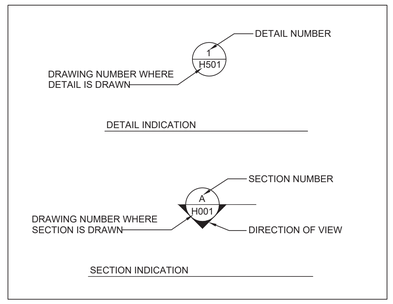
GENERAL NOTES

1. PROVIDE LABOR, MATERIALS, TOOLS, MACHINERY, EQUIPMENT, AND SERVICES NECESSARY TO COMPLETE THE HVAC WORK UNDER THIS CONTRACT. ALL SYSTEMS AND EQUIPMENT SHALL BE COMPLETE IN EVERY ASPECT AND ALL ITEMS OF MATERIAL, EQUIPMENT AND LABOR SHALL BE PROVIDED FOR A FULLY OPERATIONAL SYSTEM AND READY FOR USE. COORDINATE THE WORK WITH THE WORK OF THE OTHER TRADES IN ORDER TO RESOLVE ALL CONFLICTS WITHOUT IMPEDING THE JOB PROGRESS.
2. EXAMINE THE DRAWINGS OF OTHER DIVISIONS, AND SECTIONS OF THE SPECIFICATIONS IN ORDER TO DETERMINE THE EXTENT OF THE WORK REQUIRED TO BE COMPLETED UNDER THIS DIVISION. FAILURE TO EXAMINE ALL THE CONTRACT DOCUMENTS FOR THIS PROJECT WILL NOT RELIEVE THIS SECTION AND ANY OTHER SECTIONS OF THEIR RESPONSIBILITIES TO PERFORM THE WORK REQUIRED FOR A COMPLETE FULLY OPERATIONAL AND SATISFACTORY INSTALLATION.
3. THE WORK INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING SYSTEMS, EQUIPMENT AND SERVICES, AS SPECIFIED HEREBY. STARTUP SERVICES FOR ALL ROOFTOP UNITS INSTALLED IN THIS CONTRACT SHALL BE INCLUDED IN THE BID.
4. ALL SYSTEMS, EQUIPMENT AND SERVICES SPECIFIED HEREIN SHALL BE PROVIDED COMPLETE AND READY FOR USE. ALL EQUIPMENT, DUCTWORK, PIPING, DAMPERS ARE NEW, FURNISHED AND INSTALLED BY THIS CONTRACTOR, UNLESS OTHERWISE NOTED.
5. DUCTWORK AND PIPING ARE SHOWN DIAGRAMMATICALLY AND DO NOT SHOW ALL OFFSETS, DROPS AND RISES OF RUNS. THE CONTRACTOR SHALL ALLOW IN HIS PRICE FOR ROUTING OF DUCTWORK AND PIPING TO AVOID OBSTRUCTIONS. EXACT LOCATIONS ARE SUBJECT TO APPROVAL OF ENGINEER. COORDINATION WITH THE EXISTING SERVICE, INCLUDE THOSE OF OTHER SUBCONTRACTORS IS REQUIRED. PRICE COORDINATION DRAWINGS SHOWING ALL TRADES WORK AND EXISTING CONDITION.
6. EXTEND ALL GREASE FITTINGS TO AN ACCESSIBLE LOCATION.
7. FOR ACCESS DOORS TO VALVES, DAMPERS AND ALL OTHER HVAC TYPE OF ITEMS, ACCESSORIES AND EQUIPMENT, CONCEALED IN WALLS, FURRINGS AND CEILINGS. DOOR SHALL PERMIT FULL ACCESS TO THE EQUIPMENT.
8. VERIFY FINAL LOCATIONS FOR ROUGH WORK WITH FIELD MEASUREMENTS AND WITH THE REQUIREMENTS OF THE ACTUAL EQUIPMENT BEING CONNECTED.
9. ARRANGE FOR CHASES, SLOTS, AND OPENINGS IN OTHER BUILDING COMPONENTS TO ALLOW FOR HVAC INSTALLATIONS.
10. COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SIZE OF SLEEVES TO BE SET IN POURED CONCRETE AND OTHER STRUCTURAL COMPONENTS AS THEY ARE CONSTRUCTED.
11. COORDINATE THE INSTALLATION OF HVAC MATERIALS AND EQUIPMENT ABOVE CEILINGS WITH SUSPENSION SYSTEM, LIGHT FIXTURES, AND ALL OTHER INSTALLATIONS AND ACCESSORIES.
12. PROVIDE EQUIPMENT AND SYSTEMS THAT, AS DEFINED HEREIN, SHALL BE QUIET AND FREE OF APPARENT VIBRATION IN OPERATIONS.
13. OBTAIN EQUIPMENT THAT IS QUIET IN OPERATION AS COMPARED TO OTHER AVAILABLE EQUIPMENT OF ITS SIZE, CAPACITY, AND TYPE; INSTALL EQUIPMENT SO THAT A MINIMUM AMOUNT OF NOISE AND/OR VIBRATION IS TRANSMITTED TO THE BUILDING; AND FABRICATE THE DUCT SYSTEM SO THAT AIR NOISES GENERATED IN THE SYSTEM ARE HELD TO AN ABSOLUTE MINIMUM.
14. PROVIDE A COMPLETE SYSTEM OF VIBRATION ISOLATION FOR EACH ITEM OF HVAC EQUIPMENT AND APPARATUS AS SPECIFIED HEREIN, AS SHOWN ON THE DRAWINGS AND AS NEEDED FOR A COMPLETE AND PROPER INSTALLATION.
15. PROVIDE SEISMIC RESTRAINTS FOR ALL EQUIPMENT FURNISHED AS PART OF THIS CONTRACT. ANCHOR ALL EQUIPMENT FURNISHED BY OTHERS WHEN INSTALLATION IS CLAIMED BY THIS CONTRACT. DUCTWORK SHALL HAVE SUPPORTS, HANGERS, VIBRATION ISOLATORS, AND SHALL BE SEISMICALLY RESTRAINED IN ACCORDANCE WITH CODE AND SMACNA STANDARDS.
16. THE WORD "PROVIDE" USED ON DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT MEANS "FURNISH AND INSTALL". WHEN ONLY ONE PART OF ACTION IS REQUIRED, EITHER "FURNISH" OR "INSTALL" WILL BE USED ACCORDINGLY (TYP., U.O.N.).
17. INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES INVOLVING EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL.
18. IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO PROVIDE CONTROL WIRING TO THE EXISTING BMS SYSTEM BY SIEMENS. MECHANICAL CONTRACTOR TO FURNISH THE SERVICES OF CONTROL CONTRACTOR TO PREPARE CONTROL WIRING DIAGRAMS.
19. CONTRACTOR SHALL PROVIDE CURBS AND FACTORY ASSEMBLED PIPE CABINET FOR EACH AHU/PACKAGED RTU. REMOVE EXISTING GRAVEL AND COORDINATE NEW ROOF WORK WITH GC, SEE ARCHITECTURAL DRAWINGS.
20. PERFORM COMMISSIONING OF THE INSTALLED AIR HANDLING EQUIPMENT AS PER 2020 NYS IECC C408. SEE SPEC 019113. SERVICES ARE TO BE PERFORMED BY A THIRD PARTY APPROVED AGENCY
21. FOR SEQUENCE OF OPERATIONS, SEE SPECIFICATION SECTION 230993.
22. THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND MATERIALS, AND ALL PARTS OF THE BUILDING, EXTERIOR SPACE AND ADJACENT STREETS, SIDEWALKS AND PAVEMENTS, FREE FROM MATERIAL AND DEBRIS RESULTING FROM THE EXECUTION OF THIS WORK. EXCESS MATERIALS WILL NOT BE PERMITTED TO ACCUMULATE EITHER IN THE INTERIOR OR THE EXTERIOR.
23. ALL PRESENT MATERIAL, EQUIPMENT AND CONSTRUCTION DEBRIS TO BE REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR WITH THE EXCEPTION OF SPECIFIC EQUIPMENT AND APPARATUS REQUESTED BY THE DISTRICT FACILITIES, OR AS NOTED TO BE RELOCATED ON THE DRAWINGS, AND SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR.

HVAC NOTES:

1. THE WORK SHALL COMPLY WITH THE 2020 BUILDING CODE OF NYS. IN ADDITIONS, THE WORK SHALL COMPLY WITH ALL OTHER RELEVANT CODES, RULES AND ORDINANCES OF THIS STATE OF NEW YORK, ALL LOCAL, STATE AND FEDERAL AUTHORITIES HAVING JURISDICTION.
2. CONTRACTOR SHALL PAY ALL FEES AND TAXES, OBTAIN ALL PERMITS AND APPROVALS, FILE THE REQUIRED DOCUMENTS AND CAUSE ALL INSPECTIONS.
3. CONTRACTOR SHALL PROVIDE ALL WORK, EQUIPMENT, LABOR AND MATERIAL REQUIRED FOR A COMPLETE AND TROUBLE FREE INSTALLATION.
4. ALL DUCTWORK ELBOWS SHALL BE EITHER LONG RADIUS OR SQUARE WITH TURNING VANES.
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL EQUIPMENT, PIPING, CONTROLS, DUCTWORK, REGISTERS, SUPPORTS, DAMPERS, AND ACCESSORIES PRIOR TO FABRICATION AND INSTALLATION. SUBMIT ALL REPORTS FOR REVIEW SUCH AS TESTING, ADJUSTING, AND BALANCING, AND COMMISSIONING.
6. CONTRACTOR SHALL VERIFY ALL EXISTING FIELD CONDITIONS AND NOTIFY OWNER OF ANY DISCREPANCIES BEFORE COMMENCING WORK.
7. PROVIDE AN AIR BALANCE REPORT FOR THE EQUIPMENT SHOWN ON THE DRAWINGS.
8. ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER TO THE SATISFACTION OF THE OWNER.
9. EXCEPT AS NOTED, ALL MATERIAL AND EQUIPMENT SHALL BE NEW AND IN GOOD CONDITION. WHERE APPLICABLE BY CODE AND/OR THESE SPECIFICATIONS, EQUIPMENT AND MATERIALS SHALL BE LABELED BY THE REQUISITE GOVERNING AGENCY.
10. SURVEY THE INSTALLATION SITE PRIOR TO BID. DETERMINE THE CONSTRAINTS OF THE EXISTING AVAILABLE SPACE PERTAINING TO EQUIPMENT SIZE AND CONFIGURATION AND EXAMINE THE CONDITIONS UNDER WHICH THE EQUIPMENT WILL BE INSTALLED. VERIFY ALL MEASUREMENTS AT THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DIMENSIONAL COMPATIBILITY OF THE DUCTWORK AND EQUIPMENT WITH THE SPACE.
11. SHIP AND DELIVER EQUIPMENT KNOCKED DOWN AS NECESSARY TO FIT THROUGH EXISTING BUILDING OPENINGS. VERIFY IN FIELD THE CONSTRAINTS OF THE EXISTING BUILDING PRIOR TO FABRICATION OF EQUIPMENTS. INCLUDE IN THE BID ALL COSTS ASSOCIATED WITH RIGGING AND DELIVERY OF EQUIPMENT AS REQUIRED BY THE EXISTING BUILDING CONDITIONS.
12. SCHEDULE AND NOTIFY THE OWNER AND BUILDING MANAGEMENT IN ADVANCE PRIOR TO SHUTDOWN OF ANY SERVICES.
13. UPON COMPLETION OF THE PROJECT, PROVIDE AS-BUILT DRAWINGS TO THE OWNER. FOR QUANTITY OF COPIES, REFER TO GENERAL SPECIFICATIONS OR AS DIRECTED BY ARCHITECT.
14. IT IS THE INTENT OF THESE CONTRACT DOCUMENTS TO CALL FOR AN INSTALLATION THAT IS COMPLETE IN EVERY RESPECT. IF AN ITEM OF WORK IS SHOWN ON THE DRAWINGS, IT SHALL BE CONSIDERED SUFFICIENT FOR INCLUSION IN THE CONTRACT. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT USUALLY FURNISHED OR NEEDED TO MAKE A COMPLETE INSTALLATION, WHETHER SPECIFICALLY MENTIONED OR NOT.
15. RENDER FULL COOPERATION TO OTHER TRADES AND COORDINATE THE WORK WITH OTHER TRADES. THIS CONTRACTOR SHALL ASSIST IN WORKING OUT SPACE CONDITIONS.
16. PERFORM ALL CUTTING AND PATCHING NECESSARY FOR THE PROPER INSTALLATION OF THIS WORK. REPAIR ANY DAMAGE DONE BY THIS WORK AND REPAIR ANY DAMAGE CAUSED.
17. ON ACCEPTANCE OF CONTRACT, CONTRACTOR AGREES TO GUARANTEE THE WORK AND EQUIPMENT FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM DATE OF INITIAL OPERATION. MANUFACTURED EQUIPMENT SHALL CARRY FULL PERIOD OF MANUFACTURER'S GUARANTEE, AND SHALL NOT BE LESS THAN ONE (1) YEAR. COMPRESSORS SHALL CARRY AN EXTENDED WARRANTY OF FIVE YEARS.



ABBREVIATIONS:

AFF	ABOVE FINISHED FLOOR
BTUH	BRITISH THERMAL UNIT PER HOUR
CFM	CUBIC FEET PER MINUTE
CO	CONDENSATE
CO	CLEANOUT
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
CX	COMMISSIONING
DB	DRY-BULB TEMPERATURE
DIA, Ø	DIAMETER
EWT	ENTERING WATER TEMPERATURE
EX., (E)	EXISTING
°F	FAHRENHEIT
FT	FEET
GPM	GALLONS PER MINUTE
HD	HEAD
HOA	HAND/OFF/AUTOMATIC
HP	HORSEPOWER
IN WC	INCH WATER COLUMN
KW	KILOWATT
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	1000 BTU/H
MHP	MOTOR HORSEPOWER
MIN	MINIMUM
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NK	NECK
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
PSIG	POUNDS PER SQUARE INCH - GAGE
RPM	REVOLUTIONS PER MINUTE
UON	UNLESS OTHERWISE NOTED
VFD	VARIABLE FREQUENCY DRIVE
VIF	VERIFY IN FIELD

GENERAL SYMBOLS

- DEMOLISH
- SECTION A-A
- TEMPERATURE SENSOR/THERMOSTAT
- HUMIDITY SENSOR
- VD — VOLUME DAMPER
- CUBIC FEET PER MINUTE (CFM)
- DIFFUSER CENTERED IN CEILING MODULE

PIPING LEGEND

CWS	CHILLED WATER SUPPLY
CWR	CHILLED WATER RETURN
CD	CONDENSATE DRAIN
HWS	HOT WATER SUPPLY (BELOW 250°F)
HWR	HOT WATER RETURN (BELOW 250°F)
	EXISTING TO REMAIN
	EXISTING TO BE REMOVED
	POINT OF CONNECTION
	POINT OF DISCONNECTION

SHEETMETAL LEGEND

SINGLE LINE	DOUBLE LINE		SINGLE LINE	DOUBLE LINE	
	UP / DN	SUPPLY DUCT (UP & DN)			SIDEWALL SUPPLY REGISTER (SR)
	UP / DN	RETURN OR EXHAUST DUCT (UP & DN)			SIDEWALL RETURN REGISTER (RR)
12 x 10	12 x 10	RECTANGULAR DUCTWORK (WIDTH X DEPTH)	TCD	TCD	AUTOMATIC TEMPERATURE CONTROL DAMPER (OPPOSED BLADE)
10"ø	10"ø	ROUND DUCTWORK (SIZE, DIAMETER)			FLEXIBLE CONNECTOR. INSTALL AT ALL MOTOR DRIVEN EQUIPMENT
		VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH VANES)			FLEXIBLE DUCT (MAXIMUM LENGTH NOT TO EXCEED 36 INCHES)
	W, R	RADIUS ELBOW (I.D. RADIUS IS DUCT WIDTH)			TRANSITION WITH FLAT SIDE
		RADIUSED TEE WITH VOLUME DAMPERS (I.D. RADIUS IS DUCT WIDTH)			TRANSITION ON CENTER
		SQUARE THROATED TEE WITH TURNING VANES & VOLUME DAMPERS			RECTANGULAR TO ROUND TRANSITION
DN	DN	CHANGE IN ELEVATION (UP) (DN) IN DIRECTION OF AIR FLOW			BRANCH TAKE-OFF WITH VOLUME DAMPER
		VOLUME DAMPER (SINGLE OR OPPOSED BLADE) AS SPECIFIED		W, R	RADIUS OFFSET (I.D. RADIUS IS DUCT WIDTH)
		ACOUSTIC LINED DUCTWORK (SIZE INDICATES INSIDE DUCT DIMENSIONS)			ROUND TAP TO RECTANGULAR DUCT (SPIN-IN-FITTING OR BELL MOUTH) & VOLUME DAMPER
AD	AD	ACCESS DOOR (BOTTOM SHOWN)	SD,FD,OR FD/SD	SD,FD,OR FD/SD	SMOKE DAMPER, FIRE DAMPER, OR SMOKE/FIRE DAMPER W/ACCESS DOOR
AD	AD	ACCESS DOOR (SIDE SHOWN)			SUPPLY DUCT WITH SPLITTER DAMPER AND SQUARE-THROAT ELBOW
		DUCTWORK TO BE REMOVED, INCLUDING ALL SUPPORTS AND HANGERS			SUPPLY DUCT WITH SPLITTER DAMPER AND RADIUS ELBOW (I.D. RADIUS IS DUCT WIDTH)
		CEILING DIFFUSER (CD) W/SQUARE NECK		(TAG)	TERMINAL UNIT (REFER TO SCHEDULE)
		CEILING DIFFUSER (CD) W/ROUND NECK			
		CEILING EXHAUST REGISTER/GRILLE (ER)/(EG) OR RETURN REGISTER/GRILLE (RR)/(RG) W/SQUARE NECK			
		CEILING EXHAUST REGISTER/GRILLE (ER)/(EG) OR RETURN REGISTER/GRILLE (RR)/(RG) W/ROUND NECK			

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

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by NRY
Checked by ERF
Project No. 42051
Scale AS NOTED
Date 10/25/22

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

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

NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1

HIGH SCHOOL: SBM# 50-02-01-06-0-016-005
PRESS BOX (DEMO): SBM# 50-02-01-06-7-008-001
CONCESSIONS-PRESS BOX (NEW): SBM# 50-02-01-06-7-009-001
FIELDHOUSE: SBM# 50-02-01-06-7-008-001

160 Haverstraw Rd.
Suffern, NY 10901

TOWN OF HAVERSTRAW
COUNTY OF ROCKLAND

MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 845-708-9200
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Drawing Title
PROJECT WIDE MECHANICAL NOTES, SYMBOLS, LEGEND, & ABBREVIATIONS

Drawing No.
M-090

HVAC DESIGN CRITERIA

A. SITE (BASED ON NEAREST AVAILABLE DATA: ASHRAE 2013 HANDBOOK CLIMATIC DESIGN INFORMATION, WESTCHESTER CO, NY):
1. 41.07°N, 73.71°W
2. ELEVATION: 397 FT
3. CLIMATE ZONE 5A.

B. OUTSIDE DESIGN CONDITIONS (BASED ON NEAREST AVAILABLE DATA: ASHRAE 2013 CLIMATIC DESIGN INFORMATION, WESTCHESTER CO, NY):
1. HEATING DB (99.6%): 9.0°F DB
2. COOLING DB/MCWB (1%): 86.5°F DB, 72.1°F WB

C. INSIDE DESIGN CONDITIONS (PER NYSED MANUAL OF PLANNING STANDARDS S602-6 B. AND 2015 ASHRAE HANDBOOK CH 7 TABLE 6):
1. OCCUPIED HEATING INDOOR SETPOINT: 72°F
2. OCCUPIED COOLING INDOOR SETPOINT: 78°F, 60% RH
3. NON-OCCUPIED HEATING INDOOR SETPOINT: 55°F
4. NON-OCCUPIED COOLING INDOOR SETPOINT: 85°F
5. ZONE THERMOSTATIC CONTROLS SHALL PROVIDE DEADBAND OF MIN. 5°F. (NYSECCC C403.4.1.2)

D. ACOUSTICS (PER NYSED MANUAL OF PLANNING STANDARDS, TABLE S304-1):
1. DESIGN REQUIREMENTS FOR HVAC SYSTEM NOISE FOR CLASSROOMS, 7-12: RC 25-30.

E. FILTRATION: MERV 13 (PER NYSED MANUAL OF PLANNING STANDARDS).

F. DEMAND CONTROLLED VENTILATION (PER NYSED MANUAL OF PLANNING STANDARDS AND ASHRAE 62.1 APPENDIX C):
1. NOT REQUIRED

SCOPE OF WORK

1. FURNISH AND INSTALL NEW SPLIT SYSTEM DUCTLESS UNITS FOR PRESS BOX.
2. FURNISH AND INSTALL EXHAUST FANS FOR NEW RESTROOMS AND SNACK BAR.
3. FURNISH AND INSTALL NEW LOUVER ABOVE STORAGE ROOM DOOR.

GENERAL NOTES

EXHAUST FAN SCHEDULE

TAG	LOCATION	ARRANGEMENT	CFM	FAN SECTION		ELECTRICAL		SONES	STARTER	MANUFACTURER	REMARKS
				RPM	TOTAL S.P.	H.P.	V/HZ/P		TYPE	LOREN COOK	
EF-1	TOILETS	INLINE	850	1725	0.498	1/6	115/60/1	9.8	DIRECT	GNVF-700	
EF-2	SNACK BAR/STORAGE	INLINE	800	1725	0.498	1/6	115/60/1	9.8	DIRECT	GNVF-700	

NOTES:
1. BIRDSCREEN.
2. BACKDRAFT DAMPER, MOTORIZED.
3. FAN SPEED CONTROL, SOLID STATE.
4. VIBRATION ISOLATORS.
5. AMCA CERTIFIED FOR AIR AND SOUND.
6. VARI-FLOW TWO-SPEED CONTROL.
7. OR APPROVED EQUAL

LOUVER SCHEDULE

TAG	TYPE	SIZE (INCHES)	MINIMUM FREE AREA (SQ FT)	ADJUSTABLE (YES/NO)	FRAME DEPTH (INCHES)	BLADE ANGLE (DEGREES)	MANUFACTURER	REMARKS
							AMERICAN WARMIN AND VENTILATING	
L-1	DRAINABLE	72"x12"	1.58	NO	4"	37°	LE-25	

NOTES:
1. OR APPROVED EQUAL

AIR OUTLETS SCHEDULE

TAG	SERVICE	TYPE	FACE SIZE (IN)	NECK SIZE	MOUNTING	# OF SLOTS	MAX. NOISE CRITERIA (NC)	BASIS OF DESIGN		REMARKS
								MFR.	MODEL #	
E-1	EXHAUST	STEEL EXHAUST REGISTER	NK + 1.75	SEE PLANS	DUCT MOUNTED	-	25	NAILOR	6145H-O	1, 3, 5

NOTES:
1. NECK SIZES ARE INDICATED ON PLAN.
2. PROVIDE VOLUME DAMPERS OPPOSED BLADE DAMPER FROM MANUFACTURER.
3. COORDINATE FINISH BORDER TYPE AND INSTALLATION W/ ARCH PLANS.
4. OR APPROVED EQUAL

MECHANICAL VENTILATION SCHEDULE

ROOM	OCCUPANCY CLASSIFICA-TION	FLOOR AREA SF Az	OCCUPANT LOAD OCCUPANT/ 1,000 SF	# OF OCCUP-ANTS Pz	REQUIRED CFM/ OCCUPANT Rp	REQ. CFM/SF Ra	BREATHING ZONE OUTDOOR AIRFLOW Vbz=RpPz+ RaAz	ZONE DISTRIBUTION EFFECTIVENESS Ez	TOTAL ROOM OUTDOOR AIR REQUIRED Vot=Vbz/Ez	ACTUAL RM OUTSIDE AIR SUPPLY AIRFLOW CFM	REQ. EXHAUST AIRFLOW RATE CFM/SF	REQUIRED EXHAUST AIRFLOW CFM	ACTUAL EXHAUST AIRFLOW CFM
PRESS BOX	MISC UTILITY	248	-	-	-	-	-	-	-	-	-	-	-
SNACK BAR	KITCHEN	667	-	-	-	0.06	-	-	-	-	-	40	40
STORAGE	STORAGE	522	-	-	-	0.06	-	-	-	-	-	31	35
MEN'S ROOM	BATHROOM	250	-	-	-	-	-	-	-	-	50/WC	250	799
WOMEN'S ROOM	BATHROOM	250	-	-	-	-	-	-	-	-	50/WC	250	799

NOTES:
1. VENTILATION CALCULATIONS COMPLY WITH THE 2020 NYS MECHANICAL CODE.
2. AIRFLOWS ARE EXPRESSED IN CFM UNLESS OTHERWISE NOTED.

SPLIT SYSTEM DUCTLESS UNIT SCHEDULE

UNIT TAG	LOCATION	GENERAL											INDOOR UNIT									CONDENSING UNIT												BETWEEN THE INDOOR AND OUTDOOR UNIT	
		CAPACITY			HSPF	SEER	ENT. AIR		REFR. TYPE	REFR. (LBS)	REFRIGERANT SAFETY CLASS	TONNAGE	ELECTRICAL DATA					CFM	DRAIN CONNECTION	WEIGHT (LBS.)	MODEL #	UNIT TAG	LOCATION	ENT. AIR	ELECTRICAL DATA					REFRIG. LINES (IN)		WEIGHT (LBS)	MODEL #	HEIGHT DIFFERENCE	PIPE LENGTH
		TOTAL COOLING MBH	SENSIBLE COOLING MBH	TOTAL HEATING MBH @ 17F			DB (F)	WB (F)					VOLTS	PHASE	HZ	MAX. FUSE SIZE	MCA							DB (F)	VOLTS	PHASE	HZ	MAX. FUSE SIZE	MCA	SUCTION	LIQUID				
HP-1	PRESS BOX 200	6.0	5.7	3.5	9.8	20.0	80	67	R410A		A1	1/2	208	1	60	15	1.0	437	5/8"	29	NTXWPH06A112AA									A-1/2	A-1/4				35 FT
HP-2	PRESS BOX 201	6.0	5.7	3.5	9.8	20.0	80	67	R410A	6.81	A1	1/2	208	1	60	15	1.0	437	5/8"	29	NTXWPH06A112AA	ACC-1	ROOF	95	208	1	60	25	22.1	B-3/8	B-1/4	137	NTXMMX24A132AA	8 FT	20 FT
HP-3	PRESS BOX 202	9.0	8.3	5.2	9.8	20.0	80	67	R410A		A1	3/4	208	1	60	15	1.0	437	5/8"	29	NTXWPH06A112AA									C-3/8	C-1/4				15 FT

NOTES:
1. PROVIDE WITH WIRELESS WALL MOUNTED CONTROLLER "MHK1" & WALL MOUNTING BRACKETS "CWMB1".
2. THE DUCT FREE INDOOR UNITS SHALL BE WALL MOUNTED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
3. CONDENSATE DRAIN LINE FROM INDOOR UNIT SHALL BE PIPED BY CONTRACTOR, SIZES SHALL COMPLY WITH THE SIZING REQUIREMENTS OUTLINED IN MC 307.2.2.
4. REFRIGERANT PIPING SHALL RUN FROM INDOOR UNIT TO OUTDOOR UNIT AS PER MANUFACTURER'S INSTRUCTIONS.
5. DUCT FREE UNIT SHALL BE PROVIDED WITH WALL MOUNTING BRACKETS, CONTROLS, DRIP PAN SENSOR(DPLS2), WIRED REMOTE CONTROLLER & WEATHERPROOF DISCONNECT SWITCH FOR INSTALLATION BY ELECTRICAL CONTRACTOR.
6. THE UNIT SHALL BE RATED AT A DISCHARGE PRESSURE OF 450 PSIG AND A SUCTION PRESSURE OF 150 PSIG.
7. THE SYSTEM SHALL BE TESTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, BUT AT A MINIMUM IT SHALL BE TESTED BY MEANS OF REFRIGERANT CHARGED INTO THE SYSTEM AT A PRESSURE NOT LESS THAN THE SATURATED VAPOR PRESSURE AT 70°F (220 PSIA FOR R410A) PER MC 1108.1 EXCEPTION 2 AND ASHRAE STANDARD 15.
8. PROVIDE EQUIPMENT LABELS, SEE EQUIPMENT IDENTIFICATION SPEC 230554.
9. SEE SPECIFICATION 236215 FOR ADDITIONAL INFORMATION REGARDING THE SPLIT SYSTEM UNITS.
10. PROVIDE REQUIRED PORT CONNECTORS AND TRANSITIONS AT OUTDOOR UNIT. (MAC-A455JP-E)
11. INSTALL UNITS PER MANUFACTURERS IOM MANUAL.
12. BASIS OF DESIGN IS MITSUBISHI ELECTRIC OR APPROVED EQUAL.

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

No.	Date	Revisions
1	10-28-22	BIDDING DOCUMENTS
2	12-09-22	SED ADDENDUM 1
3	01-12-23	SED ADDENDUM 2
4	01-27-23	REVISIONS

Drawn by NRY
Checked by ERF
Project No. 42051
Scale AS NOTED
Date 10/25/22

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

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

NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1 3
HIGH SCHOOL: SED# 50-02-01-06-0-016-035
PRESS BOX (DEMO): SED# 50-02-01-06-7-026-001
CONCESSIONS-PRESS BOX (NEW): SED# 50-02-01-06-7-079-001
FIELDHOUSE: SED# 50-02-01-06-7-008-001
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Drawing Title
CONCESSIONS & PRESS BOX MECHANICAL NOTES & SCHEDULES

Drawing No.
M-010

HVAC DESIGN CRITERIA

A. SITE (BASED ON NEAREST AVAILABLE DATA: ASHRAE 2013 HANDBOOK CLIMATIC DESIGN INFORMATION, WESTCHESTER CO, NY):
   1. 41.07°N, 73.71°W
   2. ELEVATION: 397 FT
   3. CLIMATE ZONE 5A.

B. OUTSIDE DESIGN CONDITIONS (BASED ON NEAREST AVAILABLE DATA: ASHRAE 2013 CLIMATIC DESIGN INFORMATION, WESTCHESTER CO, NY):
   1. HEATING DB (99.6%): 9.0°F DB
   2. COOLING DB/MCWB (1%): 86.5°F DB, 72.1°F WB

C. INSIDE DESIGN CONDITIONS (PER NYSED MANUAL OF PLANNING STANDARDS S602-6 B. AND 2015 ASHRAE HANDBOOK CH 7 TABLE 6):
   1. OCCUPIED HEATING INDOOR SETPOINT: 72°F
   2. OCCUPIED COOLING INDOOR SETPOINT: 78°F, 60% RH
   3. NON-OCCUPIED HEATING INDOOR SETPOINT: 55°F
   4. NON-OCCUPIED COOLING INDOOR SETPOINT: 85°F
   5. ZONE THERMOSTATIC CONTROLS SHALL PROVIDE DEADBAND OF MIN. 5°F. (NYSECCC C403.4.1.2)

D. ACOUSTICS (PER NYSED MANUAL OF PLANNING STANDARDS, TABLE S304-1):
   1. DESIGN REQUIREMENTS FOR HVAC SYSTEM NOISE FOR CLASSROOMS, 7-12: RC 25-30.

E. FILTRATION: MERV 13 (PER NYSED MANUAL OF PLANNING STANDARDS).

F. DEMAND CONTROLLED VENTILATION (PER NYSED MANUAL OF PLANNING STANDARDS AND ASHRAE 62.1 APPENDIX C):
   1. NOT REQUIRED

SCOPE OF WORK

1. DEMOLISH EXISTING EQUIPMENT AND DUCTWORK AS SHOWN.
2. CAP AND REMOVE EXISTING HYDRONIC PIPING BACK TO MAIN.
3. FURNISH AND INSTALL NEW DOAS ROOFTOP UNITS FOR MODIFIED SPACES.
4. FURNISH AND INSTALL NEW DUCTWORK AND AIR OUTLETS AS SHOWN.
5. FURNISH AND INSTALL NEW HYDRONIC PIPING FOR ROOFTOP UNITS.
6. FURNISH AND INSTALL NEW PIPE ENCLOSURE FOR HYDRONIC PIPING CONNECTIONS TO UNITS AT ROOF.
7. FURNISH AND INSTALL NEW CONTROLS AND INTERCONNECT TO EXISTING BMS SYSTEM.

GENERAL NOTES

PIPE SIZE SCHEDULE

PIPE SIZE	FLOW RANGE
3/4"	0-4 GPM
1"	5-7.5 GPM
1-1/4"	8-16 GPM
1-1/2"	17-24 GPM
2"	25-48 GPM
2-1/2"	49-77 GPM
3"	78-140 GPM
4"	141-280 GPM
5"	281-500 GPM
6"	501-800 GPM

MINIMUM PIPE SIZES SHALL BE PROVIDED AS SCHEDULED ABOVE. WHERE PIPE SIZES INDICATED ELSEWHERE WITHIN DRAWINGS CONFLICT WITH SCHEDULED FLOW, THE LARGER SIZE PIPE SHALL BE PROVIDED. MINIMUM PIPE SIZE 3/4".

MECHANICAL VENTILATION SCHEDULE

ROOM	OCCUPANCY CLASSIFICATION	FLOOR AREA SF Az	OCCUPANT LOAD OCCUPANT/ 1,000 SF	# OF OCCUPANTS Pz	REQUIRED CFM/ OCCUPANT Rp	REQ. CFM/SF Ra	BREATHING ZONE OUTDOOR AIRFLOW Vbz=RpPz+ RaAz	ZONE DISTRIBUTION EFFECTIVENESS Ez	TOTAL ROOM OUTDOOR AIR REQUIRED Vot=Vbz/Ez	ACTUAL RM OUTSIDE AIR SUPPLY AIRFLOW CFM	REQ. EXHAUST AIRFLOW RATE CFM/SF	REQUIRED EXHAUST AIRFLOW CFM	ACTUAL EXHAUST AIRFLOW CFM
WEIGHT ROOM	WEIGHT ROOM	5378	10	54	20	0.06	1398	0.8	1748	1800	-	-	-
LOCKER ROOM	HEALTH CLUB	1360	10	14	20	0.06	354	0.8	442	450	-	-	-
TRAINING ROOM	HEALTH CLUB	502	10	5	20	0.06	131	0.8	163	170	-	-	-
STORAGE ROOM	FUTURE OFFICE	331	5	2	5	0.06	28	0.8	35	40	-	-	-
OFFICE	OFFICE	161	5	1	5	0.06	14	0.8	17	20	-	-	-
RESTROOM	RESTROOM	53	0	0	0	0.00	0	0.0	0	0	50	50	50
CORRIDOR	CORRIDOR	148	0	0	0	0.06	9	0.8	11	15	-	-	-

NOTES:
1. VENTILATION CALCULATIONS COMPLY WITH THE 2020 NYS MECHANICAL CODE.
2. AIRFLOWS ARE EXPRESSED IN CFM UNLESS OTHERWISE NOTED.

AIR OUTLETS SCHEDULE

TAG	SERVICE	TYPE	FACE SIZE (IN)	NECK SIZE (IN)	MOUNTING	MAX. NOISE CRITERIA (NC)	BASIS OF DESIGN		REMARKS
							MFR.	MODEL #	
S-1	SUPPLY	STEEL ROUND PLAQUE DIFFUSER	27-3/8"Ø	SEE PLANS	DUCT MOUNTED	25	NAILOR	RUNI	1, 3, 4, 5
R-1	RETURN	STEEL RETURN REGISTER	NK + 1.75	SEE PLANS	DUCT MOUNTED	25	NAILOR	6145H-O	1, 3, 4, 5
S-2	SUPPLY	SQUARE PLAQUE DIFFUSER	24x24	10	LAY IN	25	NAILOR	UNI TYPE PL	1, 2, 3, 4, 5
R-2	RETURN	STEEL RETURN REGISTER	24x24	-	LAY IN	25	NAILOR	6145H	1, 2, 3, 4, 5
S-3	SUPPLY	STEEL SUPPLY GRILLE	6X4	-	WALL MOUNTED	25	NAILOR	6145H	3,4,5
TG	RETURN	STEEL RETURN GRILLE	SEE PLANS	-	WALL MOUNTED	25	NAILOR	6145H	3,4,5

NOTES:
1. NECK SIZES ARE INDICATED ON THE PLANS.
2. PROVIDE 48X24 CEILING MODULE.
3. PROVIDE VOLUME DAMPERS OPPOSED BLADE DAMPER FROM MANUFACTURER.
4. COORDINATE FINISH, BORDER TYPE, AND INSTALLATION WITH ARCHITECTURAL PLANS.
5. OR APPROVED EQUAL

DEDICATED OUTSIDE AIR UNIT WITH ENERGY RECOVERY SCHEDULE

TAG	LOCATION	SUPPLY CFM	OUTSIDE CFM	MIN CFM	FILTERS	SUPPLY FAN MOTOR DIRECT DRIVE			EXHAUST FAN MOTOR DIRECT DRIVE			ENERGY RECOVERY WHEEL																DX COOLING COIL							ELECTRICAL SINGLE POINT POWER				DESIGN BASIS	UNIT WEIGHT
												WINTER CONDITIONS							SUMMER CONDITIONS																					
												SUPPLY AIR					EXHAUST AIR					THERMAL EFF %	HEAT RCVD MBH	SUPPLY AIR					EXHAUST AIR					THERMAL EFF %	HEAT RCVD MBH																		
						EXT S.P.	RPM	HP	EXT S.P.	RPM	HP	INLET DB	INLET WB	OUTLET DB	OUTLET WB	AIR PD	INLET DB	INLET WB	OUTLET DB	OUTLET WB	AIR PD			INLET DB	INLET WB	OUTLET DB	OUTLET WB	AIR PD	INLET DB	INLET WB	OUTLET DB	OUTLET WB	AIR PD			EDB °F	EWB °F	LDB °F	LWB °F	LVG DP	TOTAL CAP.	TOTAL SENS.	V/PH/HZ	FLA	MCA	MOCP	TRANE	
DOAS-1 WR	ROOF	6,500	1,800	1,701	MERV 14	1.0	1568	7.5	1.0	1506	1.5	0	-2	46.3	41.3	0.54	65	55	19.9	19.7	0.54	68%	130.31	91	73	79.3	66.3	0.54	75	63	86.6	70.1	0.54	68%	43.44	76.2	64	51.4	51.1	50.7	229.7	163.2	460/3/60	47.3	51.0	60	HORIZON OADG020D3	4,231 LBS
DOAS-2 LR	ROOF	2,700	800	1,000	MERV 14	1.0	1657	1.5	1.0	1548	1.0	0	-2	47.9	44.4	0.26	65	55	16.2	15.9	0.26	73%	62.72	91	73	78.9	65.4	0.26	75	63	86.8	70.9	0.26	77%	21.67	76.2	63.8	47.8	47.8	47.6	118.7	81.7	460/3/60	28.8	30.8	35	HORIZON OADG010D3	3,890 LBS

REMARKS:
1. BASIS OF DESIGN IS BY TRANE OR APPROVED EQUAL.
2. PROVIDE SUPPLY AND RETURN SMOKE DETECTORS (FACTORY INSTALLED) TO SHUTDOWN UNIT.
3. PROVIDE 4" PLEATED AIR FILTERS, MERV 14 RATING, SEE SPEC 234100 FOR MORE INFO.
4. PROVIDE START-UP BY MANUFACTURER'S AUTHORIZED TECHNICIAN.
5. PROVIDE FACTORY INSTALLED 0-100% ECONOMIZER WITH DIFFERENTIAL ENTHALPY CONTROL.
6. UNIT TO BE DELIVERED VIA CRANES, ALL NECESSARY PERMITS FOR RIGGING REQUIRED.
7. MC TO PROVIDE FACTORY INSTALLED VFD W/ INTEGRAL MOTOR STARTERS FOR EACH FAN, EC TO FURNISH AND INSTALL NON-FUSIBLE TYPE DISCONNECT SWITCHES(FIELD INSTALL)
8. MC TO FURNISH UNIT WITH CONVENIENCE OUTLET AND SUPPLY AN EXHAUST FAN SERVICE LIGHT. COORDINATE WITH EC.
9. PROVIDE WITH MODULATING DIGITAL SCROLL COMPRESSORS AND MODULATING HOT GAS REHEAT.
10. PROVIDE WITH 14" HIGH INSULATED ROOF CURB WITH VIBRATION ISOLATORS.
11. PROVIDE WITH 2" DOUBLE WALL CONSTRUCTION.
12. PROVIDE HOT GAS BYPASS WITH CONTINUOUS CAPACITY MODULATION (MAXIMUM 25% TOTAL CAPACITY).
13. PROVIDE FACTORY ZONE AND TEMPERATURE SENSORS FOR PROPER INSTALLATION AND COORDINATION WITH UNIT CONTROLS
14. PROVIDE BACNET COMPATIBLE CONTROLS FOR INTERCONNECTION TO EXISTING SIEMENS BMS SYSTEM. FULL DDC CONTROL OF ENERGY WHEELS (WHERE APPLICABLE) INCLUDING FROST PROTECTION VIA ENERGY WHEEL VFD SPEED CONTROL, 100% ECONOMIZER MODE VIA ENERGY WHEEL BYPASS DAMPERS
15. MECHANICAL TO PROVIDE HEATING CONTROL VALVE, SEE COIL PIPING DETAILS ON DRAWING M520 AND M521.
16. UNIT WEIGHT DOES NOT INCLUDES WEIGHT OF CURB. EXACT CURB WEIGHT TO BE CONFIRMED WITH MANUFACTURER.
17. MC TO FIELD INSTALL VIBRATION ISOLATION SUPPORTS FOR ENERGY RECOVERY WHEEL AT EACH UNIT.

HEATING COIL (30% GLYCOL)						
EDB °F	LDB °F	FLOW (GPM)	PD (FT)	EWT	LWT	TOTAL CAPACITY
59.8	110.2	18.3	0.7	180	140	358.4
59.9	130.1	10.6	0.3	180	140	207.3

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

No.	Date	Revisions
-	-	-
-	-	-
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Drawn by NRY
Checked by ERF
Project No. 42051
Scale AS NOTED
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GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD
SUITE 302
SUFFERN, NY 10901
Mechanical & Electrical Engineer:

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2 EXECUTIVE BOULEVARD
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Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL PROJECTS - PHASE 1

HIGH SCHOOL: SBL# 50-02-01-06-0-015-005
PRESS BOX (DEMO): SBL# 04-02-01-06-7-068-001
CONCESSIONS-PRESS BOX (NEW): SBL# 50-02-01-06-7-079-001
FIELDHOUSE: SBL# 50-02-01-06-7-006-001

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Drawing Title
WEIGHT & LOCKER RM MECHANICAL NOTES & SCHEDULES

Drawing No.
M-020

1. DUCT SMOKE DETECTORS SHALL BE PROVIDED IN MAIN SUPPLY AND RETURN DUCT FOR SYSTEMS OVER 1,000 CFM AND ALSO UPSTREAM OF EACH STORY RETURN DUCT/ RISER CONNECTION WHERE RETURN AIR RISERS SERVE TWO OR MORE STORIES FOR SYSTEMS OVER 15,000 CFM.
2. INTEGRATE AIR FLOW MEASURING APPARATUS INTO THE BMS/DDC NETWORK. PROVIDE ONE OUTSIDE AIR FLOW MEASURING STATION FOR EACH OUTSIDE AIR INTAKE PORT. PROVIDE FACTORY INSTALLED AIRFLOW STATION.
3. PROVIDE NEW THERMOSTATS WITH LOCK BOXES IN ROOMS BEING SERVED BY AHU. CONTRACTOR SHALL PROVIDE ALL ASSOCIATED CONTROL WIRING.
4. SAFETY SHUTDOWN DEVICES SHALL BE HARDWIRED TO THE FAN STARTER CIRCUIT IN ADDITION TO THE DDC SYSTEM. COORDINATE WITH MANUFACTURER FOR SHUTDOWN UNDER ALL MODES OF OPERATION.
5. MECHANICAL CONTRACTOR SHALL HIRE A FIRE ALARM SUBCONTRACTOR. FIRE ALARM CONTRACTOR TO FURNISH FIRE ALARM SYSTEM COMPLIANT SMOKE DETECTORS TO THE MECHANICAL CONTRACTOR WHO SHALL IN TURN FURNISH THEM TO THE CENTRAL AIR HANDLING UNIT MANUFACTURER FOR FACTORY INSTALLATION OR TO THE SHEET METAL CONTRACTOR FOR FIELD DUCTWORK INSTALLATION FOR THE FLOOR RETURN/RISER RETURN CONNECTIONS AS APPLICABLE. CONTRACTOR SHALL PROVIDE ALL SIGNAL AND CONTROL POWER WIRING TO UNIT.
6. CONTRACTOR TO PROVIDE OCCUPANCY SENSORS IN EACH SPACE. SENSORS ARE TO BE INTERCONNECTED TO THE BMS.

NOTES

VFD	VARIABLE FREQUENCY DRIVE
TLL-1	TEMPERATURE LOW LIMIT
TCC	TEMPERATURE CONTROLS CONTRACTOR
TS-1	OUTSIDE AIR TEMP
TS-2	MIXED AIR TEMP
TS-3	HEATING COIL DISCHARGE
TS-4	DISCHARGE AIR TEMP
TS-5	RETURN AIR TEMP
FE	FLOW ELEMENT
FM	FLOW METER
DCV	DEMAND CONTROL VENTILATION
CO2	CARBON DIOXIDE
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
AI	ANALOG INPUT
AO	ANALOG OUTPUT
LON	LONWORKS NETWORK CONNECTION
PSL	PRESSURE SWITCH LOW
PSH	PRESSURE SWITCH HIGH
DPS/I	DIFF. PRESSURE SWITCH/INDICATOR
AD	DPR ACTUATORS
BMS	BUILDING MANAGEMENT SYSTEM

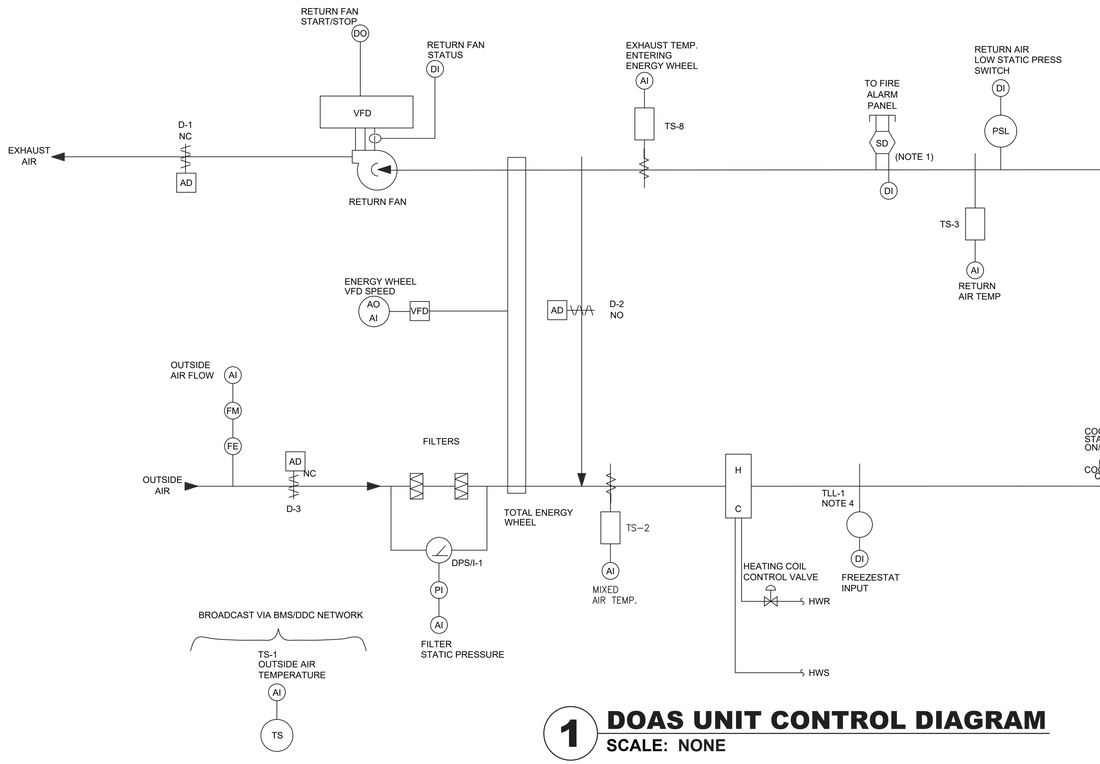
LEGEND

POINTS LIST NOTES:
LEGEND:
X = PROVIDE QUANTITY AS REQUIRED TO INCLUDE ALL INSTANCES OF THE INDICATED FEATURE. INCLUDE MULTIPLE POINTS WITHIN EACH MECHANICAL SYSTEM AS NECESSARY. COORDINATE WITH EQUIPMENT VENDOR.
B = INFORMATION PROVIDED TO EACH SYSTEM VIA NETWORK BROADCAST.

1. THE POINT LISTED HEREIN ARE THE MINIMUM POINTS REQUIRED FOR THE CONTROL AND MONITORING OF THIS EQUIPMENT. THIS POINT LIST IS TYPICAL FOR EACH MECHANICAL/ELECTRICAL SYSTEM OF THIS TYPE. IF THE SEQUENCE OF OPERATION REQUIRES ADDITIONAL OR DIFFERING INFORMATION, IT MUST BE PROVIDED BY THE RESPECTIVE PROVIDER OF THE CONTROLS FOR THIS TYPE OF EQUIPMENT AS COORDINATED BY THE GENERAL AND MECHANICAL CONTRACTORS.
2. THE TCC SHALL PROVIDE ALL DIGITAL ALARM LOGIC. ALL DIGITAL ALARMS SHALL BE COMPATIBLE WITH THE EXISTING SIEMENS BMS SYSTEM.
3. THE TCC SHALL PROVIDE ALL TRENDING AND ANALOG ALARMING VIA THE SOFTWARE USED AT THE EXISTING SIEMENS BMS SYSTEM.
4. PROVIDE ACCUMULATED AIR FLOW FOR VALIDATION OF PURGE-MODE AND FOR PERMANENT VALIDATION OF OCCUPANT VENTILATION.
5. PROVIDE MANUAL RESET DEVICE. NOTE THAT THIS DEVICE BOTH ALARMS IN THE BMS AND IS HARDWIRED TO THE VFDS FOR SHUTDOWN OF THE FANS IN ALL OPERATING CONDITIONS OF THE VFD.
6. PROVIDE THE ALARM WHEN AT THE CALCULATED DIFFERENTIAL BETWEEN OUTSIDE AIR AND SPACE AIR CO2 VALUE IS 1000 ppm.
7. PROVIDE LON COMMUNICATION CONNECTION TO THIS DEVICE MAPPING ALL REQUIRED POINTS INTO THE LNS DATABASE.

KEY NOTES

DOAS AIR HANDLING UNIT		INPUT/OUTPUT (NOTE 1)									SOFTWARE/FIRMWARE FEATURES (NOTE 2,3)							NOTES
		SENSED		CALCULATED				ALARMS AND ADVISORIES (WITH INSTRUCTIONS)			MISC. FEATURES							
REFERENCE NO.	POINT NAME	ANALOG INPUT	ANALOG OUTPUT	DIGITAL ALARM	DIGITAL OUTPUT	STRING VALUE	RATE OF VARIABLE	TOTALIZED VARIABLE	DIGITAL ALARM	CHANGE-OF-STATE ALARM	HIGH LIMIT ALARM	LOW LIMIT ALARM	RUNTIME LIMIT (HRS)	BROADCAST POINT	"DIRECT LON COMMUNICATION"	TRENDED VALUE	MISC. OTHER	NETWORK VARIABLE TYPE	NOTES
1	OUTSIDE AIR TEMP	X												X		X		NVO	1 3
2	SUPPLY AIRFLOW	X									20% OVER SP	20% UNDER SP				X		NVO	
3	EXHAUST/RETURN AIRFLOW	X									20% OVER SP	20% UNDER SP						NVO	
4	SUPPLY AIR ENTHALPY WHEEL DISCHARGE TEMP	X														X		NVO	
5	SUPPLY AIR TEMP HEATING SETPOINT (LEAVING THE WHEEL)		X															NVO	
6	EXHAUST/RETURN AIR TEMP (ENTERING THE WHEEL)	X														X		NVO	
7	EXHAUST/RETURN AIR TEMP (LEAVING THE WHEEL)	X																NVO	
8	HEATING COIL DISCHARGE AIR TEMP	X														X		NVO	
9	COOLING COIL DISCHARGE AIR TEMP	X														X		NVO	
10	SUPPLY AIR TEMP	X														X		NVO	
11	EXHAUST/RETURN AIR TEMP	X														X		NVO	
12	DIFFERENTIAL CO2 (CALCULATED)					X					1000 PPM							NVO	6
13	SF HIGH STATIC PRESSURE			X						X	[TBD]							NVO	5
14	EF/RF LOW SUCTION PRESSURE			X						X		[TBD]						NVO	5
15	SUPPLY FAN STATUS			X									1,000					NVO	
16	SUPPLY FAN VFD														X			NVO	7
17	SUPPLY FAN VFD FAULT			X						X								NVO	
18	SUPPLY FAN VFD SPEED		X															NVO	
19	SUPPLY FAN FAILURE				X				X									NVO	2
20	EXHAUST FAN STATUS			X									1,000					NVO	
21	EXHAUST FAN VFD														X			NVO	7
22	EXHAUST FAN VFD FAULT			X						X								NVO	
23	EXHAUST FAN VFD SPEED		X															NVO	
24	EXHAUST FAN FAILURE				X				X									NVO	2
25	OUTSIDE AIR FLOW	X					CFM	CCF			SP-20%	SP+20%				X		NVO	4
26	COMMON FIRE ALARM			X						X				X				NVO	
27	FREEZESTAT ALARM			X						X		39°F						NVO	
28	HVAC MODE					X								X				NVO	
29	OCCUPANCY MODE (BYPASS MODE)			X														NVO	
30	OCCUPANCY MODE					X												NVO	
31	DX COOLING COMMAND				X													NVO	
32	DX COMPRESSOR STATUS			X									1,000					NVO	



1 DOAS UNIT CONTROL DIAGRAM
SCALE: NONE

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

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140 Park Avenue New City, NY 10956 Tel 845-708-9200
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Drawing Title
WEIGHT & LOCKER RM
CONTROL DIAGRAM

Drawing No.
M-021

UNIT	EXISTING CURB DIMENSIONS (IN)	NEW UNIT DIMENSIONS (IN)
G1	222 x 78.5	266.8 x 66.5
G2	222 x 78.5	267.1 x 66.5
G3	222 x 78.5	265.3 x 72
H1	294 x 78	265.3 x 72
K1	222 x 133	267.7 x 93.5
K2	221 x 132	267.7 x 93.5

REFERENCE TABLE 1 - UNIT DIMENSIONS

NOTE: GC RESPONSIBLE TO PROVIDE ADAPTER CURB FOR NEW UNIT. EXISTING CURB DIMENSIONS AND DIMENSIONS OF NEW UNIT SHOWN FOR REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE TO VERIFY IN FIELD EXACT DIMENSIONS FOR PREPARATION OF ADAPTER CURB, SEE ARCH DETAILS.

UNIT TAG	CIRCUIT DESCRIPTION	V/PH/HZ	FLA (A)	MCA (A)	MAX FUSE SIZE (A)
G1	SUPPLY & RETURN	460/3/60	19.85	22.60	30.00
G2	SUPPLY & RETURN	460/3/60	17.05	19.10	25.00
G3	SUPPLY & RETURN	460/3/60	22.65	25.40	35.00
H1	SUPPLY & RETURN	460/3/60	25.65	29.15	40.00
K1	SUPPLY & RETURN	460/3/60	42.65	47.90	60.00
K2	SUPPLY & RETURN	460/3/60	42.65	47.90	60.00

REFERENCE TABLE 2 - POWER/CIRCUIT INFORMATION

NOTE: POWER/CIRCUIT INFORMATION OF NEW UNITS TO BE COORDINATED WITH ELECTRICAL CONTRACTOR. SHOWN HERE FOR REFERENCE ONLY.

HVAC DESIGN CRITERIA

A. SITE (BASED ON NEAREST AVAILABLE DATA: ASHRAE 2013 HANDBOOK CLIMATIC DESIGN INFORMATION, WESTCHESTER CO, NY):
   1. 41.07°N, 73.71°W
   2. ELEVATION: 397 FT
   3. CLIMATE ZONE 5A.

B. OUTSIDE DESIGN CONDITIONS (BASED ON NEAREST AVAILABLE DATA: ASHRAE 2013 CLIMATIC DESIGN INFORMATION, WESTCHESTER CO, NY):
   1. HEATING DB (99.6%): 9.0°F DB
   2. COOLING DB/MCWB (1%): 86.5°F DB, 72.1°F WB

C. INSIDE DESIGN CONDITIONS (PER NYSED MANUAL OF PLANNING STANDARDS S602-6 B. AND 2015 ASHRAE HANDBOOK CH 7 TABLE 6):
   1. OCCUPIED HEATING INDOOR SETPOINT: 72°F
   2. OCCUPIED COOLING INDOOR SETPOINT: 78°F, 60% RH
   3. NON-OCCUPIED HEATING INDOOR SETPOINT: 55°F
   4. NON-OCCUPIED COOLING INDOOR SETPOINT: 85°F
   5. ZONE THERMOSTATIC CONTROLS SHALL PROVIDE DEADBAND OF MIN. 5°F. (NYSECCC C403.4.1.2)

D. ACOUSTICS (PER NYSED MANUAL OF PLANNING STANDARDS, TABLE S304-1):
   1. DESIGN REQUIREMENTS FOR HVAC SYSTEM NOISE FOR CLASSROOMS, 7-12: RC 25-30.

E. FILTRATION: MERV 13 (PER NYSED MANUAL OF PLANNING STANDARDS).

F. DEMAND CONTROLLED VENTILATION (PER NYSED MANUAL OF PLANNING STANDARDS AND ASHRAE 62.1 APPENDIX C):

SCOPE OF WORK

1. DEMOLISH EXISTING ROOFTOP AIR HANDLING UNIT.
2. DEMOLISH EXISTING PIPING.
3. FURNISH AND INSTALL NEW ROOFTOP AIR HANDLING UNIT.
4. FURNISH AND INSTALL NEW PIPING AND COIL CONTROL VALVE.
5. INTERCONNECT UNIT TO BMS.

GENERAL NOTES

PIPE SIZE SCHEDULE	
PIPE SIZE	FLOW RANGE
3/4"	0-4 GPM
1"	5-7.5 GPM
1-1/4"	8-16 GPM
1-1/2"	17-24 GPM
2"	25-48 GPM
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MECHANICAL VENTILATION SCHEDULE

SYSTEM	ROOM	OCCUPANCY CLASSIFICA- TION	FLOOR AREA SF Az	OCCUPANT LOAD OCCUPANT/ 1,000 SF	# OF OCCUP- ANTS Pz	REQUIRED CFM/ OCCUPANT Rp	REQ. CFM/SF Ra	BREATHING ZONE OUTDOOR AIRFLOW Vbz=RpPz+ RaAz	ZONE DISTRIBUT ION EFFECTIV ENESS Ez	TOTAL ROOM OUTDOOR AIR REQUIRED Vot=Vbz/Ez	ACTUAL RM OUTSIDE AIR SUPPLY AIRFLOW CFM	REQ. EXHAUST AIRFLOW RATE CFM/SF	REQUIRED EXHAUST AIRFLOW CFM	ACTUAL EXHAUST AIRFLOW CFM
G1	120	CLASSROOM	335	35	12	10	0.12	157	0.8	197	200	-	-	-
	120A	OFFICE	335	5	2	5	0.06	28	0.8	36	50	-	-	-
	118	CLASSROOM	695	35	24	10	0.12	327	0.8	408	425	-	-	-
	119	CLASSROOM	695	35	24	10	0.12	327	0.8	408	425	-	-	-
	CORRIDOR	CORRIDOR	550	0	0	0	0.06	33	0.8	41	50	-	-	-
G2	115	OFFICE	210	5	1	5	0.06	18	0.8	22	50	-	-	-
	115A	OFFICE	310	5	2	5	0.06	26	0.8	33	50	-	-	-
	115B	OFFICE	115	5	1	5	0.06	10	0.8	12	50	-	-	-
	116	CLASSROOM	710	35	25	10	0.12	334	0.8	417	425	-	-	-
	117	CLASSROOM	720	35	25	10	0.12	338	0.8	423	425	-	-	-
	CORRIDOR	CORRIDOR	550	0	0	0	0.06	33	0.8	41	50	-	-	-
G3	111	CLASSROOM	845	35	30	10	0.12	397	0.8	496	500	-	-	-
	112	CLASSROOM	850	35	30	10	0.12	400	0.8	499	500	-	-	-
	113	CLASSROOM	625	35	22	10	0.12	294	0.8	367	375	-	-	-
	113A	CLASSROOM	440	35	15	10	0.12	207	0.8	259	275	-	-	-
	114	CLASSROOM	620	35	22	10	0.12	291	0.8	364	375	-	-	-
	CORRIDOR	CORRIDOR	550	0	0	0	0.06	33	0.8	41	50	-	-	-
H1	108	CLASSROOM	1080	35	38	10	0.12	508	0.8	635	650	-	-	-
	109	CLASSROOM	1075	35	38	10	0.12	505	0.8	632	650	-	-	-
	110	CLASSROOM	845	35	30	10	0.12	397	0.8	496	500	-	-	-
	110A	OFFICE	430	5	2	5	0.06	37	0.8	46	50	-	-	-
	110B	CONFERENCE RM	300	50	15	5	0.06	93	0.8	116	125	-	-	-
K1	GIRLS LOCKER RM	LOCKER RM	4210	0	0	0	0	0	0	0	0	0.5	2105	2200
	OFFICE A	OFFICE	110	5	1	5	0.06	9	0.8	12	15	-	-	-
	OFFICE B	OFFICE	110	5	1	5	0.06	9	0.8	12	15	-	-	-
	OFFICE C	OFFICE	110	5	1	5	0.06	9	0.8	12	15	-	-	-
	STORAGE 011D	STORAGE	295	0	0	0	0.12	35	0.8	44	50	-	-	-
	STORAGE 011E	STORAGE	180	0	0	0	0.12	22	0.8	27	30	-	-	-
K2	BOYS LOCKER RM	LOCKER RM	2855	0	0	0	0	0	0	0	0	0.5	1428	1500
	OFFICE A	OFFICE	110	5	1	5	0.06	9	0.8	12	15	-	-	-
	OFFICE B	OFFICE	110	5	1	5	0.06	9	0.8	12	15	-	-	-
	OFFICE C	OFFICE	110	5	1	5	0.06	9	0.8	12	15	-	-	-
	OFFICE D	OFFICE	235	5	1	5	0.06	20	0.8	25	30	-	-	-
	EQUIP. RM	STORAGE	1865	0	0	0	0	0	0	0	0	0.5	933	1000
	VARSITY LOCKERS	LOCKER RM	870	0	0	0	0	0	0	0	0	0.5	435	500

NOTES:
1. VENTILATION CALCULATIONS COMPLY WITH THE 2020 NYS MECHANICAL CODE.
2. AIRFLOWS ARE EXPRESSED IN CFM UNLESS OTHERWISE NOTED.

ROOFTOP AIR HANDLING UNIT SCHEDULE

TAG	WEIGHT (LBS)	MODEL	OUTSIDE AIRFLOW (CFM)	SUPPLY FAN				RETURN/EXHAUST FAN			FILTERS		COOLING COIL - CHW										HEATING COIL - HW								
				AIRFLOW (CFM)	ESP (inH2O)	TSP (inH2O)	MOTOR SIZE (HP)	AIRFLOW (CFM)	ESP (inH2O)	MOTOR SIZE (HP)	FACE AREA (FT²)	EFFICIENCY	EAT EDB (°F)	EAT EWB (°F)	LAT LDB (°F)	LAT LWB (°F)	EWT (°F)	LWT (°F)	GPM	FIN SPACING PER FT.	ROWS	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	FIN SPACING PER FT.	ROWS	EDB (°F)	LDB (°F)	EWT (°F)	LWT (°F)	GPM	TOTAL CAPACITY (MBH)	
G-1	4161	CSAA012	1150	6210	1.00	3.23	7.5	6210	1.00	5.0	16.67	MERV 14	78.8	65.15	58.09	56.59	45.0	59.0	23.32	80	6	163.79	141.52	87	1	58.32	79.41	180.0	140	7.1	142.06	
G-2	4128	CSAA012	1150	5340	1.00	2.90	5.0	5340	1.00	5.0	16.67	MERV 14	79.4	65.55	56.72	55.69	45.0	59	23.01	89	6	161.60	133.29	90	1	56.16	80.33	180.0	140	7.0	140.00	
G-3	4289	CSAA014	2075	7420	1.00	3.38	7.5	7420	1.00	7.5	18.06	MERV 14	80.6	66.35	57.79	56.31	45.0	59	33.06	84	6	232.19	186.34	80	1	51.84	71.74	180.0	140	8.0	160.15	
H-1	4321	CSAA014	1975	7590	1.25	3.70	10.0	7590	1.25	7.5	18.06	MERV 14	80.2	66.09	57.79	56.29	45.0	59	32.90	84	6	231.04	187.24	87	1	53.28	74.18	180.0	140	8.6	172.00	ALT. #30
K-1	7085	CSAA030	2325	14900	1.25	3.19	15.0	14900	1.00	10.0	30.44	MERV 14	78.8	65.15	62.00	60.23	45.0	59.0	33.04	145	3	232.0	224.55	105	1	58.32	89.23	180.0	140	24.97	499.50	ALT. #31
K-2	7085	CSAA030	3075	14900	1.25	3.19	15.0	14900	1.00	10.0	30.44	MERV 14	78.8	65.15	62.00	60.23	45.0	59.0	33.04	145	3	232.0	224.55	105	1	58.32	89.23	180.0	140	24.97	499.50	

NOTES:
1. BASIS OF DESIGN IS BY TRANE OR APPROVED EQUAL.
2. PROVIDE SUPPLY AND RETURN SMOKE DETECTORS (FACTORY INSTALLED) TO SHUTDOWN UNIT.
3. PROVIDE 4" PLEATED AIR FILTERS, MERV 14 RATING, SEE SPEC 234100 FOR MORE INFO.
4. PROVIDE START-UP BY MANUFACTURERS AUTHORIZED TECHNICIAN.
5. PROVIDE FACTORY INSTALLED 0-100% ECONOMIZER WITH DIFFERENTIAL ENTHALPY CONTROL.
6. UNIT TO BE DELIVERED VIA CRANES, ALL NECESSARY PERMITS FOR RIGGING REQUIRED.
7. MC TO PROVIDE FACTORY INSTALLED VFD W/ INTEGRAL MOTOR STARTERS FOR EACH FAN, EC TO FURNISH AND INSTALL FUSIBLE TYPE DISCONNECT SWITCHES(FIELD INSTALL)
8. PROVIDE HOT GAS BYPASS WITH CONTINUOUS CAPACITY MODULATION (MAXIMUM 25% TOTAL CAPACITY).
9. PROVIDE FACTORY ZONE AND TEMPERATURE SENSORS FOR PROPER INSTALLATION AND COORDINATION WITH UNIT CONTROLS.
10. PROVIDE BACNET COMPATIBLE CONTROLS FOR INTERCONNECTION TO EXISTING SIEMENS BMS SYSTEM. FULL DDC CONTROL OF ENERGY WHEELS (WHERE APPLICABLE) INCLUDING FROST PROTECTION VIA ENERGY WHEEL VFD SPEED CONTROL, 100% ECONOMIZER MODE VIA ENERGY WHEEL BYPASS DAMPERS
11. DEMAND CONTROL VENTILATION REQUIRED FOR ALL UNITS EXCEPT K-1 & K-2. PROVIDE OCCUPANCY SENSORS IN EACH SPACE FOR H-1, G-1, G-2, G-3.
12. CHILLED WATER SYSTEM COILS TO BE SIZED FOR 30% PROPYLENE GLYCOL.
13. MECHANICAL TO PROVIDE HEATING AND COOLING CONTROL VALVE, SEE COIL PIPING DETAILS ON DRAWING M501.

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

No.	Date	Revisions
-	-	-
-	-	-
-	-	-
-	-	-
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by NRY
Checked by ERF
Project No. 42051
Scale AS NOTED
Date 10/25/22

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NORTH ROCKLAND HIGH SCHOOL PROJECTS - PHASE 1

3 — 1 — 01-27-23

HIGH SCHOOL: SBL# 50-02-01-06-0-015-005
PRESS BOX (DEMO): SBL# 00-02-01-06-7-028-001
CONCESSIONS-PRESS BOX (NEW): SBL# 00-02-01-06-7-029-001
PRELIMINARY SBL# 50-02-01-06-7-009-001

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Drawing Title
HIGH SCHOOL RTU MECHANICAL NOTES AND SCHEDULES

Drawing No.
M-030

1. DUCT SMOKE DETECTORS SHALL BE PROVIDED IN MAIN SUPPLY AND RETURN DUCT FOR SYSTEMS OVER 1,000 CFM AND ALSO UPSTREAM OF EACH STORY RETURN DUCT/ RISER CONNECTION WHERE RETURN AIR RISERS SERVE TWO OR MORE STORIES FOR SYSTEMS OVER 15,000 CFM.
2. INTEGRATE AIR FLOW MEASURING APPARATUS INTO THE BMS/DDC NETWORK. PROVIDE ONE OUTSIDE AIR FLOW MEASURING STATION FOR EACH OUTSIDE AIR INTAKE PORT. PROVIDE FACTORY INSTALLED AIRFLOW STATION.
3. PROVIDE NEW THERMOSTATS WITH LOCK BOXES IN ROOMS BEING SERVED BY AHU. CONTRACTOR SHALL PROVIDE ALL ASSOCIATED CONTROL WIRING.
4. SAFETY SHUTDOWN DEVICES SHALL BE HARDWIRED TO THE FAN STARTER CIRCUIT IN ADDITION TO THE DDC SYSTEM. COORDINATE WITH MANUFACTURER FOR SHUTDOWN UNDER ALL MODES OF OPERATION.
5. MECHANICAL CONTRACTOR SHALL HIRE A FIRE ALARM SUBCONTRACTOR. FIRE ALARM CONTRACTOR TO FURNISH FIRE ALARM SYSTEM COMPLIANT SMOKE DETECTORS TO THE MECHANICAL CONTRACTOR WHO SHALL IN TURN FURNISH THEM TO THE CENTRAL AIR HANDLING UNIT MANUFACTURER FOR FACTORY INSTALLATION OR TO THE SHEET METAL CONTRACTOR FOR FIELD DUCTWORK INSTALLATION FOR THE FLOOR RETURN/RISER RETURN CONNECTIONS AS APPLICABLE. CONTRACTOR SHALL PROVIDE ALL SIGNAL AND CONTROL POWER WIRING TO UNIT.
6. CONTRACTOR TO PROVIDE OCCUPANCY SENSORS IN EACH SPACE. SENSORS ARE TO BE INTERCONNECTED TO THE BMS.

NOTES

VFD	VARIABLE FREQUENCY DRIVE
TLL-1	TEMPERATURE LOW LIMIT
TCC	TEMPERATURE CONTROLS CONTRACTOR
TS-1	OUTSIDE AIR TEMP
TS-2	MIXED AIR TEMP
TS-3	HEATING COIL DISCHARGE
TS-4	DISCHARGE AIR TEMP
TS-5	RETURN AIR TEMP
FE	FLOW ELEMENT
FM	FLOW METER
DCV	DEMAND CONTROL VENTILATION
CO2	CARBON DIOXIDE
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
AI	ANALOG INPUT
AO	ANALOG OUTPUT
LON	LONWORKS NETWORK CONNECTION
PSL	PRESSURE SWITCH LOW
PSH	PRESSURE SWITCH HIGH
DPS/I	DIFF. PRESSURE SWITCH/INDICATOR
AD	DPR ACTUATORS
BMS	BUILDING MANAGEMENT SYSTEM

LEGEND

POINTS LIST NOTES:
LEGEND:
X = PROVIDE QUANTITY AS REQUIRED TO INCLUDE ALL INSTANCES OF THE INDICATED FEATURE. INCLUDE MULTIPLE POINTS WITHIN EACH MECHANICAL SYSTEM AS NECESSARY. COORDINATE WITH EQUIPMENT VENDOR.
B = INFORMATION PROVIDED TO EACH SYSTEM VIA NETWORK BROADCAST.

(1) THE POINT LISTED HEREIN ARE THE MINIMUM POINTS REQUIRED FOR THE CONTROL AND MONITORING OF THIS EQUIPMENT. THIS POINT LIST IS TYPICAL FOR EACH MECHANICAL/ELECTRICAL SYSTEM OF THIS TYPE. IF THE SEQUENCE OF OPERATION REQUIRES ADDITIONAL OR DIFFERING INFORMATION, IT MUST BE PROVIDED BY THE RESPECTIVE PROVIDER OF THE CONTROLS FOR THIS TYPE OF EQUIPMENT AS COORDINATED BY THE GENERAL AND MECHANICAL CONTRACTORS.

(2) THE TCC SHALL PROVIDE ALL DIGITAL ALARM LOGIC. ALL DIGITAL ALARMS SHALL BE COMPATIBLE WITH THE EXISTING SIEMENS BMS SYSTEM.

(3) THE TCC SHALL PROVIDE ALL TRENDING AND ANALOG ALARMING VIA THE SOFTWARE USED AT THE EXISTING SIEMENS BMS SYSTEM.

(4) PROVIDE ACCUMULATED AIR FLOW FOR VALIDATION OF PURGE-MODE AND FOR PERMANENT VALIDATION OF OCCUPANT VENTILATION.

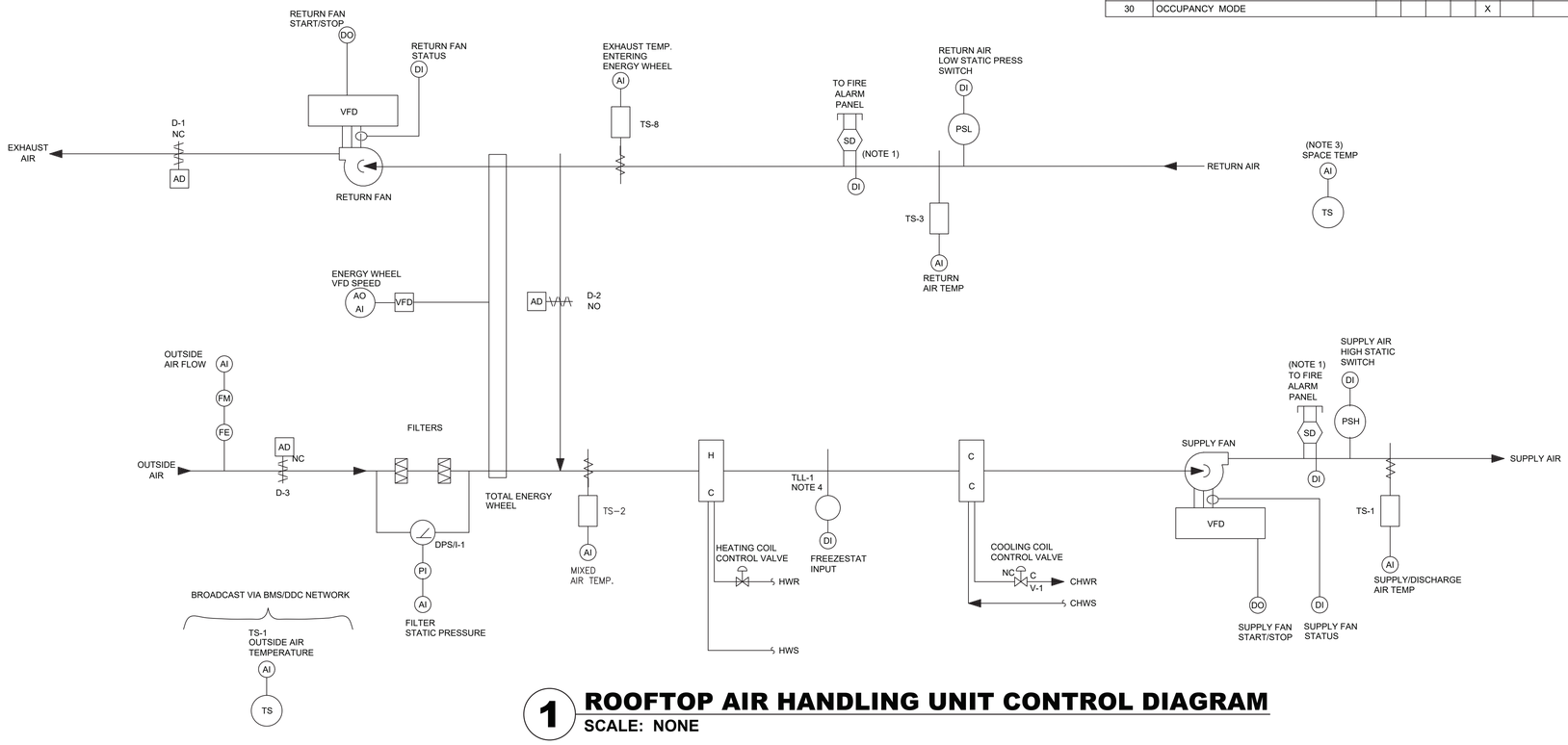
(5) PROVIDE MANUAL RESET DEVICE. NOTE THAT THIS DEVICE BOTH ALARMS IN THE BMS AND IS HARDWIRED TO THE VFDS FOR SHUTDOWN OF THE FANS IN ALL OPERATING CONDITIONS OF THE VFD.

(6) PROVIDE THE ALARM WHEN AT THE CALCULATED DIFFERENTIAL BETWEEN OUTSIDE AIR AND SPACE AIR CO2 VALUE IS 1000 ppm.

(7) PROVIDE LON COMMUNICATION CONNECTION TO THIS DEVICE MAPPING ALL REQUIRED POINTS INTO THE LNS DATABASE.

KEY NOTES

		INPUT/OUTPUT (NOTE 1)									SOFTWARE/FIRMWARE FEATURES (NOTE 2,3)								NOTES
"SZVAV AIR HANDLING UNIT"		SENSED				CALCULATED			ALARMS AND ADVISORIES (WITH INSTRUCTIONS)				MISC. FEATURES					
REFERENCE NO.	POINT NAME	ANALOG INPUT	ANALOG OUTPUT	DIGITAL INPUT	DIGITAL OUTPUT	STRING VALUE	RATE OF VARIABLE	TOTALIZED VARIABLE	DIGITAL ALARM	CHANGE-OF-STATE ALARM	HIGH LIMIT ALARM	LOW LIMIT ALARM	RUNTIME LIMIT (HRS)	BROADCAST POINT	"DIRECT LON COMMUNICATION"	TRENDED VALUE	MISC. OTHER	NETWORK VARIABLE TYPE	NOTES (1) (3)
1	OUTSIDE AIR TEMP	X												X		X		NVO	
2	SUPPLY AIRFLOW	X									20% OVER SP	20% UNDER SP				X		NVO	
3	EXHAUST/RETURN AIRFLOW	X									20% OVER SP	20% UNDER SP						NVO	
4	SUPPLY AIR ENTHALPY WHEEL DISCHARGE TEMP	X														X		NVO	
5	SUPPLY AIR TEMP HEATING SETPOINT (LEAVING THE WHEEL)		X															NVO	
6	EXHAUST/RETURN AIR TEMP (ENTERING THE WHEEL)	X														X		NVO	
7	EXHAUST/RETURN AIR TEMP (LEAVING THE WHEEL)	X																NVO	
8	HEATING COIL DISCHARGE AIR TEMP	X														X		NVO	
9	COOLING COIL DISCHARGE AIR TEMP	X														X		NVO	
10	SUPPLY AIR TEMP	X														X		NVO	
11	EXHAUST/RETURN AIR TEMP	X														X		NVO	
12	DIFFERENTIAL CO2 (CALCULATED)					X					1000 PPM							NVO	(6)
13	SF HIGH STATIC PRESSURE			X						X	[TBD]							NVO	(5)
14	EF/RF LOW SUCTION PRESSURE			X						X		[TBD]						NVO	(5)
15	SUPPLY FAN STATUS			X									1,000					NVO	
16	SUPPLY FAN VFD														X			NVO	(7)
17	SUPPLY FAN VFD FAULT			X						X								NVO	
18	SUPPLY FAN VFD SPEED		X															NVO	
19	SUPPLY FAN FAILURE				X				X									NVO	(2)
20	EXHAUST FAN STATUS			X									1,000					NVO	
21	EXHAUST FAN VFD														X			NVO	(7)
22	EXHAUST FAN VFD FAULT			X						X								NVO	
23	EXHAUST FAN VFD SPEED		X															NVO	
24	EXHAUST FAN FAILURE				X				X									NVO	(2)
25	OUTSIDE AIR FLOW	X					CFM	CCF			SP-20%	SP+20%				X		NVO	(4)
26	COMMON FIRE ALARM			X						X				X				NVO	
27	FREEZESTAT ALARM			X						X		39°F						NVO	
28	HVAC MODE					X								X				NVO	
29	OCCUPANCY MODE (BYPASS MODE)			X														NVO	
30	OCCUPANCY MODE					X												NVO	



1 ROOFTOP AIR HANDLING UNIT CONTROL DIAGRAM
SCALE: NONE

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

No.	Date	Revisions
.	.	.
.	.	.
.	.	.
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by NRY
Checked by ERF
Project No. 42051
Scale AS NOTED
Date 10/25/22

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ROCHESTER, NY 14620
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NORTH ROCKLAND HIGH SCHOOL
PROJECTS - PHASE 1 (3)
HIGH SCHOOL: SBM# 50-02-01-06-0-016-005
PRESS BOX (ROAD): SBM# 50-02-01-06-7-026-001
CONCESSIONS-PRESS BOX (NORTH): SBM# 50-02-01-06-7-079-001
FIELDHOUSE: SBM# 50-02-01-06-7-008-001
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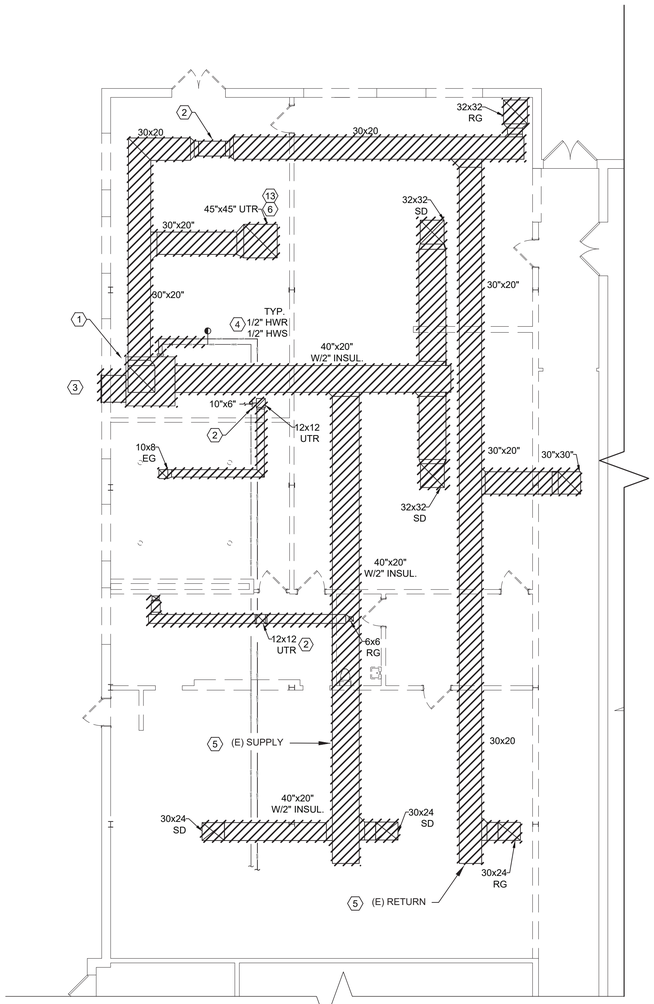
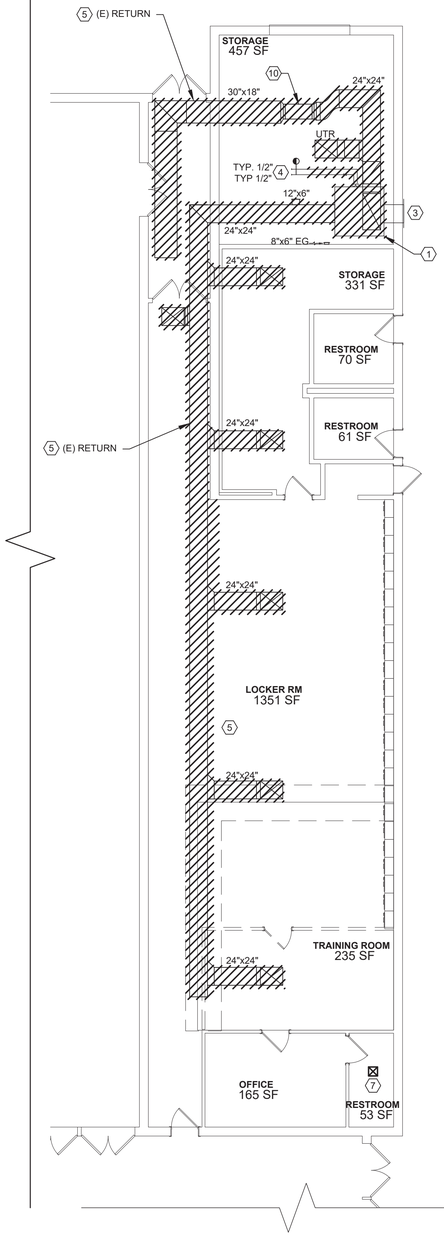
Drawing Title
HIGH SCHOOL RTU MECHANICAL CONTROL DIAGRAM

Drawing No.
M-031



1 WEIGHT ROOM - DEMOLITION
SCALE: 1/8"=1'-0"



2 LOCKER ROOM - DEMOLITION
SCALE: 1/8"=1'-0"

1. EXISTING PIPING AND DUCTWORK IS SHOWN DIAGRAMMATICALLY. CONTRACTOR RESPONSIBLE TO VERIFY IN FIELD EXACT SIZE AND LOCATION.

GENERAL NOTES

PLAN NORTH

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

0 1/2 1

1/MD-120
2/MD-120

KEY PLAN

1. DEMOLISH HEATING AND VENTILATING UNIT AND SUPPORTS AT CEILING.
2. DEMOLISH RETURN FAN AND SUPPORTS AT CEILING.
3. DEMOLISH EXISTING OUTSIDE AIR LOUVER.
4. DEMOLISH INSULATED HW SUPPLY AND RETURN PIPING INCLUDING VALVE ARRANGEMENT AT UNIT.
5. DEMOLISH EXISTING SUPPLY AND RETURN DUCTWORK INCLUDING AIR DIFFUSERS AND GRILLES AS SHOWN.
6. EXISTING INSULATED HW SUPPLY AND RETURN PIPING TO REMAIN.
7. EXISTING AIR OUTLET, DUCTWORK, EXHAUST FAN ON ROOF TO REMAIN.

KEY NOTES

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by NRY
Checked by ERF
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Scale AS NOTED
Date 10/25/22

GREENMAN PEDERSEN, INC
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SUITE 302
SUFFERN, NY 10901

Mechanical & Electrical Engineer:

Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL
PROJECTS - PHASE 1

HIGH SCHOOL SBL# 50-02-01-06-4-010.005
PRESS BOX (DEMO): SBL# 50-02-01-06-7-020.001
CONCESSIONS-PRESS BOX (NEW): SBL# 50-02-01-06-7-019-001
FIELDHOUSE: SBL# 50-02-01-06-7-009-001

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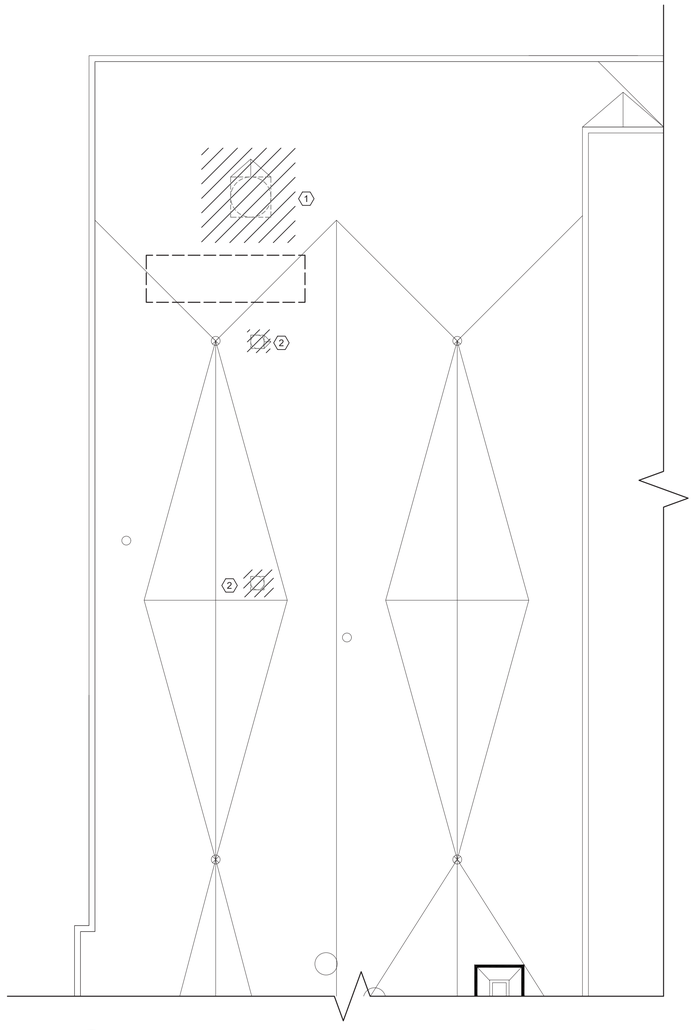
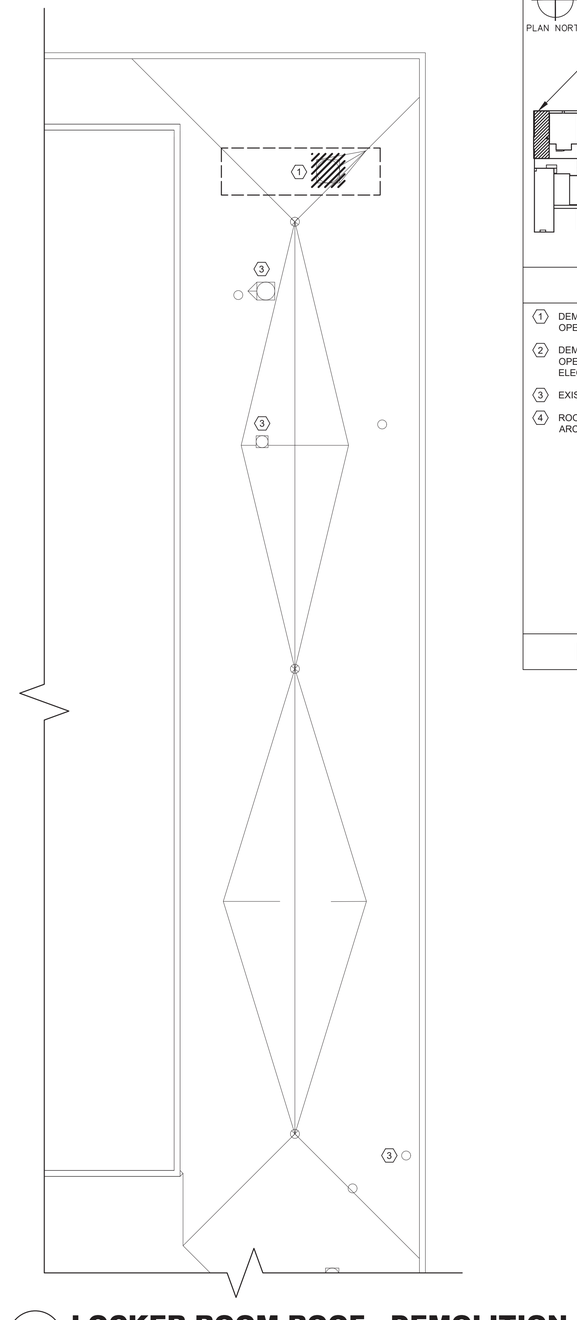
Drawing Title
WEIGHT & LOCKER RM MECHANICAL DEMO PLANS

Drawing No.
MD-120



1 WEIGHT ROOM ROOF - DEMOLITION
SCALE: 1/8"=1'-0"

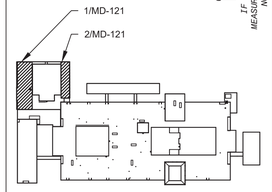


2 LOCKER ROOM ROOF - DEMOLITION
SCALE: 1/8"=1'-0"

PLAN NORTH

0 1/2 1

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



KEY PLAN

1. DEMOLISH EXISTING AIR OUTLET, CAP OPENING. COORDINATE WITH ARCHITECT.
2. DEMOLISH EXISTING EXHAUST FAN, CAP OPENING. COORDINATE WITH ARCHITECT AND ELECTRICAL.
3. EXISTING EXHAUST FAN TO REMAIN.
4. ROOF CUT REQUIRED FOR NEW CURB, SEE ARCH PLANS.

KEY NOTES

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by NRY
Checked by ERF
Project No. 42051
Scale AS NOTED
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SUFFERN, NY 10901

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

NORTH ROCKLAND HIGH SCHOOL PROJECTS - PHASE 1

3

HIGH SCHOOL: SBL# 50-02-01-06-7-026-001
PRESS BOX (ROAD): SBL# 50-02-01-06-7-026-001
CONCESSIONS-PRESS BOX (NEW): SBL# 50-02-01-06-7-079-001
FIELDHOUSE: SBL# 50-02-01-06-7-026-001

190 Haverstraw Rd.
Suffern, NY 10954

TOWN OF RAMAPO
COUNTY OF ROCKLAND

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

Drawing Title
WEIGHT & LOCKER ROOM MECHANICAL DEMO ROOF PLANS

Drawing No.
MD-121

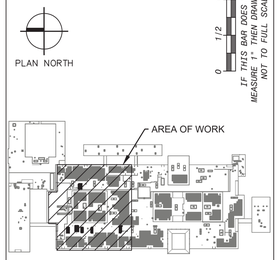
1. PERFORM A COMPLETE PRE-BALANCING TEST OF THE UNITS PRIOR TO REMOVAL.
2. THE CONTRACTOR IS RESPONSIBLE TO PROPERLY DISPOSE OF EXISTING UNITS SCHEDULED TO BE DEMOLISHED.
3. CONTRACTOR SHALL COORDINATE WITH OWNER REGARDING THE SHUTDOWN AND REMOVAL OF EQUIPMENT.
4. PROVIDE AN ALLOWANCE FOR DUCT CLEANING THE EXISTING DUCTWORK.
5. SEE DRAWING M-090 FOR ALL REQUIRED ADDITIONAL NOTES.

NOTES

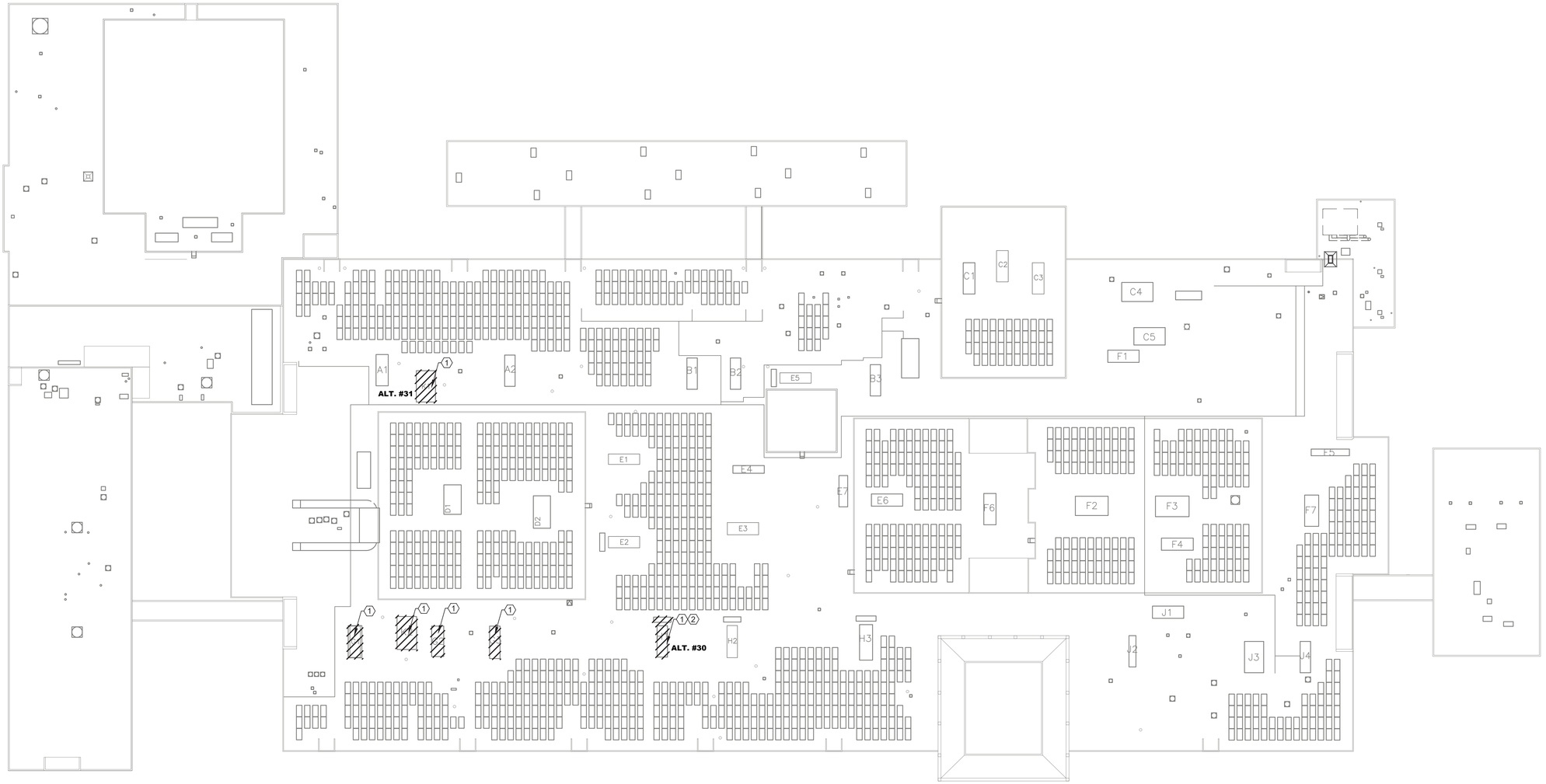
(1) DISCONNECT AND REMOVE EXISTING ROOFTOP AIR HANDLING UNIT. DEMOLISH UNIT, EXISTING ROOF CURB TO REMAIN. CAP OPENING AT ROOF. DISCONNECT AND CAP EXISTING PIPING CONNECTIONS BACK TO RISER.

(2) DEMOLISH EXISTING REMOTE CONDENSING UNIT INCLUDING ASSOCIATED PIPING. EXISTING ROOF CURB TO REMAIN.

KEY NOTES



KEY PLAN



1 NRHS ROOF PLAN - MECHANICAL DEMOLITION

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

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by NRY
Checked by ERF
Project No. 42051
Scale AS NOTED
Date 10/25/22

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

Mechanical & Electrical Engineer:

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

Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1

3

HIGH SCHOOL: SBL# 50-02-01-06-0-015-005
PRESS BOX (DRAM): SBL# 50-02-01-06-7-038-001
CONCESSIONS-PRESS BOX (NEW): SBL# 50-02-01-06-7-079-001
FIELDHOUSE: SBL# 50-02-01-06-7-038-001

106 Hammond Rd.
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COUNTY OF ROCKLAND

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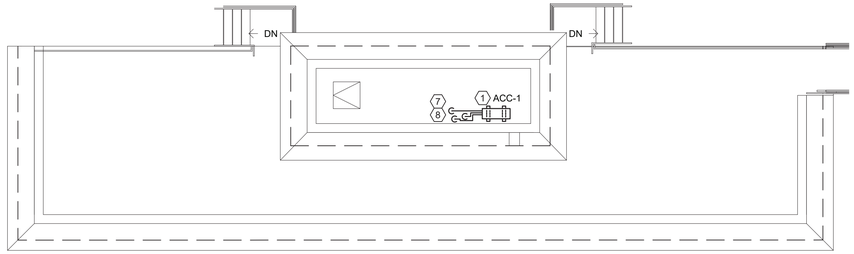
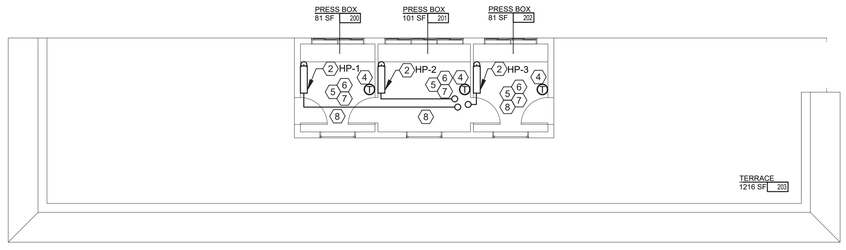
Drawing title
HIGH SCHOOL RTU MECHANICAL DEMO PLANS

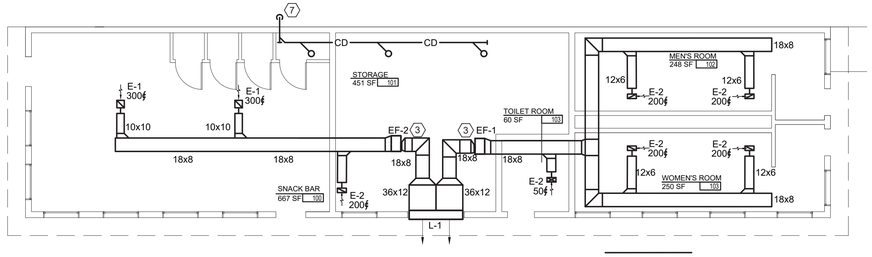
Drawing No.
MD-130



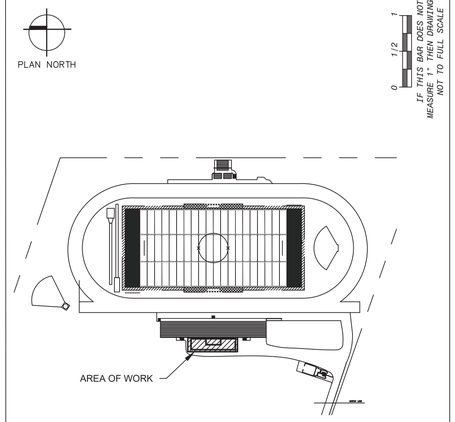
1 ROOF PLAN - INSTALLATION
SCALE: 1/8"=1'-0"



2 SECOND FLOOR PLAN - INSTALLATION
SCALE: 1/8"=1'-0"



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



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

KEY PLAN

1. FURNISH AND INSTALL NEW OUTDOOR CONDENSING UNIT, SEE SCHEDULE ON DRAWING M-010. MOUNT AND SECURE UNIT ON EQUIPMENT RAILS ON ROOF, SEE DETAIL 4/M-510
2. FURNISH AND INSTALL NEW EVAPORATOR/AC INDOOR UNIT. REFER TO INDOOR UNIT SCHEDULE ON DRAWING M-010.
3. FURNISH AND INSTALL NEW EXHAUST FAN, SEE EXHAUST FAN SCHEDULE ON DRAWING M-010. MOUNT AND SECURE UNIT TO CEILING, SEE DETAIL 3/M-510.
4. FURNISH AND INSTALL NEW THERMOSTAT.
5. FURNISH AND INSTALL NEW REFRIGERANT PIPING WITH INSULATION AT NEW INDOOR UNIT. SEE SPLIT SYSTEM SCHEDULE FOR PIPE SIZES ON M-010 FOR SUPPORTS, SEE 8/M-510.
6. ALL PENETRATIONS THROUGH FIRE-RATED CONSTRUCTION SHALL BE SLEEVED/FIRESTOPPED. SEE DETAILS ON 1 & 2/M-510.
7. FURNISH AND INSTALL NEW 3/4" CONDENSATE DRAIN FROM UNIT. TERMINATE AT BUILDING EXTERIOR WALL.
8. FURNISH AND INSTALL PIPE SUPPORTS, SEE DETAILS 3/M-511 AND 7/M5-10.
9. FURNISH AND INSTALL PIPE PORTAL ON ROOF, SEE DETAIL 4/M-510.

KEY NOTES

No.	Date	Revisions
.1	10-28-22	BIDDING DOCUMENTS
.2	12-09-22	SED ADDENDUM 1
.3	01-12-23	SED ADDENDUM 2
.4	01-27-23	REVISIONS

Drawn by NRY
Checked by ERF
Project No. 42051
Scale AS NOTED
Date 10/25/22

GREENMAN PEDERSEN, INC
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NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1

HIGH SCHOOL: SBL# 50-02-01-06-0-016-005
PRESS BOX (DEMO): SBL# 50-02-01-06-7-023-001
CONCESSIONS-PRESS BOX (NEW): SBL# 50-02-01-06-7-079-001
HIGHBRIDGE: SBL# 50-02-01-06-7-006-001

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COUNTY OF ROCKLAND

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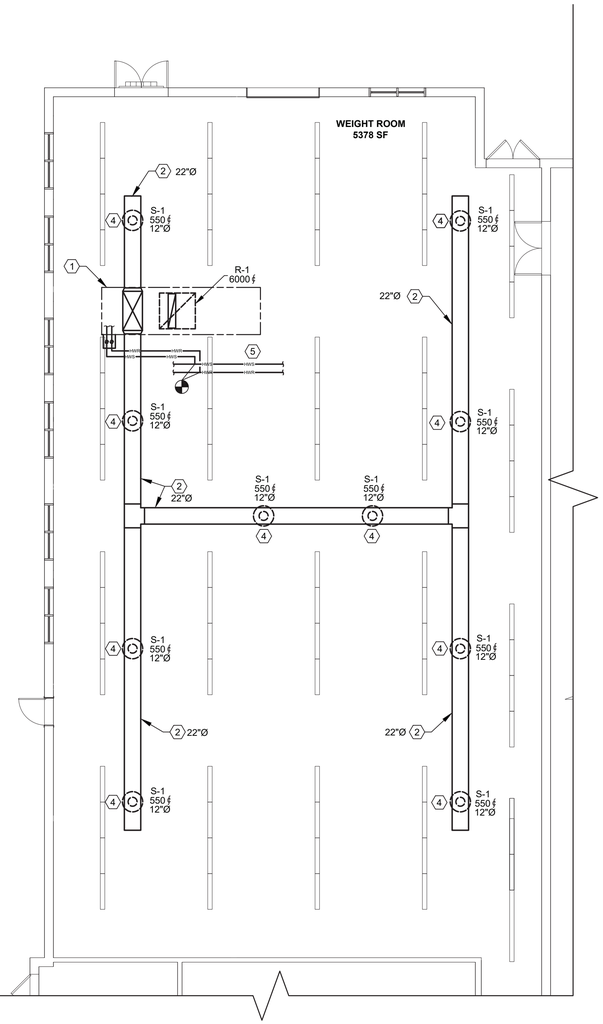
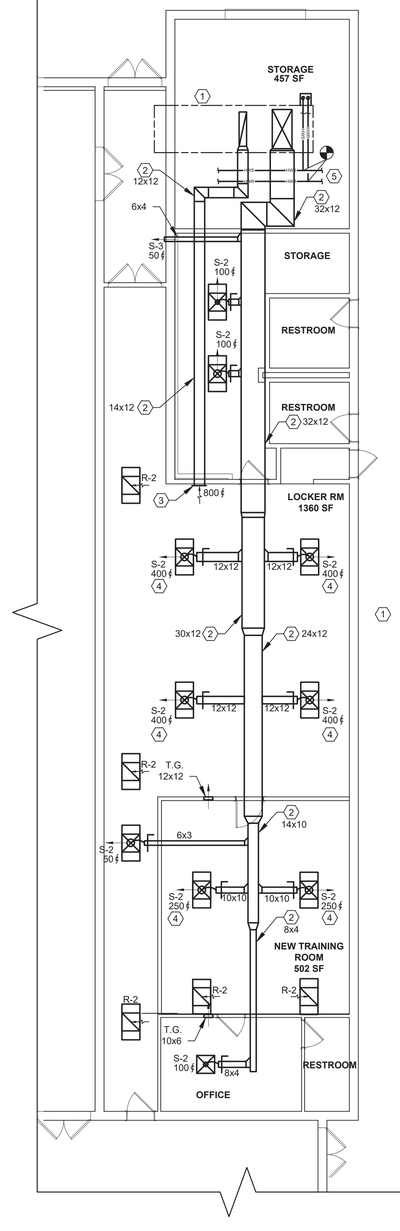
Drawing Title
CONCESSIONS & PRESS BOX MECHANICAL FLOOR PLANS

Drawing No.
M-110



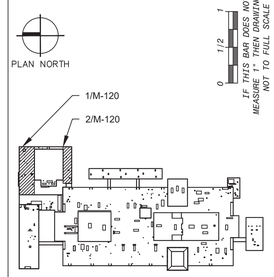
1 WEIGHT ROOM - INSTALLATION

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



2 LOCKER ROOM - INSTALLATION

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



0 1/2 1

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

KEY PLAN

1. DOAS UNIT, SEE ROOF PLAN, DRAWING M-121.
2. FURNISH AND INSTALL NEW DUCTWORK W/ACOUSTIC LINING, SIZES SHOWN ON PLANS ARE INTERIOR DIMENSIONS.
3. TERMINATE RETURN DUCTWORK IN WIRE MESH, LOCATED ABOVE ACT.
4. FURNISH AND INSTALL NEW AIR OUTLET, SEE AIR OUTLETS SCHEDULE ON DRAWING M-020.
5. FURNISH AND INSTALL HOT WATER SUPPLY AND RETURN PIPING.

KEY NOTES

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by	NRY
Checked by	ERF
Project No.	42051
Scale	AS NOTED
Date	10/25/22

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SUFFERN, NY 10901
Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL PROJECTS - PHASE 1

HIGH SCHOOL: SED# 50-02-01-06-0-016-005
PRESS BOX (DEMO): SED# 50-02-01-06-7-038-001
CONCESSIONS/PRESS BOX (NEW): SED# 50-02-01-06-7-070-001
FIELDHOUSE: SED# 50-02-01-06-7-006-001

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ROCKLAND COUNTY, NEW YORK

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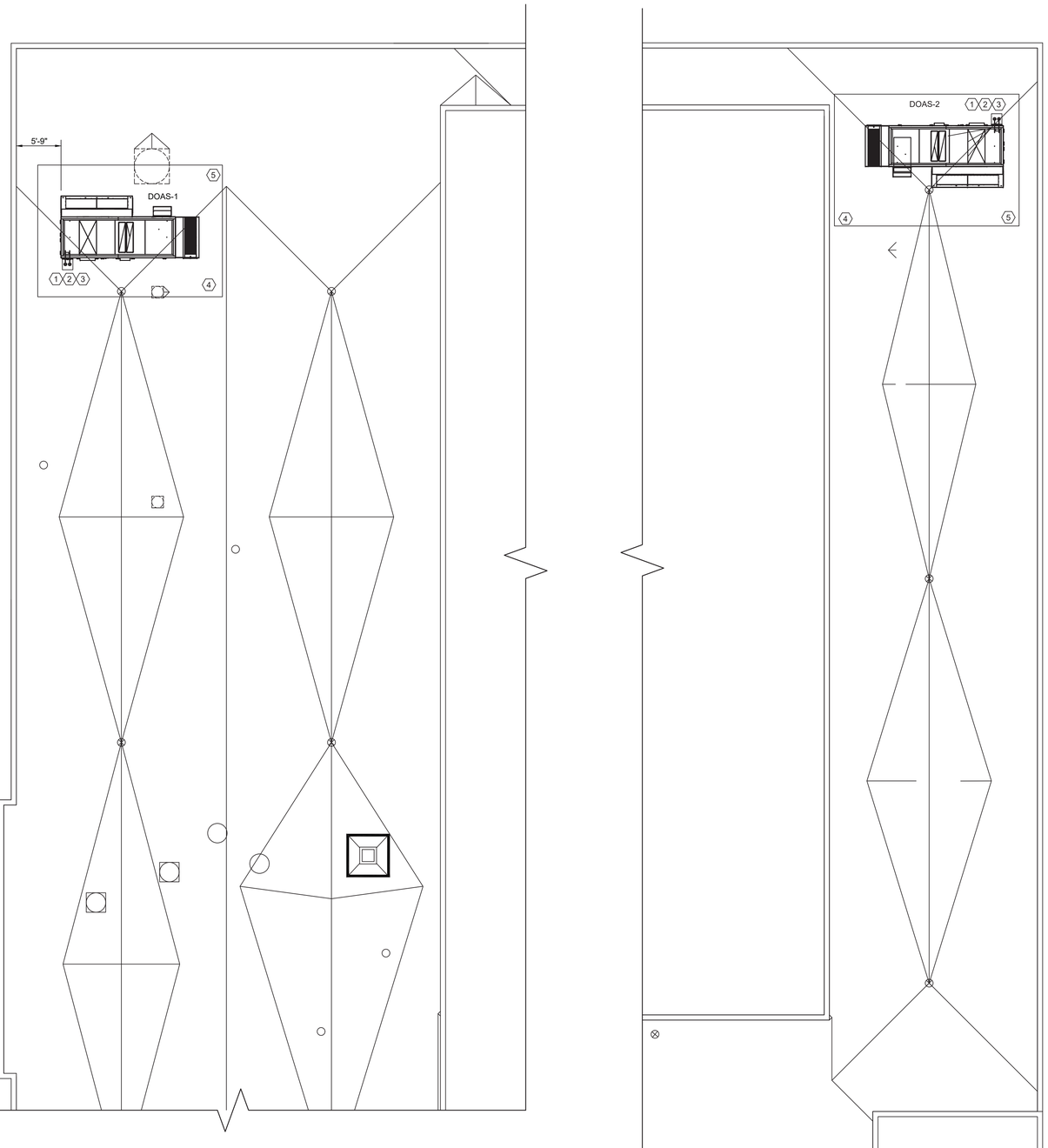
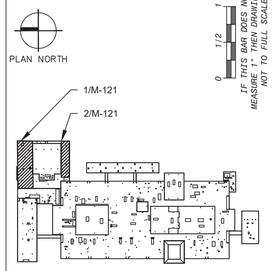
Drawing Title
WEIGHT & LOCKER RM MECHANICAL FLOOR PLANS

Drawing No.
M-120



1 WEIGHT ROOM ROOF - INSTALLATION
SCALE: 1/8"=1'-0"

2 TRAINING ROOM ROOF - INSTALLATION
SCALE: 1/8"=1'-0"



KEY PLAN

1. FURNISH AND INSTALL NEW DOAS UNIT ON ROOF CURB, SEE SCHEDULE ON M-020.
2. MC TO PROVIDE CUSTOM INSULATED PIPE ENCLOSURE W/ ACCESS AT ROOF FOR PIPING ROOF.
3. MC TO CUT HOLES IN CABINET SIDE PANEL FOR HW COIL, 2" NOM. NPT. FOR COIL PIPING CONNECTIONS AT UNIT SEE DETAIL 1/M-520.
4. MECHANICAL CONTRACTOR TO MAINTAIN REQUIRED SERVICE CLEARANCE FOR UNIT.
5. GC TO PROVIDE FALL PROTECTION FENCING/ENCLOSURE AT PERIMETER OF UNIT, SEE ARCH PLANS.

KEY NOTES

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by NRY
Checked by ERF
Project No. 42051
Scale AS NOTED
Date 10/25/22

GREENMAN PEDERSEN, INC
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GREENMAN PEDERSEN, INC
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SUITE 302
SUFFERN, NY 10901

Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1

HIGH SCHOOL: SBL# 50-02-01-06-0-015-005
PRESS BOX (DEMO): SBL# 50-02-01-06-7-068-001
CONCESSIONS-PRESS BOX (NEW): SBL# 50-02-01-06-7-079-001
RESTROOMS: SBL# 50-02-01-06-7-069-001

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Drawing Title
WEIGHT & LOCKER ROOM MECHANICAL ROOF PLAN

Drawing No.
M-121

— — — — AHU FAN EQUIPMENT SERVICE CLEARANCE

NOTES

1. FOR ADDITIONAL INFORMATION AND SPECIFICS REGARDING AIR HANDLING UNIT INSTALLATION, SEE THE AIR HANDLING UNIT SPECIFICATION. PROVIDE EXTRA PARTS AS DEPICTED IN THE SPECIFICATION.
2. INSTALL DUCT SMOKE DETECTORS FOR THE NEW AIR HANDLING UNITS TO COMPLY TO CODE. EXISTING DUCT SMOKE DETECTORS ON SUPPLY SIDE TO BE REPLACED WITH NEW. NEW DUCT SMOKE DETECTORS SHALL BE INSTALLED ON A STRAIGHT DUCT ON THE RETURN SIDE. NEW SMOKE DETECTORS SHALL BE CONNECTED TO THE EXISTING FIRE ALARM CONTROL PANEL. COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR.
3. PERFORM A COMPLETE BALANCING TEST OF THE DUCTS AND BRANCHES SERVING THE NEW UNITS. PROVIDE BALANCING REPORT TO ENGINEER FOR REVIEW AND APPROVAL. SEE REFERENCE DRAWINGS FOR LOCATION OF EXISTING DUCT, DIFFUSERS, ETC. IN EACH SPACE BEING SERVED.
4. THE CONTRACTOR IS RESPONSIBLE FOR RIGGING THE UNITS. CONTRACTOR SHALL INSTALL UNITS WITH PROPER LIFTS AND EQUIPMENT IN A SAFE WORKMAN-LIKE MANNER. CONTRACTOR IS RESPONSIBLE TO PULL PERMITS RELATED TO RIGGING AND INSTALLING THE UNITS.
5. CONTRACTOR SHALL COORDINATE WITH OWNER REGARDING THE SHUTDOWN AND REMOVAL OF EQUIPMENT.
6. CONTRACTOR SHALL FOLLOW MANUFACTURER'S INSTRUCTIONS TO ENSURE ALL INSTALLATION CLEARANCES ARE MET AND THAT THE UNIT IS INSTALLED AS PER LATEST NYS MECHANICAL CODE.
7. PROVIDE AN ALLOWANCE FOR DUCT CLEANING THE EXISTING DUCTWORK.
8. PROVIDE ADEQUATE MEANS FOR CONDENSATE DISPOSAL FOR EACH UNIT, SEE DETAILS ON M-530.

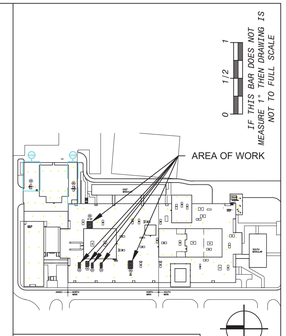
KEY NOTES

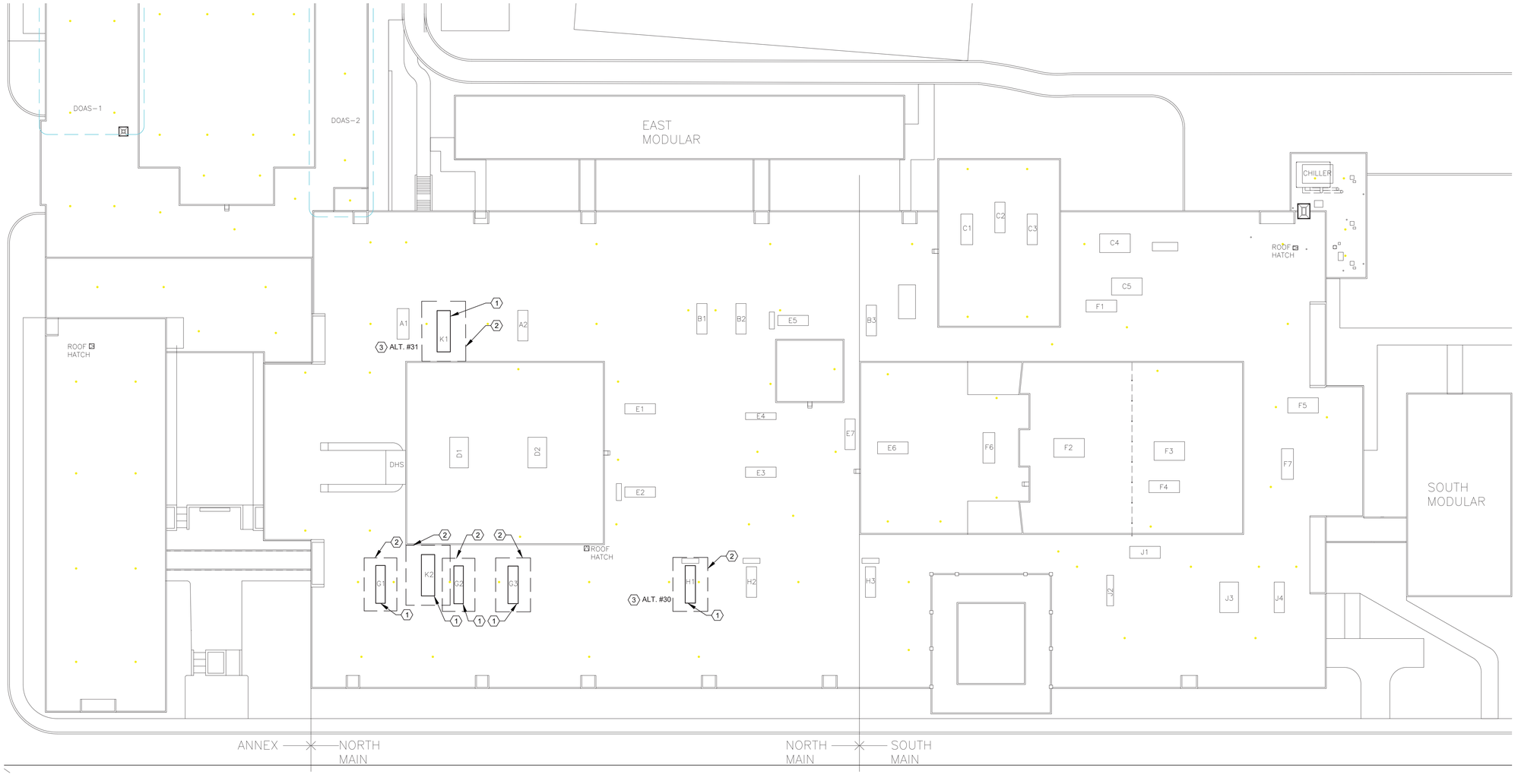
(1) REMOVE AND REPLACE EXISTING AIR HANDLING UNIT WITH NEW. THE EXISTING ROOF CURB TO REMAIN, THERE SHALL BE NO NEW ROOF PENETRATIONS. PROVIDE AN ADAPTER ROOF CURB & FACTORY ASSEMBLED PIPE CHASE CURB AND CABINET FOR UNIT, SEE AIR HANDLING UNITS SCHEDULE ON DRAWING M-030 FOR REQUIRED AIRFLOW RATINGS.

(2) REQUIRED SERVICE CLEARANCE FOR EACH UNIT.

(3) TO INCLUDE AS AN ADD ALTERNATE, REMOVE AND REPLACE EXISTING AIR HANDLING UNIT WITH NEW. THE EXISTING ROOF CURB TO REMAIN, THERE SHALL BE NO NEW ROOF PENETRATIONS. INCLUDE PRICING FOR AN ADAPTER CURB & FACTORY ASSEMBLED PIPE CABINET FOR UNIT, SEE AIR HANDLING UNITS SCHEDULE ON DRAWING M001 FOR REQUIRED AIRFLOW RATINGS.

KEY PLAN





1 NRHS ROOF PLAN - MECHANICAL INSTALLATION

SCALE: NONE

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by NRY
Checked by ERF
Project No. 42051
Scale AS NOTED
Date 10/25/22

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD
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SUFFERN, NY 10901

Mechanical & Electrical Engineer:

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

Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL PROJECTS - PHASE 1

HIGH SCHOOL SBD# 50-02-01-06-0-016-005
PRESS BOX (DEMO): SED# 50-02-01-06-7-008-001
CONCESSIONS-PRESS BOX (NEW): SED# 50-02-01-06-7-079-001
FIELDHOUSE SED# 50-02-01-06-7-008-001

196 Hamsonad Rd.
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COUNTY OF ROCKLAND

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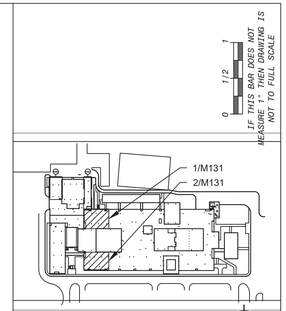
Drawing Title
HIGH SCHOOL RTU MECHANICAL ROOF PLANS

Drawing No.
M-130

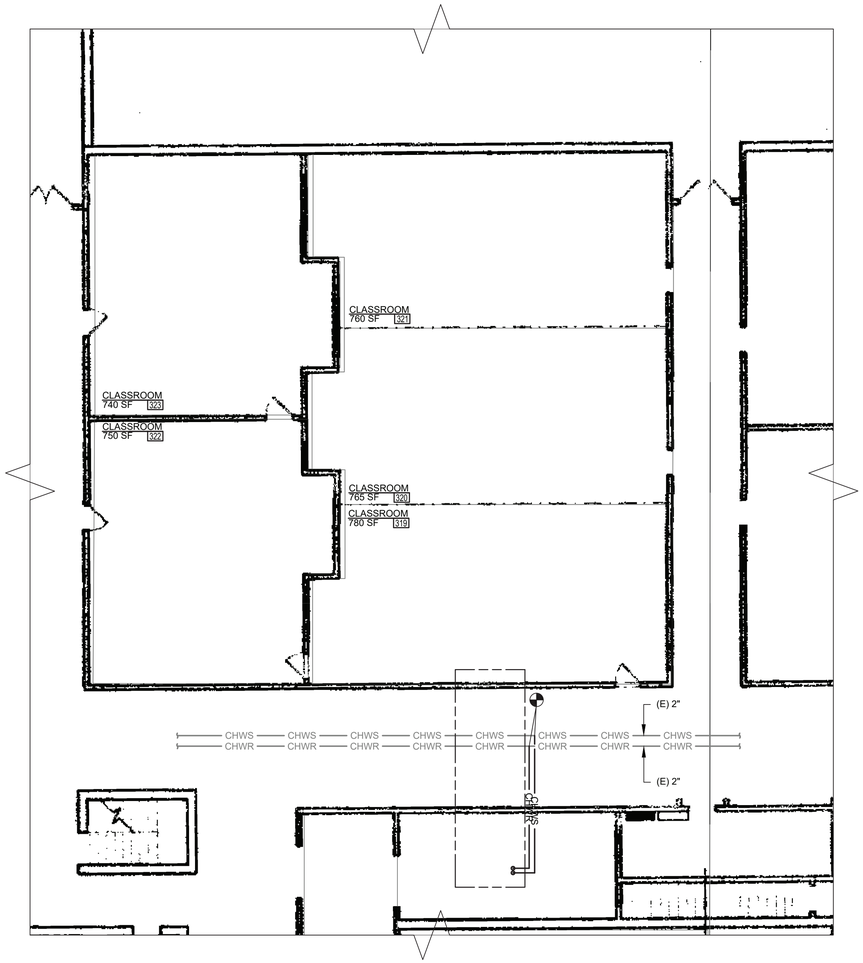
1. FURNISH AND INSTALL NEW CHWS & CHWR PIPING W/ INSULATION
2. FIRESTOP WALL PENETRATIONS AS REQUIRED.

KEY NOTES

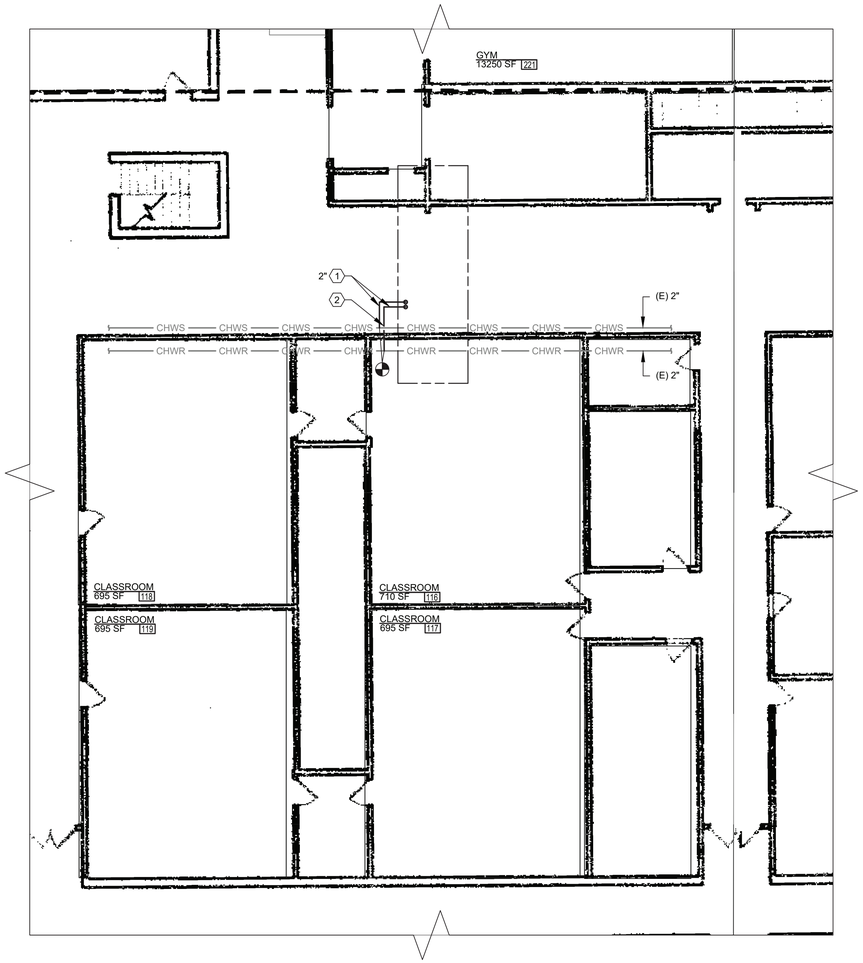


KEY PLAN

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



1 K1 LOCKER ROOM PART PLAN
SCALE: 1/8"=1'-0"



2 K2 LOCKER ROOM PART PLAN
SCALE: 1/8"=1'-0"

No.	Date	Revisions
1	10-28-22	BIDDING DOCUMENTS
2	12-09-22	SED ADDENDUM 1
3	01-12-23	SED ADDENDUM 2
4	01-27-23	REVISIONS

Drawn by NRY
Checked by ERF
Project No. 42051
Scale AS NOTED
Date 10/25/22

GREENMAN PEDERSEN, INC
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Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL
PROJECTS – PHASE 1 (3)
HIGH SCHOOL: SBL# 50-02-01-06-0-016-005
PRESS BOX (DEMO): SBL# 50-02-01-06-7-035-001
CONCESSIONS-PRESS BOX (NEW): SBL# 50-02-01-06-7-079-001
FIELDHOUSE: SBL# 50-02-01-06-7-035-001
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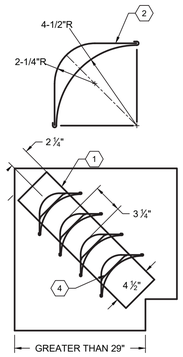
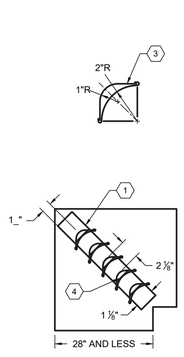
Drawing Title
LOCKER ROOM PART PLAN

Drawing No.
M-131

DUCTS GREATER THAN 16" WIDE

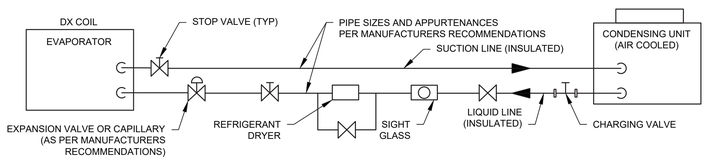


DUCTS 16" WIDE AND LESS

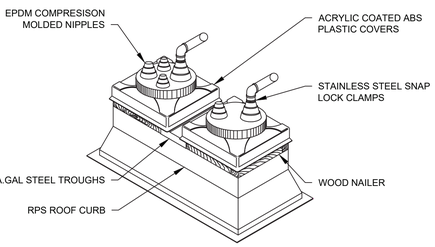


1. 22 GA VANE RUNNER BOLTED, SCREWED OR WELDED TO DUCT
2. LARGE DOUBLE VANE, MIN 24 GA, 72" MAX UNSUPPORTED VANE LENGTH
3. SMALL DOUBLE VANE, MIN 26 GA, 48" MAX UNSUPPORTED VANE LENGTH
4. TURNING VANE MOUNTED ON EACH TAB OF RUNNER. EVERY RUNNER TAB MUST RECEIVE A TURNING VANE.

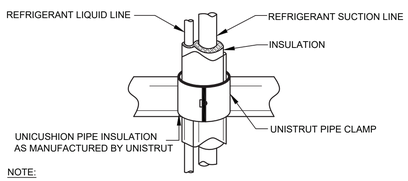
9 VANED ELBOW TURNING VANE
SCALE: N.T.S.



6 DX COIL PIPING DIAGRAM
SCALE: NONE



1 PIPE PORTAL AT ROOF PENETRATION
SCALE: NONE

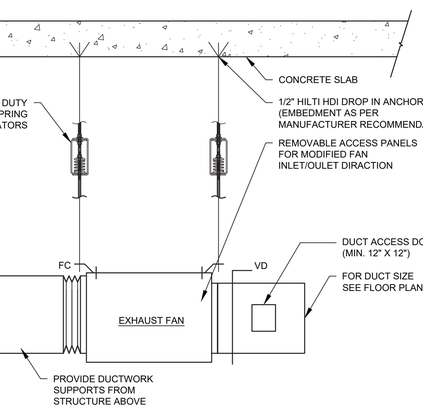


NOTE:

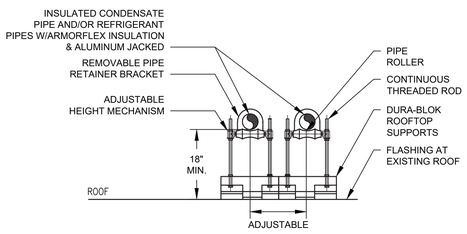
1. LIQUID AND SUCTION LINES MAY BE ROUTED TOGETHER FOR CONVENIENCE, BUT MUST BE COMPLETELY INSULATED FROM EACH OTHER. DO NOT SOLDER LIQUID AND SUCTION LINES TOGETHER. DO NOT ALLOW METAL TO METAL CONTACT.
2. LINES SHOULD BE INSTALLED WITH AS FEW BENDS AS POSSIBLE, ALLOWING SERVICE ACCESS TO THE INDOOR COIL.
3. SLOPE HORIZONTAL SUCTION LINES 1 INCH EVERY 20 FEET TOWARD THE OUTDOOR UNIT.
4. USE LONG RADIUS ELBOWS WHEREVER POSSIBLE, EXCEPT IN OIL RETURN TRAPS, WHERE SHORT RADIUS ELBOWS SHOULD BE USED.

8 REFRIGERANT PIPE SUPPORT
SCALE: NONE

5 TYPICAL DUCTWORK CONSTRUCTION
SCALE: NONE

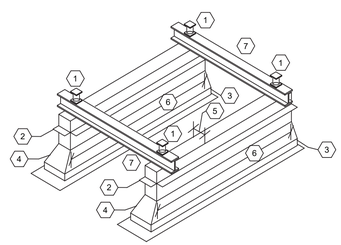


2 LOUVER DETAIL
SCALE: NONE



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

7 ROOF PIPE SUPPORT
SCALE: NONE



1. SPRING ISOLATOR BOLTED TO STEEL BEAM. PROVIDE ISOLATORS FOR USE OUTDOORS. (TYP OF 4)
2. COUNTER FLASHING OVER TREATED WOOD NAILER
3. GALVANIZED STEEL, MIN. 18 GAGE WITH WELDED SEAMS
4. RAIL (PROVIDED BY DIV. 15)
5. MINIMUM 7 ½"
6. MINIMUM 102"
7. GALVANIZED STEEL BEAM ATTACHED TO RAIL. (PROVIDED BY DIV. 15)

4 ROOF MOUNTED EQUIPMENT SUPPORT
SCALE: NONE

3 EXHAUST FAN SUPPORT
SCALE: NONE

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

No.	Date	Revisions
.	.	.
.	.	.
.	.	.
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by	NRY
Checked by	ERF
Project No.	42051
Scale	AS NOTED
Date	10/25/22

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

Mechanical & Electrical Engineer:

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

Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1

3 10-28-22 ADDENDUM 3

HIGH SCHOOL: SED# 50-02-01-06-0-010-055
PRESS BOX (DEMO): SED# 50-02-01-06-7-028-001
CONCESSIONS-PRESS BOX (NEW): SED# 50-02-01-06-7-029-001
FIELDHOUSE: SED# 50-02-01-06-7-030-001

106 Hammond Rd.
Pearl River, NY 10965

TOWN OF HAVERSTRAW
COUNTY OF ROCKLAND

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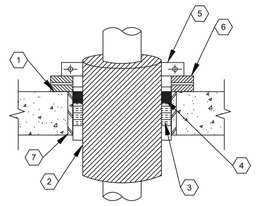
Drawing Title
CONCESSIONS & PRESS BOX MECHANICAL DETAILS

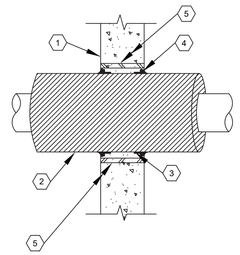
Drawing No.
M-510



1. CONCRETE SLAB OR CONCRETE OVER STEEL DECK.
2. STEEL, IRON OR COPPER PIPE WITH UP TO 2" THICK FIBERGLASS INSULATION.
3. TIGHTLY PACKED MINERAL WOOL, NOMINAL 4 PCF, TO A 3" DEPTH.
4. SEALANT INSTALLED TO A 1" DEPTH. ANNULUS RANGING FROM 1/4" MINIMUM TO 3" MAXIMUM.
5. STANDARD PIPE CLAMP.
6. STEEL BEARING PLATE.
7. STEEL SLEEVE

1 2 HOUR RATED FIRE STOP FOR INSULATED PIPE THROUGH CONCRETE FLOORS

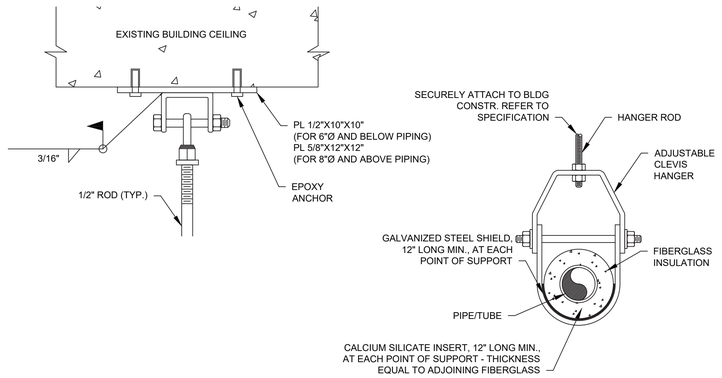
SCALE: NONE



1. CONCRETE OR CONCRETE BLOCK WALL
2. STEEL OR IRON PIPE TO 12" OR COPPER PIPE UP TO 6" WITH UP TO 3" FIBERGLASS OR MINERAL WOOL INSULATION
3. WRAP STRIP. WRAP PRODUCT AROUND PIPE, SECURE WITH STEEL TIE WIRE, AND RECESS 1-¾" INTO WALL CAVITY.
4. SEALANT. INSTALL ¼" BEAD AROUND WRAP STRIP/INSULATION INTERSTICES. ANNULUS AFTER INSTALLATION OF WRAP STRIP(S) SHALL RANGE FROM POINT CONTACT TO ½" MAXIMUM
5. STEEL SLEEVE

2 2 HOUR RATED FIRESTOP FOR INSULATED PIPING THROUGH CONCRETE/MASONY WALLS

SCALE: NONE



3 PIPE HANGER DETAILS

SCALE: NONE

1/2 0 1

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

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by NRY
Checked by ERF
Project No. 42051
Scale AS NOTED
Date 10/25/22

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

Mechanical & Electrical Engineer:

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

Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1

HIGH SCHOOL SBD# 50-02-01-06-0-016-005
PRESS BOX (DEMO): SBD# 50-02-01-06-7-008-001
CONCESSIONS-PRESS BOX (NEW): SBD# 50-02-01-06-7-079-001
FIELDHOUSE SBD# 50-02-01-06-7-009-001

196 Haverstraw Rd.
Suffern, NY 10901

TOWN OF RAMAPO
COUNTY OF ROCKLAND

MICHAEL SHILALE ARCHITECTS, L.L.P.
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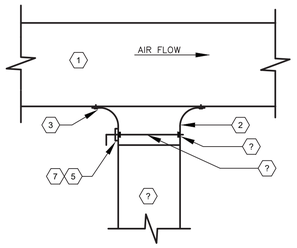
www.shilale.com

Drawing Title
CONCESSIONS & PRESS BOX MECHANICAL DETAILS-2

Drawing No.
M-511



1. RECTANGULAR MAIN DUCT
2. BELL-MOUTH FITTING
3. SHEETMETAL SCREW & SEAL
4. VOLUME DAMPER
5. LOCKING QUADRANT
6. ROUND BRANCH DUCT
7. PROVIDE RAISED HAT CHANNEL ON INSULATED DUCTWORK
8. BEARING (TYP.)

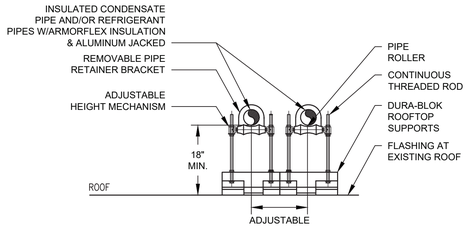
GENERAL NOTES:

SINGLE-BLADE DAMPER SHAFT SHALL BE CONTINUOUS.

CONTRACTOR FABRICATED DAMPERS ARE NOT ACCEPTABLE.

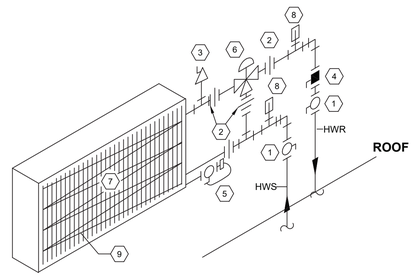
PROVIDE BEARINGS AT BOTH ENDS OF DAMPER BLADES WITH GASKETS AT DUCT PENETRATIONS

7 ROUND TAP TO RECTANGULAR DUCT
SCALE: NONE



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

4 ROOF PIPE SUPPORT
SCALE: NONE

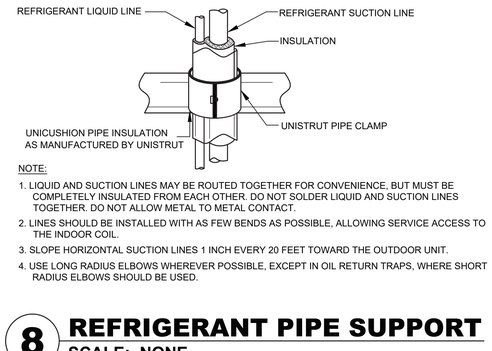


1. BALL VALVE
2. UNION
3. MANUAL AIR VENT
4. CALIBRATED BALANCING VALVE
5. DRAIN VALVE
6. THREE-WAY CONTROL VALVE (ELECTRIC OR PNEUMATIC AS SPECIFIED)
7. HEATING COIL
8. THERMOMETER
9. FREEZE STAT (SERPENTINE)

PIPE SCHEDULE	
UNIT	HWS/R
LR.TR	1 1/4"
WR	1 1/2"

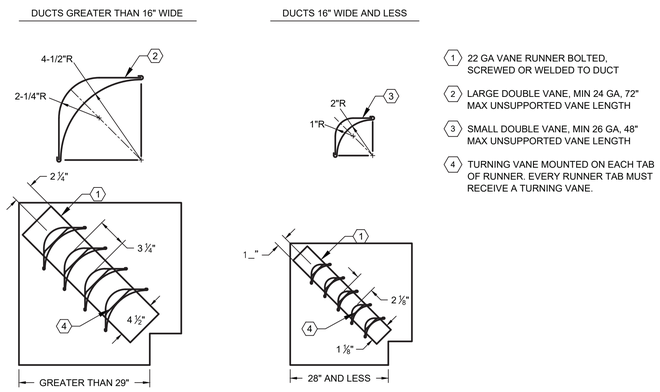
1 AHU HOT WATER COIL
SCALE: NONE

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



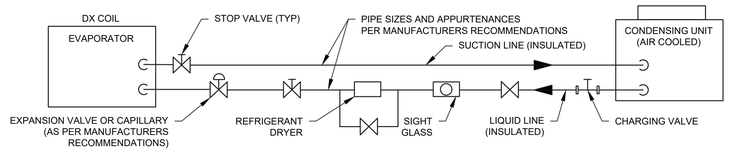
NOTE:
1. LIQUID AND SUCTION LINES MAY BE ROUTED TOGETHER FOR CONVENIENCE, BUT MUST BE COMPLETELY INSULATED FROM EACH OTHER. DO NOT SOLDER LIQUID AND SUCTION LINES TOGETHER. DO NOT ALLOW METAL TO METAL CONTACT.
2. LINES SHOULD BE INSTALLED WITH AS FEW BENDS AS POSSIBLE, ALLOWING SERVICE ACCESS TO THE INDOOR COIL.
3. SLOPE HORIZONTAL SUCTION LINES 1 INCH EVERY 20 FEET TOWARD THE OUTDOOR UNIT.
4. USE LONG RADIUS ELBOWS WHEREVER POSSIBLE, EXCEPT IN OIL RETURN TRAPS, WHERE SHORT RADIUS ELBOWS SHOULD BE USED.

8 REFRIGERANT PIPE SUPPORT
SCALE: NONE

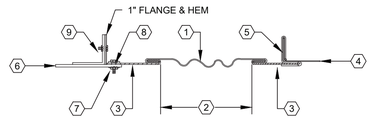


1. 22 GA VANE RUNNER BOLTED, SCREWED OR WELDED TO DUCT
2. LARGE DOUBLE VANE, MIN 24 GA, 72" MAX UNSUPPORTED VANE LENGTH
3. SMALL DOUBLE VANE, MIN 26 GA, 48" MAX UNSUPPORTED VANE LENGTH
4. TURNING VANE MOUNTED ON EACH TAB OF RUNNER. EVERY RUNNER TAB MUST RECEIVE A TURNING VANE.

5 VANED ELBOW TURNING VANE
SCALE: NONE

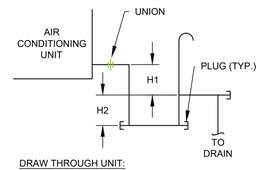


2 DX COIL PIPING DIAGRAM
SCALE: NONE



1. FLEXIBLE MATERIAL AS SPECIFIED
2. 6" NOMINAL LENGTH, 1 1/2" TO 3" INSTALLED LENGTH
3. SHEET METAL SPECIFIED FOR DUCTWORK
4. DUCT
5. 1 1/2" POCKET SLIP
6. FLANGED CONNECTION TO MECHANICAL EQUIPMENT
7. WASHER
8. BOLT ON 4" CENTERS
9. ALTERNATE POSITION OF BOLT

6 RECTANGULAR FLEX CONNECTION
SCALE: NONE



DRAW THROUGH UNIT:
H1= NEGATIVE STATIC PRESSURE OF FAN + 1" MIN.
H2= H1

3 CONDENSATE DRAIN TRAP SIZING
SCALE: NONE

NOTE:
1. MC RESPONSIBLE TO VERIFY AND COMPLY WITH MANUFACTURERS INSTALLATION INSTRUCTIONS FOR PROPER TRAP SIZING.

No.	Date	Revisions
1	10-28-22	BIDDING DOCUMENTS
2	12-09-22	SED ADDENDUM 1
3	01-12-23	SED ADDENDUM 2
4	01-27-23	REVISIONS
.	.	.
.	.	.
.	.	.

Drawn by NRY
Checked by ERF
Project No. 42051
Scale AS NOTED
Date 10/25/22

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

Mechanical & Electrical Engineer:

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

Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1

3

HIGH SCHOOL SED# 50-02-01-06-7-009-001
PRESS BOX (DEMO): SED# 50-02-01-06-7-009-001
CONCESSIONS-PRESS BOX (NEW): SED# 50-02-01-06-7-079-001
PRELIMINARY SED# 50-02-01-06-7-009-001

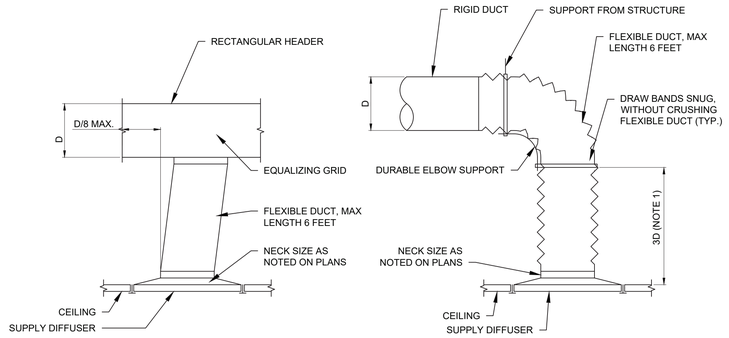
TOWN OF ORANGETOWN
COUNTY OF ROCKLAND

160 Blanchard Rd.
Pearl River, NY 10965

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

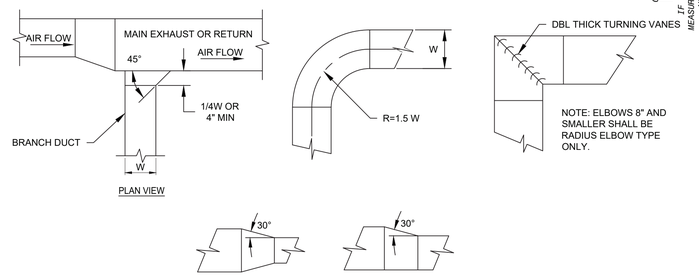
Drawing Title
WEIGHT ROOM MECHANICAL DETAILS-1

Drawing No.
M-520

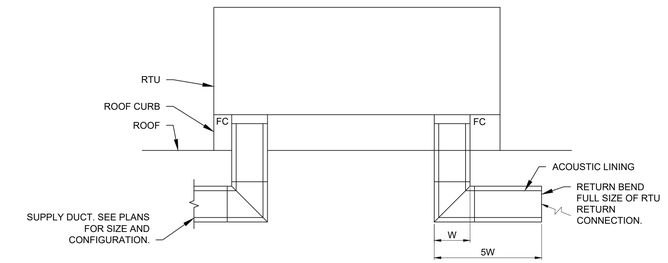


NOTES:
1. THE LENGTH OF STRAIGHT DUCT UPSTREAM OF DIFFUSER SHALL NOT BE LESS THAN 1D. WHEN THE LENGTH OF STRAIGHT DUCT UPSTREAM OF THE DIFFUSER IS LESS THAN 3D, PROVIDE AN EQUALIZING GRID.
2. VOLUME DAMPERS ARE NOT SHOWN IN THIS DETAIL. PROVIDE WHERE INDICATED ON THE PLANS OR AS OTHERWISE SPECIFIED.
3. SUPPLY DIFFUSERS ARE SHOWN, RETURN GRILLES ARE SIMILAR.

4 AIR OUTLET CONNECTION DETAILS
SCALE: NONE

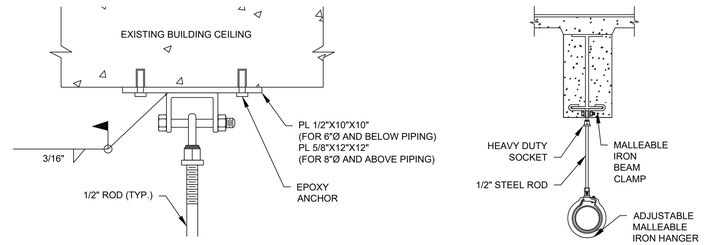


1 TYPICAL DUCTWORK CONSTRUCTION
SCALE: NONE

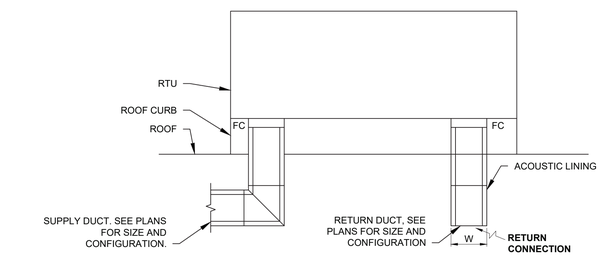


NOTE:
SYSTEM WITH PLENUM RETURN IS SHOWN. DUCTED RETURNS ARE SIMILAR.

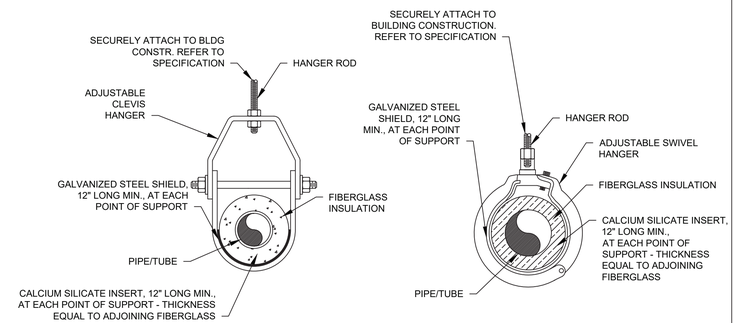
5 ROOFTOP UNIT DUCTWORK - TRAINING ROOM
SCALE: NONE



2 PIPE HANGER DETAILS
SCALE: NONE



6 ROOFTOP UNIT DUCTWORK - WEIGHT ROOM
SCALE: NONE



3 ENLARGED PIPE HANGER DETAILS
SCALE: NONE

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

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

Drawn by NRY
Checked by ERF
Project No. 42051
Scale AS NOTED
Date 10/25/22

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

Mechanical & Electrical Engineer:

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

Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1

HIGH SCHOOL SED# 50-02-01-06-7-016-005
PRESS BOX (DEMO): SED# 50-02-01-06-7-008-001
CONCESSIONS-PRESS BOX (NEW): SED# 50-02-01-06-7-079-001
PRESSBOX: SED# 50-02-01-06-7-008-001

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TOWN OF ORANGETOWN
COUNTY OF ROCKLAND

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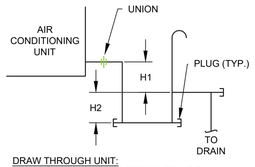
140 Park Avenue New City, NY 10956 Tel 845-708-9200
www.shilale.com

Drawing Title
WEIGHT ROOM MECHANICAL DETAILS-2

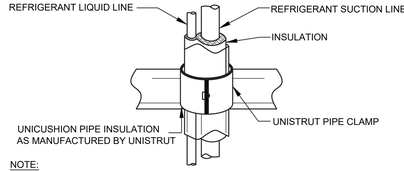
Drawing No.
M-521



DRAW THROUGH UNIT:
H1= NEGATIVE STATIC PRESSURE OF FAN + 1" MIN.
H2= H1

6 CONDENSATE DRAIN TRAP SIZING
SCALE: NONE

NOTE:
1. MC RESPONSIBLE TO VERIFY AND COMPLY WITH MANUFACTURERS INSTALLATION INSTRUCTIONS FOR PROPER TRAP SIZING.



NOTE:
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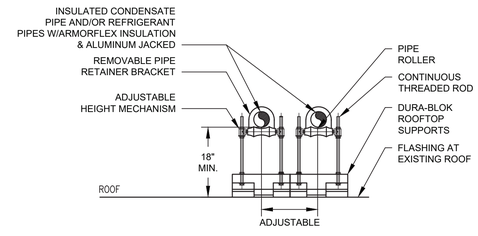
2. LINES SHOULD BE INSTALLED WITH AS FEW BENDS AS POSSIBLE, ALLOWING SERVICE ACCESS TO THE INDOOR COIL.
3. SLOPE HORIZONTAL SUCTION LINES 1 INCH EVERY 20 FEET TOWARD THE OUTDOOR UNIT.
4. USE LONG RADIUS ELBOWS WHEREVER POSSIBLE, EXCEPT IN OIL RETURN TRAPS, WHERE SHORT RADIUS ELBOWS SHOULD BE USED.

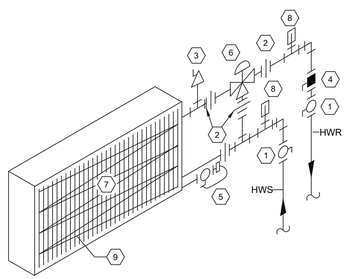
1 REFRIGERANT PIPE SUPPORT
SCALE: NONE

5 PIPE PORTAL AT ROOF PENETRATION
SCALE: NONE



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

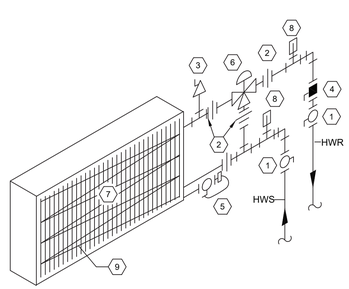
2 ROOF PIPE SUPPORT
SCALE: NONE



1. BALL VALVE
2. UNION
3. MANUAL AIR VENT
4. CALIBRATED BALANCING VALVE
5. DRAIN VALVE
6. THREE-WAY CONTROL VALVE (ELECTRIC OR PNEUMATIC AS SPECIFIED)
7. HEATING COIL
8. THERMOMETER
9. FREEZE STAT (SERPENTINE)

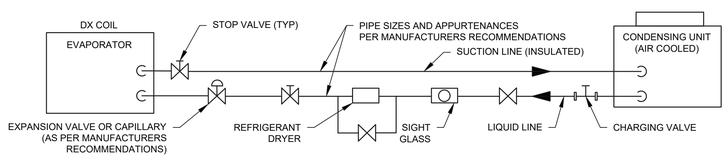
PIPE SCHEDULE		
UNIT	HWS/R	CHWS/R
G1	1"	1 1/2"
G2	1"	1 1/2"
G3	1"	2"
H1	1"	2"
K1	2"	2"
K2	2"	2"

7 AHU HOT WATER COIL
SCALE: NONE



1. BALL VALVE
2. UNION
3. MANUAL AIR VENT
4. CALIBRATED BALANCING VALVE
5. DRAIN VALVE
6. THREE-WAY CONTROL VALVE (ELECTRIC OR PNEUMATIC AS SPECIFIED)
7. HEATING COIL
8. THERMOMETER
9. FREEZE STAT (SERPENTINE)

4 AHU CHILLED WATER COIL
SCALE: NONE



3 DX COIL PIPING DIAGRAM
SCALE: NONE

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

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by NRY
Checked by ERF
Project No. 42051
Scale AS NOTED
Date 10/25/22

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

Structural Engineer:
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SUFFERN, NY 10901

NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1 (3)

HIGH SCHOOL SED# 50-02-01-06-0-016-005
PRESS BOX (DEMO): SED# 50-02-01-06-7-008-001
CONCESSIONS-PRESS BOX (NEW): SED# 50-02-01-06-7-079-001
FIELDHOUSE SED# 50-02-01-06-7-009-001

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Blauvelt, NY 10994

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COUNTY OF ROCKLAND

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Drawing Title
HIGH SCHOOL RTU MECHANICAL DETAILS

Drawing No.
M-530

POWER & SYSTEMS SYMBOL LIST

SYMBOL	DESCRIPTION
2,4	CONDUIT AND WIRE RUN CONCEALED IN FLOOR, CEILING OR WALL. HASH MARKS DENOTE NUMBER OF WIRES IF MORE THAN TWO ARE REQUIRED. ARROWS DENOTE HOMERUNS OF PARTICULAR CIRCUITS, MINIMUM 2#12 THHN/THWN IN 3/4" CONDUIT. ALL BRANCH CIRCUITS FOR 120V IF GREATER THAN 100 FEET SHALL BE ONE SIZE LARGER MINIMUM, AND FOR 277V IF MORE THAN 200 FEET ONE SIZE LARGER MINIMUM (BOTH TO MEET VOLTAGE DROP REQUIREMENTS) " " DENOTES GROUND CONDUCTOR TO MATCH CIRCUIT WIRES
PNL-1	"PNL" INDICATES PANEL DESIGNATION, "1" INDICATES CIRCUIT NUMBER. CIRCUIT WIRE SHALL BE MINIMUM 2#12 THHN/THWN IN 3/4" CONDUIT, U.O.I. COMPUTER CIRCUIT SHALL ALSO BE PROVIDED WITH A SEPARATE NEUTRAL
	LIGHTING AND POWER PANEL BOARD, FLUSH MOUNTED IN WALL WITH COVER.
	LIGHTING AND POWER PANEL BOARD, SURFACE MOUNTED ON WALL.
	SAME AS ABOVE BUT WITH GUTTER TAP.
	WIRING TROUGH/SPLICE BOX, SIZE AS REQUIRED.
$a	SINGLE POLE TOGGLE LINE-VOLTAGE SWITCH MOUNTED AT 48" A.F.F. SUBSCRIPT DENOTES LIGHTING FIXTURES CONTROLLED 'K' INDICATES KEY OPERATED SWITCH '3' INDICATES THREE-WAY SWITCH 'VS' INDICATES INTEGRATED OCCUPANCY SENSOR (IN VACANCY MODE). 'OC' INDICATES INTEGRATED OCCUPANCY SENSOR 'PL' INDICATES WITH PILOT LIGHT SWITCH 'LT' INDICATES LIGHTED SWITCH 'e' INDICATES LIGHTING FIXTURES CONTROL "PB" INDICATES PUSHBUTTON CONTROL 'e' INDICATES CONTROL OF EMERGENCY LIGHTING FIXTURE WITHIN THE ROOM OR SPACE INDICATED. REFER TO LIGHTING DWGS FOR LOCATION OF SWITCHES.
$La	LOW VOLTAGE PUSHBUTTON SWITCH MOUNTED AT 48" A.F.F. SUBSCRIPT INDICATES LIGHTING FIXTURES CONTROL.
$R/L	THREE POSITION KEY ACTIVATED, RAISE & LOWER, CONTROL SWITCH.
$WP MS	MOTOR STARTER SNAP ACTION TOGGLE SWITCH WITH THERMO OVERLOAD. "WP" INDICATES WEATHER PROOF
$D	LOW VOLTAGE SWITCH 'D' DENOTE A FOUR BUTTON SWITCH WITH ONE MANUAL "ON" BUTTON AND THREE OVER-RIDE PUSH BUTTONS PROGRAMMED TO "OFF, RAISE AND LOWER". U.O.I.
F	DUPLEX THREE WIRE GROUNDED RECEPTACLE, 20A, 125V. (NEMA 5-20R) MOUNTED 18" A.F.F. U.O.I. SUBSCRIPT "F" INDICATES FURNITURE MOUNTED. SUBSCRIPT "K" INDICATES SAFETY TYPE.
	DUPLEX THREE WIRE GROUNDED RECEPTACLE, 20A, 125V. (NEMA 5-20R) WITH "GFI" GROUND FAULT INTERRUPTER. MOUNTED 18" A.F.F. U.O.I.
30,L	SINGLE THREE WIRE GROUNDED RECEPTACLE, 20A, 125V. (NEMA 5-20R) MOUNTED 18" A.F.F. U.O.I. SUBSCRIPTS "30" INDICATES 30A (NEMA 5-30R) OUTLET, "L" INDICATES TWISTLOCK OUTLET.
S	QUAD. THREE WIRE GROUNDED RECEPTACLE, 20A, 125V. (NEMA 5-20R) MOUNTED 18" A.F.F. U.O.I. SUBSCRIPTS "F" INDICATES FURNITURE MOUNTED, "S" INDICATES SURGE SUPPRESSOR.
L,R	SINGLE THREE WIRE GROUNDED RECEPTACLE, 20A, 250V. (NEMA 6-20R) MOUNTED 18" A.F.F. U.O.I. SUBSCRIPTS "R" INDICATES FURNITURE MOUNTED, "30" INDICATES 30A (NEMA 6-30R) OUTLET, "L" INDICATES TWISTLOCK OUTLET.
	QUAD. THREE WIRE GROUNDED RECEPTACLE, 20A, 125V. (NEMA 5-20R) CEILING MOUNTED.
	DUPLEX THREE WIRE GROUNDED RECEPTACLE, 20A, 125V. (NEMA 5-20R) FLOOR MOUNTED.
	MOTOR STARTER W/ PUSH BUTTON STATIONS AND H-O-A. NOTED STARTER RATING AS PER HORSEPOWER INDICATED.
30 / 2 U	SWITCH RATING FUSE SIZE ("U" IF UNFUSED) POLES DISCONNECT SWITCH, RATING AND FUSING NOTED. HORSEPOWER RATING AS REQUIRED BY MOTOR LOAD. "WP" INDICATES WEATHERPROOF NEMA 4X ENCLOSURE, OTHERWISE NEMA-1. SUBSCRIPT "L" INDICATES LOCKABLE TYPE.
5	MOTOR. HORSEPOWER INSCRIBED, PHASES INDICATED BY CIRCUITING.
	CIRCUIT BREAKER.
	FUSED SWITCH, RATING AND FUSING INDICATED.
	UNFUSED SWITCH.
	AUTOMATIC TRANSFER SWITCH.
	GROUND
J	JUNCTION BOX, SIZE IS REQUIRED.
M	MOTORIZED DAMPER
M	METER

LIGHTING SYMBOL LIST

SYMBOL	DESCRIPTION
A a	6" LED RECESSED MOUNT DOWN LIGHT LIGHT FIXTURE. INSCRIPTION DENOTES FIXTURE TYPE. SUBSCRIPTION DENOTES SWITCH CONTROL. SHADE INDICATES EMERGENCY LIGHTING.
A a	RECESSED MOUNTED 2'x2' LED LENS LIGHTING FIXTURE. INSCRIPTION DENOTES FIXTURE TYPE. SUBSCRIPTION DENOTES SWITCH CONTROL. TRIANGLE SHADE INDICATES EMERGENCY LIGHTING.
A a	RECESSED MOUNTED 2'x4' LED LENSED LIGHTING FIXTURE. INSCRIPTION DENOTES FIXTURE TYPE. SUBSCRIPTION DENOTES SWITCH CONTROL.TRIANGLE SHADE INDICATES EMERGENCY LIGHTING.
A a	LINEAR SURFACE MOUNTED 1'x4' LED LIGHTING FIXTURE. INSCRIPTION DENOTES FIXTURE TYPE. SUBSCRIPTION DENOTES SWITCH CONTROL.TRIANGLE SHADE INDICATES EMERGENCY LIGHTING.
A a	PENDANT MOUNTED LED LIGHTING FIXTURE, 4' OR 8' LONG. INSCRIPTION DENOTES FIXTURE TYPE. SUBSCRIPTION DENOTES SWITCH CONTROL.TRIANGLE SHADE INDICATES EMERGENCY LIGHTING.
A a	RECESSED MOUNTED DOWN LIGHTING FIXTURE. INSCRIPTION DENOTES FIXTURE TYPE. SUBSCRIPTION DENOTES SWITCH CONTROL.WHEN SHADED INDICATES EMERGENCY LIGHTING.
A a	LINEAR WALL MOUNTED FIXTURE FOR STAIR/BATHROOM LIGHTING. INSCRIPTION DENOTES FIXTURE TYPE. SUBSCRIPTION DENOTES SWITCH CONTROL.WHEN SHADED INDICATES EMERGENCY LIGHTING.
A	OUTDOOR WALL MOUNTED WEATHER PROOF WALL PACK. LIGHTING FIXTURE INSCRIPTION DENOTES FIXTURE TYPE. WHEN SHADED INDICATES EMERGENCY LIGHTING.
	CEILING OR WALL MOUNTED EXIT SIGNS, NUMBER OF FACES AND ARROWS AS SHOWN ON PLANS. 8'-0" WHERE CEILING HEIGHT ALLOWS A MINIMUM OF 6" CLEARANCE BETWEEN CEILING & TOP LIGHT, OTHERWISE MOUNT EXIT LIGHT SO THAT ITS TOP IS 6" BELOW FINISHED CEILING. ADJUST HEIGHT & CLEARANCES AS REQUIRED TO SUIT INSTALLATION OVER DOORS.
	CEILING MOUNTED LOW VOLTAGE OCCUPANCY SENSOR, AUTOMATIC 'ON'/'OFF' .

EXISTING LOW VOLTAGE SYSTEMS SYMBOL LIST

SYMBOL	DESCRIPTION
	EXISTING SPEAKER

EXISTING LIGHTING AND POWER SYSTEM LIST

SYMBOL	DESCRIPTION
	EXISTING 1'X 4' FLUORESCENT LIGHTING FIXTURE
	EXISTING 2'X2', 2'X4' FLUORESCENT LIGHTING FIXTURE
	EXISTING CEILING ROUND SURFACE/RECESSED LIGHTING FIXTURE
	EXISTING WALL/CEILING MOUNTED EXIT LIGHT
	EXISTING SIMPLEX/DUPLEX/QUAD RECEPTACLE.
S	EXISTING SWITCH
	EXISTING COMBINATIONAL EMERGENCY/EMERGENCY EXIT LIGHT
	EXISTING DISCONNECT SWITCH/MOTOR STARTER
	EXISTING PANEL

NOTE - ALL THE ABOVE SYMBOLS MAY NOT BE USED

GENERAL NOTES:

1. FOR AN EXPLANATION OF ABBREVIATIONS AND SYMBOLS USED ON THESE DRAWINGS, SEE THE ABBREVIATION LIST AND SYMBOLS LIST ON THIS SHEET.
2. THE CONTRACTOR SHALL CHECK THE LOCATION, NUMBER AND SIZE OF ALL CHASES PROVIDED ON THE CONSTRUCTION PLANS AND ARRANGE FOR ANY CHASES REQUIRED FOR CABINET OR BOXES.
3. THE CONTRACTOR SHALL COORDINATE WITH THE HVAC, PLUMBING, ARCHITECTURAL AND STRUCTURAL TRADES FOR EXACT LOCATIONS OF MOTORS AND EQUIPMENT, IN ORDER TO AVOID INTERFERENCE.
4. THE CONTRACTOR SHALL CHECK WITH THE HVAC TRADE CONCERNING THE LOCATION OF STEEL PLATE FIRE STOPS IN CORRIDORS AND HUNG CEILINGS AND SHALL FURNISH THE HVAC TRADE WITH SIZES AND LOCATIONS OF OPENINGS NECESSARY TO ACCOMMODATE THE ELECTRICAL CONDUITS PIERCING THE FIRE STOPS.
5. IN UNFINISHED PORTIONS OF THE BUILDING, SUCH AS BOILER ROOM, FAN ROOMS, PIPE SPACES, ETC., LOCATIONS OF CONDUIT AND OUTLETS ARE APPROXIMATE AND SHALL CLEAR PIPING AND ALL OTHER CONSTRUCTION. CONDUIT IN THESE PORTIONS OF THE BUILDING SHALL BE RUN EXPOSED.
6. IN THE BOILER ROOM, SYSTEM CONDUITS, SUCH AS FOR LIGHTING AND POWER FEEDERS, LOW VOLTAGE, FIRE SIGNAL, ETC., SHALL NOT BE RUN OVER BOILERS.
7. NO CONDUIT SHALL BE RUN IN ANY FLOOR IN CONTACT WITH THE EARTH UNLESS OTHERWISE DIRECTED ON THE PLAN. IN SUCH AREAS, CONDUIT FOR MOTORS AND STARTERS SHALL BE RUN OVERHEAD, SUPPORTED AS REQUIRED.
8. PULL AND JUNCTION BOXES SHALL BE SURFACE TYPE IN UNFINISHED AREAS AND FLUSH TYPE IN FINISHED AREAS (AT NEW WALLS/PARTIONS), UNLESS OTHERWISE NOTED. THE JUNCTION AND PULL BOXES SHALL BE LOCATED TO SUIT CONDUIT ENTRANCE, BUT SHALL, IN ALL CASES, BE LOCATED TO AVOID INTERFERENCE WITH EQUIPMENT FROM OTHER TRADES AND SHALL BE LOCATED SO THAT COVERS ARE READILY ACCESSIBLE.
9. WHERE RECESSED FIXTURES ARE INDICATED ON THESE PLANS AND WET PLASTER CEILING CONSTRUCTION IS USED, PLASTER FRAMES SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR WITH OTHER TYPES OF HUNG CEILING CONSTRUCTION. LIGHTING FIXTURES SHALL BE APPROPRIATE TO MEET THE REQUIREMENTS OF THAT CEILING CONSTRUCTION.
10. UNLESS OTHERWISE NOTED ON FLOOR PLANS OR IN FLOOR PLAN NOTES, SWITCHES SHALL BE INSTALLED AT 4'-0" ABOVE FINISHED FLOOR. WHERE SWITCH HEIGHTS ARE GIVEN ON THESE DRAWINGS FOR AREAS IN WHICH THERE ARE TILE WAINSCOTS, SUCH AS TOILETS, LOCKER ROOMS, ETC. THE CONTRACTOR SHALL ADJUST SWITCH HEIGHTS, IF NECESSARY TO AVOID INTERFERENCE WITH THE WAINSCOT.
11. CONTRACTOR SHALL PROVIDE SEPARATE RACEWAYS FOR CONDUCTORS ON NORMAL AND EMERGENCY CIRCUITS.
12. PROVIDE FIRE STOP SEALS TO ALL PENETRATIONS OF ALL EXISTING FLOORS, SLABS, AND WALLS/PATITIONS; AND ALL NEW FIRE RATED WALLS & PARTITIONS.
13. PROVIDE DEFLECTION FITTINGS AT ALL REQUIRED CROSSINGS OF EXPANSION POINTS.
14. ALL CIRCUITS CONTAINING GFI OUTLETS, CKTS FOR COMPUTERS AND/OR PERIPHERALS AND RELATED EQUIPMENT AND CIRCUITS RECOMMENDED BY THE MANUFACTURERS SHALL HAVE A SEPARATE DEDICATED NEUTRAL.
15. PROVIDE COLOR CODING FOR BRANCH CIRCUITS & FEEDERS AS FOLLOWS FOR 120/208V. CONDUCTORS:

    BLACK PHASE "A"
    RED PHASE "B"
    BLUE PHASE "C"
    WHITE NEUTRAL
    GREEN GROUNDING
16. PLACEMENT OF ALL ELECTRICAL DEVICES MUST BE COORDINATED WITH FURNITURE LAY-OUTS. THE ELECTRICAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR SUBMITTING SHOP DWGS FOR LOCATION OF ALL ELECTRICAL DEVICES. THE SHOP DWGS MUST INDICATE THE MOUNTING HEIGHTS & CENTER LINE DISTANCE FROM THE NEAREST COLUMN.
17. ALL COMPONENTS SHOWN ON RISER DIAGRAMS, BUT NOT ON THE PLAN OR VICE VERSA, SHALL BE INCLUDED AS IF SHOWN ON BOTH.
18. CONTRACTOR SHALL NOT INSTALL MORE THAN 3 CURRENT CARRYING CONDUCTORS IN A RACEWAY UNLESS OTHERWISE SPECIFICALLY INDICATED ON THE DRAWINGS.
19. THE ELECTRICAL CONTRACTOR SHALL REVIEW ALL TRADES CONTRACT DOCUMENTS TO DETERMINE SPECIFIC MOUNTING LOCATIONS FOR ELECTRICAL EQUIPMENT.
20. ALL MOUNTING HEIGHTS SHALL BE MEASURED FROM FINISHED FLOOR TO CENTERLINE OF DEVICES EXCEPT FOR EXIT SIGNS.
21. RIGID NONMETALLIC CONDUIT (RNMC) SHALL NOT BE INSTALLED WITHIN THE BUILDING FOOTPRINT. UNLESS OTHERWISE INDICATED.
22. NO CONDUIT IN THE BUILDING SHALL BE IN CONTACT WITH THE EARTH UNLESS OTHERWISE NOTED.
23. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING EACH CKT IN ALL MANHOLES, HAND HOLES, WIRE WAYS & ALL OTHER ENCLOSURES & AT ALL TERMINATION.
24. ALL SERVICE ENTRANCE CONDUITS ARE TO BE PITCHED AS REQUIRED AND SEALED AT THE POINT OF ENTRY TO THE BUILDING IN ORDER TO AVOID WATER PENETRATION TO THE BUILDING THROUGH THESE CONDUITS.
25. FINAL LOCATION OF ALL ELECTRICAL EQUIPMENTS, DEVICES SHALL BE COORDINATED AT FIELD WITH ALL OTHER TRADES AND WITH EXISTING BUILDING ELEMENTS, PIPES, EQUIPMENTS, DEVICES ETC. IN ORDER TO HAVE CODE COMPLIANT INSTALLATION.
28. ROUTING OF ELECTRICAL CONDUITS IF SHOWN IN THE DRAWINGS ARE TENTATIVE. THE CONTRACTOR IS RESPONSIBLE TO FINALIZE THE ROUTING OF ALL ELECTRICAL CONDUITS AT FIELD IN COORDINATION WITH ALL OTHER TRADES AND EXISTING BUILDING ELEMENTS, STRUCTURES, PIPES, EQUIPMENTS, & DEVICES ETC. FOR CODE COMPLIANT INSTALLATION.
29. THE ELECTRICAL CONTRACTOR IS REQUIRED TO COORDINATE WITH THE MECHANICAL CONTRACTOR DURING THE MECHANICAL EQUIPMENT SUBMITTAL REVIEW PROCESS IN ORDER TO VERIFY THE REQUIREMENT OF INSTALLING NEUTRAL WIRE IN THE CONDUIT TO FEED ALL HVAC EQUIPMENT SUCH AS ROOF TOP UNIT PRIOR TO INSTALLATION OF THE WIRES IN CONDUIT.
30. THE FINAL LOCATION OF ALL ELECTRICAL RECEPTACLE OUTLETS THROUGHOUT THE BUILDING SHALL BE COORDINATED WITH FURNITURE AND ALL OTHER TRADES SO THAT ALL RECEPTACLES WILL BE ACCESSIBLE FOR USE. THE FINAL LOCATION OF THE RECEPTACLES SHOWN AT THE WINDOW SIDE WALL SHALL BE COORDINATED WITH HEATING EQUIPMENT AND BOOK SHELF; THE CONTRACTOR MAY NEED TO ADJUST THE HEIGHT OF THE RECEPTACLE, IF NECESSARY TO AVOID THE INTERFACE WITH THE HEATING EQUIPMENT OR ANY OTHER FURNITURE/BUILDING ELEMENTS.
31. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH OTHER TRADES AT FIELD SO THAT NO FOREIGN SYSTEM SUCH AS PIPING, DUCT, LEAK PROTECTION APPARATUS, OR OTHER EQUIPMENT FOREIGN TO THE ELECTRICAL INSTALLATION SHALL BE RUN OVER THE ELECTRICAL EQUIPMENT INSTALLATION.

ABBREVIATIONS

A	AMPERE	KWH	KILOWATT HOUR
AC	ALTERNATING CURRENT	LP	LIGHTING PANEL
ACCU	A/C CONDENSING UNIT	LS	LOUDSPEAKER
AF	FUSE RATING IN AMPS	LTG	LIGHTING
AFF	ABOVE FINISHED FLOOR	MCC	MOTOR CONTROL CENTER
AHU	AIR HANDLING UNIT	MECH	MECHANICAL
ARCH	ARCHITECTURAL	MER	MECHANICAL EQUIPMENT ROOM
AS	SWITCH RATING IN AMPS	MIC	MICROPHONE
ATS	AUTOMATIC TRANSFER SWITCH	MLO	MAIN LUG ONLY
A/C	AIR CONDITIONING	MTD	MOUNTED
C	CONDUIT	N	NEUTRAL
CB	CIRCUIT BREAKER	N.C.	NORMALLY CLOSED
CLG	CEILING	N.O.	NORMALLY OPEN
CKT(S)	CIRCUIT(S)	P	POLE(S)
COL	COLUMN	PB	PULL BOX
DHWH	DOMESTIC HOT WATER HEATER	PNL	PANEL
DSP	DUPLEX SUMP PUMP	PPP	PORT PATCH PANEL
DWBS	DUPLEX WATER BOOSTER PUMP	POS	POINT OF SALE
DWG	DRAWING	PP	POWER PANEL
E	EXISITNG TO REMAIN	PWR	POWER
ER	EXISITNG TO BE REMOVED	RC	REMOTE CONTROL
ERR	EXISITNG TO BE RELOCATED	REL	RELOCATED
EBBH	ELECTRIC BASEBOARD HEATER	RGC	RIGID GALVANIZED CONDUIT
EC	EMPTY CONDUIT	RTU	ROOF TOP UNIT
ECC	ELECTRIC CABINET CONVECTOR	SECT	SECTION
ECH	ELECTRIC CABINET HEATER	SP	SPARE
EF	EXHAUST FAN	SPF	SMOKE PURGE FAN
EMR	ELEVATOR MECHANICAL ROOM	SPR	SPARE
EUH	ELECTRIC UNIT HEATER	STD	STANDARD
EXH	EXHAUST	SUR	SURFACE
FL	FLOOR	SW	SWITCH
FPB	FAN POWER BOX	SWBD	SWITCHBOARD
G	GUARD	TEF	TOILET EXHAUST FAN
GND	GROUND	TEL	TELEPHONE
GFI	GROUND FAULT INTERRUPTER	TV	TELEVISION
IG	ISOLATED GROUND	TYP	TYPICAL
IWB	INTERACTIVE WHITE BOARD	UOI	UNLESS OTHERWISE INDICATED
JB	JUNCTION BOX	V	VOLT
KEF	KITCHEN EXHAUST FAN	VAV	VARIABLE AIR VOLUME
KVA	KILOVOLT AMPERE	W	WATT
KW	KILOWATT	WP	WEATHER PROOF
AFCI	ARC FAULT CIRCUIT INTERRUPTER		

NOTE - ALL THE ABOVE ABBREVIATIONS MAY NOT BE USED

1/2 0 1

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

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4	01-27-23	REVISIONS
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Drawn by DK
Checked by SH
Project No. 42051
Scale AS NOTED
Date 10/25/22

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Mechanical & Electrical Engineer:

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Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1

3

HIGH SCHOOL: SBDM 50-02-01-06-0-010-005
PRESS BOX (DEMO): SBDM 50-02-01-06-7-005-001
CONCESSIONS-PRESS BOX (NEW): SBDM 50-02-01-06-7-009-001
FIELDHOUSE: SBDM 50-02-01-06-7-008-001

TOWN OF HAVERSTRAW COUNTY OF ROCKLAND

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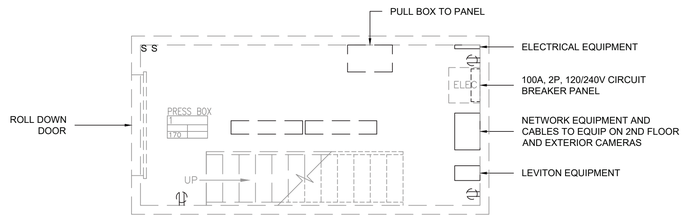
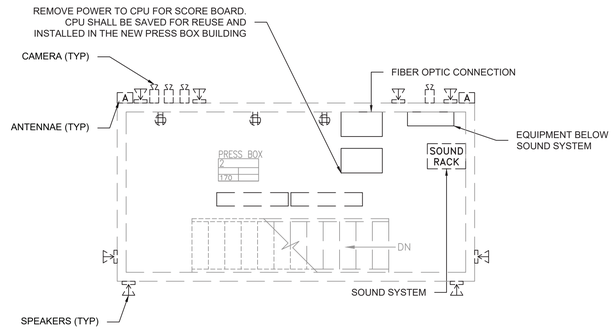
Drawing Title
PROJECT WIDE ELECTRICAL SYMBOLS AND NOTES

Drawing No.
E-090



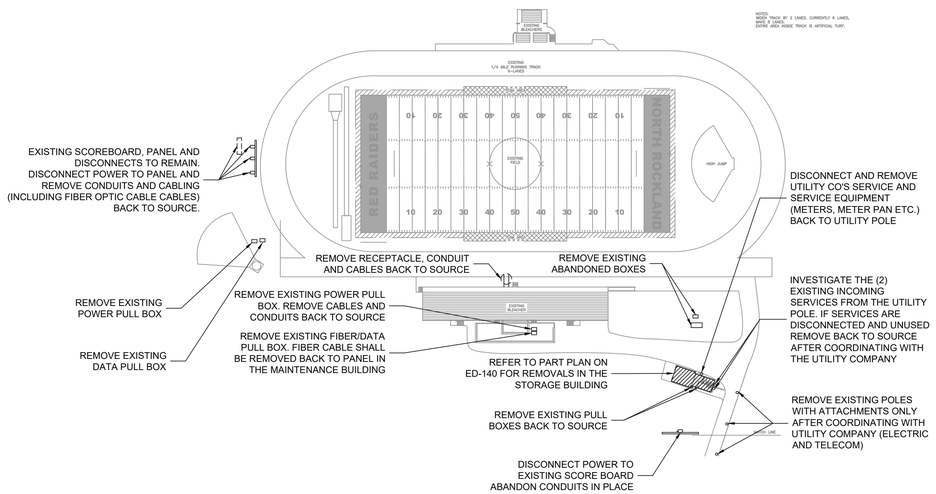
1 ELECTRICAL EXISTING PRESS BOX 1ST FLOOR DEMOLITION PLAN

SCALE: NTS



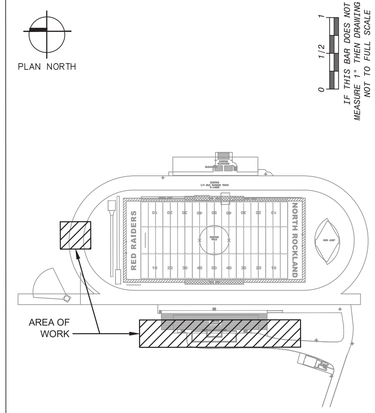
2 ELECTRICAL EXISTING PRESS BOX 2ND FLOOR DEMOLITION PLAN

SCALE: NTS



3 ATHLETIC FIELD AND FIELD HOUSE REMOVALS SITE PLAN

SCALE: NTS



KEY PLAN

1. FOR ELECTRICAL SYMBOLS & LEGENDS, GENERAL NOTES AND ABBREVIATIONS DRAWING LIST REFER TO DWG E090.00
2. MAINTAIN CIRCUIT CONTINUITY TO AREAS NOT AFFECTED BY DEMOLITION.
3. THE CONTRACTOR IS TO COORDINATE ALL SHUTDOWNS AND DISRUPTIONS TO NORMAL SERVICES WITH THE SCHOOLS FIELD REPRESENTATIVE AND THE FACILITY.
4. ALL DEVICES, EQUIPMENT AND CONNECTIONS SHOWN IN THIS DRAWING ARE EXISTING AND SHALL BE REMOVED WITH ALL ASSOCIATED WIRING, EXPOSED CONDUITS, PULL BOX, SWITCHES, DISCONNECTS, JUNCTION BOX, SUPPORTS ETC. BACK TO SOURCE, UNLESS OTHERWISE INDICATED.
5. COORDINATE REMOVAL OF POWER TO MECHANICAL AND PLUMBING EQUIPMENT WITH THE RESPECTIVE CONTRACTOR.
6. REFER TO PLUMBING AND MECHANICAL DRAWINGS FOR REMOVAL OF PLUMBING AND MECHANICAL EQUIPMENTS. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO REMOVE ALL ASSOCIATED ELECTRICAL FEEDERS, CIRCUITS, STARTERS, VARIABLE FREQUENCY DRIVES(VFD), DISCONNECT SWITCHES, TRANSFORMERS, PULL BOXES, EXPOSED CONDUITS, ETC BACK TO SOURCE FOR THE EQUIPMENTS BEING REMOVED BY THE MECHANICAL AND PLUMBING CONTRACTOR, UNLESS OTHERWISE INDICATED.
7. CONTRACTOR MUST FIELD VERIFY ALL CONNECTIONS PRIOR TO REMOVAL. PROTECT ALL FEEDER AND BRANCH CIRCUITS SERVING OTHER AREAS. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY OUTAGES.

DEMO NOTES

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
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Drawn by	DK
Checked by	SH
Project No.	42051
Scale	AS NOTED
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GREENMAN PEDERSEN, INC
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SUFFERN, NY 10901

Mechanical & Electrical Engineer:

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2 EXECUTIVE BOULEVARD
SUITE 302
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Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL
PROJECTS – PHASE 1 (3)

HIGH SCHOOL: SBL# 50-02-01-06-0-016-005
PRESS BOX (DEMO): SBL# 50-02-01-06-7-035-001
CONCESSIONS-PRESS BOX (NEW): SBL# 50-02-01-06-7-079-001
FIELDHOUSE SBL# 50-02-01-06-7-008-001

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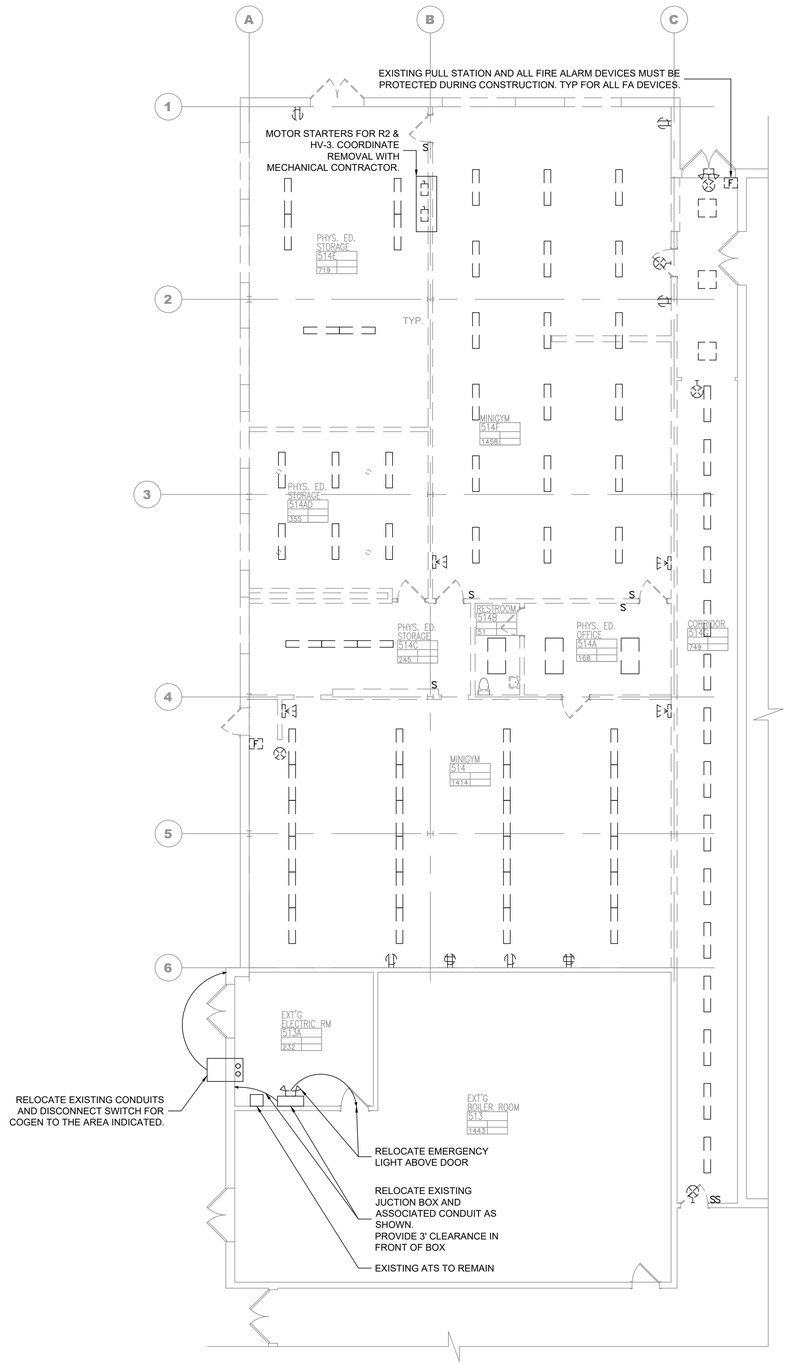
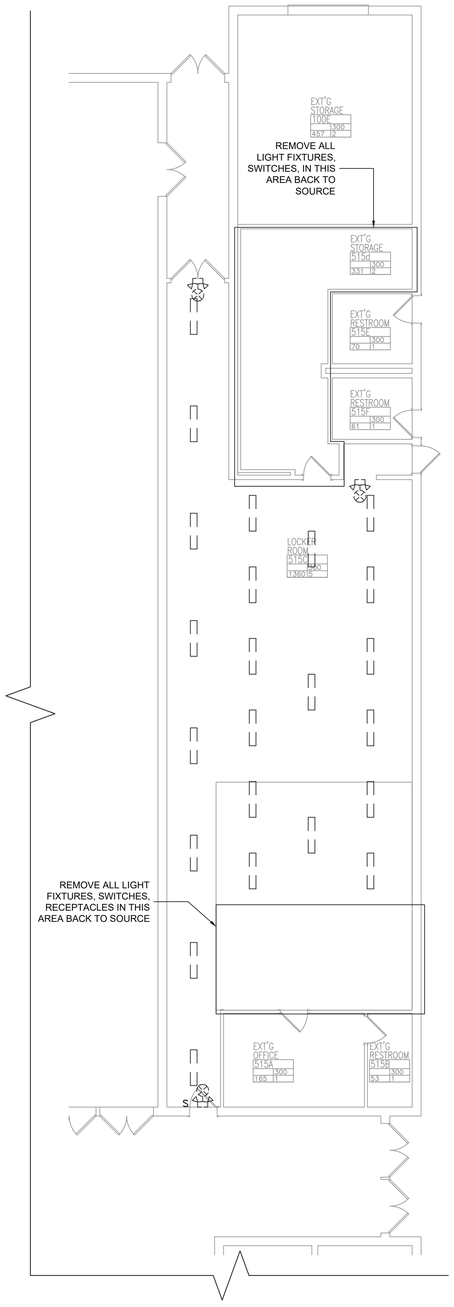
Drawing Title
CONCESSIONS/PRESS BOX ELECTRICAL DEMO PLANS

Drawing No.
ED-110



1 EXISTING WEIGHT RM DEMOLITION PART PLAN

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

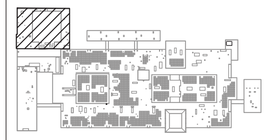


2 EXISTING LOCKER RM DEMOLITION PART PLAN

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

PLAN NORTH

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



KEY PLAN

1. FOR ELECTRICAL SYMBOLS & LEGENDS, GENERAL NOTES AND ABBREVIATIONS DRAWING LIST REFER TO DWG E001.00
2. MAINTAIN CIRCUIT CONTINUITY TO AREAS NOT AFFECTED BY DEMOLITION.
3. THE CONTRACTOR IS TO COORDINATE ALL SHUTDOWNS AND DISRUPTIONS TO NORMAL SERVICES WITH THE SCHOOLS FIELD REPRESENTATIVE AND THE FACILITY.
4. ALL DEVICES, EQUIPMENT AND CONNECTIONS SHOWN IN THIS DRAWING ARE EXISTING AND SHALL BE REMOVED WITH ALL ASSOCIATED WIRING, EXPOSED CONDUITS, PULL BOX, SWITCHES, DISCONNECTS, JUNCTION BOX, SUPPORTS ETC. BACK TO SOURCE, UNLESS OTHERWISE INDICATED.
5. CONTRACTOR SHALL PATCH AND PAINT AREAS AFFECTED BY REMOVAL TO MATCH SURROUNDINGS.
6. COORDINATE REMOVAL OF POWER TO MECHANICAL AND PLUMBING EQUIPMENT WITH THE RESPECTIVE CONTRACTOR.
7. REFER TO PLUMBING AND MECHANICAL DRAWINGS FOR REMOVAL OF PLUMBING AND MECHANICAL EQUIPMENTS. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO REMOVE ALL ASSOCIATED ELECTRICAL FEEDERS, CIRCUITS, STARTERS, VARIABLE FREQUENCY DRIVES(VFD), DISCONNECT SWITCHES, TRANSFORMERS, PULL BOXES, EXPOSED CONDUITS, ETC BACK TO SOURCE FOR THE EQUIPMENTS BEING REMOVED BY THE MECHANICAL AND PLUMBING CONTRACTOR, UNLESS OTHERWISE INDICATED.
8. CONTRACTOR MUST FIELD VERIFY ALL CONNECTIONS PRIOR TO REMOVAL. PROTECT ALL FEEDER AND BRANCH CIRCUITS SERVING OTHER AREAS. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY OUTAGES.

DEMO NOTES

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by	DK
Checked by	SH
Project No.	42051
Scale	AS NOTED
Date	10/25/22

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

Mechanical & Electrical Engineer:

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

Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1

HIGH SCHOOL SED# 50-02-01-06-0-016-005
PRESS BOX (ROAD): SED# 50-02-01-06-7-009-001
CONCESSIONS-PRESS BOX (NORTH): SED# 50-02-01-06-7-079-001
FIELDHOUSE: SED# 50-02-01-06-7-008-001

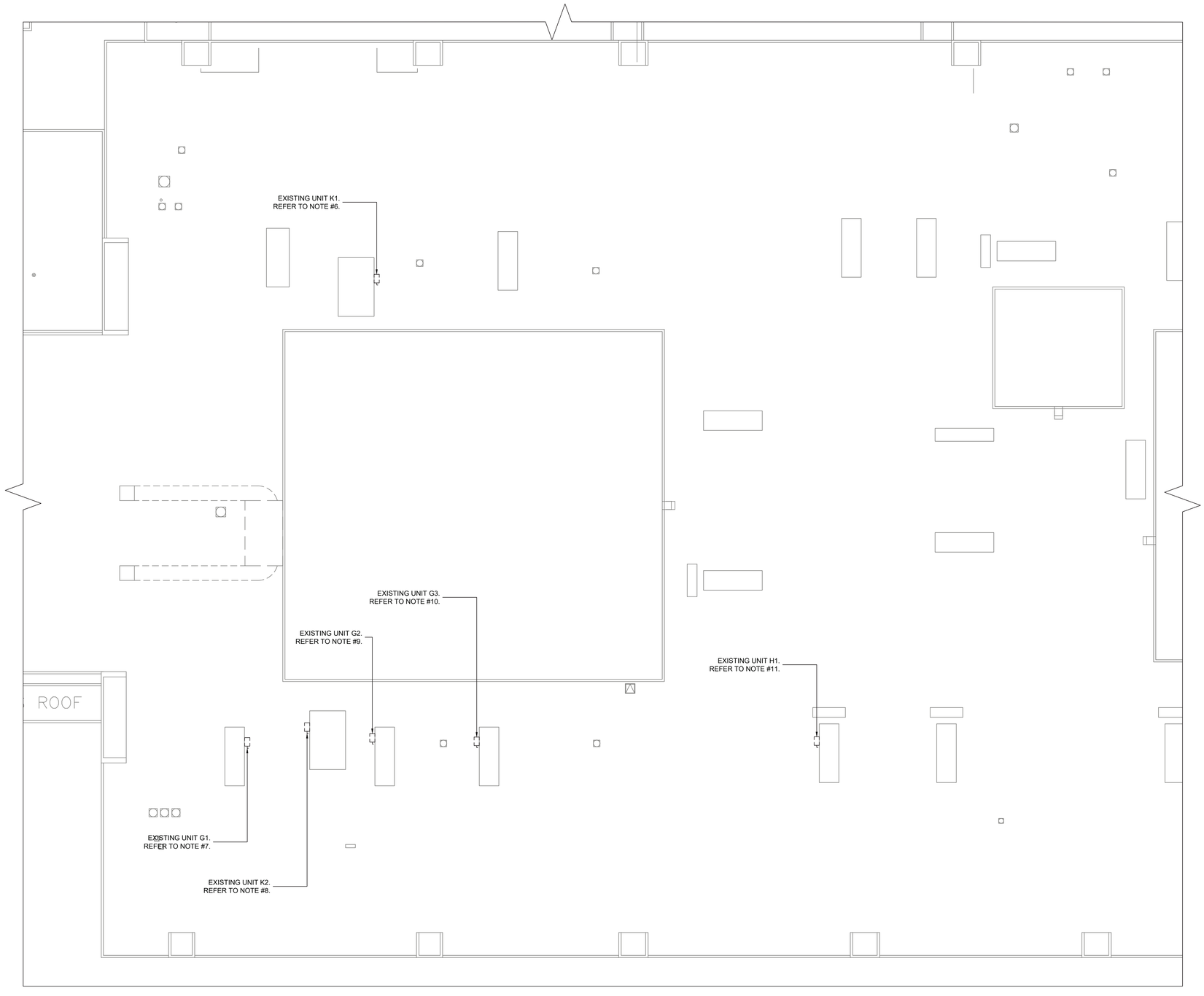
TOM Blanchard, BSA
Blauvelt, NY 10954

TOWN OF ORANGETOWN
COUNTY OF ROCKLAND

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

Drawing Title
WEIGHT LOCKER ROOM ELECTRICAL DEMO PLANS

Drawing No.
ED-120



1 ELECTRICAL ROOF RTU DEMOLITION PART PLAN

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

PLAN NORTH

0 1/2 1

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

KEY PLAN

DEMO NOTES

NOTES:

1. FOR ELECTRICAL SYMBOLS & LEGENDS, GENERAL NOTES AND ABBREVIATIONS DRAWING LIST REFER TO DWG E001.00
2. MAINTAIN CIRCUIT CONTINUITY TO AREAS NOT AFFECTED BY DEMOLITION.
3. THE CONTRACTOR IS TO COORDINATE ALL SHUTDOWNS AND DISRUPTIONS TO NORMAL SERVICES WITH THE SCHOOLS FIELD REPRESENTATIVE AND THE FACILITY.
4. COORDINATE REMOVAL OF POWER TO MECHANICAL EQUIPMENT WITH THE RESPECTIVE CONTRACTOR.
5. CONTRACTOR MUST FIELD VERIFY ALL CONNECTIONS PRIOR TO REMOVAL. PROTECT ALL FEEDER AND BRANCH CIRCUITS SERVING OTHER AREAS. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY OUTAGES.
6. DISCONNECT POWER TO EXISTING UNIT K1, REMOVE EXISTING BREAKER HPA-9 AT PANEL, DISCONNECT SWITCH AND REMOVE CABLES, CONDUIT BACK TO THE PANEL (PANEL LOCATED AT ELECTRICAL CLOSET ACROSS FROM ROOM 320, 321) FOR CONNECTION TO NEW HVAC UNIT K1. VERIFY EXISTING CIRCUIT AND PANEL AT THE SITE.
7. DISCONNECT POWER TO EXISTING UNIT G1, REMOVE EXISTING BREAKER AT PANEL, DISCONNECT SWITCH AND CABLES BACK TO THE PANEL. RETAIN EXISTING CONDUIT TO PULL NEW CABLES FROM EXISTING PANEL HPG-32,34,36 (PANEL LOCATED AT ELECTRICAL CLOSET ACROSS FROM ROOM 115, 117) FOR CONNECTION TO NEW HVAC UNIT G1. VERIFY EXISTING CIRCUIT AND PANEL AT THE SITE.
8. DISCONNECT POWER TO EXISTING UNIT K2, REMOVE EXISTING BREAKER HPG-26,28,30 AT PANEL, DISCONNECT SWITCH AND REMOVE CONDUIT, CABLES BACK TO THE PANEL (PANEL LOCATED AT ELECTRICAL CLOSET ACROSS FROM ROOM 115, 117) FOR CONNECTION TO NEW HVAC UNIT K2. VERIFY EXISTING CIRCUIT AND PANEL AT THE SITE.
9. DISCONNECT POWER TO EXISTING UNIT G2, REMOVE EXISTING BREAKER AT PANEL, DISCONNECT SWITCH AND CABLES BACK TO THE PANEL. RETAIN EXISTING CONDUIT TO PULL NEW CABLES FROM EXISTING PANEL HPG-31,33,35 (PANEL LOCATED AT ELECTRICAL CLOSET ACROSS FROM ROOM 115, 117) FOR CONNECTION TO NEW HVAC UNIT G2. VERIFY EXISTING CIRCUIT AND PANEL AT THE SITE.
10. DISCONNECT POWER TO EXISTING UNIT G3, REMOVE EXISTING BREAKER AT PANEL, DISCONNECT SWITCH AND CABLES BACK TO PANEL. RETAIN EXISTING CONDUIT TO PULL NEW CABLES FROM EXISTING PANEL HPG-37,39,41 (PANEL LOCATED AT ELECTRICAL CLOSET ACROSS FROM ROOM 115, 117) FOR CONNECTION TO NEW HVAC UNIT G3. VERIFY EXISTING CIRCUIT AND PANEL AT THE SITE.
11. DISCONNECT POWER TO EXISTING UNIT H1, REMOVE EXISTING BREAKER AT PANEL, DISCONNECT SWITCH AND CABLES BACK TO PANEL. RETAIN EXISTING CONDUIT TO PULL NEW CABLES FROM THE EXISTING PANEL HPH-5 (PANEL LOCATED AT ELECTRICAL CLOSET ACROSS FROM ROOM 115, 117) FOR CONNECTION TO NEW HVAC UNIT H3. VERIFY EXISTING CIRCUIT AND PANEL AT THE SITE.
12. SAVE AND HAND OVER ALL REMOVED BREAKERS AT THE PANEL TO CUSTODIAL STAFF FOR SPARES TO BE USED IN THE FUTURE.

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by	DK
Checked by	SH
Project No.	42051
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GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD
SUITE 302
SUFFERN, NY 10901

Mechanical & Electrical Engineer:

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

Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL
PROJECTS - PHASE 1

HIGH SCHOOL: SBL# 50-02-01-06-0-015-005
PRESS BOX (DEMO): SBL# 50-02-01-06-7-008-001
CONCESSIONS-PRESS BOX (NEW): SBL# 50-02-01-06-7-079-001
RESTROOMS: SBL# 50-02-01-06-7-009-001

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CITY OF ROCKLAND

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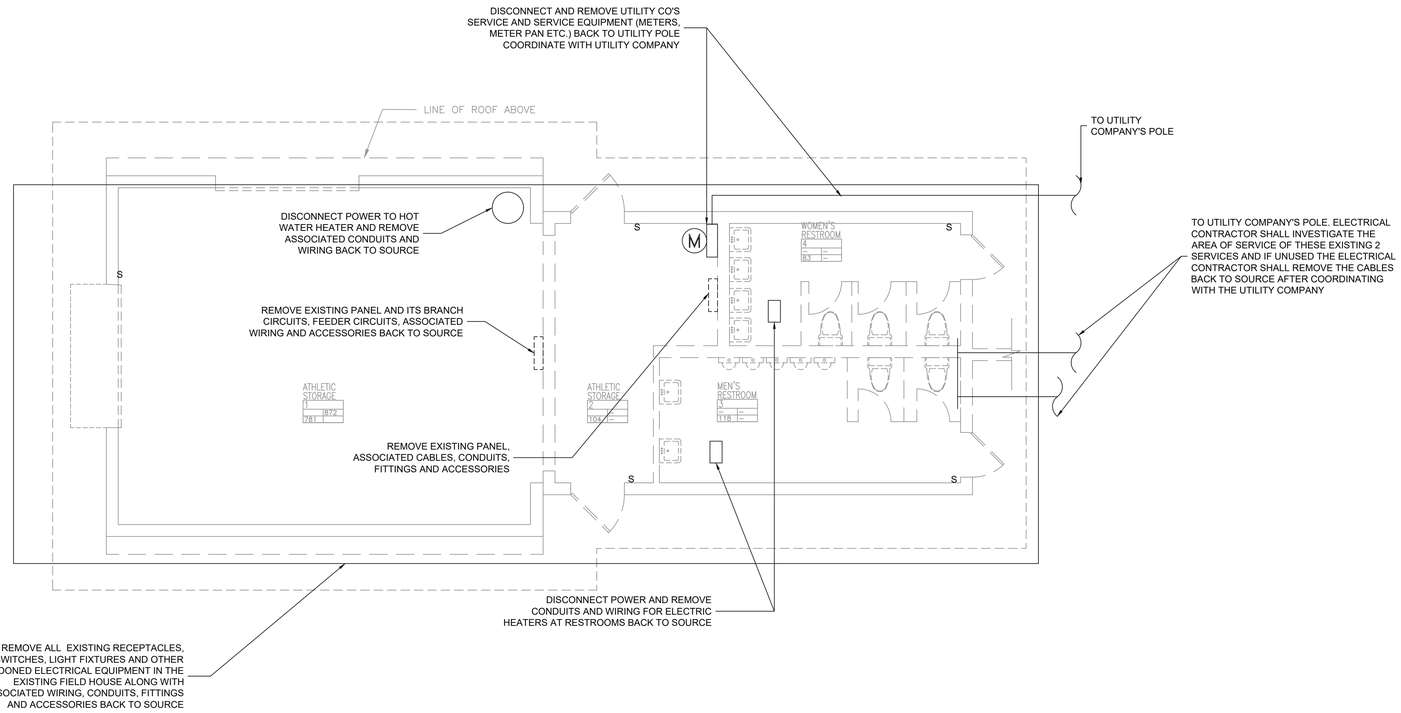
Drawing Title
HIGH SCHOOL RTU ELECTRICAL DEMO PLAN

Drawing No.
ED-130

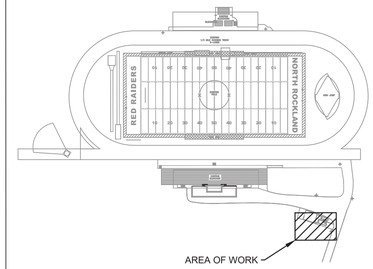


1 ELECTRICAL EXISTING FIELD HOUSE DEMOLITION PLAN

SCALE: 1/4" = 1' 0"

PLAN NORTH

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



KEY PLAN

1. FOR ELECTRICAL SYMBOLS & LEGENDS, GENERAL NOTES AND ABBREVIATIONS DRAWING LIST REFER TO DWG E090.00
2. MAINTAIN CIRCUIT CONTINUITY TO AREAS NOT AFFECTED BY DEMOLITION.
3. THE CONTRACTOR IS TO COORDINATE ALL SHUTDOWNS AND DISRUPTIONS TO NORMAL SERVICES WITH THE SCHOOLS FIELD REPRESENTATIVE AND THE FACILITY.
4. ALL DEVICES, EQUIPMENT AND CONNECTIONS SHOWN IN THIS DRAWING ARE EXISTING AND SHALL BE REMOVED WITH ALL ASSOCIATED WIRING, EXPOSED CONDUITS, PULL BOX, SWITCHES, DISCONNECTS, JUNCTION BOX, SUPPORTS ETC. BACK TO SOURCE, UNLESS OTHERWISE INDICATED.
5. COORDINATE REMOVAL OF POWER TO MECHANICAL AND PLUMBING EQUIPMENT WITH THE RESPECTIVE CONTRACTOR.
6. REFER TO PLUMBING AND MECHANICAL DRAWINGS FOR REMOVAL OF PLUMBING AND MECHANICAL EQUIPMENTS. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO REMOVE ALL ASSOCIATED ELECTRICAL FEEDERS, CIRCUITS, STARTERS, VARIABLE FREQUENCY DRIVES(VFD), DISCONNECT SWITCHES, TRANSFORMERS, PULL BOXES, EXPOSED CONDUITS, ETC BACK TO SOURCE FOR THE EQUIPMENTS BEING REMOVED BY THE MECHANICAL AND PLUMBING CONTRACTOR, UNLESS OTHERWISE INDICATED.
7. CONTRACTOR MUST FIELD VERIFY ALL CONNECTIONS PRIOR TO REMOVAL. PROTECT ALL FEEDER AND BRANCH CIRCUITS SERVING OTHER AREAS. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY OUTAGES.
8. REFER TO DRAWING ED-110 SITE PLAN FOR REMOVALS ASSOCIATED WITH THE FIELD HOUSE

DEMO NOTES

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by	DK
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GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD
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Mechanical & Electrical Engineer:

GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD
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SUFFERN, NY 10901

Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1 ⚠3

HIGH SCHOOL SED# 50-02-01-06-0-016-005
PRESS BOX (DEMO): SED# 50-02-01-06-7-008-001
CONCESSIONS-PRESS BOX (NEW): SED# 50-02-01-06-7-079-001
FIELDHOUSE SED# 50-02-01-06-7-008-001

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COUNTY OF ROCKLAND

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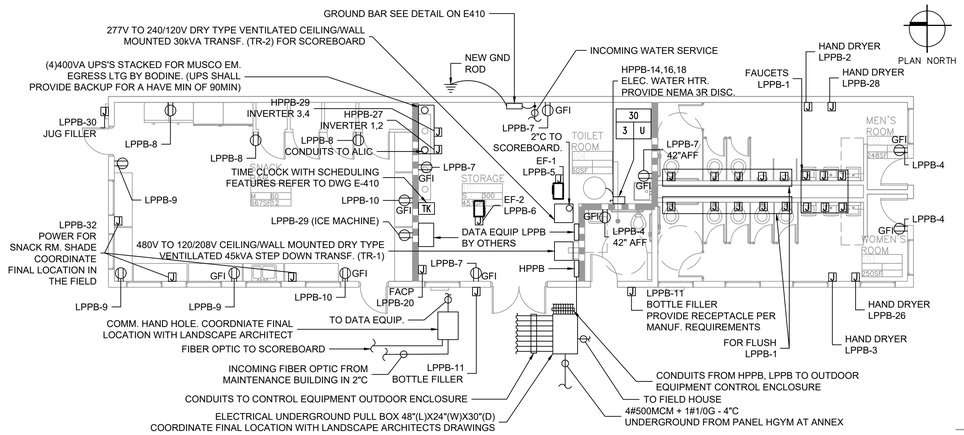
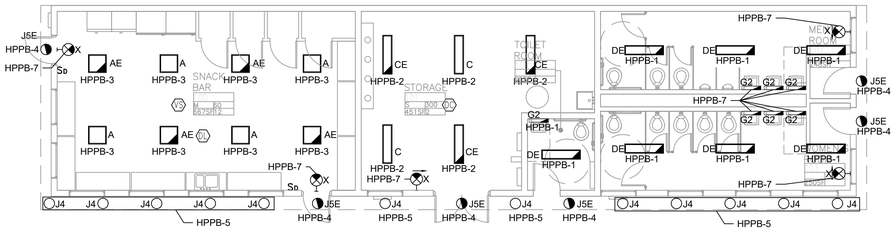
Drawing Title
FIELD HOUSE ELECTRICAL DEMOLITION PLAN

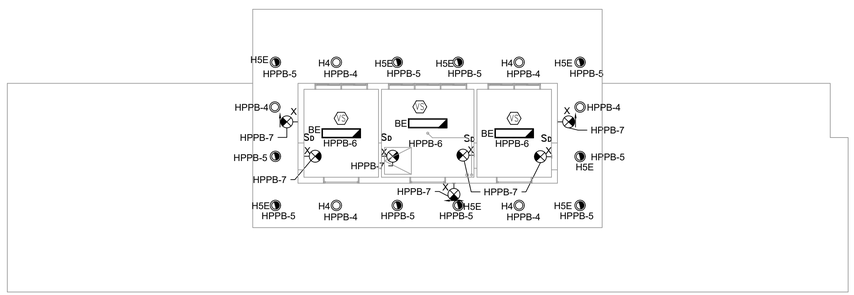
Drawing No.
ED-140



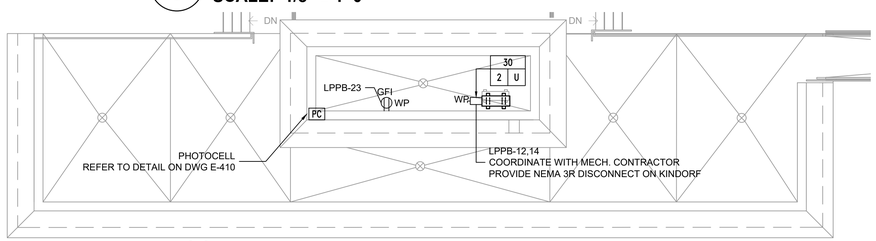
1 ELECTRICAL FIRST FLOOR POWER PLAN
SCALE: 1/8" = 1'-0"



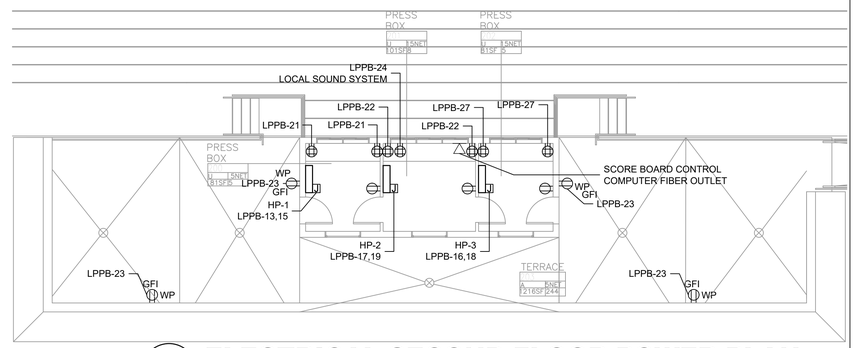
2 ELECTRICAL FIRST FLOOR LIGHTING PLAN
SCALE: 1/8" = 1'-0"



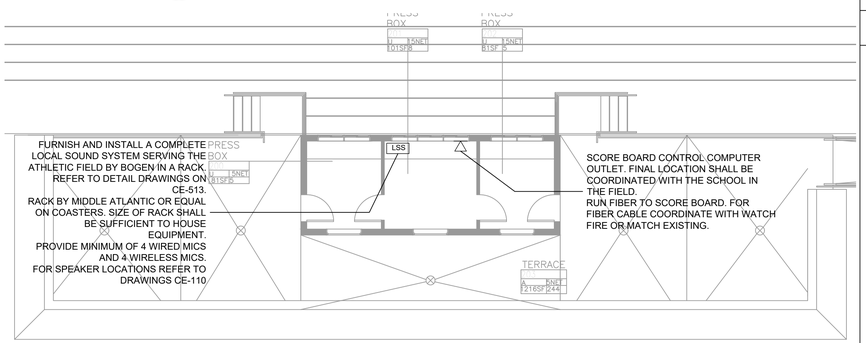
3 ELECTRICAL SECOND FLOOR LIGHTING PLAN
SCALE: 1/8" = 1'-0"



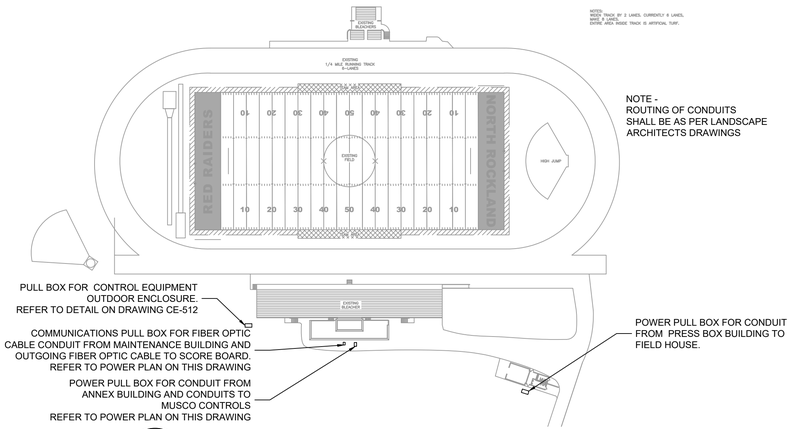
4 ELECTRICAL ROOF PLAN
SCALE: 1/8" = 1'-0"



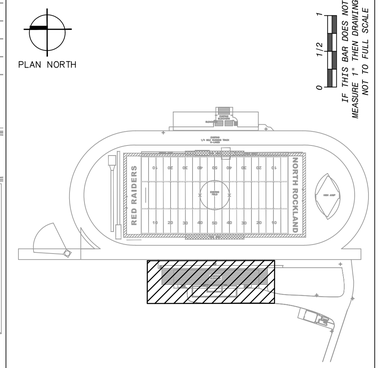
5 ELECTRICAL SECOND FLOOR POWER PLAN
SCALE: 1/8" = 1'-0"



6 ELECTRICAL SECOND FLOOR SYSTEMS PLAN
SCALE: 1/8" = 1'-0"



6 PULL BOX LOCATIONS AND SITE PLAN
SCALE: 1/8" = 1'-0"



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

KEY PLAN

1. FOR GENERAL NOTES, SYMBOL LIST REFER TO DWG E090.
2. FOR EXACT LOCATION, MOUNTING HEIGHTS FOR PLUMB., MECH. EQUIPMENT & DEVICES REFER TO PLUMB., MECH. DWGS.
3. CONDUIT PENETRATIONS THROUGH ALL FLOORS, WALLS, SLAB, & PARTITIONS ARE TO BE PROVIDED WITH FIRE STOP SEALS AS REQUIRED BY CODE TO MAINTAIN FIRE RATING OF PARTITIONS.
4. UNLESS OTHERWISE NOTED ON DRAWING, MOUNTING HEIGHTS OUTLETS AND EQUIPMENT SHALL BE AS INDICATED ON SYMBOL LIST & SPECIFICATIONS.
5. ALL COMPUTER CIRCUITS SHALL BE PROVIDED WITH THEIR DEDICATED NEUTRAL.
6. FINAL COLOR SELECTIONS FOR EQUIPMENT & DEVICES SHALL BE BY ARCHITECT.
7. ALL GROUNDING SHALL BE AS PER CODE.
8. ALL CABLES SHALL BE INSULATED THHN/THWN 75°C COPPER.
9. MIN. SIZE OF CONDUIT SHALL BE 3/4"C. ALL CONDUITS WITHIN THE BUILDING FOOTPRINT SHALL BE EMT. CONDUITS OUTSIDE THE BUILDING FOOTPRINT SHALL BE RGC.
10. ALL PENETRATIONS TO THE BUILDING FOUNDATION WALLS SHALL BE MADE VERMIN PROOF.
11. ALL POWER WIRING SHALL RUN IN CONDUITS, CONCEALED WHERE NEW CEILING, WALL, & PARTITIONS ARE BEING CONSTRUCTED. CONDUIT runs SHALL BE DETERMINED IN FIELD IN COORDINATION WITH ALL OTHER TRADES FOR A CODE COMPLIANT INSTALLATION.
12. ELECTRICAL CONTRACTOR SHALL COORDINATE ELECTRICAL REQUIREMENTS WITH FOR FAUCETS, FLUSHOMETERS WITH PLUMBING CONTRACTOR.
13. ALL OPENINGS IN THE BUILDING WALLS FOR THE ENTRANCE OF CONDUITS SHALL BE MADE BY THE USE OF SLEEVES, WHICH SHALL BE GROUTED IN PLACE, WATER PROOFED UTILIZING LINK-SEAL "TYPE GASKETING AND VERMIN-PROOFED BY AN APPROVED SEALING COMPOUND EXTENDING 3" INSIDE MOUTH OF CONDUIT. SPARE CONDUITS BEING INSTALLED NOW FOR FUTURE INCOMING SERVICE SHALL BE PLUGGED AND WATERTIGHT.

POWER PLAN NOTES

1. FOR GENERAL NOTES, SYMBOL REFER TO DWG E090.
2. FOR LIGHTING FIXTURE AND PANEL SCHEDULE REFER TO DWG E410.
3. ALL CONDUIT PENETRATIONS THROUGH FIRE RATED PARTITIONS ARE TO BE PROVIDED WITH FIRE STOP SEALS AS REQUIRED BY CODE TO MAINTAIN FIRE RATING OF PARTITIONS.
4. VACANCY AND DAY LIGHT SENSORS SHALL BE INSTALLED AS RECOMMENDED BY THE MANUFACTURER TO OPTIMIZE COVERAGE IN THE SPACE. CONTRACTOR SHALL COORDINATE THIS REQUIREMENT WITH THE VENDOR/MANUFACTURER AND FINALIZE LOCATION OF THE SENSORS.
5. ALL LIGHTING CIRCUITS SHALL BE PROVIDED WITH A SEPARATE NEUTRAL.
6. ALL GROUNDING SHALL BE AS PER CODE AND SPECIFICATION.
7. LIGHTING FIXTURES IN THE MECHANICAL ROOMS SHALL BE COORDINATED WITH MECHANICAL, PLUMBING EQUIPMENT AND PIPING LOCATIONS.
8. WIRING TO ALL LIGHTING CIRCUITS SHALL BE 2#12+1#12G-3/4" EMT.
9. EXIT SIGNS ARE TO BE MADE VISIBLE FROM ALL AREAS OF CORRIDOR.
10. EXIT SIGNS SHALL BE CIRCUITED FROM UN-SWITCH LEG OF THE CIRCUIT SERVING THE AREA.
11. ALL LIGHTING FIXTURE WITH EMERGENCY BATTERY PACK SHALL HAVE THE EMERGENCY BATTERY PACK CIRCUITED FROM AN UN-SWITCHED LEG OF THE CIRCUIT FEEDING THE LIGHT FIXTURES.
12. ALL LIGHTING CONTROLS SHALL BE WIRED AND BY LUTRON.

LIGHTING PLAN NOTES

No.	Date	Revisions
1	10-28-22	BIDDING DOCUMENTS
2	12-09-22	SED ADDENDUM 1
3	01-12-23	SED ADDENDUM 2
4	01-27-23	REVISIONS

Drawn by DK
Checked by SH
Project No. 42051
Scale AS NOTED
Date 10/25/22

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

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

NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1

1 ⚠3 01-27-23 ADDENDUM 2

HIGH SCHOOL: SBM# 50-02-01-06-0-016-055
PRESS BOX (DEMO): SBM# 50-02-01-06-7-035-001
CONCESSIONS-PRESS BOX (NEW): SBM# 50-02-01-06-7-070-001
FIELDHOUSE SBM# 50-02-01-06-7-030-001

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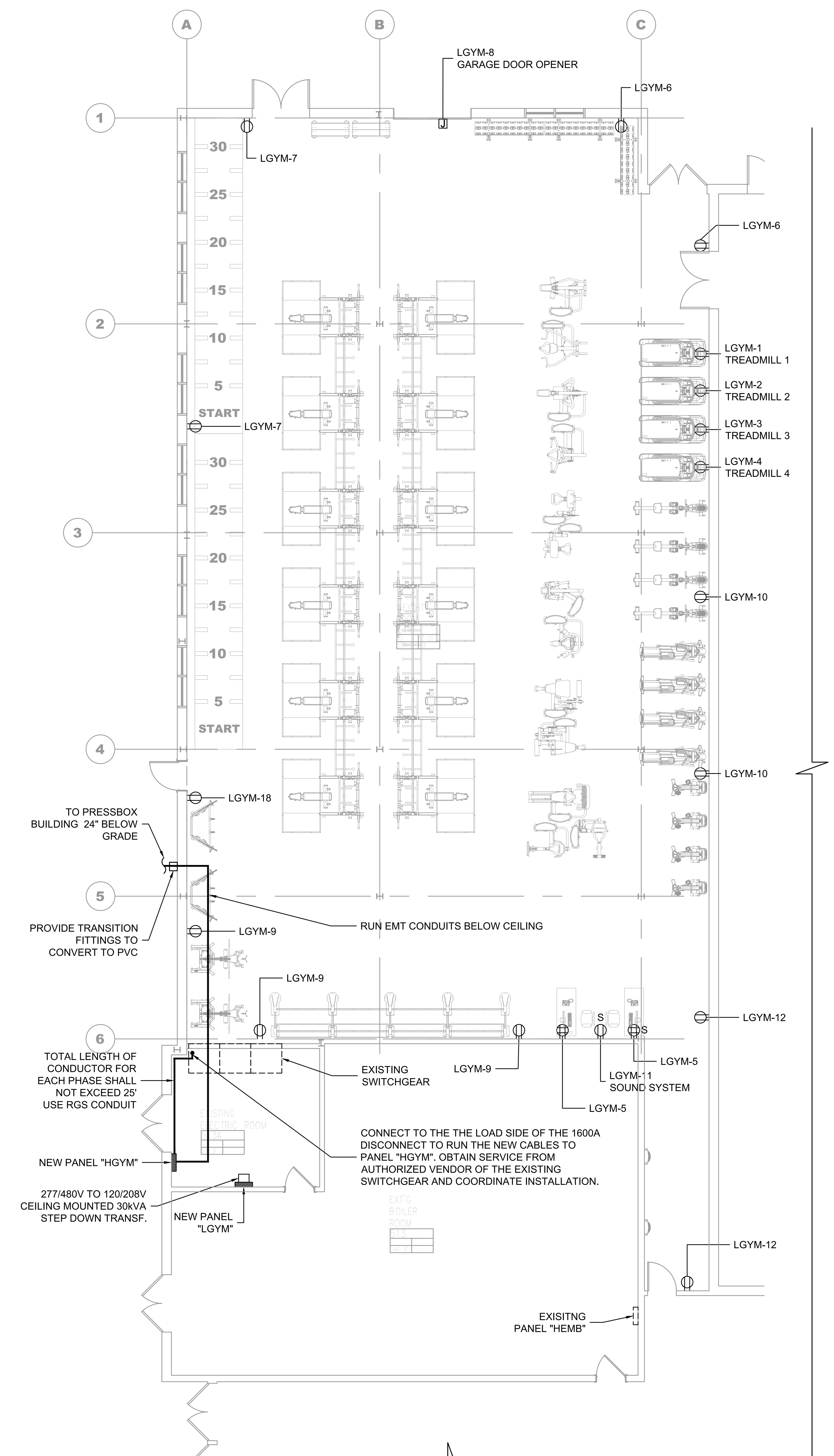
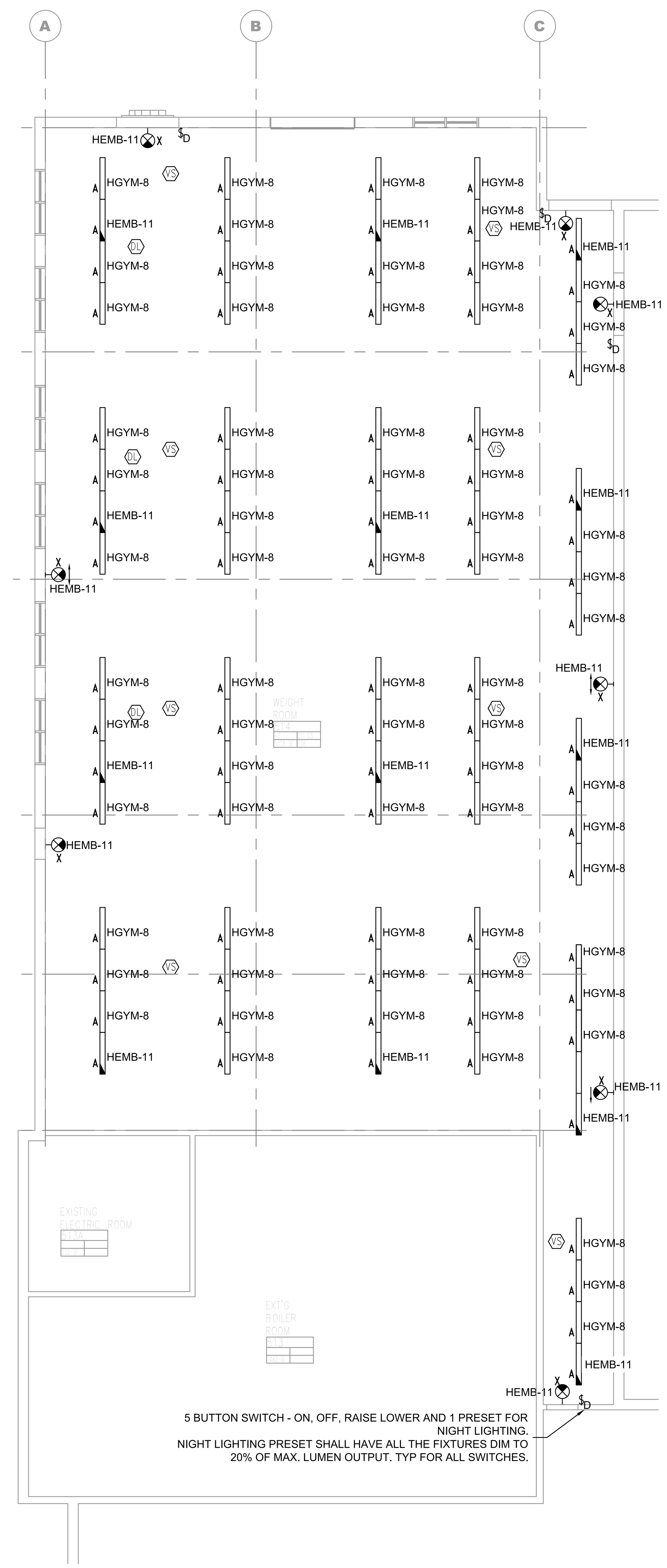
www.shilale.com

Drawing Title: CONCESSION/PRESS BOX ELECTRICAL FLOOR PLANS

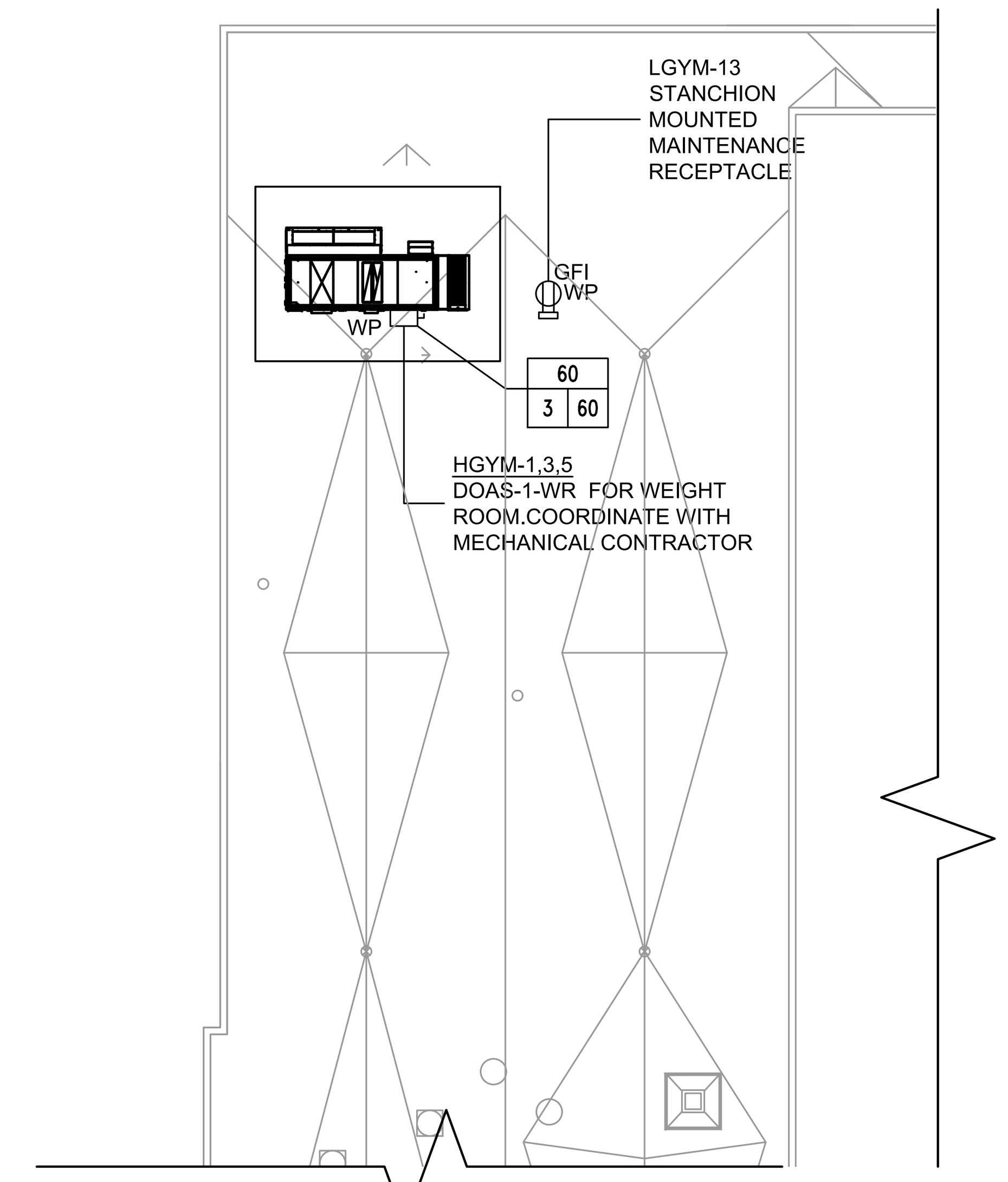
Drawing No. E-110



1 ELECT. & NEW WEIGHT RM POWER PART PLAN
SCALE: 1/8"=1'-0"



2 NEW WEIGHT RM LIGHTING PART PLAN
SCALE: 1/8"=1'-0"



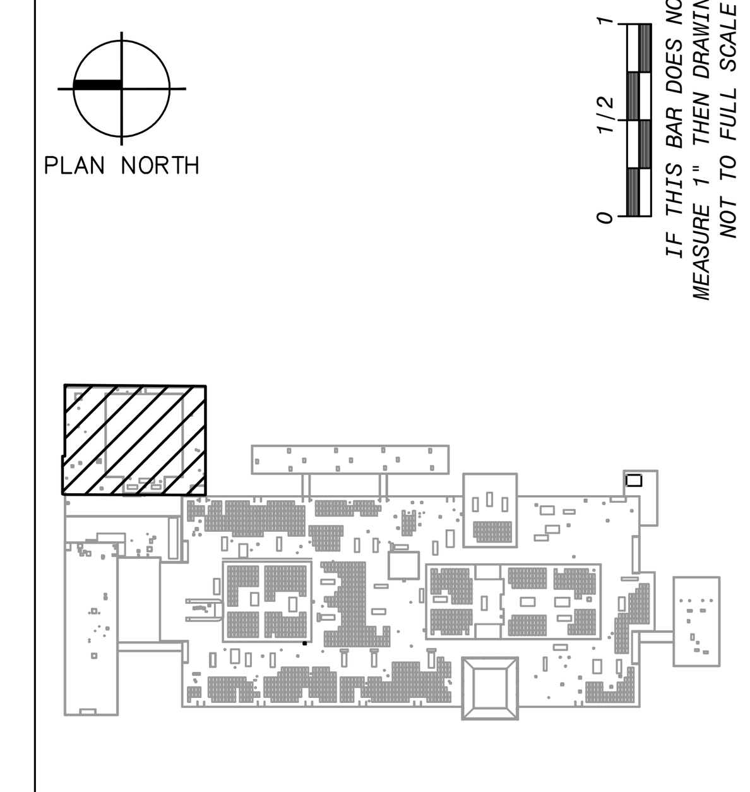
3 WEIGHT RM. ROOF PART PLAN
SCALE: 1/16"=1'-0"

1. FOR GENERAL NOTES, SYMBOL REFER TO DWG E090.
2. FOR LIGHTING FIXTURE AND PANEL SCHEDULE REFER TO DWG E410.
3. ALL CONDUIT PENETRATIONS THROUGH FIRE RATED PARTITIONS ARE TO BE PROVIDED WITH FIRE STOP SEALS AS REQUIRED BY CODE TO MAINTAIN FIRE RATING OF PARTITIONS.
4. VACANCY AND DAY LIGHT SENSORS SHALL BE INSTALLED AS RECOMMENDED BY THE MANUFACTURER TO OPTIMIZE COVERAGE IN THE SPACE. CONTRACTOR SHALL COORDINATE THIS REQUIREMENT WITH THE VENDOR/MANUFACTURER AND FINALIZE LOCATION OF THE SENSORS.
5. ALL LIGHTING CIRCUITS SHALL BE PROVIDED WITH A SEPARATE NEUTRAL.
6. ALL GROUNDING SHALL BE AS PER CODE AND SPECIFICATION.
7. LIGHTING FIXTURES IN THE MECHANICAL ROOMS SHALL BE COORDINATED WITH MECHANICAL, PLUMBING EQUIPMENT AND PIPING LOCATIONS.
8. WIRING TO ALL LIGHTING CIRCUITS SHALL BE 2#12+1#12G-3/4" EMT.
9. EXIT SIGNS ARE TO BE MADE VISIBLE FROM ALL AREAS OF CORRIDOR.
10. EXIT SIGNS SHALL BE CIRCUITED FROM UN-SWITCH LEG OF THE CIRCUIT SERVING THE AREA.
11. ALL LIGHTING FIXTURE WITH EMERGENCY BATTERY PACK SHALL BE CIRCUITED FROM AN UN-SWITCHED LEG OF THE CIRCUIT FEEDING THE LIGHT FIXTURES.
12. ALL LIGHTING CONTROLS SHALL BE WIRED AND BY LUTRON.

LIGHTING PLAN NOTES

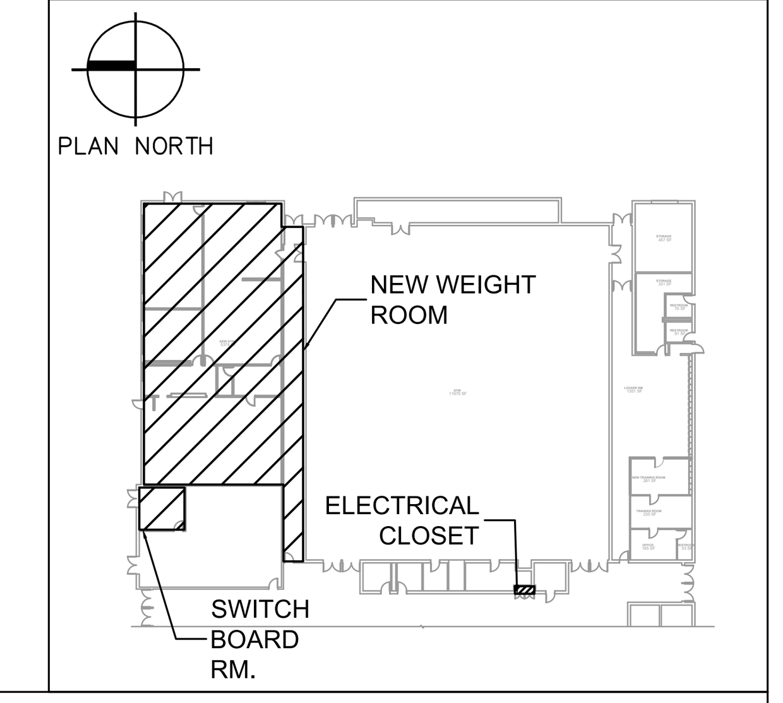
1. FOR GENERAL NOTES, SYMBOL LIST REFER TO DWG E090.
2. FOR EXACT LOCATION, MOUNTING HEIGHTS FOR PLUMB., MECH. EQUIPMENT & DEVICES REFER TO PLUMB., MECH. DWGS.
3. CONDUIT PENETRATIONS THROUGH ALL FLOORS, WALLS, SLAB, & PARTITIONS ARE TO BE PROVIDED WITH FIRE STOP SEALS AS REQUIRED BY CODE TO MAINTAIN FIRE RATING OF PARTITIONS.
4. UNLESS OTHERWISE NOTED ON DRAWING, MOUNTING HEIGHTS OUTLETS AND EQUIPMENT SHALL BE AS INDICATED ON SYMBOL LIST & SPECIFICATIONS.
5. ALL COMPUTER CIRCUITS SHALL BE PROVIDED WITH THEIR DEDICATED NEUTRAL.
6. FINAL COLOR SELECTIONS FOR EQUIPMENT & DEVICES SHALL BE BY ARCHITECT.
7. ALL GROUNDING SHALL BE AS PER CODE.
8. ALL CABLES SHALL BE INSULATED THHN/THWN 75°C COPPER.
9. MIN. SIZE OF CONDUIT SHALL BE 3/4"C. ALL CONDUITS WITHIN THE BUILDING FOOTPRINT SHALL BE EMT. CONDUITS OUTSIDE THE BUILDING FOOTPRINT SHALL BE RGC.
10. ALL PENETRATIONS TO THE BUILDING FOUNDATION WALLS SHALL BE MADE VERMIN PROOF.
11. ALL POWER WIRING SHALL RUN IN CONDUITS, CONCEALED WHERE NEW CEILING, WALL, & PARTITIONS ARE BEING CONSTRUCTED. CONDUIT runs SHALL BE DETERMINED IN FIELD IN COORDINATION WITH ALL OTHER TRADES FOR A CODE COMPLIANT INSTALLATION.
12. ELECTRICAL CONTRACTOR SHALL COORDINATE ELECTRICAL REQUIREMENTS WITH FOR FAUCETS, FLUSHOMETERS WITH PLUMBING CONTRACTOR.
13. ALL OPENINGS IN THE BUILDING WALLS FOR THE ENTRANCE OF CONDUITS SHALL BE MADE BY THE USE OF SLEEVES, WHICH SHALL BE GROUTED IN PLACE, WATER PROOFED UTILIZING LINK-SEAL "TYPE GASKETING AND VERMIN-PROOFED BY AN APPROVED SEALING COMPOUND EXTENDING 3" INSIDE MOUTH OF CONDUIT. SPARE CONDUITS BEING INSTALLED NOW FOR FUTURE INCOMING SERVICE SHALL BE PLUGGED AND WATERTIGHT.

POWER PLAN NOTES



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

KEY PLAN



No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by	DK
Checked by	SH
Project No.	42051
Scale	AS NOTED
Date	10/25/22

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

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

NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1 (3)

HIGH SCHOOL: SED# 50-02-01-06-0-016-035
PRESS BOX (DEMO): SED# 50-02-01-06-7-026-001
CONCESSIONS-PRESS BOX (NEW): SED# 50-02-01-06-7-079-001
FIELDHOUSE: SED# 50-02-01-06-7-008-001

106 Hammond Rd, Thiells, NY 10984
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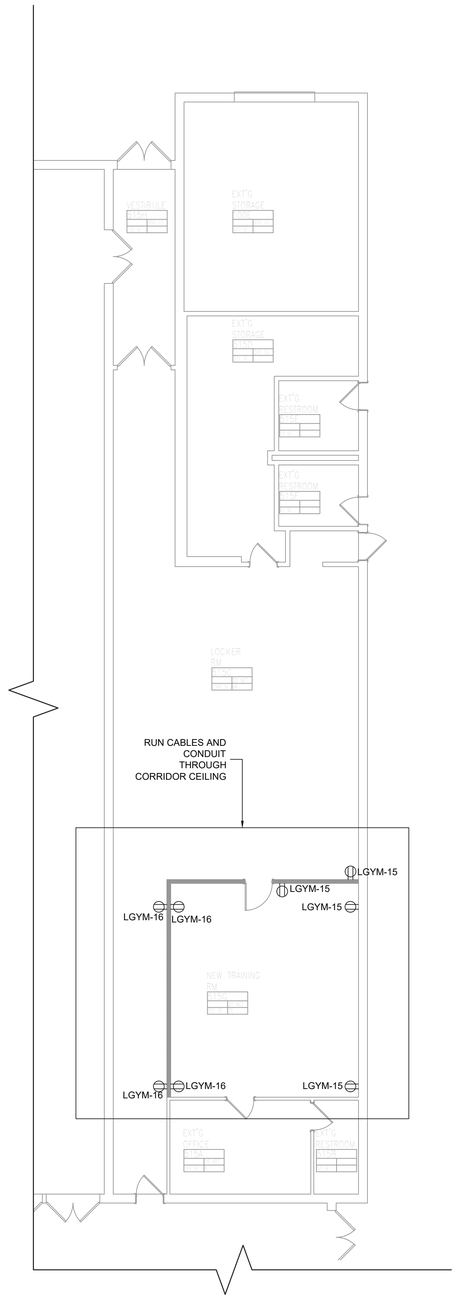
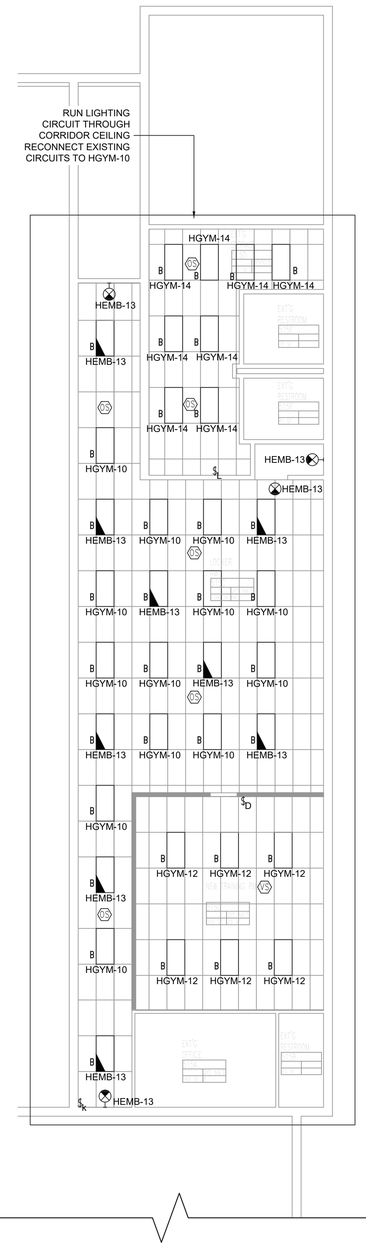
Drawing Title
WEIGHT ROOM ELECTRICAL FLOOR PLANS

Drawing No.
E-120



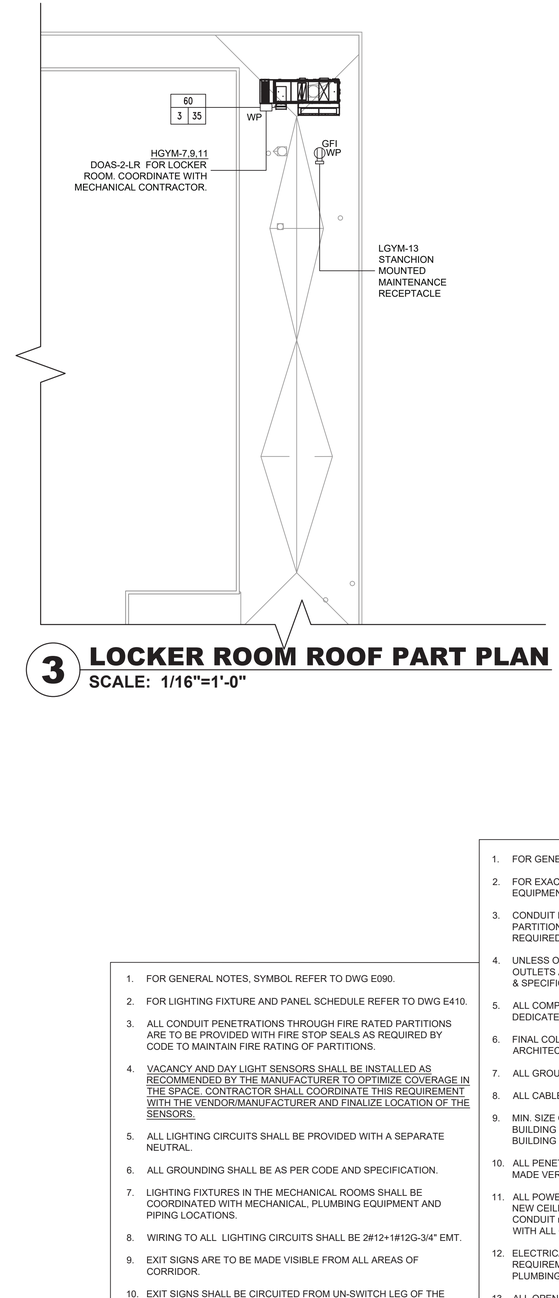
1 NEW TRAINING RM. POWER PART PLAN

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



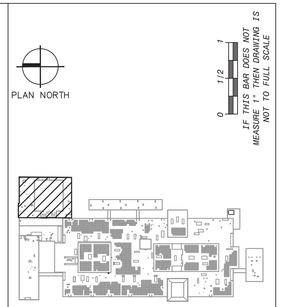
2 NEW TRAINING RM. LIGHTING PART PLAN

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

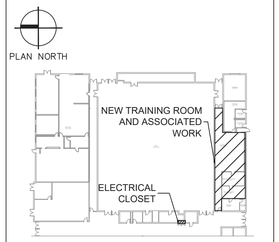


3 LOCKER ROOM ROOF PART PLAN

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



KEY PLAN



LIGHTING PLAN NOTES

1. FOR GENERAL NOTES, SYMBOL REFER TO DWG E090.
2. FOR LIGHTING FIXTURE AND PANEL SCHEDULE REFER TO DWG E410.
3. ALL CONDUIT PENETRATIONS THROUGH FIRE RATED PARTITIONS ARE TO BE PROVIDED WITH FIRE STOP SEALS AS REQUIRED BY CODE TO MAINTAIN FIRE RATING OF PARTITIONS.
4. VACANCY AND DAY LIGHT SENSORS SHALL BE INSTALLED AS RECOMMENDED BY THE MANUFACTURER TO OPTIMIZE COVERAGE IN THE SPACE. CONTRACTOR SHALL COORDINATE THIS REQUIREMENT WITH THE VENDOR/MANUFACTURER AND FINALIZE LOCATION OF THE SENSORS.
5. ALL LIGHTING CIRCUITS SHALL BE PROVIDED WITH A SEPARATE NEUTRAL.
6. ALL GROUNDING SHALL BE AS PER CODE AND SPECIFICATION.
7. LIGHTING FIXTURES IN THE MECHANICAL ROOMS SHALL BE COORDINATED WITH MECHANICAL, PLUMBING EQUIPMENT AND PIPING LOCATIONS.
8. WIRING TO ALL LIGHTING CIRCUITS SHALL BE 2#12+1#12G-3/4" EMT.
9. EXIT SIGNS ARE TO BE MADE VISIBLE FROM ALL AREAS OF CORRIDOR.
10. EXIT SIGNS SHALL BE CIRCUITED FROM UN-SWITCH LEG OF THE CIRCUIT SERVING THE AREA.
11. ALL LIGHTING FIXTURE WITH EMERGENCY BATTERY PACK SHALL BE CIRCUITED FROM AN UN-SWITCHED LEG OF THE CIRCUIT FEEDING THE LIGHT FIXTURES.
12. ALL LIGHTING CONTROLS SHALL BE WIRED AND BY LUTRON.

POWER PLAN NOTES

1. FOR GENERAL NOTES, SYMBOL LIST REFER TO DWG E090.
2. FOR EXACT LOCATION, MOUNTING HEIGHTS FOR PLUMB., MECH. EQUIPMENT & DEVICES REFER TO PLUMB., MECH. DWGS.
3. CONDUIT PENETRATIONS THROUGH ALL FLOORS, WALLS, SLAB, & PARTITIONS ARE TO BE PROVIDED WITH FIRE STOP SEALS AS REQUIRED BY CODE TO MAINTAIN FIRE RATING OF PARTITIONS.
4. UNLESS OTHERWISE NOTED ON DRAWING, MOUNTING HEIGHTS OUTLETS AND EQUIPMENT SHALL BE AS INDICATED ON SYMBOL LIST & SPECIFICATIONS.
5. ALL COMPUTER CIRCUITS SHALL BE PROVIDED WITH THEIR DEDICATED NEUTRAL.
6. FINAL COLOR SELECTIONS FOR EQUIPMENT & DEVICES SHALL BE BY ARCHITECT.
7. ALL GROUNDING SHALL BE AS PER CODE.
8. ALL CABLES SHALL BE INSULATED THHN/THWN 75°C COPPER.
9. MIN. SIZE OF CONDUIT SHALL BE 3/4"C. ALL CONDUITS WITHIN THE BUILDING FOOTPRINT SHALL BE EMT. CONDUITS OUTSIDE THE BUILDING FOOTPRINT SHALL BE RGC.
10. ALL PENETRATIONS TO THE BUILDING FOUNDATION WALLS SHALL BE MADE VERMIN PROOF.
11. ALL POWER WIRING SHALL RUN IN CONDUITS, CONCEALED WHERE NEW CEILING, WALL, & PARTITIONS ARE BEING CONSTRUCTED. CONDUIT runs SHALL BE DETERMINED IN FIELD IN COORDINATION WITH ALL OTHER TRADES FOR A CODE COMPLIANT INSTALLATION.
12. ELECTRICAL CONTRACTOR SHALL COORDINATE ELECTRICAL REQUIREMENTS WITH FOR FAUCETS, FLUSHOMETERS WITH PLUMBING CONTRACTOR.
13. ALL OPENINGS IN THE BUILDING WALLS FOR THE ENTRANCE OF CONDUITS SHALL BE MADE BY THE USE OF SLEEVES, WHICH SHALL BE GROUTED IN PLACE, WATER PROOFED UTILIZING LINK-SEAL "TYPE GASKETING AND VERMIN-PROOFED BY AN APPROVED SEALING COMPOUND EXTENDING 3" INSIDE MOUTH OF CONDUIT. SPARE CONDUITS BEING INSTALLED NOW FOR FUTURE INCOMING SERVICE SHALL BE PLUGGED AND WATERTIGHT.

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by	DK
Checked by	SH
Project No.	42051
Scale	AS NOTED
Date	10/25/22

GREENMAN PEDERSEN, INC
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Mechanical & Electrical Engineer:

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Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL
PROJECTS - PHASE 1

HIGH SCHOOL: SBM# 50-02-01-06-0-016-005
PRESS BOX (DEMO): SBM# 50-02-01-06-7-028-001
CONCESSIONS-PRESS BOX (NEW): SBM# 50-02-01-06-7-079-001
FIELDHOUSE: SBM# 50-02-01-06-7-006-001

190 Haverstraw Rd.
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COUNTY OF ROCKLAND

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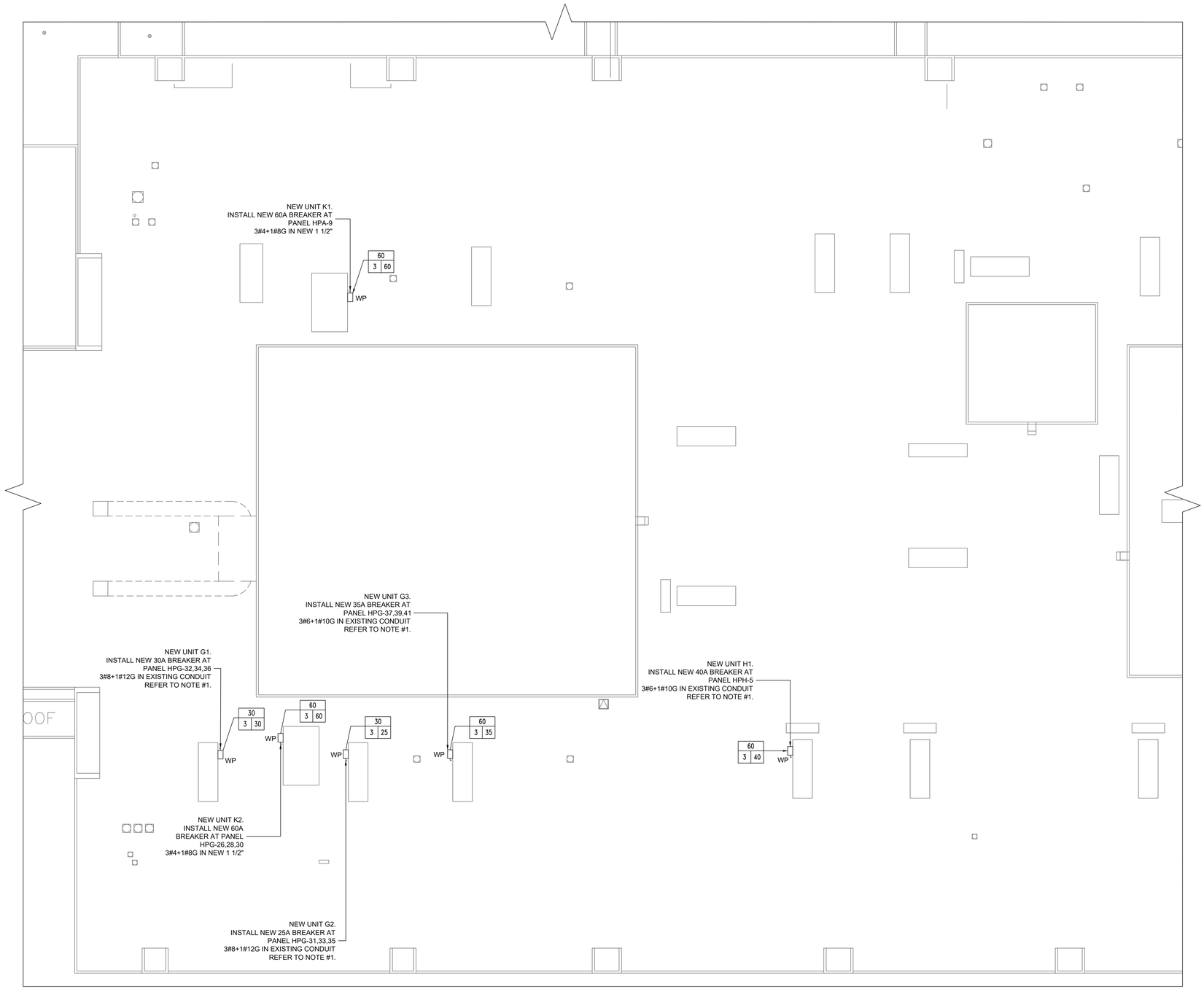
Drawing Title
LOCKER ROOM ELECTRICAL FLOOR PLANS

Drawing No.
E-121



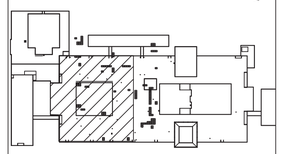
1 ELECTRICAL ROOF RTU INSTALLATION PART PLAN

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

PLAN NORTH

0 1/2 1

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



KEY PLAN

1. INSTALL NEW CABLES FROM PANEL/CIRCUIT TO NEW DISCONNECT IN EXISTING CONDUIT. MAKE ALL NECESSARY MODIFICATIONS TO THE CONDUIT TO EXTEND IT TO THE NEW DISCONNECT SWITCH AT THE UNIT. COORDINATE THE INSTALLATION WITH THE MECHANICAL CONTRACTOR. REFER TO ED-130 FOR DEMOLITION PLANS AND NOTES AND EXISTING PANEL AND CIRCUIT NUMBER.

PLAN NOTES

No.	Date	Revisions
4	01-27-23	REVISIONS
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Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL
PROJECTS – PHASE 1

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PRESS BOX (DEMO): SBL# 50-02-01-06-7-008-001
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FIELDHOUSE: SBL# 50-02-01-06-7-008-001

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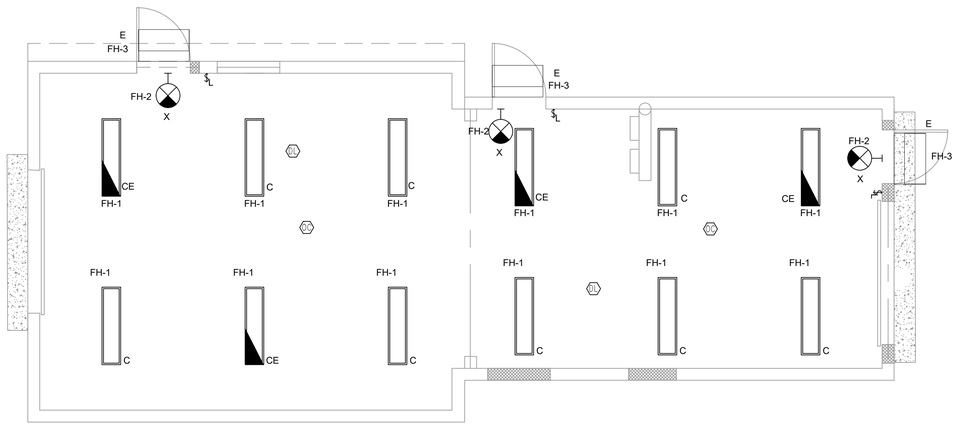
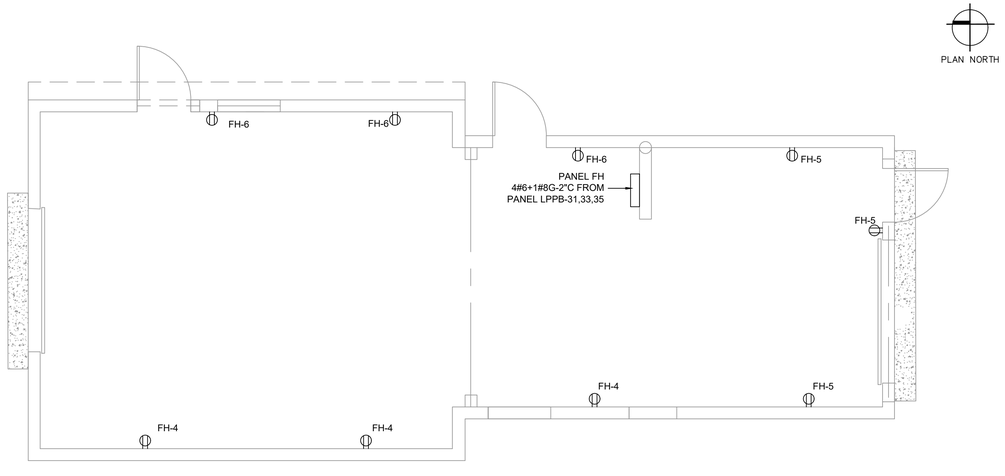
Drawing Title
HIGH SCHOOL RTU ELECTRICAL FLOOR PLAN

Drawing No.
E-130



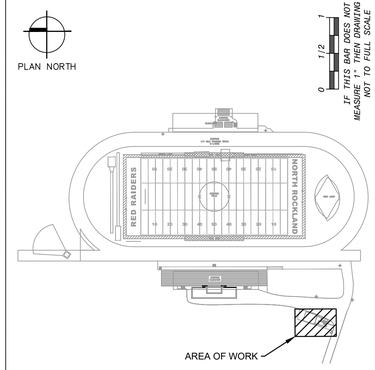
1 ELECTRICAL FIELD HOUSE LIGHTING INSTALLATION PLAN

SCALE: 1/4" = 1' 0"



2 ELECTRICAL FIELD HOUSE POWER INSTALLATION PLAN

SCALE: 1/4" = 1' 0"



KEY PLAN

1. FOR GENERAL NOTES, SYMBOL LIST REFER TO DWG E090.
2. FOR EXACT LOCATION, MOUNTING HEIGHTS FOR PLUMB., MECH. EQUIPMENT & DEVICES REFER TO PLUMB., MECH. DWGS.
3. CONDUIT PENETRATIONS THROUGH ALL FLOORS, WALLS, SLAB, & PARTITIONS ARE TO BE PROVIDED WITH FIRE STOP SEALS AS REQUIRED BY CODE TO MAINTAIN FIRE RATING OF PARTITIONS.
4. UNLESS OTHERWISE NOTED ON DRAWING, MOUNTING HEIGHTS OUTLETS AND EQUIPMENT SHALL BE AS INDICATED ON SYMBOL LIST & SPECIFICATIONS.
5. ALL COMPUTER CIRCUITS SHALL BE PROVIDED WITH THEIR DEDICATED NEUTRAL.
6. FINAL COLOR SELECTIONS FOR EQUIPMENT & DEVICES SHALL BE BY ARCHITECT.
7. ALL GROUNDING SHALL BE AS PER CODE.
8. ALL CABLES SHALL BE INSULATED THHN/THWN 75°C COPPER.
9. MIN. SIZE OF CONDUIT SHALL BE 3/4"C. ALL CONDUITS WITHIN THE BUILDING FOOTPRINT SHALL BE EMT. CONDUITS OUTSIDE THE BUILDING FOOTPRINT SHALL BE RGC.
10. ALL PENETRATIONS TO THE BUILDING FOUNDATION WALLS SHALL BE MADE VERMIN PROOF.
11. ALL POWER WIRING SHALL RUN IN CONDUITS, CONCEALED WHERE NEW CEILING, WALL, & PARTITIONS ARE BEING CONSTRUCTED. CONDUIT runs SHALL BE DETERMINED IN FIELD IN COORDINATION WITH ALL OTHER TRADES FOR A CODE COMPLIANT INSTALLATION.
12. ELECTRICAL CONTRACTOR SHALL COORDINATE ELECTRICAL REQUIREMENTS WITH FOR FAUCETS, FLUSHOMETERS WITH PLUMBING CONTRACTOR.
13. ALL OPENINGS IN THE BUILDING WALLS FOR THE ENTRANCE OF CONDUITS SHALL BE MADE BY THE USE OF SLEEVES, WHICH SHALL BE GROUTED IN PLACE, WATER PROOFED UTILIZING LINK-SEAL "TYPE GASKETING AND VERMIN-PROOFED BY AN APPROVED SEALING COMPOUND EXTENDING 3" INSIDE MOUTH OF CONDUIT. SPARE CONDUITS BEING INSTALLED NOW FOR FUTURE INCOMING SERVICE SHALL BE PLUGGED AND WATERTIGHT.

POWER PLAN NOTES

1. FOR GENERAL NOTES, SYMBOL REFER TO DWG E090.
2. FOR LIGHTING FIXTURE AND PANEL SCHEDULE REFER TO DWG E420.
3. ALL CONDUIT PENETRATIONS THROUGH FIRE RATED PARTITIONS ARE TO BE PROVIDED WITH FIRE STOP SEALS AS REQUIRED BY CODE TO MAINTAIN FIRE RATING OF PARTITIONS.
4. VACANCY AND DAY LIGHT SENSORS SHALL BE INSTALLED AS RECOMMENDED BY THE MANUFACTURER TO OPTIMIZE COVERAGE IN THE SPACE. CONTRACTOR SHALL COORDINATE THIS REQUIREMENT WITH THE VENDOR/MANUFACTURER AND FINALIZE LOCATION OF THE SENSORS.
5. ALL LIGHTING CIRCUITS SHALL BE PROVIDED WITH A SEPARATE NEUTRAL.
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7. LIGHTING FIXTURES IN THE MECHANICAL ROOMS SHALL BE COORDINATED WITH MECHANICAL, PLUMBING EQUIPMENT AND PIPING LOCATIONS.
8. WIRING TO ALL LIGHTING CIRCUITS SHALL BE 2#12+1#12G-3/4" EMT.
9. EXIT SIGNS ARE TO BE MADE VISIBLE FROM ALL AREAS OF CORRIDOR.
10. EXIT SIGNS SHALL BE CIRCUITED FROM UN-SWITCH LEG OF THE CIRCUIT SERVING THE AREA.
11. ALL LIGHTING FIXTURE WITH EMERGENCY BATTERY PACK SHALL BE CIRCUITED FROM AN UN-SWITCHED LEG OF THE CIRCUIT FEEDING THE LIGHT FIXTURES.
12. ALL LIGHTING CONTROLS SHALL BE WIRED AND BY LUTRON.

LIGHTING PLAN NOTES

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by DK
Checked by SH
Project No. 42051
Scale AS NOTED
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GREENMAN PEDERSEN, INC
2 EXECUTIVE BOULEVARD
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SUFFERN, NY 10901

Mechanical & Electrical Engineer:

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Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL
PROJECTS – PHASE 1

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PRESS BOX (DEMO): SBL# 50-02-01-06-7-028-001
CONCESSIONS-PRESS BOX (NEW): SBL# 50-02-01-06-7-079-001
RESTROOMS: SBL# 50-02-01-06-7-030-001

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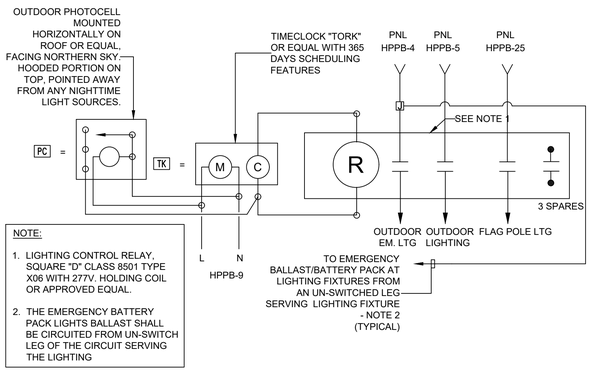
Drawing Title
FIELD HOUSE ELECTRICAL FLOOR PLANS

Drawing No.
E-140



NOTE:

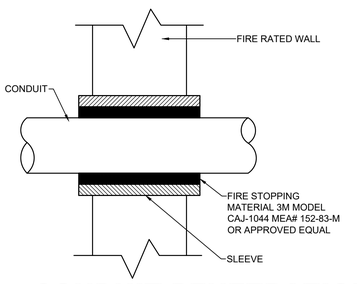
1. LIGHTING CONTROL RELAY, SQUARE "D" CLASS 8501 TYPE X06 WITH 277V. HOLDING COIL OR APPROVED EQUAL.
2. THE EMERGENCY BATTERY PACK LIGHTS BALLAST SHALL BE CIRCUITED FROM UN-SWITCH LEG OF THE CIRCUIT SERVING THE LIGHTING

1 TIME CLOCK AND CONTACTOR DETAIL
SCALE: NTS

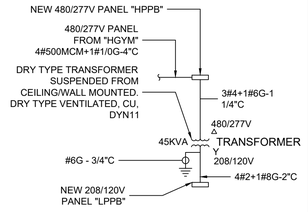
LIGHTING FIXTURE SCHEDULE							
Type Mark	Watts	Voltage	Type Comments	Mounting	Lamps	Manufacturer Catalog Number	Remarks
A	25 W	277 V	SNACK ROOM	SURFACE	LED	22-OSMT-LED-3400L-DIM10-MVOLT-35K-85	2X2 SURFACE MOUNTED FIXTURE
AE	25 W	277 V	SNACK ROOM	SURFACE	LED	22-OSMT-LED-3400L-DIM10-MVOLT-35K-85	2X2 SURFACE MOUNTED FIXTURE
BE	27 W	277 V	PRESS BOX	SURFACE	LED	4-OC1-LED-4000L-DIM10-MVOLT-35K-90-0-EMG-LED-10W	1X4 SURFACE MOUNTED FIXTURE FOR PRESS BOX
C	44 W	277 V	STORAGE RM	SURFACE	LED	4-OSC-LED-4000L-DIM10-MVOLT-35K	WRAPAROUND SURFACE MOUNTED FIXTURE AT STGE RM.
CE	44 W	277 V	STORAGE RM	SURFACE	LED	4-OSC-LED-4000L-DIM10-MVOLT-35K-0-EMG-LED	WRAPAROUND SURFACE MOUNTED FIXTURE AT STGE RM.
DE	40 W	277 V	BATHROOM	SURFACE	LED	4-OV2R-LED-5000L-DIM10-MVOLT-35K-85-0-EMG-LED-10W 0SM3D-DDW-50	VANDAL RESIST. 1X4 FIXTURE. WITH INTEGRAL OCCUPANCY SENSOR 50% DIMMING
E	17 W	277 V	OUTDOOR	WALL	LED	OWP-FC-104-LED-1600L-MVOLT-40K-BZ-0-EMG-LED-MS	WALL MOUNTED EXTERIOR LIGHT WITH EM BATT. PACK
H4	12 W	277 V	OUTDOOR	RECESSED	LED	HH4-LED-900L-MVOLT-35K-HH4-4501	OUTDOOR DOWNLIGHT
H5E	12 W	277 V	OUTDOOR	RECESSED	LED	HH4-LED-900L-MVOLT-35K-EMG-LED-10W-HH4-4501	OUTDOOR DOWN LIGHT WITH EM BATTERY PACK
X	5 W	277 V	EXIT LIGHTS	CLG/WALL	LED	ELX-604-R-AL-1-CLEAR	EXIT LIGHT
G2	24 W	277 V	BATHROOM	WALL	LED	ASL #VBU-24-3500-L25.5-H5-D4-DVD-FW-EMG	2' LED BATHROOM FIXTURE
J4	24 W	277 V	OUTDOOR	CEILING	LED	SR4-LED-900L-DIM10-277	4" DIAMETER SHALLOW DOWNLIGHT
J5E	24 W	277 V	OUTDOOR	CEILING	LED	SR4-LED-900L-DIM10-277-EMG-LED-10W	4" DIAMETER SHALLOW DOWNLIGHT WITH EMERGENCY BATTERY PACK

2 LIGHTING FIXTURE SCHEDULE
SCALE: N.T.S.

MAIN GROUND BUS - STGE RM	
LETTER DESIGNATION	IDENTIFICATION
A	LOCAL SOUND SYSTEM
B	PANEL HPPB
C	PANEL LPPB
D	480V TO 208/120V TRANSFORMER
E	GROUND ROD
F	DATA RACK - BY OTHERS
G	CAMERA RACK - BY OTHERS
H	277V TO 240/120V TRANSFORMER
I	FIRE ALARM
J	SPARE
K	SPARE
L	SPARE
M	SPARE
N	SPARE
O	SPARE

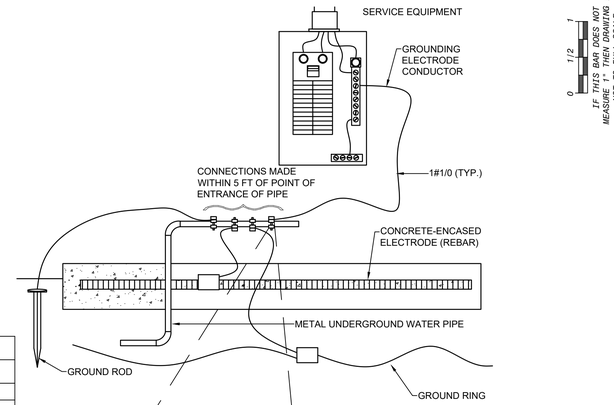


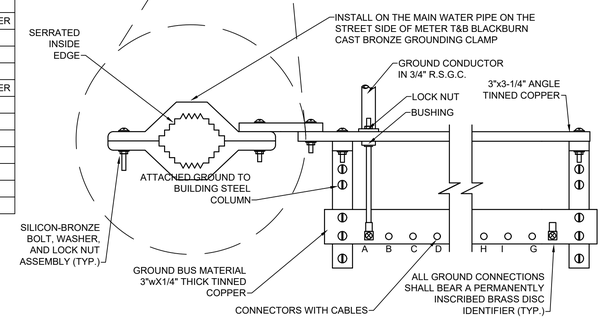
8 CONDUIT PENETRATION THRU FIRE RATED WALL
SCALE: N.T.S.



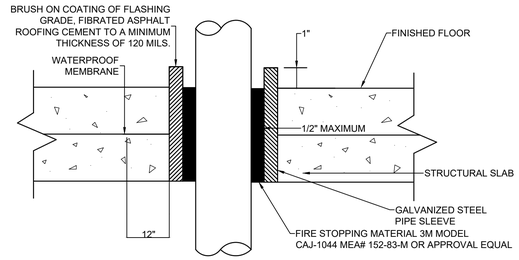
3 PARTIAL RISER
SCALE: NTS

PANEL SCHEDULE											
PANEL NAME:	HPPB		LOCATION:	STORAGE ROOM			MOUNTING:	SURFACE			
VOLTAGE/PHASE:	277/480Y, 3 Phase, 4W & G		PANEL (AMP)	400A			FREQUENCY:	60 Hz			
PANEL SHORT CIRCUIT RATING(KA):	22 KA		FEEDER SIZE	4#500MCM+1#1/0G - 4"C			FEEDING SOURCE:	HGYM			
MAIN BREAKER TYPE	300A		MAIN BREAKER RATING (A):	MCB			BRANCH C.B TYPE	MCCB (BOLT ON)			
Load Designation	Wiring	Phase Load in VA					Wiring	Load Designation			
		C/B (A)	CT NO	AØ	BØ	CØ	CT NO	C/B (A)			
LTG @ TLT	2#12+1#12G - 3/4"C	20	1	240			2	20	2#12+1#12G - 3/4"C	LTG @ STORAGE	
LTG @ SNACK BAR	2#12+1#12G - 3/4"C	20	3	264	200		4	20	2#12+1#12G - 3/4"C	EXTERIOR EM. LIGHTING	
EXTERIOR DOWNLIGHTS	2#12+1#12G - 3/4"C	20	5		60	944	6	20	2#12+1#12G - 3/4"C	LTG @ 1ST FL.	
EXIT LIGHT	2#12+1#12G - 3/4"C	20	7	60		132	8				
TORK TC AND CONTACTOR	2#12+1#12G - 3/4"C	20	9	2000	100		10	80	3#12+1#12G - 3/4"C	ELECTRIC HOT WATER HEATER	
Spare	2#12+1#12G - 3/4"C	20	11		2000		12				
Spare	2#12+1#12G - 3/4"C	20	13	15000		2000	14				
Spare	2#12+1#12G - 3/4"C	20	15		15000		16	70	3#4+1#6G-1 1/4"C	TRANSFORMER (TR-1)	
Spare	2#12+1#12G - 3/4"C	20	17			15000	18				
Spare	2#12+1#12G - 3/4"C		19				20	20		Spare	
Spare	2#12+1#12G - 3/4"C	20	21				22	20		Spare	
Spare	2#12+1#12G - 3/4"C		23				24	20		Spare	
FLAG POLE LIGHTING	2#12+1#12G - 3/4"C	20	25	250	25200		26	135	2#10+1#6G - 1 1/2"C	TRANSFORMER TR-2 (SCORE BOARD)	
INVERTER 1,2	2#12+1#12G - 3/4"C	20	27		1000		28	20		SPARE	
INVERTER 3,4	2#12+1#12G - 3/4"C	20	29			1000	30	20		SPARE	
AF-01	3#6+1#8G - 1 1/2"C	60	31	3228			32				
			33	3384	3228		34	60	3#6+1#8G - 1 1/2"C	AF-02	
			35		3384	3228	36				
AF-03	3#6+1#8G - 1 1/2"C	30	37	2604		3384	38				
			39	2604	2604		40	30	3#6+1#8G - 1 1/2"RGC	AF-04	
			41			2604	42				
CONNECTED LOAD PER PHASE IN VA				5483.4	3018.0	3004.6	PANEL TYPE: NEMA 1		MOUNTING: SURFACE		
TOTAL CONNECTED LOAD IN KVA				11.506			COPPER BUS, EQUIP. GROUND BAR, & CLASS B SURGE PROTECTOR				
TOTAL DEMAND LOAD IN AMPS				138.40			DOOR: INDOOR TYPE				

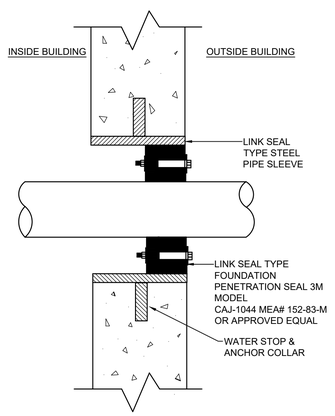




4 GROUNDING DETAIL
SCALE: N.T.S.



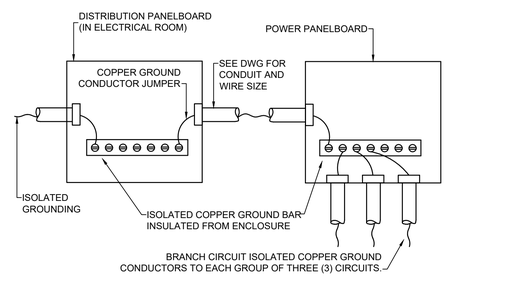
9 CONDUIT PENETRATION THRU WATERPROOF SLAB
SCALE: N.T.S.



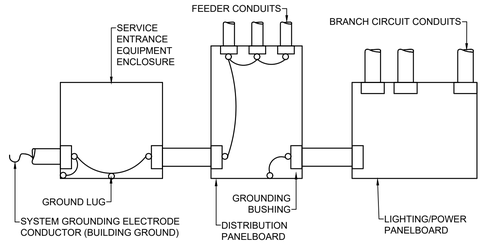
10 CONDUIT PENETRATION THRU FOUNDATION WALLS
SCALE: N.T.S.

PANEL SCHEDULE											
PANEL NAME:	LPPB		LOCATION:	STORAGE ROOM			MOUNTING:	SURFACE			
VOLTAGE/PHASE:	120/208V, 3 Phase, 4W & G		PANEL (AMP)	125 A			FREQUENCY:	60 Hz			
PANEL SHORT CIRCUIT RATING(KA):	22 KA		FEEDER SIZE	4#2+1#8G - 2"C			FEEDING SOURCE:	TRANSFORMER			
MAIN BREAKER TYPE	MLO		MAIN BREAKER RATING (A):	125A			BRANCH C.B TYPE	MCCB (BOLT ON)			
Load Designation	Wiring	Phase Load in VA					Wiring	Load Designation			
		C/B (A)	CT NO	AØ	BØ	CØ	CT NO	C/B (A)			
FAUCETS AND FLUSH @ TLT	2#12+1#12G - 3/4"C	20	1	200			2	20	2#12+1#12G - 3/4"C	HAND DRYER*	
HAND DRYER*	2#12+1#12G - 3/4"C	20	3	500	500		4	20	2#12+1#12G - 3/4"C	GFI @ TLT	
EF-1	2#12+1#12G - 3/4"C	20	5		360	528	6	20	2#12+1#12G - 3/4"C	EF-2	
GFI @ STORAGE	2#12+1#12G - 3/4"C	20	7	720		528	8	20	2#12+1#12G - 3/4"C	GFI @ SNACK BAR	
GFI @ SNACK BAR	2#12+1#12G - 3/4"C	20	9	540	540		10	20	2#12+1#12G - 3/4"C	GFI @ SNACK BAR	
BOTTLE FILLER	2#12+1#12G - 3/4"C	20	11		540	200	12	25	2#10+1#12G-3/4"C	ACC-1	
HP-1	2#12+1#12G - 3/4"C	15	13	104		2652	14				
			15	2652	104		16	15	2#12+1#12G - 3/4"C	HP-3	
HP-2	2#12+1#12G - 3/4"C	15	17		104	104	18				
			19	104	250		20	20	2#12+1#12G - 3/4"C	FACP (PROVIDE LOCK)	
QUAD @ PRESSBOX	2#12+1#12G - 3/4"C	20	21	720	720		22	20	2#12+1#12G - 3/4"C	QUAD @ PRESSBOX	
OUTDOOR/MAINT. REC	2#8+1#12G - 3/4"RGC	20	23			900	24	20	2#10+1#12G-3/4"C	LOCAL SOUND SYSTEM	
Spare	2#12+1#12G - 3/4"C	20	25	500		1000	26	20	2#12+1#12G - 3/4"C	HAND DRYER*	
QUAD @ PRESSBOX	2#12+1#12G - 3/4"C	20	27		720		28	20	2#12+1#12G - 3/4"C	HAND DRYER*	
ICE MACHINE	2#12+1#12G - 3/4"C	20	29		500	500	30	20	2#12+1#12G - 3/4"C	JUG FILLER	
PANEL "FH" FOR FIELD HOUSE	4#6+1#8G-2"C	60	31	543		50	32	20	2#12+1#12G - 3/4"C	SNACK ROOM SHADE	
			33	300	591		34	20		SPACE	
			35			1080	36	20		SPACE	
MUSCO CONTROLS	2#12+1#12G - 3/4"C	20	37	500			38	20		SPACE	
SHOT CLOCK	2#12+1#12G - 3/4"C	20	39		500		40	20	2#12+1#12G - 3/4"C	SHOT CLOCK	
OUTDOOR REC VISITORS SIDE	2#12+1#12G - 3/4"C	20	41		500	360	42	20	2#12+1#12G - 3/4"C	OUTDOOR REC HOMESIDE	
SPARE		20	43			360	44	20		SPARE	
SPARE		20	45				46	20		SPARE	
SPARE		20	47				48	20		SPARE	
SPARE		20	49				50	20		SPARE	
SPARE		20	51				52	20		SPARE	
SPARE		20	53				54	20		SPARE	
CONNECTED LOAD PER PHASE IN VA				5570	4808	6566	PANEL TYPE: NEMA 1		MOUNTING: SURFACE		
TOTAL CONNECTED LOAD IN KVA				16.944			COPPER BUS, EQUIP. GROUND BAR, & CLASS B SURGE PROTECTOR				
TOTAL DEMAND LOAD IN AMPS				47.03			DOOR: INDOOR TYPE				
							* GFI BREAKER				

5 PANEL SCHEDULES
SCALE: NTS



7 ISOLATED GROUND CONDUCTOR SYSTEM
SCALE: N.T.S.



6 EQUIPMENT GROUNDING SYSTEM
SCALE: N.T.S.

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

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

Drawn by DK
Checked by SH
Project No. 42051
Scale AS NOTED
Date 10/25/22

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

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

NORTH ROCKLAND HIGH SCHOOL PROJECTS - PHASE 1 (3)

HIGH SCHOOL: SED# 50-02-01-06-7-016-025
PRESS BOX (1BOA): SED# 50-02-01-06-7-028-001
CONCESSIONS-PRESS BOX (1BOB): SED# 50-02-01-06-7-029-001
FIELDHOUSE: SED# 50-02-01-06-7-008-001

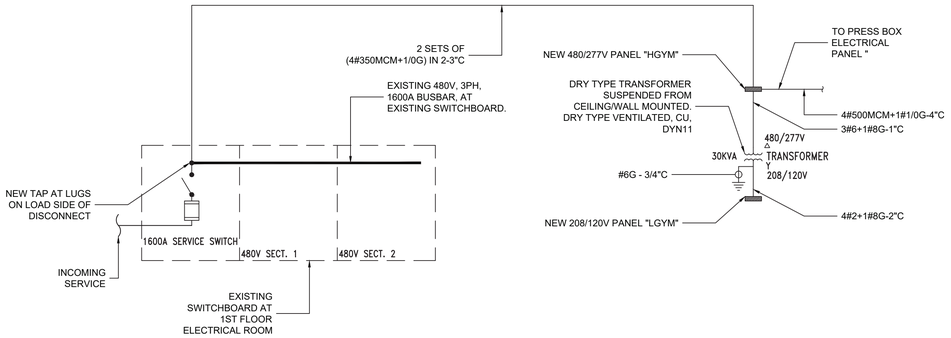
TOWN OF HAVERSTRAW
COUNTY OF ROCKLAND

108 Blanchard Rd.
Pearl River, NY 10965

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

Drawing Title
CONCESSION/PRESS BOX ELECTRICAL RISER DIAGRAM AND SCHEDULE

Drawing No.
E-410



1 ELECTRICAL PARTIAL POWER RISER DIAGRAM
SCALE: NTS

PANEL SCHEDULE

PANEL NAME:	HGYM	LOCATION:	ELECTRICAL ROOM	MOUNTING:	SURFACE
VOLTAGE/PHASE:	277/480V, 3 Phase, 4W & G	PANEL (AMP)	600A	FREQUENCY:	60 Hz
PANEL SHORT CIRCUIT RATING(KA):	45 KA	FEEDER SIZE	2 SETS OF 4#350MCM+1#1/0G IN (2) 3"C	FEEDING SOURCE:	TAP AT MAIN SWBD
MAIN BREAKER TYPE	SERVICE RATED MCCB	MAIN BREAKER RATING (A):	600A	BRANCH C.B TYPE	MCCB OR AS INDICATED (BOLT ON)

Load Designation	Wiring	C/B (A)	CT NO	Phase Load in VA AØ	BØ	CØ	CT NO	C/B (A)	Wiring	Load Designation
DOAS-1-WR (PROVIDE HACR CIRCUIT BREAKER)	3#6+1#8G - 1"C	60	1	14127			2			
				10000						
			3		14127		4	45	3#6+1#8G - 1"C	TRANSFORMER TR-1
					10000					
			5			14127	6			
						10000				
DOAS-2-LR (PROVIDE HACR CIRCUIT BREAKER)	3#8+1#10G - 1"C	35	7	8531			8	20	2#12+1#12G - 3/4"C	LIGHTING @ GYM
				3195						
			9		8531		10	20	2#12+1#12G - 3/4"C	LTG. @ LOCKER RM
					715					
			11			8531	12	20	2#12+1#12G - 3/4"C	LTG. @ TRAINING RM.
						330				
PRESS BOX AND ATHLETIC FIELD LIGHTING	4#500MCM+1#1/0G-4"C	300	13	54834			14	20	2#12+1#12G - 3/4"C	LTG. @ STG.
				440						
			15		30180		16			Spare
			17			30046	18			Spare
Spare			19				20			Spare
Spare			21				22			Spare
Spare			23				24			Spare
Spare			25				26			Spare
Spare			27				28			Spare
Spare			29				30			Spare
CONNECTED LOAD PER PHASE IN VA				91127	63553	63034				
TOTAL CONNECTED LOAD IN KVA				217.714						
TOTAL DEMAND LOAD IN AMPS				261.88						

PANEL TYPE: NEMA 1 MOUNTING: SURFACE
COPPER BUS, EQUIP, GROUND BAR, & CLASS B SURGE PROTECTOR
DOOR: INDOOR TYPE

PANEL SCHEDULE

PANEL NAME:	LGYM	LOCATION:	ELECTRICAL ROOM	MOUNTING:	SURFACE
VOLTAGE/PHASE:	120/208V, 3 Phase, 4W & G	PANEL (AMP)	100A	FREQUENCY:	60 Hz
PANEL SHORT CIRCUIT RATING(KA):	22 KA	FEEDER SIZE	4#2+1#8G - 2"C	FEEDING SOURCE:	HGYM
MAIN BREAKER TYPE	MLO	MAIN BREAKER RATING (A):	N/A	BRANCH C.B TYPE	MCB (BOLT ON)

Load Designation	Wiring	C/B (A)	CT NO	Phase Load in VA AØ	BØ	CØ	CT NO	C/B (A)	Wiring	Load Designation
THREADMILL	2#12+1#12G - 3/4"C	20	1	1000			2	20	2#12+1#12G - 3/4"C	THREADMILL
				1000						
THREADMILL	2#12+1#12G - 3/4"C	20	3		1000		4	20	2#12+1#12G - 3/4"C	THREADMILL
					1000					
COMPUTERS	2#12+1#12G - 3/4"C	20	5			720	6	20	2#12+1#12G - 3/4"C	DUPLEX REC
						540				
DUPLEX REC	2#12+1#12G - 3/4"C	20	7	720			8	20	2#12+1#12G - 3/4"C	GARAGE DOOR OPENER
				400						
DUPLEX REC	2#12+1#12G - 3/4"C	20	9		540		10	20	2#12+1#12G - 3/4"C	DUPLEX REC
					360					
SOUND SYSTEM	2#12+1#12G - 3/4"C	20	11			1000	12	20	2#12+1#12G - 3/4"C	DUPLEX REC
						360				
MAINT. REC @ WR ROOF	2#12+1#12G - 3/4"C	20	13	180			14	20	MAINT. REC @ LR ROOF	Spare
				180						
Spare		20	15				16	20		Spare
Spare		20	17				18	20		Spare
Spare		20	19				20	20		Spare
Spare		20	21				22	20		Spare
Spare		20	23				24	20		Spare
Spare		20	25				26	20		Spare
Spare		20	27				28	20		Spare
Spare		20	29				30	20		Spare
CONNECTED LOAD PER PHASE IN VA		3480	2900	2620						
TOTAL CONNECTED LOAD IN KVA		9								
TOTAL DEMAND LOAD IN AMPS		24.98								

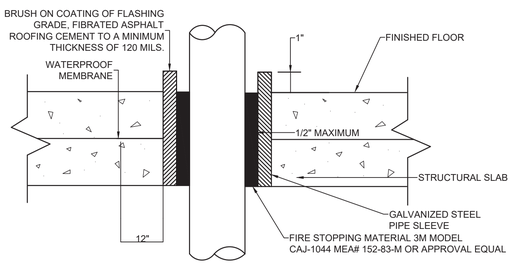
PANEL TYPE: NEMA 1 MOUNTING: SURFACE
COPPER BUS, EQUIP, GROUND BAR, & CLASS B SURGE PROTECTOR
DOOR: INDOOR TYPE

2 PANEL SCHEDULE
SCALE: NTS

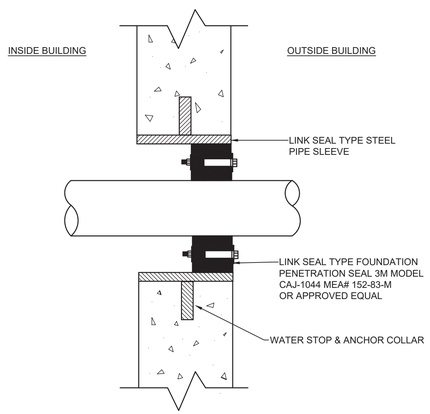
LIGHTING FIXTURE SCHEDULE

Type Mark	Fixture Wattage	Voltage	Type Comments	Mounting	Lamps	Manufacturer Catalog Number	Remarks
A	90 W	277 V	WEIGHT ROOM	PENDANT	LED	MARK #S4LID-LCB-LENGTH-8'-90CRI-1000LMF-MVOLT-WHT	MARK LIGHTING SLOT 4 LED DIRECT/INDIRECT PENDENT - 3500K
B	56 W	277 V	LOCKER ROOM	RECESSED	LED	KURTZON #VL-S-1-2X4-1-LEDR-935-UNV	VANDAL RESISTANT HIGH ABUSE TROFFER
X	5 W	277 V	EXIT LIGHTS	CEILING/WALL	LED	ELX-604-R-AL-1-CLEAR	EXIT LIGHT

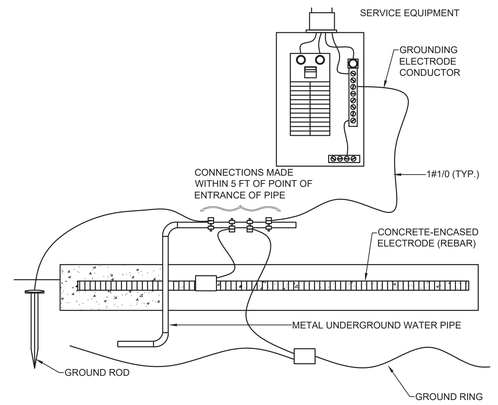
3 LIGHTING FIXTURE SCHEDULE
SCALE: NTS



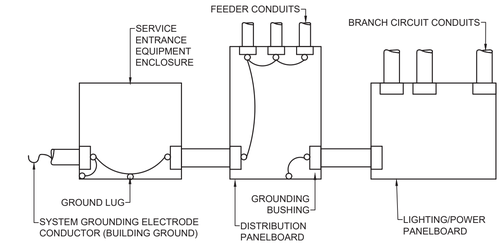
7 CONDUIT PENETRATION WATERPROOF SLAB
SCALE: N.T.S.



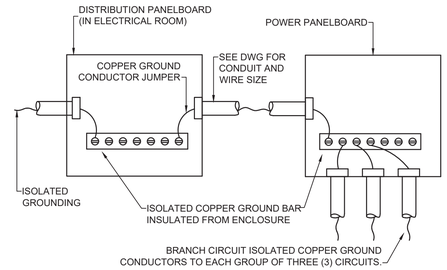
8 CONDUIT PENETRATION THRU FOUNDATION WALLS
SCALE: N.T.S.



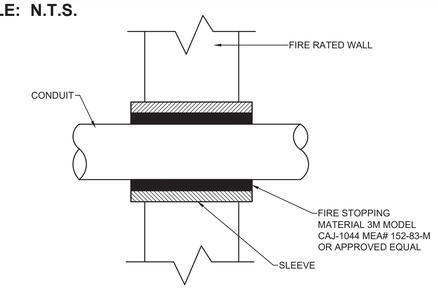
4 GROUNDING DETAIL
SCALE: N.T.S.



5 EQUIPMENT GROUNDING SYSTEM
SCALE: N.T.S.



6 ISOLATED GROUND CONDUCTOR SYSTEM
SCALE: N.T.S.



9 CONDUIT PENETRATION THRU FIRE RATED WALL
SCALE: N.T.S.

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

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by DK
Checked by SH
Project No. 42051
Scale AS NOTED
Date 10/25/22

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

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

NORTH ROCKLAND HIGH SCHOOL PROJECTS - PHASE 1

1 3

HIGH SCHOOL SED# 50-02-01-06-0-016-005
PRESS BOX (DEMO): SED# 50-02-01-06-7-028-001
CONCESSIONS-PRESS BOX (NEW): SED# 50-02-01-06-7-029-001
FIELDHOUSE SED# 50-02-01-06-7-008-001

TOWN OF ILVERSTRAW
COUNTY OF ROCKLAND

750 Hamansook Rd.
Haverstraw, NY 10954

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

Drawing Title
WEIGHT LOCKER ROOM ELECTRICAL RISER DIAGRAM AND SCHEDULE

Drawing No.
E-420

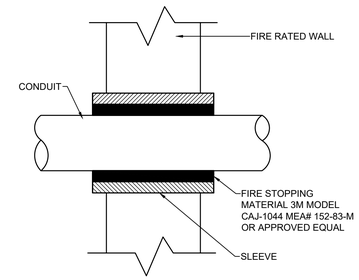
LIGHTING FIXTURE SCHEDULE							
Type Mark	Watts	Voltage	Type Comments	Mounting	Lamps	Manufacturer Catalog Number	Remarks
C	44 W	277 V	STORAGE RM	SURFACE	LED	VL-LPA-3-401-LEDR-935-UNV	VANDAL RESISTANT LIGHT
CE	44 W	277 V	STORAGE RM	SURFACE	LED	VL-LPA-3-401-LEDR-935-UNV-EM10	VANDAL RESISTANT LIGHT WITH INTERNAL BATTERY PACK
E	17 W	277 V	OUTDOOR	WALL	LED	OWP-FC-104-LED-1600L-MVOLT-40K-BZ-0-EMG-LED-MS	WALL MOUNTED EXTERIOR LIGHT WITH EM BATT. PACK AND MOTION SENSOR
X	5 W	277 V	EXIT LIGHTS	CLG/WALL	LED	ELX-604-R-AL-1-CLEAR	EXIT LIGHT

1 LIGHTING FIXTURE SCHEDULE
SCALE: N.T.S.

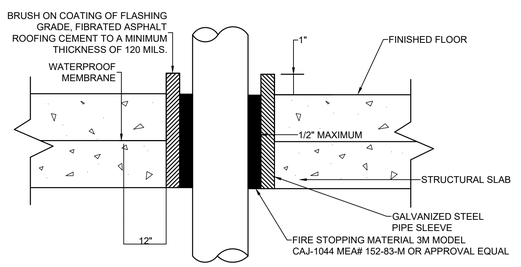
PANEL SCHEDULE										
PANEL NAME:	FH	**LOCATION:**	FIELD HOUSE				**MOUNTING:**	SURFACE		
VOLTAGE/PHASE:	120/208V, 3 Phase, 4W & G	**PANEL (AMP)**	100				**FREQUENCY:**	60 Hz		
PANEL SHORT CIRCUIT RATING(KA):	22 KA	**FEEDER SIZE**	4#6+1#8G - 2"C				**FEEDING SOURCE:**	LPPB		
MAIN BREAKER TYPE	MCB	**MAIN BREAKER RATING (A):**	60A				**BRANCH C.B TYPE**	MCCB		
Load Designation	**Wiring**	**Phase Load in VA**						**Wiring**	**Load Designation**	
		C/B (A)	**CT NO**	AØ	BØ	CØ	**CT NO**	**C/B (A)**		
LIGHTING	**2#12+1#12G - 3/4"C**	**20**	1	528			2	**20**	**2#12+1#12G - 3/4"C**	**EXIST LIGHTS**
			3	15			4			
OUTDOOR LIGHTS	**2#12+1#12G - 3/4"C**	**20**			51			**20**	**2#12+1#12G - 3/4"C**	**DUPLEX REC.**
DUPLEX REC.	**2#12+1#12G - 3/4"C**	**20**	5		540		6	**20**	**2#12+1#12G - 3/4"C**	**DUPLEX REC.**
SPARE		**20**	7			540	8	**20**		**SPARE**
SPARE		**20**	9				10	**20**		**SPARE**
SPARE		**20**	11				12	**20**		**SPARE**
CONNECTED LOAD PER PHASE IN VA				543	591	1080				
TOTAL CONNECTED LOAD IN KVA				2.214						
TOTAL DEMAND LOAD IN AMPS				6.15						

PANEL TYPE: NEMA 1 **MOUNTING: SURFACE**
COPPER BUS, EQUIP. GROUND BAR, & CLASS B SURGE PROTECTOR
DOOR: INDOOR TYPE

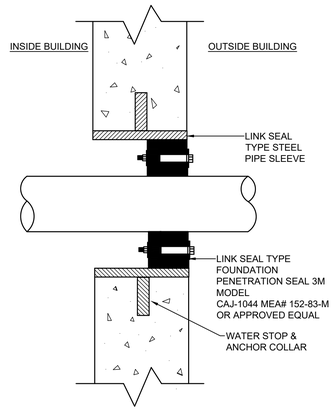
2 PANEL SCHEDULE
SCALE: NTS



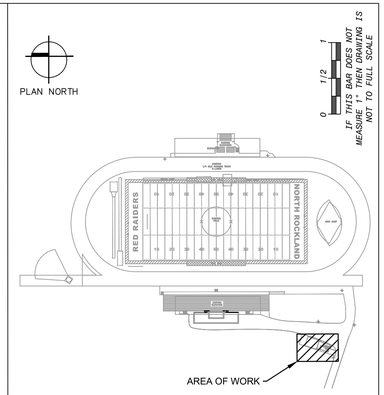
3 CONDUIT PENETRATION THRU FIRE RATED WALL
SCALE: N.T.S.



4 CONDUIT PENETRATION THRU WATERPROOF SLAB
SCALE: N.T.S.



5 CONDUIT PENETRATION THRU FOUNDATION WALLS
SCALE: N.T.S.



KEY PLAN

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
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Drawn by DK
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SUFFERN, NY 10901

Mechanical & Electrical Engineer:

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Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1

HIGH SCHOOL SBL# 50-02-01-06-0-016-005
PRESS BOX (DEMO): SBL# 50-02-01-06-7-008-001
CONCESSIONS-PRESS BOX (NEW): SBL# 50-02-01-06-7-079-001
FIELDHOUSE SBL# 50-02-01-06-7-008-001

TOWN OF ORANGETOWN
COUNTY OF ROCKLAND

190 Rosewood Rd.
Blauvelt, NY 10913

MICHAEL SHILALE ARCHITECTS, L.L.P.
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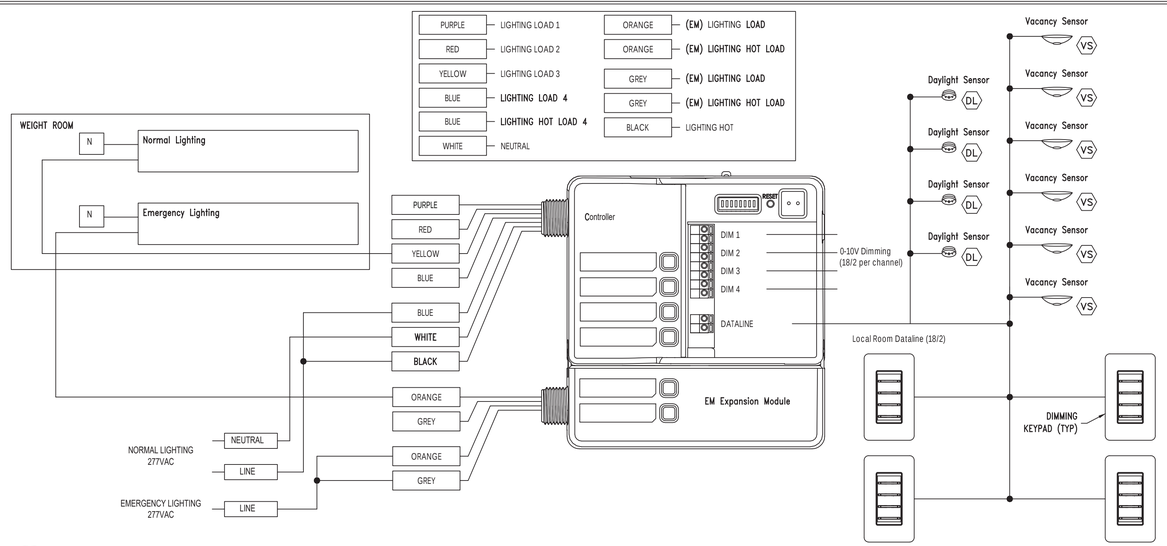
Drawing Title
FIELD HOUSE
ELECTRICAL SCHEDULES

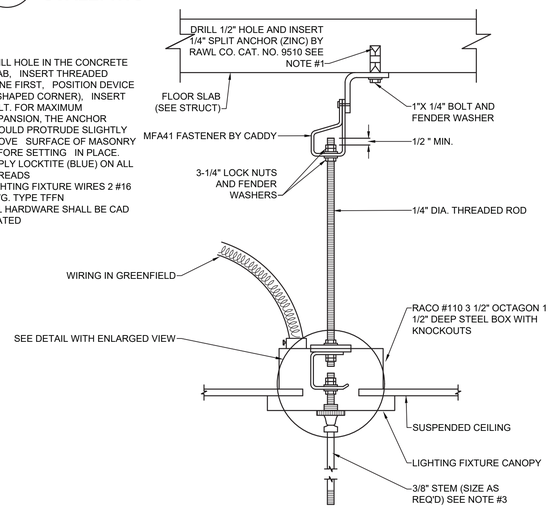
Drawing No.
E-440

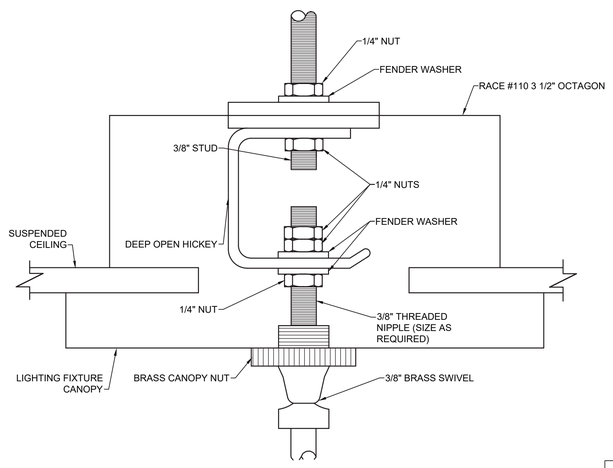


1 TYP. WEIGHT RM. LIGHTING CONTROL SCHEMATIC WIRING DIAGRAM

SCALE: NTS

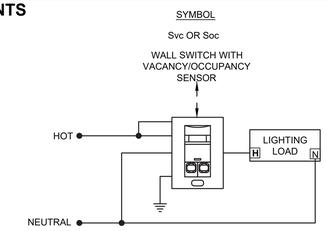
NOTES:
1. DRILL HOLE IN THE CONCRETE SLAB, INSERT THREADED CONE FIRST, POSITION DEVICE (L SHAPED CORNER), INSERT BOLT. FOR MAXIMUM EXPANSION, THE ANCHOR SHOULD PROTRUDE SLIGHTLY ABOVE SURFACE OF MASONRY BEFORE SETTING IN PLACE.
2. APPLY LOCKTITE (BLUE) ON ALL THREADS
3. LIGHTING FIXTURE WIRES 2 #16 AWG. TYPE TFFN
4. ALL HARDWARE SHALL BE CAD PLATED





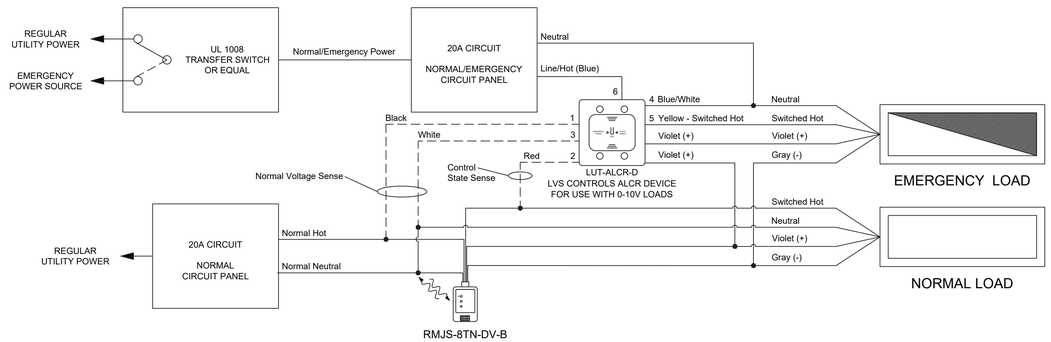
4 LIGHTING SUPPORT FOR PENDANT MOUNTED LIGHTING FIXTURE

SCALE: NTS



3 TYP. LINE VOLTAGE WALL SWITCH OCCUPANCY/VACANCY SENSOR SCHEMATIC WIRING DIAGRAM FOR INDIVIDUAL SPACES

SCALE: NTS



2 SCHEMATIC DIAGRAM FOR CONTROL OF NORMAL AND EMERGENCY LOADS

SCALE: NTS

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

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by DK
Checked by SH
Project No. 42051
Scale AS NOTED
Date 10/25/22

Mechanical & Electrical Engineer:
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Drawing Title
WEIGHT LOCKER ROOM ELECTRICAL DETAILS

Drawing No.
E-520

PLUMBING LEGEND AND ABBREVIATIONS

EXISTING TO BE REMOVED	
SANITARY PIPING	
VENT PIPING	
COLD WATER PIPING	
HOT WATER PIPING	
GATE VALVE	
CHECK VALVE	
BALL VALVE	
FLOW SENSOR/SWITCH	FS
CONNECT TO EXISTING	
PIPE DROPPING DOWN	
PIPE RISING UP	
PIPE BOTTOM CONNECTION	
PIPE TOP CONNECTION	

A.F.F.	ABOVE FINISHED FLOOR
A.H.J.	AUTHORITY HAVING JURISDICTION
CL OR ℄	CENTER LINE
CLG.	CEILING
COL.	COLUMN
CONN.	CONNECTION
CONT.	CONTINUED
DIA., Ø	DIAMETER
DN.	DOWN
DWG.	DRAWING
ELEV.	ELEVATION
F.F./FIN. FLR.	FINISHED FLOOR
FLR.	FLOOR
G.P.M.	GALLONS PER MINUTE
G.P.H.	GALLONS PER HOUR
MAX.	MAXIMUM
MIN.	MINIMUM
NC	NORMALLY CLOSED
N.I.C.	NOT IN CONTRACT
PRESS.	PRESSURE
P.S.I.	POUNDS PER SQUARE INCH
S.F./SQ. FT.	SQUARE FEET
STD.	STANDARD
TYP.	TYPICAL
D	DRAIN PIPE
HP	HORSE POWER
OD	OUTSIDE DIAMETER
TYP.	TYPICAL
V.I.F.	VERIFY IN FIELD
OC	ON CENTER
TMV	THERMOSTATIC MIXING VALVE
WHA	WATER HAMMER ARRESTOR

PLUMBING DEMOLITION NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DEMOLITION OF ALL MATERIALS, PIPING AND APPURTENANCES AS DEPICTED ON THE DEMOLITION DRAWINGS. ADDITIONALLY THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE DEMOLITION OF ANY ADDITIONAL MATERIALS, EQUIPMENT, PIPING ETC. NOT ACCURATELY OR COMPLETELY SHOWN ON THE DEMOLITION DRAWINGS THAT MAKE UP OR ARE AN APPURTENANCE OR COMPONENT OR THE MAJOR EQUIPMENT, SYSTEM, PIPING, ETC. DESIGNATED TO BE DEMOLISHED.
2. ALL PIPING AND APPURTENANCES DEPICTED ON THE DEMOLITION DRAWINGS THAT ARE NOT PART OF THE ACTUAL DEMOLITION WORK ARE SHOWN FOR REFERENCE ONLY. THE CONTRACTOR SHALL VERIFY ALL DEMOLITION WORK IN THE FIELD PRIOR COMMENCEMENT OF DEMOLITION, AND REPORT ANY AND ALL DISCREPANCIES TO THE SITE CONSTRUCTION MANAGER
3. THE CONTRACTOR WILL OBTAIN THE OWNER'S PERMISSION IN WRITING PRIOR TO DISPOSING OF ANY SALVAGEABLE MATERIALS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ERECTION OF ALL TEMPORARY SCAFFOLDING, DUNNAGE STEEL, MATERIAL CHUTES, ETC.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND TEMPORARY STORAGE OF ALL EQUIPMENT, PIPING, COMPONENTS AND APPURTENANCES OF ALL DEMOLISHED MATERIALS. THE CONTRACTOR SHALL DETERMINE THE SEQUENCE OF REMOVAL, MEANS OF EQUIPMENT EGRESS, AS WELL TEMPORARY LAY DOWN AREAS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL PERMITS REQUIRED FOR REMOVAL AND/OR STORAGE OF THE DEMOLISHED MATERIALS (INCLUDING ALL HAZARDOUS MATERIALS). ALL DEBRIS SHALL BE LEGALLY DISPOSED. THE CONTRACTOR WILL PROVIDE ALL DEMOLITION CONTAINERS AND DUMPSTERS AS REQUIRED.
7. CONTRACTOR SHALL MAINTAIN THE CONSTRUCTION AREA IN ACLEAN AND ORDERLY CONDITION WITH DAILY REMOVAL OF ALL DEBRIS. NO DEBRIS SHALL BE ALLOWED TO ACCUMULATE.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING EQUIPMENT, PIPING, COMPONENTS, ETC. NOT DESIGNATED FOR DEMOLITION.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY SUPPORTS, ELECTRICAL AND WATER SERVICES AS REQUIRED TO PERFORM THE DEMOLITION WORK.
10. THE CONTRACTOR SHALL BE RESPONSIBLE TO ERECT ALL BARRIERS, BRACING, DUSTPROOF PARTITIONS, FENCES AND WARNINGS SIGNS AS REQUIRED TO ENSURE THE SAFETY AND PREVENT INJURY AND INCONVENIENCE TO THE GENERAL PUBLIC.
11. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR THE INSTALLATION OF ALL PLUMBING WORK ON THIS PROJECT. CUTTING AND PATCHING METHODS SHALL CONFORM TO THE REQUIREMENTS OF THE OWNER AND THE ARCHITECT. PATCHES IN FIRE RATED DEMISING WALLS, CEILING OR FLOORS SHALL MAINTAIN THE FIRE RATING OF THOSE BARRIERS BY THE USE OF APPROVED MATERIALS INCLUDING SPECIAL FIRE RATED SEALING COMPOUNDS OR MATERIALS IDENTICAL TO THE BARRIER MATERIALS.

GENERAL NOTES

1. CONTRACTOR TO COMPLY WITH THE 2020 NYS BUILDING CODE AND ADAPTED APPENDICES, LOCAL PLUMBING CODES AND ALL AUTHORITIES HAVING JURISDICTION.
2. PROVIDE LABOR, MATERIALS, TOOLS, MACHINERY, EQUIPMENT, AND SERVICES NECESSARY TO COMPLETE THE WORK UNDER THIS CONTRACT. ALL SYSTEMS AND EQUIPMENT SHALL BE COMPLETE IN EVERY ASPECT AND ALL ITEMS OF MATERIAL, EQUIPMENT AND LABOR SHALL BE PROVIDED FOR A FULLY OPERATIONAL SYSTEM AND READY FOR USE. COORDINATE THE WORK WITH THE WORK OF THE OTHER TRADES IN ORDER TO RESOLVE ALL CONFLICTS WITHOUT IMPEDING THE JOB PROGRESS.
3. EXAMINE THE DRAWINGS AND OTHER DIVISIONS, AND SECTIONS OF THE SPECIFICATIONS IN ORDER TO DETERMINE THE EXTENT OF THE WORK REQUIRED TO BE COMPLETED UNDER THIS DIVISION. FAILURE TO EXAMINE ALL THE CONTRACT DOCUMENTS FOR THIS PROJECT WILL NOT RELIEVE THIS SECTION AND ANY OTHER SECTIONS OF THEIR RESPONSIBILITIES TO PERFORM THE WORK REQUIRED FOR A COMPLETE FULLY OPERATIONAL AND SATISFACTORY INSTALLATION.
4. THE WORK INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING SYSTEMS, EQUIPMENT AND SERVICES, AS SPECIFIED HEREBY. START-UP SERVICES SHALL BE INCLUDED IN THE BID.
5. ALL SYSTEMS, EQUIPMENT AND SERVICES SPECIFIED HEREIN SHALL BE PROVIDED COMPLETE AND READY FOR USE. ALL EQUIPMENT, PIPING, ARE NEW, FURNISHED AND INSTALLED BY THIS CONTRACTOR, UNLESS OTHERWISE NOTED.
6. INSTALL ACCESS FOR SERVICING AND MAINTENANCE. COORDINATE THE FINAL LOCATION OF CONCEALED EQUIPMENT AND DEVICES REQUIRING ACCESS WITH FINAL LOCATION OF ACCESS PANELS AND DOORS. ALLOW AMPLE SPACE FOR REMOVAL OF ALL PARTS THAT REQUIRE REPLACEMENT OR SERVICING.
7. VERIFY FINAL LOCATIONS FOR ROUGH WORK WITH FIELD MEASUREMENTS AND WITH THE REQUIREMENTS OF THE ACTUAL EQUIPMENT BEING CONNECTED.
8. PIPING ARE SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL OFFSETS, DROPS AND RISES OF RUNS. THE CONTRACTOR SHALL ALLOW IN HIS PRICE FOR ROUTING OF PIPING TO AVOID OBSTRUCTIONS. EXACT LOCATIONS ARE SUBJECT TO APPROVAL OF ARCHITECT. COORDINATION WITH THE EXISTING SERVICES, INCLUDING THOSE OF OTHER TRADES IS REQUIRED.
9. ARRANGE FOR CHASES, SLOTS, AND OPENINGS IN OTHER AND ALL COMPONENTS TO ALLOW FOR INSTALLATIONS.
10. COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SIZE OF SLEEVES TO BE SET IN POURED CONCRETE AND OTHER STRUCTURAL COMPONENTS AS THEY ARE CONSTRUCTED.
11. COORDINATE THE INSTALLATION OF MATERIALS AND EQUIPMENT ABOVE GRADE WITH MECHANICAL AND SUPPRESSION SYSTEM, LIGHT FIXTURES, AND ALL OTHER INSTALLATIONS AND ACCESSORIES.
12. PROVIDE EQUIPMENT AND SYSTEMS THAT, AS DEFINED HEREIN, SHALL BE QUIET AND FREE OF APPARENT VIBRATION IN OPERATIONS.
13. INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES INVOLVING EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL.
14. THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND MATERIALS, AND ALL PARTS OF THE BUILDING, EXTERIOR SPACE AND ADJACENT STREETS, SIDEWALKS AND PAVEMENTS, FREE FROM MATERIAL AND DEBRIS RESULTING FROM THE EXECUTION OF THIS WORK. EXCESS MATERIALS WILL NOT BE PERMITTED TO ACCUMULATE EITHER IN THE INTERIOR OR THE EXTERIOR.
15. ALL PRESENT MATERIAL, EQUIPMENT AND CONSTRUCTION DEBRIS TO BE REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR WITH THE EXCEPTION OF SPECIFIC EQUIPMENT AND APPARATUS REQUESTED BY THE BUILDING REPRESENTATIVE, ARCHITECT OR AS NOTED TO BE RELOCATED ON THE DRAWINGS SHALL BE PROPERLY DISPOSED OF BY THIS CONTRACTOR.
16. THE FINAL ACCEPTANCE WILL BE MADE AFTER THE CONTRACTOR HAS ADJUSTED HIS EQUIPMENT, BALANCED THE VARIOUS SYSTEMS, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL THE REQUIRED CERTIFICATES OF INSPECTION AND APPROVAL.
17. CONTRACTOR TO SUBMIT SHOP DRAWING FOR APPROVAL FOR ALL SYSTEMS.
18. PRESSURE TEST WATER SUPPLY SYSTEM 1 1/2 TIMES WORKING PRESSURE FOR 2 HR MIN.
19. ALL TRENCHING, EXCAVATION, BACKFILLING, AND SLAB REPAIR, ALL CORE DRILLING, SLEEVING, AND FIRESTOPPING, ALL CUTTING AND PATCHING SHALL BE PERFORMED BY EACH TRADE UTILIZING QUALIFIED CONTRACTORS FOR THE WORK. REFER TO DEMOLITION GENERAL NOTES ON DRAWING AD.101 FOR ADDITIONAL REQUIREMENTS FOR CUTTING AND PATCHING, REMOVALS, SALVAGE, AND REPAIRS. THE CONTRACTOR SHALL PATCH AND REPAIR ALL FLOORS, WALLS, CEILINGS, ETC. DAMAGED OR EXPOSED DUE TO WORK OR REMOVALS AND FINISH TO MATCH ADJOINING SURFACES.

PLUMBING INSTALLATION NOTES:

1. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO STARTING WORK. REFER PROBLEMATIC CONDITIONS TO ENGINEER.
2. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF WORK. BASIC DESIGN CONCEPTS INDICATED ARE MINIMAL AND MUST BE FOLLOWED OR BETTERED. DO NOT SCALE DRAWINGS.
3. WORK IS NOT SHOWN IN FINITE DETAIL BUT IS INTENDED TO INCLUDE ITEMS NECESSARY FOR COMPLETION AND PROPER OPERATION.
4. PROVIDE REQUIRED SUPPORTS AND HANGERS FOR PIPING, FIXTURES AND EQUIPMENT, SO LOADING WILL NOT EXCEED ALLOWABLE LOADINGS.
5. ALL SYSTEMS SHALL BE LEFT IN PERFECT WORKING ORDER UPON COMPLETION OF ALL NEW WORK.
6. FIXTURES (GENERAL): TO COMPLETE WITH TRIMMINGS AND FITTINGS, INCLUDING FAUCETS, SUPPLIES, STOPS, TRAPS, TAILPIECES, WASTE PLUGS, CASINGS, HANGERS, PLATES, BRACKETS, ANCHORS, SUPPORTS, HARDWARE AND FASTENING DEVICES.
7. WHERE FIXTURES OR TRIM ARE DAMAGED OR BROKEN DURING THE INSTALLATION, THEY SHALL BE REPLACED WITH NEW FIXTURES.
8. EXAMINE ROUGH-IN WORK OF POTABLE WATER AND WASTE PIPING SYSTEMS TO VERIFY ACTUAL LOCATIONS OF PIPING CONNECTIONS PRIOR TO INSTALLING FIXTURES. CORRECT ANY INCORRECT LOCATION OF PIPING, AND OTHER UNSATISFACTORY CONDITIONS FOR INSTALLATION OF PLUMBING FIXTURES.
9. EXERCISE CARE IN HANDLING OF FIXTURES, TRIM, PIPE, AND FITTINGS. USE TOOLS DESIGNED TO PREVENT DAMAGE TO SURFACE FINISHES.
10. SET FIXTURES LEVEL AND UNIFORMLY, WITH CONNECTIONS AT RIGHT ANGLES TO WALL AND PROPERLY CENTERED. LAY OUT ROUGHING ACCURATELY AND IN COORDINATION WITH SPACE AND FINISH REQUIREMENTS. IF FIELD CUT-OUTS AND HOLES ARE REQUIRED, USE PROPER CUTTING AND DRILLING TOOLS TO MAINTAIN INTEGRITY OF FINISHED SURFACE.
11. LOCATE WASTE OUTLETS AND WATER SUPPLIES AT CONSTANT HORIZONTAL LEVELS, WITH WASTE OUTLET CENTERED ON FIXTURE DRAIN CONNECTION AND WATER SUPPLIES SPACED EQUALLY RIGHT.
12. SUPPORT WALL HUNG FIXTURES RIGIDLY FROM BUILDING CONSTRUCTION, NOT FROM PIPING, BY MEANS OF CONCEALED METAL SUPPORTING MEMBERS DESIGNED TO CARRY WEIGHT OF FIXTURE UNDER CONDITIONS OF UNUSUAL LOADING, WITH NO STRESS PLACED ON WASTE CONNECTION OR ANY OTHER PART OF SYSTEM.
13. SECURE FLOOR MOUNT SUPPORTS TO SLAB. SECURE WALL MOUNT SUPPORTS TO I/4" THICK METAL BACKUP PLATE SECURED TO WALL CONSTRUCTION. DO NOT USE WIRE, NAILS, OR OTHER MAKESHIFT DEVICES TO SECURE SUPPORTING MEMBERS.
14. USE VANDAL PROOF DEVICES TO SECURE FIXTURES, TRIMMINGS AND FITTINGS TO DETER UNAUTHORIZED REMOVAL. PROVIDE CHROME PLATED BRASS WASHERS AND CAP NUTS FOR EXPOSED BOLT ENDS.
15. PROVIDE ESCUTCHEONS, THREADED OR HELD IN PLACE WITH THREADED PART OR SET SCREW, ON PIPING AND FIXTURE SUPPORTS PROTRUDING FROM WALL OR FLOOR, AND ON VISIBLE CONNECTIONS TO FIXTURES.
16. MAKE CONNECTION BETWEEN INTEGRAL TRAPPED FIXTURES AND DRAINAGE PIPING GAS AND WATERTIGHT, WITH CLOSET COUPLING OR FLANGE, CLOSET RING GASKET AND NON-CORROSIVE BOLTING MATERIALS.
17. USE SPACING DEVICES TO SUPPORT AND STABILIZE WATER PIPING.
18. PAINT NON-CORROSIVE FERROUS METAL SURFACES OF FIXTURES, INCLUDING BRACKETS, HANGERS, AND PLATES WITH PRIME COAT OF PAINT.
19. UPON COMPLETION OF WORK, REMOVE PROTECTIVE COVERS AND THOROUGHLY CLEAN SURFACES, TRAPS AND STRAINERS. CHECK ALL ITEMS FOR PROPER OPERATION.
20. ADJUST FLUSH VALVES TO PROVIDE MINIMUM FLOW CONSISTENT WITH CLEANING REQUIREMENTS OF FIXTURES. ADJUST SUPPLIES TO PROVIDE ADEQUATE FLOW WITHOUT SPLASHING, AND WITH FLOW RATE OF HOT AND COLD WATER EQUAL IN VELOCITY, EXCEPT AS OTHERWISE REQUIRED.
21. TEST PLUMBING SYSTEMS TO SATISFACTION OF BUILDING OFFICIAL. DO NOT CLOSE IN, CONCEAL, OR COVER UP ANY PLUMBING WORK UNTIL IT HAS BEEN TESTED, INSPECTED AND APPROVED.
22. FLUSH PIPING, PRIOR TO TESTING, TO REMOVE FOREIGN MATERIALS WHICH MAY HAVE ENTERED DURING COURSE OF INSTALLATION. CLEAN FILTERS AND STRAINERS AFTER FLUSHING.
23. ALL PIPING PENETRATIONS THRU NEW RATED WALLS SHALL BE SEALED WITH LISTED FIREPROOFING MATERIALS.
24. ITEMS NEEDING SAWCUTTING AND PATCHING SHALL BE COORDINATED BETWEEN TRADES. ONLY MAJOR PIECES ARE SHOWN ON DRAWINGS AND DO NOT INDICATE ALL LOCATIONS. PLUMBER SHALL BE RESPONSIBLE FOR CONCEALING ALL NEW WORK, UNLESS NOTED OTHERWISE.
25. SET AND CONNECT ALL FIXTURES WITH HOT AND COLD WATER, VENT AND DRAINAGE AS REQUIRED AND PROTECT FIXTURES UNTIL FINAL ACCEPTANCE AND TEST.
26. FIXTURES SHALL BE COMPLETE WITH CHROME PLATING ON EXPOSED IRON ON PIPE, TRAPS, ANCHOR BOLTS, HANGERS, STRAINERS, STOP VALVES AT EVERY FIXTURE AND OTHER INCIDENTAL ITEMS FURNISHED AS STANDARD.
27. ALL FIXTURES SHALL BE CAULKED TIGHT TO WALLS AND FINISHED SURFACES SO THAT NO VOIDS SHALL REMAIN.
28. FLOOR DRAINS SHALL RECEIVE WATER FROM TRAP PRIMER VALVES (TYP.) SEE DETAIL DRAWING.
29. ALL PLUMBING FIXTURE'S BACK PLATES AND ESCUTCHEONS RECTANGULAR IN NATURE SHALL BE INSTALLED FLUSH WITH THE WALL SURFACE. THE VERTICAL EDGE SHALL BE INSTALLED IN A VERTICAL POSITION PERPENDICULAR TO A HORIZONTAL PLANE AND THE HORIZONTAL EDGE SHALL BE INSTALLED IN A HORIZONTAL (LEVEL) POSITION.
30. PROVIDE ACCESSIBLE CLEANOUTS AT BASE OF EACH VERTICAL WASTE OR SOIL STACK AND STORM LEADERS; AT ENDS OF HORIZONTAL DRAINAGE PIPING RUNS AND AT EACH CHANGE IN DIRECTION GREATER THAN 45 DEGREES; NOT MORE THAN 50 FEET APART ON PIPING 4" AND SMALLER AND NOT MORE THAN 100 FEET APART ON PIPING LARGER THAN 4"; AT JUNCTION OF BUILDING DRAIN WITH BUILDING SEWER.
31. TERMINATE VENT PIPING AT LEAST 12" ABOVE ROOF SURFACE GENERALLY; AT LEAST 24" ABOVE ANY WINDOW, DOOR, OR OTHER VENTILATING OPENING WITHIN 10 FEET HORIZONTALLY OF SUCH VENT; AT LEAST 7 FEET ABOVE ROOF ADJACENT TO WALKWAYS AND OTHER HABITABLE AREAS.
32. LOCATE WALL HYDRANTS AND LAWN FAUCETS AT LEAST 18" ABOVE GRADE.
33. ALL EQUIPMENT SHOWN ON THESE DRAWINGS AND IN PROJECT SPECIFICATION IS BASED UPON SPECIFIED MANUFACTURERS. ANY MODIFICATION AND/OR SUBSTITUTION OF SAID EQUIPMENT IS SUBJECT TO COMPLETE COORDINATION OF ALL CONNECTIONS, SERVICES, OPENING SIZES AND OTHER CONSTRUCTION RELATED REQUIREMENTS BY THE TRADE CONTRACTOR PROVIDING THE EQUIPMENT.

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

0 1/2 1

No.	Date	Revisions
.1	10-28-22	BIDDING DOCUMENTS
.2	12-09-22	SED ADDENDUM 1
.3	01-12-23	SED ADDENDUM 2
.4	01-27-23	REVISIONS

Drawn by JM
Checked by JL
Project No. 42051
Scale AS NOTED
Date 10/25/22

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NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1 ⚠1

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Drawing Title
PLUMBING LEGEND, ABBREVIATIONS AND NOTES

Drawing No.
P-010

PLUMBING FIXTURE SCHEDULE

SYMBOLS	DESCRIPTION	SOIL OR WASTE	VENT	COLD WATER	HOT WATER	REMARKS	SPECIFICATIONS	NOTES
P-1	WATER CLOSET	4"	2"	1"	-		AMERICAN STANDARD "AFWALL MILLENNIUM FLOWISE" 2257.101 WHITE VITREOUS CHINA, 1.28 GALLONS PER FLUSH, WALL MOUNTED, ELONGATED BOWL DESIGN, SIPHON JET FLUSHING WITH 1½" TOP SPUD. INSTALL WITH 1.28 GPF AMERICAN STANDARD SELECTRONIC POWERED FLUSH VALVE, OPEN FRONT SEAT WITH CHECK HINGE. FURNISH WITH WADE HORIZONTAL, ADJUSTABLE CARRIER.	
P-1A	WATER CLOSET (HANDICAPPED FACILITY)	4"	2"	1"	-	SET AT REQUIRED HANDICAPPED HEIGHT	AMERICAN STANDARD "AFWALL MILLENNIUM FLOWISE" 2257.101 WHITE VITREOUS CHINA, 1.28 GALLONS PER FLUSH, WALL MOUNTED, ELONGATED BOWL DESIGN, SIPHON JET FLUSHING WITH 1½" TOP SPUD. INSTALL WITH 1.28 GPF AMERICAN STANDARD SELECTRONIC POWERED FLUSH VALVE, OPEN FRONT SEAT WITH CHECK HINGE. FURNISH WITH WADE HORIZONTAL, ADJUSTABLE CARRIER.	
PP-1A	WATER CLOSET (HANDICAPPED FACILITY)	4"	2"	1"	-	SET AT REQUIRED HANDICAPPED HEIGHT	AMERICAN STANDARD "MADERA" 3461001.020 WHITE VITREOUS CHINA, 1.28 GALLONS PER FLUSH, FLOOR MOUNTED, ELONGATED BOWL DESIGN, SIPHON JET FLUSHING WITH 1½" TOP SPUD. INSTALL WITH SLOAN 111-1.28E ROYAL FLUSHOMETER, OPEN FRONT SEAT WITH CHECK HINGE.	
P-2	URINAL	2"	½"	¾"	-	SET AT REQUIRED HANDICAPPED HEIGHT	AMERICAN STANDARD "WASHBROOK" FLOWISE 6590.501 WHITE VITREOUS CHINA, 0.5 GALLON PER FLUSH, WALL HUNG, WASHOUT DESIGN, ELONGATED RIM, 3/4" TOP SPUD INLET, 2" I.P.S. OUTLET, 3/4" I.P.S. ANGLE STOP WITH BACK-FLOW PROTECTION AND VANDAL-RESISTANT CAP, WALL HANGERS AND STRAINER. AMERICAN STANDARD FLOWISE MANUAL FLUSH VALVE MODEL 6045.051 0.5 GPF. FURNISH WITH WADE HORIZONTAL, ADJUSTABLE CARRIER.	
P-3	LAVATORY - WALL MOUNTED (HANDICAPPED FACILITY)	½"	½"	½"	½"	SET AT REQUIRED HANDICAPPED HEIGHT	AMERICAN STANDARD "LUCERNE" 0355.012 WALL HUNG VITREOUS CHINA LAVATORY WITH 4" CENTERS, CONCEALED ARM SUPPORT, 17 GAUGE CAST BRASS P-TRAP WITH CLEANOUT PLUG AND GRID STRAINER. AMERICAN STANDARD 1340.225 4" CENTERSET METERING FAUCET, HOT AND COLD SELECTION. INSTALL WITH WATER CONSERVING 1.5 GPM PRESSURE-COMPENSATING VANDAL-RESISTANT AERATOR.	
PP-3	LAVATORY - COUNTER MOUNTED	½"	½"	½"	½"		ZURN Z5220 19"x16" UNDERMOUNT VITREOUS CHINA LAVATORY WITH Z8700 SERIES P-TRAP, Z8743-PC GRID STRAINER, Z8800 SERIES STOP WITH FLEXIBLE SUPPLIES, Z8946-1-NT ADA TRAP, STOP AND SUPPLY PROTECTORS. FAUCET TO MATCH P-3.	
P-4	SINK	½"	½"	½"	½"		ELKAY LR2522 22" x 25" x 12" SINGLE COMPARTMENT COUNTER TOP STAINLESS STEEL SINK. 18GAGE, TYPE 302 3 HOLE PUNCH. LK-35 STRAINER WITH 1½" TAILPIECE AND 17GAGE CAST BRASS P-TRAP WITH CLEANOUT PLUG. SPEAKMAN COMMANDER SC-3084-LD SPOUT-5 GOOSENECK FAUCET WITH 4" WRISTBLADE HANDLES.	
P-5	SERVICE SINK	3"	½"	¾"	¾"		KOHLER BANNON K-6716 WALL MOUNT ENAMELED CAST-IRON SINK, STAINLESS-STEEL RIM GUARD AND WITH PRE-DRILLED 8 IN. CENTERS. AMERICAN STANDARD HERITAGE 8 IN. 2-HANDLE MID-ARC FAUCET IN POLISHED CHROME.	
P-6	MOP BASIN	3"	½"	¾"	¾"		FIAT MODEL TSB 800 24" X 36" PRECAST TERRAZZO BASIN WITH 830AA FAUCET WITH VACUUM BREAKER, PAIL HOOK, SEALANT AND STRAINER.	
P-7	BOTTLE FILLER AND	½"	½"	½"	-		MURDOCK OBR4 BOTTLE FILLING STATION : RECESSED MOUNTED, SS FINISH, SENSOR OPERATED1.0 GPM FILL RATE WITH FREEZE RESISTANT VALVE SYSTEM, BOTTLE COUNTER DISPLAY, AND 1 MICRON FILTER.	
P-8	JUG FILLER	½"	½"	½"	-		MURDOCK M-824 JUG FILLER: RECESSED MOUNTED, SS FINISH WITH FREEZE RESISTANT VALVE.	
HB	HOSE BIBB	-	-	½"	-		ZURN Z1341-P34 EXPOSED, ANTI-SIPHON, WALL FAUCET COMPLETE WITH Z1399-VB EXTERNAL VACUUM BREAKER, ALL BRONZE INTERIOR COMPONENTS, VANDAL RESISTANT OPERATING STEM, ROUGH BRONZE EXTERIOR AND ASME B1.20.7 ¾" NPS THREADED MALE HOSE CONNECTION.	
FD	FLOOR DRAIN	3"	2"	-	-		WADE MODEL W-1100-A6 CAST IRON FLOOR DRAIN WITH CLAMPING COLLAR, TRAP PRIMER CONNECTION AND 6" DIAMETER NICKEL BRONZE TOP.	
NFWH	NON-FREEZE WALL HYDRANT	-	-	½"	-		JAY R. SMITH 5509QT-WC-W SELF DRAINING NON-FREEZE WALL HYDRANT WITH 'T' HANDLE KEY AND LOCK, AND INTEGRAL VACUUM BREAKER. ¾" THREADED CONNECTION. FURNISH WITH STAINLESS STEEL BOX. STAINLESS STEEL BOX TO HAVE 'WATER' INSCRIBED ON COVER.	
CS-1	2 COMPARTMENT SINK	½"	-	¾"	¾"		REGENCY 41" 16 GAUGE STAINLESS STEEL TWO COMPARTMENT COMMERCIAL SINK WITH FOUR (4) 1½" ADJUSTABLE LEGS W/ PLASTIC BULLET FEET. 8" ON CENTER FAUCET HOLES. 1½" IPS DRAIN CONNECTIONS. FURNISH WITH REGENCY WALL MOUNT FAUCET - 8" CENTERS AND 12" SWING SPOUT.	
FS-1	FLOOR SINK	3"	2"	-	-		WADE MODEL W-9140 CAST IRON 12" SQUARE GRATE FLOOR SINK WITH 8" DEEP SUMP,DOME BOTTOM STRAINER, CLAMP DEVICE, AND SECURITY SCREWS, 3" PIPE SIZE.	
HS-1	HAND SINK	½"	½"	½"	½"		ADVANCE TABCO DI-1-25 DROP IN STAINLESS STEEL SINK 12"x14"x5" DEEP, LEAD FREE COMPLIANT GOOSENECK FAUCET, SEAMLESS DEEP DRAWN SINK BOWL, 2" BASKET DRAIN. 20 GAUGE TYPE 304 STAINLESS STEEL.	
RD-1	ROOF DRAIN	4"	-	-	-		4" ROOF DRAIN - WATTS MODEL RD-100-K LARGE AREA ROOF DRAIN EPOXY COATED CAST IRON WITH FLASHING CLAMP AND INTEGRAL GRAVEL STOP. 7" HIGH DUCTILE IRON DOME, AND NO HUB OUTLETS.	
RD-2	ROOF DRAIN	3"	-	-	-		3" ROOF DRAIN - WATTS MODEL RD-200-K SMALL AREA ROOF DRAIN EPOXY COATED CAST IRON WITH FLASHING CLAMP AND INTEGRAL GRAVEL STOP. 5 " HIGH DUCTILE IRON 516" HIGH DUCTILE IRON DOME, AND NO HUB OUTLETS.	

HOT WATER HEATER SCHEDULE

DESIGNATION	NO. REQUIRED	MANUFACTURER AND MODEL NUMBER	STORAGE WATER TEMPERATURE (DEG.F)	VOLUME/HEATER (GALS.)	RECOVERY/HEATER (GPH)	TEMPERATURE RISE (100 DEG. F PER GPH RISE)	ELECTRIC LOAD (K.W.)	VOLTS	PHASE	HERTZ	A.S.M.E. CONSTRUCTION	REMARKS	DRAWING NO.
HWH-1	1	A.O. SMITH DEN-52	140	50	34	24	6	208	1	60	X	(OR APPROVED EQUAL)	P-110

PUMP SCHEDULE

PUMP #	LOCATION	TYPE	SERVICE	GPM	TDH (FT.)	MOTOR DATA					REMARKS
						RPM	HP	PHASE	CYCLE	VOLTS	
RCP-1	STORAGE ROOM	INLINE CENTRIFUGAL	HOT WATER RECIRCULATION (140°)	15	15	1750	0.25	1	60	120	BELL & GOSSETT SERIES 60-1x1x5 1/4

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

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by JM
Checked by JL
Project No. 42051
Scale AS NOTED
Date 10/25/22

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

Mechanical & Electrical Engineer:

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

Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1

3

HIGH SCHOOL: SBL# 53-02-01-06-7-026-001
PRESS BOX (DEMO): SBL# 53-02-01-06-7-028-001
CONCESSIONS-PRESS BOX (NEW): SBL# 53-02-01-06-7-079-001
FIELDHOUSE: SBL# 53-02-01-06-7-009-001

146 Hammond Rd.
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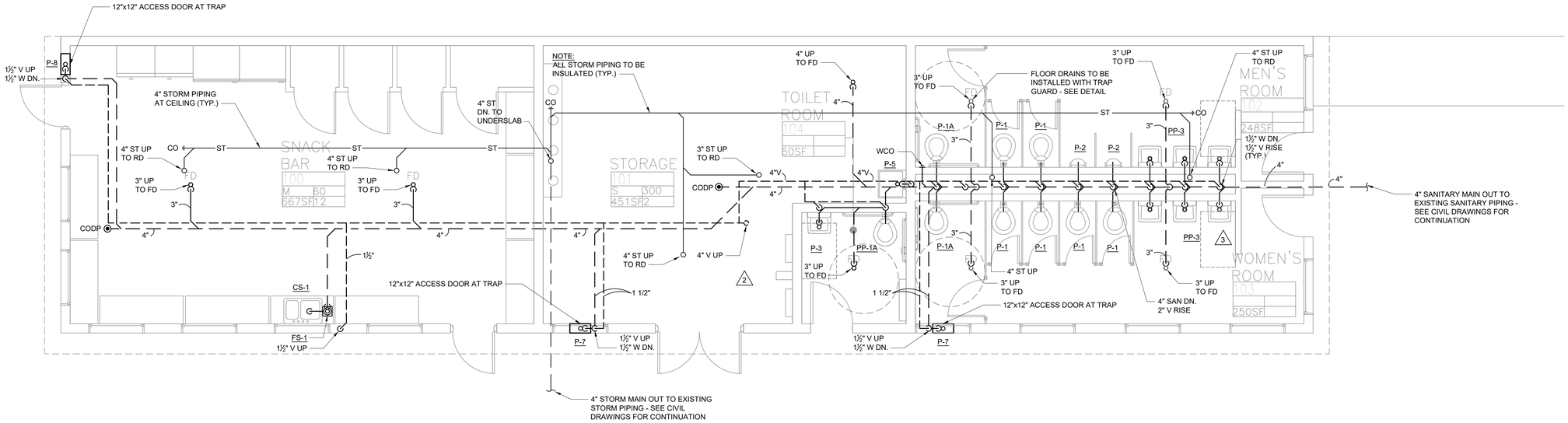
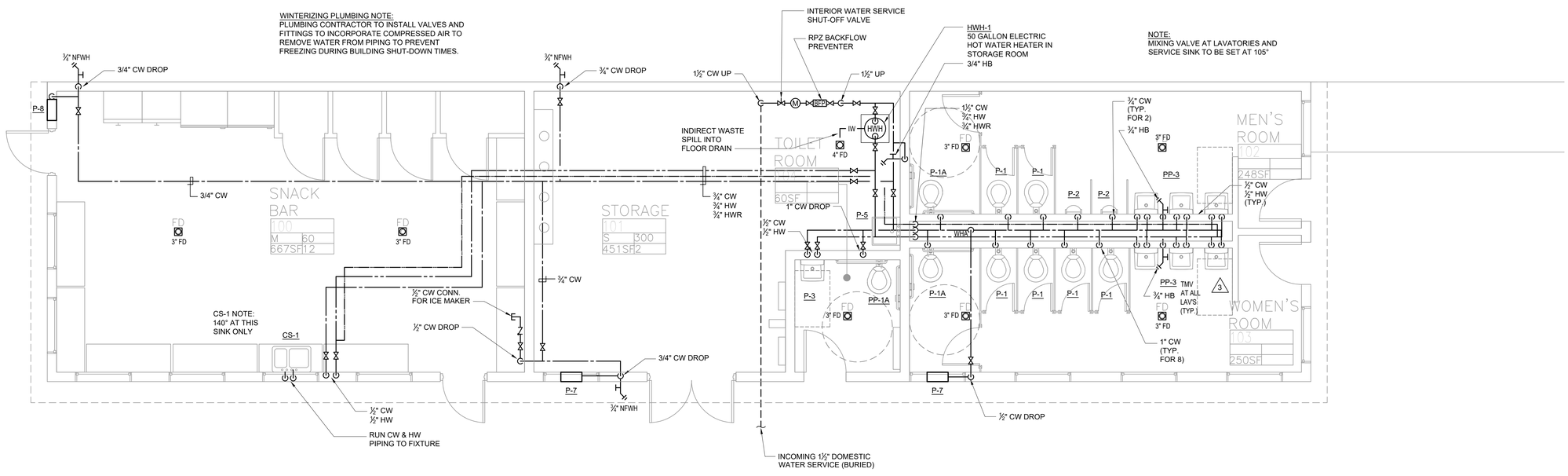
Drawing Title
PLUMBING SCHEDULES

Drawing No.
P-011



1 PLUMBING FIRST FLOOR INSTALLATION PLAN - SANITARY AND VENT

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



2 PLUMBING FIRST FLOOR INSTALLATION PLAN - DOMESTIC WATER

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

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

No.	Date	Revisions
1	10-28-22	BIDDING DOCUMENTS
2	12-09-22	SED ADDENDUM 1
3	01-12-23	SED ADDENDUM 2
4	01-27-23	REVISIONS

Drawn by JM
Checked by JL
Project No. 42051
Scale AS NOTED
Date 10/25/22

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

Mechanical & Electrical Engineer:

Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1

HIGH SCHOOL: SBL# 50-02-01-05-0-015-005
PRESS BOX (DEMO): SBL# 50-02-01-06-7-028-001
CONCESSIONS-PRESS BOX (NEW): SBL# 50-02-01-05-7-079-001
FIELDHOUSE: SBL# 50-02-01-06-7-030-001

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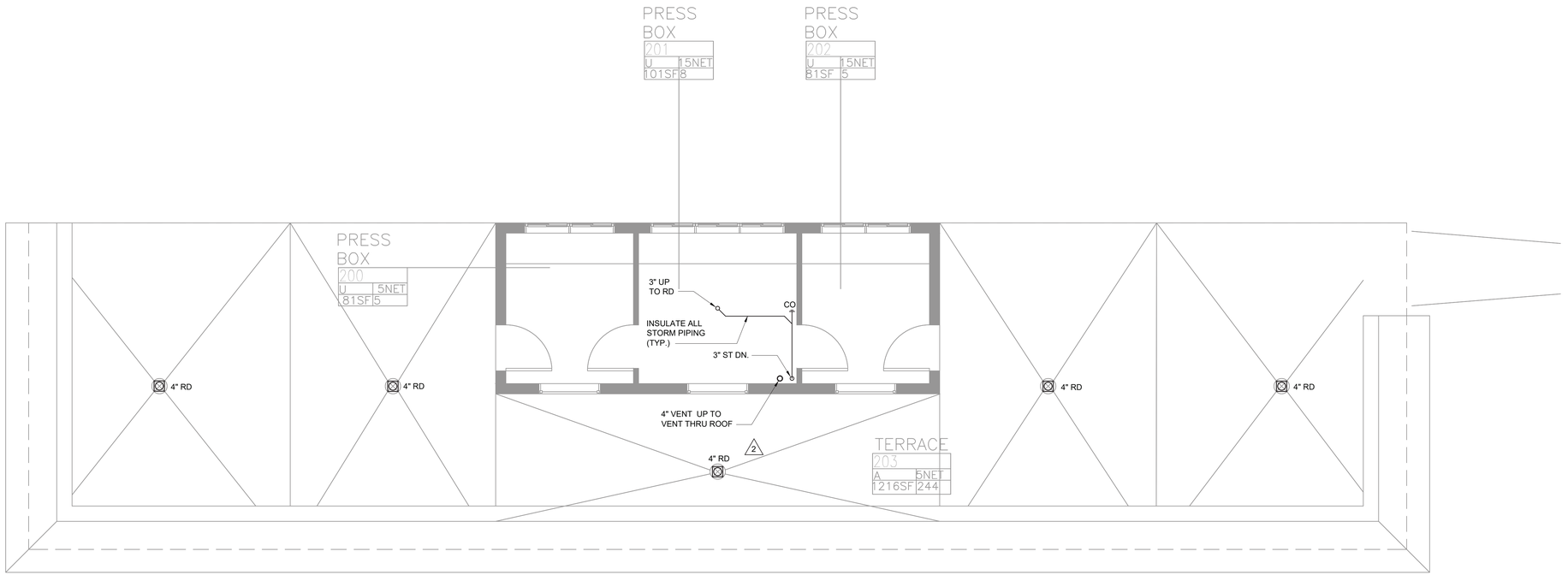
Drawing Title
PLUMBING FLOOR PLAN - NEW WORK

Drawing No.
P-110



1 PLUMBING ROOF PLAN - INSTALLATION

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

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

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by JM
Checked by JL
Project No. 42051
Scale AS NOTED
Date 10/25/22

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

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

NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1

HIGH SCHOOL: SBL# 50-02-01-06-0-015-005
PRESS BOX (DEMO): SBL# 50-02-01-06-7-068-001
CONCESSIONS-PRESS BOX (NEW): SBL# 50-02-01-06-7-079-001
MAINTENANCE: SBL# 50-02-01-06-7-069-001
108 Ramapoo Rd.
Thiells, NY 10984
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COUNTY OF ROCKLAND

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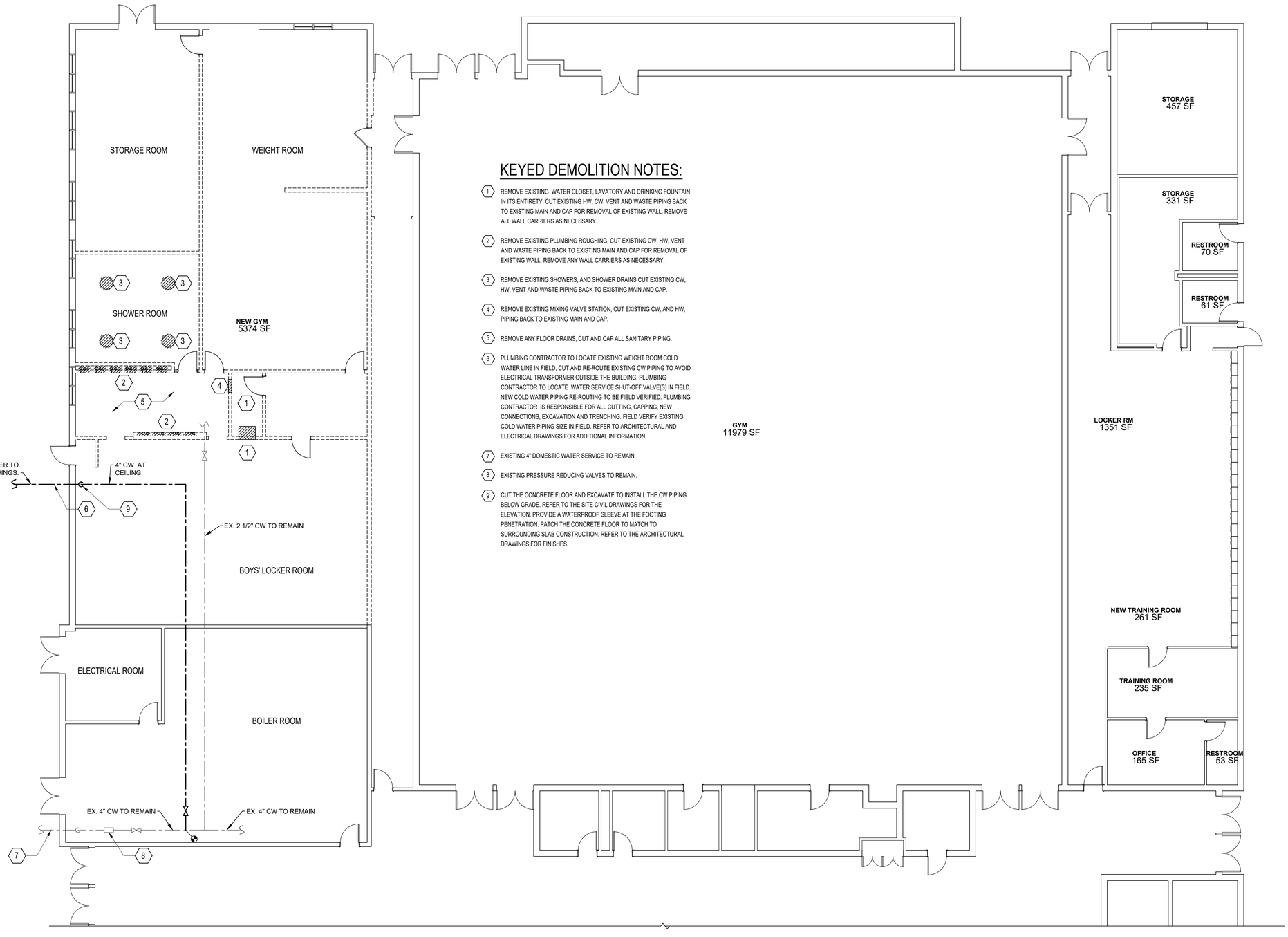
Drawing Title
PLUMBING ROOF PLAN - NEW WORK

Drawing No.
P-111



KEYED DEMOLITION NOTES:

1. REMOVE EXISTING WATER CLOSET, LAVATORY AND DRINKING FOUNTAIN IN ITS ENTIRETY, CUT EXISTING HW, CW, VENT AND WASTE PIPING BACK TO EXISTING MAIN AND CAP FOR REMOVAL OF EXISTING WALL. REMOVE ALL WALL CARRIERS AS NECESSARY.
2. REMOVE EXISTING PLUMBING ROUGHING, CUT EXISTING CW, HW, VENT AND WASTE PIPING BACK TO EXISTING MAIN AND CAP FOR REMOVAL OF EXISTING WALL. REMOVE ANY WALL CARRIERS AS NECESSARY.
3. REMOVE EXISTING SHOWERS, AND SHOWER DRAINS CUT EXISTING CW, HW, VENT AND WASTE PIPING BACK TO EXISTING MAIN AND CAP.
4. REMOVE EXISTING MIXING VALVE STATION, CUT EXISTING CW, AND HW, PIPING BACK TO EXISTING MAIN AND CAP.
5. REMOVE ANY FLOOR DRAINS, CUT AND CAP ALL SANITARY PIPING.
6. PLUMBING CONTRACTOR TO LOCATE EXISTING WEIGHT ROOM COLD WATER LINE IN FIELD, CUT AND RE-ROUTE EXISTING CW PIPING TO AVOID ELECTRICAL TRANSFORMER OUTSIDE THE BUILDING. PLUMBING CONTRACTOR TO LOCATE WATER SERVICE SHUT-OFF VALVE(S) IN FIELD. NEW COLD WATER PIPING RE-ROUTING TO BE FIELD VERIFIED. PLUMBING CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING, CAPPING, NEW CONNECTIONS, EXCAVATION AND TRENCHING. FIELD VERIFY EXISTING COLD WATER PIPING SIZE IN FIELD. REFER TO ARCHITECTURAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
7. EXISTING 4" DOMESTIC WATER SERVICE TO REMAIN.
8. EXISTING PRESSURE REDUCING VALVES TO REMAIN.
9. CUT THE CONCRETE FLOOR AND EXCAVATE TO INSTALL THE CW PIPING BELOW GRADE. REFER TO THE SITE CIVIL DRAWINGS FOR THE ELEVATION. PROVIDE A WATERPROOF SLEEVE AT THE FOOTING PENETRATION. PATCH THE CONCRETE FLOOR TO MATCH TO SURROUNDING SLAB CONSTRUCTION. REFER TO THE ARCHITECTURAL DRAWINGS FOR FINISHES.

1 PLUMBING FIRST FLOOR PLAN

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

1/2 0 1

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

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Mechanical & Electrical Engineer:

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SUITE 302
SUFFERN, NY 10901

Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL
PROJECTS - PHASE 1

HIGH SCHOOL: SBL# 50-02-01-09-0-010-005
PRESS BOX (DEMO): SBL# 50-02-01-06-7-035-001
CONCESSIONS-PRESS BOX (NEW): SBL# 50-02-01-06-7-079-001
FIELDHOUSE: SBL# 50-02-01-06-7-035-001

100 Hammond Rd.
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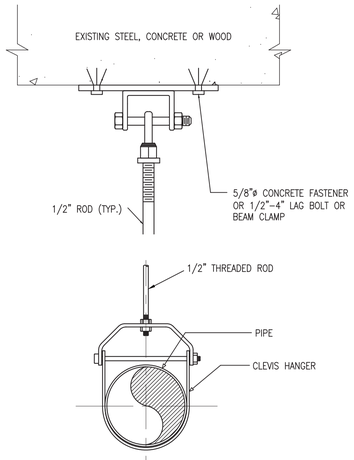
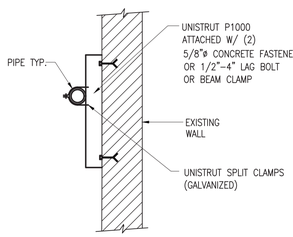
Drawing Title
PLUMBING FIRST FLOOR PLAN - ANNEX

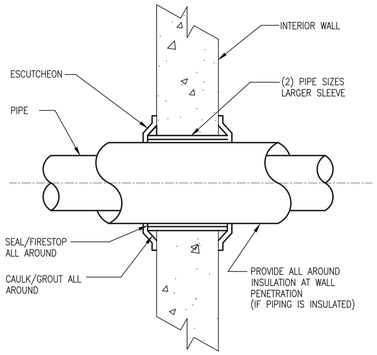
Drawing No.
P-120



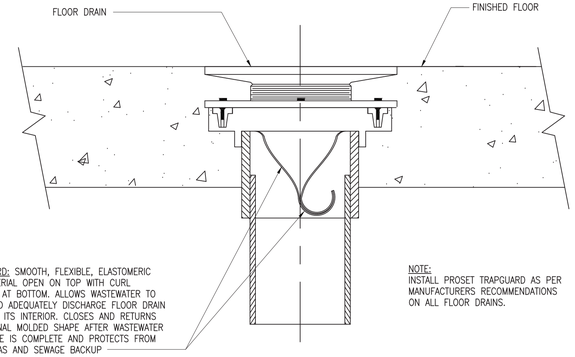
1 CLEVIS HANGER
SCALE: N.T.S.



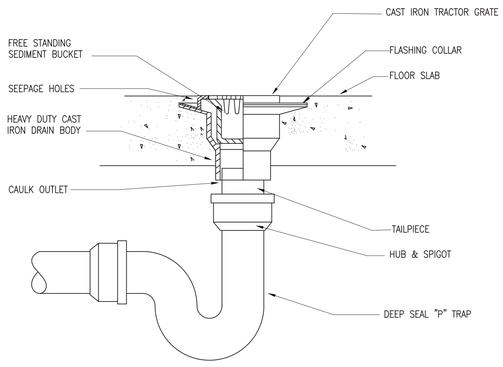
2 WALL SUPPORT
SCALE: N.T.S.



3 WALL PENETRATION (TYP.)
SCALE: N.T.S.



4 FLOOR DRAIN TRAPGUAD DETAIL
SCALE: N.T.S.



5 FLOOR DRAIN DETAIL
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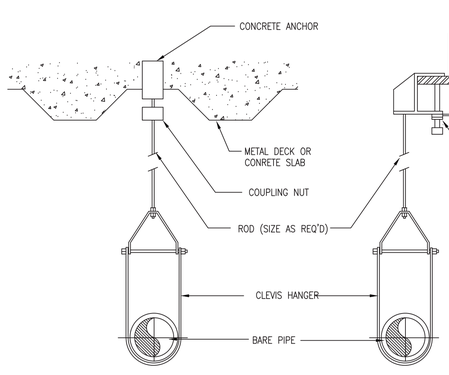
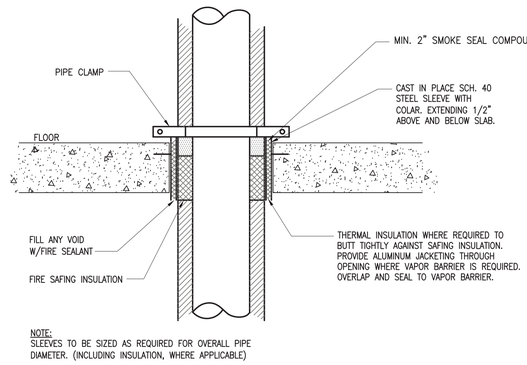


NOTE:
CLEVIS HANGERS REQUIRED ON PIPING LARGER THAN 1", GENERAL PURPOSE HANGERS MAY BE USED ON 1" PIPING ONLY.

6 PIPE HANGER DETAIL
SCALE: N.T.S.



7 FLOOR PENETRATION DETAIL
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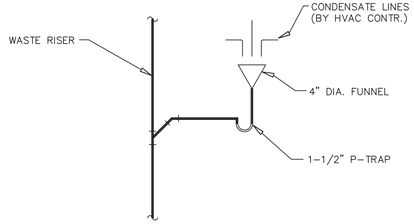

8 FUNNEL DRAIN DETAIL
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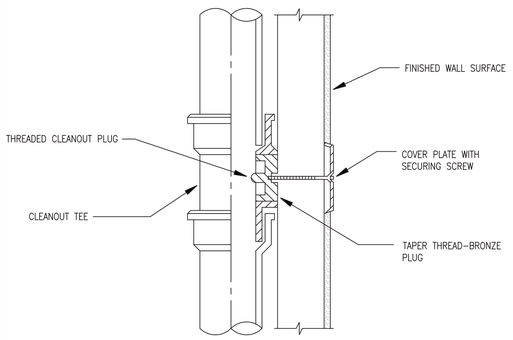

9 WALL CLEANOUT DETAIL
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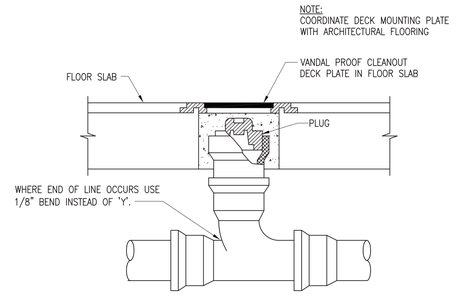
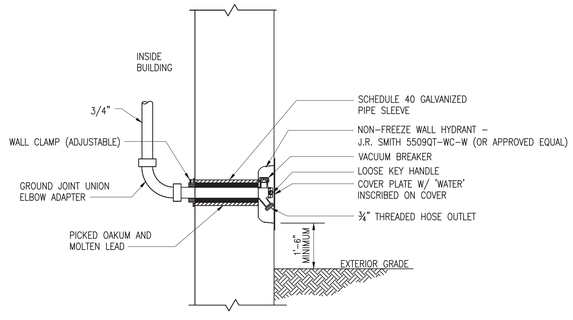
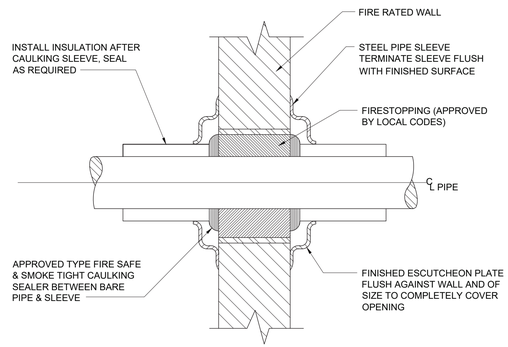


10 FLOOR CLEAN-OUT DETAIL
SCALE: N.T.S.



11 NON-FREEZE WALL HYDRANT DETAIL
SCALE: N.T.S.



12 PIPE SLEEVE FIRE RATED WALL DETAIL
SCALE: N.T.S.

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

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by JM
Checked by JL
Project No. 42051
Scale AS NOTED
Date 10/25/22

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

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

NORTH ROCKLAND HIGH SCHOOL PROJECTS - PHASE 1

HIGH SCHOOL: SBM 50-02-01-06-0-015-005
PRESS BOX (DEMO): SBM# 50-02-01-06-7-028-001
CONCESSIONS-PRESS BOX (NEW): SBM# 50-02-01-06-7-079-001
FIELDHOUSE: SBM# 50-02-01-06-7-009-001

106 Roosevelt Rd.
Stony Point, NY 10980

TOWN OF HAVERSTRAW
COUNTY OF ROCKLAND

MICHAEL SHILALE ARCHITECTS, L.L.P.
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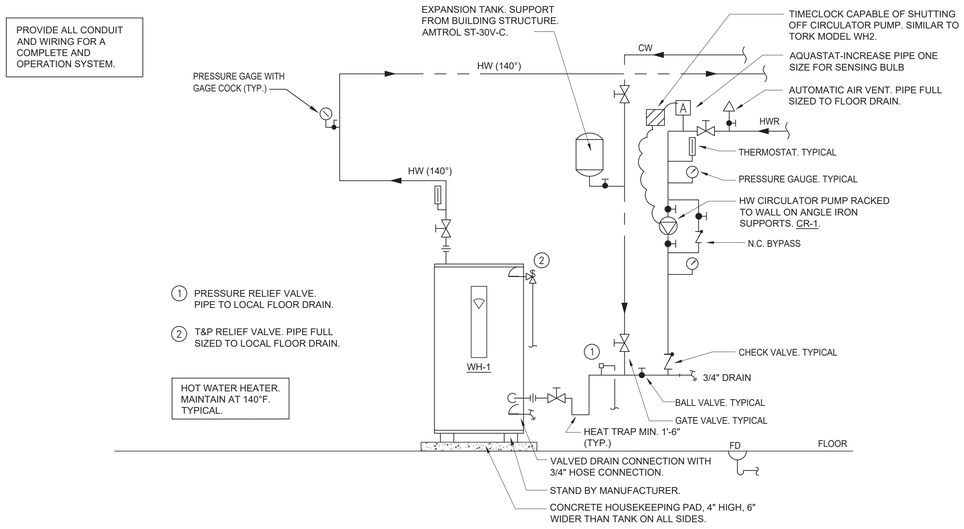
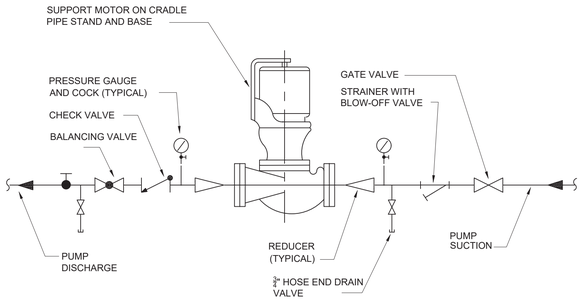
Drawing Title
PLUMBING DETAILS

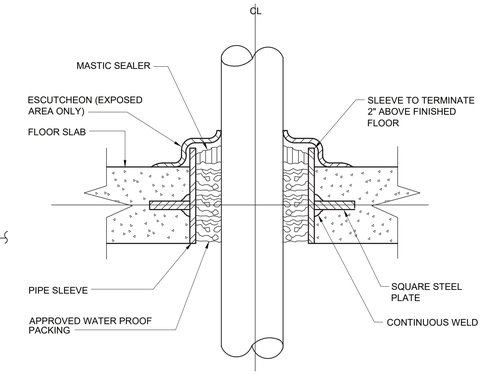
Drawing No.
P-510



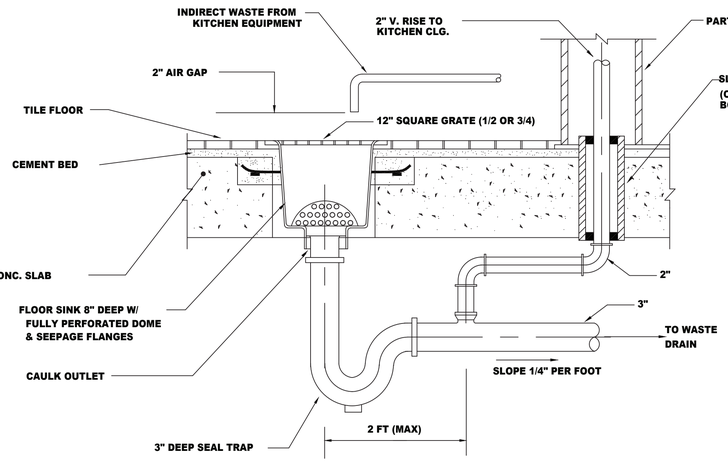
1 ELECTRIC HOT WATER HEATER DETAIL
SCALE: N.T.S.



2 CIRCULATOR PUMP DETAIL
SCALE: N.T.S.



3 PIPE SLEEVE THRU WATERPROOF SLAB
SCALE: N.T.S.



4 FLOOR SINK DETAIL
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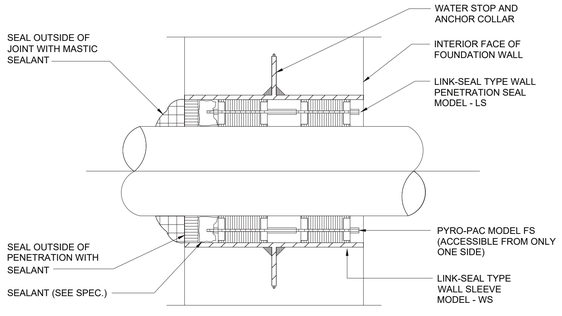
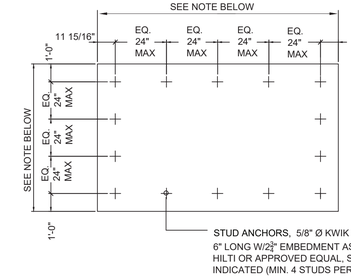
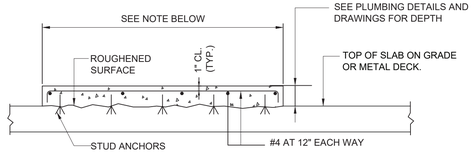


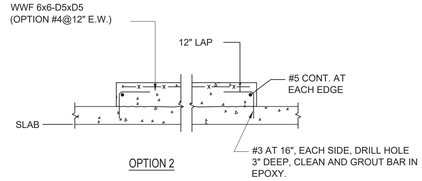
6 PIPE SLEEVE THRU EXTERIOR FOUNDATION WALL DETAIL
SCALE: N.T.S.



PLAN



OPTION 1



OPTION 2

NOTE:

1. FOR APPROXIMATE SIZE AND LOCATION OF PAD, SEE PLUMBING DRAWINGS. FINAL SIZE AND LOCATION TO BE DETERMINED BY CONTRACTOR AND APPROVED BY ENGINEER.

5 CONCRETE PAD DETAIL
SCALE: N.T.S.

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

No.	Date	Revisions
.	.	.
.	.	.
.	.	.
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by JM
Checked by JL
Project No. 42051
Scale AS NOTED
Date 10/25/22

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

Mechanical & Electrical Engineer:

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

Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1

HIGH SCHOOL: SED# 50-02-01-06-0-015-005
PRESS BOX (DEMO): SED# 00-02-01-06-7-028-001
CONCESSIONS-PRESS BOX (NEW): SED# 00-02-01-06-7-079-001
FIELDHOUSE: SED# 50-02-01-06-7-009-001

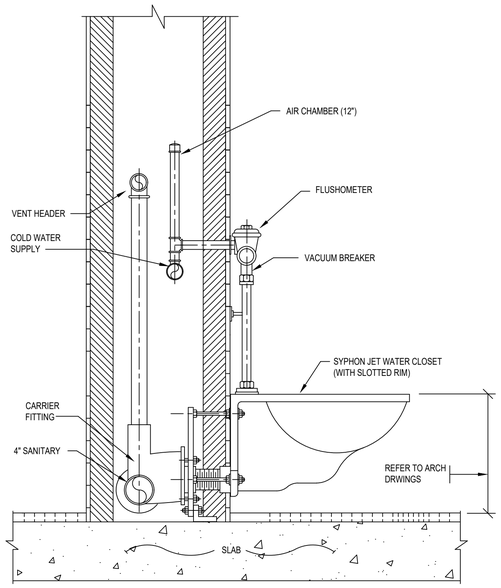
106 Roosevelt Rd.
Stony Point, NY 10980

TOWN OF HAVERSTRAW
COUNTY OF ROCKLAND

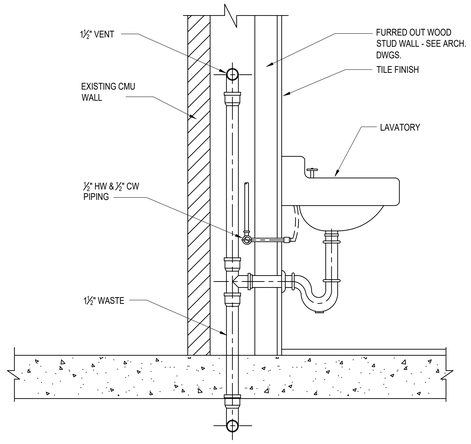
MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 845-708-9200
www.shilale.com

Drawing Title
PLUMBING DETAILS

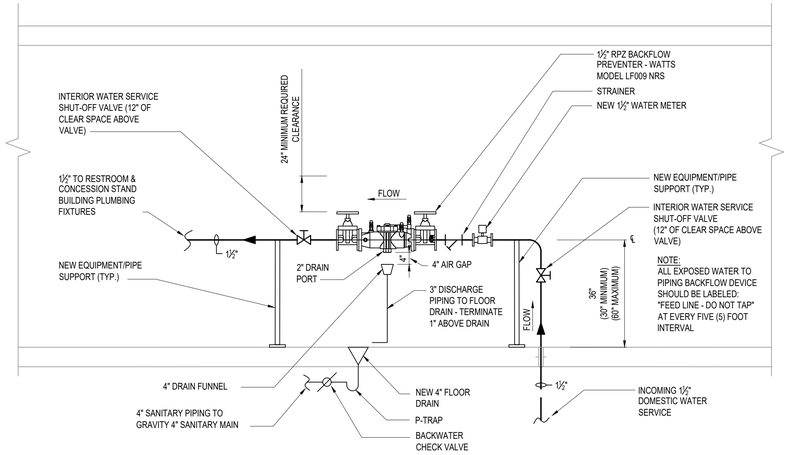
Drawing No.
P-511



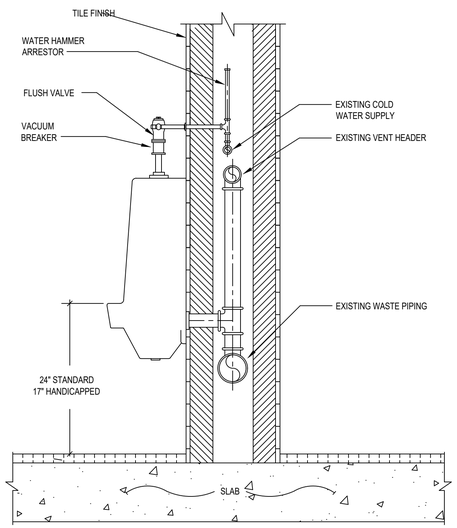
1 WALL MOUNTED TOILET DETAIL
SCALE: N.T.S.



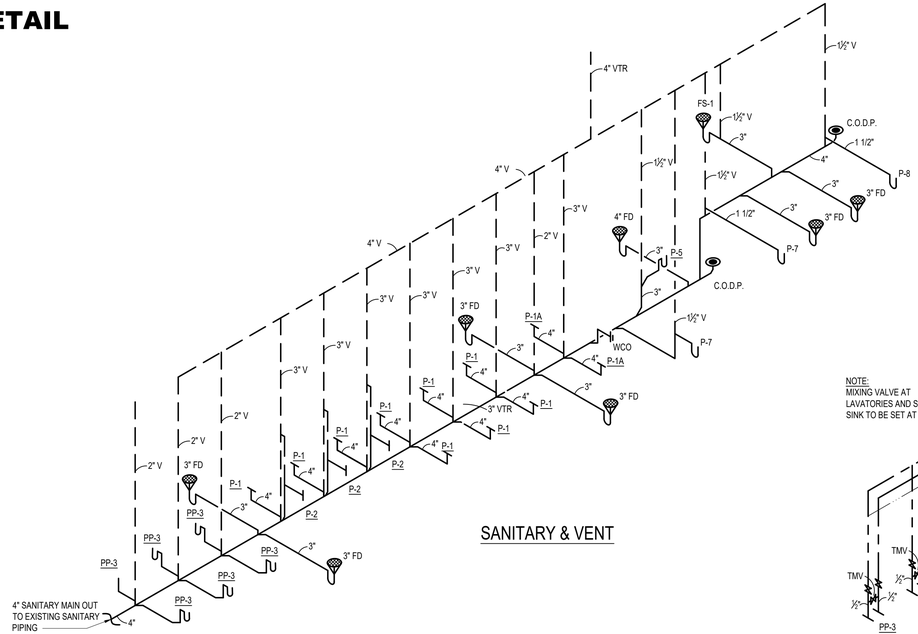
2 LAVATORY PIPING DETAIL (TYP.)
SCALE: N.T.S.

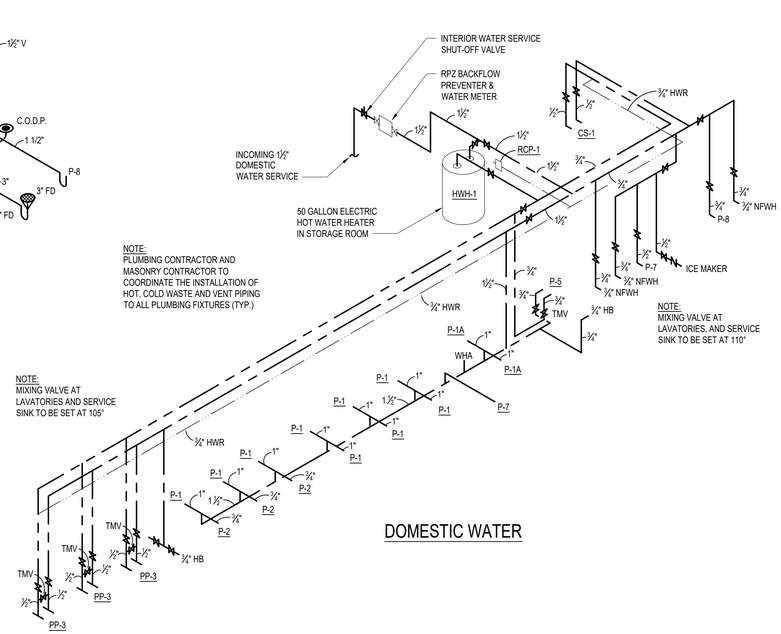


4 BACKFLOW PREVENTER DETAIL
SCALE: 1/2" = 1'-0"



3 URINAL PIPING DETAIL (TYP.)
SCALE: N.T.S.





5 PLUMBING RISER DIAGRAMS
SCALE: N.T.S.

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

No.	Date	Revisions
.1	10-28-22	BIDDING DOCUMENTS
.2	12-09-22	SED ADDENDUM 1
.3	01-12-23	SED ADDENDUM 2
.4	01-27-23	REVISIONS

Drawn by JM
Checked by JL
Project No. 42051
Scale AS NOTED
Date 10/25/22

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

Structural Engineer:

NORTH ROCKLAND HIGH SCHOOL PROJECTS - PHASE 1 ⚠3

HIGH SCHOOL: SBDN 50-02-01-06-0-010-005
PRESS BOX (DEMO): SBDN 50-02-01-06-7-035-001
CONCESSIONS-PRESS BOX (NEW): SBDN 50-02-01-06-7-079-001
FIELDHOUSE SBDN 50-02-01-06-7-035-001

188 Haverstraw Rd.
Suffern, NY 10901

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COUNTY OF ROCKLAND

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Drawing Title
PLUMBING DETAILS

Drawing No.
P-512

FIRE DETECTION & ALARM SYSTEM SYMBOL LIST

SYMBOL	DESCRIPTION
FACP	FIRE ALARM CONTROL PANEL WITH INTERNAL DIGITAL ALARM COMMUNICATOR.
F WP	DUAL ACTION TYPE FIRE ALARM PULL STATION MOUNTED MIN 3'-6" AND MAX 4'-0" FROM THE FLOOR LEVEL TO THE ACTIVATING HANDLE "WP" INDICATES WEATHER PROOF
15 WP	FIRE SIGNAL STROBE. STROBES SHALL BE WALL-MOUNTED SUCH THAT THE ENTIRE STROBE LENS IS LOCATED MIN 80" AND MAX 96" FROM THE FINISHED FLOOR OR 6" BELOW THE CEILING, WHICHEVER IS LESS IN HEIGHT. "WP" INDICATES WEATHER PROOF. "15" INDICATES THE CANDELA RATING.
15 WP	FIRE SPEAKER/STROBE UNIT. SPEAKER/STROBE SHALL BE WALL MOUNTED SUCH THAT THE ENTIRE STROBE LENS IS LOCATED MIN 80" AND MAX 96" FROM THE FINISHED FLOOR OR 6" BELOW THE CEILING, WHICHEVER IS LESS IN HEIGHT. "WP" INDICATES WEATHER PROOF. "15" INDICATES THE CANDELA RATING.
S	CEILING MOUNTED SMOKE DETECTOR
H	CEILING MOUNTED HEAT DETECTOR
BPS	BOOSTER POWER SUPPLY

SEQUENCE OF OPERATION FOR THE FIRE ALARM SYSTEM

THE FIRE ALARM SYSTEM SHALL PERFORM AS DESCRIBED BELOW. ALL FIRE ALARM EQUIPMENT/DEVICES USED SHALL BE BY APPROVED MANUFACTURERS AND SHALL BE LISTED FOR ITS INTENDED USE. THE MANUAL & AUTOMATIC SMOKE/HEAT/CO DETECTION AND SPRINKLER FIRE ALARM SYSTEM SHALL BE ADDRESSABLE BY MEANS OF A PRINTER. THE ENTIRE SYSTEM SHALL CONFORM WITH THE 2008 NYC CONSTRUCTION CODES.

1. FIRE DETECTION SHALL BE ACCOMPLISHED BY:
   A. ACTIVATION OF MANUAL PULL STATION
   B. ACTIVATION OF AN AREA SMOKE DETECTOR
   C. ACTIVATION OF A HEAT DETECTOR

2. ACTIVATION OF A MANUAL PULL STATION SHALL IMMEDIATELY CAUSE THE FOLLOWING:
   A. SOUND A PULSING AUDIBLE AND FLASH THE GENERAL ALARM LED AT THE FIRE ALARM CONTROL PANEL (FACP).
   B. VISUALLY ANNUNCIATE THE DEVICE IN ALARM AT THE FACP.
   C. CAUSE ALL VISUAL APPLIANCES (STROBES) TO FLASH.
   D. CAUSE ALL AUDIBLE APPLIANCES (HORNS) TO SOUND.
   E. INITIATE TRANSMISSION OF A 'MANUAL PULL STATION ALARM' SIGNAL VIA INTERNAL DIALER TO A CENTRAL STATION.

3. ACTIVATION OF AN AREA SMOKE DETECTOR, HEAT DETECTOR SHALL IMMEDIATELY CAUSE THE FOLLOWING:
   A. SOUND A PULSING AUDIBLE AND FLASH THE GENERAL ALARM LED AT THE FACP.
   B. VISUALLY ANNUNCIATE THE DEVICE IN ALARM AT THE FACP.
   C. CAUSE ALL VISUAL APPLIANCES (STROBES) TO FLASH.
   D. CAUSE ALL AUDIBLE APPLIANCES (HORNS) TO SOUND.

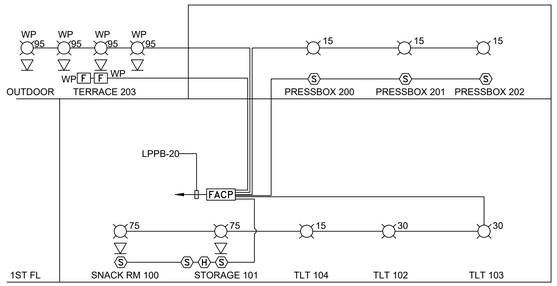
4. FACP AC POWER FAILURE, LOW BATTERY, OPEN CIRCUIT, GROUND FAULT OR NOTIFICATION OF APPLIANCE SHORT CIRCUIT SHALL IMMEDIATELY CAUSE THE FOLLOWING:
   A. SOUND A PULSING AUDIBLE AND FLASH THE GENERAL TROUBLE LED AT THE FACP.
   B. VISUALLY ANNUNCIATE THE DEVICE TYPE AT THE FACP.
   C. INITIATE TRANSMISSION OF A 'TROUBLE' SIGNAL VIA INTERNAL DIALER TO A CENTRAL STATION.

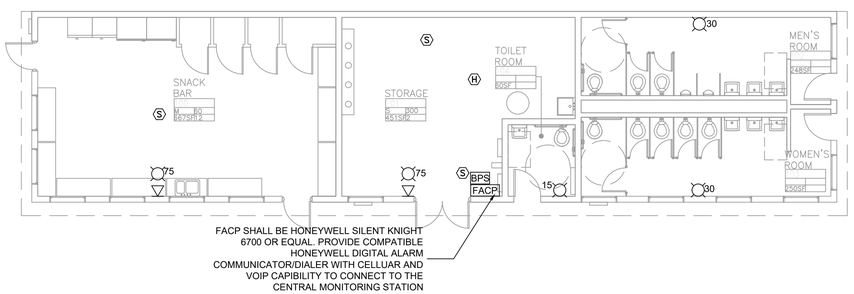
SYSTEM OUTPUTS

SYSTEM INPUTS		MAIN CONTROL PANEL & REMOTE ANNUNCIATION						NOTIFICATION						
		DISPLAY DEVICE IN ALARM ON THE LCD CHARACTER DISPLAY	ACTUATE LOCAL AUDIBLE SIGNAL W/ COMMON ALARM LED	DISPLAY SUPERVISORY CONDITION ON THE LCD CHARACTER DISPLAY	ACTUATE LOCAL AUDIBLE SIGNAL W/ COMMON SUPERVISORY LED	DISPLAY TROUBLE DEVICE/CONDITION ON THE LCD CHARACTER DISPLAY	ACTUATE LOCAL AUDIBLE SIGNAL W/ COMMON TROUBLE LED	STROBES SHALL FLASH CONTINUOUSLY UNTIL MANUALLY RESTORED	ACTIVATE TEMPORAL-THREE SIGNAL AT ALL HORNS	TRANSMIT 'MANUAL PULL STATION ALARM' SIGNAL TO A SUPERVISING STATION	TRANSMIT 'SMOKE ALARM' SIGNAL TO A SUPERVISING STATION	TRANSMIT 'SUPERVISORY' SIGNAL TO A SUPERVISING STATION	TRANSMIT 'TROUBLE' SIGNAL TO A SUPERVISING STATION	
		A	B	C	D	E	F	G	H	J	K	O	P	
1	MANUAL FIRE ALARM PULL STATION	●	●	●				●	●	●		●		1
2	AREA SMOKE/HEAT DETECTOR	●	●	●				●	●		●	●		2
3	DUCT SMOKE DETECTOR	●	●	●				●	●		●	●		3
4	FIRE ALARM AC POWER FAILURE					●	●						●	4
5	FIRE ALARM SYSTEM LOW BATTERY					●	●						●	5
6	OPEN CIRCUIT					●	●						●	6
7	GROUND FAULT					●	●						●	7
8	NOTIFICATION APPLIANCE CIRCUIT SHORT					●	●						●	8
9	SEPARATE FAN RESTART SWITCH													9
		A	B	C	D	E	F	G	H	J	K	O	P	

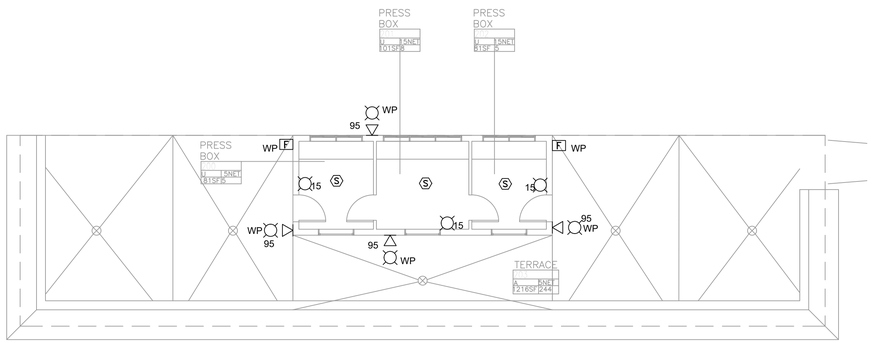
FIRE ALARM SYSTEM SEQUENCE OF OPERATION

WIRING KEY	
DEVICE	WIRING & CONDUIT
INITIATING OR SUPERVISORY CIRCUIT	TWO (2) NO. 14 AWG FPLP (-40 DEG C TO 150 DEG C) CONDUCTORS IN RGC
SIGNALING/INDICATING CIRCUIT	TWO (2) NO. 14 AWG FPLP (-40 DEG C TO 150 DEG C) CONDUCTORS IN RGC
CONTROL CIRCUIT	TWO (2) NO. 14 AWG FPLP (-40 DEG C TO 150 DEG C) CONDUCTORS IN RGC





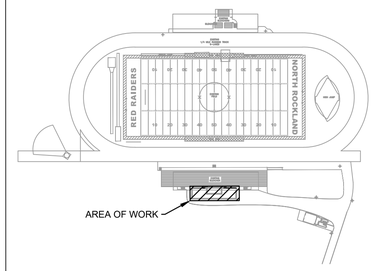
1 FIRE ALARM SYSTEM FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"



2 FIRE ALARM SYSTEM SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0"

PLAN NORTH

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



KEY PLAN

No.	Date	Revisions
4	01-27-23	REVISIONS
3	01-12-23	SED ADDENDUM 2
2	12-09-22	SED ADDENDUM 1
1	10-28-22	BIDDING DOCUMENTS

Drawn by DK
Checked by SH
Project No. 42051
Scale AS NOTED
Date 10/25/22

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

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

NORTH ROCKLAND HIGH SCHOOL PROJECTS – PHASE 1 (3)
HIGH SCHOOL - SBL# 50-02-01-06-0-015-005
PRESS BOX (DRAW) SBL# 50-02-01-06-7-038-001
CONCESSIONS-PRESS BOX (NEW) SBL# 50-02-01-06-7-079-001
FIELDHOUSE SBL# 50-02-01-06-7-006-001
106 Hammond Rd.
Pearl River, NY 10965
TOWN OF ORANGETOWN
COUNTY OF ROCKLAND

MICHAEL SHILALE ARCHITECTS, L.L.P.
140 Park Avenue New City, NY 10956 Tel 845-708-9200
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Drawing title: CONCESSION/PRESS BOX FIRE ALARM PLANS

Drawing No. FA-110