SITE PLAN

SCALE: 1" = 30'-0"

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

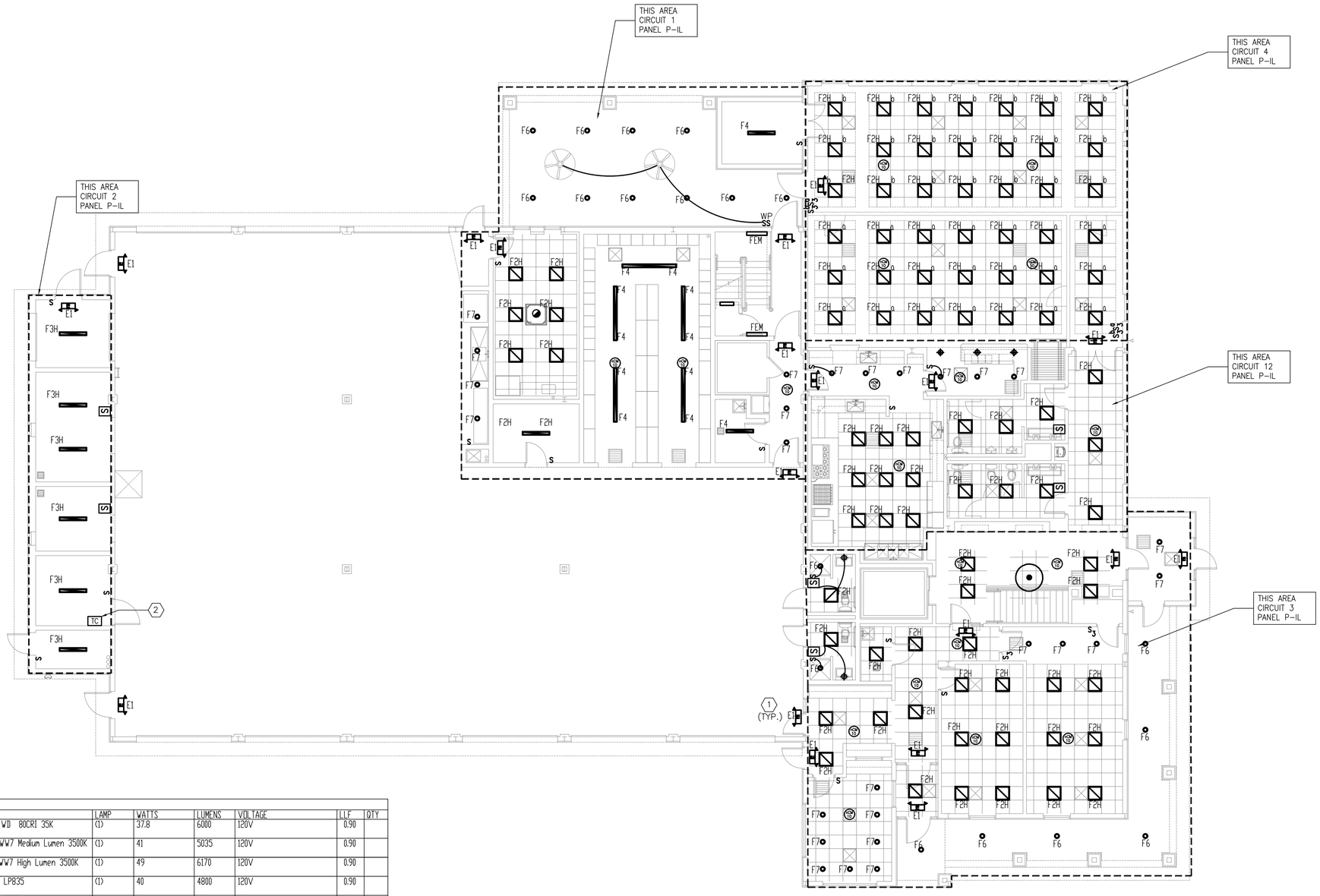
ELECTRICAL
SITE PLAN

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING: E-1.0

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS



(CIAF) LUMINAIRE SCHEDULE

TYP	SYMBOL	DESCRIPTION	LAMP	WATTS	LUMENS	VOLTAGE	LLF	QTY
F1		Holophane EMS L48 6000LM LPAFL WD 80CRI 35K EMS LED 48", 6,000 lumens, acr	(1)	37.8	6000	120V	0.90	
F2H		Lithonia Lighti STAKS 2X2 ALD3 SWW7 Medium Lumen 3500K Recessed Center Element LED La	(1)	41	5035	120V	0.90	
F3H		Lithonia Lighti STAKS 2X4 ALD6 SWW7 High Lumen 3500K Recessed Center Element LED La	(1)	49	6170	120V	0.90	
F4		Lithonia Lighti BLWP4 48LHE ADPT LP835 BLWP 4ft 4800 Nominal Lumens.	(1)	40	4800	120V	0.90	
F6		Gotham Architec EVDGSH 35/20 DFR SMD EVD 6IN SHOWER, 3500K, 2000LM,	(1)	20	2000	120V	0.90	
F7		Lithonia Lighti LDN6 30/10 LD6AR LSS 6IN LDN, 3000K, 1000LM, CLEAR	(1)	10	1000	120V	0.90	
FEM		Lithonia Lighti FEM L48 6000LM LPAFL WD 80CRI 35K FEM LED 48", 6,000 lumens, acr	(1)	37.8	6000	120V	0.90	
E1		Lithonia Lighti ECRG RD M6		2		120V		

KEY NOTES

1. ALL EMERGENCY EXIT SIGNS TO BE CIRCUITED TO P-IL/5. EM FIXTURES TO BE SUPPLIED WITH HOTLEG
2. TIMECLOCK TO BE SET TO OPERATIONAL BUSINESS HOURS. ALL LIGHTING TO BE TIED INTO TIMECLOCK. OCCUPANCY SENSORS TO OVERRIDE TIMECLOCK AFTER HOURS

SHEET NOTES

1. INSTALL LV OR 120V SWITCHING IN ALL AREAS TO CONTROL LIGHTING

FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0" MEZZ. SQUARE FOOTAGE = 13,924

0 2' 4' 6' 8' 10' 20' 30' 50'

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
208 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

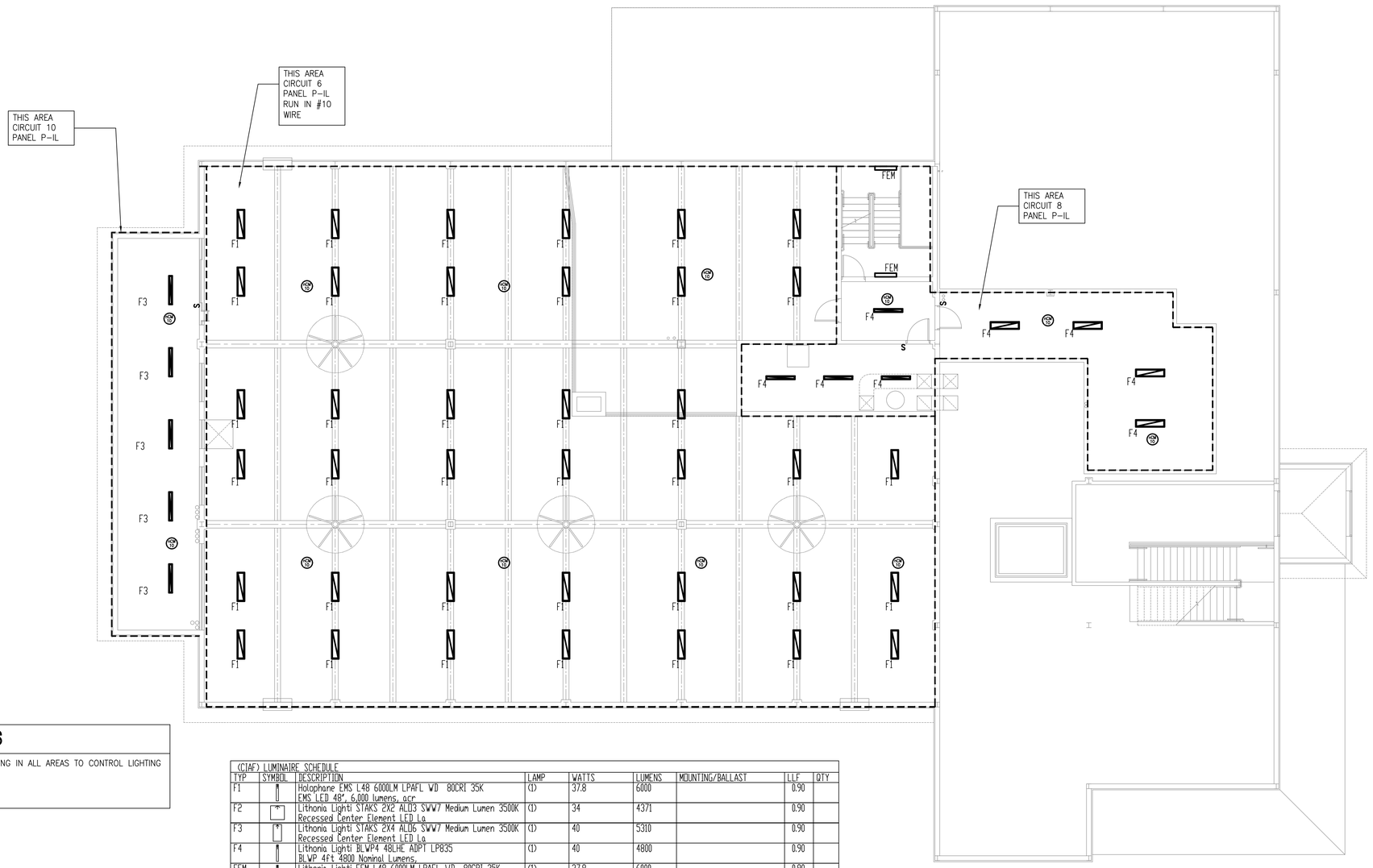
ELECTRICAL
FIRST FLOOR
LIGHTING PLAN

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING: E-1.1

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS



SHEET NOTES

1. INSTALL LV OR 120V SWITCHING IN ALL AREAS TO CONTROL LIGHTING

(CIAF) LUMINAIRE SCHEDULE

TYP	SYMBOL	DESCRIPTION	LAMP	WATTS	LUMENS	MOUNTING/BALLAST	LLF	QTY
F1		Holophane EMS L48 6000LM LPAFL WD 80CRI 35K EMS LED 48", 6,000 lumens, acr	(1)	37.8	6000		0.90	
F2		Lithonia Lighti STAKS 2X2 ALD3 SWW7 Medium Lumen 3500K Recessed Center Element LED La	(1)	34	4371		0.90	
F3		Lithonia Lighti STAKS 2X4 ALD6 SWW7 Medium Lumen 3500K Recessed Center Element LED La	(1)	40	5310		0.90	
F4		Lithonia Lighti BLWP4 48LHE ADPT LP835 BLWP 4ft 4800 Nominal Lumens,	(1)	40	4800		0.90	
FEM		Lithonia Lighti FEM L48 6000LM LPAFL WD 80CRI 35K FEM LED 48", 6,000 lumens, acr	(1)	37.8	6000		0.90	
E1		Lithonia Lighti ECRG RD M6		2				

N

MEZZANINE FLOOR PLAN (PARTIAL)

SCALE: 1/8" = 1'-0" MEZZ. SQUARE FOOTAGE = 1,982

0 2' 4' 6' 8' 10' 20' 30' 50'

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

ELECTRICAL
MEZZANINE
LIGHTING PLAN

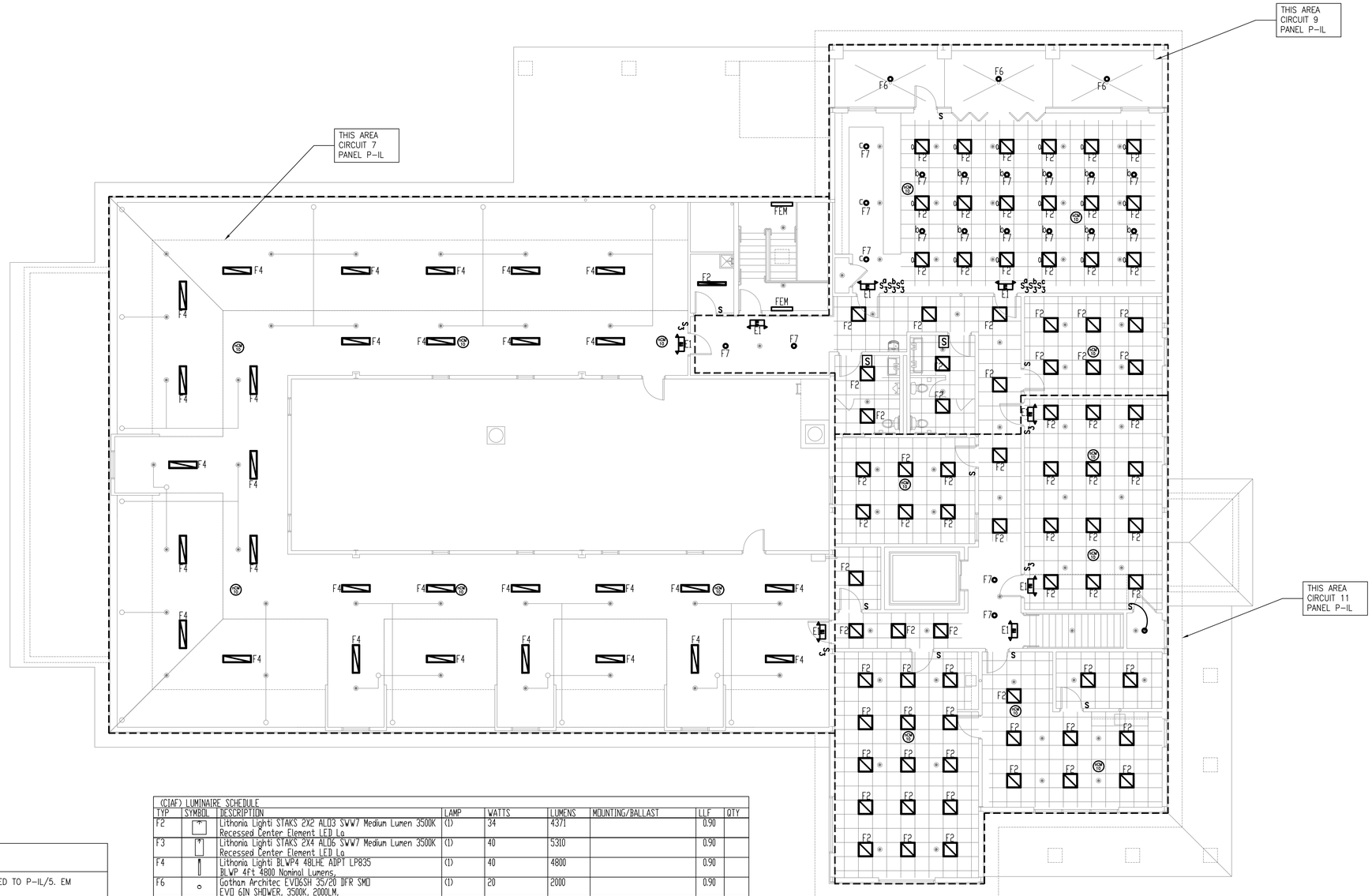
PROJECT No. 2501
EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING:

E-1.2

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS



(CIAF) LUMINAIRE SCHEDULE								
TYP	SYMBOL	DESCRIPTION	LAMP	WATTS	LUMENS	MOUNTING/BALLAST	LLF	QTY
F2		Lithonia Lighti STAKS 2X2 ALI3 SWW7 Medium Lumen 3500K Recessed Center Element LED La	(1)	34	4371		0.90	
F3		Lithonia Lighti STAKS 2X4 ALI6 SWW7 Medium Lumen 3500K Recessed Center Element LED La	(1)	40	5310		0.90	
F4		Lithonia Lighti BLWP4 48LHE ADPT LP835 BLWP 4ft 4800 Nominal Lumens,	(1)	40	4800		0.90	
F6		Gotham Architec EVDGSH 35/20 DFR SMD EVD 6IN SHOWER, 3500K, 2000LM,	(1)	20	2000		0.90	
F7		Lithonia Lighti LDNG 30/10 L06AR LSS 6IN LDN, 3000K, 1000LM, CLEAR,	(1)	10	1000		0.90	
FEM		Lithonia Lighti FEM L48 6000LM LPAFL WD 80CRI 35K FEM LED 48', 6,000 lumens, acr	(1)	37.8	6000		0.90	
E1		Lithonia Lighti ECRG RD M6		2				

KEY NOTES

1. ALL EMERGENCY EXIT SIGNS TO BE CIRCUITED TO P-IL/5. EM FIXTURES TO BE SUPPLIED WITH HOTLEG

SHEET NOTES

1. INSTALL LV OR 120V SWITCHING IN ALL AREAS TO CONTROL LIGHTING

N

SECOND FLOOR PLAN

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

SQUARE FOOTAGE = 5,643
(NOT INCL. FLAT ROOF & ATTIC AREAS)

0 2' 4' 6' 8' 10' 20' 30' 50'

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

ELECTRICAL
SECOND FLOOR
LIGHTING PLAN

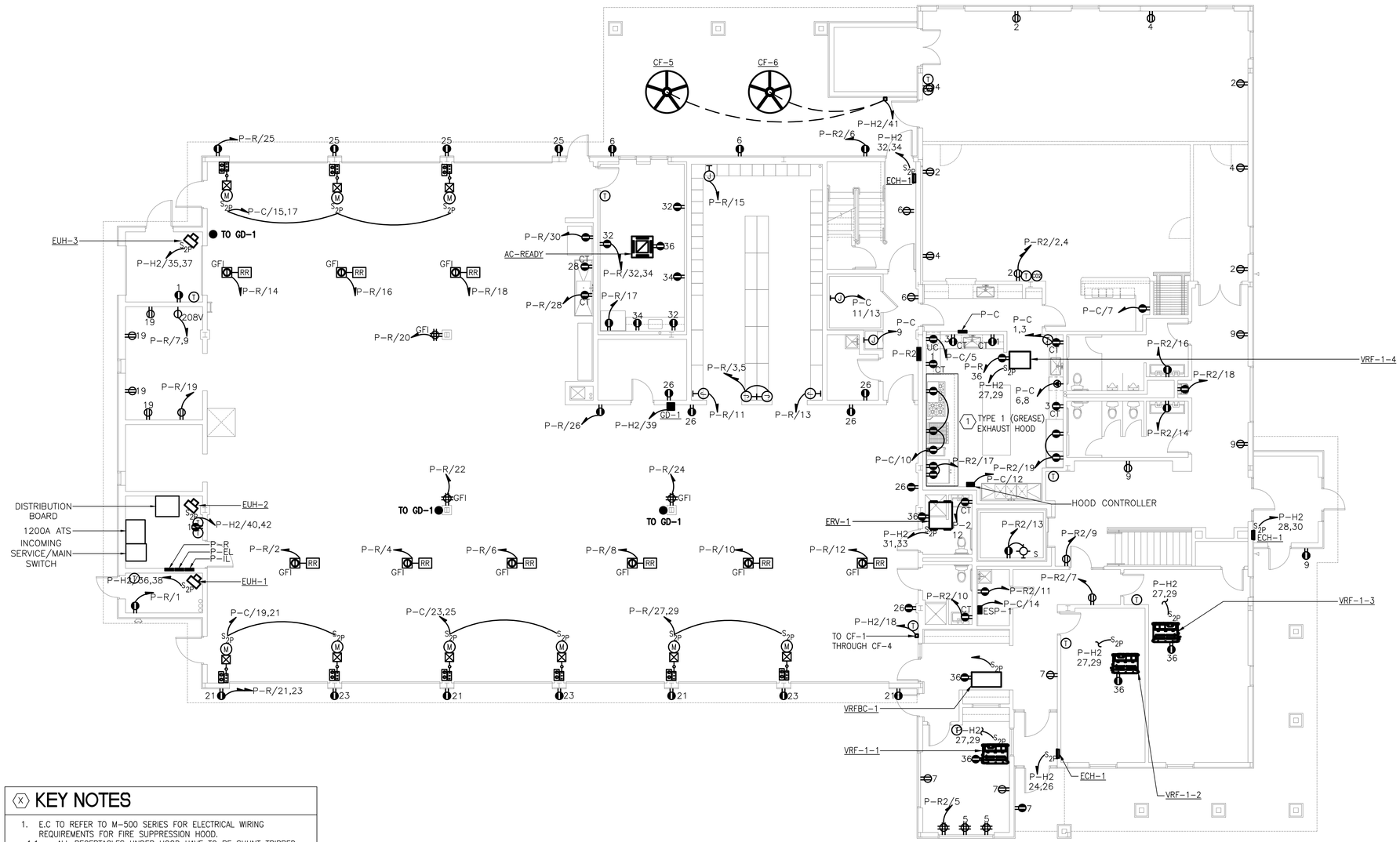
PROJECT No. 2601
EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING:

E-1.3

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS



KEY NOTES

1. E.C TO REFER TO M-500 SERIES FOR ELECTRICAL WIRING REQUIREMENTS FOR FIRE SUPPRESSION HOOD.
   1.1. ALL RECEPTACLES UNDER HOOD HAVE TO BE SHUNT TRIPPED
   1.2. CONTROLLER FOR HOOD TO BE PRE-WIRED. COORDINATE FINAL LOCATION IN FIELD

N

FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0" MEZZ. SQUARE FOOTAGE = 13,924

0 2' 4' 6' 8' 10' 20' 30' 50'

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

ELECTRICAL
FIRST FLOOR
POWER PLAN

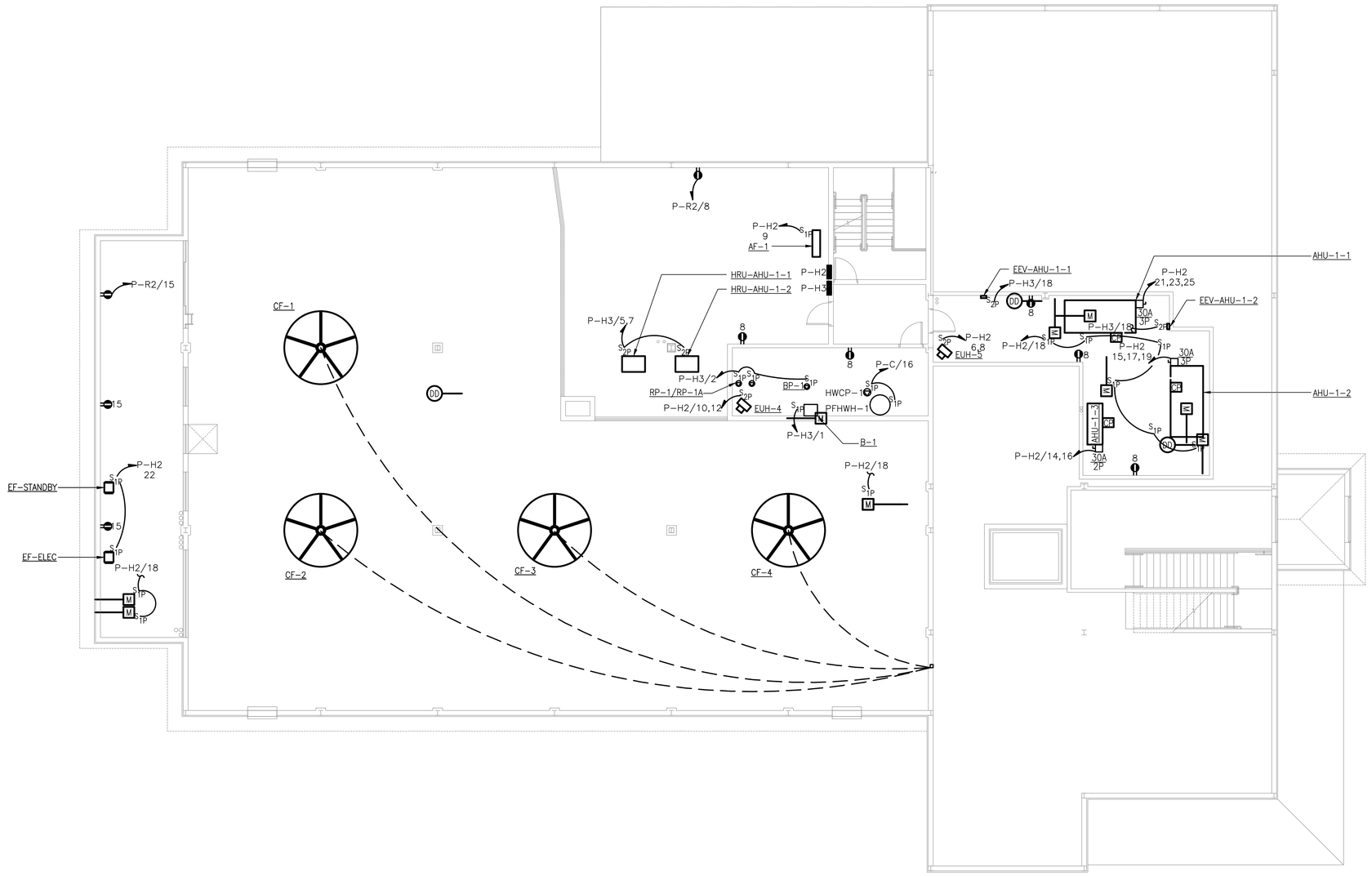
PROJECT No. 2501
EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING:

E-2.1

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS



N

MEZZANINE FLOOR PLAN (PARTIAL)

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

MEZZ. SQUARE FOOTAGE = 1,982

0 2' 4' 6' 8' 10' 20' 30' 50'

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ELLENVILLE, NY 12428

ELECTRICAL
MEZZANINE
POWER PLAN

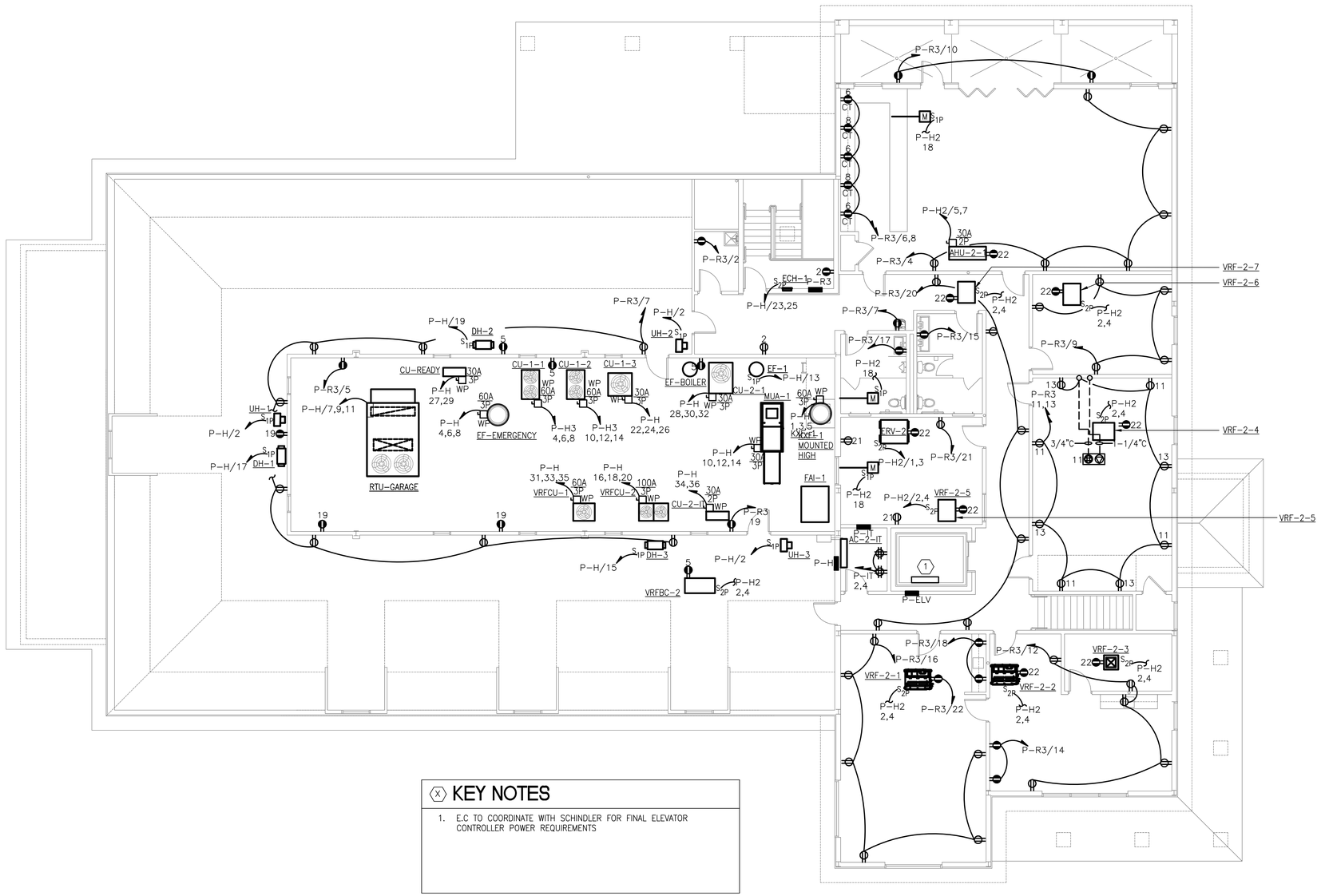
PROJECT No. 2501
EMTEC 7611

CHECKED BY: JE/ARS

DRAWING:

E-2.2

EMTEC PROJECT NO. 7611 DRAWN BY: ARS CHECKED BY: JE



KEY NOTES

1. E.C TO COORDINATE WITH SCHINDLER FOR FINAL ELEVATOR CONTROLLER POWER REQUIREMENTS

SECOND FLOOR PLAN

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

SQUARE FOOTAGE = 5643
(NOT INCL. FLAT ROOF & ATTIC AREAS)

0 2' 4' 6' 8' 10' 20' 30' 50'

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
208 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

ELECTRICAL
SECOND FLOOR
POWER PLAN

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: JE/ARS

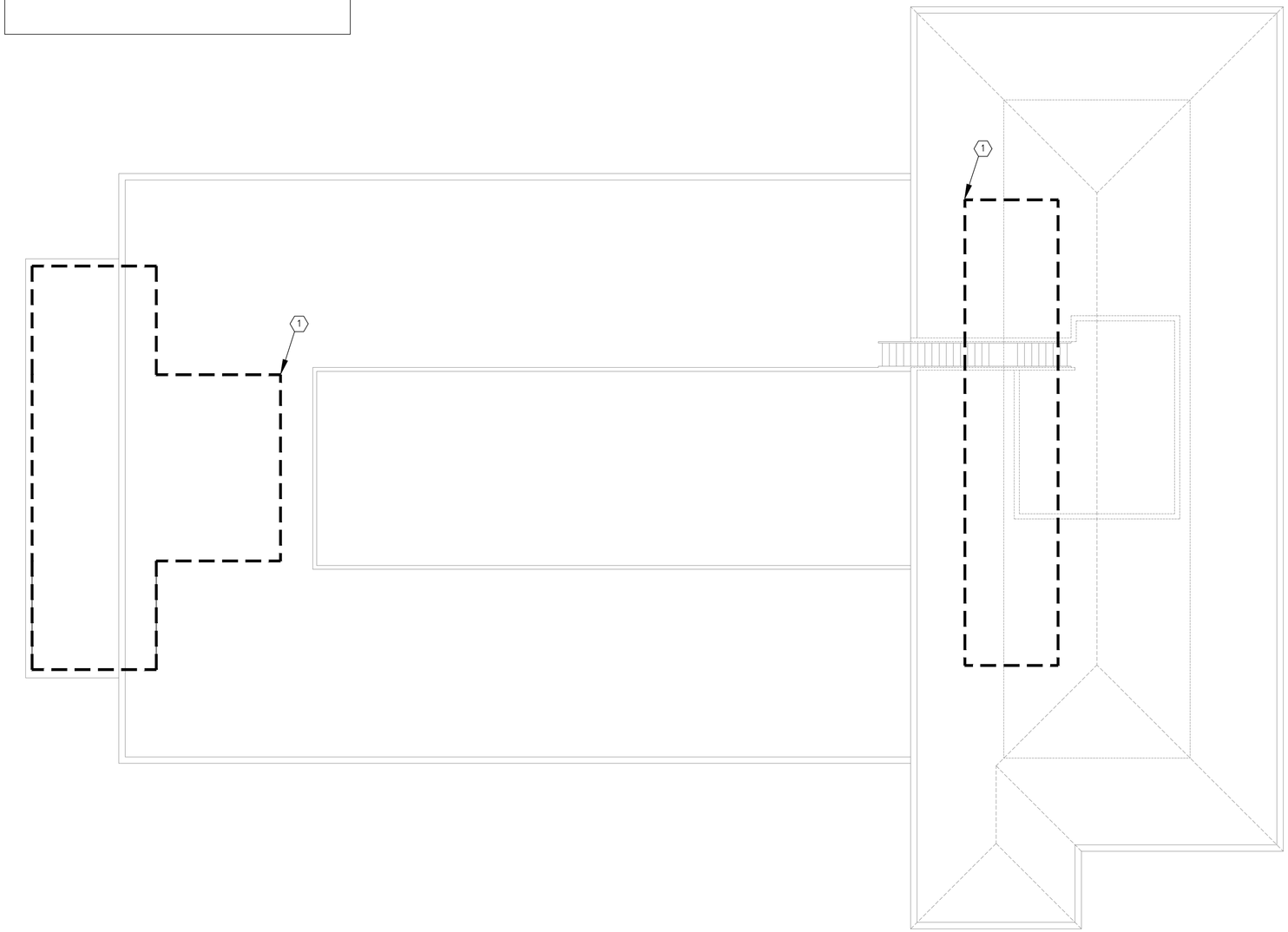
DRAWING:

E-2.3

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS

KEY NOTES

1. DASHED AREAS FOR PROPOSED SOLAR PANEL INSTALLATION LOCATIONS.
   1.1. CODE REQUIRED 22KW OF SOLAR OUTPUT PER 2025 NEW YORK STATE ENERGY CODE



N

ATTIC PLAN

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

0 2' 4' 6' 8' 10' 20' 30' 50'

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ELLENVILLE FIRE DISTRICT
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ELLENVILLE, NY 12428

ELECTRICAL
ATTIC
POWER PLAN

PROJECT No. 2501
EMTEC.7611

CHECKED BY: JE/ARS

DRAWING:

E-2.4

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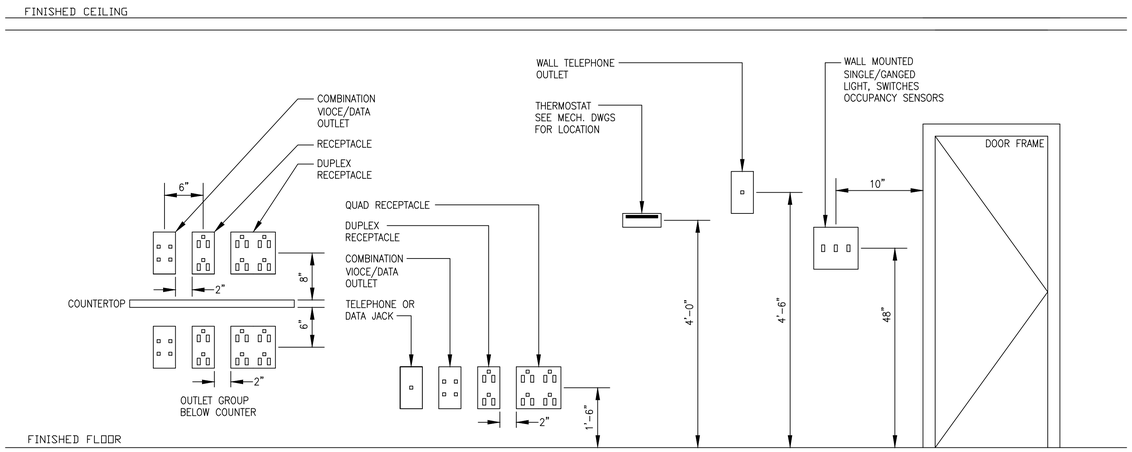
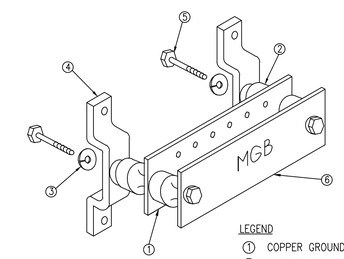


TYPICAL MOUNTING HEIGHTS FOR ELECTRICAL DEVICES AND/OR APPURTENANCES

SCALE: N.T.S.

NOTES:

1. THE ABOVE DETAIL SHOWN IS FOR REFERENCE ONLY. ALL DIMENSIONS ARE CONSIDERED FROM FINISHED FLOOR AND, UNLESS NOTED OTHERWISE, SHALL NOT VARY.
2. ALL DEVICES MOUNTING HEIGHT SHALL MATCH WITH THE EXISTING DEVICES IN THE BUILDING AS LONG AS THEY CONFORM WITH ADA AND ARCHITECTURAL REQUIREMENTS AND NO CODE RESTRICTION IS VIOLATED.
3. ALL DIMENSIONS SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS AND SHALL BE APPROVED BY ARCHITECT PRIOR TO INSTALLATION, DETAILS SHALL BE ADJUSTED TO CONFORM WITH ARCHITECTURAL REQUIREMENTS AS LONG AS NO CODE RESTRICTION IS VIOLATED.
4. ALL DEVICES INSTALLED (FORWARD AND SIDE REACH) SHALL CONFORM WITH ADA REQUIREMENTS. REFER TO ARCHITECTURAL CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION.
5. EXIST SIGN SHALL NOT BE INSTALLED SO THAT IT BLOCKS FIRE ALARM VISUAL DEVICES.



INSTALLATION NOTES:

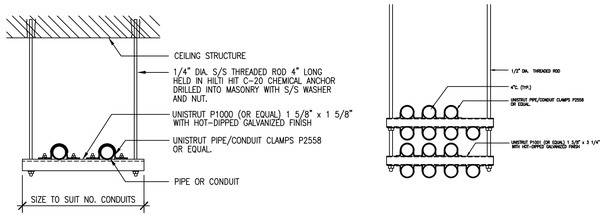
1. FOR TWO(2) HOLE LUGS W/ SPACING OTHER THAN PRE-DRILLED, THE CONTRACTOR SHALL DRILL THE BAR IN THE FIELD. FULL SIZE BOLTS SHALL BE USED TO ATTACH LUGS TO THE COPPER GROUND BAR.
2. GROUNDING BAR SHALL BE AT MINIMUM BE CONNECTED TO BUILDING STRUCTURAL STEEL AND/OR BUILDING GROUNDING USING #6 Cu WIRE GROUND. WIRE TO BE CADWELD OR CONNECTED BY BOLTED EXTENSION TAP

LEGEND

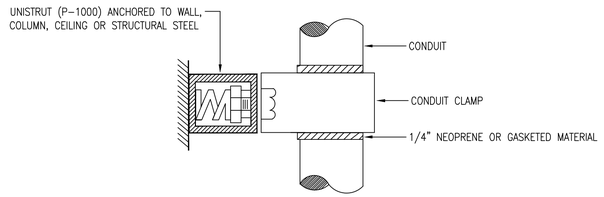
1. COPPER GROUND BAR 1/4"x4"x20" BY HAGER GBIP SERIES
2. INSULATORS BY HARGER LIGHTING AND GROUNDING
3. 5/8" LOCKWASHERS BY HARGER LIGHTING AND GROUNDING
4. WALL MOUNTING BRACKET BY HARGER LIGHTING AND GROUNDING
5. 5/8-11 X 1" H.H.C.S. BOLTS, BY HARGER LIGHTING AND GROUNDING
6. PLEXIGLASS COVER BY HARGER LIGHTING AND GROUNDING

TYPICAL GROUND BAR PLATE DETAIL

SCALE: N.T.S.

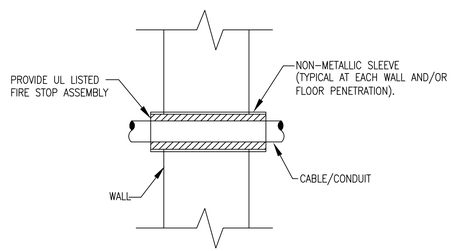


CONDUIT SUPPORT DETAIL - HALLWAY SECTION



WALL MOUNTED SUPPORT GROUND ISOLATION DETAIL

NO SCALE



CONDUIT PENETRATION ISOLATION DETAIL

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DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

STATE OF NEW YORK · ANDREW R. SOLANO · 053455 · LICENSED PROFESSIONAL ENGINEER

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

ELECTRICAL DETAILS

PROJECT No. 2501 EMTEC: 7611

CHECKED BY: JE/ARS

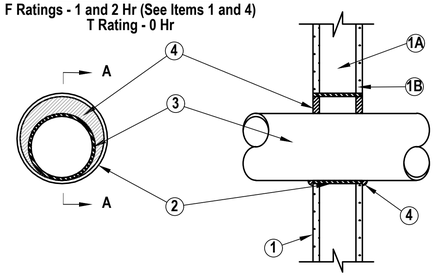
DRAWING: E-5.1

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS

NOTES:

1. All penetrations through rated walls, including but not limited to Boiler Rooms, Mechanical Equipment Rooms and Rated Shafts, shall be fire stopped per details sheets included in this drawing set. Refer to Architectural drawings for all wall ratings. Detail sheets show only a few common applications however, they do not show all applications. Contractor must use only firestop products that have been UL 1479 or ASTM E 814 tested for specific fire-rated construction conditions conforming to construction assembly type, penetrating item type, annular space requirements, and fire-rating involved for each separate instance.
2. Details shown are typical details. If field conditions do not match requirements of typical details, approved alternate details shall be utilized. Field conditions and dimensions need to be verified for compliance with the details, including but not limited to the following: * Minimum and maximum Width of Joints * Type and thickness of fire-rated construction. The minimum assembly rating of the firestop assembly shall meet or exceed the highest rating of the adjacent construction.
3. If alternate details matching the field conditions are not available, manufacturer's engineering judgment drawings are acceptable. Drawings shall follow the International Firestop Council (IFC) Guidelines for Evaluating Firestop Systems Engineering Judgments.
4. References:
   * 2013 Underwriter's Laboratories Fire Resistance Directory, Volumes 1 & 2
   * NFPA 101 Life Safety Code
   * NFPA 70 - National Electric Code
   * All governing local and regional building codes
5. Firestop System installation must meet requirements of ASTM E-814 (UL 1479) tested assemblies that provide a fire rating equal to that of construction being penetrated.
6. All rated through-penetration assemblies shall be prominently labeled with the following information:
   * ATTENTION: Fire Rated Assembly
   * UL System # * Product(s) used
   * Hourly Rating (F-Rating)
   * Installation Date
7. For outlet boxes requiring protection, use only Wall Opening Protective Materials, category CLIV as classified by Underwriter's Laboratories, Fire Resistance Directory (Volume 1.)

UL/cUL System No. W-L-1164
F Ratings - 1 and 2 Hr (See Items 1 and 4)
T Rating - 0 Hr



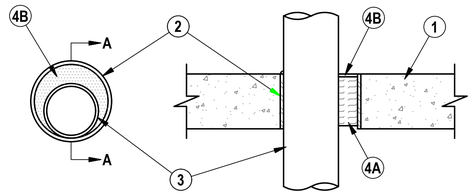
SECTION A-A

1. Wall Assembly The 1 or 2 hr fire–rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs –Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2–1/2 in. wide and spaced max 24 in. OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. wider and 4 to 6 in. higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board – The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening in steel stud walls is 32in.. Max diam of openings in wood stud walls is 14–1/2 in.
   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Steel Sleeve – Nom 32 in. diam (or smaller) Schedule 40 (or heavier) steel pipe sleeve friction fit in nom 32 in. diam circular opening cut through gyp–sum wallboard layers. Length of steel sleeve to be equal to thickness of wall.
3. Through–Penetrant – One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and the steel sleeve shall be min of 0 in. (point contact) to max 1–7/8 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe – Nom 30 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe – Nom 30 in. diam (or smaller) service weight (or heavier) cast iron soil pipe or Class 50 (or heavier) ductile iron pressure pipe.
   C. Conduit – Nom 4 in. diam (or smaller) steel electrical metallic tubing.
   D. Copper Tubing – Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe – Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
4. Fill, Void or Cavity Material*–Sealant – Min 5/8 in. and 1–14 in. thickness of fill material applied within annulus, flush with both surfaces of wall assembly for 1 or 2 hr rated walls, respectively. Min 1/2 in. diam bead of caulk applied to the penetrant/wallboard interface at the point contact location on both sides of wall.

FIRESTOP OF METAL CONDUIT/PIPING THROUGH GYPSUM RATED WOOD OR STEEL WALL DETAIL

N.T.S.

UL/cULSystem No. C-AJ-1421
F Rating - 2 and 3 Hr (See Item 4B)
T Rating = 0 Hr



SECTION A-A

1. Floor or Wall Assembly – Min 4–1/2 in. (114 mm) thick reinforced lightweight or normal weight (100–150 pcf or 1600–2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 6 in. (152 mm).
2. Metallic Sleeve – (Optional) Nom 6 in. (152 mm) diam (or smaller) Schedule 40 (or heavier) steel sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces.
3. Through–Penetrant – One metallic pipe or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between pipe, tube or conduit and periphery of opening shall be min 0 in. (0 mm) (point contact) to max 5–3/8 in. (137 mm). Pipe or conduit to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes or conduits may be used:
   A. Steel Pipe – Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe – Nom 4 in. (102 mm) diam (or smaller) cast or ductile iron pipe.
   C. Copper Pipe – Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.
   D. Copper Tubing – Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Conduit – Nom 4 in. (102 mm) diam (or smaller) steel conduit.
   F. Conduit – Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT).
4. Firestop System – The firestop system shall consist of the following:
   A. Packing Material – Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material* – Sealant – Min 1/4 in. (6 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall. For 3 Hr rated assemblies, a min 1/4 in. (6 mm) diam bead of fill material shall be applied at the concrete/pipe interface at the point contact location on the top surface of floor and on both surfaces of wall.

FIRESTOP OF METAL CONDUIT/PIPING THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL DETAIL

N.T.S.

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SEAL

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

ELECTRICAL DETAILS

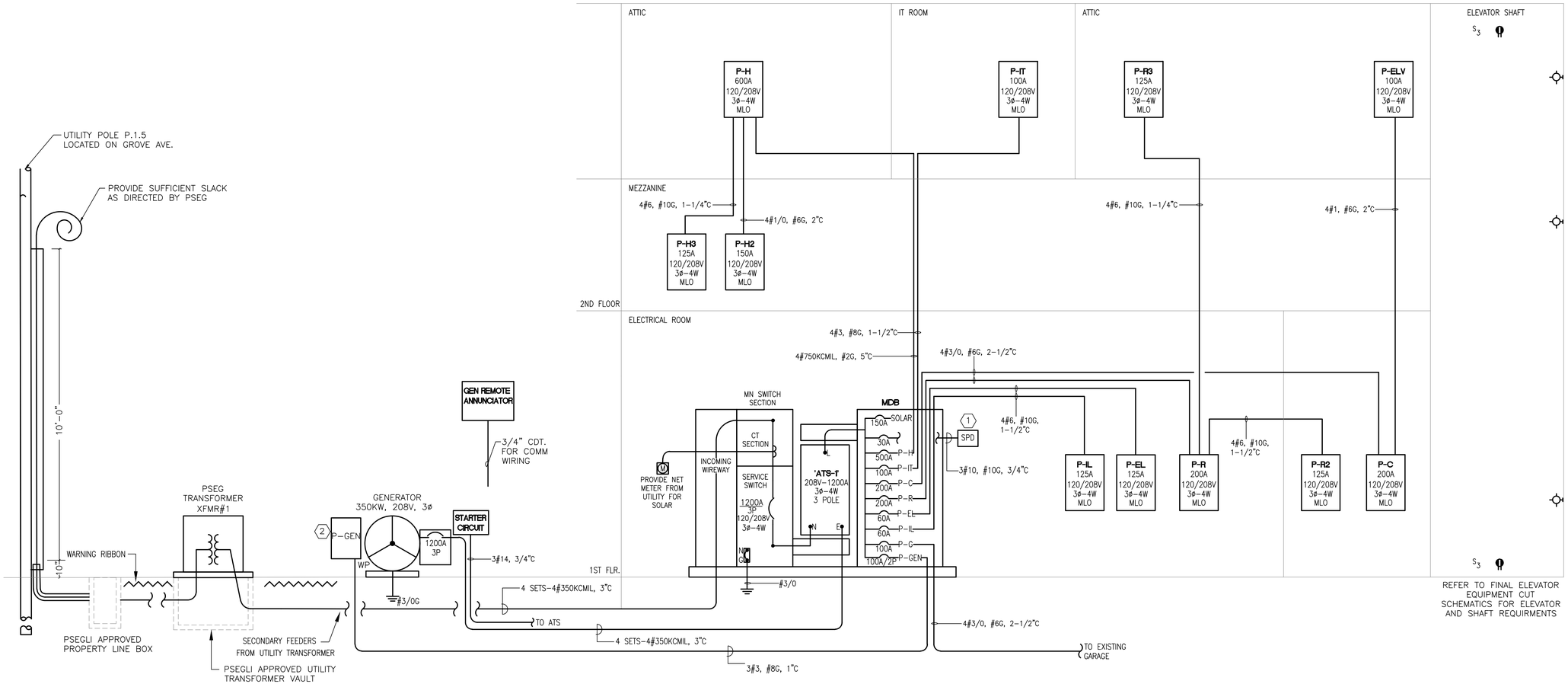
PROJECT No. 2601 EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING:

E-5.2

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS



KEY NOTES

1. BASIS OF DESIGN: MCG SURGE PROTECTION DEVICE, 200M-N4, NEMA-4, EVENT COUNTER, DRY CONTACTS, MICRO-Z CABLE DATA POWER SYSTEMS
2. GENERATOR ENCLOSURE TO BE FURNISHED WITH AN ELECTRICAL DISTRIBUTION PANEL AND PRE-WIRED FOR BATTER CHARGER, BLOCK HEATER AND GFCI RECEPTACLE
3. PROVIDE SUB METER (E MON DEMON OR APPROVED EQUAL) FOR ENERGY MONITORING PER NYSECC 2025 C405.1.3. THE BELOW CIRCUIT BREAKERS SHALL BE ASSIGNED TO MONITOR EACH CORRESPONDING CATEGORY.
   - HVAC SYSTEM (P-H)
   - INTERIOR LIGHTING (P-IL)
   - EXTERIOR LIGHTING (P-EL)
   - PLUG LOADS (P-R, P-IT, P-C)
   - OPERTIONS LOADS (P-C)

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STATE OF NEW YORK
ANDREW R. SOLANO
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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

ELECTRICAL
RISER DIAGRAM

PROJECT No. 2501
EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING:

E-6.1

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS

PANEL " P-R " SCHEDULE

VOLTAGE: 120/208	PHASE: 3	WIRE: 4	LOCATION: 1ST FLOOR HALL
MAIN RATING: 200	MLO		MTG: □ SURFACE ⊠ FLUSH

SPECIAL FEATURES:

CKT. NO.	DESCRIPTION	C.B.	WATTS	WATTS	C.B.	DESCRIPTION	CKT. NO.
1	MAINTENANCE RECEP	20	360	500	20	RECEP BAY REEL	2
3	POWER STRIP	20	500	500	20	RECEP BAY REEL	4
5	POWER STRIP	20	500	500	20	RECEP BAY REEL	6
7	WELDING RECEP	20	750	500	20	RECEP BAY REEL	8
9			750	500	20	RECEP BAY REEL	10
11	POWER STRIP	20	500	500	20	RECEP BAY REEL	12
13	POWER STRIP	20	500	500	20	RECEP BAY REEL	14
15	POWER STRIP	20	500	500	20	RECEP BAY REEL	16
17	FRIDGE	20	500	500	20	RECEP BAY REEL	18
19	WORK ROOM RECEPS	20	900	360	20	BAY RECEPS	20
21	EXTERIOR GFI'S	20	720	360	20	BAY RECEPS	22
23	EXTERIOR GFI'S	20	540	360	20	BAY RECEPS	24
25	EXTERIOR GFI'S	20	720	900	20	BAY RECEPS	26
27				360	20	COUNTER TOP RECEP	28
29				500	20	FRIDGE	30
31				540	20	READY RM RECEPS	32
33				360	20	READY RM RECEPS	34
35				1080	20	MAINTENANCE RECEPS	36
37			4200	3473			38
39	P-R3	60	4200	3473	60	P-R2	40
41			4200	3473			42

CONNECTED LOAD: 43,500 W | DEMAND LOAD: 26,750 W

PANEL " P-IT " SCHEDULE

VOLTAGE: 120/208	PHASE: 3	WIRE: 4	LOCATION: 1ST FLOOR HALL
MAIN RATING: 100	MLO		MTG: □ SURFACE ⊠ FLUSH

SPECIAL FEATURES:

CKT. NO.	DESCRIPTION	C.B.	WATTS	WATTS	C.B.	DESCRIPTION	CKT. NO.
1				1000	20	IT RACK RECEP	2
3				1000	20	IT RACK RECEP	4
5							6
7							8
9							10
11							12
13							14
15							16
17							18
19							20
21							22
23							24
25							26
27							28
29							30
31							32
33							34
35							36
37							38
39							40
41							42

CONNECTED LOAD: --- W | DEMAND LOAD: --- W

PANEL " P-H " SCHEDULE

VOLTAGE: 120/208	PHASE: 3	WIRE: 4	LOCATION: 1ST FLOOR HALL
MAIN RATING: 400	MLO		MTG: □ SURFACE ⊠ FLUSH

SPECIAL FEATURES:

CKT. NO.	DESCRIPTION	C.B.	WATTS	WATTS	C.B.	DESCRIPTION	CKT. NO.
1			1799	1188	20	UH-1,2,3	2
3	KXF-1	25	1799	1283			4
5			1799	1283	20	EF-EMERGENCY	6
7			8060	1283			8
9	RTU-GARAGE 3#3, #8G	110	8060	1803			10
11			8060	1803	25	MUA-1	12
13	EF-1	20	348	1803			14
15	DH-1	20	835	5757			16
17	DH-2	20	835	5757	100	VRFCU-2 3#6, #10G	18
19	DH-3	20	835	5757			20
21	EF-2-HSKP	20	835	1631			22
23	ECH-1	25	1508	1631	25	CU-1-3	24
25			1508	1631			26
27	CU-READY	30	1331	1823			28
29			1331	1823	30	CU-2-1	30
31			3838	1823			32
33	VRFCU-1 3#8, #10G	60	3838	1497	25	CU-2-IT	34
35			3838	1497			36
37			7,890	15,989			38
39	P-H3	100	7,890	15,989	150	P-H2	40
41			7,890	15,989			42

CONNECTED LOAD: 163,167 W | DEMAND LOAD: 163,167 W

PANEL " P-H3 " SCHEDULE

VOLTAGE: 120/208	PHASE: 3	WIRE: 4	LOCATION: 1ST FLOOR HALL
MAIN RATING: 125	MLO		MTG: □ SURFACE ⊠ FLUSH

SPECIAL FEATURES:

CKT. NO.	DESCRIPTION	C.B.	WATTS	WATTS	C.B.	DESCRIPTION	CKT. NO.
1	B-1	20	1440	738	20	BP-1/RP-1/RP-1A	2
3				3454			4
5	HRU-AHU-1 & 2	20	77	3454	40	CU-1-1 3#6, #10G	6
7			77	3454			8
9	EEV-AHU-1-1 & 2	20	208	3454			10
11			208	3454	40	CU-1-2 3#6, #10G	12
13				3454			14
15							16
17							18
19							20
21							22
23							24

CONNECTED LOAD: 23,672 W | DEMAND LOAD: 23,672 W

PANEL " P-C " SCHEDULE

VOLTAGE: 120/208	PHASE: 3	WIRE: 4	LOCATION: 1ST FLOOR HALL
MAIN RATING: 200	MLO		MTG: □ SURFACE ⊠ FLUSH

SPECIAL FEATURES:

CKT. NO.	DESCRIPTION	C.B.	WATTS	WATTS	C.B.	DESCRIPTION	CKT. NO.
1	COUNTERTOP RECEPS	20	1000				2
3	COUNTERTOP RECEPS	20	1000				4
5	BEVERAGE CENTER	20	200	1500	20	DISHWASHER/BOOSTER	6
7	BAR FRIDGE	20	207	1500			8
9	ICE MAKER	20	1012	250	20	OVEN/BURNER	10
11	COLD STORAGE	25	1200	500	20	HOOD CONTROLLER	12
13			1200	960	20	ESP-1	14
15	GARAGE DOORS	20	500	200	20	HWH/CIRCULATOR	16
17			500				18
19	GARAGE DOORS	20	500				20
21			500				22
23	GARAGE DOORS	20	500				24
25			500				26
27	GARAGE DOORS	20	500				28
29			500				30
31							32
33							34
35							36
37				8,396			38
39				8,396	100	P-ELV	40
41				8,396			42

CONNECTED LOAD: 31,875 W | DEMAND LOAD: 31,875 W

PANEL " P-R2 " SCHEDULE

VOLTAGE: 120/208	PHASE: 3	WIRE: 4	LOCATION: 1ST FLOOR HALL
MAIN RATING: 125	MLO		MTG: □ SURFACE ⊠ FLUSH

SPECIAL FEATURES:

CKT. NO.	DESCRIPTION	C.B.	WATTS	WATTS	C.B.	DESCRIPTION	CKT. NO.
1	COUNTERTOP RECEPS	20	1000	900	20	COMMUNITY RM	2
3	COUNTERTOP RECEPS	20	1000	720	20	COMMUNITY RM	4
5	RADIO ROOM	20	1080	540	20	PATIO RECEPS	6
7	RECEPS	20	900	900	20	MEZZ RECEPS	8
9	RECEPS	20	900	500	20	BATHROOM GFI	10
11	JANITORS CLOSET	20	180	500	20	BATHROOM GFI	12
13	ELEVATOR PIT	20	300	500	20	BATHROOM GFI	14
15	MEZZ LOFT	20	480	500	20	BATHROOM GFI	16
17	GAS OVENS	20	200				18
19	FREEZER'S	20	1080				20
21							22
23							24

CONNECTED LOAD: 10,420 W | DEMAND LOAD: 10,420 W

PANEL " P-IL " SCHEDULE

VOLTAGE: 120/208	PHASE: 3	WIRE: 4	LOCATION: 1ST FLOOR HALL
MAIN RATING: 125	MLO		MTG: □ SURFACE ⊠ FLUSH

SPECIAL FEATURES:

CKT. NO.	DESCRIPTION	C.B.	WATTS	WATTS	C.B.	DESCRIPTION	CKT. NO.
1	PATIO/LOCKER LTE	20	1100	200	20	UTILITY LTE	2
3	OFFICE LTE	20	1408	1722	20	COMMUNITY LTE	4
5	EXIT LTE	20	50	1482	20	BAY LTE	6
7	ATTIC LTE	20	1300	398	20	MEZZ LTE	8
9	EVENT RM LTE	20	1320	200	20	MEZZ LTE	10
11	OFFICE LTE	20	1618	791	20	COMMUNITY LTE	12
13							14
15							16
17							18
19							20
21							22
23							24

CONNECTED LOAD: 11,589 W | DEMAND LOAD: 11,589 W

PANEL " P-H2 " SCHEDULE

VOLTAGE: 120/208	PHASE: 3	WIRE: 4	LOCATION: 1ST FLOOR HALL
MAIN RATING: 150	MLO		MTG: □ SURFACE ⊠ FLUSH

SPECIAL FEATURES:

CKT. NO.	DESCRIPTION	C.B.	WATTS	WATTS	C.B.	DESCRIPTION	CKT. NO.
1	ERV-2	20	432	59	20	2ND FLR VRF'S	2
3			432	59			4
5	AHU-2-1	30	2329	1497	25	EUH-5	6
7			2329	1497			8
9	AF-1	20	288	1497	25	EUH-4	10
11				1497			12
13				2163	30	AHU-1-3	14
15	AHU-1-1	20	1084	2163			16
17			1084	200	20	MOTORIZED DAMPERS	18
19			1084	1296	20	CF-1 THRU 4	20
21	AHU-1-2	20	1084	1404	20	EF-STANDBY/ELECTRIC	22
23			1084	1508	25	ECH-1	24
25			1084	1508			26
27	1ST FLR VRF'S	20	95	1508	25	ECH-1	28
29			95	1508			30
31	ERV-1	20	357	1508	25	ECH-1	32
33			357	1508			34
35	EUH-3	25	1497	1497	25	EUH-1	36
37			1497	1497			38
39	GAS DETECTION	20	150	1497	25	EUH-2	40
41	CF-5 & 6	20	648	1497			42

CONNECTED LOAD: 45,368 W | DEMAND LOAD: 45,368 W

PANEL " P-R3 " SCHEDULE

VOLTAGE: 120/208	PHASE: 3	WIRE: 4	LOCATION: 1ST FLOOR HALL
MAIN RATING: 125	MLO		MTG: □ SURFACE ⊠ FLUSH

SPECIAL FEATURES:

CKT. NO.	DESCRIPTION	C.B.	WATTS	WATTS	C.B.	DESCRIPTION	CKT. NO.
1	ATTIC RECEPS	20	720	180	20	MAINTENANCE RECEP	2
3	ATTIC RECEPS	20	720	900	20	TRAINING RM RECEP	4
5	EXTERIOR GFI	20	540	540	20	SERVICE COUNTER	6
7	WATER FOUNTAIN	20	500	360	20	SERVICE COUNTER	8
9	CIVIL OFFICERS	20	900	360	20	TERRACE RECEPS	10
11	CONFERENCE RM	20	900	900	20	SECRETARY OFFICE	12
13	CONFERENCE RM	20	720	360	20	SECRETARY CT	14
15	BATHROOM GFI	20	500	1080	20	COMMISSIONERS	16
17	BATHROOM GFI	20	500	360	20	COMMISSIONERS CT	18
19	EXTERIOR GFI	20	500	1080	20	CORRIDOR RECEPS	20
21	RECEPTACLES	20	480	1080	20	MAINTENANCE RECEPS	22
23							24
25							26
27							28
29							30

CONNECTED LOAD: 12,600 W | DEMAND LOAD: 12,600 W

PANEL " P-EL " SCHEDULE

VOLTAGE: 120/208	PHASE: 3	WIRE: 4	LOCATION: 1ST FLOOR HALL
MAIN RATING: 125	MLO		MTG: □ SURFACE ⊠ FLUSH

SPECIAL FEATURES:

CKT. NO.	DESCRIPTION	C.B.	WATTS	WATTS	C.B.	DESCRIPTION	CKT. NO.
1	TRAFFIC LTE/SIGN	20	1000	130	20	SITE LIGHTING	2
3	EXTERIOR LTE	20	250				4
5	EXTERIOR LTE	20	208				6
7	SITE LIGHTING	20	206				8
9	SITE LIGHTING	20	130				10
11	SITE LIGHTING	20	130				12
13							14
15							16
17							18
19							20
21							22
23							24

CONNECTED LOAD: 2,054 W | DEMAND LOAD: 2,054 W

PANEL " P-ELV " SCHEDULE

VOLTAGE: 120/208	PHASE: 3	WIRE: 4	LOCATION: 1ST FLOOR HALL
MAIN RATING: 125	MLO		MTG: □ SURFACE ⊠ FLUSH

SPECIAL FEATURES:

CKT. NO.	DESCRIPTION	C.B.	WATTS	WATTS	C.B.	DESCRIPTION	CKT. NO.
1							2
3							4
5							6
7							8
9							10
11							12
13							14
15							16
17							18
19							20
21							22
23							24

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."

This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

DATE	ISSUED
06-22-2026	ISSUED FOR 100%DD/50%CD REVIEW
07-23-2026	ISSUED FOR 90%CD REVIEW
08-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL

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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

ELECTRICAL SCHEDULES

PROJECT No. 2501 EMTEC. 7611

CHECKED BY: JE/ARS

DRAWING: E-6.2

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS

1. GENERAL CONDITIONS

A. DESCRIPTION OF BID DOCUMENTS

a. THE SPECIFICATIONS AND DRAWINGS ARE INTENDED TO SERVE JOINTLY AS A BASIS UPON WHICH THE CONTRACTOR SHALL SUBMIT A CONTRACT PRICE FOR THE MATERIAL AND LABOR PROVISIONS.
b. IT IS THE INTENTION OF THE SPECIFICATIONS AND DRAWINGS TO CALL FOR FINISHED WORK, TESTED, AND READY FOR OPERATION.
c. THE CONTRACTORS SHALL PROVIDE ALL ITEMS OF LABOR OR MATERIALS NOT SPECIFICALLY INDICATED, BUT REQUIRED TO COMPLETE THE INTENDED INSTALLATIONS.
d. THE CONTRACTORS SHALL COORDINATE THEIR WORK OR ADJUST SAME TO THAT OF OTHER TRADES, IN ORDER THAT CONFLICTS IN SPACE LOCATIONS DO NOT OCCUR.
e. ANY APPARATUS, APPLIANCE, MATERIAL, OR WORK NOT SHOWN ON DRAWINGS, BUT MENTIONED IN THE SPECIFICATIONS, OR VICE VERSA, OR ANY INCIDENTAL ACCESSORIES, OR MINOR DETAILS NOT SHOWN BUT NECESSARY TO MAKE THE WORK COMPLETE IN ALL RESPECTS AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SPECIFIED, SHALL BE PROVIDED WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
f. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS WORK WITH ITS COMPLETION AND FINAL ACCEPTANCE AND SHALL REPLACE ANY OF SAME, WHICH MAY BE DAMAGED, LOST OR STOLEN, WITHOUT ADDITIONAL COSTS TO THE OWNER.
g. SPECIFICATIONS, IN GENERAL, DESCRIBE QUALITY AND CHARACTER OF MATERIALS AND EQUIPMENT. THE ACCOMPANYING DRAWINGS ARE INTENDED TO SHOW THE GENERAL ARRANGEMENT AND EXTENT OF WORK TO BE PERFORMED. THE LOCATIONS FOR EQUIPMENT AND MATERIAL AS SHOWN ON THE DRAWINGS ARE APPROXIMATE. IT SHALL BE UNDERSTOOD THAT THEY ARE SUBJECT TO SUCH MODIFICATION AS MAY BE FOUND NECESSARY TO MEET JOB CONDITIONS. SUCH CHANGES SHALL BE MADE BY THIS CONTRACTOR AT NO ADDITIONAL CHARGE.
h. SCALED AND INDICATED DIMENSIONS ARE APPROXIMATE AND ARE FOR ESTIMATING PURPOSES ONLY. BEFORE PROCEEDING WITH WORK, CHECK AND VERIFY ALL DIMENSIONS.
i. ALL METHODS OF WORKMANSHIP AND CONSTRUCTION AND DETAILS OF SAME NOT SPECIFICALLY DESCRIBED HEREIN SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER OR HIS REPRESENTATIVE.
j. MAKE ADJUSTMENTS THAT MAY BE NECESSARY OR REQUESTED IN ORDER TO RESOLVE SPACE PROBLEMS, PRESERVE HEADROOM, AND AVOID ARCHITECTURAL OPENINGS, STRUCTURAL MEMBERS AND WORK OF OTHER TRADES.
k. TYPICAL DETAILS, WHERE SHOWN ON THE DRAWINGS, APPLY TO EACH AND EVERY ITEM OF THE PROJECT WHERE SUCH ITEMS ARE APPLICABLE. TYPICAL DETAILS ARE NOT REPEATED IN FULL ON THE PLANS, AND ARE DIAGRAMMATIC ONLY, BUT WITH THE INTENTION THAT SUCH DETAILS SHALL BE INCORPORATED IN FULL.
l. IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS TO PROVIDE A COMPLETE WORKABLE SYSTEM READY FOR THE OWNER'S OPERATION. ANY ITEM NOT SPECIFICALLY SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS, BUT NORMALLY REQUIRED TO CONFORM TO THE INTENT, ARE TO BE CONSIDERED A PART OF THE CONTRACT.
m. IF ANY PART OF SPECIFICATIONS OR DRAWINGS APPEARS UNCLEAR OR CONTRADICTORY, CONSULT THE ARCHITECT/DESIGN PROFESSIONAL FOR INTERPRETATION AND DECISION AS EARLY AS POSSIBLE DURING BIDDING PERIOD. DO NOT PROCEED WITH WORK WITHOUT THE ARCHITECT/DESIGN PROFESSIONAL'S DECISION.
n. UNLESS SPECIFIED OTHERWISE HEREIN, CONTRACTOR SHALL BASE HIS BID PROPOSAL WITH ALL WORK TO BE PERFORMED ON A STRAIGHT TIME NORMAL WORKING DAY.
o. ANY QUESTIONS OR DISAGREEMENTS ARISING AS TO THE TRUE INTENT OF THIS SPECIFICATION OR THE DRAWINGS OR THE KIND AND QUALITY OF WORK REQUIRED THEREBY SHALL BE DECIDED BY THE ARCHITECT/DESIGN PROFESSIONAL, WHOSE INTERPRETATIONS THEREOF SHALL BE FINAL, CONCLUSIVE, AND BINDING ON ALL PARTIES.
p. IN CASE OF DISAGREEMENT BETWEEN DRAWINGS AND SPECIFICATIONS, OR WITHIN EITHER DOCUMENT ITSELF, THE BETTER QUALITY, GREATER QUANTITY OR MORE COSTLY WORK SHALL BE INCLUDED IN THE CONTRACT PRICE AND THE MATTER REFERRED TO THE ARCHITECT/DESIGN PROFESSIONAL'S ATTENTION FOR DECISION AND/OR ADJUSTMENT.
q. IF DIRECTED BY THE ARCHITECT/DESIGN PROFESSIONAL, WITHOUT EXTRA CHARGE, MAKE REASONABLE MODIFICATIONS IN THE LAYOUT AS NEEDED TO PREVENT CONFLICT WITH WORK OF OTHER TRADES OR FOR PROPER EXECUTION OF THE WORK.
r. ALL WORK SHOWN IN THE DRAWINGS AND SPECIFICATIONS SHALL BE INCLUDED UNDER THE BASE BID, EXCEPT WHERE THERE IS SPECIFIC REFERENCE TO EXCLUSIONS AND INCORPORATED IN OTHER QUOTATIONS.
s. THIS SECTION OF THE SPECIFICATIONS COVERS THE ELECTRICAL SYSTEMS OF THE PROJECT. IT INCLUDES WORK PERFORMED BY THE ELECTRICAL TRADES AS WELL AS TRADES NOT NORMALLY CONSIDERED AS ELECTRICAL TRADES.
t. PROVIDE ALL INCIDENTALS, EQUIPMENT, APPLIANCES, SERVICES, HOISTING, SCAFFOLDING, SUPPORTS, TOOLS, SUPERVISION, LABOR CONSUMABLE ITEMS, FEES, LICENSES, ETC., NECESSARY TO PROVIDE COMPLETE SYSTEMS. PERFORM START-UP AND CHECKOUT ON EACH ITEM AND SYSTEM TO PROVIDE FULLY OPERABLE SYSTEMS.
u. EXAMINE AND COMPARE THE ELECTRICAL DRAWINGS AND SPECIFICATIONS WITH THE DRAWINGS AND SPECIFICATIONS OF OTHER TRADES, AND REPORT ANY DISCREPANCIES BETWEEN THEM TO THE ARCHITECT/DESIGN PROFESSIONAL AND OBTAIN FROM HIM WRITTEN INSTRUCTIONS FOR CHANGES NECESSARY IN THE WORK. AT TIME OF BID, THE MOST STRINGENT REQUIREMENTS MUST BE INCLUDED IN SAID BID.
v. INSTALL AND COORDINATE THE ELECTRICAL WORK IN COOPERATION WITH OTHER TRADES INSTALLING INTERRELATED WORK. BEFORE INSTALLATION, MAKE PROPER PROVISIONS TO AVOID INTERFERENCES IN A MANNER APPROVED BY THE ARCHITECT/DESIGN PROFESSIONAL. ALL CHANGES REQUIRED IN THE WORK OF THE CONTRACTOR, CAUSED BY HIS NEGLECT TO DO SO, SHALL BE MADE BY HIM AT HIS OWN EXPENSE.
w. ALL SPECIAL AND SUPPLEMENTARY CONDITIONS AND OTHER DOCUMENTS SUCH AS DELINEATED UNDER THE "OWNER-CONTRACTOR AGREEMENT" ARE HEREBY MADE A PART OF THESE SPECIFICATIONS.
x. INSTRUCT OWNER'S REPRESENTATIVES IN COMPLETE OPERATION, ADJUSTMENT, AND MAINTENANCE OF THE SYSTEM.

B. EXAMINATION OF EXISTING CONDITIONS

a. VISIT AND CAREFULLY EXAMINE THOSE PORTIONS OF THE SITE AND/OR PRESENT BUILDINGS AFFECTED BY THIS WORK SO AS TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THE WORK, BEFORE SUBMITTING PROPOSALS. CONTRACTOR SHALL CAREFULLY EXAMINE THE PRESENT LIGHTING AND RECEPTACLE INSTALLATION METHODS WHICH ARE TO BE EXTENDED FOR THE NEW WORK.
b. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT, OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD SUCH EXAMINATION BEEN MADE, WILL NOT BE RECOGNIZED.

C. TIME AND MANNER OF EXECUTION OF WORK

a. ALL WORK SHALL BE DONE AS EXPEDITIOUSLY AS POSSIBLE AND IN SUCH A MANNER AS NOT TO CAUSE INTERFERENCE OR INTERRUPTION TO THE BUSINESS OF THE OWNER. SUBMIT SCHEDULE FOR REVIEW AND APPROVAL. THE CONTRACTOR SHALL NOT OBSTRUCT ENTRANCES OR PASSAGES ON THE OWNER'S PREMISES.
b. TRANSPORTATION OF MATERIAL INTO AND THROUGH THE BUILDING WILL BE SUBJECT TO REVIEW AND APPROVAL OF THE OWNER AND MAY BE LIMITED TO RESTRICTED TIMES.
c. THE OWNER WILL MAKE AVAILABLE TO THE CONTRACTOR AN ELEVATOR FOR HANDLING MATERIALS, RUBBISH, ETC. AT SUCH TIMES WHEN IT IS CONVENIENT TO THE OCCUPANTS OF THE BUILDING. THE CONTRACTOR SHALL PROTECT THE INTERIOR OF THE CAB AGAINST DAMAGE AND PROVIDE LABOR TO HANDLE MATERIALS IN AND OUT OF THE ELEVATOR AND OUT OF THE BUILDING.

D. GUARANTEE

a. ALL WORK SHALL BE GUARANTEED AGAINST DEFECTS FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OF THE INSTALLATION AND ANY PORTIONS OF THE WORK WHICH DEVELOP DEFECTS DURING THAT TIME SHALL BE REPLACED OR REPAIRED IN A MANNER SATISFACTORY TO THE OWNER.
b. ALL MANUFACTURER'S WARRANTIES FOR EQUIPMENT EXTENDING BEYOND THE GUARANTEE PERIOD SHALL BE TURNED OVER TO THE OWNER.
c. REPLACE OR REPAIR TO THE SATISFACTION OF THE OWNER ANY AND ALL DAMAGE DONE TO THE BUILDING OR ITS CONTENTS OR TO THE WORK OF OTHER TRADES IN CONSEQUENCE OF WORK PERFORMED IN FULFILLING GUARANTEE.
d. THIS ARTICLE IS GENERAL IN NATURE AND WILL NOT WAIVE STIPULATIONS OF OTHER CLAIMS THAT SPECIFY GUARANTEE PERIODS IN EXCESS OF ONE (1) YEAR. IN THE EVENT DEFAULT ON THIS GUARANTEE, THE OWNER MAY HAVE SUCH WORK DONE AS REQUIRED & CHARGE THE COST TO THE CONTRACTOR.
e. THE DATE OF ACCEPTANCE SHALL BE THE DATE OF FINAL PAYMENT BY THE OWNER OR NOTICE OF ACCEPTANCE BY THE OWNER WHICHEVER IS EARLIER

E. LAWS, ORDINANCES, PERMITS AND FEES

a. SHOULD ANY CHANGE IN DRAWINGS OR SPECIFICATIONS BE REQUIRED TO COMPLY WITH GOVERNMENTAL REGULATIONS, THE CONTRACTOR SHALL NOTIFY ARCHITECT/DESIGN PROFESSIONAL PRIOR TO EXECUTION OF THE WORK. THE WORK SHALL BE CARRIED OUT ACCORDING TO THE REQUIREMENTS OF SUCH CODE IN ACCORDANCE WITH THE INSTRUCTION OF THE ARCHITECT/DESIGN PROFESSIONAL AND AT NO ADDITIONAL COST TO THE OWNER.
b. THE PROVISIONS OF STANDARDS, CODES, LAWS, ORDINANCES, ETC., SHALL BE CONSIDERED MINIMUM REQUIREMENTS. IN CASE OF CONFLICT BETWEEN THEIR PUBLISHED REQUIREMENTS, THE ARCHITECT/DESIGN PROFESSIONAL SHALL DETERMINE WHICH IS TO BE FOLLOWED AND HIS DECISION SHALL BE BINDING. SPECIFIC REQUIREMENTS OF THIS SPECIFICATION OR THE DRAWINGS, WHICH EXCEED THE PUBLISHED REQUIREMENTS, SHALL TAKE PRECEDENCE OVER THEM.
c. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS OF THE ISSUE IN EFFECT ON DATE OF THE INVITATION FOR BIDS SHALL FORM A PART OF THIS SPECIFICATION, UNLESS THEY CONFLICT WITH LOCAL CODES.
d. ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE RULES AND RECOMMENDATIONS OF THE NATIONAL FIRE PROTECTION ASSOCIATION, WITH ALL REQUIREMENTS OF LOCAL UTILITY COMPANIES, WITH THE RECOMMENDATIONS OF THE FIRE INSURANCE RATING ORGANIZATION HAVING JURISDICTION, AND WITH THE REQUIREMENTS OF ALL GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION.
e. AT THE COMPLETION OF THE WORK, THE CONTRACTOR SHALL SECURE AND DELIVER TO THE ARCHITECT/DESIGN PROFESSIONAL, "CERTIFICATE OF APPROVAL" FROM THE VARIOUS LOCAL VILLAGE, TOWN, COUNTY, CITY, STATE BUREAUS, FIRE MARSHAL, FIRE UNDERWRITERS, LOCAL BUILDING DEPARTMENT AND ALL DEPARTMENTS HAVING JURISDICTION.
f. INCLUDE IN THE WORK, WITHOUT EXTRA COST TO THE OWNER, ANY LABOR, MATERIALS, SERVICES, APPARATUS, DRAWINGS, (IN ADDITION TO CONTRACT DRAWINGS AND DOCUMENTS) IN ORDER TO COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES AND REGULATIONS, WHETHER OR NOT SHOWN ON DRAWINGS AND/OR SPECIFIED.(7) GIVE ALL NECESSARY NOTICES, OBTAIN ALL PERMITS AND PAY ALL GOVERNMENTAL TAXES, FEES, AND OTHER COSTS IN CONNECTION WITH THE WORK; FILE ALL NECESSARY PLANS, PREPARE ALL DOCUMENTS, AND OBTAIN ALL NECESSARY APPROVALS OF ALL GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION; OBTAIN ALL REQUIRED CERTIFICATES OF INSPECTION FOR THE WORK AND DELIVER TO THE ARCHITECT BEFORE REQUEST FOR ACCEPTANCE AND FINAL PAYMENT FOR THE WORK.
g. THE CONTRACTOR SHALL ESTABLISH, ENFORCE AND IMPLEMENT ALL SAFETY, HEALTH AND ENVIRONMENTAL PROTECTION MEASURES DURING PERFORMANCE OF THE WORK CONSISTENT WITH THE REQUIREMENTS OF THE WILLIAMS-STEIGER OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 (LATEST REVISION), OTHER RULES, LAWS, STATUTES, CODES, ORDINANCES, REGULATIONS AND OTHER REQUIREMENTS OF ANY AND ALL GOVERNMENTAL OR QUASI-GOVERNMENTAL AUTHORITIES HAVING JURISDICTION OVER THE WORK, THE PROJECT OR THE PROJECT SITE.
h. EQUIPMENT, FIXTURES, MATERIAL AND INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE LOCAL BUILDING DEPARTMENT, THE SERVING UTILITY COMPANIES, THE NATIONAL ELECTRICAL CODE, NATIONAL ELECTRICAL SAFETY CODE, LIFE SAFETY CODE, NEW YORK STATE BUILDING CODE, OCCUPATIONAL SAFETY AND HEALTH ACT, AMERICANS WITH DISABILITIES ACT AND APPLICABLE NATIONAL, STATE AND LOCAL CODES, ORDINANCES AND REGULATIONS.
i. IF WORK IS LOCATED IN NEW YORK CITY THE NEC WITH NEW YORK CITY AMENDMENTS IS THE CONTROLLING CODE.
j. ALL ELECTRICAL WORK AND MATERIALS SHALL COMPLY WITH THE OWNER'S STANDARDS AND ELECTRICAL SYSTEMS REQUIREMENTS.
k. ALL LOCAL FEES, PERMITS, AND SERVICES OF INSPECTION AUTHORITIES SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL COOPERATE FULLY WITH LOCAL COMPANIES WITH RESPECT TO THEIR SERVICES. CONTRACTOR SHALL INCLUDE IN HIS BID ANY COSTS TO BE INCURRED RELATIVE TO POWER SERVICE (PRIMARY AND/OR SECONDARY) AND TELEPHONE SERVICE.

F. CUTTING AND PATCHING

a. ALL CUTTING AND PATCHING SHALL BE DONE UNDER ANOTHER SECTION. FURNISH THE SIZES AND LOCATIONS OF ALL CHASES AND OPENINGS REQUIRED FOR THE INSTALLATION FOR THIS WORK BEFORE THE WALLS, FLOORS AND PARTITIONS ARE BUILT.
b. PROVIDE THE LABOR AND MATERIALS FOR ALL WORK INCLUDED UNDER THE CONTRACT OR SUBCONTRACT IN AMPLE TIME AND SUFFICIENT QUANTITIES SO THAT ALL OF THE WORK OF THE CONTRACT OR SUBCONTRACT MAY BE INSTALLED IN PROPER SEQUENCE TO AVOID UNNECESSARY CUTTING OF THE FLOORS AND WALLS.
c. ANY CUTTING AND PATCHING REQUIRED, DUE TO THE FAILURE TO COMPLY WITH THE ABOVE PROVISIONS, SHALL BE DONE AT NO EXTRA COST TO OWNER. SUCH CUTTING AND PATCHING SHALL BE DONE UNDER DIVISION ONE, AS APPROVED BY THE ARCHITECT.
d. THE WORK SHALL BE CAREFULLY LAID OUT IN ADVANCE. WHERE CUTTING, CHANNELING, CHASING OR DRILLING OF FLOORS, WALLS, PARTITIONS, CEILINGS OR OTHER SURFACES IS NECESSARY FOR THE PROPER INSTALLATION, SUPPORT OR ANCHORAGE OF RACEWAY, OUTLETS OR OTHER EQUIPMENT, THE WORK SHALL BE CAREFULLY DONE. ANY DAMAGE TO THE BUILDING, PIPING, EQUIPMENT OR DEFACED FINISH PLASTER, WOODWORK, METALWORK, ETC. SHALL BE REPAIRED BY SKILLED MECHANICS OF THE TRADES INVOLVED AT NO ADDITIONAL COST TO THE OWNER.
e. THIS CONTRACTOR SHALL DO ALL CUTTING, CHASING AND ROUGH PATCHING FOR INSTALLATION OF HIS WORK.
f. UNLESS ASSIGNED TO OTHER CONTRACTOR(S) AS PART OF CONTRACT AGREEMENT, THE GENERAL CONTRACTOR SHALL FINISH PATCHING AND REPAIRS.
g. ALL CUTTING AND DRILLING SHALL BE MACHINE CUT WITH POWER DRIVEN TOOLS. CONDUIT PENETRATIONS SHALL BE CORE DRILLED.
h. WHERE CONDUITS, MOUNTING CHANNELS, OUTLET, JUNCTION, OR PULL BOXES ARE MOUNTED ON A PAINTED SURFACE, OR A SURFACE TO BE PAINTED, THEY SHALL BE PAINTED TO MATCH THE SURFACE. WHENEVER SUPPORT CHANNELS ARE CUT, THE BARE METAL SHALL BE COLD GALVANIZED.

G. COORDINATION WITH OTHER TRADES

a. PRIOR TO STARTING ANY WORK, PURCHASE OF EQUIPMENT, ETC., COORDINATE WORK WITH OTHER TRADES. CONFER WITH OTHER CONTRACTORS WHOSE WORK MIGHT AFFECT THIS INSTALLATION, AND ARRANGE ALL PARTS OF THIS WORK AND EQUIPMENT IN PROPER SEQUENCE AND RELATION TO THE WORK AND EQUIPMENT OF OTHERS, WITH THE BUILDING CONSTRUCTION AND WITH ARCHITECTURAL FINISH SO THAT IT WILL HARMONIZE IN SERVICE AND APPEARANCE. IN THE EVENT THERE IS A CONFLICT IN COORDINATION BETWEEN TRADES, THE OWNER OR HIS REPRESENTATIVE WILL RESOLVE IT.

H. DAMAGE TO PROPERTY

a. RESTORE TO ITS ORIGINAL CONDITION, WITHOUT EXTRA PAYMENT, ANY OF THE OWNER'S PROPERTY THAT BECOMES DAMAGED DUE TO THE NEGLIGENCE OF EMPLOYEES OR AGENTS OF THE CONTRACTORS. SUCH REPAIRS SHALL BE ACCEPTABLE TO THE OWNER. INCLUDE ALL COSTS IN THE BID PRICE FOR PERFORMING SHUTDOWNS ON PREMIUM TIME. MODULES, ETC.

I. SHUTDOWNS

a. WHEN THE INSTALLATION OF NEW WORK REQUIRES THE SHUTDOWN OF EXISTING OPERATING SYSTEMS, THE CONNECTION OF THE NEW WORK SHALL BE PERFORMED ONLY AFTER GIVING AT LEAST 72 HOURS NOTICE TO, AND OBTAINING THE WRITTEN AUTHORIZATION OF, THE OWNER.

J. SHOP DRAWINGS

a. SUBMIT REQUIRED OR REQUESTED SHOP DRAWINGS OF ALL EQUIPMENT AND OBTAIN WRITTEN REVIEW COMMENTS BEFORE ORDERING OR INSTALLING ANY MATERIAL OR EQUIPMENT. ALL SUBMITTAL TO BE IN DIGITAL FORM (PDF FILE FORMAT).

K. AS-BUILT DRAWINGS

a. FURNISH "AS-BUILT" DRAWINGS CONSISTING OF A COMPLETE SET OF AUTOCAD AND PDF FORMAT DRAWINGS AND ONE SET OF HARD COPY FULL SIZE PRINTS, INDICATING IN A NEAT AND ACCURATE MANNER, A COMPLETE RECORD OF ALL CHANGES TO THE ORIGINAL DESIGN OF THE WORK.

L. INSURANCE

a. FURNISH ADEQUATE LIABILITY INSURANCE AND BONDING AS REQUIRED BY THE OWNER.

M. TEMPORARY LIGHT AND POWER

a. ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY LIGHT AND POWER FOR THE NEW CONSTRUCTION AREAS, IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE AND ACCEPTED STANDARDS ESTABLISHED BY O.S.H.A. ENERGY COSTS WILL BE BORNE BY THE OWNER.

N. SEISMIC REQUIREMENTS

a. ALL EQUIPMENT SHALL BE BOLTED TO STRUCTURE TO ALLOW FOR MINIMUM 0.5G OF ACCELERATION. LIFE SAFETY EQUIPMENT AND PIPING SHALL BE BOLTED TO STRUCTURE TO ALLOW FOR 1.0G OF ACCELERATION.
b. ALL STRUCTURALLY SUSPENDED OVERHEAD EQUIPMENT SHALL BE FOUR-POINT INDEPENDENTLY BRACED WITH TYPE II SEISMIC RESTRAINING SYSTEM. NOTE: IF EQUIPMENT IS RIGIDLY FASTENED TO CONDUIT, DIAMETER AND DISTANCE REQUIREMENT FROM SUPPORT APPLIES.
c. INSTALL SEISMIC RESTRAINING SYSTEM TYPE II: TAUT FOR OVERHEAD SUSPENDED UNISOLATED EQUIPMENT, AND SLACK WITH CABLE DEFLECTION FOR ISOLATED SYSTEMS.
d. SEISMICALLY RESTRAIN ALL CONDUITS WITH CENTER BRACING OR TYPE II RESTRAINING SYSTEM IN ACCORDANCE WITH SMACNA GUIDELINES TO COMPLY WITH THE LATEST ADDITION OF THE BOCA CODE.
e. SEISMIC RESTRAINTS ARE NOT REQUIRED FOR THE FOLLOWING:
e.a. CONDUIT IN MECHANICAL EQUIPMENT ROOM THAT IS LESS THAN 1-1/4" INTERNAL DIAMETER.
e.b. ALL OTHER ELECTRICAL CONDUIT LESS THAN 2-1/2" INTERNAL DIAMETER.
e.c. ALL CONDUIT SUSPENDED BY INDIVIDUAL HANGERS 12" IN LENGTH OR LESS FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE STRUCTURAL SUPPORT FOR THE HANGER.
f. SEISMICALLY SUPPORT ALL NON-ISOLATED FLOOR AND WALL MOUNTED EQUIPMENT, INCLUDING TRANSFORMERS, SWITCHGEAR, EMERGENCY GENERATORS, ETC.
g. ALL CEILING-MOUNTED LIGHTING FIXTURES ARE TO BE INDEPENDENTLY HUNG AND CABLE BRACED UTILIZING S.R. TYPE III CABLES. FIXTURE, PART OF LIGHTING GRIDS SHALL MEET LOCAL CODES FOR SUSPENSION AND BE FOUR-POINT INDEPENDENTLY CABLE BRACED TO DECK UNLESS A.T.C. CEILING MEETS SEISMIC ZONE II REQUIREMENTS. IF THIS IS MET, EARTHQUAKE CLIPS SHALL SECURE FIXTURE TO T-BAR CONSTRUCTION.

2. PHASING

A. EXTEND AND RECONNECT EXISTING ELECTRIC SERVICES AS INDICATED ON THE DRAWINGS, IN TIME SEQUENCE AS DIRECTED BY THE OWNER.

4. CONDUIT AND RACEWAYS

A. ALL WIRING SHALL BE RUN IN CONDUIT. MINIMUM SIZE CONDUIT SHALL BE 3/4" EXCEPT AS OTHERWISE INDICATED.
B. CONDUIT SHALL BE MADE OF STANDARD RIGID PIPE, AND SHALL BE ALUMINUM WHERE PERMITTED BY CODE. WHERE ALUMINUM IS NOT PERMITTED BY CODE, USE RIGID STEEL OR IMC CONDUIT.
C. ELECTRIC METALLIC TUBING MAY BE USED IN DRY LOCATIONS FOR BRANCH CIRCUITING AND TELEPHONE AND DATA RACEWAYS.
D. TYPE AC (BX) OR MC WITH GREEN INSULATED GROUND WIRING MAY BE USED CONCEALED IN DRY LOCATIONS FOR BRANCH CIRCUIT WORK ONLY WHERE PERMITTED BY CODE.
E. WIRING FOR UNDERFLOOR BOXES SHALL BE AS MANUFACTURED BY WALKER IN ACCORDANCE WITH THE BUILDING STANDARDS.
F. WIRING FOR EMERGENCY LIGHTING FIXTURES SHALL BE WIRE IN RIGID CONDUIT.
G. PROVIDE EMPTY CONDUIT WITH DRAG WIRE FOR TELEPHONE SYSTEM. RUN 3/4" CONDUIT FOR ONE OUTLET, 1" CONDUIT FOR TWO OUTLETS, AND 1¼" FOR THREE OUTLETS. TERMINATE ENDS OF CONDUIT WITH BUSHINGS.
H. MAKE FINAL CONNECTION FROM MOTOR STARTING SWITCHES TO MOTOR BY MEANS OF CONDUCTORS IN FLEXIBLE STEEL CONDUIT. USE "SEALTITE" IN WET OR DAMP LOCATIONS ONLY.
I. HANGERS, SUPPORTS AND SLEEVES SHALL BE AS ACCEPTABLE TO THE ARCHITECT. SUPPORT RISER CONDUIT AT EACH FLOOR, AND ALL OTHER CONDUIT ON EACH SIDE OF BENDS AND NOT GREATER THAN 10'-0" ON CENTERS. DO NOT SUPPORT COMMUNICATIONS, SIGNALING AND SIMILAR TYPE WIRING FROM CONDUITS.
J. COORDINATE CONDUIT RUNS WITH EXISTING AND NEW WORK. CONCEAL ALL CONDUIT AND OUTLET BOXES IN FINISHED AREAS UNLESS NOTED OTHERWISE.
K. RUN CONDUITS CLEAR OF SHAFTS, OPENINGS, CABLE SLOTS AND TELEPHONE RACKS. DO NOT SUPPORT CONDUITS OR RACEWAYS FROM TELEPHONE FRAMES, CABLE RACKS OR SUPERSTRUCTURES.
L. TERMINATE EACH CONDUIT WITH TWO LOCKNUTS, ONE INSIDE AND ONE OUTSIDE AND A BUSHING. USE ALUMINUM LOCKNUTS FOR ALUMINUM CONDUIT, AND MALLEABLE IRON OR GALVANIZED OR CADMIUM PLATED STEEL FOR STEEL CONDUITS. BUSHINGS SHALL BE INSULATED PLASTIC TYPE, RATED AT NOT LESS THAN 150C, T&B SERIES 510 OR AS ACCEPTABLE. WHERE CONDUITS LARGER THAN 1" SIZE ARE TERMINATED, LOCKNUTS SHALL BE THE BONDING TYPE T&B SERIES 106, OR AS ACCEPTABLE. IF ALUMINUM BONDING LOCKNUTS ARE NOT AVAILABLE, USE A BONDING WEDGE IN ADDITION UNDER THE INTERIOR ALUMINUM LOCKNUT.
M. WHERE CONDUITS LARGER THAN 1" SIZE TERMINATE IN ECCENTRIC OR CONCENTRIC KNOCKOUTS AND WHERE ALL OF THE KNOCKOUT RINGS HAVE NOT BEEN REMOVED, INSULATED GROUNDED BUSHINGS SHALL BE USED. INSULATED GROUNDED BUSHINGS SHALL BE CAST, THREADED TYPE EQUIPPED WITH A LUG FOR GROUNDING. UPPER EDGE SHALL HAVE A NYLON RING OR A BAKELITE RING WHICH IS MOLDED INTO THE BUSHING. SIZE GROUND LUG TO TAKE CONDUCTOR SIZED ACCORDING TO CODE WITH A MINIMUM SIZE OF NO. 12.
N. WHERE ELECTRICAL METALLIC TUBING IS INSTALLED, THE CONNECTORS AND COUPLINGS SHALL BE THE NYLON INSULATED THROAT TYPE AS MANUFACTURED BY THE THOMAS & BETTS CO., COMPRESSION GLAND. ON TUBING LARGER THAN 1" USE BONDING LOCKNUTS AS DESCRIBED ABOVE FOR RIGID CONDUIT.
O. WHERE FLEXIBLE METALLIC CONDUIT OR TYPE AC OR MC CABLE IS INSTALLED, CONNECTORS SHALL BE THE "TITE BITE" TYPE WITH NYLON INSULATED THROATS AS MANUFACTURED BY THE THOMAS & BETTS CO., SERIES 3110 OR AS ACCEPTABLE. FOR AC OR MC CABLE, INSTALL ANTI-SHORT BUSHINGS AND TERMINATE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. SUPPORT CABLES PER NEC.
P. WHERE TERMINATING LIQUID TIGHT FLEXIBLE STEEL CONDUIT (SEALTITE), FITTING ASSEMBLY SHALL BE SEALING TYPE CONSISTING OF STEEL GLAND, NYLON RING AND GROUND CONE ON THE OUTSIDE AND A NYLON INSULATED THROAT FITTING ON THE INSIDE. FITTINGS SHALL BE THOMAS & BETTS CO., SERIES 5331 OR AS ACCEPTABLE.
Q. WHERE PASSING THROUGH FIRE RATED FLOORS OR WALLS USE U.L. LISTED FIRE RATED FITTINGS WHICH WILL PREVENT THE SPREAD OF FIRE OR PRODUCTS OF COMBUSTION, NELSON "FLAMESEAL" OR AS ACCEPTABLE OR UL APPROVED FIRE STOP SYSTEM.
R. HIGH AND LOW TENSION FLOOR FITTINGS SHALL MATCH EXISTING FITTINGS. USE NEMA 5-20 CONFIGURATION WIRING DEVICE IN HIGH TENSION OUTLET.
S. LARGE FLOOR BOXES SHALL BE WALKER CATALOG #1WF4-DEINBBN-KC AND SMALL FLOOR BOXES SHALL BE WALKER CATALOG #WAF2-FDIN-KC. RECEPTACLE DEVICES SHALL BE PRE-WIRED IN THE FACTORY AND SHALL MATCH THE BUILDING STANDARD FLOOR BOX WIRING DEVICES.
T. UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40.

5. CONDUCTORS

A. ALL WIRES AND CABLE SHALL BE COPPER TYPE THHN-THWN FOR FEEDERS AND THHN OR THWN FOR BRANCH CIRCUITS IN CONDUIT. NO WIRE SMALLER THAN #12 AWG SHALL BE USED FOR LIGHT OR POWER SERVICES. ALL BRANCH CIRCUITS MORE THAN 75 FEET LONG SHALL BE #10 FOR THE ENTIRE LENGTH UP TO THE FIRST OUTLET. ALL CONDUCTORS SHALL BE COPPER UNLESS SHOWN OTHERWISE.
B. CONNECT OUTLETS AND LIGHTING TO PANEL AND CIRCUIT NUMBER AS SHOWN. MAXIMUM NUMBER OF HOME RUNS IN A COMMON CONDUIT SHALL BE 3. A COMMON NEUTRAL MAY BE USED FOR UP TO 3 PHASED CIRCUITS EXCEPT AS OTHERWISE INDICATED. A SEPARATE NEUTRAL SHALL BE RUN FOR EACH CIRCUIT SERVING DATA PROCESSING EQUIPMENT.

C. ALL WIRING AND CABLE SHALL BE COLOR CODED AS FOLLOWS:

PHASE	COLOR	
	208/120V	480/277V
A OR 1	BLACK	BROWN
B OR 2	RED	ORANGE
C OR 3	BLUE	YELLOW
NEUTRAL	WHITE OR GRAY	GRAY OR WHITE
EQUIPMENT GROUND	GREEN	GREEN

D. WHERE CABLES PASS THROUGH FIRE RATED, FIRE RESISTANT AND/OR FIRE STOPPED FLOORS, WALLS, AND ABOVE CEILING SMOKE BARRIERS USE CABLE SLEEVES THAT PREVENT THE SPREAD OF FIRE OR PRODUCTS OF COMBUSTION. SLEEVES SHALL BE NELSON ELECTRIC "MULTI-CABLE TRANSIT", NELSON "FLAMESEAL" OR AS ACCEPTABLE.

6. PANELBOARDS

A. PROVIDE COMPLETE PANELBOARDS.
B. PROVIDE TWO (2) KEYS FOR EACH CABINET LOCK.
C. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE CIRCUIT BREAKERS COMPATIBLE WITH EXISTING PANELBOARDS.
D. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY THE FOLLOWING MANUFACTURERS: SQUARE D, SIEMENS, GENERAL ELECTRIC, EATON, CUTLER HAMMER.
E. PROVIDE PANELBOARDS CONSISTING OF AN ASSEMBLY OF BRANCH CIRCUITS SWITCHING AND PROTECTIVE DEVICES (CIRCUIT BREAKERS, SWITCH AND FUSE UNITS, OR COMBINATION THEREOF) MOUNTED INSIDE A DEAD FRONT ENCLOSURE. PROVIDE THE NUMBER AND SIZE OF THESE BRANCH CIRCUIT DEVICES AS INDICATED BY THE CIRCUITING, ON THE DRAWINGS, AND IN THE SCHEDULES. LOCATIONS OF CIRCUIT BREAKERS SHALL BE AS INDICATED IN THE SCHEDULES.
F. POWER AND DISTRIBUTION PANELBOARDS - CIRCUIT BREAKER TYPE
a. SHALL BE OF THE VOLTAGE AND AMPERAGE SHOWN, 3 PHASE, 4 WIRE, 44,000 AMPS AIC MINIMUM UNLESS SHOWN OTHERWISE, DEAD FRONT, CIRCUIT BREAKER TYPE, WITH MAIN CIRCUIT BREAKER OR MAIN LUGS ONLY AS SHOWN, COPPER BUS, FULLY RATED NEUTRAL AND GROUND BARS, NEMA TYPE 1 ENCLOSURE AND SURFACE TRIM. BLANK CIRCUIT BREAKER SPACES SHALL BE FULLY BUSED AND READY TO ACCEPT FUTURE CIRCUIT BREAKERS.
G. INTERIORS
a. RIGID REMOVABLE ASSEMBLY OF COPPER BUS BARS AND INTERCHANGEABLE BOLTED BRANCH CIRCUIT DEVICES.
b. BUS BARS SIZED IN ACCORDANCE WITH UL STANDARDS TO LIMIT TEMPERATURE RISE ON ANY CURRENT CARRYING PART TO A MAXIMUM OF 65 DEGREES C ABOVE AN AMBIENT OF 40 DEGREES C MAXIMUM.
c. BUS BARS DRILLED TO PERMIT BRANCH CIRCUIT DEVICES OF ALL SIZES AND NUMBER OF POLES TO BE INTERCHANGEABLE AND INSTALLED IN ANY SPARE SPACE OF SUFFICIENT SIZE, WITHOUT DISTURBING ADJACENT UNITS; WITHOUT REMOVING MAIN BUS OR BRANCH CIRCUIT CONNECTORS AND WITHOUT MACHINING, DRILLING, OR TAPPING IN THE FIELD.
d. ARRANGE BUS IN SEQUENCE OR DISTRIBUTED PHASING SO THAT MULTI-POLE CIRCUIT BREAKER CAN REPLACE ANY GROUP OF SINGLE CIRCUIT BREAKERS OF THE SAME SIZE.
e. FULL-SIZE (100%-RATED) INSULATED NEUTRAL BARS SHALL BE INCLUDED FOR PANELBOARDS SHOWN WITH NEUTRAL. NEUTRAL BUSING SHALL HAVE A SUITABLE LUG FOR EACH OUTGOING FEEDER REQUIRING A NEUTRAL CONNECTION. 200%-RATED NEUTRALS SHALL BE SUPPLIED FOR PANELS DESIGNATED ON DRAWINGS WITH OVERSIZED NEUTRAL CONDUCTORS AND PANELS SERVED FROM K-RATED TRANSFORMERS.
f. PROVIDE MINIMUM 25% RATED NON-INSULATED GROUND BUS IN EACH PANELBOARD. CONNECT TO GROUND LUG. GROUND BUS SHALL HAVE SUFFICIENT CAPACITY FOR ALL BRANCH CIRCUITS. ON 208Y/120V PANELBOARDS PROVIDE AN ADDITIONAL ISOLATED GROUND BUS WHERE REQUIRED.
H. ENCLOSURE
a. CODE GAUGE STEEL BOX GALVANIZED.
b. PROVIDE A WELDED GROUND CONNECTOR TO INSIDE OF ENCLOSURE.
c. FLUSH MOUNTED IN FINISHED AREAS AND WHERE INDICATED. SURFACE MOUNT ELSEWHERE.
d. ALL CABINETS SHALL INCLUDE AMPLE CONCENTRIC KNOCKOUTS ON TOP, BOTTOM, SIDES, AND BACK.
I. FRONT
a. DOORS MUST BE PROVIDED ON ALL LIGHTING AND POWER PANELS.
b. HEAVY CODE GAUGE STEEL AS REQUIRED TO MAINTAIN PANEL FACE FLAT.
c. DOORS SHALL BE HINGED ON EITHER THE LEFT OR RIGHT AND EQUIPPED WITH A 110 DEGREE DOORSTOP OR A CONTINUOUS PIANO-TYPE HINGE WITH A MAXIMUM OPENING OF 160 DEGREES. DOORS SHALL BE DOOR IN DOOR TYPE HEAVY GAUGE STEEL TO MAINTAIN PANEL FACE FLAT.
d. THE CABINET SHALL BE ELECTROSTATIC POWDER-COATED OVER A RUST INHIBITOR OR A BAKED ENAMEL FINISH. THE COLOR SHALL BE ANSI 61 LIGHT GRAY.
e. PROVIDE CYLINDER LOCK. ALL PANELS KEYED ALIKE. PROVIDE FOUR (4) OF EACH PANEL KEY.
f. WELDED ANGLE REST AT THE BOTTOM OF THE DOOR TO FACILITATE COVER INSTALLATION.
g. DOORS OVER 48" IN HEIGHT SHALL HAVE AUXILIARY FASTENERS AT TOP AND BOTTOM OF DOOR IN ADDITION TO LOCK AND CATCH.
h. METAL BLANK FILLERS (PLASTIC FOR RETROFITS) SHALL BE PROVIDED FOR EACH UNUSED CIRCUIT POSITION.
i. A PREPRINTED STICKER IS TO BE AFFIXED TO THE INSIDE OF THE PANELBOARD WITH EMERGENCY 24-HOUR TELEPHONE NUMBERS FOR PARTS AND/OR REPAIR.
J. TERMINAL LUGS
a. BOLTED TYPE, LABELED FOR EITHER COPPER OR ALUMINUM CONDUCTORS.
b. LOCATE MAIN LUGS PROPERLY AT TOP OR BOTTOM, DEPENDING WHERE MAIN FEEDER ENTERS.
K. ELECTRICAL RATINGS
a. ALL CIRCUIT BREAKERS SHALL BE FULLY-RATED UNLESS THE DRAWINGS SPECIFICALLY INDICATE SERIES RATED. WHEN SERIES RATINGS ARE APPLIED WITH INTEGRAL OR REMOTE UPSTREAM DEVICES, A LABEL OR MANUAL SHALL BE PROVIDED. IT SHALL STATE THE CONDITIONS OF THE UL SERIES RATINGS INCLUDING:
a.a. SIZE AND TYPE OF UPSTREAM DEVICE
a.b. BRANCH DEVICES THAT CAN BE USED
a.c. UL SERIES SHORT-CIRCUIT RATING.
b. WHERE INDICATED, PROVIDE PANELBOARDS HAVING A "SERVICE ENTRANCE" TYPE UL LABEL WITH NEUTRALS FACTORY BONDED TO FRAME OR ENCLOSURE.
L. ALL PANELBOARDS SHALL INCLUDE LABELS WITH THE FOLLOWING INFORMATION:
a. "DANGER OF ELECTRICAL SHOCK" LABEL
b. UL LISTING
c. MANUFACTURER'S NAME
d. DATE OF MANUFACTURE
e. # OF PHASES
f. VOLTAGE RATING
g. CURRENT RATING
h. SHORT-CIRCUIT RATING
M. UNLESS OTHERWISE SPECIFIED SHALL BE EQUIPPED WITH PLASTIC DESIGNATION PLATE.
N. CIRCUIT BREAKER DEVICES
a. PLASTIC MOLDED CASE. COMPLETELY SEALED ENCLOSURE. TOGGLE TYPE OPERATING HANDLE. TRIP AMPERE RATING AND ON/OFF INDICATION CLEARLY
b. VISIBLE.
c. THERMAL-MAGNETIC TRIP-FREE, TRIP-INDICATING, QUICK-MAKE, QUICK-BREAK, WITH INVERSE TIME DELAY CHARACTERISTICS. SINGLE-HANDLE AND COMMON TRIPPING MULTIPOLE BREAKERS.
d. SILVER ALLOY CONTACTS WITH AUXILIARY ARC-QUENCHING DEVICES.
e. PANELBOARD MUST BE OF THE TYPE WHICH WILL ACCEPT THE FIELD INSTALLATION OF SHUNT TRIP DEVICES OF 60 AMPERES OR LESS ON THE BRANCH DEVICES.
f. CIRCUIT BREAKERS FOR POWER AND DISTRIBUTION PANELBOARDS SHALL HAVE A MINIMUM INTERRUPTING RATING OF 44,000 AMPS RMS AT 240 VOLTS AC.
g. CIRCUIT BREAKERS FOR LIGHTING AND RECEPTACLE PANELBOARDS SHALL HAVE A MINIMUM INTERRUPTING RATING OF 15,000 AMPS RMS AT 240 VOLTS AC.
h. FOR LIGHTING CIRCUITS PROVIDE DEVICES LABELED "SWD" FOR SWITCHING PURPOSES.
i. BOLTED TYPE TERMINALS U.L. LISTED FOR EITHER ALUMINUM OR COPPER 75 DEGREES C CABLES.
j. PROVIDE MAIN BREAKERS IN PANELS SERVED FROM TRANSFORMERS UNLESS SEPARATE TRANSFORMER SECONDARY PROTECTION IS PROVIDED.
k. LOCATE NEXT TO EACH BREAKER OR SPACE UNIT AN INDIVIDUAL NUMBER.
l. CIRCUIT BREAKERS SERVING COMPUTER EQUIPMENT AND THOSE SERVING KITCHEN EQUIPMENT BENEATH COOKING HOODS SHALL INCLUDE A SHUNT TRIP COIL.
m. SHUNT TRIP BREAKERS SHALL BE SUPPLIED WITH 120 VOLT COILS. PROVIDE 120 VOLT CIRCUIT FROM NEAREST 120 VOLT PANEL TO COIL. WHERE SHUNT TRIP BREAKERS ARE IN EMERGENCY PANELS PROVIDE EMERGENCY 120 VOLT SOURCE FOR SAME FROM NEAREST 120 VOLT EMERGENCY PANEL.
n. PROVIDE LOCKING DEVICE FOR DESIGNATED BREAKERS.
o. FOR HVAC EQUIPMENT PROVIDE UL LISTED "HACR" TYPE DEVICES.
O. GROUND FAULT INTERRUPTERS
a. GROUND FAULT INTERRUPTER BRANCH CIRCUIT BREAKERS SHALL BE AS INDICATED ON THE DRAWINGS. CIRCUIT BREAKERS SHALL BE CIRCUIT INTERRUPTING WHICH WILL OPERATE MANUALLY FOR NORMAL SWITCHING FUNCTIONS AND AUTOMATICALLY UNDER OVERLOAD, SHORT CIRCUIT, AND 0.005 AMP LINE-TO-GROUND FAULT CONDITIONS. THE OPERATING MECHANISM SHALL BE ENTIRELY TRIP-FREE SO THAT CONTACT CANNOT BE HELD CLOSED AGAINST AN ABNORMAL OVERCURRENT, SHORT CIRCUIT, OR GROUND FAULT CONDITION. THE DEVICE SHALL BE BOLT-ON TYPE WITH CASE CONSTRUCTION AND SHALL BE INTERCHANGEABLE WITH STANDARD 1P BREAKERS UTILIZED IN THE PANELBOARD.
P. INSTALLATION
a. MOUNT ALL PANELS AT A MAXIMUM HEIGHT OF 6 FEET 6 INCHES TO TOP UNLESS OTHERWISE NOTED.
b. WHERE FLUSHED MOUNTED, THE FIRE INTEGRITY OF THE WALL IN WHICH IT IS INSTALLED MUST BE MAINTAINED.
c. NEATLY ARRANGE BRANCH CIRCUIT WIRES AND TIE TOGETHER IN EACH GUTTER WITH THOMAS & BETTS NYLON "TY-RAPS", OR APPROVED EQUAL AT MINIMUM 4 INCH INTERVALS.
d. PLUG ALL KNOCKOUTS REMOVED AND NOT UTILIZED.
e. PROVIDE NAMEPLATE AND FILL OUT PANEL DIRECTORY. FOR REMODEL WORK OR CHANGES, TRACE CIRCUITS TO DETERMINE LOADS AND PROVIDE NEW UPDATED DIRECTORY.
f. PROVIDE GROUNDING AND BONDING JUMPERS AS INDICATED ON THE DRAWINGS.
Q. BALANCING
a. ALL BRANCH CIRCUITS SHALL BE BALANCED AT THEIR RESPECTIVE PANEL TO WITHIN 10 PERCENT FULL LOAD APPLIED.

7. LIGHTING AND POWER MATERIALS

A. FURNISH AND INSTALL ALL BOXES, FITTINGS, DEVICES, RACEWAYS, CONDUCTORS, CONNECTIONS, MOUNTING ACCESSORIES, ADAPTERS AND ALL OTHER MATERIALS, EQUIPMENT AND LABOR NECESSARY FOR A COMPLETE ELECTRICAL INSTALLATION.
B. INSTALL ELECTRIC OUTLETS VERTICALLY UNLESS NOTED TO THE CONTRARY AT HEIGHTS AS NOTED. THOSE LOCATED ON INTERIOR COLUMNS SHALL BE CENTERED LATERALLY.
C. PROVIDE FLOOR JUNCTION BOXES WITH FLOORING OR CARPET HOLDERS TO SATISFY FINISHED FLOOR CONDITIONS.
D. FINISH OF FLOOR SERVICE FITTINGS, CARPET HOLDERS AND EXPOSED ELECTRICAL HARDWARE SHALL MATCH THE BUILDING STANDARD PRESENTLY IN USE.
E. MOUNTING HEIGHT OF CONVENIENCE RECEPTACLES SHALL BE 18" A.F.F., UNLESS OTHERWISE NOTED.
F. WHERE COUNTER AREAS CONFLICT WITH RECEPTACLES, MOUNT RECEPTACLES ABOVE BACK SPLASH.
G. USE CAST BOXES FOR EXPOSED WORK, AND WHERE INSTALLED FLUSH IN FLOORS. ALL OTHER OUTLET BOXES SHALL BE SHEET STEEL AND GALVANIZED. FLOOR BOXES SHALL BE ADJUSTABLE TYPE.
H. ALL WIRING DEVICES SHALL BE SPECIFICATION GRADE. DECORATOR TYPE SHALL BE PROVIDED IN FINISHED AREAS. DECORATOR TYPE SHALL BE PROVIDED WITH MATCHING PLATES. HEAVY DUTY DEVICES SHALL CONFORM TO NEMA STANDARD WD-1.
I. ALL LOCAL SWITCHES EXCEPT AS OTHERWISE INDICATED SHALL BE TOGGLE TYPE 20 AMPERE, 120-277V CAPACITY WITH FULLY ENCLOSED COMPOSITION CASES. SWITCHES SHALL BE LEVITON 5621-2 FOR DECORATOR TYPE AND HUBBELL HBL 1221 FOR COMMERCIAL TYPE, OR AS DESIGNATED BY ARCHITECT.
J. ALL RECEPTACLES SHALL BE 20 AMP, 2-POLE, 3-WIRE, NEMA 5-20R, UNLESS SHOWN OTHERWISE ON DRAWINGS. DECORATOR TYPE SHALL BE HUBBELL STYLE LINE HBL 2162; COMMERCIAL TYPE SHALL BE HUBBELL HBL 5462 OR AS APPROVED ACCEPTABLE.
K. RECEPTACLES IN UNDERFLOOR BOXES SHALL BE INSTALLED AND PRE-WIRED AT THE FACTORY IN ACCORDANCE WITH THE EXISTING BUILDING STANDARDS.
L. NEW WIRING DEVICE PLATES SHALL COORDINATE WITH ARCHITECT AND OWNER TO MATCH EXISTING BUILDING STANDARDS. USE ONLY ALUMINUM TAP, SUPPORT AND PULL BOXES WITH ALUMINUM CONDUIT. ALL STEEL BOXES SHALL BE PRIMED AND FINISHED IN GRAY ENAMEL.

8. DISCONNECTS

A. DISCONNECTS SHALL CONFORM TO NEMA AND U.L. STANDARDS, AND BE INSTALLED WHERE SHOWN ON DRAWINGS OR REQUIRED BY CODE. DISCONNECTS SHALL BE HORSEPOWER RATED UNITS TO MAXIMUM SIZES LISTED BY U.L. SWITCHES USED FOR SERVICE ENTRANCE SHALL BE APPROVED FOR SERVICE AND PROVIDED WITH NEUTRAL CONNECTION.
B. PROVIDE QUICK-MAKE, QUICK-BREAK MECHANISM, SINGLE THROW WITH EXTERNAL OPERATING HANDLE MECHANICALLY INTERLOCKED WITH ENCLOSURE COVER TO PROVIDE NORMAL ACCESS TO INSIDE OF ENCLOSURE WHEN DISCONNECT IS IN OFF POSITION ONLY AND WITH MEANS TO BYPASS THE MECHANICALLY INTERLOCKED DOOR AND HANDLE.
C. PROVIDE MEANS TO LOCK THE OPERATING HANDLE IN THE OPEN AND CLOSED POSITION. DESIGNATE ON THE ENCLOSURE THE OPEN AND CLOSED POSITION OF THE OPERATING HANDLE.
D. SWITCHES SHALL BE HEAVY DUTY TYPE.
E. SWITCHES SHALL BE OF THE DOUBLE STATIONARY CONTACT TYPE WITH ARC-QUENCHING DEVICE ON EACH POLE FOR DISCONNECTS RATED ABOVE 250 VOLTS.
F. SWITCHES SHALL BE FUSIBLE OR UNFUSIBLE AS SHOWN ON THE DRAWINGS AND/OR AS REQUIRED.
G. FUSED SWITCHES SHALL BE COMPLETE WITH CLASS "RK-5" OR "L" FUSES AS REQUIRED.
H. ALL SWITCHES IN INDOOR, DRY LOCATIONS SHALL BE MOUNTED IN NEMA TYPE I ENCLOSURES.

9. LIGHTING FIXTURES

A. FURNISH AND INSTALL A LIGHTING FIXTURE WITH LAMPS OF THE TYPE INDICATED AT EACH LOCATION SHOWN. FOR EXACT LOCATIONS AND TYPES, REFER TO DRAWINGS WITH SCHEDULE
B. FIXTURE MOUNTING ARRANGEMENTS SHALL CONFORM TO ALL APPLICABLE CODES, AND SHALL BE AS ACCEPTABLE TO THE ARCHITECT.
C. LIGHTING FIXTURES AND LAMPHOLDERS SHALL BEAR U.L. LABEL;
D. INCANDESCENT LAMPHOLDERS ALSO SHALL BE CSA LISTED.
E. FLUORESCENT BALLASTS FOR 2', 3', 4' AND 5' T-8 LAMPS AND 3' AND 4' T-12 RAPID START SHALL BE ELECTRONIC RAPID START BALLASTS BY MOTOROLA SERIES RN T8/T12 1LL OR AS APPROVED.

10. GROUNDING & BONDING

A. CONNECT SYSTEM COMPONENTS MECHANICALLY AND ELECTRICALLY TO PROVIDE AN INDEPENDENT RETURN PATH TO GROUND ELECTRODE.
B. USE EXOTHERMIC WELDING PROCESS FOR INACCESSIBLE CONNECTIONS.
C. EXTEND EXISTING SYSTEM GROUND TO INCLUDE ALL THE ELECTRICAL WORK IN THE SCOPE OF THIS ALTERATION.
D. GROUND EACH GENERAL PURPOSE TRANSFORMER BY RUNNING A CONDUCTOR FROM THE TRANSFORMER NEUTRAL TO A LUG WELDED OR BRAZED TO THE INTERIOR OF THE ENCLOSURE.
E. RUN CABLE FROM THIS LUG TO NEAREST BUILDING MAJOR STRUCTURAL MEMBER; OR, IF NOT READILY AVAILABLE, TO THE NEAREST 1-1/2" OR LARGER COLD WATER PIPE AS DESCRIBED ABOVE, EXCEPT USE ONLY A SINGLE PIPE CLAMP.
F. IN RAISED FLOOR AREAS, ALSO GROUND TO RAISED FLOOR. WHERE FLEXIBLE METALLIC CONDUIT IS USED, INSTALL AN INTERNAL BONDING CONDUCTOR.WHERE AN ISOLATED GROUND SYSTEM IS USED, RUN AN ADDITIONAL CONDUCTOR FOR THE ISOLATED AND EQUIPMENT GROUNDS.
G. GROUND MOTORS BY CONNECTING A CONDUCTOR FROM A GROUNDING BUSHING IN THE STARTER TO THE MOTOR FRAME. INSTALL CONDUCTOR IN THE CONDUIT WITH THE CIRCUIT CONDUCTORS AND TERMINATED IN THE MOTOR CONNECTION BOX PROVIDING THE TERMINAL IS MECHANICALLY CONNECTED TO THE FRAME.
H. RUN ADDITIONAL GROUND CONDUCTOR IN PRIMARY AND SECONDARY CONDUITS TO TRANSFORMERS AND TO ALL EQUIPMENT CONNECTED BY FLEXIBLE CONDUIT TO IMPROVE GROUNDING OF FLEXIBLE CONDUIT.

11. TELECOMMUNICATION AND DATA SYSTEMS

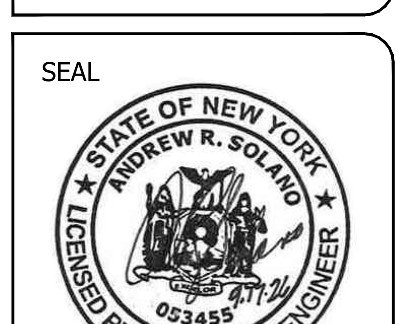
A. EXTEND 1" CONDUIT UP FROM WALL MOUNTED OUTLET BOX INTO ACCESSIBLE HUNG CEILING AND TERMINATE IN BUSHING UNLESS OTHERWISE NOTED. PROVIDE DRAG LINE FROM OUTLET BOX UP INTO CEILING OR ACCESSIBLE LOCATION BY FUTURE CABLE INSTALLER.
B. OUTLETS SHALL BE A SINGLE GANG BOX EXCEPT AS OTHERWISE NOTED.
C. BUSH ENDS OF ALL CONDUITS.
D. DATA CABLE AND TELECOM PLATES WILL BE FURNISHED, INSTALLED AND CONNECTED BY OTHERS.

"It is a violation of the State Education Law for any person, unless he or she is acting under the direction of a licensed professional engineer to alter an item in anyway, on this drawing and/or in this specification in anyway. If any such item is altered, the altering engineer shall affix to the item his or her seal and the notation "altered by" followed by his or her signature and the date of such alteration, and a specific description of the alteration."
This plan is approved only for the work indicated on the application specification sheet. all other matters are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

DATE | ISSUED

06-22-2026 ISSUED FOR 100%DD/50%CD REVIEW
07-20-2026 ISSUED FOR 90%CD REVIEW
09-17-2026
ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL



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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

ELECTRICAL SPECIFICATIONS

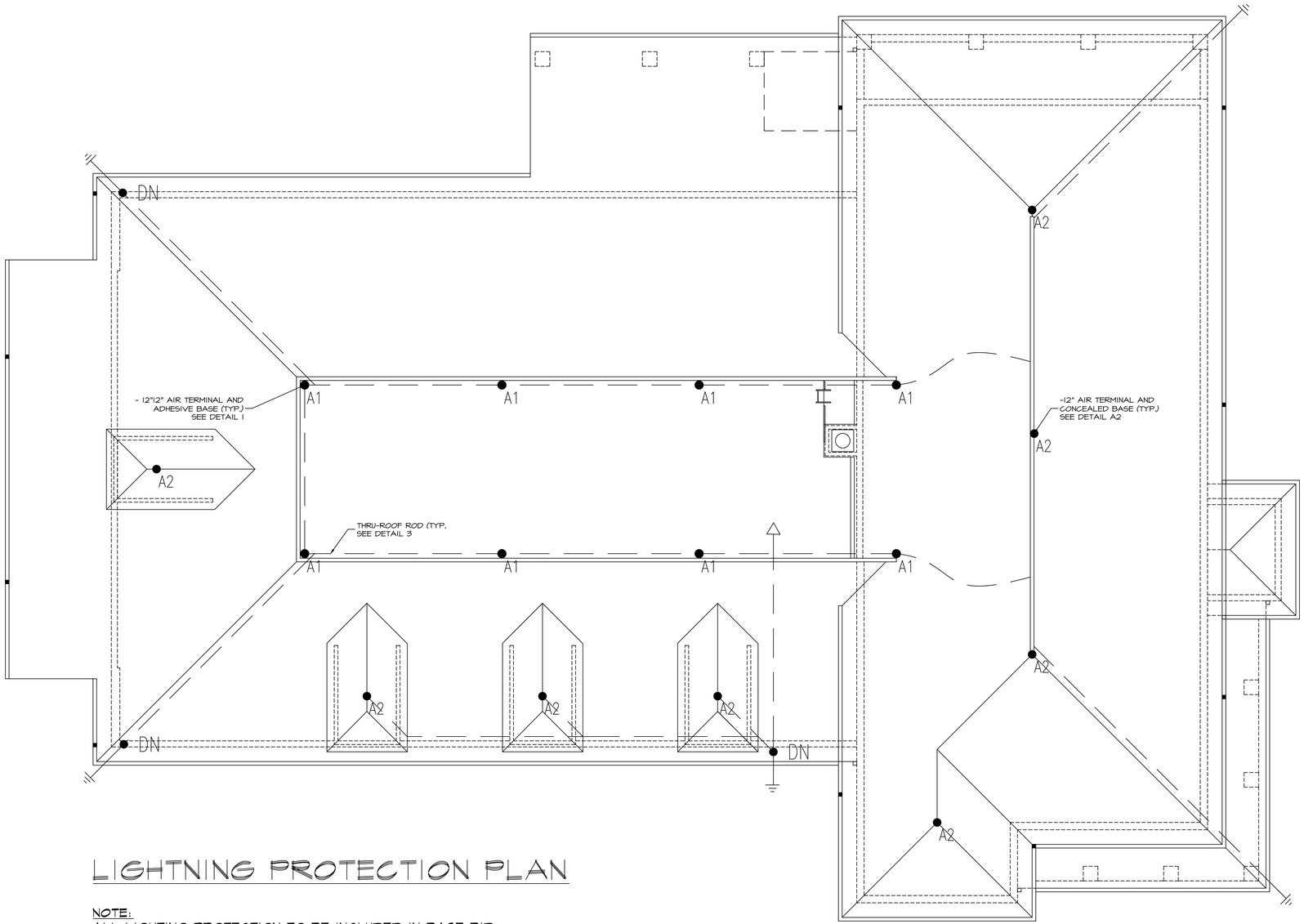
PROJECT No. 2501
EMTEC: 7611

CHECKED BY: JE/ARS

DRAWING:

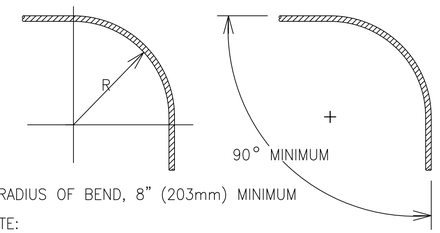
E-7.1

EMTEC PROJECT NO. 7611 DRAWN BY: JE CHECKED BY: ARS



LIGHTNING PROTECTION PLAN

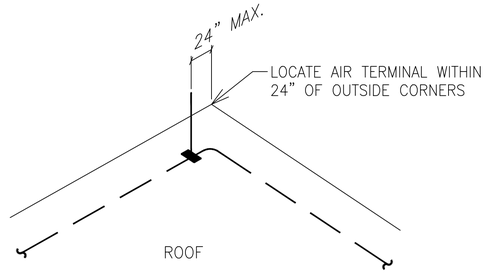
NOTE:
ALL LIGHTING PROTECTION TO BE INCLUDED IN BASE BID



R=RADIUS OF BEND, 8" (203mm) MINIMUM

NOTE:
–LP CONDUCTOR SHALL REMAIN IN A HORIZONTAL OR DOWN–WARD PATH AVOIDING "U" & "V" POCKETS (DOWN & UP).
–NO BEND OF A CONDUCTOR SHALL FORM AN INCLUDED ANGLE OF LESS THAN 90° OR HAVE A RADIUS OF BEND LESS THAN 8".

8" MIN. RADIUS BEND IN CABLE

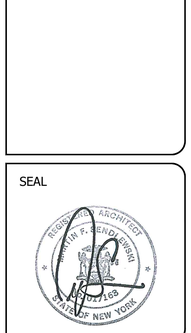


AIR TERMINALS SHALL BE LOCATED WITHIN 24" OF OUTSIDE CORNERS

NTS

DATE	ISSUED
03-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

SEAL



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PROPOSED NEW FACILITY
ELLENVILLE FIRE DISTRICT
208 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

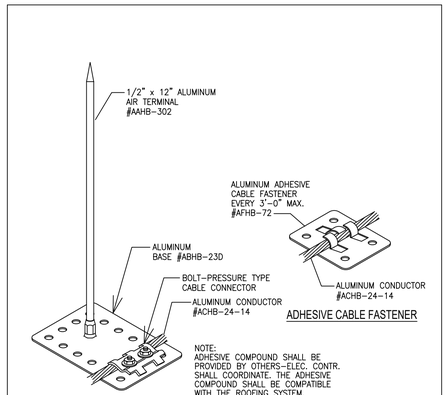
LIGHTNING PROTECTION PLAN AND DETAILS

PROJECT No. 2501

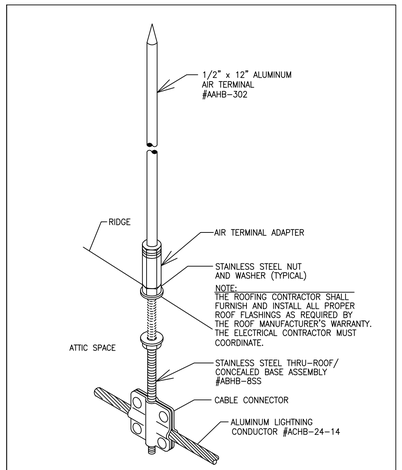
CHECKED BY:

DRAWING:

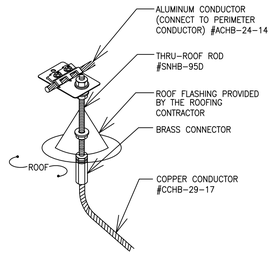
LP-1



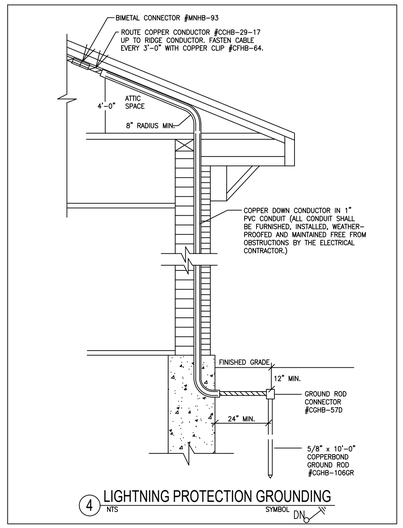
A1 AIR TERMINAL BASE
NTS SYMBOL A1



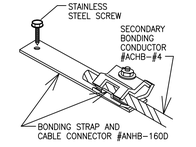
A2 CONCEALED AIR TERMINAL BASE
NTS SYMBOL C



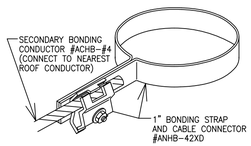
3 THRU-ROOF ROD
NTS SYMBOL △



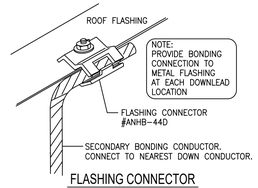
4 LIGHTNING PROTECTION GROUNDING
NTS SYMBOL DN



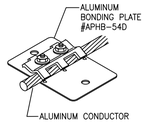
BONDING LUG (GUTTERS)
NTS



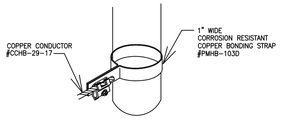
BONDING STRAP AT (VENT PIPES)
NTS



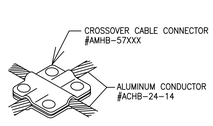
FLASHING CONNECTOR
NTS



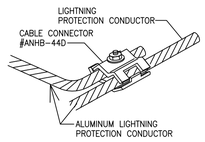
BONDING PLATE
NTS



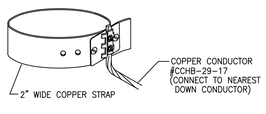
PIPE CLAMP (RAILINGS, ANTENNAS, ETC.)
NTS



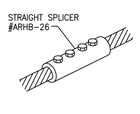
CROSSOVER CABLE CONNECTOR
NTS



CABLE CONNECTOR
NTS



WATERLINE BONDING STRAP
NTS



STRAIGHT SPLICER
NTS

LIGHTNING PROTECTION NOTES

1. ALL MATERIALS SHOWN ARE MANUFACTURED BY HEARY BROS. LIGHTNING PROTECTION CO., INC.
2. THE LIGHTNING PROTECTION SYSTEM AS SHOWN ON DRAWING HAS BEEN DESIGNED IN ACCORDANCE WITH UL96 & NFPA-780 LIGHTNING PROTECTION SYSTEM STANDARDS.
3. CONDUCTORS SHALL MAINTAIN A HORIZONTAL OR DOWNWARD COURSE, FREE FROM "U" OR "V" (DOWN AND UP) POCKETS.
4. NO BEND OF CONDUCTOR SHALL FORM AN ANGLE OF LESS THAN 90° NOR SHALL HAVE A RADIUS OF BEND LESS THAN 8".
5. AIR TERMINALS SHALL BE SPACED EVERY 20'-0" MAXIMUM AROUND THE ROOF PERIMETER AND/OR ALONG ROOF RIDGES. AIR TERMINALS SHALL BE LOCATED WITHIN 2'-0" OF OUTSIDE CORNERS.
6. AIR TERMINALS SHALL BE SPACED EVERY 50'-0" MAXIMUM IN CENTER ROOF AREAS.
7. ACTUAL JOBSITE CONDITIONS MAY REQUIRE SLIGHT ALTERATIONS IN AIR TERMINAL, DOWN CONDUCTOR AND GROUND ROD LOCATIONS.
8. BARE COPPER MATERIALS SHALL NOT BE INSTALLED ON ALUMINUM OR GALVALUM SURFACES, AND ALUMINUM MATERIALS SHALL NOT BE INSTALLED ON COPPER SURFACES.
9. ALL LIGHTNING PROTECTION CONDUCTORS SHALL BE FASTENED EVERY 3'-0" MAX.
10. METALLIC BODIES OF INDUCTANCE SITUATED WITHIN 6'-0" OF A LIGHTNING CONDUCTOR OR ANOTHER BONDED METAL BODY SHALL BE INTERCONNECTED TO THE LIGHTNING CONDUCTOR SYSTEM, UNLESS INHERENTLY GROUNDED.
11. BOND TO ALL METAL BODIES OF CONDUCTANCE WITHIN 6'-0" OF THE MAIN LIGHTNING CONDUCTOR SUCH AS EXHAUST FANS, ROOF VENTS, METAL COOLING TOWERS, H.V.A.C. UNITS, LADDERS, RAILINGS, ANTENNAS, SKYLIGHTS, METAL STACKS AND ANY OTHERS LARGE METAL BODY WHOSE HEIGHT EXCEEDS THAT OF THE AIR TERMINAL IN USE, UNLESS PROTECTED BY HIGHER ROOF ELEVATIONS.
12. CONNECTIONS TO GROUND RODS SHALL BE MADE AT A POINT NOT LESS THAN 1'-0" BELOW FINISHED GRADE AND 2'-0" AWAY FROM FOUNDATION WALL.
13. BOND TO WATERLINES (DOMESTIC & FIRE).
14. A LIGHTNING ARRESTOR, PROTECTOR OR ANTENNA DISCHARGE UNIT SHALL BE INSTALLED ON EACH ELECTRIC AND TELEPHONE SERVICE AND RADIO AND TELEVISION ANTENNA LEAD-IN BY THE ELECTRICAL CONTRACTOR, IN ACCORDANCE WITH NFPA-70.
15. TRANSIENT VOLTAGE SURGE SUPPRESSION (TVSS) OF SERVICES SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. (I.E. COMPUTERS, COPIERS, TELEPHONE, ETC.).
16. UPON COMPLETION OF INSTALLATION UL MASTER LABEL SHALL BE ISSUED.

LIGHTNING PROTECTION MATERIALS LIST

⌒	ALUMINUM LIGHTNING PROTECTION MAIN CONDUCTOR	ACHB-24-14
	ALUMINUM LIGHTNING PROTECTION SECONDARY BONDING CABLE*	ACHB-#4
	COPPER LIGHTNING PROTECTION DOWN CONDUCTOR	CCHB-29-17
	BIMETAL CONNECTOR	MNHB-93
	CABLE FASTENERS (FASTEN CABLE EVERY 3FT. MAX.)	AFHB-72, 66, 64, CFHB-64
●A	1/2" x 12" ALUMINUM AIR TERMINAL AND ADHESIVE BASE	AAHB-302, ABHB-23D
●C	1/2" x 12" ALUMINUM AIR TERMINAL AND CONCEALED BASE	AAHB-302, ABHB-8SS
△	THRU-ROOF ROD	SNHB-95D
	SECONDARY BONDING: *FLASHING CONNECTOR *METAL ROOF DRAIN / GUTTER CONNECTOR *METAL VENT PIPE CONNECTOR	 ANHB-44D ANHB-160D ANHB-42XD
	ALUMINUM BONDING PLATE (AT ALUM. RTU & FANS)	APHB-54D
	CORROSION RESISTANT COPPER BONDING PLATE (TO BASE OF STEEL AT EACH DOWNLEAD)	PPHB-54D
	PIPE CLAMP (ANTENNAS, RAILINGS, ETC.)	PMHB-103D
	CABLE CONNECTOR	ANHB-44D, CNHB-44D
	STRAIGHT SPLICER	ARHB-26
	CROSSOVER CABLE CONNECTOR	CMHB-57XXX
	WATERLINE CONNECTOR (FIRE WATER & DOMESTIC WATER)	CMHB-97D
—||—	5/8" x 10'-0" COPPERWELD GROUND ROD AND CONNECTOR	CGHB-106GR, CGHB-57D

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ELLENVILLE FIRE DISTRICT
203 S. MAIN ST. NYS ROUTE 209
ELLENVILLE, NY 12428

LIGHTNING PROTECTION DETAILS

PROJECT No. 2501

CHECKED BY:

DRAWING:

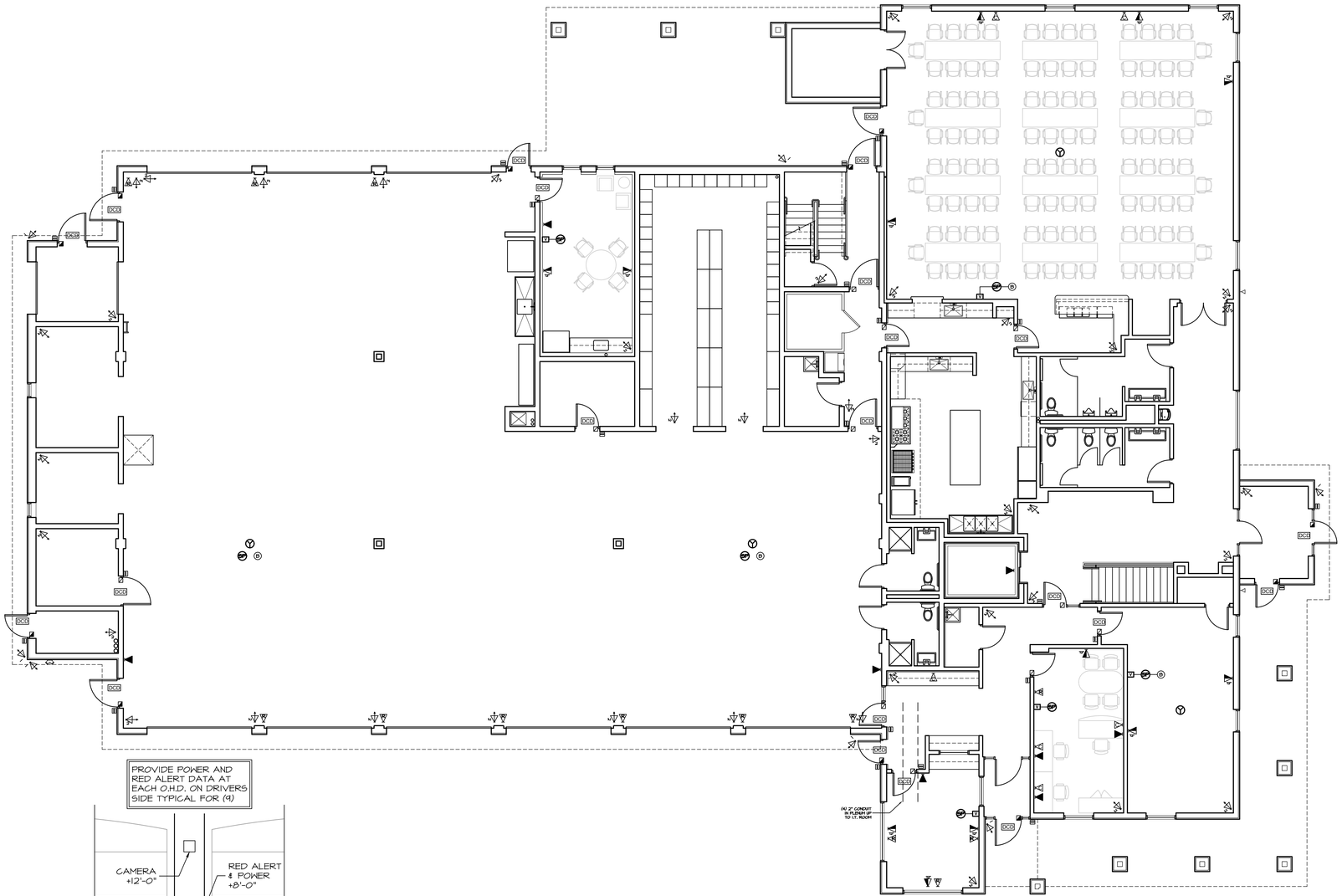
LP-2

IT GENERAL NOTES

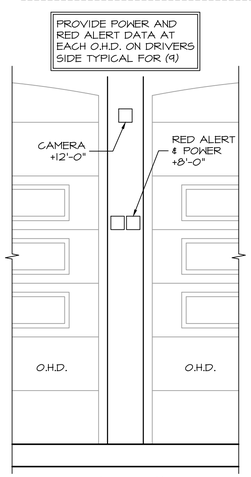
1. THE SCOPE OF WORK FOR ALL IT SYSTEMS SHALL BE INCLUDED IN THE ELECTRICIANS CONTRACT WITH THE GENERAL CONTRACTOR.
2. INCLUDE ALL CONDUIT FOR ALL SYSTEMS TO LOCATIONS DESIGNATED ON THE PLANS. ALL RUNS SHALL BE IN CONDUIT WITHOUT EXCEPTION AND SHALL BE CONCEALED IN WALLS INCLUDING FINISHED CMU WALLS. COORDINATE INSTALLATIONS WITH MASONRY SUB-CONTRACTOR TO FACILITATE INSTALLATION.
3. INCLUDE ALL CONDUIT BELOW GRADE FOR ALL SYSTEMS BETWEEN THE NEW BUILDING AND THE EXISTING GARAGE AND FROM THE NEW BUILDING TO ALL REQUIRED LOCATIONS FOR SITE INSTALLATIONS FOR CAMERAS ETC.
4. INCLUDE ALL WIRE TRAYS IN IT ROOM.
5. INCLUDE DOUBLE IT RACKS, FULLY GROUNDED, WITH PUNCH DOWN BLOCKS FOR ALL SYSTEMS.
6. INCLUDE ALL WIRE AS INDICATED ON RISER DIAGRAMS. TERMINATE ALL RUNS IN IT ROOM CONNECTED TO PUNCH BLOCKS AND TAGGED FOR IDENTIFICATION OF RUN. TERMINATE ALL ENDS AT ROOM LOCATIONS IN BOXES WITH CORRESPONDING ETHERNET OR APPROPRIATE PORT FOR DATA TRANSMISSION CONNECTIONS. COORDINATE WITH OWNER VENDOR FOR PROPER PORTS.
7. FOR 16/2 AND SIMILAR WIRE, SPOOL 20' OF CABLE IN IT ROOM FOR FUTURE VENDOR CONNECTIONS.
8. UPON COMPLETION ALL RUNS ARE TO BE TESTED AND CERTIFIED.

SYMBOL LIST

- CABLE TV OUTLET(MTD. @ 2'-0"AFF)UNLESS NOTED WIRE SUPPLIED & INSTALLED BY ELECTRICAL CNTR. TO MEZZANINE COMPUTER ROOM CABLE TV. TERMIN BOX W/2-CAT 6 WIRE BLUE VERIFY W/ CABLE CO.
- COMPUTER OUTLET(DUPLEX)(MTD.@2'-0"AFF) ELECTRICAL CONTRACTOR SHALL SUPPLY & INSTALL CMPTR.. WIRE CAT 6(BLUE) TO MEZZANINE FLR COMPTR RM FROM EACH OUTLET TERMINATE AT PUNCH BLOCK
- TELEPHONE OUTLET(MTD.@2'-0"AFF.) W = WALL MTD. (MTD.@6'4"AFF) ELECTRICAL CONTRACTOR WILL SUPPLY AND INSTALL 2CAT 6 WIRE GREY FROM EACH TELEPHONE OUTLET TO MEZZANINE FLOOR COMPUTER RM TERMINATE AT PUNCH BLOCK
- INTERIOR DOOR ELECTRIC STRIKE
- EXTERIOR DOOR ELECTRIC STRIKE
- CARD READER(MTD. @ 48"AFF)WHERE APPLICABLE
- DB — DOOR BELL & SPEAKER(PART OF ACCESS SYSTEM) ELECTRICAL CONTR. SHALL SUPPLY AND INSTALL WIRE,CDT.,BOXES ETC PLUS 18/4 TO TELEPHONE SYSTEM.
- SECURITY CAMERA
  1 = DENOTES TYPE OF CAMERA(OUTDOOR)
  2 = DENOTES TYPE OF CAMERA(INDOOR)
- SECURITY CAMERA (360 DEGREE)
- DCD — DOOR CONTROL DEVICE
- AI — DENOTES DOOR NUMBER AS SHOWN ON RISER DIAGRAM AND PLAN
- WIRELESS ACCESS POINT
- RED ALERT CAT 6 LOCATION
- SP — RED ALERT SPEAKER SYSTEM 16/2
- B — BLUE LIGHT INDICATOR 16/2
- V — MUSIC/PUBLIC ADDRESS SYSTEM VOLUME CONTROLLER
- VR — VOLUME CONTROL TO SPEAKER RADIO SYSTEM VOLUME CONTROLLER



FIRST FLOOR SPECIAL SYSTEMS PLAN
SCALE : 1/8" = 1'-0"



O.H.D. PIER
SCALE : 3/8" = 1'-0"

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ELLENVILLE, NY 12428

FIRST FLOOR SPECIAL SYSTEMS PLAN

PROJECT No. 2501

CHECKED BY:

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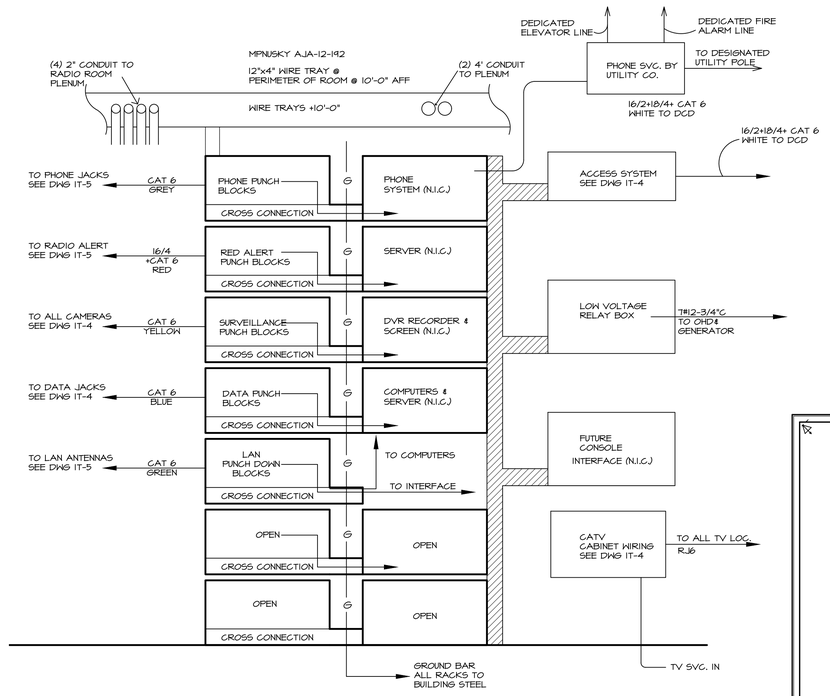
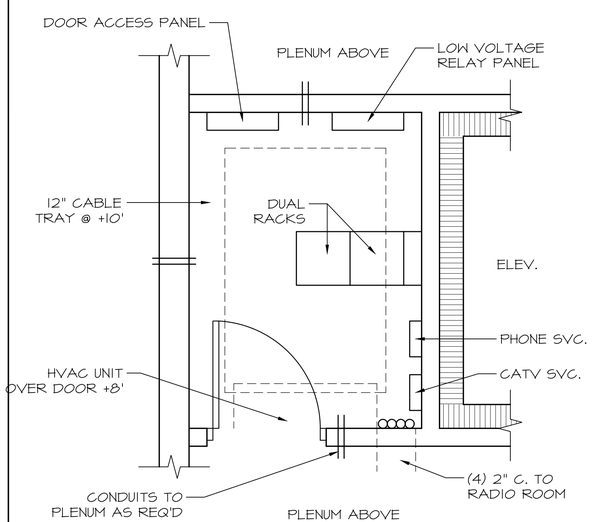
IT-1



ELECTRONICS MASTER RISER DIAGRAM

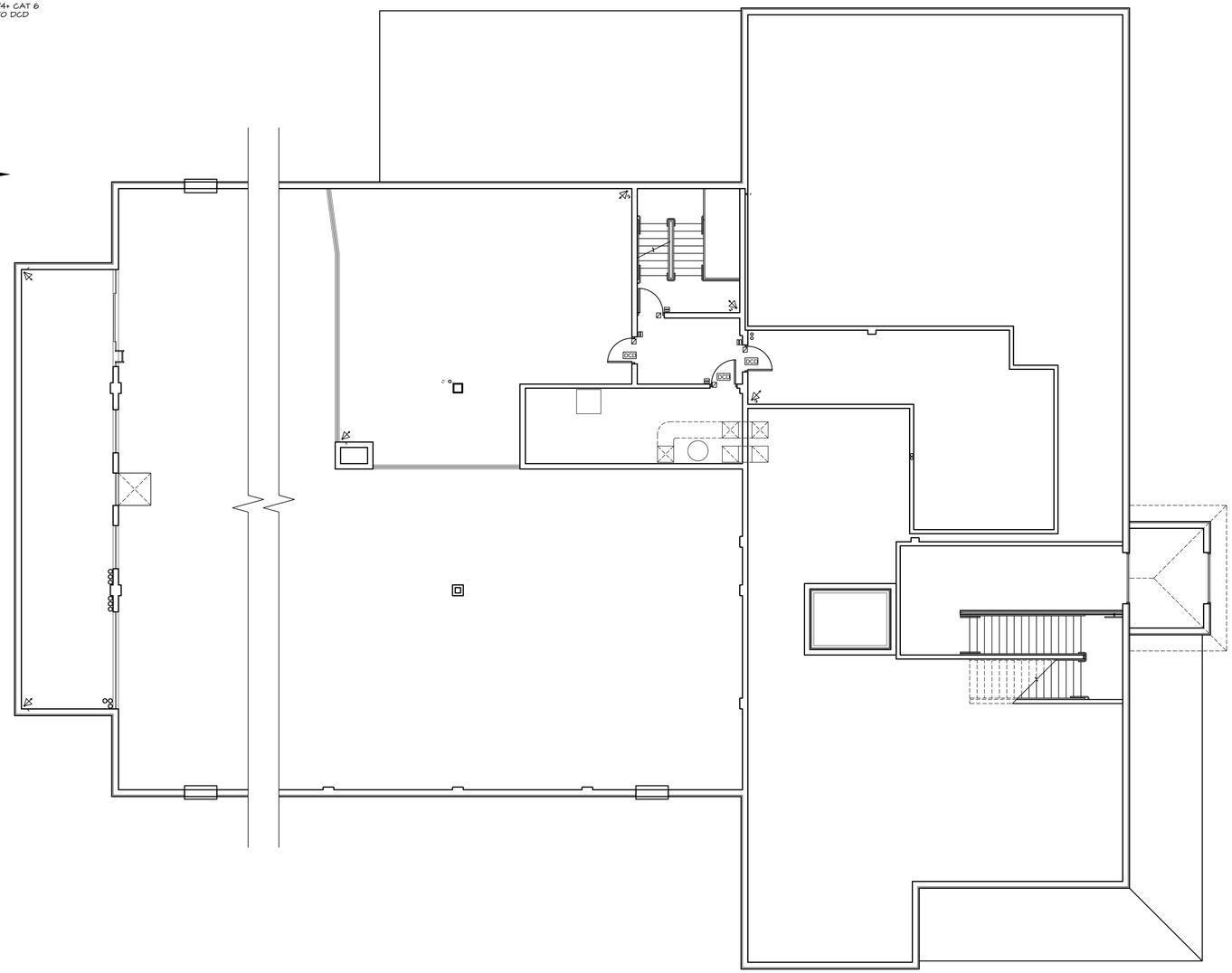
SCALE : N.T.S.

NOTE: ELECTRICIAN TO PROVIDE TWO RACKS INTERCONNECTED AS SHOWN



IT ROOM PLAN

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



MEZZANINE SPECIAL SYSTEMS PLAN

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

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03-17-2026	ISSUED FOR GENERAL CONSTRUCTION BID AS SINGLE PRIME CONTRACT INCLUDING ALL TRADES

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MEZZANINE SPECIAL SYSTEMS PLAN

PROJECT No. 2501

CHECKED BY:

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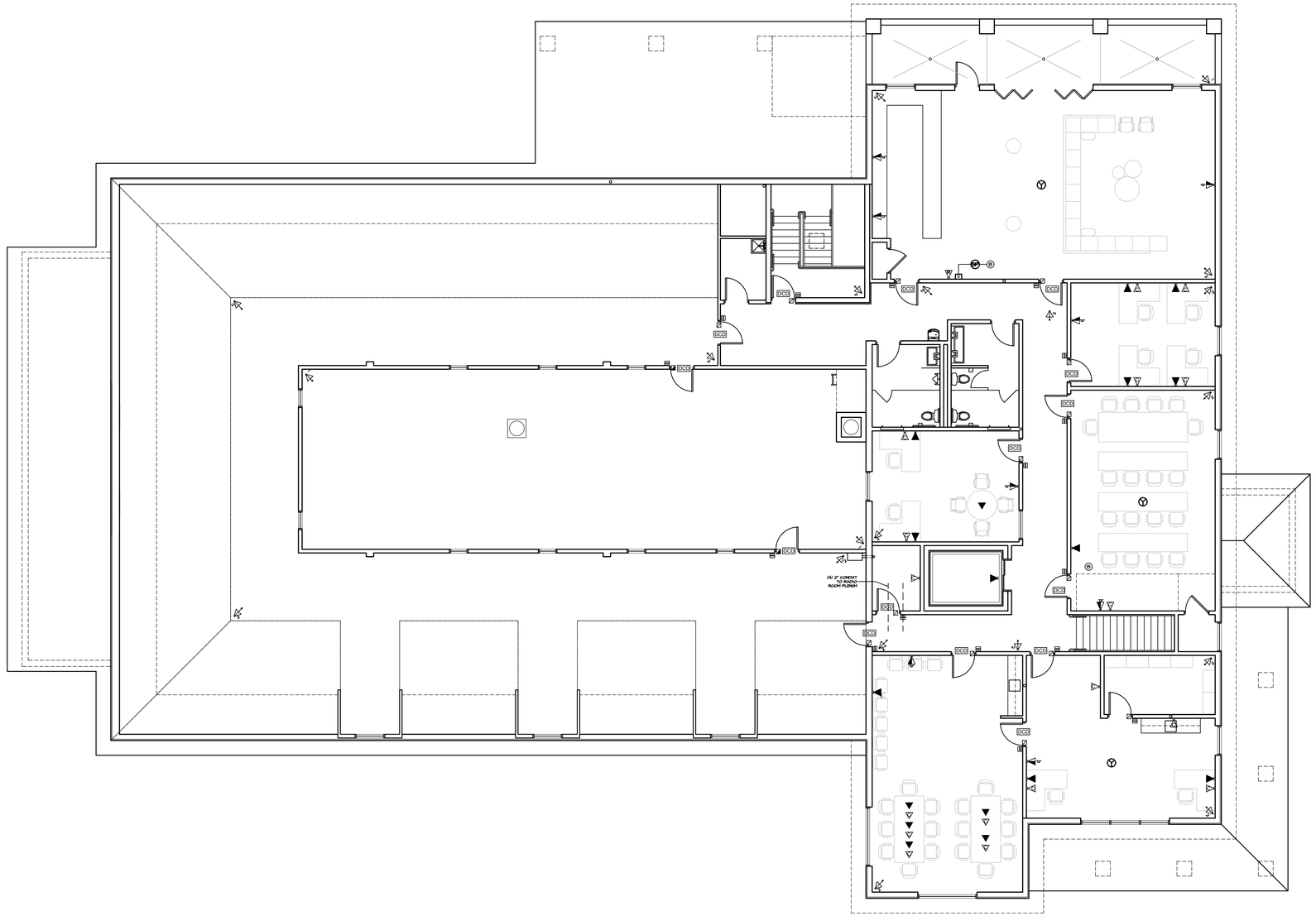

SECOND FLOOR SPECIAL SYSTEMS PLAN

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

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SECOND FLOOR SPECIAL SYSTEMS PLAN

PROJECT No. 2501

CHECKED BY:

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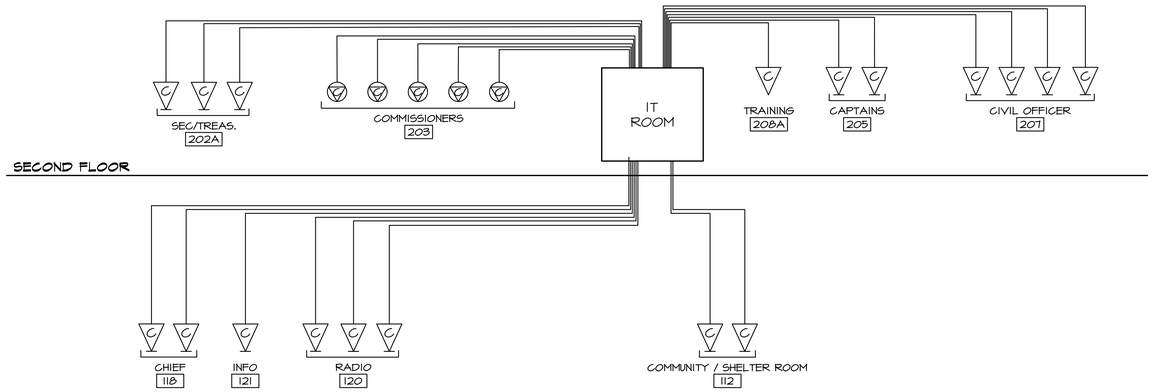
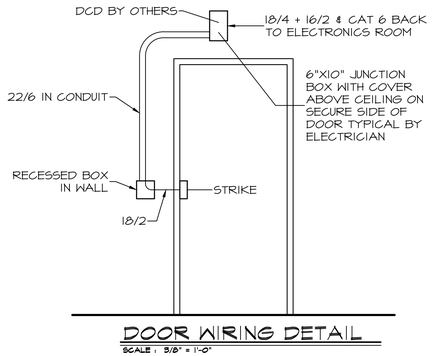


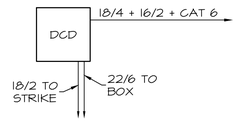
DATA WIRING DIAGRAM

ALL WIRE TO BE CAT 6 (BLUE)



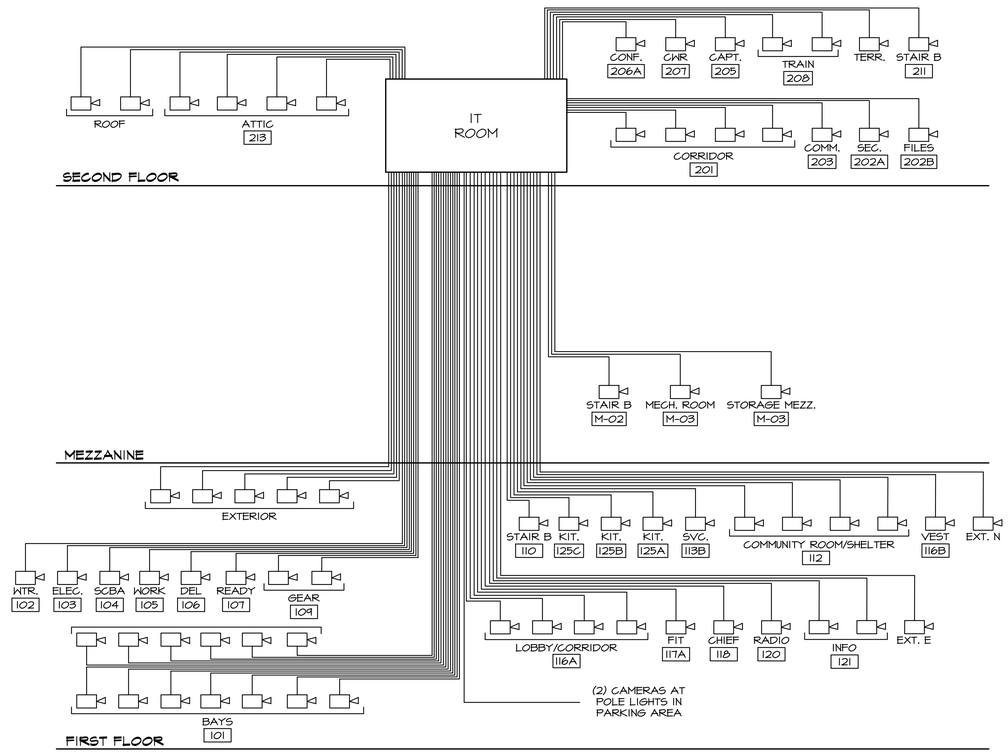
DOOR WIRING DETAIL

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



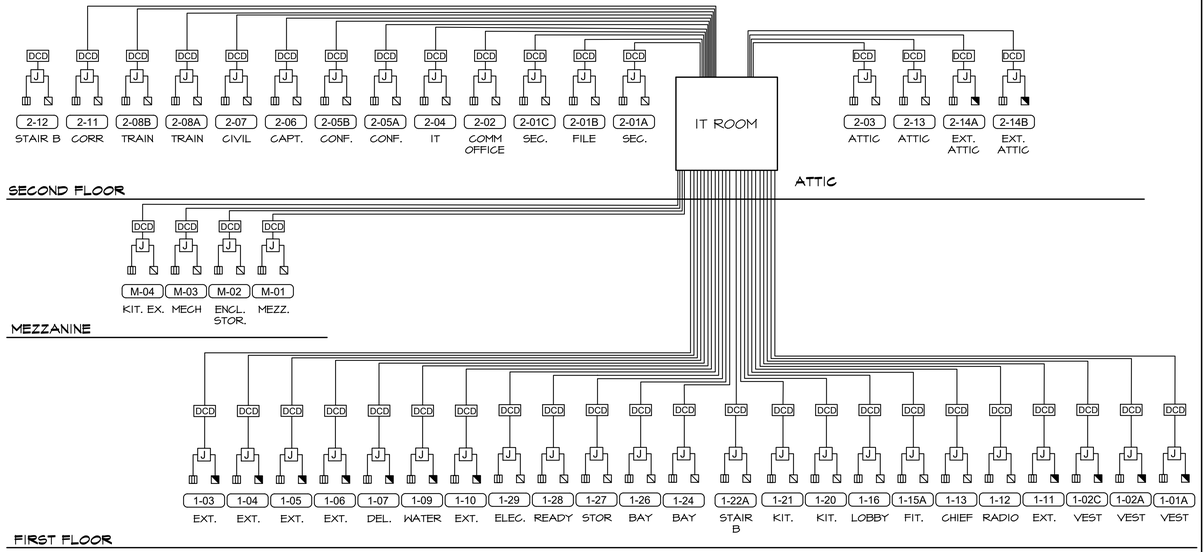
JUNCTION BOX DETAIL

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



SURVEILLANCE RISER DIAGRAM

ALL WIRE TO BE CAT 6 (YELLOW)
ALL WIRE TO BE HOME RUN TO 2ND FLOOR I.T. ROOM FROM EACH CAMERA



DOOR ACCESS RISER DIAGRAM

ALL WIRE TO BE 16/2 + 18/4 TO ALL DOORS
SEE DOOR WIRING DETAILS 1 & 2

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SPECIAL SYSTEMS RISER DIAGRAMS

PROJECT No. 2501

CHECKED BY:

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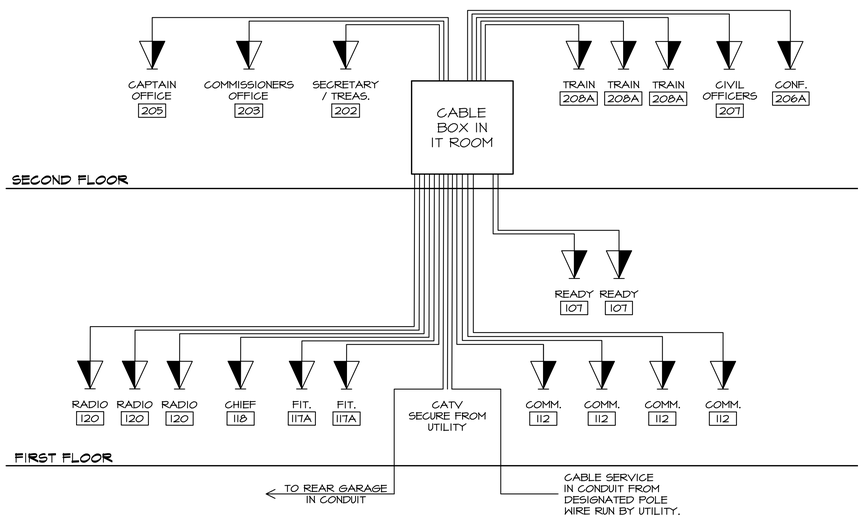
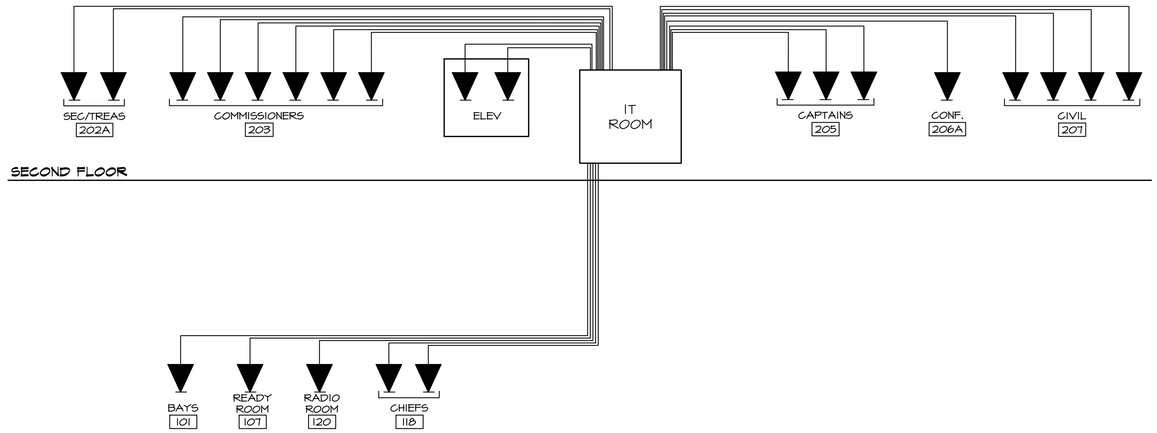


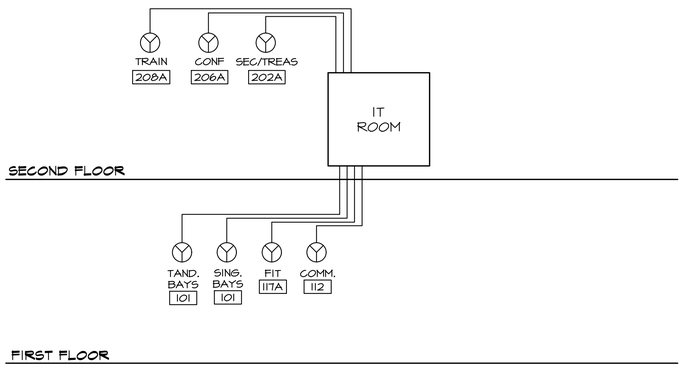
TV RISER DIAGRAM

ALL WIRE TO BE RG 6 (WHITE)
& CAT 6 (MAGENTA) TO EACH LOCATION
INSTALLED BY ELECTRICIAN IN CONDUIT



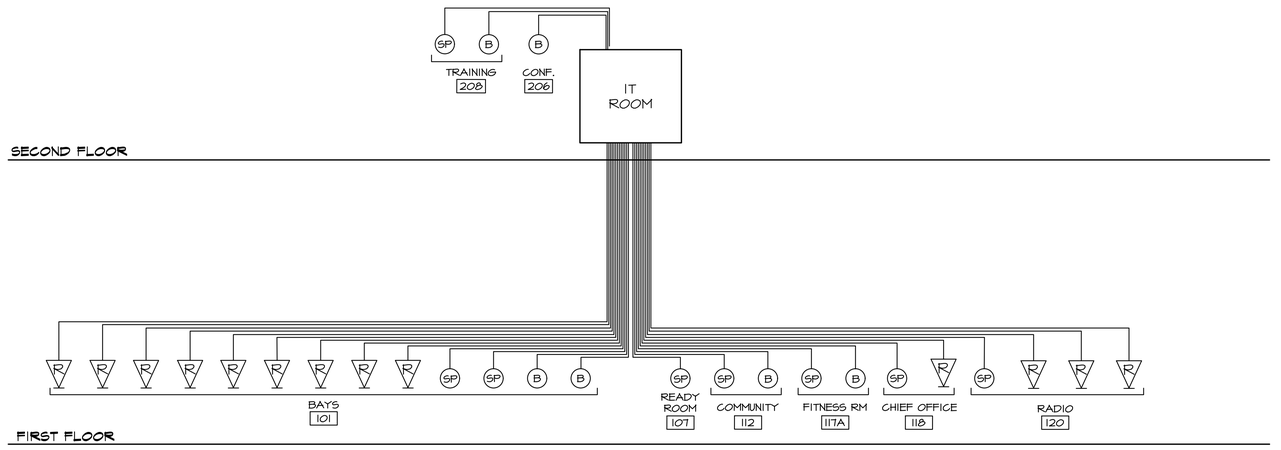
PHONE WIRING DIAGRAM

ALL WIRE TO BE CAT 6 (GREY)



WIFI SYSTEM RISER DIAGRAM

ALL WIRE TO BE CAT 6 (GREEN)



RED ALERT SYSTEM RISER DIAGRAM

ALL WIRE TO BE CAT 6 (RED)

R RED ALERT CAT 6

SP RED ALERT SPEAKER SYSTEM 16/2

B BLUE LIGHT INDICATOR 16/2

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SPECIAL SYSTEMS RISER DIAGRAMS

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CHECKED BY:

DRAWING:

IT-5