APPENDIX C.18

CASE 10-T-0139

SITE PLANS AND CONSTRUCTION DRAWINGS

FIRE PROTECTION DRAWINGS – FIRE ALARM

ASTORIA HVDC CONVERTER STATION

SEGMENT 22

ASTORIA HVDC CONVERTER STATION

FIRE PROTECTION SYSTEMS:
FIRE ALARM

SHEET LIST - FA	
SHEET	SHEET NAME
FA-001.00	COVER SHEET
FA-002.00	OVERALL SITE PLAN
FA-003.00	FIRE ALARM GENERAL NOTES AND LEGEND
FA-004.00	INPUT/OUTPUT MATRIX
FA-005.00	INPUT/OUTPUT MATRIX
FA-006.00	FIRE ALARM RISER DIAGRAM
FA-101.00	CONVERTER BUILDING - FIRE ALARM AUDIBILITY PLAN
FA-102.00	CONVERTER BUILDING - FIRE ALARM PLAN
FA-103.00	SERVICE BUILDING - FIRE ALARM PLAN
FA-104.00	SERVICE BUILDING - FIRE ALARM PLAN
FA-105.00	SERVICE BUILDING - FIRE ALARM PLAN
FA-106.00	SERVICE BUILDING - FIRE ALARM PLAN
FA-107.00	TRANSFORMER AREA AND PUMP ENCLOSURE FIRE ALARM AUDIBILITY PLAN
FA-108.00	TRANSFORMER AREA AND PUMP ENCLOSURE FIRE ALARM PLAN
FA-109.00	STORAGE ENCLOSURE - FIRE ALARM PLAN
FA-110.00	RELAY ENCLOSURE - FIRE ALARM PLAN
FA-111.00	MVS ENCLOSURE - FIRE ALARM PLAN
FA-601.00	FIRE ALARM DETAILS

SCOPE OF WORK

THE FIRE PROTECTION SYSTEMS SCOPE OF WORK INCLUDES FIRE ALARM SYSTEMS IN THE FOLLOWING AREAS AS SUBJECT TO THE REQUIREMENTS AND PERFORMANCE CRITERIA PROVIDED IN THE FIRE PROTECTION DESIGN BASIS DOCUMENT.

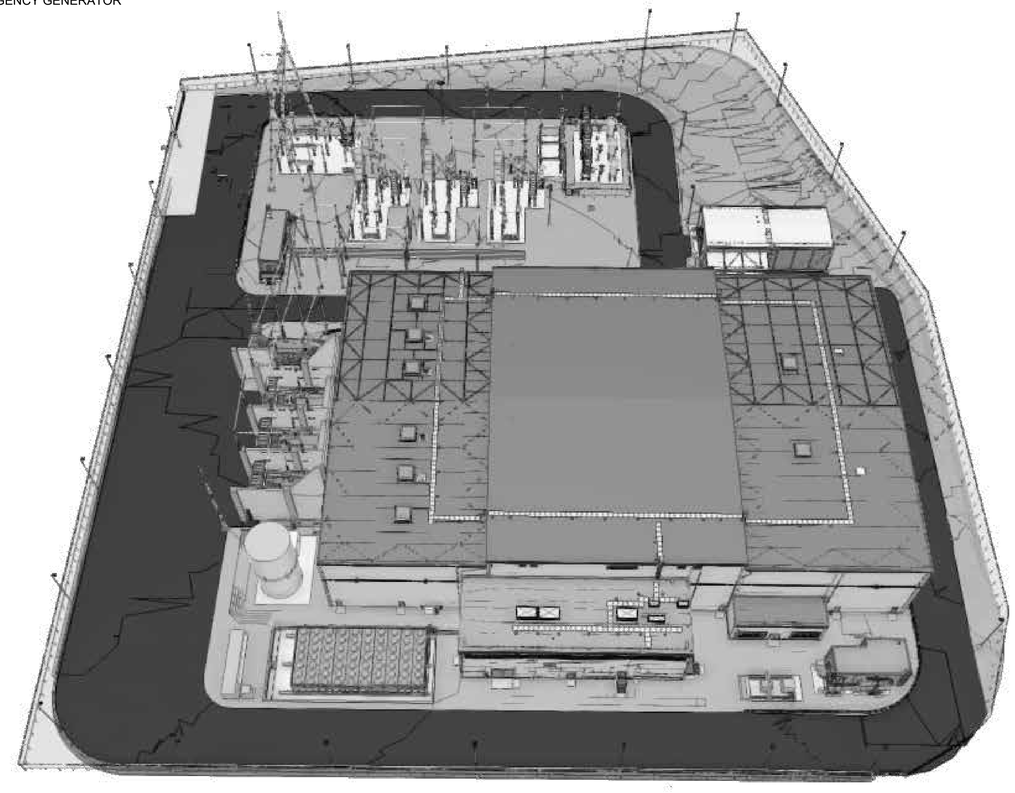
1. CONVERTER BUILDING
2. SERVICE BUILDING
3. STORAGE ENCLOSURE
4. RELAY ENCLOSURE
5. MVS ENCLOSURE
6. CONVERTER TRANSFORMERS
7. FIRE PUMP ENCLOSURE
8. FIRE WATER TANK
9. EMERGENCY GENERATOR

FLOOD ZONE DESIGN CERTIFICATION:

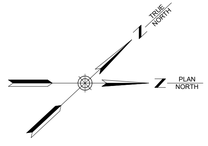
THE EXISTING PROPERTY IS IN THE SPECIAL FLOOD HAZARD AREA (SFHA), ZONE AE PER EFFECTIVE 2015 FLOOD INSURANCE RATE MAP(FIRM). THIS IS TO CONFIRM THAT THE PROPOSED INSTALLATION IS IN COMPLIANCE WITH THE REQUIREMENTS SET FORTH IN APPENDIX Q OF THE NYC BUILDING CODE.

NYC ENERGY CODE COMPLIANCE:

STATEMENT: TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE. PROPOSED WORK MEETS THE GUIDELINES AND INSTRUCTIONS OUTLINED IN THE 2020 NYC ECC CHAPTER 4.



1 FA-001.00 OVERALL SITE VIEW N.T.S.



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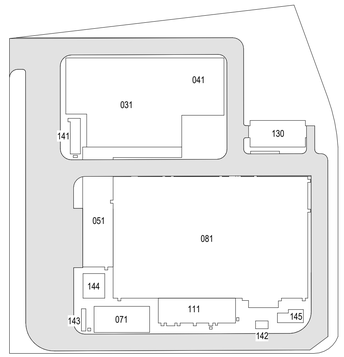

KEY PLAN
N.T.S.

PLAN NORTH

Poole Fire Protection
19910 West 161st Street
Olathe, KS 66062
913.829.8600 office ▲ 913.829.8686 fax

19910 W. 161st STREET
OLATHE, KS. 66062

SOWINSKI SULLIVAN
ARCHITECTURE+ENGINEERING

25 Mohawk Avenue
Sparta, NJ 07871

REV	DESCRIPTION	DRW BY	CHK BY	DATE
B	FINAL SUBMISSION	SAB	AWP	12/12/2022
A	INTERIM SUBMISSION	SAB	AWP	09/13/2022

Kiewit
470 Chestnut Ridge Rd # 2,
Woodcliff Lake, NJ 07677

Hitachi Energy
901 Main Campus Drive
Raleigh, North Carolina 27606

PROJECT

CHPE
Champlain Hudson Power Express

Astoria HVDC Converter Station
31-45 20th Avenue, Astoria, Queens NY 11105
Block #850 - Lot #310 - BIN #4624437

COVER SHEET

DATE	12/12/2022
PROJECT NO	105121
DRAWING BY	S. BRINKMEYER
CHECKED BY	A. POOLE
DRAWING NO	FA-001.00
CADD FILE N0	1 of 18

Autodesk Docs://CHPE Astoria/CHA-KIE-111-00-M3-FP-001.rvt

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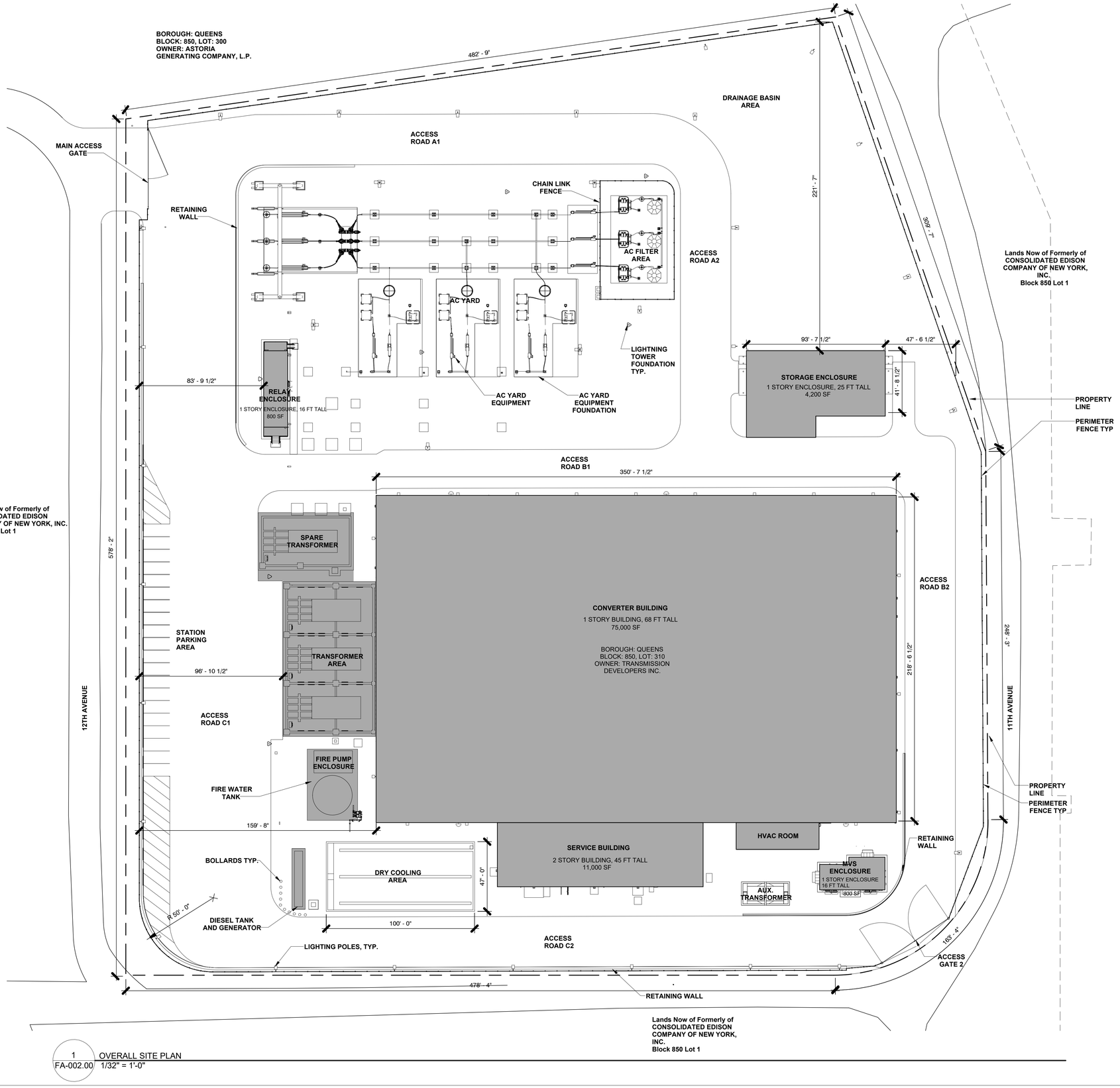

1 FA-002.00 OVERALL SITE PLAN 1/32" = 1'-0"

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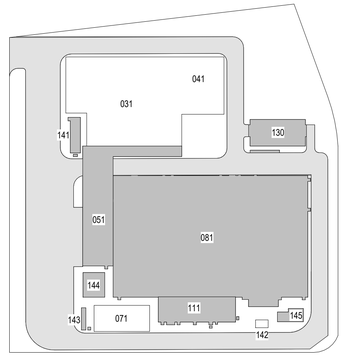

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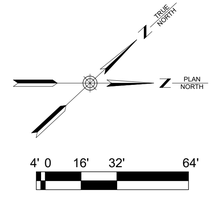

PROJECT

CHPE
Champlain Hudson Power Express

Astoria HVDC Converter Station

31-45 20th Avenue, Astoria, Queens NY 11105
Block #850 - Lot #310 - BIN #4624437

OVERALL SITE PLAN

DATE	12/12/2022
PROJECT NO	105121
DRAWING BY	S. BRINKMEYER
CHECKED BY	A. POOLE
DRAWING NO	FA-002.00
CADD FILE N0	Autodesk Docs://CHPE Astoria/CHA-KIE-111-00-M3-FP-001.rvt
	2 of 18

FIRE ALARM GENERAL NOTES

SYSTEM DESCRIPTION:
1. THE SYSTEMS INDICATED HEREIN ARE FOR THE GENERAL FIRE ALARM, DETECTION, AND RELEASING SERVICE SYSTEMS. THESE NOTES ARE APPLICABLE TO ALL FACILITY AREAS OR BUILDINGS PROVIDED WITH A FIRE ALARM, DETECTION AND OR RELEASING SYSTEM. REFER TO THE SPECIFIC AREA OR BUILDING NOTE SECTIONS FOR ADDITIONAL INFORMATION.

FIRE ALARM SYSTEM GENERAL NOTES:
1. THE FIRE ALARM SERIES DRAWINGS MUST BE INTERPRETED IN THEIR ENTIRETY FOR CONSTRUCTION AND INSTALLATION REQUIREMENTS; NO SINGLE FIRE ALARM DRAWING CONTAINS THE TOTALITY OF INFORMATION RELATING TO THE FIRE ALARM SYSTEM DESIGN INTENT OR SPECIFICATION.
2. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND SHOW ONE POTENTIAL METHOD OF CODE COMPLIANCE BASED UPON DESIGNED CONDITIONS. THE WORK THAT IS INDICATED ON THESE DRAWINGS ARE AN OVERVIEW OF THE PROJECT, INTENDED TO ESTABLISH THE SCOPE OF THE PROJECT MINIMUM REQUIREMENTS AS WELL AS THE CONTRACTOR'S RESPONSIBILITIES. DEVICES ARE TO BE COORDINATED AND LOCATED TO AVOID OBSTRUCTIONS AND INTERFERENCES. FINAL FIRE ALARM SYSTEM DEVICE LOCATIONS, QUANTITIES, AND TYPES ARE THE RESPONSIBILITY OF THE FIRE ALARM CONTRACTOR (BASED ON EQUIPMENT SELECTION, FIELD CONDITIONS, OWNER AND CODE REQUIREMENTS, THE "LOCAL AUTHORITY HAVING JURISDICTION", AND THE SPECIFICATIONS). IT SHALL BE THE RESPONSIBILITY OF THE FIRE ALARM SYSTEM CONTRACTOR TO PROVIDE ALL ITEMS AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
3. THE DESIGN AND INSTALLATION OF THE FIRE ALARM SYSTEMS MUST BE IN ACCORDANCE WITH, BUT NOT LIMITED TO NYC BUILDING CODE (2022), NYC FIRE CODE (2022), NYC ELECTRICAL CODE (2011), NFPA 72 (2016), AND ALL LOCAL AMENDMENTS.
4. PENETRATION OF FIRE RESISTANCE RATED CONSTRUCTION MUST BE SEALED TO MAINTAIN THE REQUIRED FIRE RESISTANCE RATING TO ORIGINAL SPECIFICATIONS.
5. NOTIFICATION APPLIANCES MUST NOT BE BLOCKED BY SCREENS, TELEVISIONS, FURNITURE OR SIMILAR ITEMS. CONTRACTOR MUST COORDINATE FINAL DEVICE LOCATIONS WITH ACTUAL INSTALLATION CONDITIONS.
6. PROVIDE WIRING IN METALLIC CONDUIT IN ACCORDANCE WITH NYC ELECTRICAL CODE (2011). CONDUIT MUST BE SIZED IN ACCORDANCE WITH MAXIMUM FILL REQUIREMENTS, AND MUST BE NO LESS THAN 3/4 IN.
7. FIRE ALARM CABLE SHALL BE FACTORY PAINTED RED. FIRE ALARM SYSTEM JUNCTION BOXES, ENCLOSURES, CABINETS, AND FIRE ALARM POWER DISCONNECTS SHALL BE PAINTED RED PER NYC ELECTRICAL CODE.
8. ALL CONTROL UNITS AND CABINETS MUST BE PROVIDED WITH METAL TAGS THAT ARE EMBOSSED WITH A CLIENT APPROVED SPECIFIC TAG IDENTIFIER.
9. FIRE ALARM SIGNALS SHALL BE TRANSMITTED TO THE SERVICE BUILDING FIRE ALARM PANEL.
10. FIRE ALARM CONTROL UNITS AND ASPIRATING DETECTORS MUST BE CONNECTED TO PRIMARY POWER CIRCUITS THAT ARE SUPPLEMENTED BY THE FACILITY EMERGENCY GENERATOR.
11. BATTERY SECONDARY POWER MUST BE BASED ON 24 HOURS STANDBY WITH 5 MINUTES OF ALARM PER NFPA 72.
12. ALL INITIATING, SIGNALING LINE AND NETWORK COMMUNICATION CIRCUITS MUST BE CLASS A. ALL NOTIFICATION CIRCUITS MUST BE A MINIMUM OF CLASS B.
13. ALL CIRCUITS ENTERING OR LEAVING A BUILDING MUST BE PROTECTED WITH A SURGE PROTECTION DEVICE. CIRCUITS FOR FIRE ALARM DEVICES DIRECTLY ATTACHED TO THE BUILDING EXTERIOR ARE AN EXCEPTION.
14. ALL ELECTRICAL EQUIPMENT AND METALLIC COMPONENTS SHALL BE BONDED AND GROUNDED ACCORDING TO NEW YORK CITY ELECTRICAL CODE ARTICLE 250, HITACHI GROUNDING GUIDELINES, SPECIFICATIONS, AND DETAILS.
15. CONTRACTOR TO PROVIDE GROUNDING DETAILS ON SHOP DRAWING SUBMITTALS.

FIRE SUPPRESSION SYSTEM RELEASING SYSTEM GENERAL NOTES:
1. PROVIDE SURGE PROTECTION DEVICE TO PROTECT POWER SUPPLY CIRCUITS TO THE FIRE ALARM CONTROL UNIT / AUTONOMOUS CONTROL UNIT AND RELEASING SERVICE FIRE ALARM CONTROL UNIT, INCLUDING SUBPANELS SUCH AS AMPLIFIERS OR NOTIFICATION APPLIANCE CIRCUIT, AND FIRE ALARM CIRCUITS LEAVING OR ENTERING THE BUILDING. DEVICES AND APPLIANCES MOUNTED DIRECTLY ON THE EXTERIOR OF THE BUILDING, SUCH AS WALL MOUNTED EXTERIOR NOTIFICATION APPLIANCES, DO NOT REQUIRE SUPPRESSORS. MOUNT SURGE SUPPRESSORS IN A SEPARATE ENCLOSURE, UNLESS IT IS UL LISTED OR FM APPROVED AND INSTALLED IN THE CONTROL UNIT BY THE FACTORY. WHEN PROTECTING A RELEASING SERVICE FIRE ALARM CONTROL UNIT, RELEASING MODULE, OR MONITOR MODULE INTEGRAL TO RELEASING OR STOPPING OF SUPPRESSION SYSTEMS, PROVIDE SURGE PROTECTION DEVICES MEETING REQUIREMENTS OF UL 1283 AND UL 1449.

NOTIFICATION DESIGN CRITERIA:
1. THE SYSTEM IS DESIGNED TO PROVIDE TOTAL EVACUATION VIA PUBLIC MODE OPERATION.

VISUAL DESIGN CRITERIA:
1. STROBE AND COMBINATION HORN/STROBE APPLIANCES, WHEN WALL MOUNTED, MUST BE LOCATED SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 80 IN. AND NOT GREATER THAN 96 IN. ABOVE THE FINISHED FLOOR.

INITIATING DEVICE NOTES:
1. PROVIDE REMOTE ALARM INDICATORS AND TEST SWITCHES FOR CONCEALED DUCT DETECTORS, OR DUCT DETECTORS LOCATED MORE THAN 15 FT AFF. MOUNT REMOTE ALARM INDICATORS AND TEST SWITCHES AT AN ACCESSIBLE LOCATION ON THE WALL.
2. MOUNT SMOKE DETECTORS ON THE BOTTOM OF THE CEILING/DECK (UNLESS NOTED OTHERWISE ON THE DRAWINGS).
3. LOCATE SMOKE DETECTORS MORE THAN 3 FT FROM AIR SUPPLY DIFFUSERS OR RETURN GRILLES.
4. THE OPERABLE PART OF MANUAL PULL STATIONS MUST NOT BE LESS THAN 42 IN AND NOT MORE THAN 4 FT ABOVE FINISHED FLOOR LEVEL, AND LOCATED WITHIN 5 FT OF EACH EXIT DOORWAY.

POST-FIRE SMOKE PURGE NOTES:
1. PER NYCBC SECTION 917, POST-FIRE SMOKE PURGE IS INTENDED FOR THE TIMELY RESTORATION OF OPERATIONS AND OVERHAUL ACTIVITIES ONCE A FIRE IS EXTINGUISHED. THESE SYSTEMS ARE NOT INTENDED OR DESIGNED AS LIFE SAFETY SYSTEMS AND ARE NOT REQUIRED TO MEET THE PROVISIONS OF NYC BC SECTION 909 (SMOKE CONTROL SYSTEMS).
2. CONTROL OF EACH SYSTEM SHALL BE MANUAL ONLY BY FDNY AND SHALL BE INTEGRAL TO THE SERVICE BUILDING RSFACU.
3. A GRAPHIC INDICATING THE PORTIONS OF THE BUILDING SERVED BY EACH POST-FIRE SMOKE PURGE SYSTEM SHALL BE PROVIDED.
4. SEE INPUT/OUTPUT MATRIX FOR SEQUENCE OF OPERATIONS.
5. SEE MECHANICAL DOCUMENTS, INCLUDED IN SEPARATE SUBMITTAL, FOR ADDITIONAL INFORMATION.

SERVICE BUILDING FIRE ALARM NOTES

1. SYSTEM DESCRIPTION
   - A. THIS SYSTEM CONSISTS OF BUILDING FIRE DETECTION, ALARM, ASPIRATING SMOKE DETECTION, PRE-ACTION SPRINKLER RELEASING SERVICE, AND CLEAN AGENT RELEASING SERVICE. THE RSFACU IS THE MAIN CONTROL AND REPORTING UNIT FOR THE FACILITY UNTO WHICH ALL OTHER CONTROL UNITS REPORT TO AND MUST BE LISTED FOR RELEASING SERVICE. A REMOTE ANNUNCIATOR IS LOCATED AT THE MAIN ENTRANCE. REFER TO PRE-ACTION SPRINKLER AND CLEAN AGENT PLANS INCLUDED IN SEPARATE PERMIT SUBMITTALS.
2. REMOTE FIRE ALARM CONTROL UNITS
   - A. A REMOTE FIRE ALARM CONTROL UNIT IS LOCATED WITHIN THE FIRE PUMP ENCLOSURE, STORAGE ENCLOSURE, AND THE RELAY ENCLOSURE. PROVIDE NETWORK COMMUNICATIONS TO THESE PANELS.
3. INITIATING DEVICES
   - A. PROVIDE MANUAL PULL STATIONS AT EACH EXTERIOR EXIT DOOR.
   - B. PROVIDE CLEAN AGENT MANUAL RELEASE STATIONS IN PROTECTED SPACES AS INDICATED ON PLANS.
   - C. PROVIDE CLEAN AGENT ABORT STATIONS IN PROTECTED SPACES AS INDICATED ON PLANS.
   - D. PROVIDE COMPLETE SPOT-TYPE COMBINATION SMOKE/HEAT DETECTION THROUGHOUT INCLUDING ABOVE CEILING AND BELOW RAISED FLOOR AS INDICATED ON PLANS. DETECTORS BELOW FLOORS MUST HAVE THEIR LOCATION LABELED AND BE ACCESSIBLE FOR TESTING AND MAINTENANCE.
   - E. PROVIDE A HEAT DETECTOR WITHIN THE BREAKROOM TO REDUCE FALSE ALARMS.
   - F. DUCT MOUNTED SMOKE DETECTORS MUST BE PROVIDED AS INDICATED FOR HVAC EQUIPMENT. DUCT SMOKE DETECTORS SHALL BE PROVIDED BY FIRE ALARM CONTRACTOR AND INSTALLED BY THE MECHANICAL CONTRACTOR AT LOCATIONS SHOWN ON MECHANICAL DRAWINGS INCLUDED IN SEPARATE SUBMITTAL.
   - G. PROVIDE AIR-SAMPLING SMOKE DETECTION BEHIND THE SECOND FLOOR EXTERIOR WALL AND DC HALL HVAC ROOM HVAC INTAKE LOUVERS AS INDICATED ON THE PLANS.
   - H. PROVIDE AIR-SAMPLING SMOKE DETECTION IN HVAC DUCTS AS INDICATED ON THE PLANS. DUCT INSTALLATION SHALL BE IN ACCORDANCE WITH VESDA MANUFACTURER'S INSTRUCTION.
   - I. PROVIDE PRE-ACTION VALVE RISER AND ASSOCIATED APPURTENANCES MONITORING AS INDICATED ON PLANS.
   - J. PROVIDE CLEAN AGENT SYSTEM MONITORING AS INDICATED ON PLANS.
4. RELEASING DEVICES
   - A. THE PRE-ACTION VALVE MUST BE RELEASED UPON ACTIVATION OF ONE OR MORE SMOKE DETECTORS AND ACTIVATION OF LOW AIR SIGNAL. TWO CONDITIONS MUST BE MET TO ACTIVATE THE PRE-ACTION RELEASE SOLENOID.
   - B. CLEAN AGENT MUST BE RELEASED UPON ACTIVATION OF TWO OR MORE SMOKE DETECTORS WITHIN THE PROTECTED SPACES OR ACTIVATION OF CLEAN AGENT MANUAL RELEASE STATION.
5. NOTIFICATION
   - A. GENERAL FIRE ALARM NOTIFICATION
     - a. REFER TO FIRE ALARM GENERAL NOTES
   - B. CLEAN AGENT NOTIFICATION
     - a. REFER TO CLEAN AGENT PLANS INCLUDED IN SEPARATE PERMIT SUBMITTAL FOR LOCATION OF CLEAN AGENT NOTIFICATION APPLIANCES.
     - b. CLEAN AGENT NOTIFICATION DEVICES MUST ACTIVATE INDEPENDENTLY FROM GENERAL FIRE ALARM NOTIFICATION DEVICES FOR THE PROTECTED SPACES THEY ARE WITHIN. UPON CLEAN AGENT PRE-DISCHARGE OR DISCHARGE EVENT WITHIN A PROTECTED SPACE, THE GENERAL FIRE ALARM NOTIFICATION DEVICES WITHIN THE PROTECTED SPACE MUST BE DEACTIVATED. UNDER NO CIRCUMSTANCES WILL A FIRE ALARM NOTIFICATION APPLIANCE AND A CLEAN AGENT NOTIFICATION APPLIANCE BE ACTIVE AT THE SAME TIME WITHIN A ROOM PROVIDED WITH A CLEAN AGENT FIRE EXTINGUISHING SYSTEM.
6. HAZARDOUS AREA DEVICES
   - A. WITHOUT EXCEPTION, ALL INITIATING AND NOTIFICATION DEVICES WITHIN BATTERY ROOMS MUST BE LISTED FOR USE WITHIN CLASS I DIVISION 2 HAZARDOUS LOCATIONS.

CONVERTER BUILDING FIRE ALARM NOTES

1. SYSTEM DESCRIPTION
   - A. THIS SYSTEM CONSISTS OF AN ASPIRATING SMOKE DETECTION SYSTEM. THE ASPIRATING SMOKE DETECTION UNITS MUST BE LOCATED AS SHOWN ON THE PLANS AND RISER DIAGRAM TO MINIMIZE SAMPLING PIPE LENGTH TO THE EXTENT POSSIBLE. AND MONITORED BY THE MAIN RSFACU, ALSO IN THE SERVICE BUILDING.
   - B. THE CONVERTER HALLS ARE UNOCCUPIED, UNACCESSIBLE, AND ACCESS CONTROLLED DURING NORMAL FACILITY OPERATIONS.
2. NOTIFICATION.
   - A. AUDIBLE AND VISUAL NOTIFICATION IS NOT PROVIDED WITHIN THE CONVERTER BUILDING.
3. ASPIRATING SMOKE DETECTION UNIT AND SAMPLING PIPE
   - A. PROVIDE ALL NECESSARY EQUIPMENT AND COMPONENTS TO CREATE A VESDANET NETWORK CONSISTING OF ALL VESDA AIR-SAMPLING DETECTORS WITH CONNECTION TO THE MAIN FIRE ALARM CONTROL PANEL IN THE SERVICE BUILDING.
   - B. EACH CONVERTER HALL INDICATED MUST HAVE AT LEAST ONE DEDICATED ASPIRATING SMOKE DETECTION SYSTEM.
   - C. THE ASPIRATING SMOKE DETECTOR UNIT MUST BE LOCATED OUTSIDE THE CONVERTER HALLS DUE TO ELECTROMAGNETIC INTERFERENCE (EMI).
   - D. SAMPLE PIPING SHALL BE LOCATED IN-LINE WITH AND ABOVE ELECTRICAL EQUIPMENT AS INDICATED ON THE PLANS, AND FASTENED TO BOTTOM OF THE STRUCTURE.
   - E. EACH DETECTION ZONE MUST HAVE A CONDENSATE DRAIN PHYSICALLY LOCATED OUTSIDE OF THE ASSOCIATED ROOM AND UPSTREAM OF THE ASPIRATING SMOKE DETECTOR UNIT.
   - F. EACH DETECTION ZONE MUST HAVE A TEST CONNECTION EXTENDED TO THE FLOOR LEVEL WITHIN THE ROOM TO FACILITATE MAINTENANCE AND REQUIRED TESTING DURING FACILITY DOWNTIME.
   - G. EACH DETECTION ZONE MUST HAVE AN ADDITIONAL TEST CONNECTION PHYSICALLY LOCATED OUTSIDE OF THE ASSOCIATE ROOM FOR SYSTEM TESTING DURING NORMAL FACILITY OPERATION. A CONDENSATE DRAIN MUST ALSO BE PROVIDED FOR EACH TEST CONNECTION AND PHYSICALLY LOCATED OUTSIDE OF THE ASSOCIATED CONVERTER HALL.
   - H. EACH ASPIRATING SMOKE DETECTION UNIT WILL BE MONITORED BY THE MAIN RSFACU LOCATED WITHIN THE SERVICE BUILDING AND UTILIZE THREE DETECTOR THRESHOLDS, AS IDENTIFIED IN THE MATRIX. REFER TO INPUT/OUTPUT MATRIX FOR ACTIONS.
   - I. TRANSPORT TIME SHALL NOT EXCEED 120 SECONDS PER NFPA 72. HOWEVER, SAMPLE AND EXHAUST PIPING LENGTHS SHALL BE KEPT TO A MINIMUM TO MINIMIZE TRANSPORT TIME TO THE EXTENT POSSIBLE.

RELAY ENCLOSURE FIRE ALARM NOTES

1. SYSTEM DESCRIPTION
   - A. THE SYSTEM CONSISTS OF BUILDING FIRE DETECTION, ALARM AND CLEAN AGENT RELEASING. A DEDICATED FIRE ALARM CONTROL UNIT MUST BE PROVIDED, NETWORKED TO THE MAIN FIRE ALARM CONTROL UNIT IN THE SERVICE BUILDING, AND LISTED FOR RELEASING SERVICE.
2. INITIATING DEVICES
   - A. PROVIDE COMPLETE COMBINATION SMOKE/HEAT DETECTION THROUGHOUT INCLUDING BELOW RAISED FLOORS.
   - B. PROVIDE CLEAN AGENT SYSTEM MONITORING AS INDICATED ON PLANS. INCLUDED IN SEPARATE SUBMITTAL.
3. RELEASING DEVICES
   - A. CLEAN AGENT MUST BE RELEASED UPON ACTIVATION OF TWO OR MORE COMBINATION SMOKE/HEAT DETECTORS.
4. NOTIFICATION
   - A. GENERAL FIRE ALARM NOTIFICATION
     - a. REFER TO FIRE ALARM GENERAL NOTES
   - B. CLEAN AGENT NOTIFICATION
     - a. REFER TO CLEAN AGENT PLANS INCLUDED IN SEPARATE PERMIT SUBMITTAL FOR LOCATION OF CLEAN AGENT NOTIFICATION APPLIANCES.
     - b. CLEAN AGENT NOTIFICATION DEVICES MUST ACTIVATE INDEPENDENTLY FROM GENERAL FIRE ALARM NOTIFICATION DEVICES FOR THE PROTECTED SPACES THEY ARE WITHIN. UPON CLEAN AGENT PRE-DISCHARGE OR DISCHARGE EVENT WITHIN A PROTECTED SPACE, THE GENERAL FIRE ALARM NOTIFICATION DEVICES WITHIN THE PROTECTED SPACE MUST BE DEACTIVATED. UNDER NO CIRCUMSTANCES WILL A FIRE ALARM NOTIFICATION APPLIANCE AND A CLEAN AGENT NOTIFICATION APPLIANCE BE ACTIVE AT THE SAME TIME WITHIN A ROOM PROVIDED WITH A CLEAN AGENT FIRE EXTINGUISHING SYSTEM.

STORAGE ENCLOSURE FIRE ALARM NOTES

1. SYSTEM DESCRIPTION
   - A. THE SYSTEM CONSISTS OF BUILDING FIRE DETECTION, ALARM AND WET PIPE SPRINKLER SYSTEM MONITORING. A DEDICATED FIRE ALARM CONTROL UNIT MUST BE PROVIDED AND NETWORKED TO THE MAIN FIRE ALARM CONTROL UNIT IN THE SERVICE BUILDING.
2. INITIATING DEVICES
   - A. PROVIDE A MANUAL PULL STATION AT EACH EXIT DOOR.
   - B. PROVIDE COMPLETE COMBINATION SMOKE/HEAT DETECTION THROUGHOUT.
   - C. MONITOR WATERFLOW AND ASSOCIATED TAMPER SWITCHES FOR THE WET PIPE SYSTEM.
3. NOTIFICATION
   - A. GENERAL FIRE ALARM NOTIFICATION
     - a. REFER TO FIRE ALARM GENERAL NOTES

MVS ENCLOSURE FIRE ALARM NOTES

1. SYSTEM DESCRIPTION
   - A. THE SYSTEM CONSISTS OF BUILDING FIRE DETECTION AND ALARM. FIRE ALARM DEVICES MUST BE CONNECTED TO THE MAIN RSFACU LOCATED WITHIN THE SERVICE BUILDING.
2. INITIATING DEVICES
   - A. PROVIDE A MANUAL PULL STATION AT EACH EXIT DOOR.
   - B. PROVIDE COMPLETE COMBINATION SMOKE/HEAT DETECTION THROUGHOUT.
3. NOTIFICATION
   - A. GENERAL FIRE ALARM NOTIFICATION
     - a. REFER TO FIRE ALARM GENERAL NOTES

FIRE PUMP ENCLOSURE FIRE ALARM NOTES

1. SYSTEM DESCRIPTION
   - A. THE SYSTEM CONSISTS OF BUILDING FIRE DETECTION AND ALARM, FIRE PUMP ENCLOSURE WET PIPE SPRINKLER SYSTEM MONITORING, FIRE WATER STORAGE TANK MONITORING, TRANSFORMER DELUGE VALVE ACTIVATION, AND FIRE PUMP MONITORING. A DEDICATED FIRE ALARM CONTROL UNIT MUST BE PROVIDED, NETWORKED TO THE MAIN FIRE ALARM CONTROL UNIT IN THE SERVICE BUILDING, AND LISTED FOR RELEASING SERVICE.
2. INITIATING DEVICES
   - A. PROVIDE A MANUAL PULL STATION AT EACH EXIT DOOR.
   - B. MONITOR FIRE PUMP ENCLOSURE FOR LOW TEMPERATURE.
   - C. MONITOR WATERFLOW AND ASSOCIATED TAMPER SWITCHES FOR THE WET PIPE SYSTEM SERVING THE FIRE PUMP ENCLOSURE.
   - D. MONITOR FIRE WATER STORAGE TANK FOR LOW TEMPERATURE AND LOW WATER LEVEL.
   - E. MONITOR TAMPER SWITCHES ASSOCIATED WITH THE FIRE PUMP SUCTION AND DISCHARGE PIPING.
   - F. MONITOR FIRE PUMP CONTROLLER SIGNALS AS INDICATED.
   - G. TRANSFORMER LINEAR HEAT DETECTION SHALL BE ATTACHED DIRECTLY TO DELUGE SPRINKLER PIPING.
3. RELEASING CIRCUITS
   - A. PROVIDE RELEASING CIRCUITS FOR THREE DELUGE VALVES SERVING THE TRANSFORMERS.
4. NOTIFICATION
   - A. REFER TO FIRE ALARM GENERAL NOTES

FIRE ALARM LEGEND

FACU	FIRE ALARM CONTROL UNIT
RSFACU	RELEASING SERVICE FIRE ALARM CONTROL UNIT
FPC	FIRE PUMP CONTROLLER
JPC	JOCKEY PUMP CONTROLLER
DACT	DIGITAL ALARM COMMUNICATOR TRANSMITTER
FAA	FIRE ALARM ANNUNCIATOR
SPD	SURGE PROTECTIVE DEVICE
AHU	AIR HANDLING UNIT
ASD	ASPIRATING SMOKE DETECTION CONTROL UNIT (VESDA)
	END-OF-LINE RESISTOR
F	MANUAL PULL STATION
CA	CLEAN AGENT MANUAL RELEASE STATION
CA	CLEAN AGENT ABORT STATION
AIM	ADDRESSABLE INPUT MODULE
AOM	ADDRESSABLE OUTPUT MODULE
CAR	CLEAN AGENT ELECTRIC RELEASE ACTUATOR
DAR	DELUGE ELECTRIC RELEASE ACTUATOR
PAR	PRE-ACTION ELECTRIC RELEASE ACTUATOR
WF	WATERFLOW SWITCH
PS	PRESSURE SWITCH
VS	VALVE SUPERVISORY SWITCH
HT	HEAT TRACE
LT	LOW TEMPERATURE SWITCH
LS	HIGH/LOW LEVEL SWITCH
LA	LOW AIR SWITCH
MD	MAINTENANCE DISCONNECT SWITCH
RL	RELAY MODULE
	HORN/STROBE - WALL MOUNT
C	HORN/STROBE - CEILING MOUNT
H	HEAT DETECTOR - LINE TYPE
H	HEAT DETECTOR
SH	COMBINATION HEAT AND SMOKE DETECTOR - SPOT TYPE
S	SMOKE DETECTOR - DUCT TYPE
S	FIRE/SMOKE DAMPER
	SPOT ELEVATION - HEIGHT ABOVE FINSIHED FLOOR
	SYMBOL MODIFIERS
ncd	CANDELA RATING
WP	WEATHER PROOF
EX	EXPLOSION PROOF
C	CEILING MOUNT
CA	CLEAN AGENT
D	DELUGE
PA	PRE-ACTION
ASD	ASPIRATING SMOKE DETECTOR (VESDA)
AC	ABOVE CEILING
BF	BELOW FLOOR
SUPPLY	SUPPLY DUCT
RETURN	RETURN DUCT

RATED WALL LEGEND

	2 HOUR FIRE BARRIER

NOTE: RATED WALLS ARE REFERENCED FROM ARCHITECTURAL PLANS. INCLUDED IN SEPARATE PERMIT SUBMITTAL.

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Poole Fire Protection
19910 West 161st Street
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913.829.8600 office ▲ 913.829.8686 fax

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SOWINSKI SULLIVAN
ARCHITECTURE+ENGINEERING

25 Mohawk Avenue
Sparta, NJ 07871

REV	DESCRIPTION	DRW BY	CHK BY	DATE
B	FINAL SUBMISSION	SAB	AWP	12/12/2022
A	INTERIM SUBMISSION	SAB	AWP	09/13/2022

Kiewit
470 Chestnut Ridge Rd # 2,
Woodcliff Lake, NJ 07677

Hitachi Energy
901 Main Campus Drive
Raleigh, North Carolina 27606

PROJECT

CHPE
Champlain Hudson Power Express

Astoria HVDC Converter Station

31-45 20th Avenue, Astoria, Queens NY 11105
Block #850 - Lot #310 - BIN #4624437

FIRE ALARM GENERAL NOTES AND LEGEND

DATE	12/12/2022
PROJECT NO	105121
DRAWING BY	S. BRINKMEYER
CHECKED BY	A. POOLE
DRAWING NO	FA-003.00
CADD FILE N0	3 of 18

Autodesk Docs://CHPE Astoria/CHA-KIE-111-00-M3-FP-001.rvt

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SHEET NOTES:

1. REFER TO MECHANICAL DRAWINGS INCLUDED IN SEPARATE SUBMITTAL FOR DETAILED POST-FIRE SMOKE PURGE EQUIPMENT SEQUENCE OF OPERATIONS.
2. AIR ASPIRATING SMOKE DETECTION THRESHOLDS ARE TO TO BE MEASURE AT THE VESDA UNIT

SYSTEM OUTPUTS

	SYSTEM INPUTS **ALARM CONDITIONS**	**RSFACU ANNUNCIATION**								**NOTIFICATION**										**AUXILIARY FUNCTIONS**												**AUXILIARY FUNCTIONS - OUTPUTS TO MACH SYSTEM**					
		A ACTIVATE COMMON ALARM SIGNAL INDICATOR	B ACTIVATE AUDIBLE ALARM SIGNAL	C ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	D ACTIVATE AUDIBLE SUPERVISORY SIGNAL	E ACTIVATE COMMON TROUBLE SIGNAL INDICATOR	F ACTIVATE AUDIBLE TROUBLE SIGNAL	G DISPLAY/PRINT CHANGE OF STATUS		H ACTIVATE FIRE ALARM AUDIBLE AND VISUAL NOTIFICATION DEVICES THROUGHOUT SERVICE BUILDING	I CLEAN AGENT - DE-ACTIVATE FIRE ALARM AUDIBLE AND VISUAL NOTIFICATION DEVICES IN PROTECTED SPACE	J CLEAN AGENT - ACTIVATE AGENT STROBES IN PROTECTED SPACE	K CLEAN AGENT - ACTIVATE AGENT PRE-ALARM HORN (60 BPM) IN PROTECTED SPACE	L CLEAN AGENT - ACTIVATE AGENT PRE-DISCHARGE HORN (120 BPM) IN PROTECTED SPACE	M CLEAN AGENT - ACTIVATE AGENT DISCHARGE HORN (CONTINUOUS) AND BEACONS FOR THE PROTECTED SPACE	N TRANSMIT FIRE ALARM SIGNAL TO SUPERVISING STATION (BY DEVICE TYPE)	O TRANSMIT GENERAL SUPERVISORY SIGNAL TO SUPERVISING STATION	P TRANSMIT GENERAL TROUBLE SIGNAL TO SUPERVISING STATION		Q SHUT DOWN ASSOCIATED SERVICE BUILDING AIR HANDLING UNIT	R CLOSE ASSOCIATED SERVICE BUILDING DAMPER(S)	S SHUT DOWN ASSOCIATED CONVERTER HALL HVAC EQUIPMENT	T CLOSE ASSOCIATED CONVERTER HALL HVAC DAMPER(S)	U CLEAN AGENT - START DISCHARGE DELAY TIMER	V CLEAN AGENT - ACTIVATE AGENT RELEASE ACTUATOR	W CLEAN AGENT - PREVENT ACTIVATION OF AGENT RELEASE ACTUATOR WHILE DEPRESSED	X CLEAN AGENT - ALLOW ACTIVATION OF AGENT RELEASE ACTUATOR	Y DISABLE RELEASE ACTUATOR (SOLENOID DISCONNECT)	Z DISABLE PA SYSTEM	AA OPEN PRE-ACTION SPRINKLER VALVE (ACTIVATE RELEASING SOLENOID)	AB TRANSMIT REFERENCE SIGNAL TO VESDANET HIGH-LEVEL INTERFACE	AC ACTIVATE POST-FIRE SMOKE PURGE FOR ASSOCIATED ZONE	AD ACTIVATE BLUE 'TEST MODE' BEACON	AE BYPASS MACH EMERGENCY TRIP SYSTEM A/B OUTPUTS		AF GENERAL FIRE ALARM SIGNAL	AG GENERAL FIRE SUPERVISORY SIGNAL	AH GENERAL FIRE TROUBLE SIGNAL	AI EMERGENCY TRIP SYSTEM A	AJ EMERGENCY TRIP SYSTEM B	AK FIRE ALARM SYSTEM IN TEST MODE
1	MANUAL PULL STATION	X	X					X		X						X										X										
2	HEAT/SMOKE DETECTOR - SPOT TYPE	X	X					X		X						X				X	X					X							X			
3	CONVERTER HALL AREA ASPIRATING SMOKE DETECTOR (0.043% OBS./FT.) - ACTION	X	X					X		X						X										X							X			
4	CONVERTER HALL AREA ASPIRATING SMOKE DETECTOR (0.061% OBS./FT.) - FIRE 1	X	X					X		X						X						X	X			X							X		X	X
5	VALVE HALL HVAC RETURN ASPIRATING SMOKE DETECTOR (0.043% OBS./FT.) - ACTION	X	X					X		X						X										X							X			
6	VALVE HALL HVAC RETURN ASPIRATING SMOKE DETECTOR (0.061% OBS./FT.) - FIRE 1	X	X					X		X						X						X	X			X							X		X	X
7	SMOKE DETECTOR AND LOW AIR IN PROTECTED AREA	X	X					X		X						X				X	X					X	X						X			
8	WATERFLOW/PRESSURE SWITCH	X	X					X		X						X				X	X					X							X			
9	CLEAN AGENT MANUAL RELEASE STATION IN PROTECTED SPACE	X	X					X		X		X			X	X				X	X					X							X			
10	CLEAN AGENT - ONE SMOKE DETECTOR IN PROTECTED SPACE	X	X					X		X	X	X	X			X				X	X					X							X			
11	CLEAN AGENT - TWO SMOKE DETECTORS IN PROTECTED SPACE	X	X					X		X	X	X		X		X				X	X					X							X			
12	CLEAN AGENT - COUNT DOWN TIMER EXPIRED	X	X					X		X					X					X	X					X							X			
13	ALARM SIGNAL FROM STORAGE ENCLOSURE FACU	X	X					X								X										X							X			
14	ALARM SIGNAL FROM RELAY ENCLOSURE RSFACU	X	X					X								X										X							X			
15	ALARM SIGNAL FROM FIRE PUMP ENCLOSURE RSFACU	X	X					X								X										X							X			
16	SMOKE DETECTOR - DUCT TYPE - CONVERTER HALL SUPPLY AIR	X	X					X								X																		X			
	SUPERVISORY CONDITIONS	A	B	C	D	E	F	G		H	I	J	K	L	M	N	O	P		Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
17	CONVERTER HALL AREA ASPIRATING SMOKE DETECTOR (0.012% OBS./FT.) - ALERT			X	X			X									X																		X				
18	VALVE HALL HVAC RETURN ASPIRATING SMOKE DETECTOR (0.012% OBS./FT.) - ALERT			X	X			X									X																		X				
19	CONTROL VALVE SUPERVISORY SWITCH			X	X			X									X																		X				
20	CLEAN AGENT MAINTENANCE DISCONNECT SWITCH			X	X			X									X											X						X				
21	PRE-ACTION MAINTENANCE DISCONNECT SWITCH			X	X			X									X											X						X				
22	CLEAN AGENT - DEPRESS ABORT STATION BUTTON			X	X			X									X									X								X				
23	CLEAN AGENT - RELEASE ABORT STATION BUTTON			X	X			X									X										X							X				
24	CLEAN AGENT - ACTUATOR REMOVED FROM STORAGE CONTAINER			X	X			X									X																	X				
25	BATTERY ROOM EXHAUST FAN FAILURE			X	X			X									X																	X				
26	SUPERVISORY SIGNAL FROM STORAGE ENCLOSURE FACU			X	X			X									X																	X				
27	SUPERVISORY SIGNAL FROM RELAY ENCLOSURE RSFACU			X	X			X									X																	X				
28	SUPERVISORY SIGNAL FROM FIRE PUMP ENCLOSURE RSFACU			X	X			X									X																	X				
29	HEAT TRACE SUPERVISORY			X	X			X									X																	X				
	TROUBLE CONDITIONS	A	B	C	D	E	F	G		H	I	J	K	L	M	N	O	P		Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
29	AC POWER FAILURE					X	X	X										X																		X				
30	LOW BATTERY					X	X	X										X																		X				
31	OPEN CIRCUIT					X	X	X										X																		X				
32	GROUND FAULT					X	X	X										X																		X				
33	NOTIFICATION APPLIANCE CIRCUIT SHORT					X	X	X										X																		X				
34	REMOTE POWER SUPPLY COMMON TROUBLE					X	X	X										X																		X				
35	ASPIRATING SMOKE DETECTION SYSTEM COMMON TROUBLE					X	X	X										X																		X				
36	TROUBLE SIGNAL FROM STORAGE ENCLOSURE FACU					X	X	X										X																		X				
37	TROUBLE SIGNAL FROM RELAY ENCLOSURE RSFACU					X	X	X										X																		X				
38	TROUBLE SIGNAL FROM FIRE PUMP ENCLOSURE RSFACU					X	X	X										X																		X				
39	ANY OTHER SYSTEM TROUBLE					X	X	X										X																		X				
	AUXILIARY CONDITIONS	A	B	C	D	E	F	G		H	I	J	K	L	M	N	O	P		Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
40	CONVERTER HALL MAKEUP AIR INLET REFERENCE ASPIRATING SMOKE DETECTOR																														X									
41	POST-FIRE SMOKE PURGE - DC HALL																															X								
42	POST-FIRE SMOKE PURGE - POSITIVE VALVE HALL																															X								
43	POST-FIRE SMOKE PURGE - NEGATIVE VALVE HALL																															X								
44	POST-FIRE SMOKE PURGE - REACTOR HALL																															X								
45	POST-FIRE SMOKE PURGE - SERVICE BUILDING																															X								
46	FIRE ALARM TEST MODE																																X	X						X

X PERFORM OPERATION/REPORT DEVICE STATUS

1 FA-004.00 INPUT/OUTPUT MATRIX - SERVICE BUILDING & CONVERTER BUILDING RSFACU NONE

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Poole Fire Protection
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PROJECT

CHPE
Champlain Hudson Power Express

Astoria HVDC Converter Station

31-45 20th Avenue, Astoria, Queens NY 11105
Block #850 - Lot #310 - BIN #4624437

INPUT/OUTPUT MATRIX

DATE	12/12/2022
PROJECT NO	105121
DRAWING BY	S. BRINKMEYER
CHECKED BY	A. POOLE
DRAWING NO	FA-004.00
CADD FILE N0	Autodesk Docs://CHPE Astoria/CHA-KIE-111-00-M3-FP-001.rvt
	4 of 18

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SYSTEM OUTPUTS

SYSTEM INPUTS — ALARM CONDITIONS	FACU ANNUNCIATION: A ACTIVATE COMMON ALARM SIGNAL INDICATOR	B ACTIVATE AUDIBLE ALARM SIGNAL	C ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	D ACTIVATE AUDIBLE SUPERVISORY SIGNAL	E ACTIVATE COMMON TROUBLE SIGNAL INDICATOR	F ACTIVATE AUDIBLE TROUBLE SIGNAL	G DISPLAY/PRINT CHANGE OF STATUS	NOTIFICATION: H ACTIVATE AUDIBLE NOTIFICATION DEVICES THROUGHOUT ENCLOSURE	I ACTIVATE VISUAL NOTIFICATION DEVICES THROUGHOUT ENCLOSURE	J TRANSMIT FIRE ALARM SIGNAL TO RSFACU IN SERVICE BLDG (BY DEVICE TYPE)	K TRANSMIT GENERAL SUPERVISORY SIGNAL TO RSFACU IN SERVICE BLDG	L TRANSMIT GENERAL TROUBLE SIGNAL TO RSFACU IN SERVICE BLDG	AUXILIARY NOTIFICATION: M ACTIVATE AUDIBLE NOTIFICATION DEVICES THROUGHOUT ENCLOSURE
MANUAL PULL STATION	X	X					X	X	X	X			
HEAT/SMOKE DETECTOR - SPOT TYPE	X	X					X	X	X	X			
WATERFLOW/PRESSURE SWITCH	X	X					X	X	X	X			
SUPERVISORY CONDITIONS	A	B	C	D	E	F	G	H	I	J	K	L	M
CONTROL VALVE SUPERVISORY SWITCH			X	X			X				X		
TROUBLE CONDITIONS	A	B	C	D	E	F	G	H	I	J	K	L	M
AC POWER FAILURE					X	X	X					X	
LOW BATTERY					X	X	X					X	
OPEN CIRCUIT					X	X	X					X	
GROUND FAULT					X	X	X					X	
NOTIFICATION APPLIANCE CIRCUIT SHORT					X	X	X					X	
REMOTE POWER SUPPLY COMMON TROUBLE					X	X	X					X	
ANY OTHER SYSTEM TROUBLE					X	X	X					X	
AUXILIARY CONDITIONS	A	B	C	D	E	F	G	H	I	J	K	L	M
POST FIRE SMOKE PURGE ACTIVATION													X

X PERFORM OPERATION/REPORT DEVICE STATUS

1 FA-005.00 INPUT/OUTPUT MATRIX - STORAGE ENCLOSURE FACU
NONE

SYSTEM OUTPUTS

SYSTEM INPUTS — ALARM CONDITIONS	RSFACU ANNUNCIATION: A ACTIVATE COMMON ALARM SIGNAL INDICATOR	B ACTIVATE AUDIBLE ALARM SIGNAL	C ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	D ACTIVATE AUDIBLE SUPERVISORY SIGNAL	E ACTIVATE COMMON TROUBLE SIGNAL INDICATOR	F ACTIVATE AUDIBLE TROUBLE SIGNAL	G DISPLAY/PRINT CHANGE OF STATUS	NOTIFICATION: H ACTIVATE AUDIBLE NOTIFICATION DEVICES THROUGHOUT ENCLOSURE	I ACTIVATE VISUAL NOTIFICATION DEVICES THROUGHOUT ENCLOSURE	J CLEAN AGENT - DE-ACTIVATE FIRE ALARM AUDIBLE AND VISUAL NOTIFICATION DEVICES IN PROTECTED SPACE	K CLEAN AGENT - ACTIVATE AGENT STROBES IN PROTECTED SPACE	L CLEAN AGENT - ACTIVATE AGENT PRE-ALARM HORN (60 BPM) IN PROTECTED SPACE	M CLEAN AGENT - ACTIVATE AGENT PRE-DISCHARGE HORN (120 BPM) IN PROTECTED SPACE	N CLEAN AGENT - ACTIVATE AGENT DISCHARGE HORN (CONTINUOUS) IN PROTECTED SPACE	O TRANSMIT FIRE ALARM SIGNAL TO SERVICE BUILDING MAIN RSFACU (BY BUILDING & DEVICE TYPE)	P TRANSMIT GENERAL SUPERVISORY SIGNAL TO SERVICE BUILDING MAIN RSFACU	Q TRANSMIT GENERAL TROUBLE SIGNAL TO SERVICE BUILDING MAIN RSFACU	AUXILIARY FUNCTIONS: R SHUT DOWN ALL AIR HANDLING UNITS	S CLOSE ALL DAMPER(S)	T CLEAN AGENT - START DISCHARGE DELAY TIMER	U CLEAN AGENT - ACTIVATE AGENT RELEASE ACTUATOR	V CLEAN AGENT - PREVENT ACTIVATION OF AGENT RELEASE ACTUATOR WHILE DEPRESSED	W CLEAN AGENT - ALLOW ACTIVATION OF AGENT RELEASE ACTUATOR	X DISABLE RELEASE ACTUATOR (SOLENOID DISCONNECT)
1 MANUAL PULL STATION	X	X					X	X								X									
2 CLEAN AGENT MANUAL RELEASE STATION IN PROTECTED SPACE	X	X					X	X			X	X													
3 CLEAN AGENT - ONE HEAT/SMOKE DETECTOR IN PROTECTED SPACE	X	X					X	X			X	X	X												
4 CLEAN AGENT - TWO HEAT/SMOKE DETECTORS IN PROTECTED SPACE	X	X					X	X			X	X		X											
5 CLEAN AGENT - COUNT DOWN TIMER EXPIRED	X	X					X	X							X										
SUPERVISORY CONDITIONS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	
6 CLEAN AGENT MAINTENANCE DISCONNECT SWITCH			X	X			X									X								X	
7 CLEAN AGENT - DEPRESS ABORT STATION BUTTON			X	X			X									X						X			
8 CLEAN AGENT - RELEASE ABORT STATION BUTTON			X	X			X									X							X		
9 CLEAN AGENT - ACTUATOR REMOVED FROM STORAGE CONTAINER			X	X			X									X									
TROUBLE CONDITIONS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	
10 AC POWER FAILURE					X	X	X										X								
11 LOW BATTERY					X	X	X										X								
12 OPEN CIRCUIT					X	X	X										X								
13 GROUND FAULT					X	X	X										X								
14 NOTIFICATION APPLIANCE CIRCUIT SHORT					X	X	X										X								
15 REMOTE POWER SUPPLY COMMON TROUBLE					X	X	X										X								
16 ANY OTHER SYSTEM TROUBLE					X	X	X										X								

X PERFORM OPERATION/REPORT DEVICE STATUS

2 FA-005.00 INPUT/OUTPUT MATRIX - RELAY ENCLOSURE RSFACU
NONE

SYSTEM OUTPUTS

SYSTEM INPUTS — ALARM CONDITIONS	FACU ANNUNCIATION: A ACTIVATE COMMON ALARM SIGNAL INDICATOR	B ACTIVATE AUDIBLE ALARM SIGNAL	C ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	D ACTIVATE AUDIBLE SUPERVISORY SIGNAL	E ACTIVATE COMMON TROUBLE SIGNAL INDICATOR	F ACTIVATE AUDIBLE TROUBLE SIGNAL	G DISPLAY/PRINT CHANGE OF STATUS	NOTIFICATION: H ACTIVATE AUDIBLE NOTIFICATION DEVICES THROUGHOUT BUILDING	I ACTIVATE VISUAL NOTIFICATION DEVICES THROUGHOUT BUILDING	J TRANSMIT FIRE ALARM SIGNAL TO RSFACU IN SERVICE BLDG (BY DEVICE TYPE)	K TRANSMIT GENERAL SUPERVISORY SIGNAL TO RSFACU IN SERVICE BLDG	L TRANSMIT GENERAL TROUBLE SIGNAL TO RSFACU IN SERVICE BLDG	AUXILIARY FUNCTIONS: M OPEN DELUGE SPRINKLER VALVE (ACTIVATE RELEASING SOLENOID)
1 MANUAL ALARM PULL STATION	X	X					X	X	X	X			
2 HEAT/SMOKE DETECTOR - SPOT TYPE	X	X					X	X	X	X			
3 LINEAR HEAT DETECTOR IN PROTECTED ZONE - DELUGE RELEASE	X	X					X	X	X	X			X
4 WATERFLOW/PRESSURE SWITCH	X	X					X	X	X	X			
SUPERVISORY CONDITIONS	A	B	C	D	E	F	G	H	I	J	K	L	M
5 CONTROL VALVE SUPERVISORY SWITCH			X	X			X				X		
6 DELUGE SUPERVISED DISCONNECT SWITCH			X	X			X				X		
7 FIRE PUMP RUNNING			X	X			X				X		
8 DIESEL FIRE PUMP NOT IN AUTOMATIC MODE			X	X			X				X		
9 WATER STORAGE TANK LOW TEMPERATURE SWITCH			X	X			X				X		
10 WATER STORAGE TANK LOW WATER LEVEL SWITCH			X	X			X				X		
11 WATER STORAGE TANK HIGH WATER LEVEL SWITCH			X	X			X				X		
12 DIESEL FUEL TANK LOW LEVEL			X	X			X				X		
13 HEAT TRACE SUPERVIOSRY			X	X			X				X		
TROUBLE CONDITIONS	A	B	C	D	E	F	G	H	I	J	K	L	M
14 AC POWER FAILURE					X	X	X					X	
15 LOW BATTERY					X	X	X					X	
16 OPEN CIRCUIT					X	X	X					X	
17 GROUND FAULT					X	X	X					X	
18 NOTIFICATION APPLIANCE CIRCUIT SHORT					X	X	X					X	
19 REMOTE POWER SUPPLY COMMON TROUBLE					X	X	X					X	
20 FIRE PUMP CONTROLLER COMMON TROUBLE					X	X	X					X	
21 ANY OTHER SYSTEM TROUBLE					X	X	X					X	

X PERFORM OPERATION/REPORT DEVICE STATUS

3 FA-005.00 INPUT/OUTPUT MATRIX - FIRE PUMP ENCLOSURE FACU
NONE

SHEET NOTES:

1. REFER TO MECHANICAL DRAWINGS INCLUDED IN SEPARATE SUBMITTAL FOR DETAILED POST-FIRE SMOKE PURGE EQUIPMENT SEQUENCE OF OPERATIONS.

ISSUED FOR PERMIT

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PROJECT

CHPE
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31-45 20th Avenue, Astoria, Queens NY 11105
Block #850 - Lot #310 - BIN #4624437

INPUT/OUTPUT MATRIX

STATE OF NEW JERSEY — WILLIAM SULLIVAN — 102980 — LICENSED PROFESSIONAL ENGINEER
12/12/22

DATE	12/12/2022
PROJECT NO	105121
DRAWING BY	S. BRINKMEYER
CHECKED BY	A. POOLE
DRAWING NO	FA-005.00
CADD FILE N0	5 of 18

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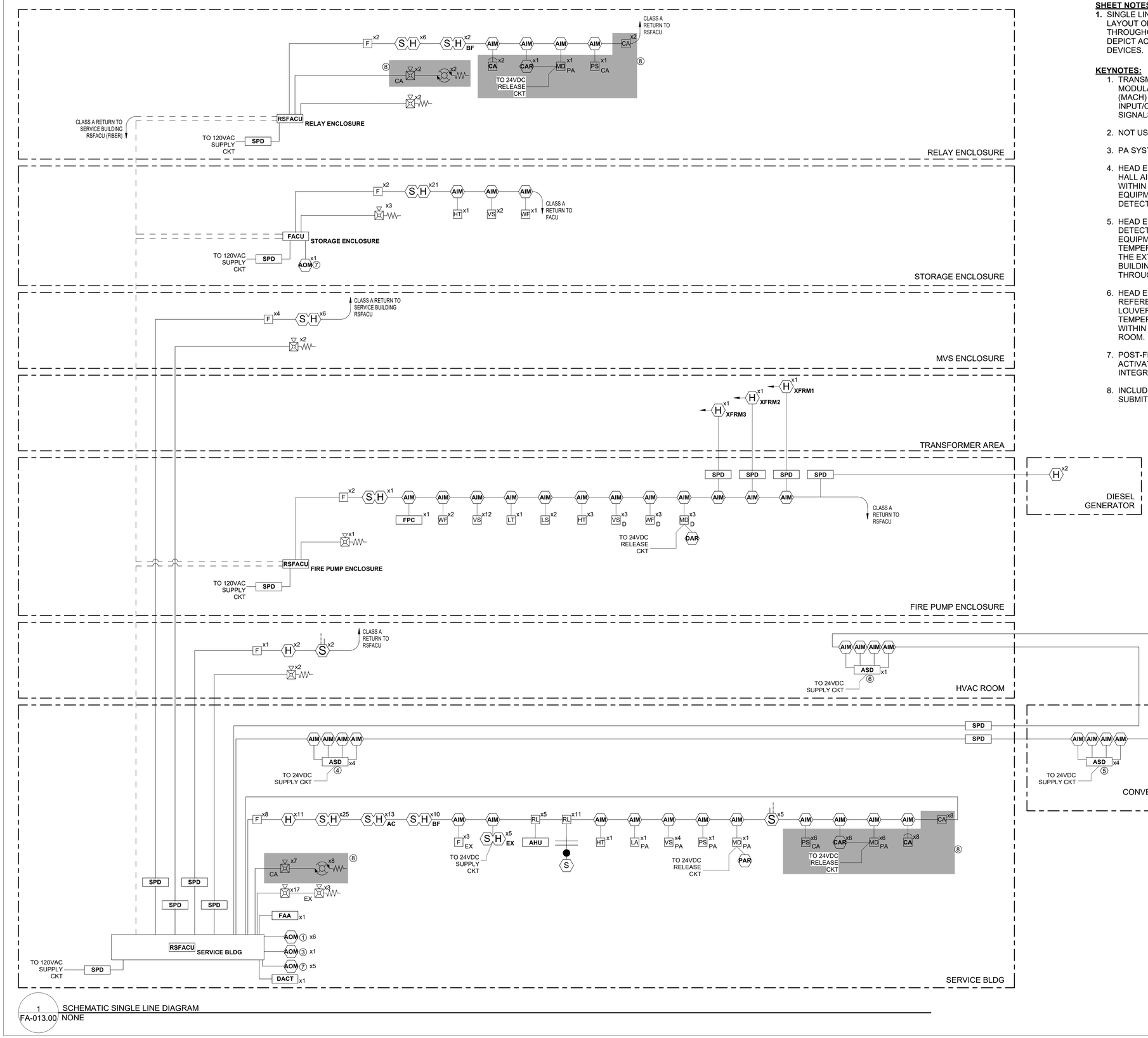

SHEET NOTES:

1. SINGLE LINE DIAGRAM IS TO SHOW SCHEMATIC LAYOUT OF DEVICES AND EQUIPMENT THROUGHOUT ALL STRUCTURES AND DOES NOT DEPICT ACTUAL QUANTITY OF INDIVIDUAL DEVICES.

KEYNOTES:

1. TRANSMIT SIGNALS TO HITACHI'S ON-SITE MODULAR ADVANCED CONTROL FOR HVDC (MACH) SYSTEM VIA CONTACT RELAYS. SEE INPUT/OUTPUT MATRIX FOR REQUIRED SIGNALS.
2. NOT USED
3. PA SYSTEM OVERRIDE.
4. HEAD END EQUIPMENT IS FOR CONVERTER HALL AIR SAMPLING SMOKE DETECTION WITHIN THE RETURN SIDE OF THE HVAC EQUIPMENT AND AIR SAMPLING REFERENCE DETECTION ON MAKEUP AIR LOUVERS.
5. HEAD END EQUIPMENT IS FOR AIR SAMPLING DETECTION WITHIN THE CONVERTER HALLS. EQUIPMENT IS LOCATED OUTSIDE WITHIN TEMPERATURE CONTROLLED CABINETS ON THE EXTERIOR WALLS OF THE CONVERTER BUILDING HALLS. CABLING **SHALL NOT** BE RUN THROUGH THE CONVERTER HALLS.
6. HEAD END EQUIPMENT IS FOR AIR SAMPLING REFERENCE DETECTION ON MAKEUP AIR LOUVERS. EQUIPMENT IS LOCATED WITHIN TEMPERATURE CONTROLLED CABINETS WITHIN THE CONVERTER BUILDING HVAC ROOM.
7. POST-FIRE SMOKE PURGE EQUIPMENT ACTIVATION. MANUAL CONTROLS SHALL BE INTEGRAL TO RSFACU.
8. INCLUDED IN SEPARATE CLEAN AGENT PERMIT SUBMITTAL.

ISSUED FOR PERMIT

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FIRE ALARM RISER DIAGRAM

DATE	12/12/2022
PROJECT NO	105121
DRAWING BY	S. BRINKMEYER
CHECKED BY	A. POOLE
DRAWING NO	FA-006.00
CADD FILE NO	Autodesk Docs://CHPE Astoria/CHA-KE-111-00-M3-FP-001.rvt
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1 SCHEMATIC SINGLE LINE DIAGRAM
FA-013.00 NONE

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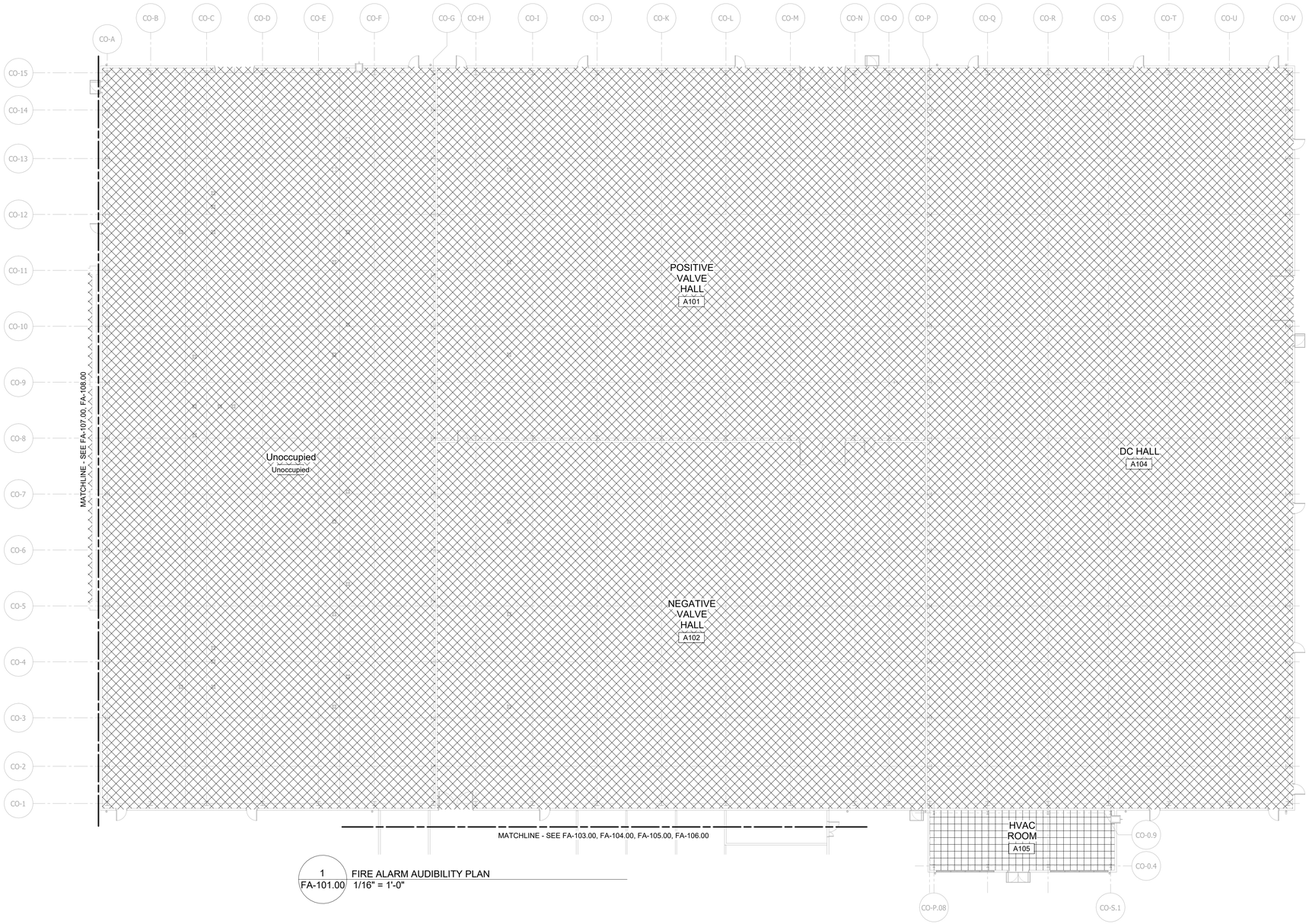
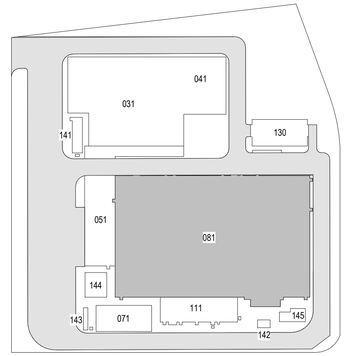


1 FA-101.00 FIRE ALARM AUDIBILITY PLAN
1/16" = 1'-0"

AUDIBILITY HATCH LEGEND	
	FIRE ALARM NOTIFICATION NOT REQUIRED
	91dB AMBIENT SPL 106dB EXPECTED SPL

ISSUED FOR PERMIT



KEY PLAN
N.T.S.

PLAN NORTH

Poole Fire Protection
19910 West 161st Street
Olathe, KS 66062
913.829.8600 office ▲ 913.829.8686 fax

19910 W. 161st STREET
OLATHE, KS. 66062

SOWINSKI SULLIVAN
ARCHITECTURE + ENGINEERING

25 Mohawk Avenue
Sparta, NJ 07871

REV	DESCRIPTION	DRW BY	CHK BY	DATE
B	FINAL SUBMISSION	AWP	SAB	12/12/2022
A	INTERIM SUBMISSION	AWP	SAB	09/13/2022

Kiewit
470 Chestnut Ridge Rd # 2,
Woodcliff Lake, NJ 07677

Hitachi Energy
901 Main Campus Drive
Raleigh, North Carolina 27606

TRUE NORTH
PLAN NORTH
2' 0 8' 16' 32'

PROJECT

CHPE
Champlain Hudson Power Express

Astoria HVDC Converter Station

31-45 20th Avenue, Astoria, Queens NY 11105
Block #850 - Lot #310 - BIN #4624437

CONVERTER BUILDING - FIRE ALARM AUDIBILITY PLAN

DATE	12/12/2022
PROJECT NO	105121
DRAWING BY	S. BRINKMEYER
CHECKED BY	A. POOLE
DRAWING NO	FA-101.00
CADD FILE N0	7 of 18

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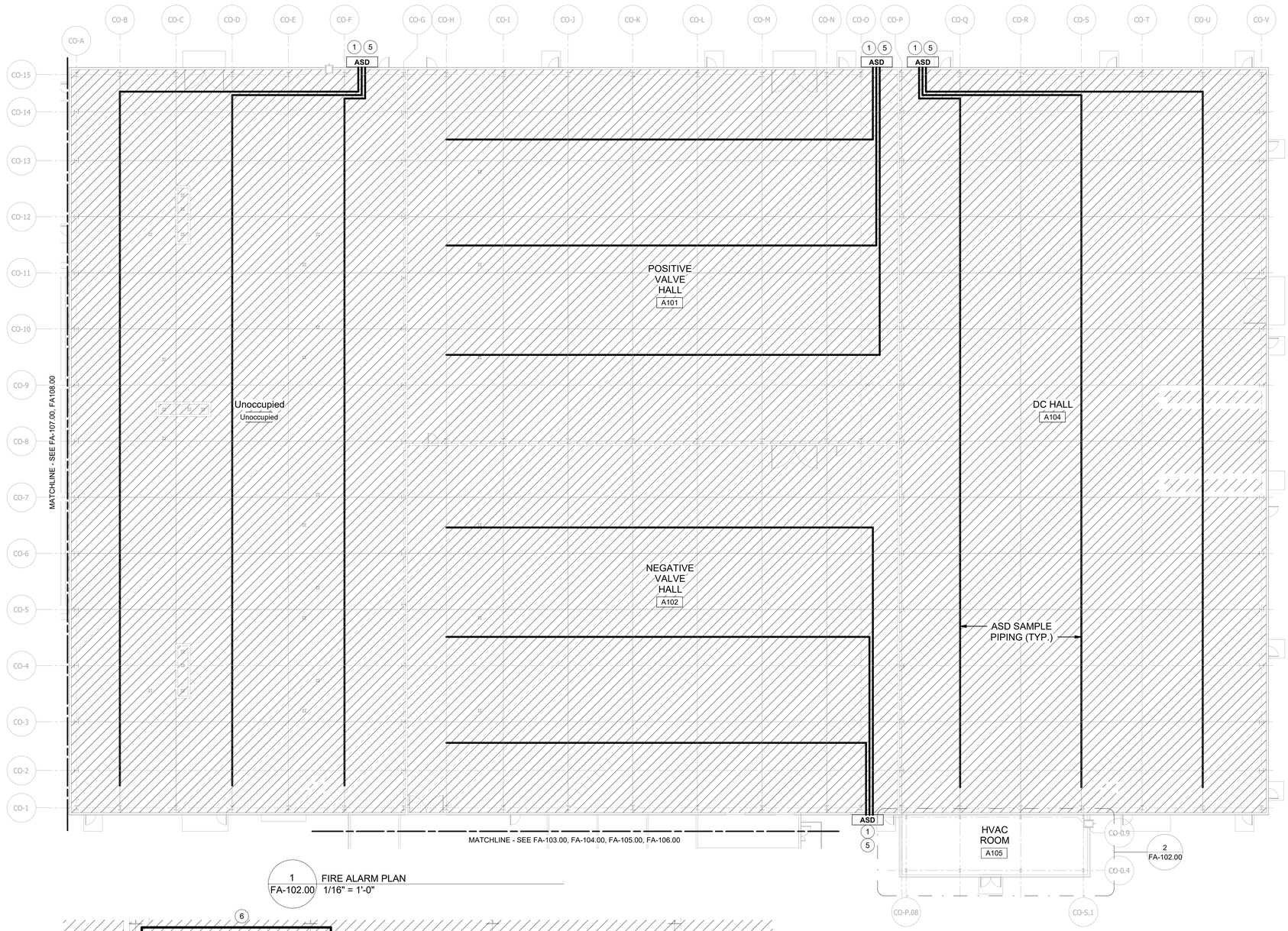
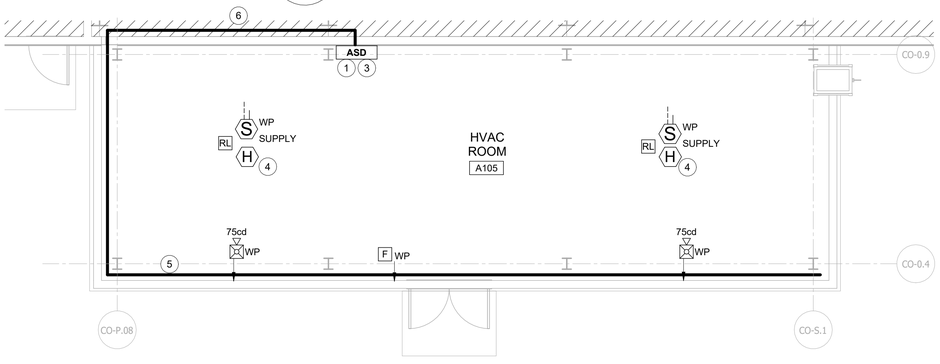


1 FA-102.00 FIRE ALARM PLAN 1/16" = 1'-0"



2 FA-102.00 HVAC ROOM ENLARGED FIRE ALARM PLAN 3/16" = 1'-0"

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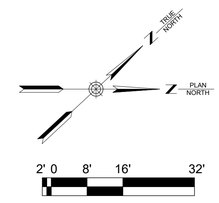
FIRE ALARM HATCH LEGEND

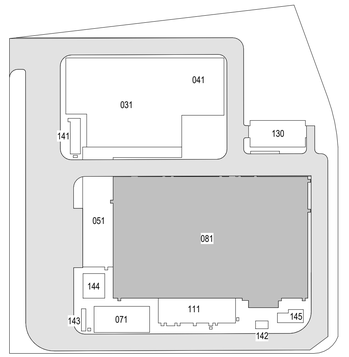
	VESDA ASPIRATING SMOKE DETECTION THROUGHOUT

KEYNOTES

1. PROVIDE AIR SAMPLING CONTROL UNIT WITHIN AN OUTDOOR NEMA 4 TEMPERATURE-CONTROLLED CABINET.
2. LINEAR HEAT DETECTION CIRCUIT SHALL BE MONITORED BY RSFACU LOCATED WITHIN FIRE PUMP ENCLOSURE. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS INCLUDED IN SEPARATE PERMIT APPLICATION.
3. AIR-SAMPLING DETECTOR SHALL ACT AS A REFERENCE DETECTOR TO THE DC HALL AIR-SAMPLING DETECTORS, AND SHALL BE CONNECTED TO THOSE DETECTORS VIA A VESDA-NET CIRCUIT.
4. HEAT DETECTORS SHALL BE INSTALLED AT BOTTOM OF ROOF DECK.
5. SAMPLING PIPE ROUTING SHOWN IS SCHEMATIC IN NATURE. ACTUAL PIPE ROUTING AND SAMPLE POINTS SHALL BE DETERMINED BASED ON ACTUAL EQUIPMENT LOCATIONS UNIQUE TO EACH CONVERTER HALL. FINAL CONFIGURATION SHALL BE VERIFIED USING MANUFACTURER-SPECIFIC SOFTWARE TO CONFIRM TRANSPORT TIME AND DETECTION THRESHOLD PERFORMANCE CRITERIA.
6. SAMPLE PIPING SHOWN TO RUN THROUGH DC HALL TO WARM SAMPLING AIR PRIOR TO ENTERING CONTROL UNIT.



ISSUED FOR PERMIT



KEY PLAN N.T.S.

Poole Fire Protection
19910 West 161st Street
Olathe, KS 66062
913.829.8600 office ▲ 913.829.8686 fax

19910 W. 161st STREET
OLATHE, KS. 66062

SOWINSKI SULLIVAN
ARCHITECTURE + ENGINEERING

25 Mohawk Avenue
Sparta, NJ 07871

REV	DESCRIPTION	DRW BY	CHK BY	DATE
B	FINAL SUBMISSION	AWP	SAB	12/12/2022
A	INTERIM SUBMISSION	AWP	SAB	09/13/2022

Kiewit
470 Chestnut Ridge Rd # 2,
Woodcliff Lake, NJ 07677

Hitachi Energy
901 Main Campus Drive
Raleigh, North Carolina 27606

PROJECT

CHPE
Champlain Hudson Power Express

Astoria HVDC Converter Station

31-45 20th Avenue, Astoria, Queens NY 11105
Block #850 - Lot #310 - BIN #4624437

CONVERTER BUILDING - FIRE ALARM PLAN

DATE	12/12/2022
PROJECT NO	105121
DRAWING BY	S. BRINKMEYER
CHECKED BY	A. POOLE
DRAWING NO	FA-102.00
CADD FILE N0	8 of 18

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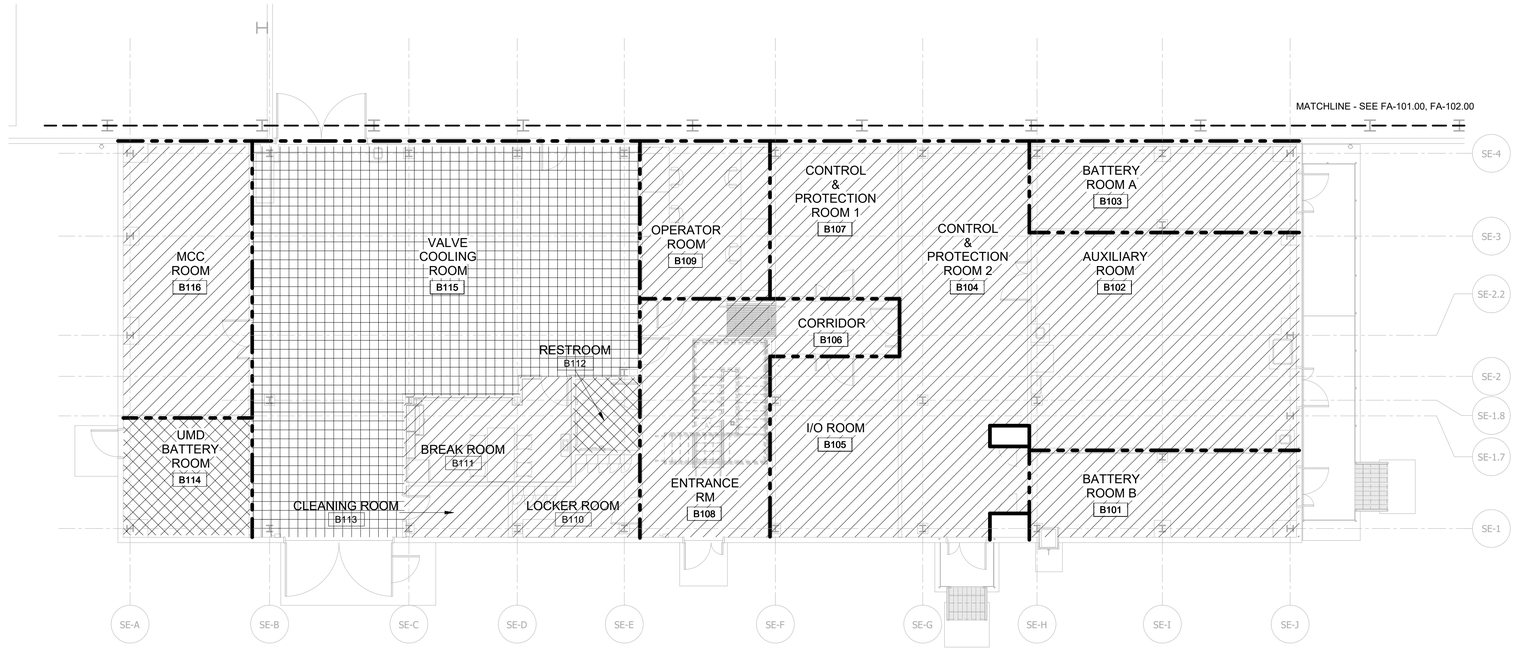
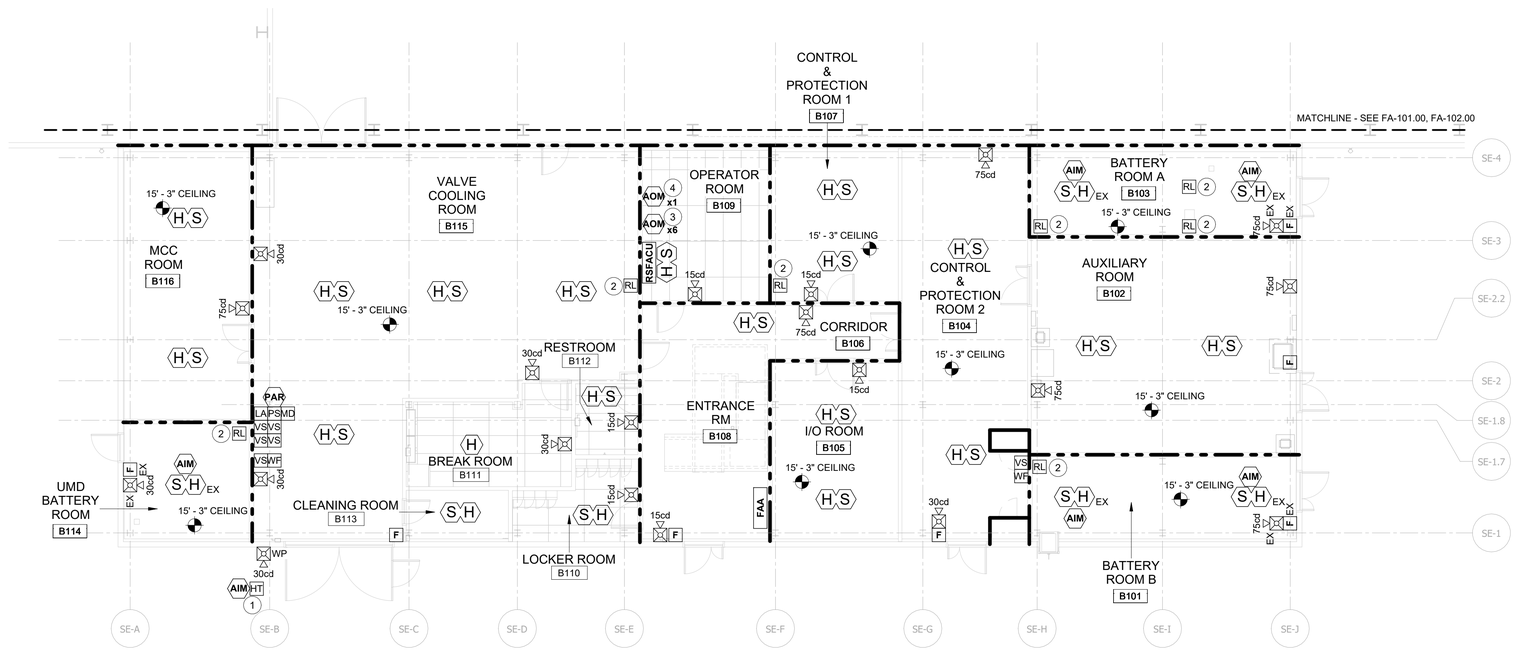


1 FA-103.00 AUDIBILITY PLAN - FIRST FLOOR 1/8" = 1'-0"



2 FA-103.00 FIRE ALARM PLAN - FIRST FLOOR 1/8" = 1'-0"

AUDIBILITY HATCH LEGEND

	30dB AMBIENT SPL 45dB EXPECTED SPL
	54dB AMBIENT SPL 69dB EXPECTED SPL
	91dB AMBIENT 106dB EXPECTED SPL

RATED WALL LEGEND

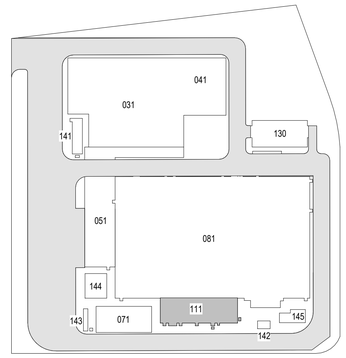
	2 HOUR FIRE BARRIER

NOTE: RATED WALLS ARE REFERENCED FROM ARCHITECTURAL PLANS. INCLUDED IN SEPARATE PERMIT SUBMITTAL.

KEYNOTES

1 EACH PIPE SHALL BE ON ITS OWN HEAT TRACING CIRCUIT AND INCLUDE ASSOCIATED TANK VALVE(S). REFER TO MECHANICAL DRAWINGS INCLUDED IN SEPARATE PERMIT SUBMITTAL.
2 RELAY MODULE FOR FIRE/SMOKE DAMPER CLOSURE. COORDINATE LOCATION WITH MECHANICAL DRAWINGS INCLUDED IN SEPARATE PERMIT SUBMITTAL.
3 MACH SYSTEM INTERFACE. SEE INPUT/OUTPUT MATRIX.
4 PA SYSTEM OVERRIDE. SEE INPUT/OUTPUT MATRIX.

ISSUED FOR PERMIT



KEY PLAN N.T.S.

PLAN NORTH

Poole Fire Protection
19910 West 161st Street
Olathe, KS 66062
913.829.8600 office ▲ 913.829.8686 fax

19910 W. 161st STREET
OLATHE, KS. 66062

SOWINSKI SULLIVAN
ARCHITECTURE+ENGINEERING

25 Mohawk Avenue
Sparta, NJ 07871

REV	DESCRIPTION	DRW BY	CHK BY	DATE
B	FINAL SUBMISSION	SAB	AWP	12/12/2022
A	INTERIM SUBMISSION	SAB	AWP	09/13/2022

Kiewit
470 Chestnut Ridge Rd # 2,
Woodcliff Lake, NJ 07677

Hitachi Energy
901 Main Campus Drive
Raleigh, North Carolina 27606

TRUE NORTH
PLAN NORTH
1' 0 4' 8' 16'

PROJECT

CHPE
Champlain Hudson Power Express

Astoria HVDC Converter Station

31-45 20th Avenue, Astoria, Queens NY 11105
Block #850 - Lot #310 - BIN #4624437

SERVICE BUILDING - FIRE ALARM PLAN

DATE	12/12/2022
PROJECT NO	105121
DRAWING BY	S. BRINKMEYER
CHECKED BY	A. POOLE
DRAWING NO	FA-103.00
CADD FILE N0	Autodesk Docs://CHPE Astoria/CHA-KIE-111-00-M3-FP-001.rvt
	9 of 18

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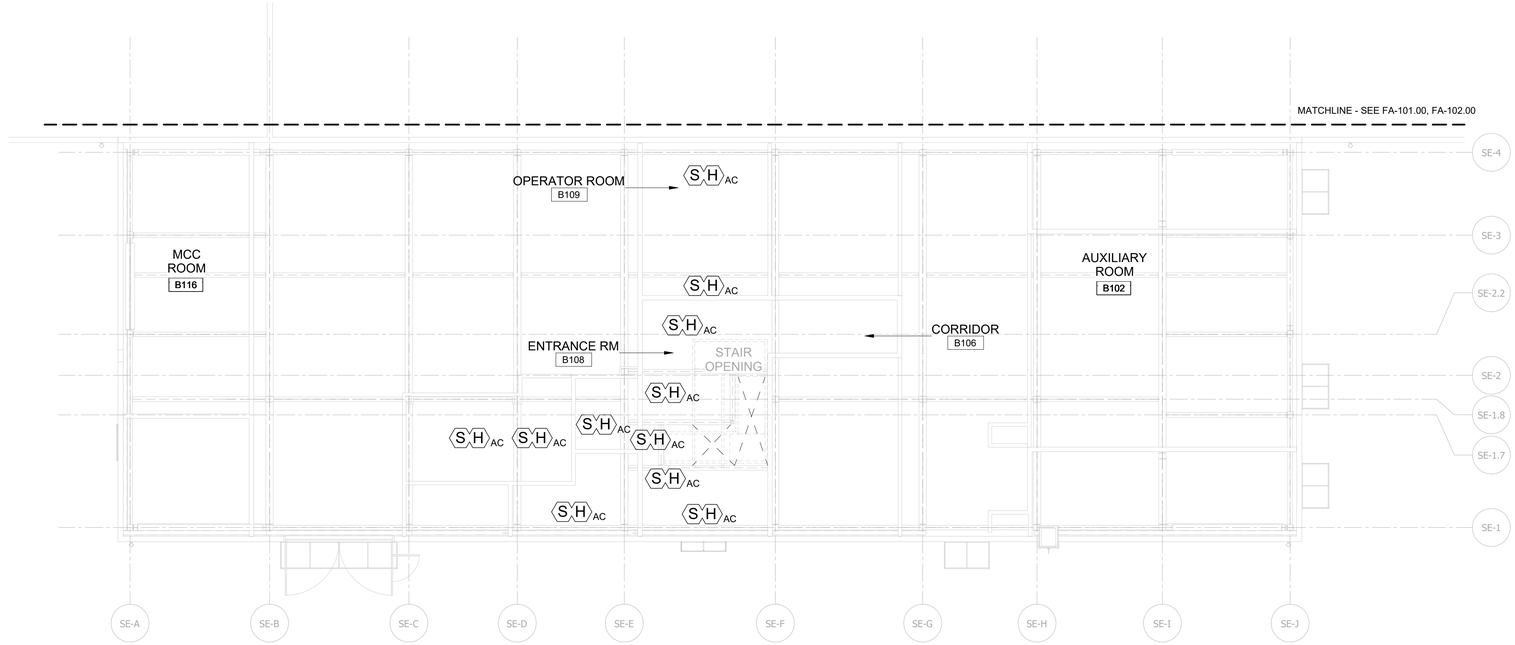
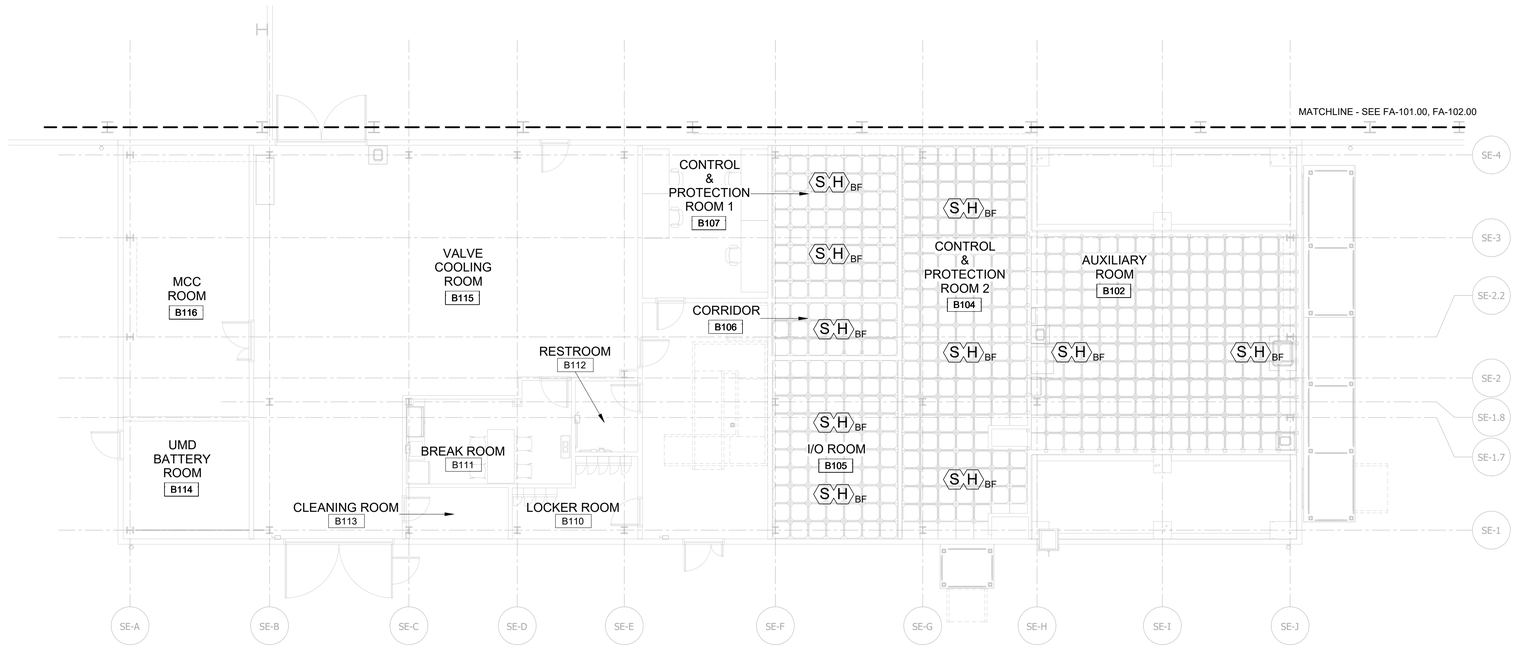


1 FA-104.00 FIRE ALARM PLAN - FIRST FLOOR ABOVE CEILING
1/8" = 1'-0"



2 FA-104.00 FIRE ALARM PLAN - FIRST FLOOR BELOW RAISED FLOOR
1/8" = 1'-0"

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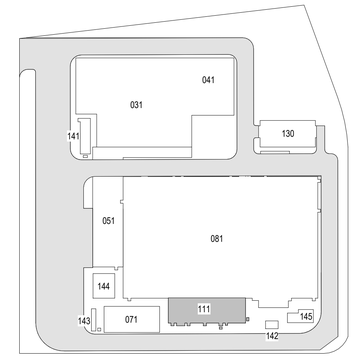
ISSUED FOR PERMIT



Poole Fire Protection
19910 West 161st Street
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913.829.8600 office ▲ 913.829.8686 fax

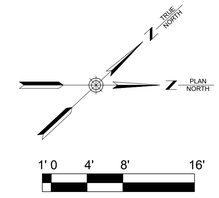
19910 W. 161st STREET
OLATHE, KS. 66062

SOWINSKI SULLIVAN
ARCHITECTURE + ENGINEERING
25 Mohawk Avenue
Sparta, NJ 07871

REV	DESCRIPTION	DRW BY	CHK BY	DATE
B	FINAL SUBMISSION	SAB	AWP	12/12/2022
A	INTERIM SUBMISSION	SAB	AWP	09/13/2022

Kiewit
470 Chestnut Ridge Rd # 2,
Woodcliff Lake, NJ 07677

Hitachi Energy
901 Main Campus Drive
Raleigh, North Carolina 27606



PROJECT

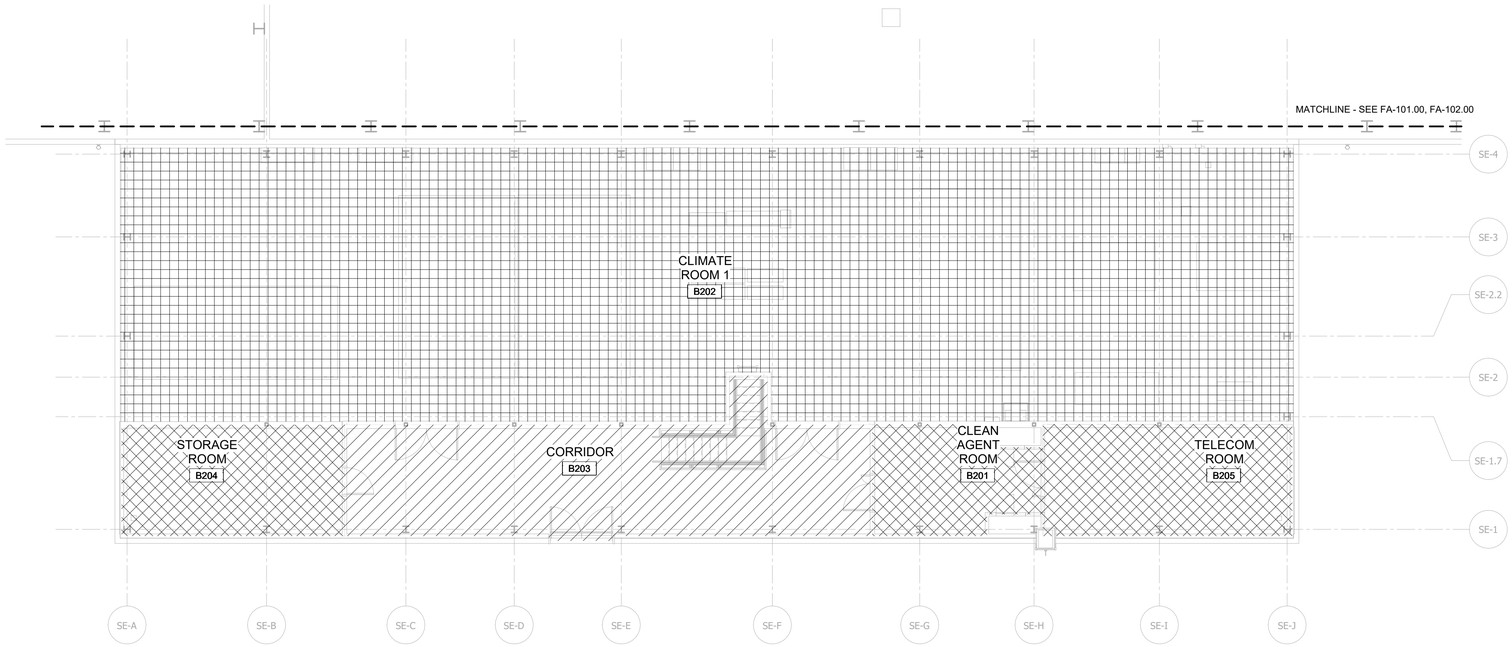
CHPE
Champlain Hudson Power Express

Astoria HVDC Converter Station

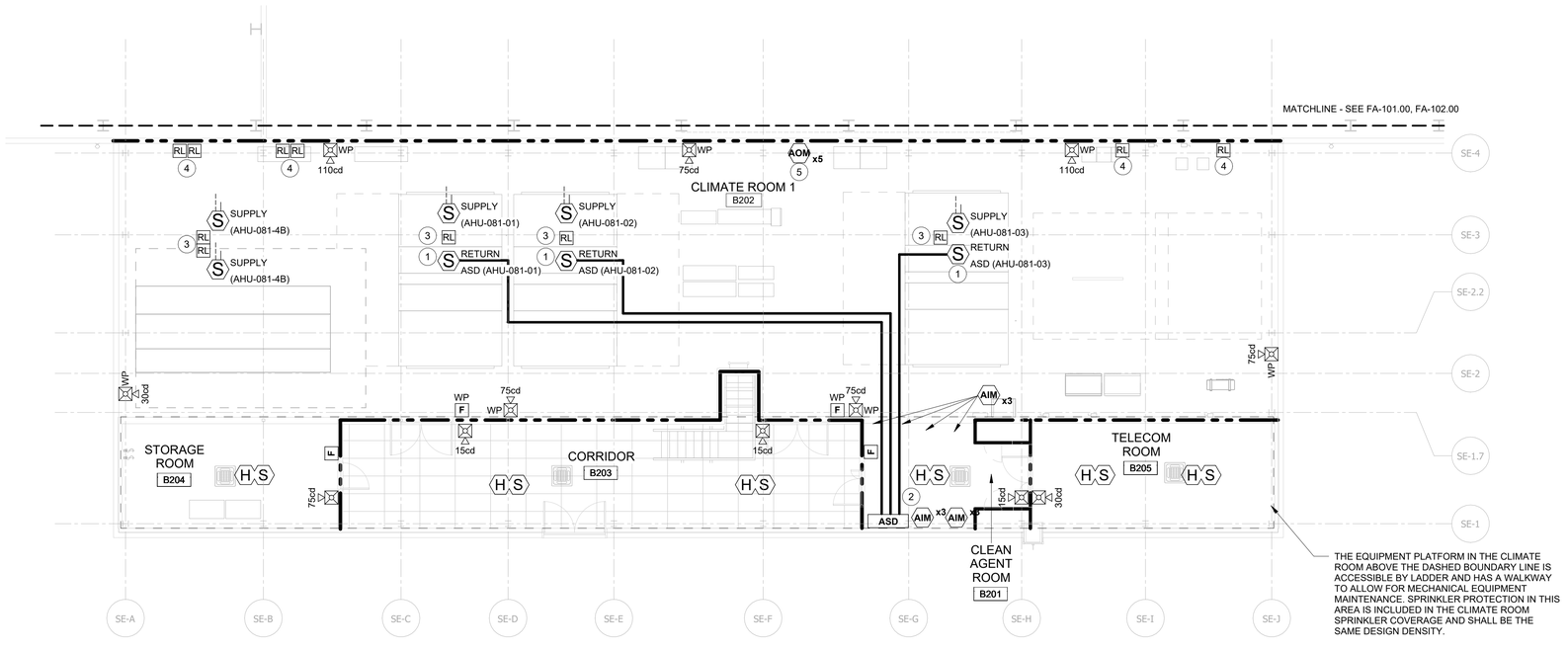
31-45 20th Avenue, Astoria, Queens NY 11105
Block #850 - Lot #310 - BIN #4624437

SERVICE BUILDING - FIRE ALARM PLAN

DATE	12/12/2022
PROJECT NO	105121
DRAWING BY	S. BRINKMEYER
CHECKED BY	A. POOLE
DRAWING NO	FA-104.00
CADD FILE N0 Autodesk Docs://CHPE Astoria/CHA-KIE-111-00-M3-FP-001.rvt	10 of 18



1 FA-105.00 AUDIBILITY PLAN - SECOND FLOOR
1/8" = 1'-0"



2 FA-105.00 FIRE ALARM PLAN - SECOND FLOOR
1/8" = 1'-0"

RATED WALL LEGEND	
	2 HOUR FIRE BARRIER
NOTE: RATED WALLS ARE REFERENCED FROM ARCHITECTURAL PLANS. INCLUDED IN SEPARATE PERMIT SUBMITTAL.	

AUDIBILITY HATCH LEGEND	
	30dB AMBIENT SPL 45dB EXPECTED SPL
	54dB AMBIENT SPL 69dB EXPECTED SPL
	91dB AMBIENT 106dB EXPECTED SPL

KEYNOTES

1 LOCATE ASPIRATING SMOKE DETECTION SAMPLE PIPING/HEADS IN RETURN DUCT OF VALVE HALL HVAC UNIT DOWNSTREAM OF COMMON RETURN DUCT (SEE MECHANICAL DRAWINGS FOR DETAILS INCLUDED INSEPARATE PERMIT SUBMITTAL). PIPING SHALL BE RUN BACK TO VESDA CONTROL UNIT LOCATED IN THE SERVICE BUILDING CLEAN AGENT ROOM B201.

2 SAMPLING PIPE ROUTING SHOWN IS SCHEMATIC IN NATURE. ACTUAL PIPE ROUTING AND SAMPLE POINTS SHALL BE DETERMINED BASED ON ACTUAL EQUIPMENT LOCATIONS UNIQUE TO EACH CONVERTER HALL. FINAL CONFIGURATION SHALL BE VERIFIED USING MANUFACTURER-SPECIFIC SOFTWARE TO CONFIRM TRANSPORT TIME AND DETECTION THRESHOLD PERFORMANCE CRITERIA.

3 RELAY MODULE FOR HVAC UNIT SHUTDOWN. COORDINATE LOCATION WITH MECHANICAL DRAWINGS INCLUDED IN SEPARATE PERMIT SUBMITTAL.

4 RELAY MODULE FOR FIRE/SMOKE DAMPER CLOSURE. COORDINATE LOCATION WITH MECHANICAL DRAWINGS INCLUDED IN SEPARATE PERMIT SUBMITTAL.

5 POST-FIRE SMOKE PURGE ACTIVATION. SEE INPUT/OUTPUT MATRIX.

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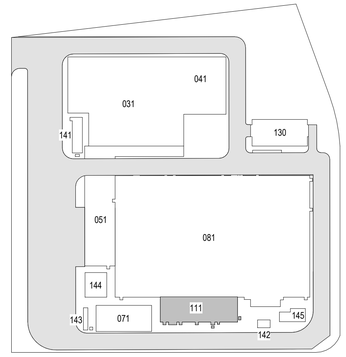


Poole Fire Protection
19910 West 161st Street
Olathe, KS 66062
913.829.8600 office ▲ 913.829.8686 fax

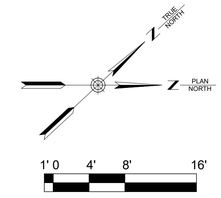
19910 W. 161st STREET
OLATHE, KS. 66062

SOWINSKI SULLIVAN
ARCHITECTURE+ENGINEERING
25 Mohawk Avenue
Sparta, NJ 07871

REV	DESCRIPTION	DRW BY	CHK BY	DATE
B	FINAL SUBMISSION	SAB	AWP	12/12/2022
A	INTERIM SUBMISSION	SAB	AWP	09/13/2022

Kiewit
470 Chestnut Ridge Rd # 2,
Woodcliff Lake, NJ 07677

Hitachi Energy
901 Main Campus Drive
Raleigh, North Carolina 27606



PROJECT

CHPE
Champlain Hudson Power Express

Astoria HVDC Converter Station

31-45 20th Avenue, Astoria, Queens NY 11105
Block #850 - Lot #310 - BIN #4624437

SERVICE BUILDING - FIRE ALARM PLAN

DATE	12/12/2022
PROJECT NO	105121
DRAWING BY	S. BRINKMEYER
CHECKED BY	A. POOLE
DRAWING NO	FA-105.00
CADD FILE N0 Autodesk Docs://CHPE Astoria/CHA-KIE-111-00-M3-FP-001.rvt	11 of 18

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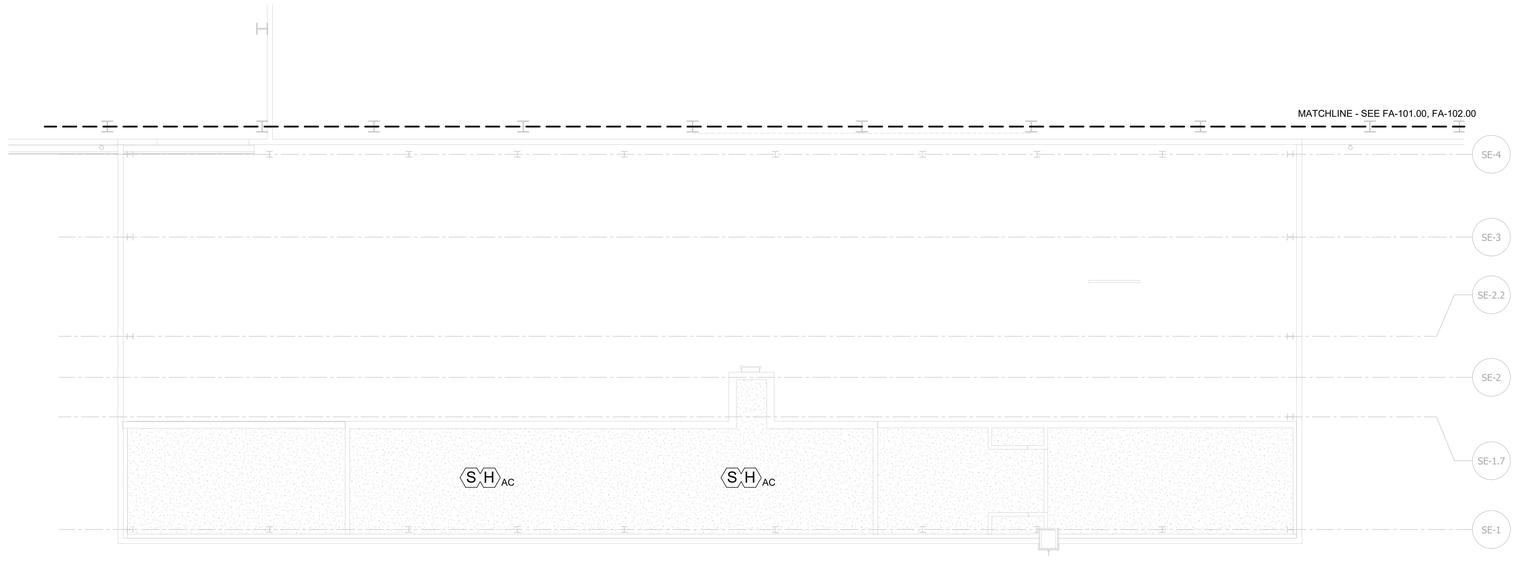
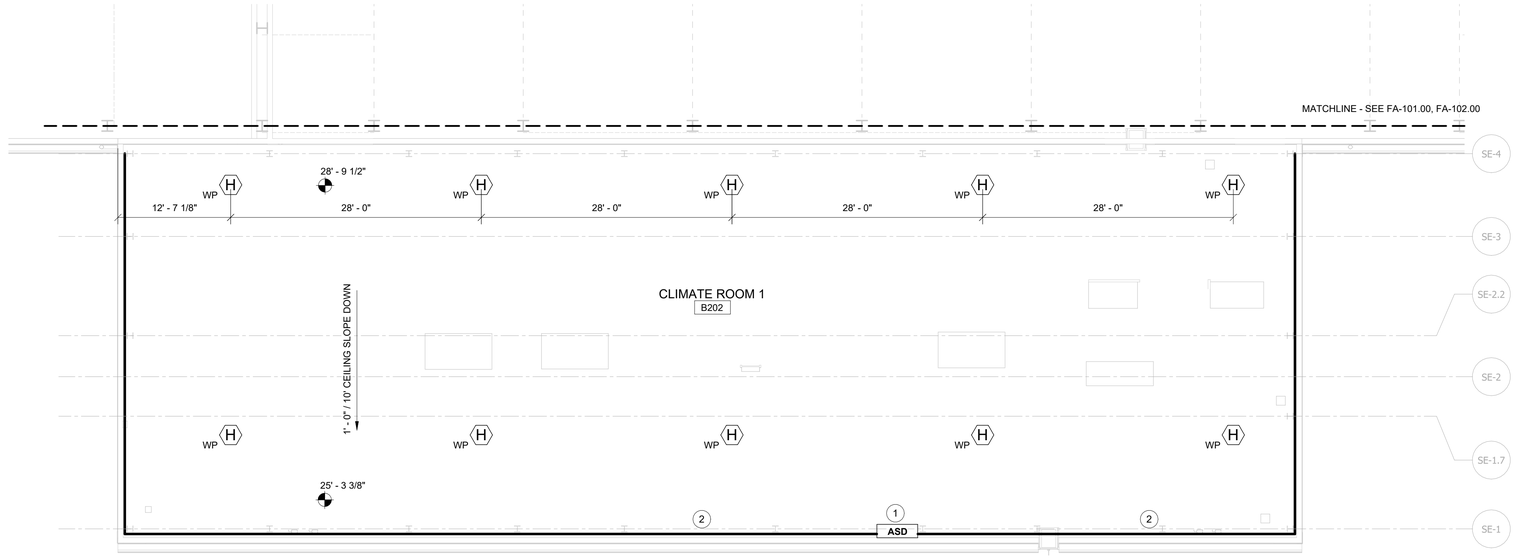


1 FA-106.00 FIRE ALARM PLAN - SECOND FLOOR ABOVE CEILING
1/8" = 1'-0"



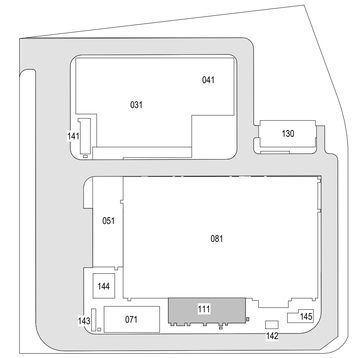
2 FA-106.00 FIRE ALARM PLAN - SECOND FLOOR RCP
1/8" = 1'-0"

KEYNOTES

1 AIR-SAMPLING DETECTOR CONTROL UNIT TO BE LOCATED IN SECOND FLOOR CLEAN AGENT ROOM. DETECTOR SHALL ACT AS A REFERENCE DETECTOR TO THE AIR-SAMPLING DETECTORS SERVING THE CONVERTER HALLS AND VALVE HALL HVAC UNITS, AND SHALL BE CONNECTED TO THOSE DETECTORS VIA A VESDA-NET CIRCUIT.

2 SAMPLING PIPE ROUTING SHOWN IS SCHEMATIC IN NATURE. PIPING SHALL BE INSTALLED ALONG INSIDE FACE OF MAKEUP AIR LOUVERS. PIPE ROUTING AND NUMBER OF PIPES ALONG THE FACE OF THE LOUVERS SHALL BE DETERMINED USING MANUFACTURER-SPECIFIC SOFTWARE TO CONFIRM TRANSPORT TIME AND PERFORMANCE CRITERIA. PIPING SHALL BE RUN WITHIN CONDITIONED SPACE ABOVE/WITHIN STORAGE ROOM B204, CORRIDOR B203, CLEAN AGENT ROOM B201, AND TELECOM ROOM B205 AS NEEDED TO ENSURE SAMPLED AIR HAS REACHED REQUIRED TEMPERATURE PRIOR TO ENTERING THE DETECTOR.

ISSUED FOR PERMIT



KEY PLAN
N.T.S.

PLAN NORTH

Poole Fire Protection
19910 West 161st Street
Olathe, KS 66062
913.829.8600 office ▲ 913.829.8066 fax

19910 W. 161st STREET
OLATHE, KS. 66062

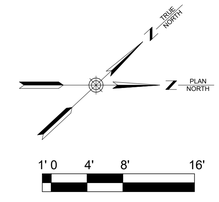
SOWINSKI SULLIVAN
ARCHITECTURE+ENGINEERING

25 Mohawk Avenue
Sparta, NJ 07871

REV	DESCRIPTION	DRW BY	CHK BY	DATE
B	FINAL SUBMISSION	SAB	AWP	12/12/2022
A	INTERIM SUBMISSION	SAB	AWP	09/13/2022

Kiewit
470 Chestnut Ridge Rd # 2,
Woodcliff Lake, NJ 07677

Hitachi Energy
901 Main Campus Drive
Raleigh, North Carolina 27606



PROJECT

CHPE
Champlain Hudson Power Express

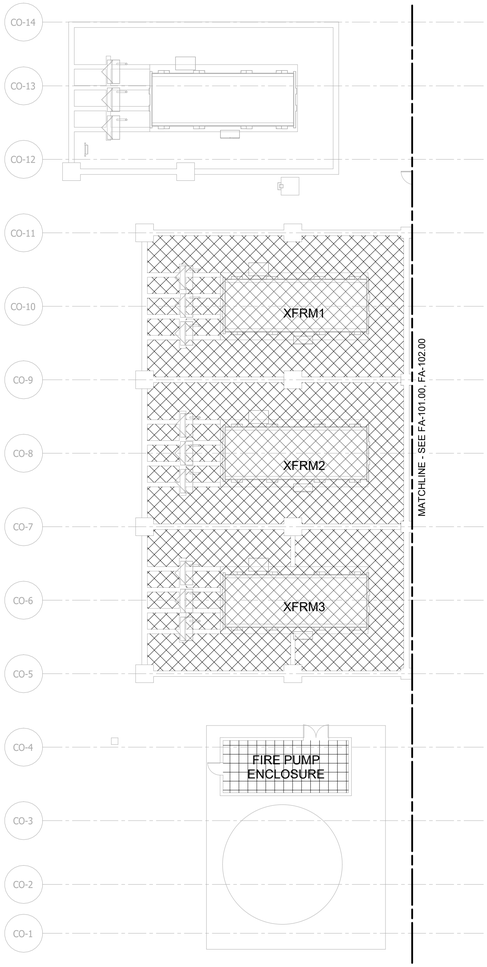
Astoria HVDC Converter Station

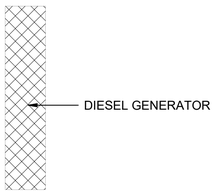
31-45 20th Avenue, Astoria, Queens NY 11105
Block #850 - Lot #310 - BIN #4624437

SERVICE BUILDING - FIRE ALARM PLAN

DATE	12/12/2022
PROJECT NO	105121
DRAWING BY	S. BRINKMEYER
CHECKED BY	A. POOLE
DRAWING NO	FA-106.00
CADD FILE N0 Autodesk Docs://CHPE Astoria/CHA-KIE-111-00-M3-FP-001.rvt	12 of 18

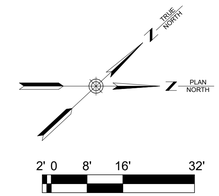
12/20/2022 4:20:40 PM





1 FA-107.00 FIRE ALARM AUDIBILITY PLAN
1/16" = 1'-0"

AUDIBILITY HATCH LEGEND	
	FIRE ALARM NOTIFICATION NOT REQUIRED
	91dB AMBIENT SPL 106dB EXPECTED SPL



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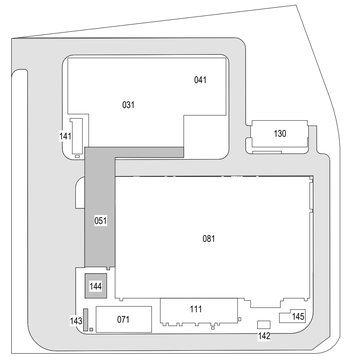

KEY PLAN
N.T.S.

PLAN NORTH

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19910 West 161st Street
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OLATHE, KS. 66062

SOWINSKI SULLIVAN
ARCHITECTURE + ENGINEERING
25 Mohawk Avenue
Sparta, NJ 07871

REV	DESCRIPTION	DRW BY	CHK BY	DATE
B	FINAL SUBMISSION	AWP	SAB	12/12/2022
A	INTERIM SUBMISSION	AWP	SAB	09/13/2022

Kiewit
470 Chestnut Ridge Rd # 2,
Woodcliff Lake, NJ 07677

Hitachi Energy
901 Main Campus Drive
Raleigh, North Carolina 27606

PROJECT

CHPE
Champlain Hudson Power Express

Astoria HVDC Converter Station

31-45 20th Avenue, Astoria, Queens NY 11105
Block #850 - Lot #310 - BIN #4624437

TRANSFORMER AREA AND PUMP ENCLOSURE FIRE ALARM AUDIBILITY PLAN

DATE	12/12/2022
PROJECT NO	105121
DRAWING BY	S. BRINKMEYER
CHECKED BY	A. POOLE
DRAWING NO	FA-107.00
CADD FILE N0	13 of 18

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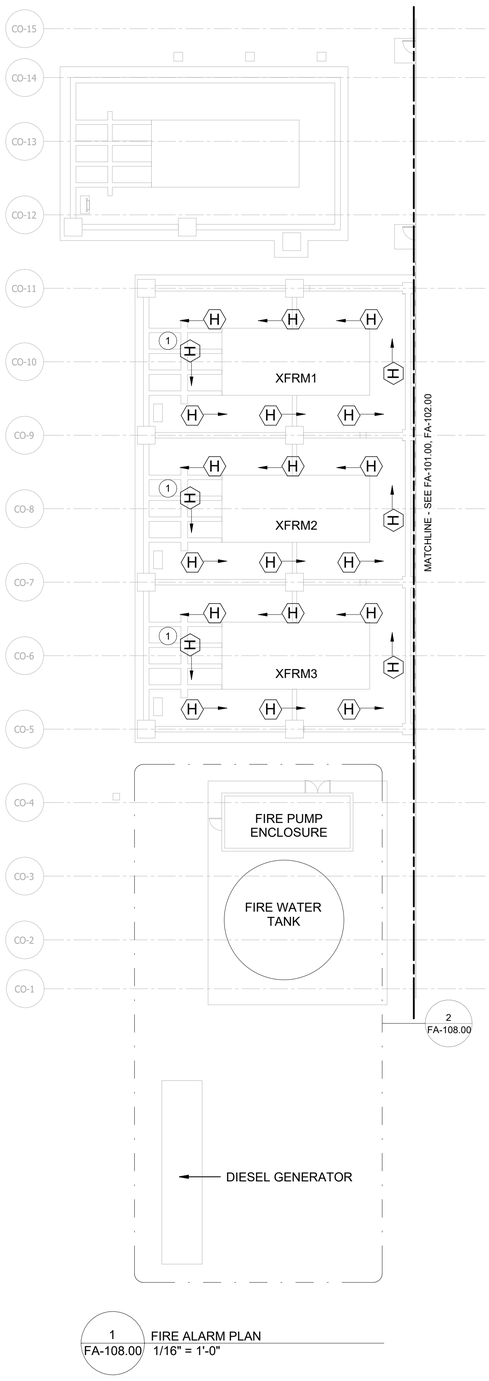
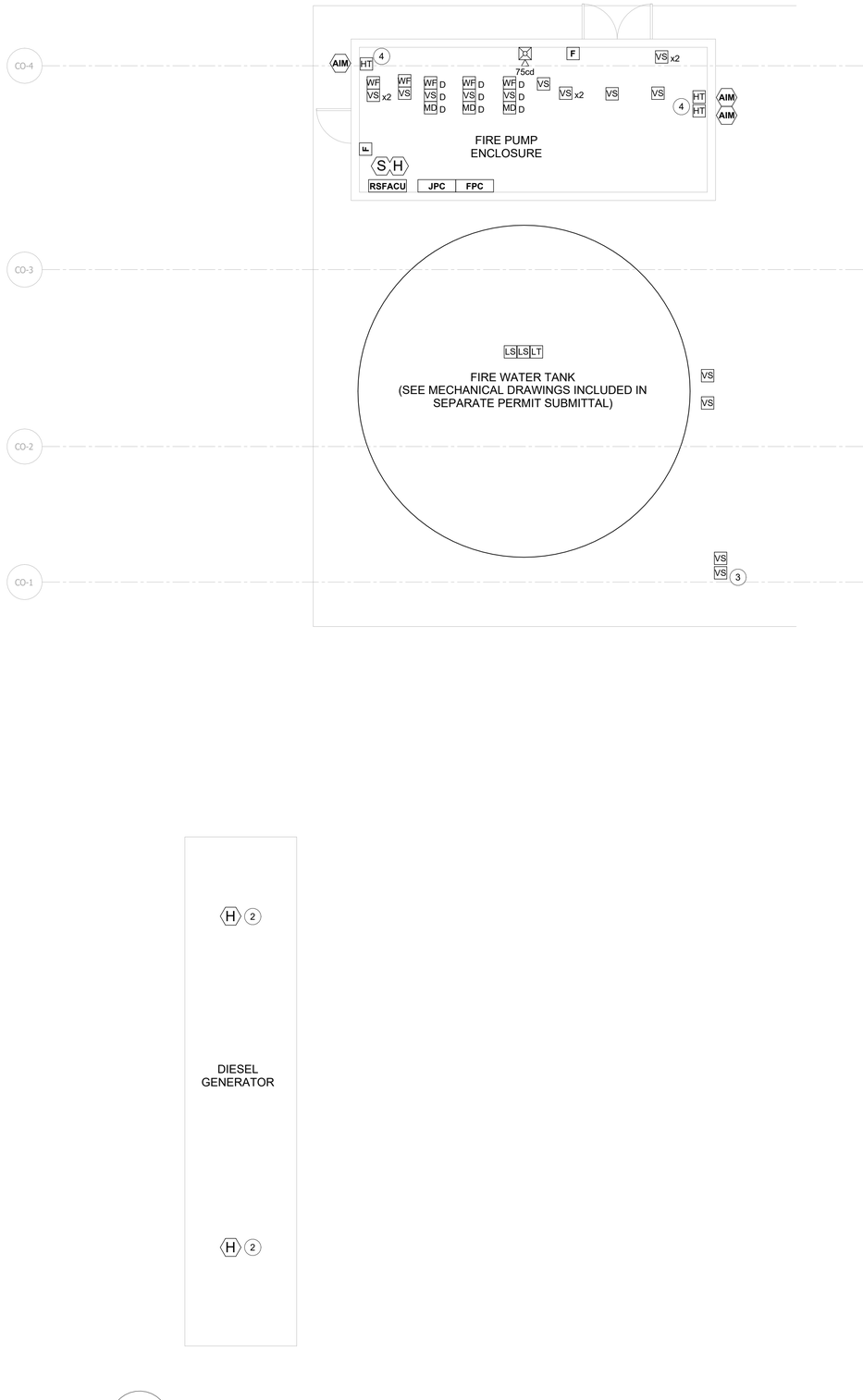
12/20/2022 4:14:43 PM



1 FA-108.00 FIRE ALARM PLAN
1/16" = 1'-0"

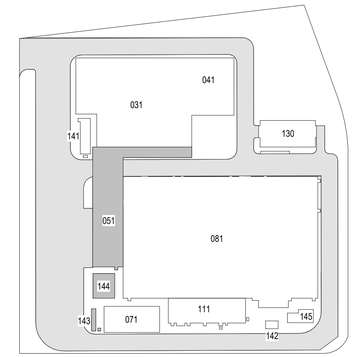


2 FA-108.00 FIRE PUMP ENCLOSURE AND WATER TANK ENLARGED FIRE ALARM PLAN
3/16" = 1'-0"

KEYNOTES

1. LINEAR HEAT DETECTION CIRCUIT SHALL BE MONITORED BY RSFACU LOCATED WITHIN FIRE PUMP ENCLOSURE. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS INCLUDED IN SEPARATE PERMIT APPLICATION.
2. HEAT DETECTORS WITHIN GENERATOR ENCLOSURE SHALL BE CONNECTED TO THE RSFACU LOCATED WITHIN THE FIRE PUMP ENCLOSURE.
3. TAMPER SWTICHES TO MONITOR TANK FILL BOOSTER PUMP VALVES. (SEE MECHANCIAL DRAWINGS INCLUDED IN SEPARATE PERMIT SUBMITTAL)
4. MONITOR ABOVE GROUND FIRE WATER PIPING HEAT TRACING. HEAT TRACING AND INSULATION PROVIDED BY MECHANICAL IN ACCORDANCE WITH NFPA 20 AND NFPA 13. REFER TO MECHANICAL DRAWINGS INCLUDED IN SEPARATE SUBMITTAL.

ISSUED FOR PERMIT



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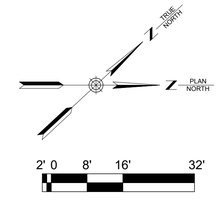
REV	DESCRIPTION	DRW BY	CHK BY	DATE
B	FINAL SUBMISSION	AWP	SAB	12/12/2022
A	INTERIM SUBMISSION	AWP	SAB	09/13/2022

Kiewit
470 Chestnut Ridge Rd # 2,
Woodcliff Lake, NJ 07677

Hitachi Energy
901 Main Campus Drive
Raleigh, North Carolina 27606



PROJECT

CHPE
Champlain Hudson Power Express

Astoria HVDC Converter Station

31-45 20th Avenue, Astoria, Queens NY 11105
Block #850 - Lot #310 - BIN #4624437

TRANSFORMER AREA AND PUMP ENCLOSURE FIRE ALARM PLAN

DATE	12/12/2022
PROJECT NO	105121
DRAWING BY	S. BRINKMEYER
CHECKED BY	A. POOLE
DRAWING NO	FA-108.00
CADD FILE N0	14 of 18

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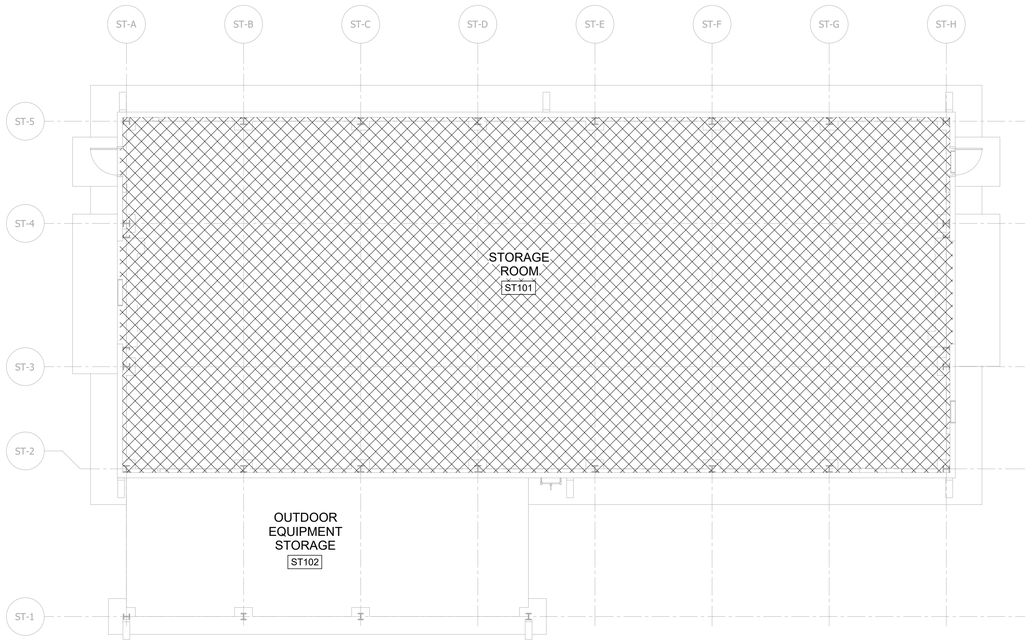
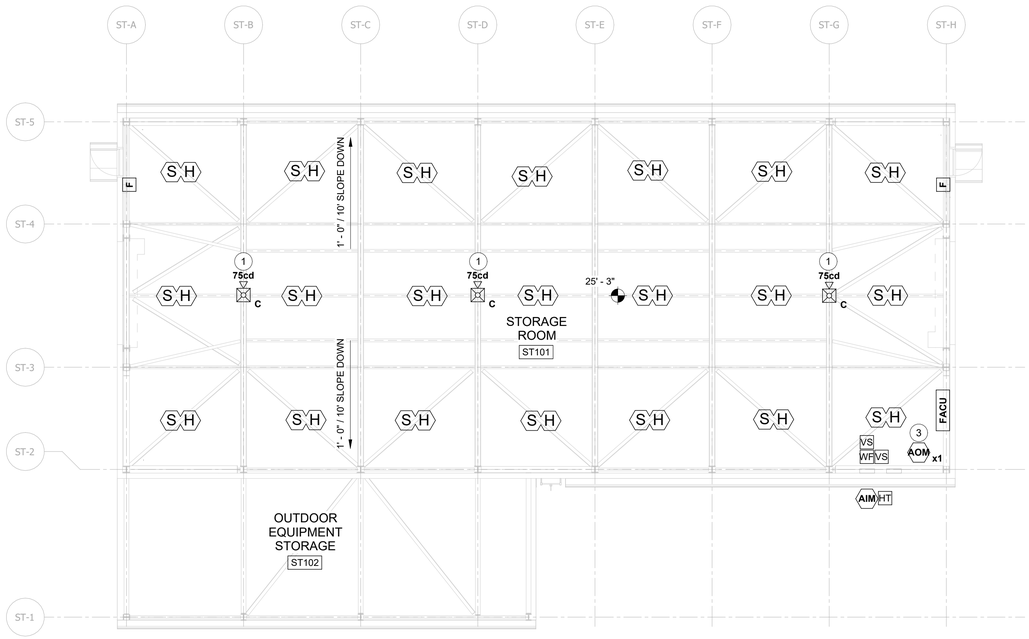


1 FA-109.00 FIRE ALARM AUDIBILITY PLAN
1/8" = 1'-0"



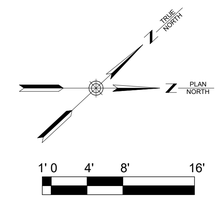
2 FA-109.00 FIRE ALARM PLAN
1/8" = 1'-0"

KEYNOTES

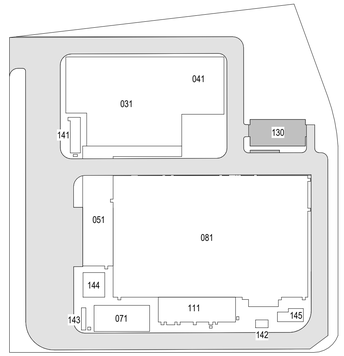
1 DEVICES MOUNTED ON BOTTOM OF STRUCTURE.
2 MONITOR FIRE WATER LEAD-IN HEAT TRACING. HEAT TRACING AND INSULATION PROVIDED BY MECHANICAL IN ACCORDANCE WITH NFPA 20 AND NFPA 13. REFER TO MECHANICAL DRAWINGS INCLUDED IN SEPARATE SUBMITTAL.
3 POST-FIRE SMOKE PURGE ACTIVATION. SEE INPUT/OUTPUT MATRIX.

AUDIBILITY HATCH LEGEND

	30dB AMBIENT SPL 45dB EXPECTED SPL



ISSUED FOR PERMIT



KEY PLAN
N.T.S.

PLAN NORTH

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PROJECT

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Block #850 - Lot #310 - BIN #4624437

STORAGE ENCLOSURE - FIRE ALARM PLAN

DATE	12/12/2022
PROJECT NO	105121
DRAWING BY	S. BRINKMEYER
CHECKED BY	A. POOLE
DRAWING NO	FA-109.00
CADD FILE N0	15 of 18

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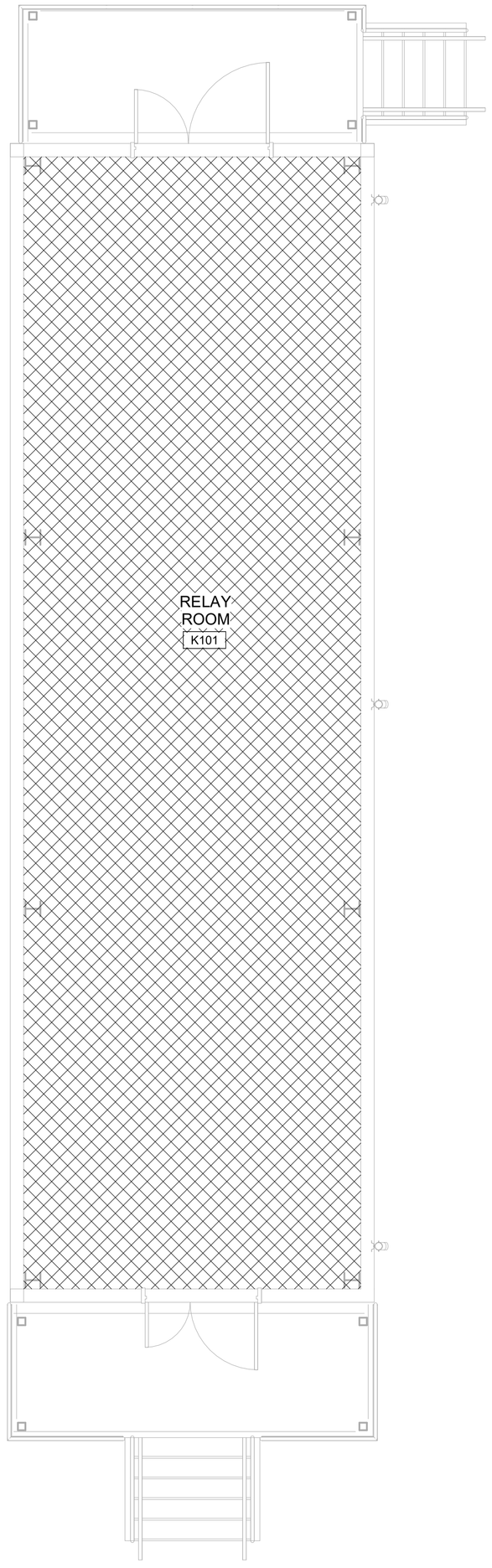
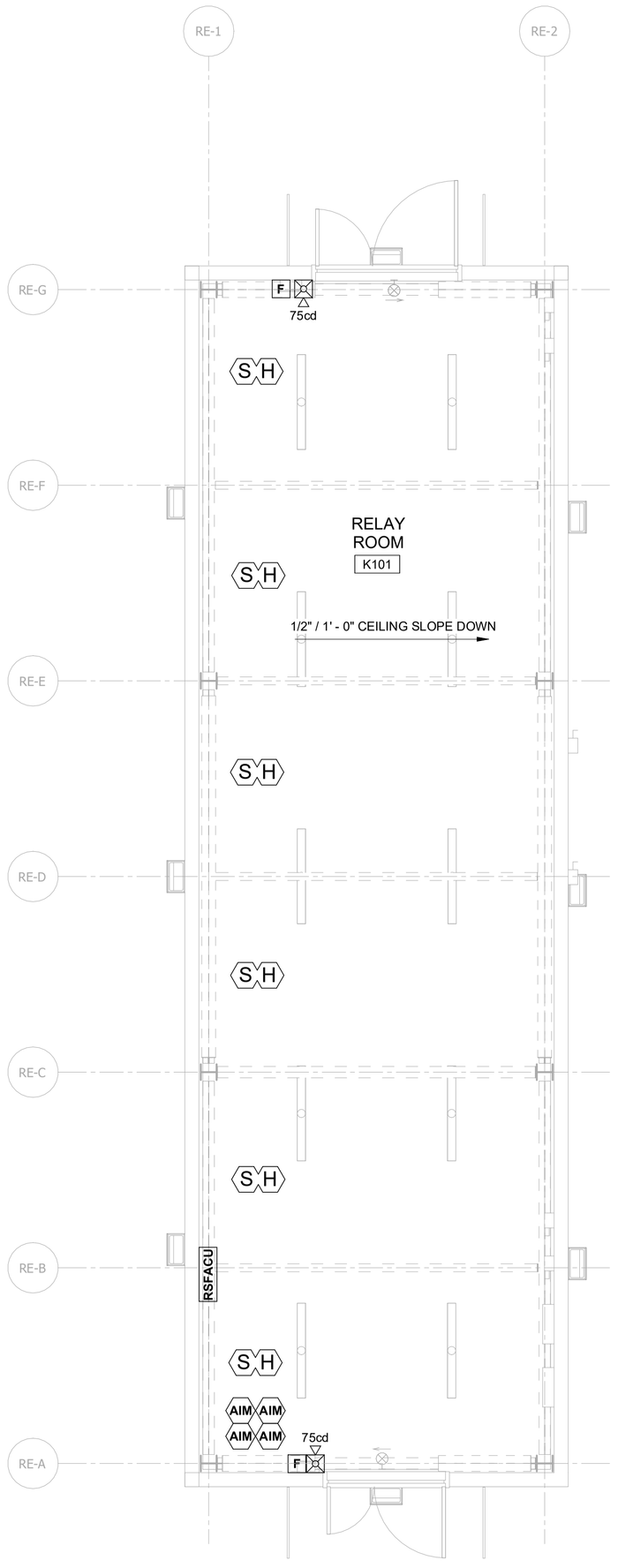
AUDIBILITY HATCH LEGEND

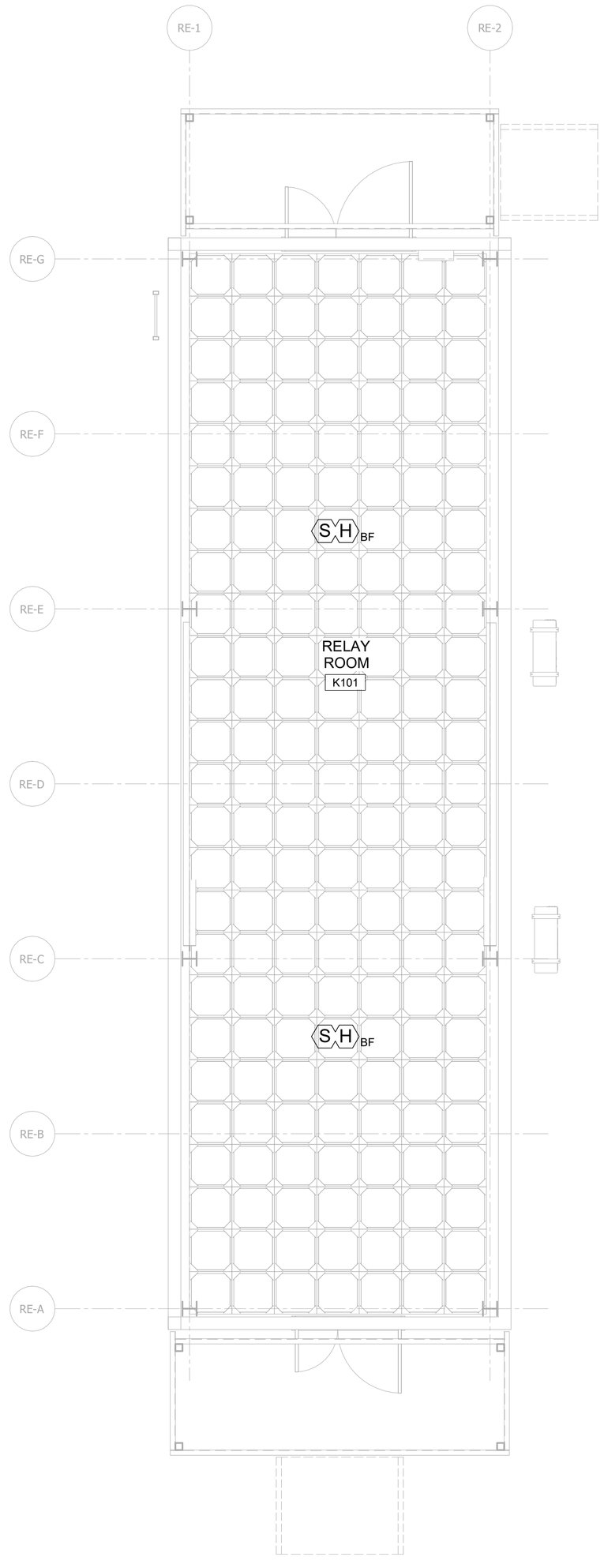
30dB AMBIENT SPL
45dB EXPECTED SPL



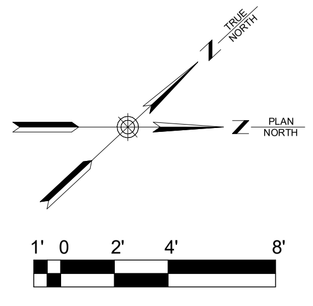
1 FA-110.00 FIRE ALARM AUDIBILITY PLAN - RELAY BUILDING
1/4" = 1'-0"



2 FA-110.00 FIRE ALARM PLAN
1/4" = 1'-0"



3 FA-110.00 FIRE ALARM PLAN BELOW RAISED FLOOR
1/4" = 1'-0"



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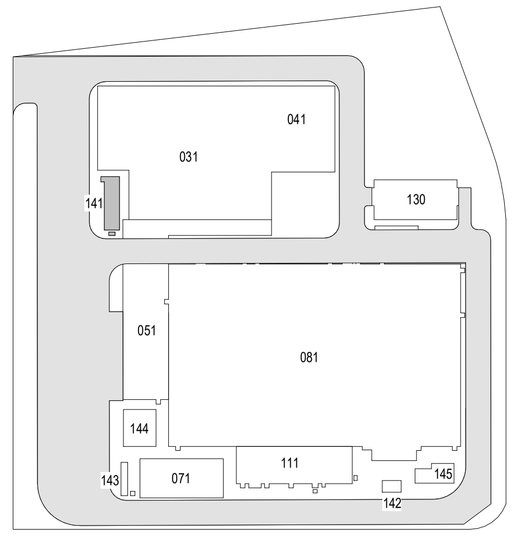

KEY PLAN
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PLAN NORTH

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PROJECT

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Block #850 - Lot #310 - BIN #4624437

RELAY ENCLOSURE - FIRE ALARM PLAN

DATE	12/12/2022
PROJECT NO	105121
DRAWING BY	S. BRINKMEYER
CHECKED BY	A. POOLE
DRAWING NO	FA-110.00
CADD FILE N0	16 of 18

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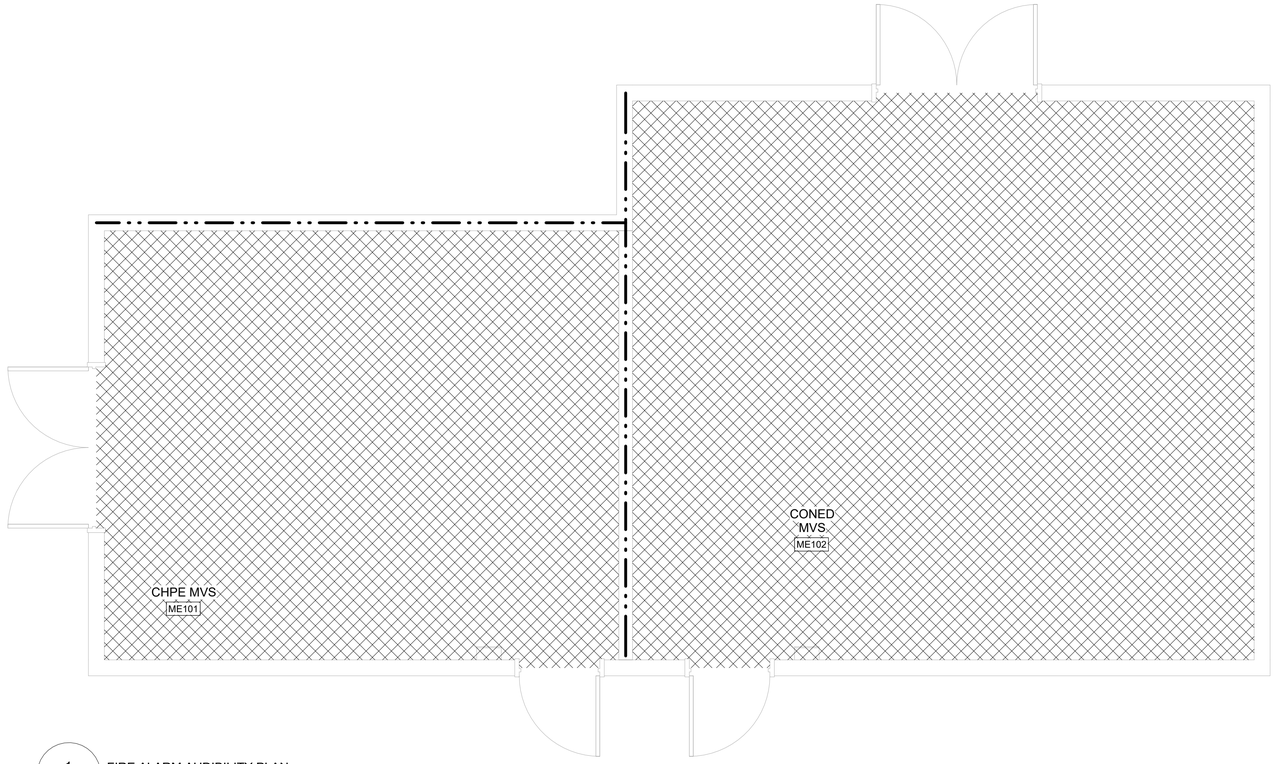
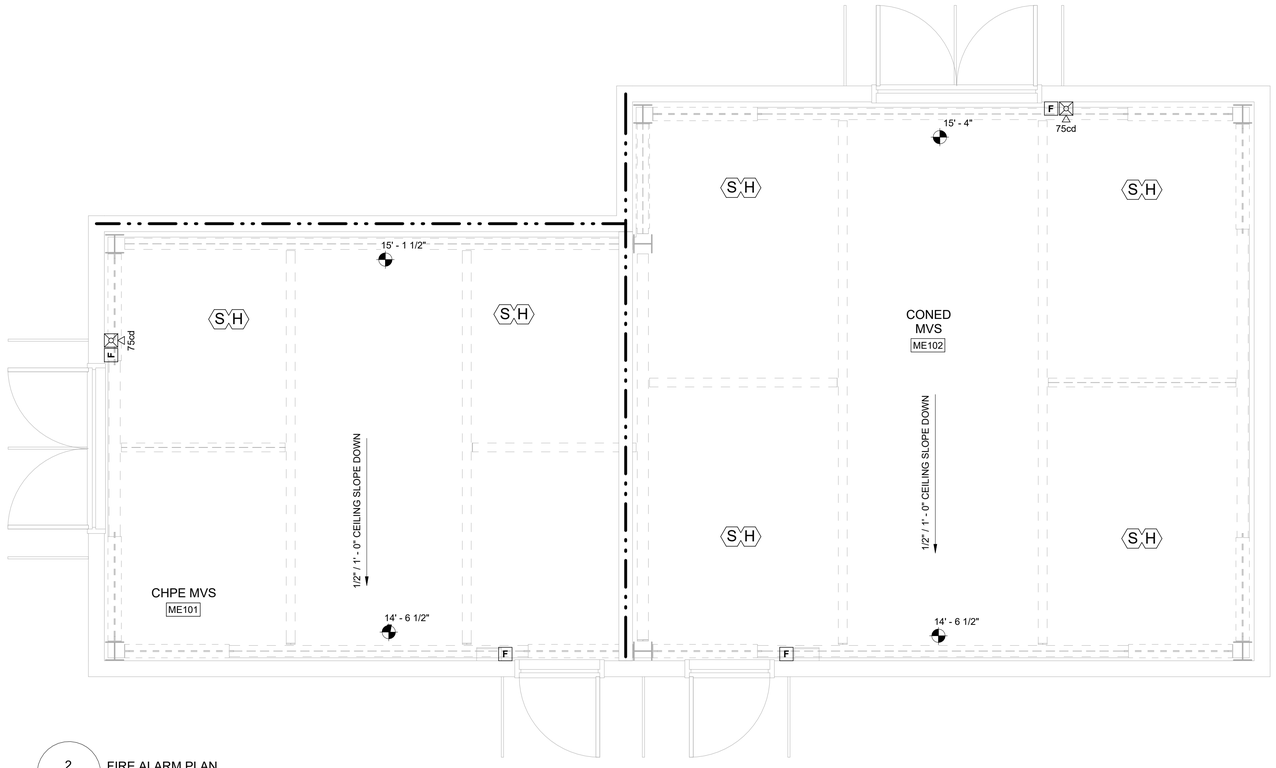


1
FA-111.00
FIRE ALARM AUDIBILITY PLAN
3/8" = 1'-0"



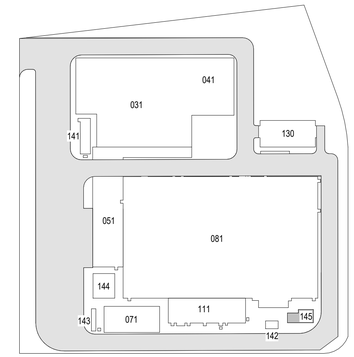
2
FA-111.00
FIRE ALARM PLAN
3/8" = 1'-0"

AUDIBILITY HATCH LEGEND	
	30dB AMBIENT SPL 45dB EXPECTED SPL

RATED WALL LEGEND	
	2 HOUR FIRE BARRIER

NOTE: RATED WALLS ARE REFERENCED FROM ARCHITECTURAL PLANS. INCLUDED IN SEPARATE PERMIT SUBMITTAL.

ISSUED FOR PERMIT



KEY PLAN
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PLAN NORTH

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Woodcliff Lake, NJ 07677

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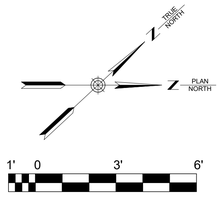
901 Main Campus Drive
Raleigh, North Carolina 27606



PROJECT

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Astoria HVDC Converter Station

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Block #850 - Lot #310 - BIN #4624437

MVS ENCLOSURE - FIRE ALARM PLAN

DATE	12/12/2022
PROJECT NO	105121
DRAWING BY	S. BRINKMEYER
CHECKED BY	A. POOLE
DRAWING NO	FA-111.00
CADD FILE N0 Autodesk Docs://CHPE Astoria/CHA-KIE-141-00-M3-FP-001.rvt	17 of 18

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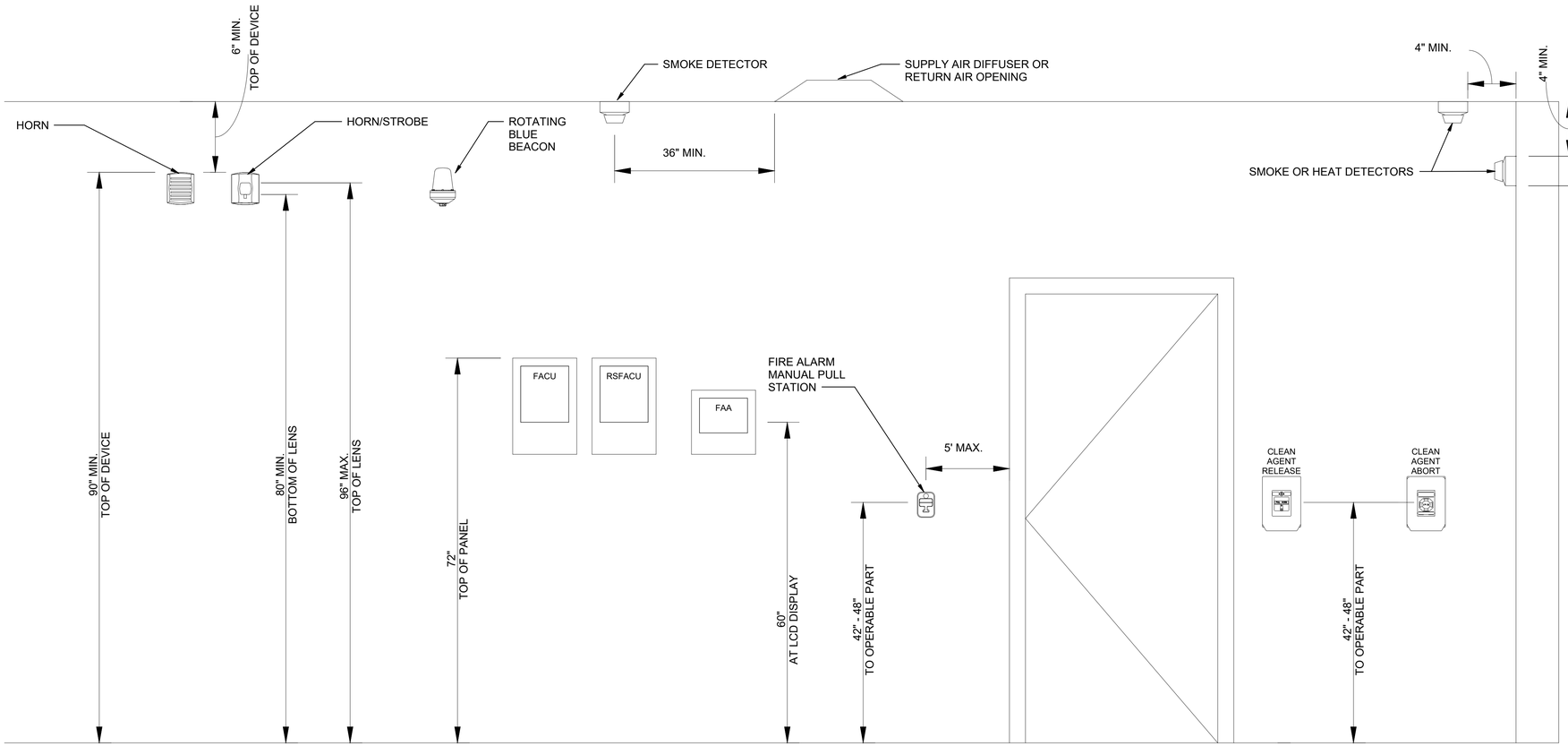
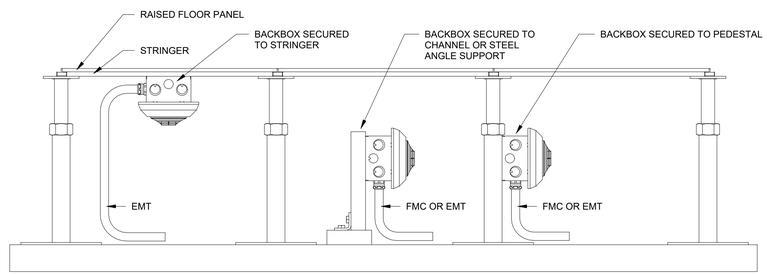


1 FA-601.00 TYPICAL FIRE ALARM DEVICE MOUNTING DETAIL
NONE



2 FA-601.00 BELOW RAISED FLOOR SMOKE DETECTOR MOUNTING DETAIL
NONE

ISSUED FOR PERMIT

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A	INTERIM SUBMISSION	SAB	AWP	09/13/2022

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PROJECT

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Power Express

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31-45 20th Avenue, Astoria, Queens NY 11105
Block #850 - Lot #310 - BIN #4624437

FIRE ALARM DETAILS

DATE	12/12/2022
PROJECT NO	105121
DRAWING BY	S. BRINKMEYER
CHECKED BY	A. POOLE
DRAWING NO	FA-601.00
CADD FILE N0	Autodesk Docs://CHPE Astoria/CHA-KIE-111-00-M3-FP-001.rvt
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