

APPENDIX C.25

CASE 10-T-0139

SITE PLANS AND CONSTRUCTION DRAWINGS

COMMUNICATIONS PACKAGE

ASTORIA HVDC CONVERTER STATION

SEGMENT 22

ASTORIA HVDC CONVERTER STATION

COMMUNICATIONS PACKAGE

SCOPE OF WORK

THE COMMUNICATIONS SYSTEM SCOPE OF WORK INCLUDES BOTH THE NETWORK DESIGN FOR THE ASTORIA FACILITY AND THE DESIGN OF THE FOLLOWING SYSTEMS.

ACCESS CONTROL AND INTRUSION DETECTION (SEC)

CLOSED-CIRCUIT TELEVISION (CCTV)

PUBLIC ADDRESS (PA)

TELEPHONE (TEL)

THE VARIOUS LOCATIONS AND THEIR ASSOCIATED SYSTEMS ARE INDICATED BELOW:

1. CONVERTER BUILDING (SEC, CCTV, TEL)
2. SERVICE BUILDING (SEC, CCTV, PA, TEL)
3. HVAC BUILDING (SEC)
4. STORAGE ENCLOSURE (SEC, CCTV, TEL)
5. RELAY ENCLOSURE (SEC, CCTV, TEL)
6. MVS ENCLOSURE (SEC, TEL)
7. MAIN ENTRANCE GATE (SEC, CCTV, TEL)
8. EXTERIOR SWITCHYARD (CCTV, PA)

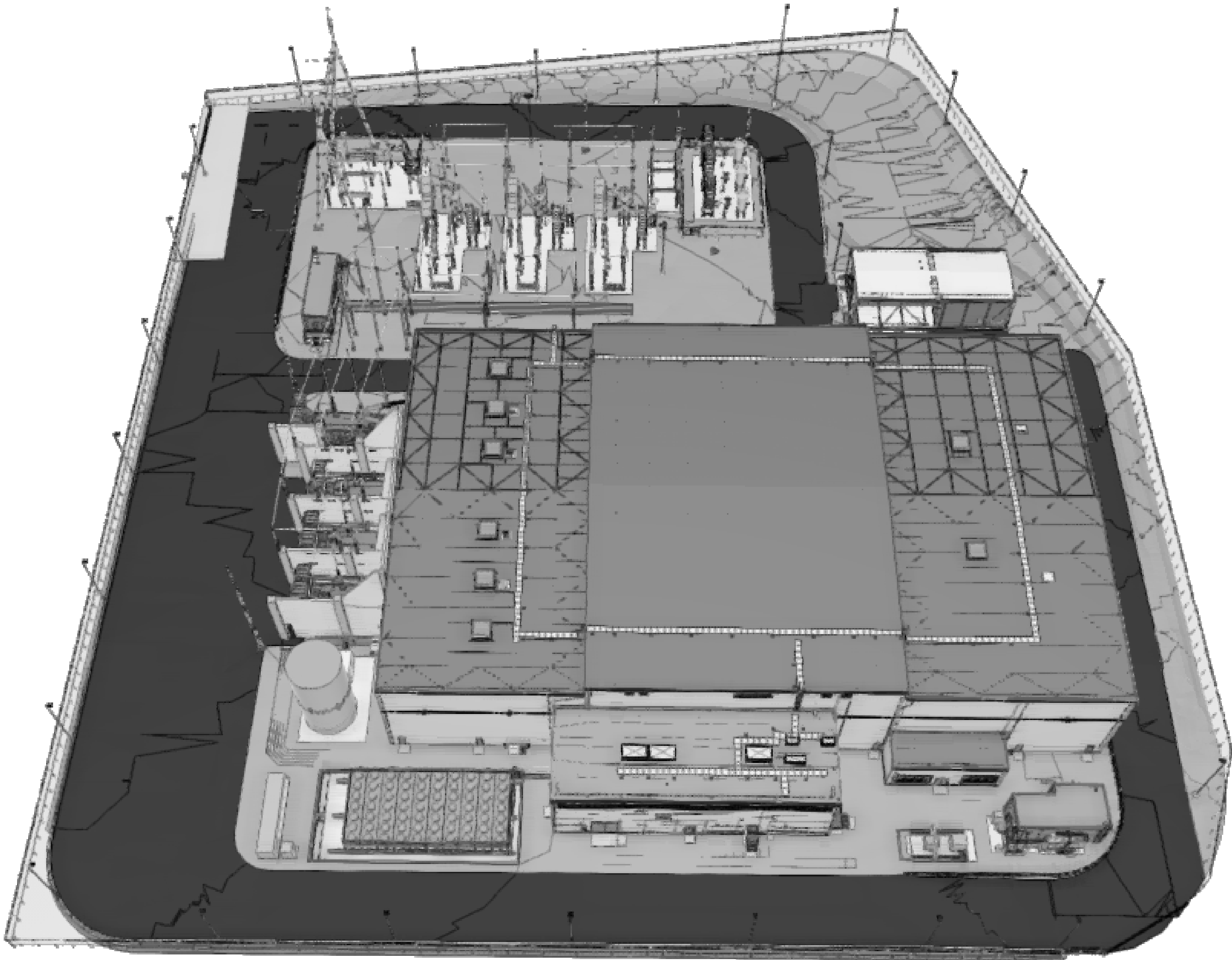
APPLICABLE CYBERSECURITY MEASURES WILL ALSO BE IMPLEMENTED AS PER NERC-CIP RELIABILITY STANDARDS.

FLOOD ZONE DESIGN CERTIFICATION:

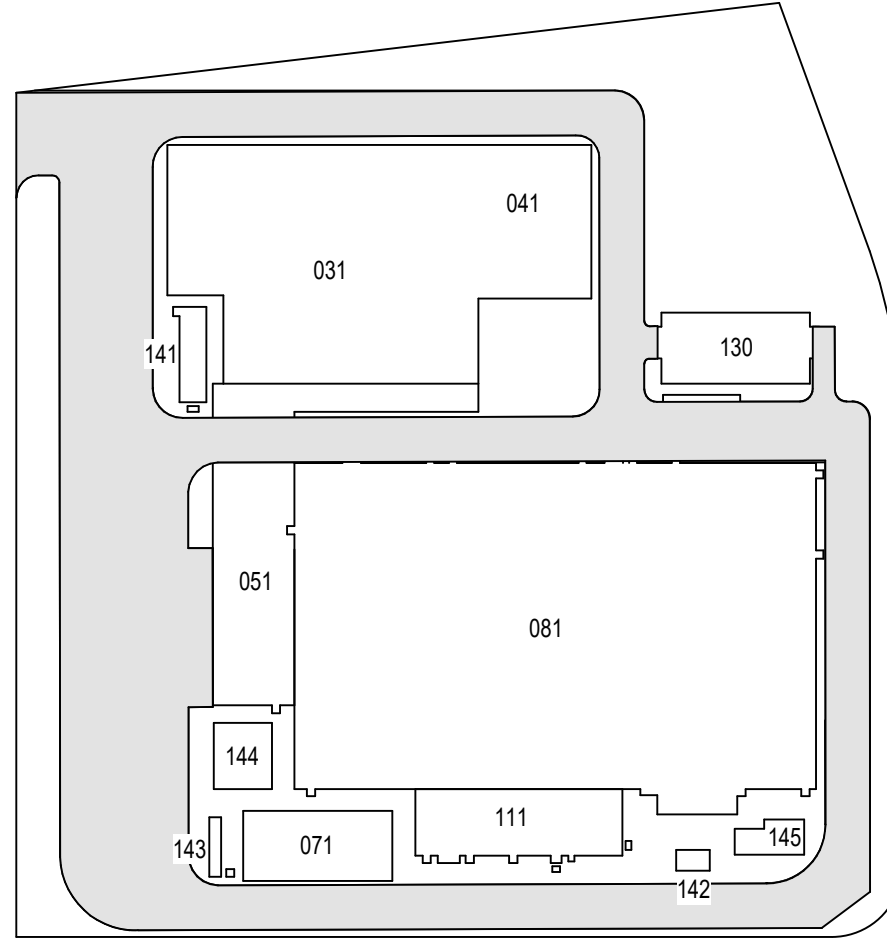
THE EXISTING PROPERTY IS IN THE SPECIAL FLOOD HAZARD AREA (SFHA), ZONE AE PER EFFECTIVE 2015 FLOOD INSURANCE RATE MAP(FIRM). THIS IS TO CONFIRM THAT THE PROPOSED INSTALLATION IS IN COMPLIANCE WITH THE REQUIREMENTS SET FORTH IN APPENDIX Q OF THE NYC BUILDING CODE.

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 OVERALL SITE VIEW
CO-001.00 12" = 1'-0"



KEY PLAN
N.T.S. PLAN NORTH

**Engineering and
Land Surveying, P.C.**
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SUITE 1604
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**SOWINSKI
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25 Mohawk Avenue
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B	FINAL SUBMISSION	VSP	EK	12/12/2022
A	INTERIM SUBMISSION	VSP	EK	09/13/2022
REV	DESCRIPTION	DRW BY	CHK BY	DATE

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 12/08/2022
PROJECT NO 105121
DRAWING BY V. PATEL
CHECKED BY E. KIDANE
DRAWING NO
CO-001.00
CADD FILE NO
AstoriaHVDC-CHPE
AstoriaHVDC-CHPE-020-00-M3-CO-001.dwg
1 of 51

SHEET NO:	DRAWING #	DRAWING/DOCUMENT NAME
CO - COMUNICATIONS SYSTEMS (SEC, CCTV, PA, INT/TEL, NET)		
1	CO-001.00	COVER SHEET
2	CO-001.01	CO - SHEET LIST
3	CO-001.02	CO - SYMBOLS, NOTES AND ABBREVIATIONS
4	CO-100.00	CO - OVERALL SITE PLAN
5	CO-101.00	CO - DEVICE LAYOUT - DC HALL (WEST)
6	CO-102.00	CO - DEVICE LAYOUT - DC HALL (EAST)
7	CO-103.00	CO - DEVICE LAYOUT - VALVE HALL (WEST)
8	CO-104.00	CO - DEVICE LAYOUT - VALVE HALL (EAST)
9	CO-105.00	CO - DEVICE LAYOUT - REACTOR HALL (WEST)
10	CO-106.00	CO - DEVICE LAYOUT - REACTOR HALL (EAST)
11	CO-107.00	CO - DEVICE LAYOUT - SERVICE BUILDING LEVEL 1 (SOUTH)
12	CO-108.00	CO - DEVICE LAYOUT - SERVICE BUILDING LEVEL 1 (NORTH)
13	CO-109.00	CO - DEVICE LAYOUT - SERVICE BUILDING LEVEL 2 (SOUTH)
14	CO-110.00	CO - DEVICE LAYOUT - SERVICE BUILDING LEVEL 2 (NORTH)
15	CO-111.00	CO - DEVICE LAYOUT - RELAY ENCLOSURE
16	CO-112.00	CO - DEVICE LAYOUT - MVS ENCLOSURE
17	CO-113.00	CO - DEVICE LAYOUT - STORAGE ENCLOSURE
18	CO-201.00	CO - OVERALL BLOCK DIAGRAM
19	CO-202.00	CO - NETWORK RISER (SERVICE BUILDING)
20	CO-203.00	CO - NETWORK RISER (SMALL FORM CABINETS) SHEET 1 OF 2
21	CO-204.00	CO - NETWORK RISER (SMALL FORM CABINETS) SHEET 2 OF 2
22	CO-205.00	CO - COMUNICATIONS CABINET ELEVATION (SERVICE BLDG.)
23	CO-206.00	CO - SMALL FORM CABINET DETAILS (TYPICAL)
24	CO-207.00	CO - SMALL FORM CABINET MOUNTING DETAILS
25	CO-208.00	CO - TYPICAL DOOR CONFIGURATIONS
26	CO-209.00	CO - INTRUSION SYSTEM CABINET MOUNTING DETAILS
27	CO-210.00	CO - POWER SUPPLY AND INTELLIGENT CONTROLLER CABINET MOUNTING DETAILS
28	CO-211.00	CO - ACCESS CONTROL CABINET MOUNTING DETAILS
29	CO-212.00	CO - CARD READER DUAL HEIGHT PEDESTAL MOUNTING DETAILS
30	CO-213.00	CO - ACS RISER DIAGRAM
31	CO-214.00	CO - ACS POWER SUPPLY DIAGRAM
32	CO-215.00	CO - ACS WIRING DETAILS - GATE ENTRANCE AND EXIT
33	CO-216.00	CO - TWO DOUBLE DOOR WIRING WITH READERS
34	CO-217.00	CO - ONE SINGLE, ONE DOUBLE DOOR WIRING WITH READERS
35	CO-218.00	CO - INTELLIGENT CONTROLLER WIRING DIAGRAM
36	CO-219.00	CO - INPUT MODULE WIRING DIAGRAM
37	CO-220.00	CO - OUTPUT MODULE WIRING DIAGRAM
38	CO-221.00	CO - INTRUSION ALARM PANEL WIRING DIAGRAM
39	CO-222.00	CO - SECURITY SYSTEM DEVICE SCHEDULE
40	CO-223.00	CO - SECURITY SYSTEM BILL OF MATERIALS
41	CO-224.00	CO - INTERCOM WIRING DETAILS
42	CO-225.00	CO - INTERCOM DUAL HEIGHT PEDESTAL MOUNTING
43	CO-226.00	CO - PA SYSTEM WIRING DIAGRAM (SERVICE BLDG.)
44	CO-227.00	CO - PA SYSTEM WIRING DIAGRAM (EXTERIOR SITE)
45	CO-228.00	CO - PUBLIC ADDRESS SYSTEM DIAGRAM
46	CO-229.00	CO - PA SYSTEM POWER SUPPLY DIAGRAM
47	CO-230.00	CO - PA SYSTEM CEILING SPEAKER MOUNTING DETAILS
48	CO-231.00	CO - PA SYSTEM EXTERNAL HORN SPEAKER MOUNTING DETAILS
49	CO-232.00	CO - PA SYSTEM SPEAKER SCHEDULE
50	CO-233.00	CO - CAMERA MOUNT DETAILS
51	CO-234.00	CO - CCTV SYSTEM CAMERA SCHEDULE

1

CO-001.01

DRAWING LIST

ISSUED FOR PERMIT

Engineering and
Land Surveying, P.C.

370 7th Avenue
SUITE 1604
New York, NY 10001

SOWINSKI
SULLIVAN

ARCHITECTURE*ENGINEERING

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Block #850 - Lot #310 - BIN #4624437

COMMUNICATIONS
SYSTEM DRAWING LIST

DATE

08/29/2022

PROJECT NO

105121

DRAWING BY

C. CARROLL

CHECKED BY

J. Howard

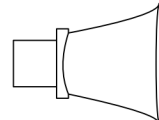






DRAWING NO

CO-001.01














CADD FILE NO

Astoria-HVDC-CHPE
Astoria-CHPE-2005-00-MD-CO-001.rvt

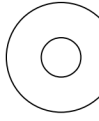


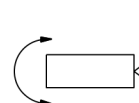
PA LEGEND

-  - HORN SPEAKER
-  - CEILING SPEAKER
-  - AMBIENT NOISE SENSOR
-  - AMPLIFIER
-  - DIGITAL SIGNAL PROCESSOR
-  - VOLUME CONTROL
-  - ANALOG TELEPHONE ADAPTER






ACS/IDS LEGEND

-  - ACCESS CONTROL CABINET
-  - INTRUSION ALARM CABINET
-  - DOOR CONTROLLER
-  - INTELLIGENT CONTROLLER CABINET
-  - INTELLIGENT CONTROLLER MODULE
-  - POWER SUPPLY CABINET
-  - INPUT OUTPUT CABINET
-  - PIR REX DEVICE
-  - CARD READER
-  - POWER SUPPLY
-  - DOOR POSITION SENSOR
-  - ELECTRONIC DOOR STRIKE
-  - MOTION SENSOR



CCTV LEGEND

-  - INDOOR 360-DEGREE CAMERA
-  - DUAL DOME CAMERA
-  - FIXED CAMERA
-  - PTZ CAMERA

NETWORK LEGEND

-  - WALL-MOUNTED CABINET / RACK
-  - CABINET / RACK
-  - DATA PORT
-  - DUPLEX OUTLET
-  - HVAC DATA PORT

TELEPHONE LEGEND

-  - TELEPHONE PORT
-  - INTERCOM PORT

GENERAL NOTES:

1. ALL DIMENSIONS ARE IMPERIAL, UNLESS OTHERWISE SPECIFIED.

2. ALL DRAWING BACKGROUNDS COORDINATED WITH THE FEDERATED MODEL.

3. DRAWINGS ARE TO BE USED IN CONJUNCTION WITH PROJECT SPECIFICATIONS TO DETERMINE THE FULL SCOPE OF PROJECT.

4. SCOPE OF WORK

A. A PUBLIC ADDRESS SYSTEM IS PROVIDED IN THE SWITCHYARD AND SERVICE BUILDING.

B. A CCTV SYSTEM IS PROVIDED FOR THE EXTERIOR DOORS, INSIDE THE CONVERTER BUILDING AND NEAR MONITORED AND CONTROLLED DOORS.

C. A SECURITY SYSTEM IS PROVIDED AT THE MAIN GATE AND OTHER DOORS AS OUTLINED IN PROJECT SPECIFICATIONS.

D. TELEPHONE AND NETWORK PORTS ARE BEING PROVIDED IN STRATEGIC LOCATIONS OUTLINED IN THESE DRAWINGS.

5. DOCUMENT 681857-47ES-0001, ASTORIA CONVERTER STATION PERFORMANCE SPECIFICATION, REVISION 1 DATED JUNE 30TH, 2022, IS THE PRIMARY DESIGN CRITERIA USED FOR TELECOMMUNICATIONS AND SECURITY SYSTEM DESIGN.

6. DOCUMENT 1.JNL1100109, TELECOMMUNICATIONS AND SECURITY SYSTEM, REVISION A, DATED 2021-10-20, IS AN ADDITIONAL SOURCE OF DESIGN CRITERIA USED FOR TELECOMMUNICATIONS AND SECURITY SYSTEMS DESIGN.

7. DOCUMENT O-ENG-S-015, DESIGN CRITERIA FOR DEVELOPER CONNECTION TO THE NEW YORK POWER AUTHORITY TRANSMISSION SYSTEM, DATED 4/11/2020, IS USED AS DESIGN CRITERIA WHERE SPECIFIED BY 681857-47ES-0001, ASTORIA CONVERTER STATION PERFORMANCE SPECIFICATION.

8. COMPLIANCE WITH NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION (NERC) CIP CYBER SECURITY STANDARDS AS RELATED TO SYSTEM DESIGN IS REPRESENTED WITHIN THESE DRAWINGS ONLY. THE PROCESSES AND PROCEDURES REQUIRED BY NERC CIP STANDARDS ARE THE RESPONSIBILITY OF THE OWNER.

9. NERC CIP IMPACT CATEGORY IS UNDERSTOOD TO BE "MEDIUM IMPACT BES CYBER SYSTEMS WITH EXTERNAL ROUTABLE CONNECTIVITY".

10. INSTALLATION OF TELECOMMUNICATIONS, SECURITY EQUIPMENT AND CABLING WILL BE COMPLIANT WITH NFPA 70 NATIONAL ELECTRIC CODE, 2020 EDITION.

11. ETHERNET CABLES WILL BE CAT6A.

12. CAT6A CABLE LENGTHS TO BE COMPLIANT WITH TIA-568.5.

13. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH STATE AND NATIONAL CODES, RULES AND REGULATIONS.

14. CONTRACTOR SHALL TAKE REASONABLE CARE TO MAINTAIN A SAFE AND SECURE WORK AREA AT ALL TIMES THROUGH THE USE OF, AMONG OTHER ITEMS, SAFETY EQUIPMENT AND FALL PROTECTION.

15. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND FIELD CONDITIONS PRIOR TO ORDERING MATERIALS OR COMMENCING WORK AND SHALL REPORT TO THE ENGINEER ANY DISCREPANCIES OR OMISSIONS WHICH WOULD INTERFERE WITH SATISFACTORY COMPLETION OF WORK.

16. FIELD VERIFY EXACT LOCATION OF COMMUNICATIONS DEVICES AND MOUNTS. COORDINATE ALL WORK WITH OTHER TRADES AND CONTRACTORS PRIOR TO INSTALLATION.

17. PROVIDE ALL MOUNTING AND SUPPORT HARDWARE FOR COMMUNICATIONS DEVICES TO MEET SPECIFIED MOUNTING HEIGHTS.

18. CEILING MOUNTED SPEAKERS OR CAMERAS INSTALLED IN TILE SHALL BE CENTERED WITHIN THE TILE. DEVICES SHALL NOT BE INSTALLED IN THE TILE DIRECTLY ADJACENT TO AN HVAC DIFFUSER.

19. ALL DISSIMILAR METALS SHALL BE EFFECTIVELY ISOLATED FROM EACH OTHER TO PREVENT GALVANIC ACTION.

20. ALL EQUIPMENT SHALL BE GROUNDED ACCORDING TO MANUFACTURER RECOMMENDATIONS.

21. ANY EQUIPMENT INSIDE THE CONVERTER BUILDING SHALL BE RFI/EMC COMPLIANT, AND BE ABLE TO WITHSTAND HV ENVIRONMENT.

22. ALL CABLES SHALL BE COMPLIANT WITH HITACHI ENERGY'S SPECIFICATION INCLUDING BE LOW SMOKE ZERO HALOGEN.

ABBREVIATIONS

- ACS - ACCESS CONTROL SYSTEM

CCTV - CLOSED CIRCUIT TELEVISION

PA - PUBLIC ADDRESS

IDS - INTRUSION DETECTION SYSTEM

MVS - MEDIUM-VOLTAGE SWITCHGEAR

PTZ - PAN, TILT, ZOOM
- IOM - INPUT/OUTPUT MODULE

ACP - ACCESS CONTROL PANEL

IOC - INPUT/OUTPUT CABINET

IAP - INTRUSION ALARM PANEL

ICM - INTELLIGENT CONTROLLER MODULE

PSC - POWER SUPPLY CABINET

PSU - POWER SUPPLY UNIT

ACC - ACCESS CONTROL CABINET

- LV- LOW VOLTAGE
- PX - PIR REX DEVICE
- OSDP - OPEN SUPERVISED DEVICE PROTOCOL
- SMO - SINGLE MODE FIBER
- GWB - GYPSUM WALL BOARD
- REX - REQUEST-TO-EXIT

DEVICE LABELING

BUILDING - NAME

- SVB - SERVICE BUILDING
- DH - DC HALL
- RH - REACTOR HALL
- VH - VALVE HALL
- ME - MVS ENCLOSURE
- STE - STORAGE ENCLOSURE
- RLE - RELAY ENCLOSURE
- EX - EXTERIOR SITE

ID - SCHEME

- ID - BLDG - #####

DEVICE ID - NAME

- DSP - DIGITAL SIGNAL PROCESSOR
- AMP - AMPLIFIER
- PSU - POWER SUPPLY UNIT
- CS - CEILING SPEAKER
- ANS - AMBIENT NOISE SENSOR
- VC - VOLUME CONTROL
- CC - CCTV CAMERA
- INT - INTERCOM
- LAN - ETHERNET PORT
- TEL - TELEPHONE PORT
- COM - COMMUNICATIONS ENCLOSURE
- DC - DOOR CONTROLLER
- MS - MOTION SENSOR
- HS - HORN SPEAKER

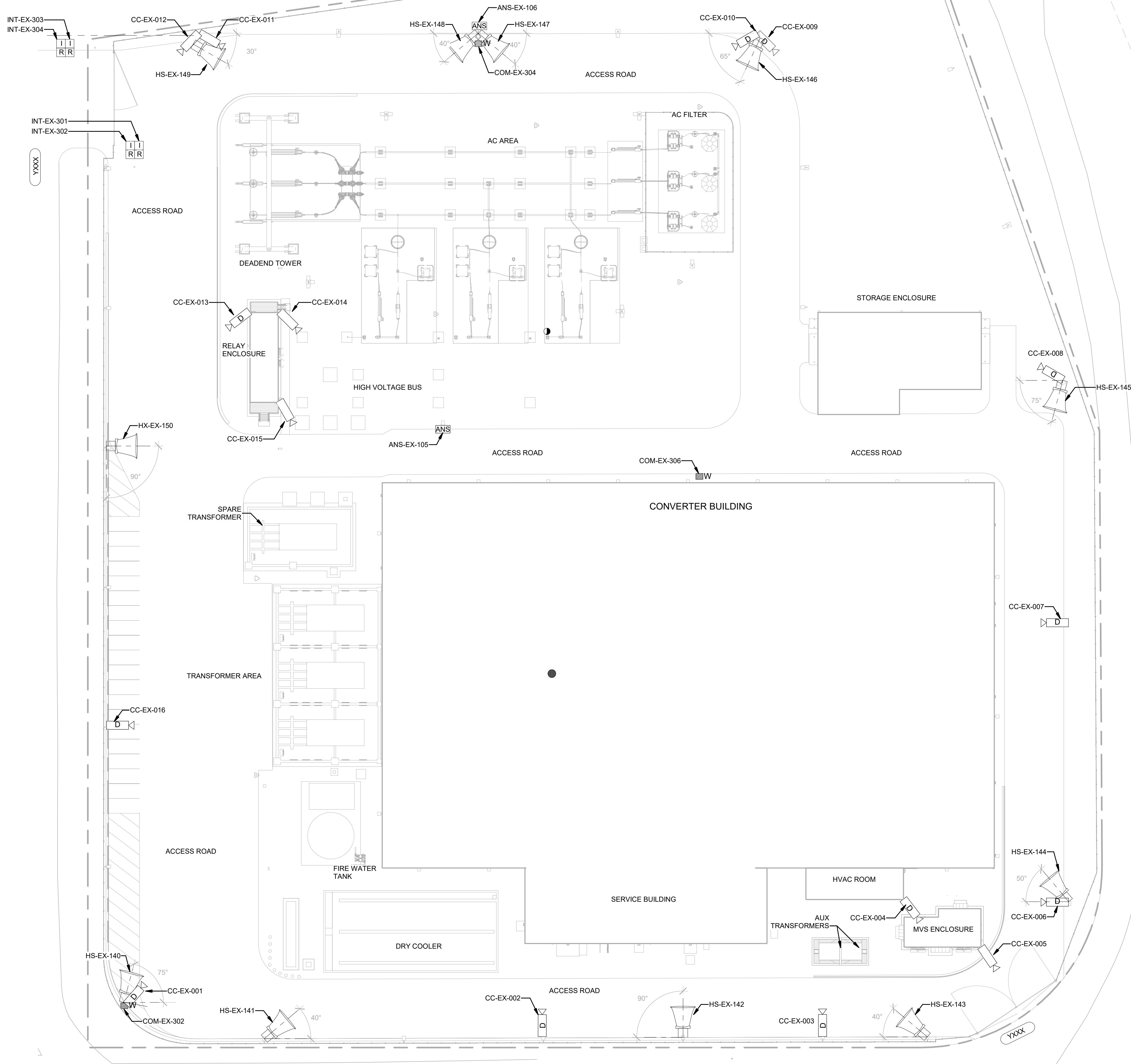
- DEVICE NUMBER

- 001- 100 - CCTV
- 101- 200 - PA
- 201- 300 - ACS / IDS
- 301- 400 - NETWORK

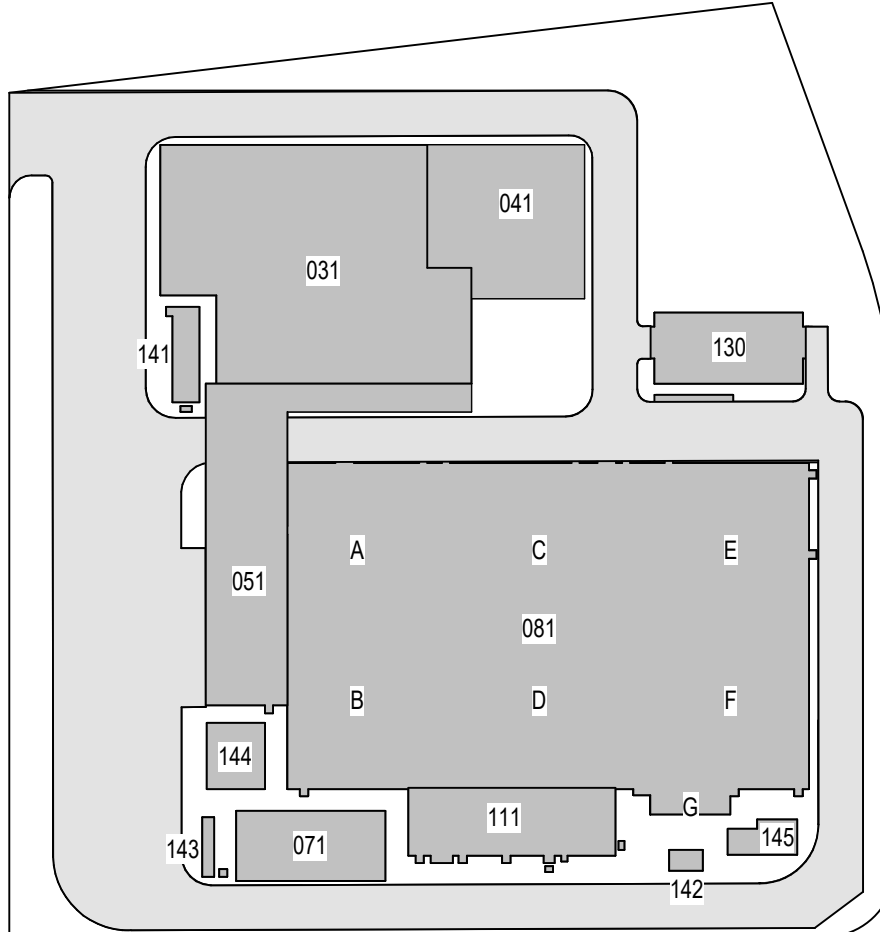
EXAMPLES:

- CS-SVB-113
- DC-SVB-B107

12/8/2022 6:07:23 AM



- GENERAL NOTES:**
1. FACILITY ACCESS CONTROL TO BE PROVIDED AT EXTERIOR ENTRY POINTS. FREE ACCESS ONCE PERSONNEL HAVE BEEN GRANTED ACCESS TO A BUILDING.
 2. DOORS AND GATES CONTAINING ACCESS CONTROL AND/OR INTRUSION DETECTION IDENTIFIED WITH A DOOR NUMBER. REFER TO DRAWING CO-222.00 FOR DEVICE ASSIGNMENTS.
 3. ENTRANCE INTERCOM AND CARD READER PEDESTALS TO BE MOUNTED AT DISTANCE OF 3'-0" FROM THE PROPERTY LINE INSIDE.



KEY PLAN
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A	INTERIM SUBMISSION	JDH	CC	9/13/2022
REV	DESCRIPTION	DRW BY	CHK BY	DATE

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Hitachi Energy
901 Main Campus Drive
Raleigh, North Carolina 27606

PROJECT

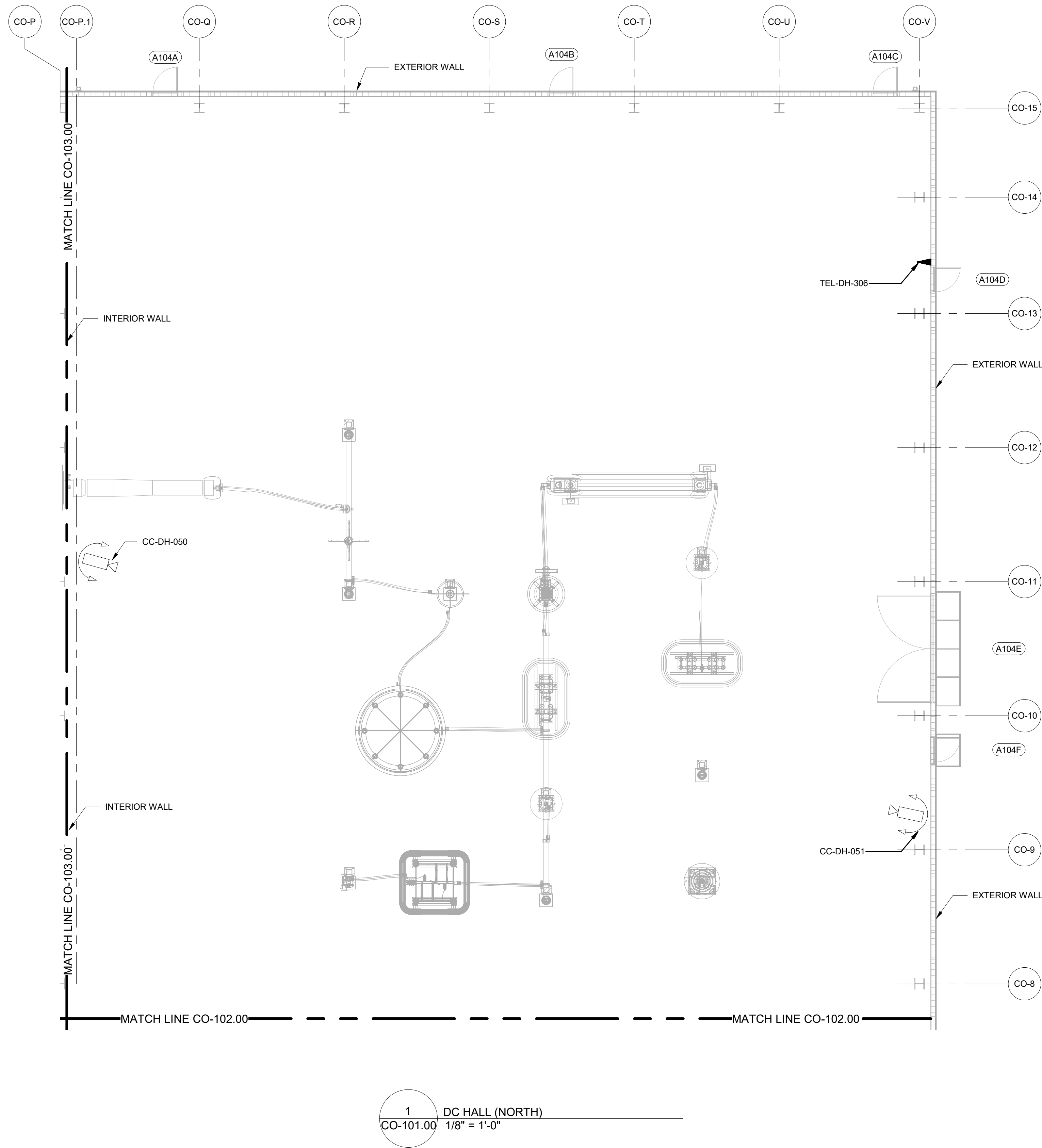
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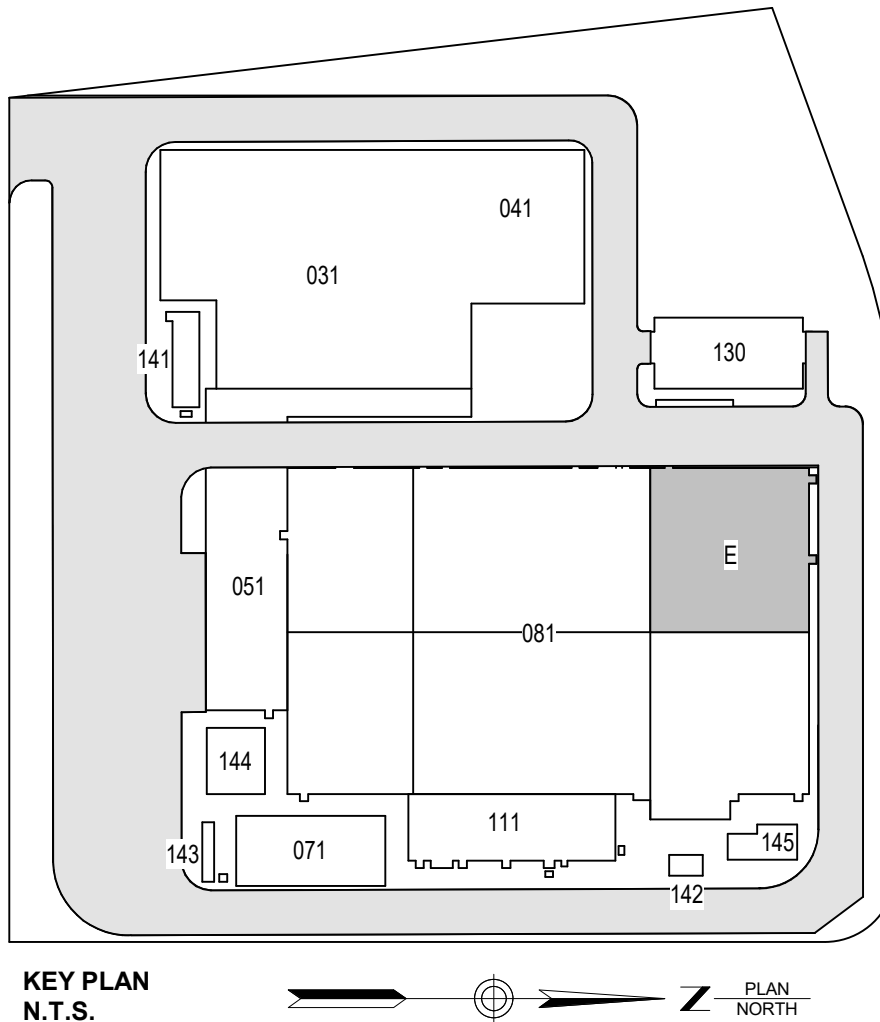
**COMMUNICATIONS
SYSTEMS OVERALL SITE
PLAN**

DATE 08/29/2022
PROJECT NO 105121
DRAWING BY J. HOWARD
CHECKED BY C. CARROL
DRAWING NO
CO-100.01
CADD FILE NO
Astoria-HVDC-CHPE
Astoria-CHPE-020-00-M3-CO-001.rvt



- GENERAL NOTES:**
- DOORS AND GATES CONTAINING ACCESS CONTROL AND/OR INTRUSION DETECTION IDENTIFIED WITH A DOOR NUMBER. REFER TO DRAWING CO-222.00 FOR DEVICE ASSIGNMENTS.
 - ALL PTZ CAMERAS WITHIN THE CONVERTER BUILDING ARE EM/RFI RATED

ISSUED FOR PERMIT



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PROJECT

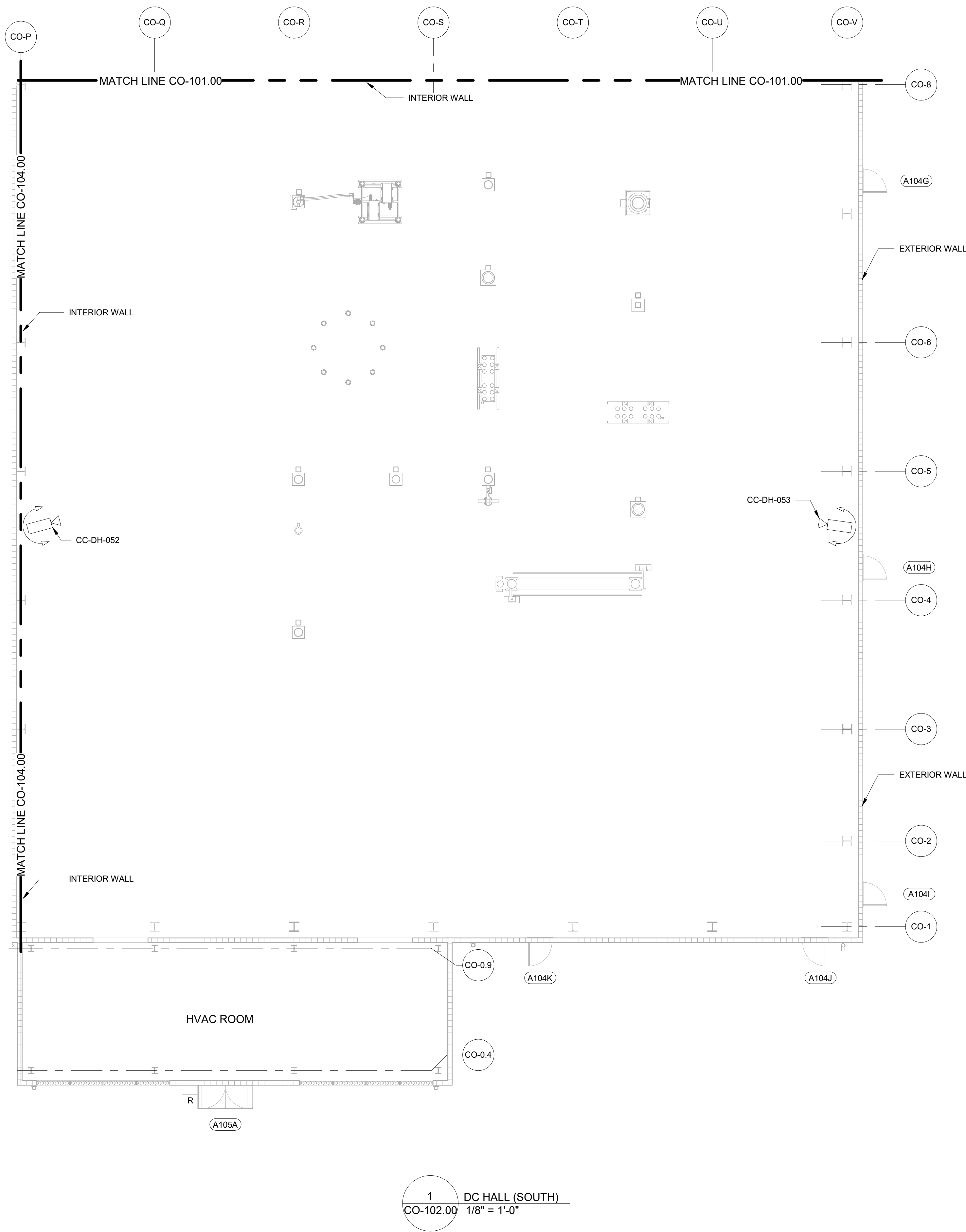
CHPE
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Block #850 - Lot #310 - BIN #4624437

**COMMUNICATION
SYSTEMS DEVICE LAYOUT
DC HALL (NORTH)**

DATE 08/29/2022
PROJECT NO 105121
DRAWING BY J. HOWARD
CHECKED BY C. CARROL
DRAWING NO
CO-101.00
CADD FILE NO
Autodesk/DC/CHPE
Astoria/CHW-KIE-081-22-A01-CO-001.rvt

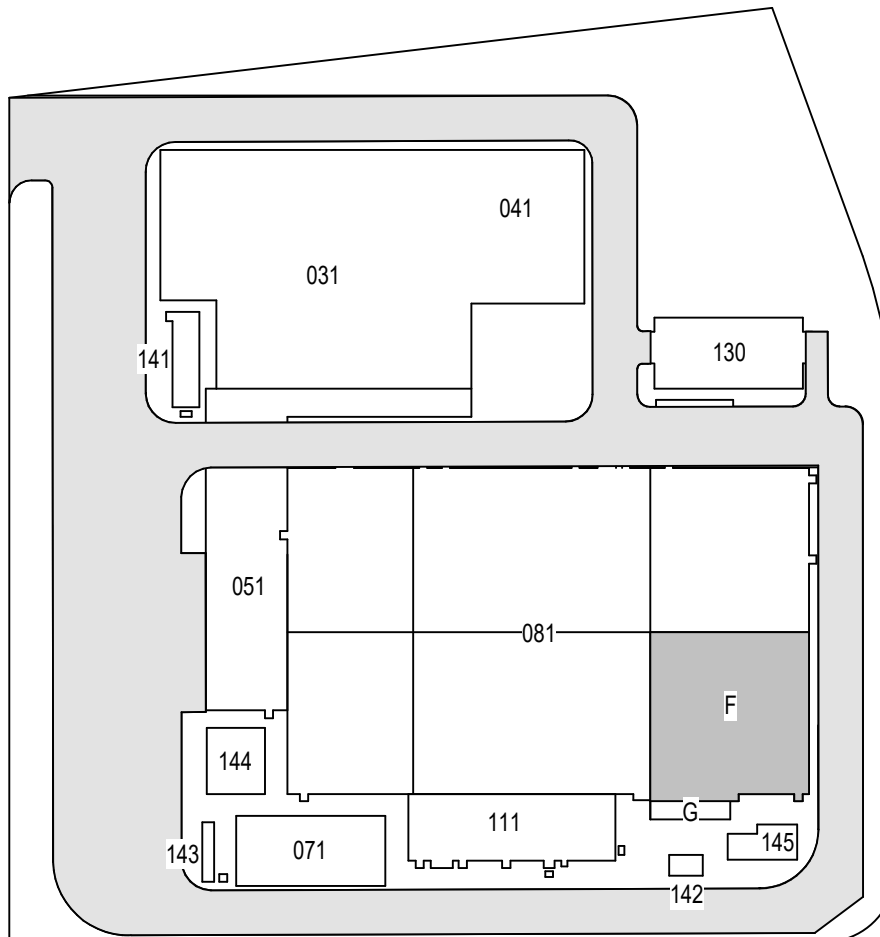


1 DC HALL (SOUTH)
CO-102.00 1/8" = 1'-0"

GENERAL NOTES:

- DOORS AND GATES CONTAINING ACCESS CONTROL AND/OR INTRUSION DETECTION IDENTIFIED WITH A DOOR NUMBER. REFER TO DRAWING CO-222.00 FOR DEVICE ASSIGNMENTS.
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ISSUED FOR PERMIT



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REV	DESCRIPTION	DRW BY	CHK BY	DATE
A	INTERIM SUBMISSION	JDH	CC	9/13/2022

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

Hitachi Energy
901 Main Campus Drive
Raleigh, North Carolina 27606

PROJECT

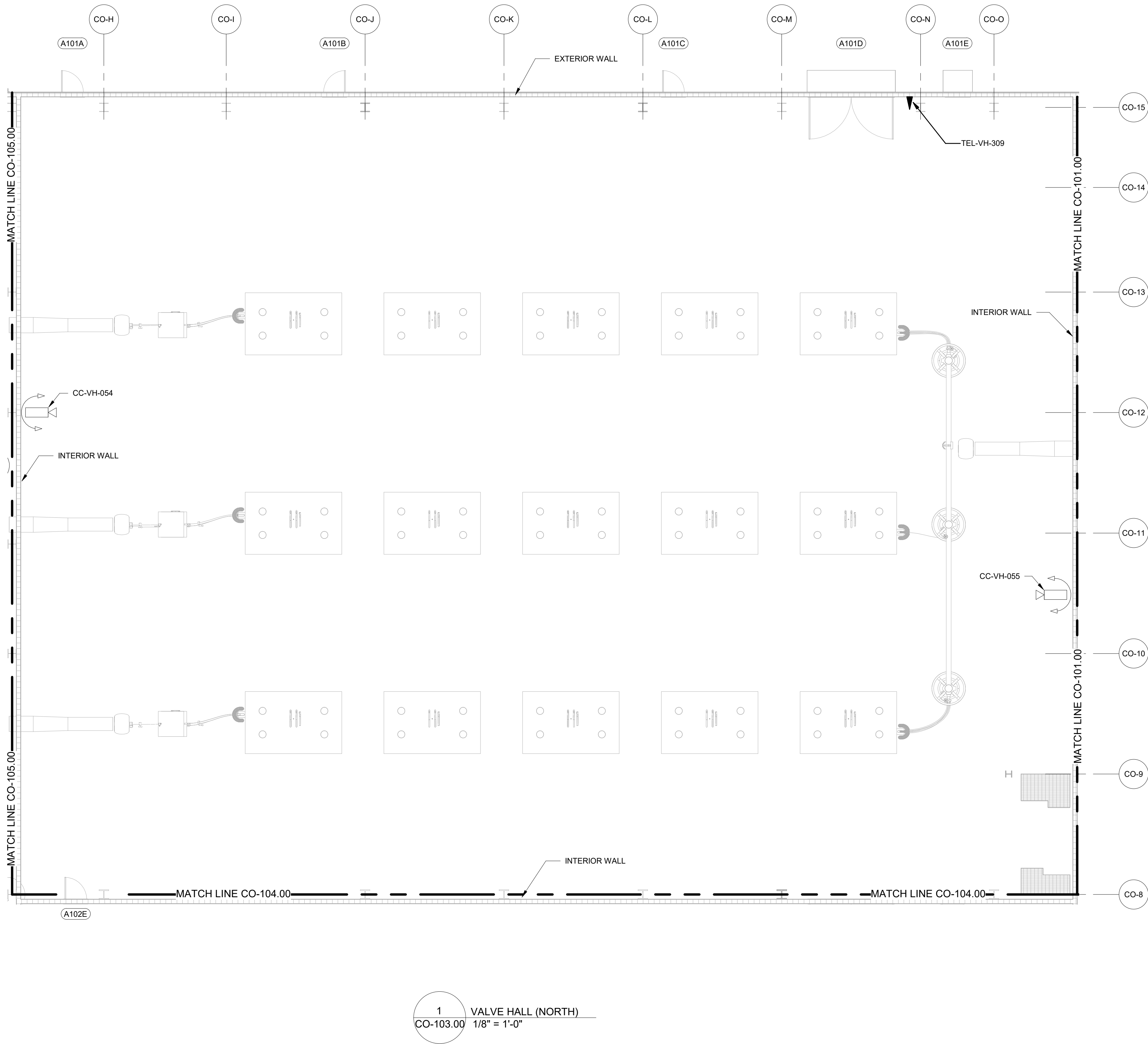
CHPE
Champlain Hudson
Power Express

Astoria HVDC
Converter Station

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

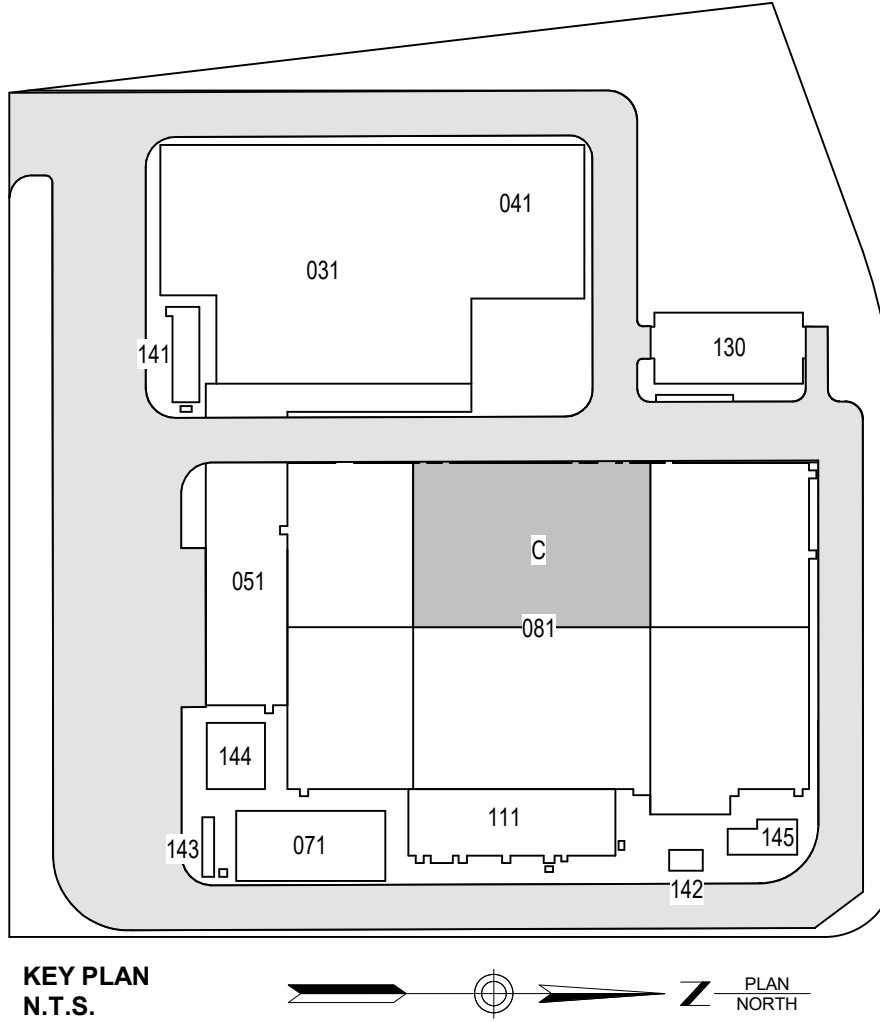
COMMUNICATIONS
SYSTEMS DEVICE LAYOUT
DC HALL (SOUTH)

DATE 08/29/2022
PROJECT NO 105121
DRAWING BY J. HOWARD
CHECKED BY C. CARROL
DRAWING NO
CO-102.00
CADD FILE NO
Autodesk/DC/CHPE
Astoria/CHW-KIE-081-22-AD-00-001.rvt



- GENERAL NOTES:**
- DOORS AND GATES CONTAINING ACCESS CONTROL AND/OR INTRUSION DETECTION IDENTIFIED WITH A DOOR NUMBER. REFER TO DRAWING CO-222.00 FOR DEVICE ASSIGNMENTS.
 - ALL PTZ CAMERAS WITHIN THE CONVERTER BUILDING ARE EMI/RFI RATED

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370 7th Avenue
SUITE 1604
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REV	DESCRIPTION	DRW BY	CHK BY	DATE
A	INTERIM SUBMISSION	JDH	CC	9/13/2022

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

Hitachi Energy
901 Main Campus Drive
Raleigh, North Carolina 27606

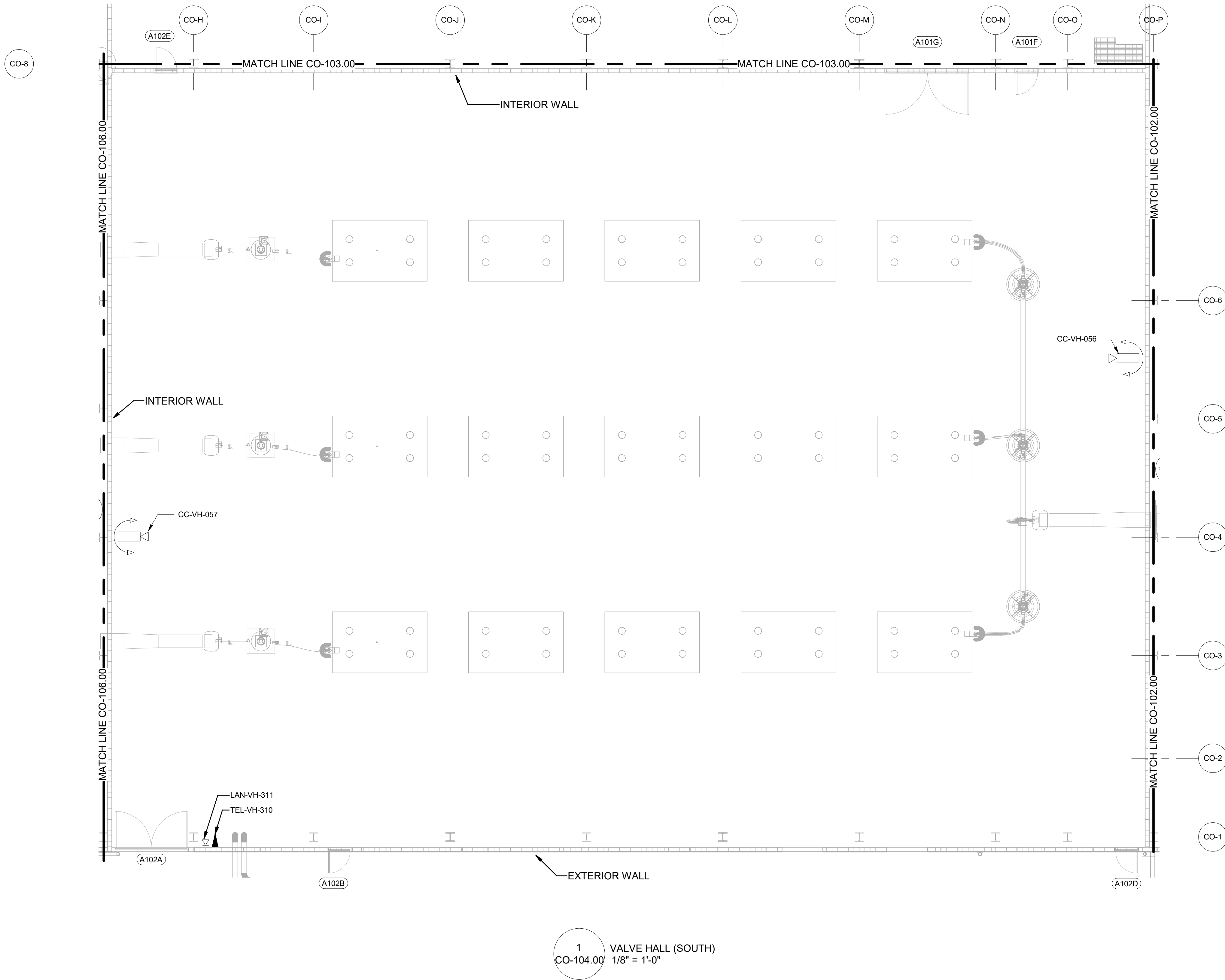
PROJECT

CHPE
Champlain Hudson
Power Express

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

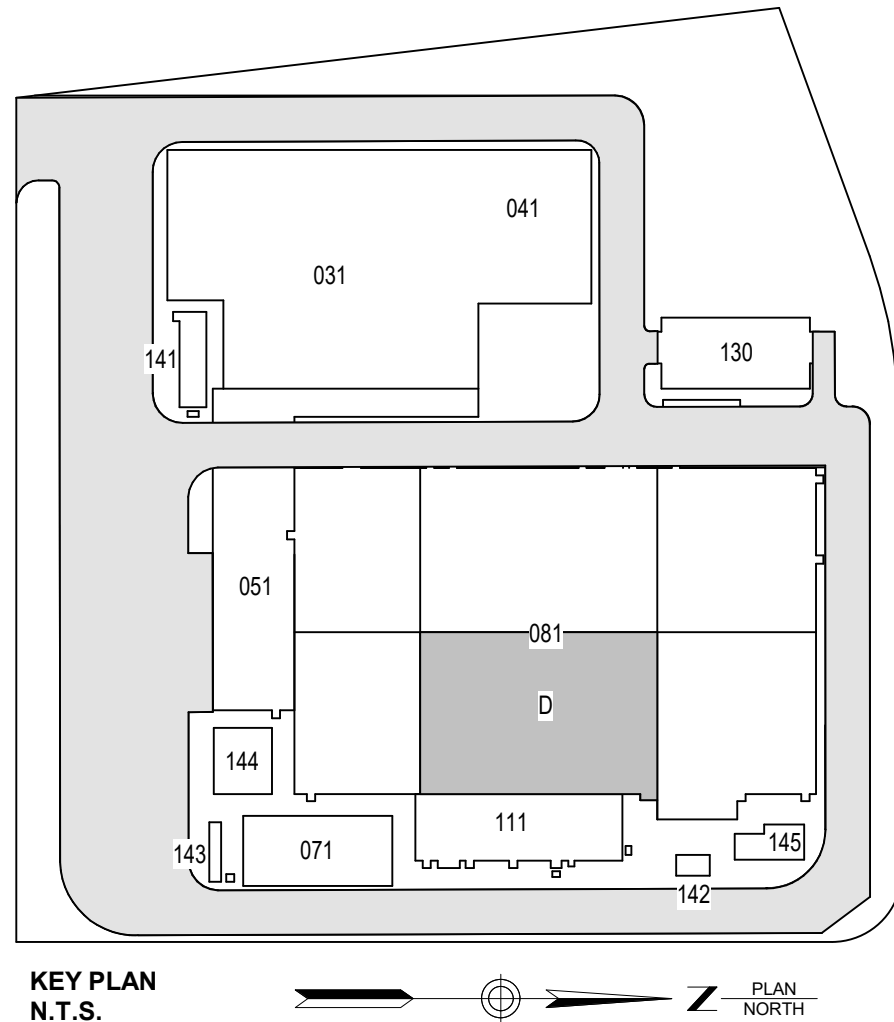
**COMMUNICATIONS
SYSTEMS DEVICE LAYOUT
VALVE HALL (NORTH)**

DATE 08/29/2022
PROJECT NO 105121
DRAWING BY J. HOWARD
CHECKED BY C. CARROL
DRAWING NO
CO-103.00
CADD FILE NO
Autodesk/Docs/CHPE
Astoria/CHW-KIE-081/22-AD-CO-001.rvt



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REV	DESCRIPTION	DRW BY	CHK BY	DATE
A	INTERIM SUBMISSION	JDH	CC	9/13/2022

Kiewit

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

Hitachi Energy

901 Main Campus Drive
Raleigh, North Carolina 27606

PROJECT

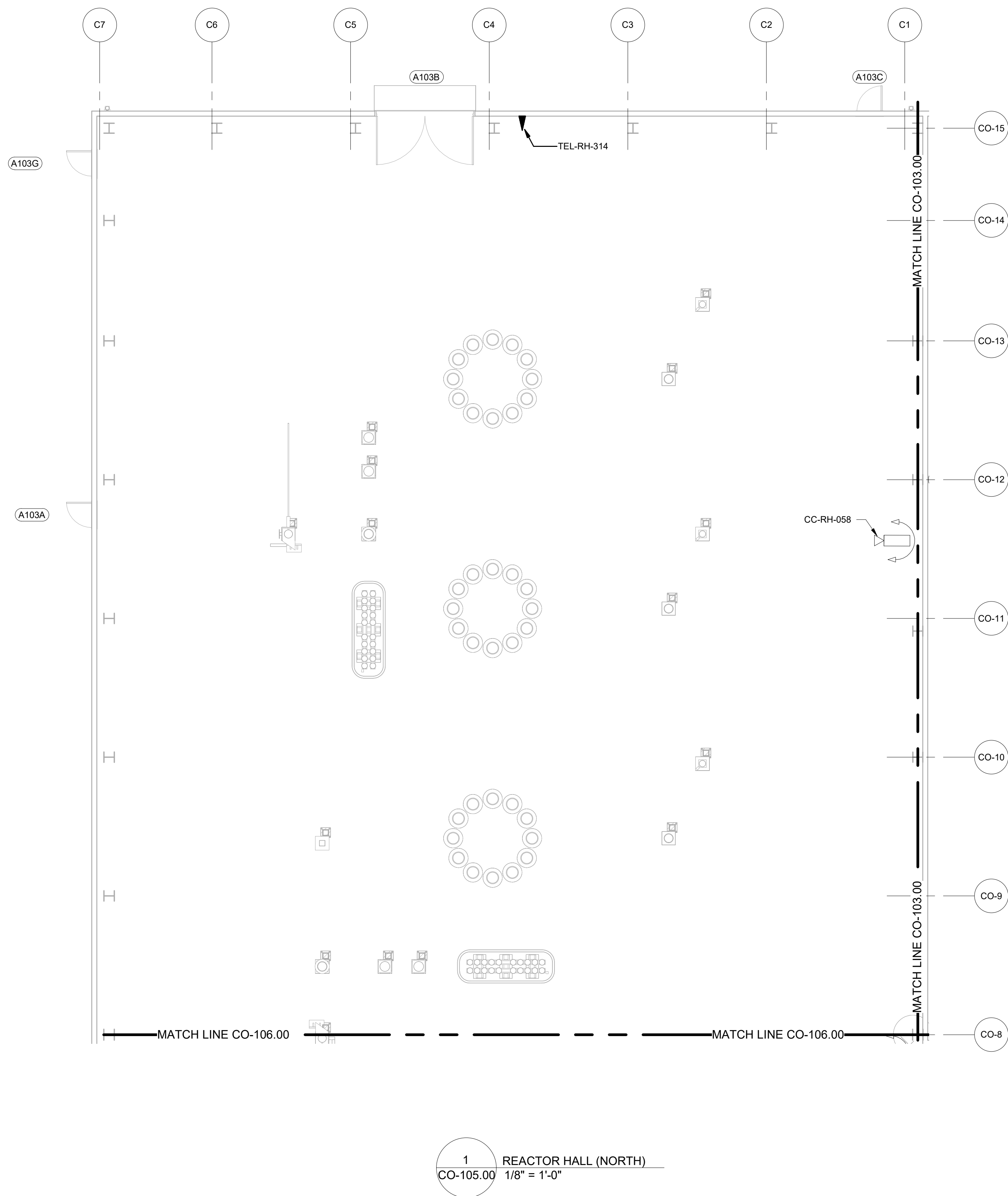
CHPE
Champlain Hudson
Power Express

**Astoria HVDC
Converter Station**

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

**COMMUNICATIONS
SYSTEMS DEVICE LAYOUT
VALVE HALL (SOUTH)**

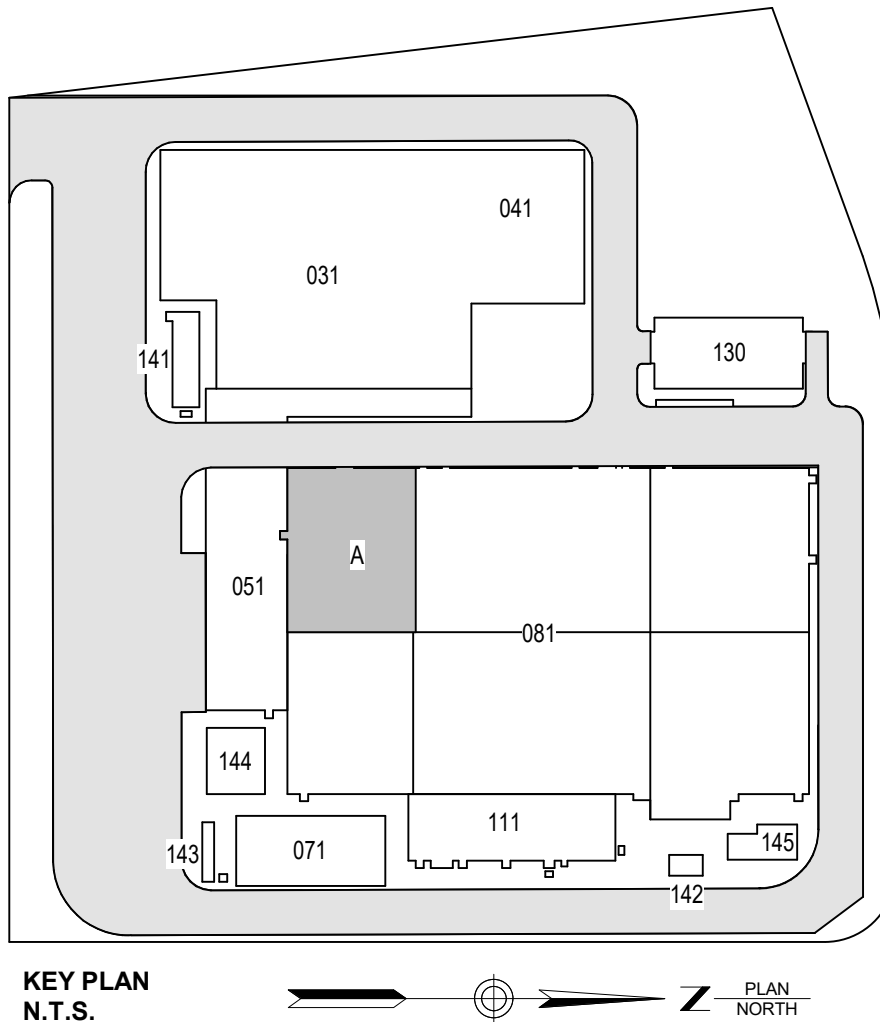
DATE 08/29/2022
PROJECT NO 105121
DRAWING BY J. HOWARD
CHECKED BY C. CARROL
DRAWING NO
CO-104.00
CADD FILE NO
Autodesk/Docu/CHPE
Astoria/CHW-KIE-081-22-A01-CO-001.rvt



GENERAL NOTES:

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2. ALL PTZ CAMERAS WITHIN THE CONVERTER BUILDING ARE EMI/RF RATED

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A	INTERIM SUBMISSION	JDH	CC	9/13/2022
REV	DESCRIPTION	DRW BY	CHK BY	DATE




Kiewit

470 Chestnut Ridge Rd # 2
Woodcliff Lake, NJ 07677



901 Main Campus Drive
Raleigh, North Carolina 27606

PROJECT



Astoria HVDC Converter Station

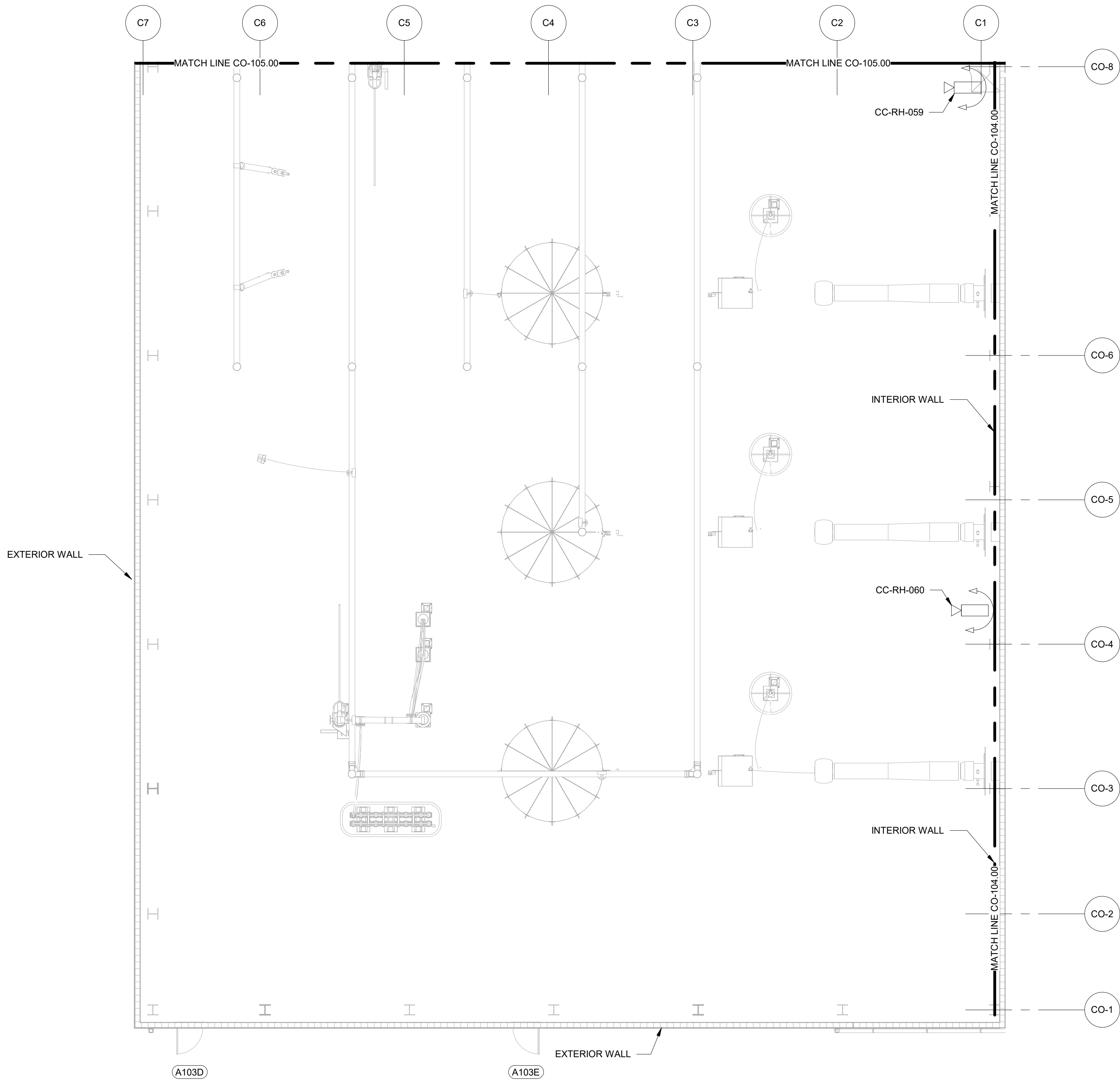
31-45 20th Avenue, Astoria, Queens NY 11105
Block #850 - Lot #310 - BIN #4624437

**COMMUNICATIONS
SYSTEMS DEVICE LAYOUT
REACTOR HALL (NORTH)**

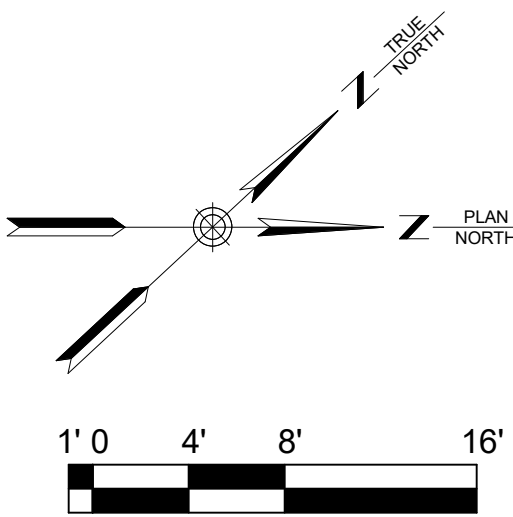
DATE	08/29/2022
PROJECT NO	105121
DRAWING BY	J. HOWARD
CHECKED BY	C. CARROL

CO-105.00

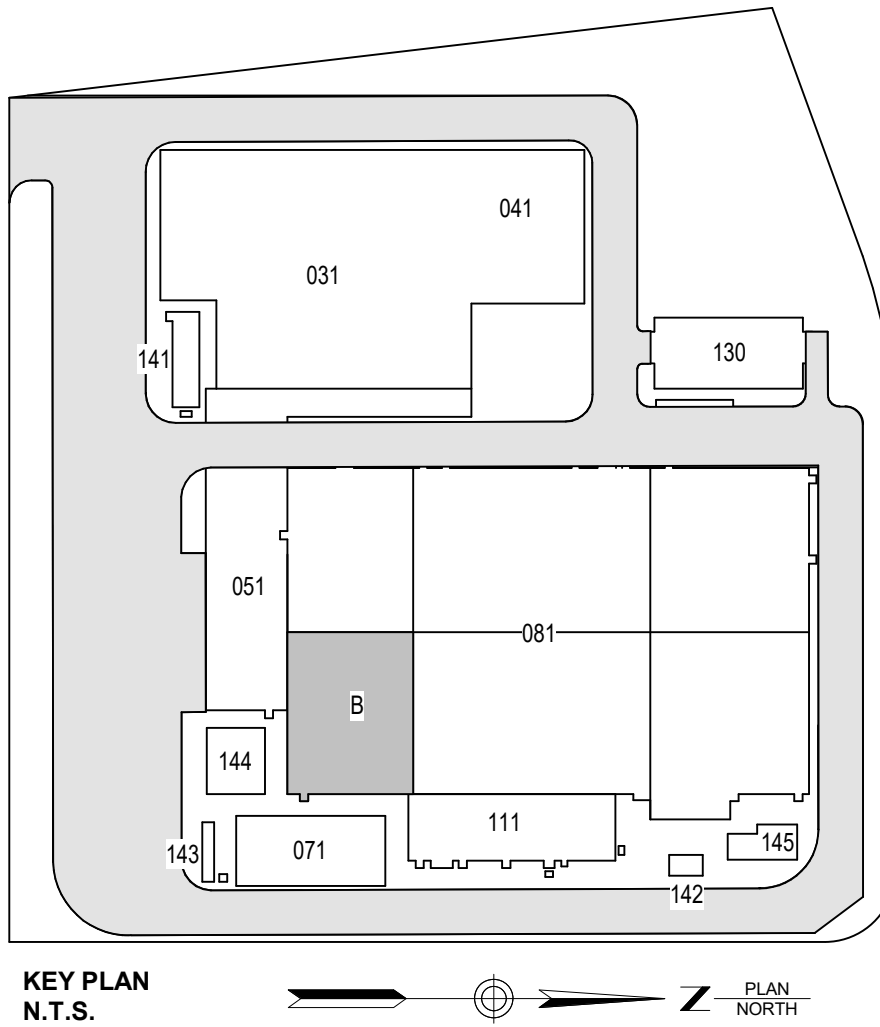
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Autodesk Docs://CHPE
Astoria/CHA-KIE-081-ZZ-M3-CO-001.rvt



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A	INTERIM SUBMISSION	JDH	CC	9/13/2022

Kiewit
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Woodcliff Lake, NJ 07677

Hitachi Energy
901 Main Campus Drive
Raleigh, North Carolina 27606

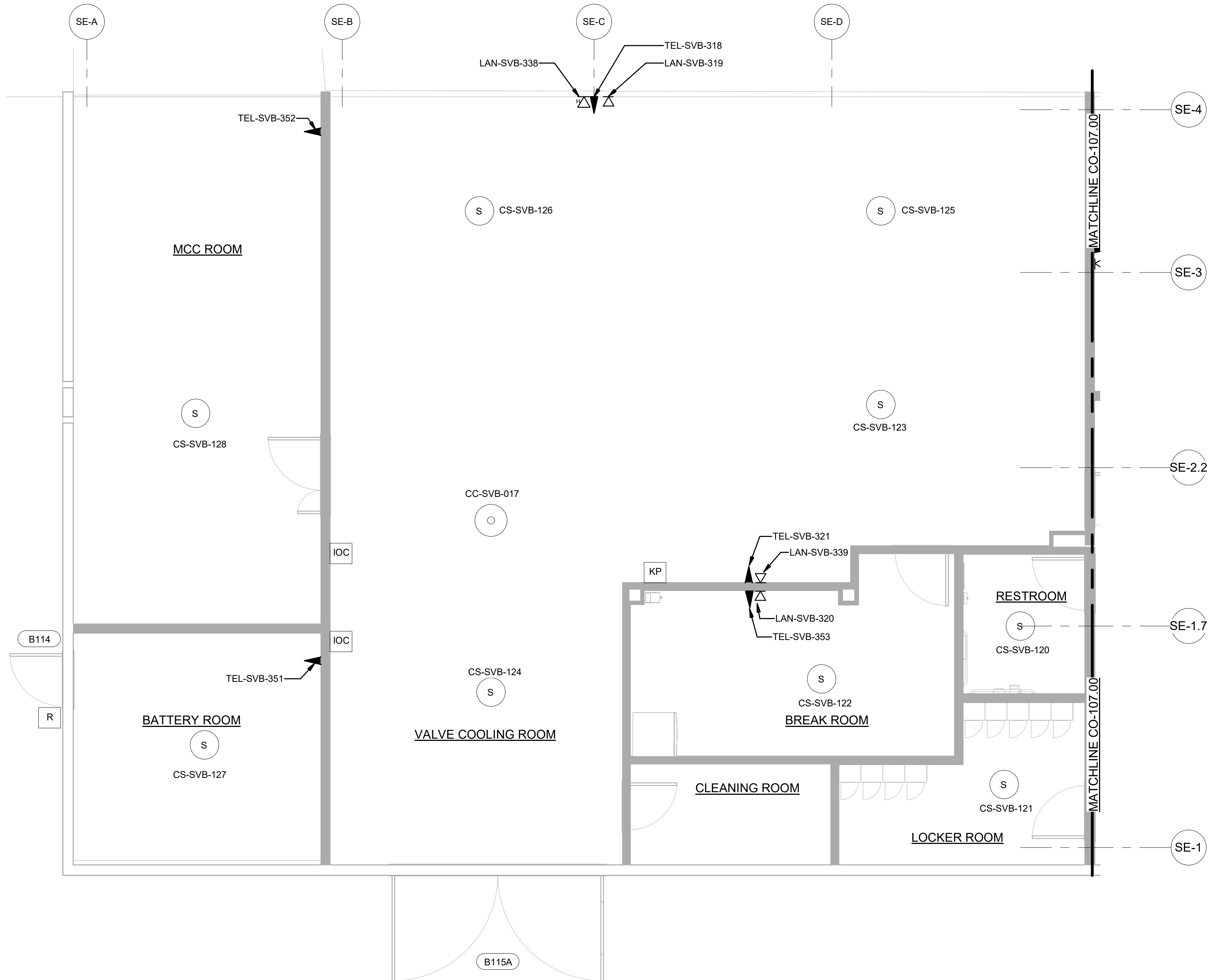
PROJECT
CHPE
Champlain Hudson
Power Express

**Astoria HVDC
Converter Station**

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

**COMMUNICATIONS
SYSTEMS DEVICE LAYOUT
REACTOR HALL (SOUTH)**

DATE 08/29/2022
PROJECT NO 105121
DRAWING BY J. HOWARD
CHECKED BY C. CARROL
DRAWING NO
CO-106.00
CADD FILE NO
Autodesk Docs\CHPE
Astoria\CHW-KIE-081-22\AO-CO-001.rvt

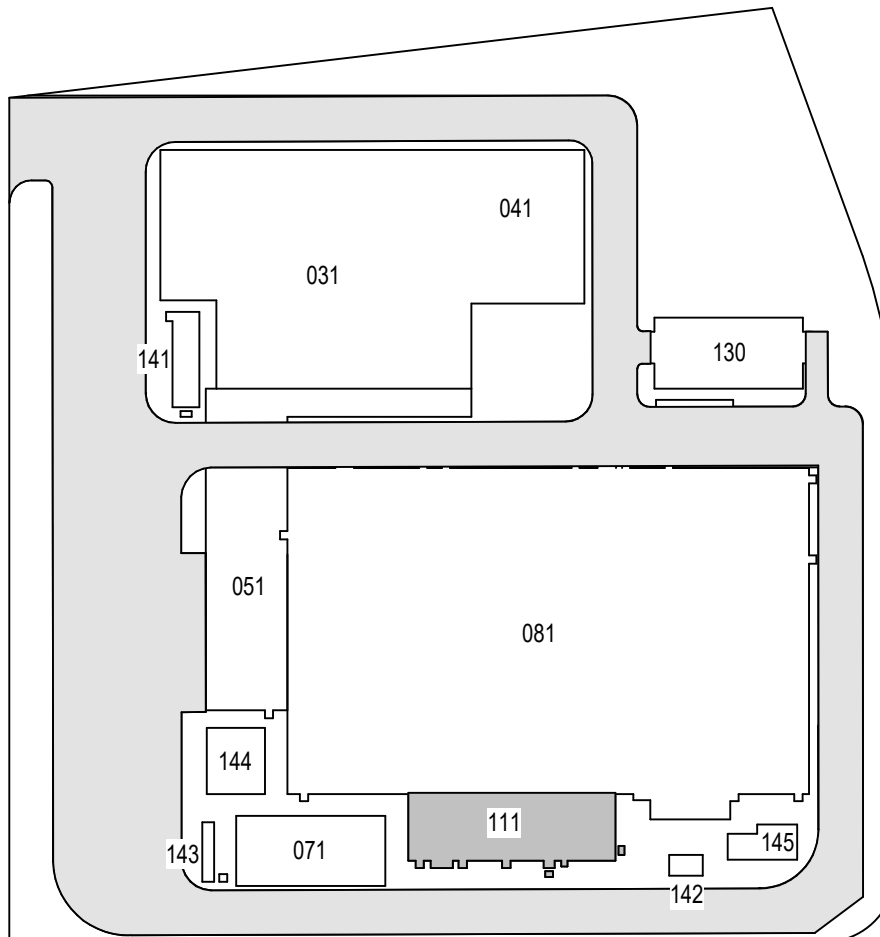


1 SERVICE BUILDING LEVEL 1 (SOUTH)
CO-107.00 1/4" = 1'-0"

GENERAL NOTES:

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REV	DESCRIPTION	DRW BY	CHK BY	DATE
B	FINAL SUBMISSION	JDH	RAB	12/08/2022
A	INTERIM SUBMISSION	JDH	CC	9/13/2022

Kiewit
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Woodcliff Lake, NJ 07677

Hitachi Energy
901 Main Campus Drive
Raleigh, North Carolina 27606

PROJECT

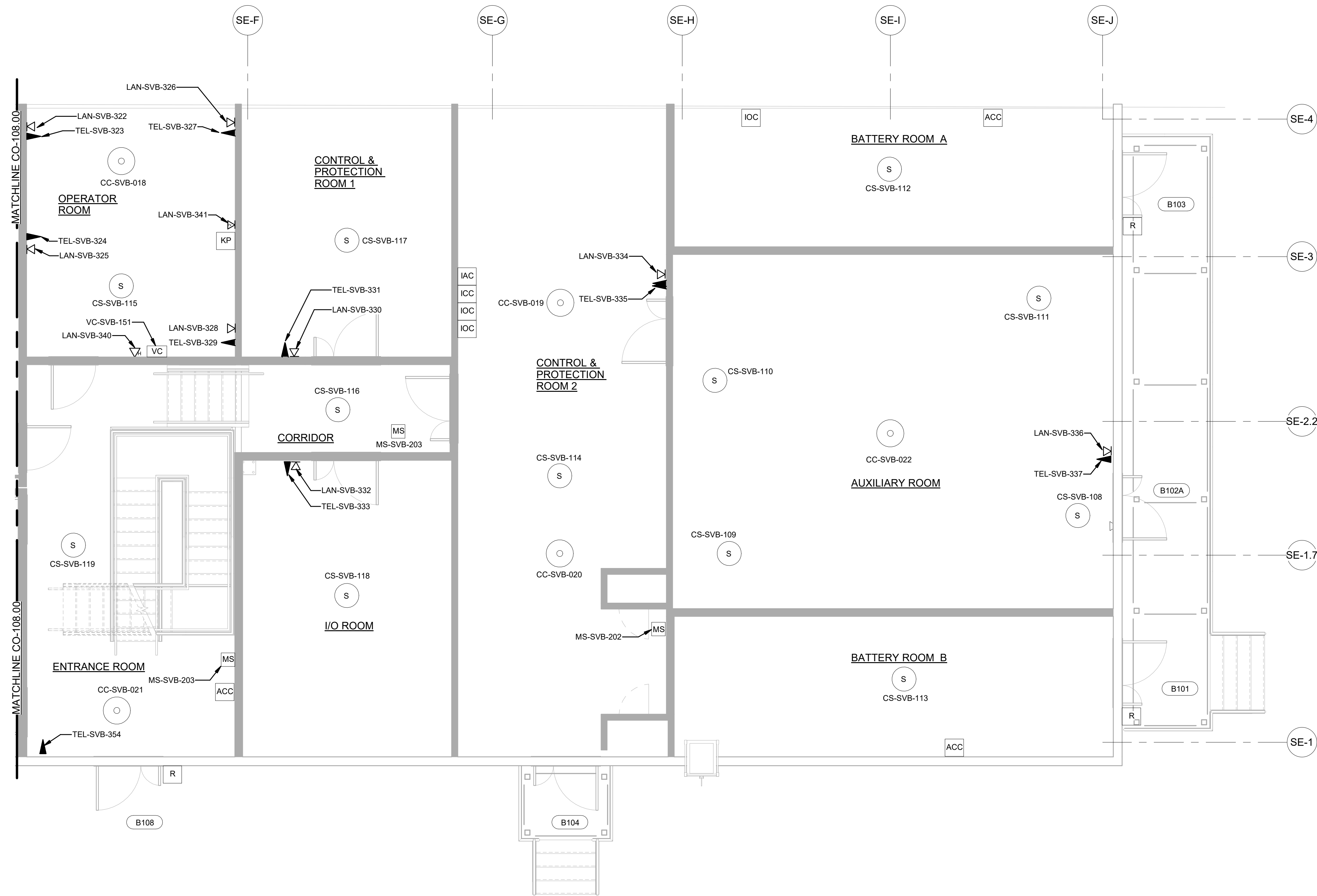
CHPE
Champlain Hudson
Power Express

**Astoria HVDC
Converter Station**

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

**COMMUNICATIONS
SYSTEMS DEVICE LAYOUT
SERVICE BUILDING
LEVEL-1 (SOUTH)**

DATE 08/29/2022
PROJECT NO 105121
DRAWING BY J.HOWARD
CHECKED BY C.CARROL
DRAWING NO
CO-107.00
CADD FILE NO
Autodesk/Docu/CHPE
Astoria/CHW-RE-111-ZZ-MO-CO-001.rvt

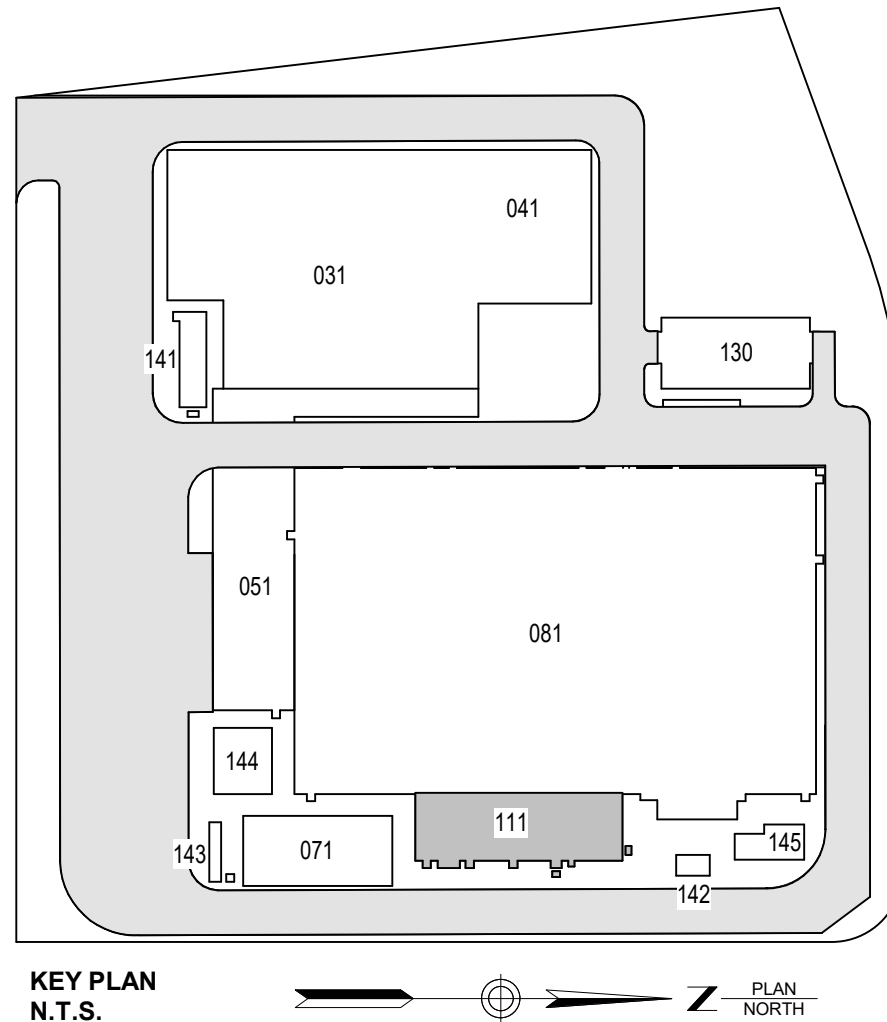


1 SERVICE BUILDING LEVEL 1 (NORTH)
CO-108.00 1/4" = 1'-0"

GENERAL NOTES:

1. DOORS AND GATES CONTAINING ACCESS CONTROL AND/OR INTRUSION DETECTION IDENTIFIED WITH A DOOR NUMBER. REFER TO DRAWING CO-222.00 FOR DEVICE ASSIGNMENTS.

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B	FINAL SUBMISSION	JDH	RAB	12/08/2022
A	INTERIM SUBMISSION	JDH	CC	9/13/2022

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

Hitachi Energy
901 Main Campus Drive
Raleigh, North Carolina 27606

PROJECT

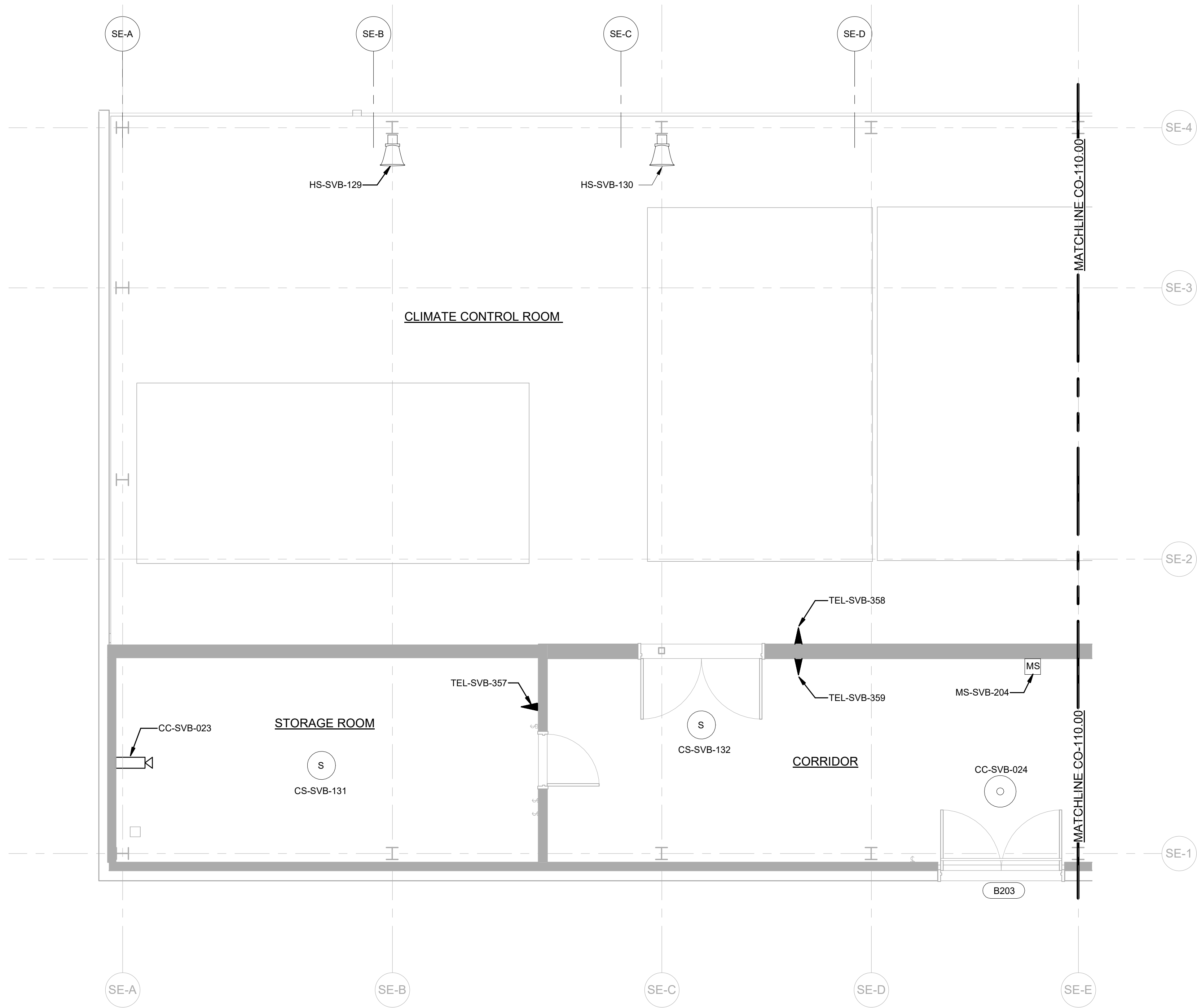
CHPE
Champlain Hudson
Power Express

**Astoria HVDC
Converter Station**

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

**COMMUNICATIONS
SYSTEMS DEVICE LAYOUT
SERVICE BUILDING
LEVEL-1 (NORTH)**

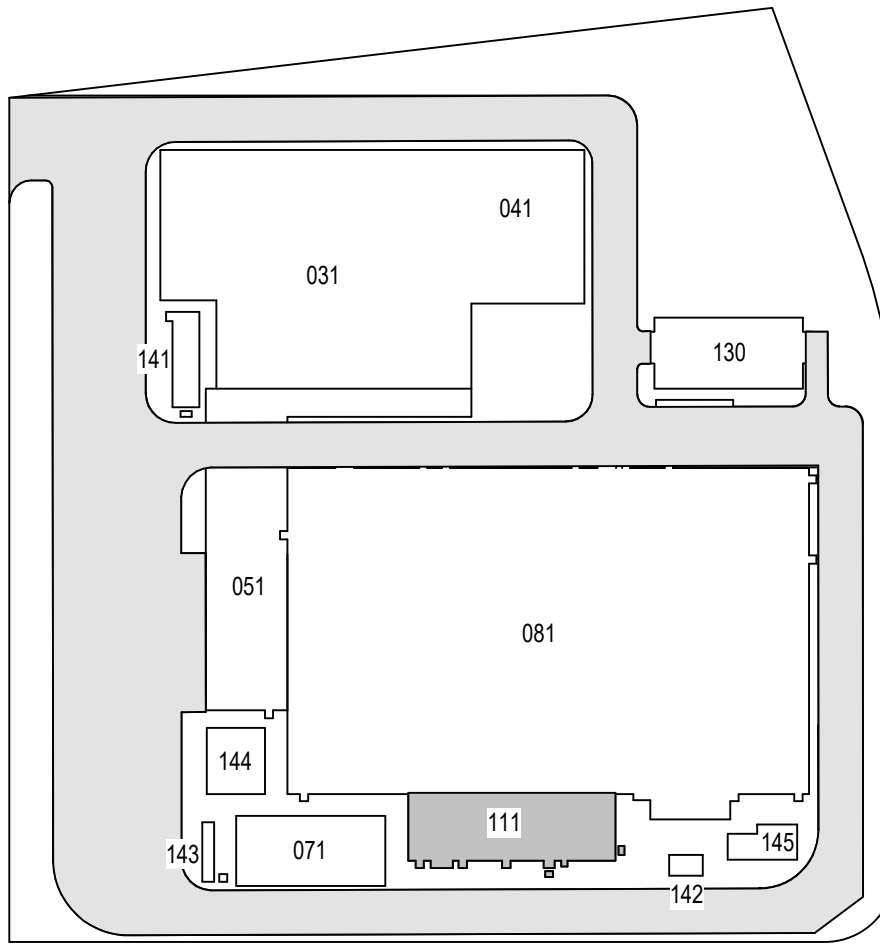
DATE 08/29/2022
PROJECT NO 105121
DRAWING BY J.HOWARD
CHECKED BY C.CARROL
DRAWING NO
CO-108.00
CADD FILE NO
Autodesk/Docu/CHPE
Astoria/CHW/RE-111/22/AD-CO-001.rvt



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A	INTERIM SUBMISSION	JDH	CC	9/13/2022

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

Hitachi Energy 901 Main Campus Drive Raleigh, North Carolina 27606

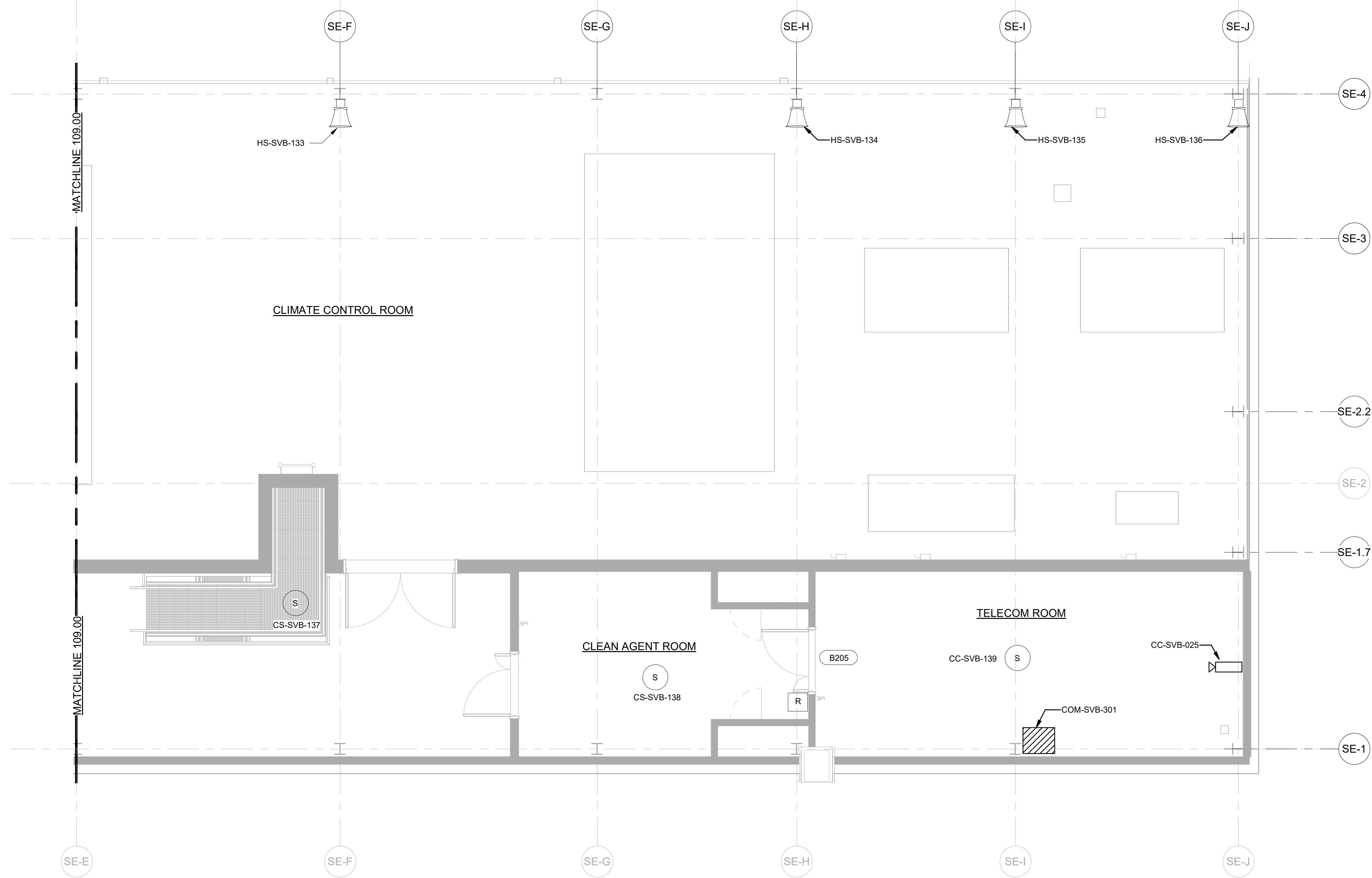
PROJECT CHPE Champlain Hudson Power Express

Astoria HVDC Converter Station

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

COMMUNICATIONS SYSTEMS DEVICE LAYOUT SERVICE BUILDING LEVEL-2 (SOUTH)

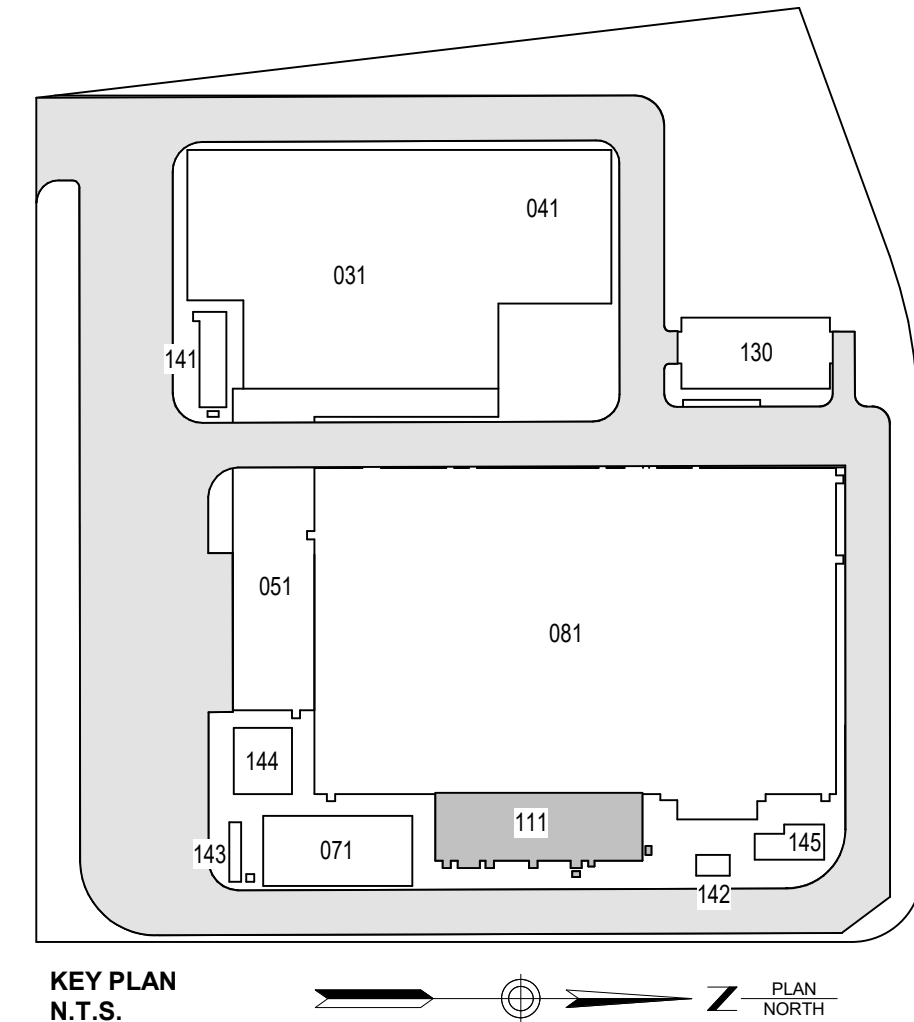
DATE 08/29/2022 PROJECT NO 105121 DRAWING BY J.HOWARD CHECKED BY C.CARROL DRAWING NO CO-109.00 CADD FILE NO AstoriaHVDC-CHPE AstoriaCHW-RE-111-22-A01-CO-001.rvt



1 SERVICE BUILDING LEVEL 2 (NORTH)
CO-110.00 1/4" = 1'-0"

GENERAL NOTES:
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B	FINAL SUBMISSION	JDH	RAB	12/08/2022
A	INTERIM SUBMISSION	JDH	CC	9/13/2022

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

Hitachi Energy
901 Main Campus Drive
Raleigh, North Carolina 27606

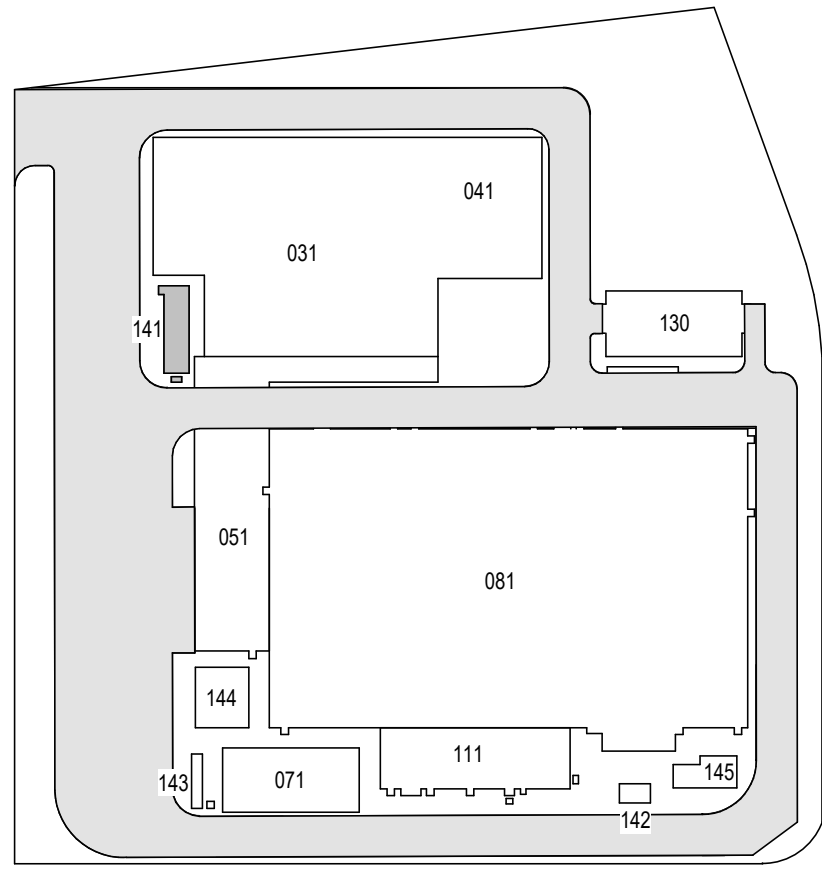
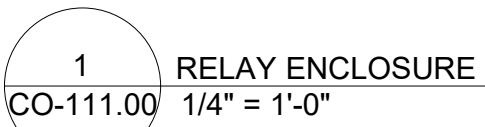
PROJECT
CHPE
Champlain Hudson
Power Express

**Astoria HVDC
Converter Station**

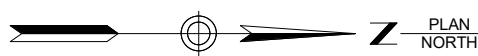
31-45 20th Avenue, Astoria, Queens NY 11105
Block #850 - Lot #310 - BIN #4624437

**COMMUNICATIONS
SYSTEMS DEVICE LAYOUT
SERVICE BUILDING
LEVEL-2 (NORTH)**

DATE	08/29/2022
PROJECT NO	105121
DRAWING BY	J.HOWARD
CHECKED BY	C.CARROL
DRAWING NO	CO-110.00
CADD FILE NO	Autodesk/CO-110.00 Autodesk/CHPE Autodesk/CHPE-111-22-A01-CO-001.rvt



KEY PLAN
N.T.S.



KE Engineering and
Land Surveying, P.C.

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B	FINAL SUBMISSION	JDH	RAB	12/08/2022
A	INTERIM SUBMISSION	JDH	CC	09/13/2022
REV	DESCRIPTION	DRW BY	CHK BY	DATE



PROJECT



Astoria HVDC Converter Station

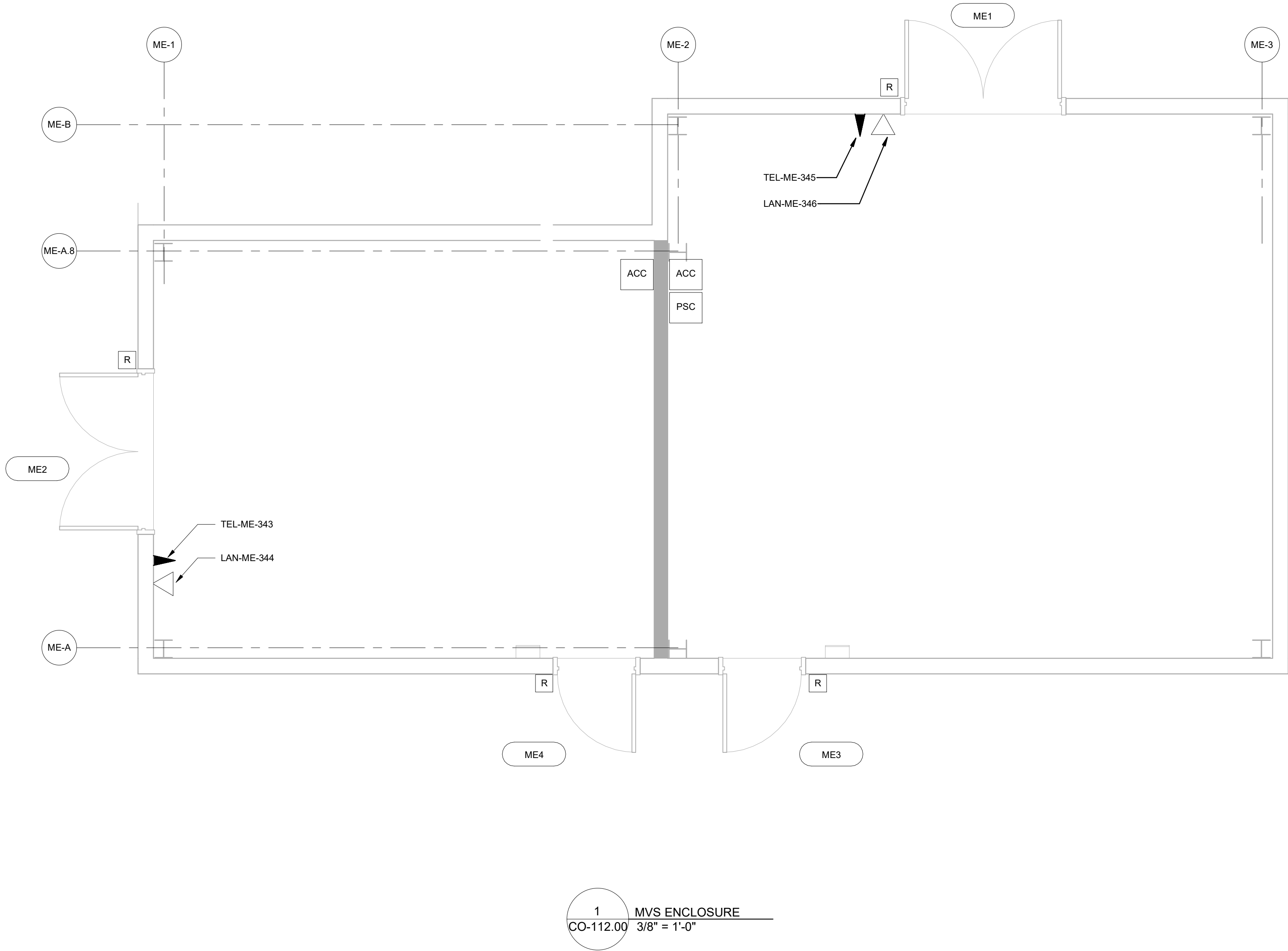
31-45 20th Avenue, Astoria, Queens NY 11105
Block #850 - Lot #310 - BIN #4624437

COMMUNICATIONS SYSTEMS DEVICE LAYOUT RELAY ENCLOSURE

DATE	08/29/2022
PROJECT NO	105121
DRAWING BY	J. HOWARD
CHECKED BY	C. CARROL

DRAWING NO
CO-111.00

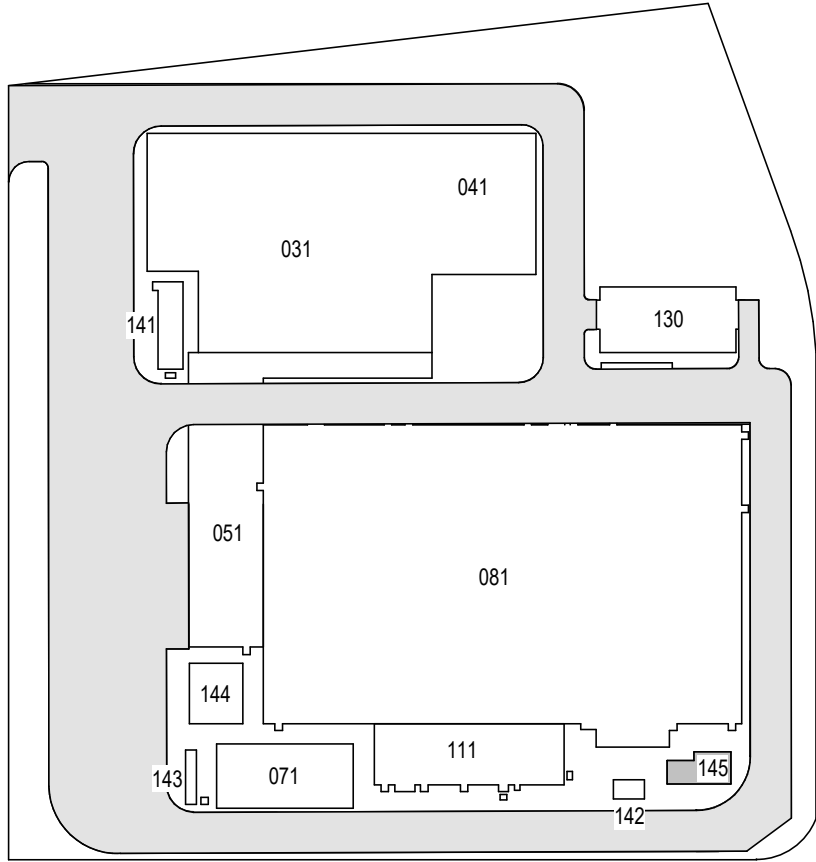
CADD FILE NO
Autodesk Docx:CHPE
Astoria/CHA-KIE-141-00-M3-CO-001.rvt



1 MVS ENCLOSURE
CO-112.00 3/8" = 1'-0"

GENERAL NOTES:
1. DOORS AND GATES CONTAINING ACCESS CONTROL AND/OR INTRUSION DETECTION IDENTIFIED WITH A DOOR NUMBER. REFER TO DRAWING CO-223.00 FOR DEVICE ASSIGNMENTS.

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N.T.S. PLAN NORTH

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A	INTIRIM SUBMISSION	JDH	CC	09/13/2022

Kiewit
470 Chestnut Ridge Rd # 2,
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901 Main Campus Drive
Raleigh, North Carolina 27606

PROJECT

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Champlain Hudson
Power Express

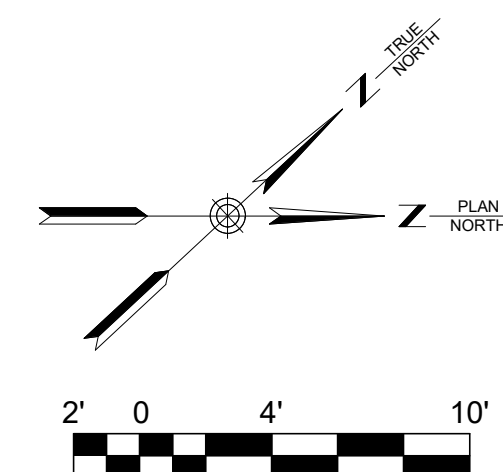
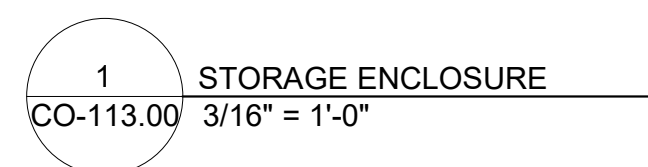
**Astoria HVDC
Converter Station**

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

**COMMUNICATIONS
SYSTEMS DEVICE LAYOUT
MVS ENCLOSURE**

DATE 08/29/2022
PROJECT NO 105121
DRAWING BY J. HOWARD
CHECKED BY C. CARROL
DRAWING NO
CO-112.00
CADD FILE NO
Astoria-HVDC-CHPE
Astoria-CHHXE-141-100-MO-CO-001.rvt

1. DOORS AND GATES CONTAINING ACCESS CONTROL AND/OR INTRUSION DETECTION IDENTIFIED WITH A DOOR NUMBER. REFER TO DRAWING CO-223.00 FOR DEVICE ASSIGNMENTS.



**370 7th Avenue
SUITE 1604
New York, NY 10001**

25 Mohawk Avenue
Sparta, NJ 07871

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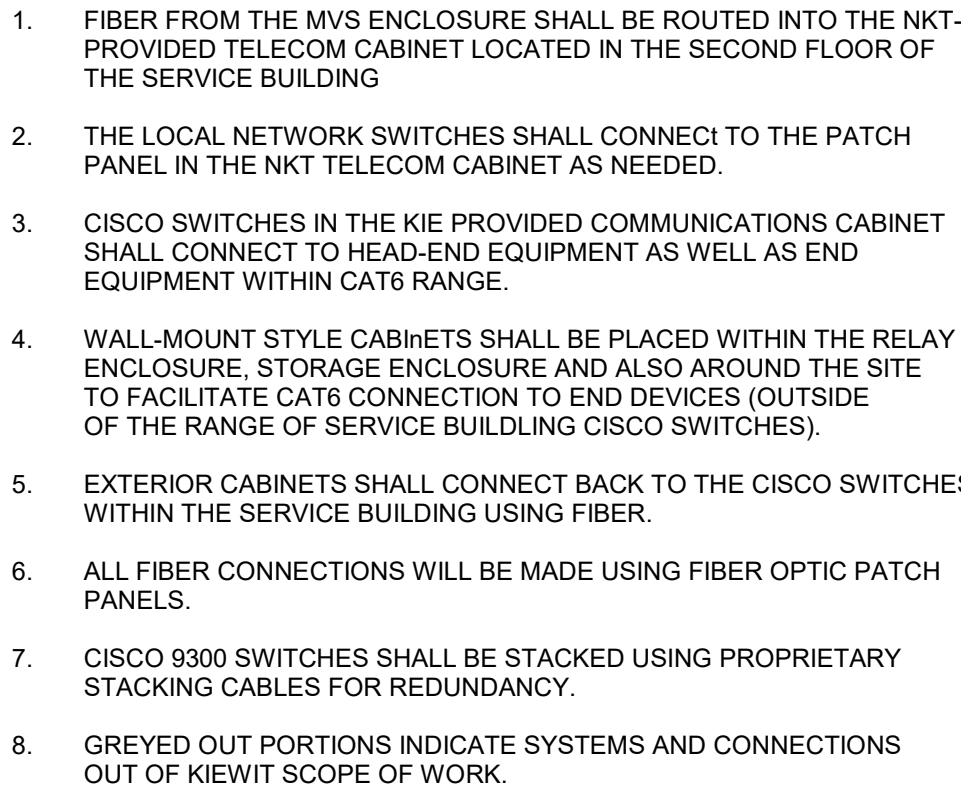
A	INTERIM SUBMISSION	JDH	CC	9/13/2022
REV	DESCRIPTION	DRW BY	CHK BY	DATE

Hitachi Energy
901 Main Campus Drive
Raleigh, North Carolina 27606



**COMMUNICATIONS
SYSTEMS DEVICE LAYOUT
STORAGE ENCLOSURE**

DATE	08/29/2022
PROJECT NO	105121
DRAWING BY	J. HOWARD
CHECKED BY	C. CARROL
DRAWING NO	
CO-113.00	
CADD FILE N0 Austarlink Docu:CHPIE Austalink:CHIA-ICE:130-00-M3-CO-001.rvt	



1 OVERALL BLOCK DIAGRAM
CO-201.00 NOT TO SCALE

B	FINAL SUBMISSION		JDH	RAB	12/08/2022
A	INTERIM SUBMISSION		JDH	CC	09/13/2022
REV	DESCRIPTION		DRW BY	CHK BY	DATE

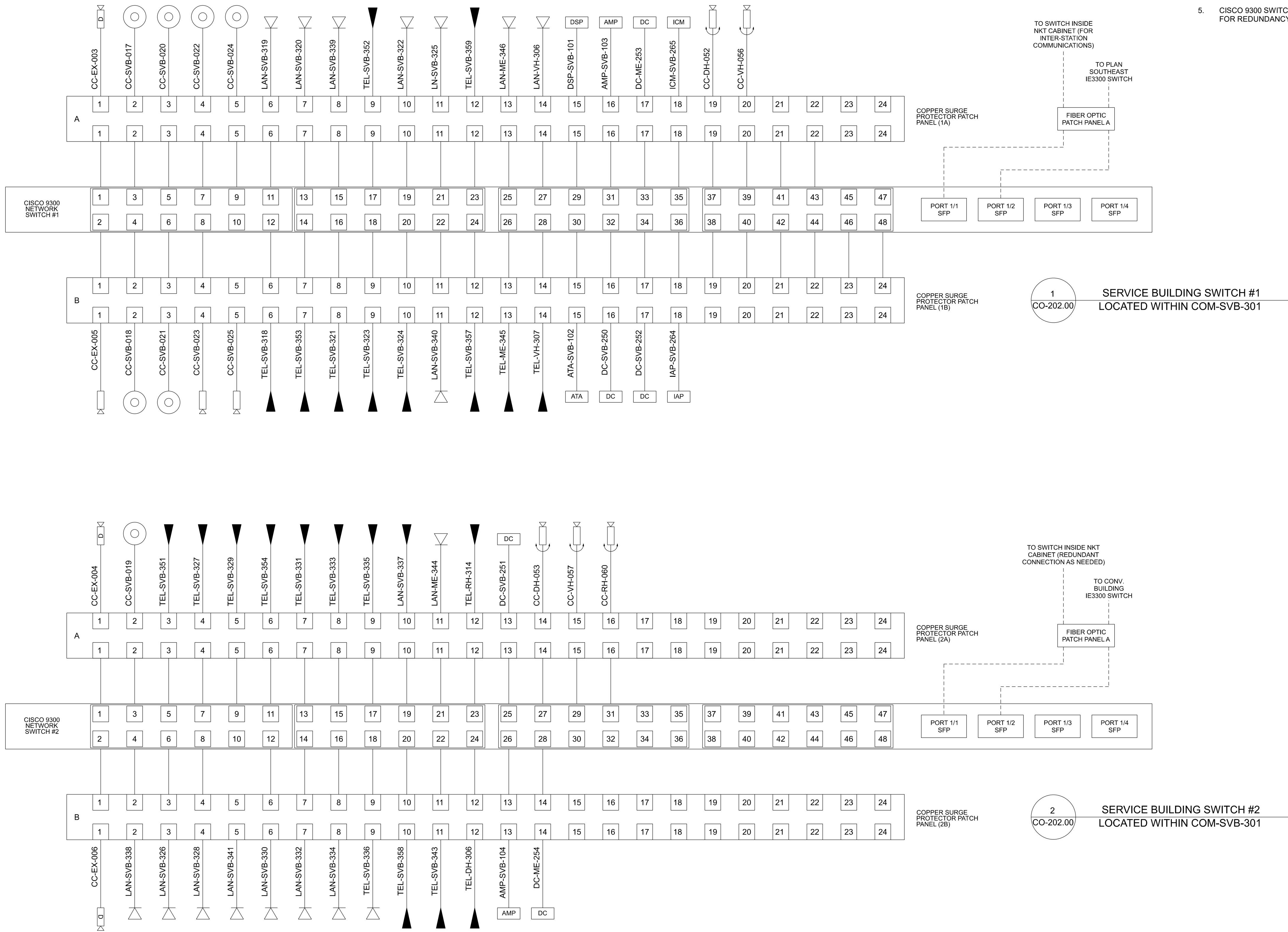


PROJECT 

Astoria HVDC Converter Station

COMMUNICATIONS SYSTEM OVERALL BLOCK DIAGRAM

DATE	08/29/2022
PROJECT NO	105121
DRAWING BY	Author
CHECKED BY	Designer
DRAWING NO	CO-201.00
CADD FILE NO Autodesk Docs://CHPE Astoria/CHA-KIE-200-00-M2-CO-001.rvt	



GENERAL NOTES:

1. ALL CAT6 FIELD CABLES SHALL TERMINATE ON A CAT6 PATCH PANEL IN THE COMMUNICATIONS CABINET.
2. CONNECTIONS TO REMOTE MONITORING FACILITY AND DISPATCH CONTROL CENTER ARE TBD.
3. PRE-FABRICATED FIBER JUMPERS SHALL BE USED FROM THE FIBER PATCH PANEL TO THE SWITCH.
4. PRE-FABRICATED CAT6 JUMPERS SHALL BE USED FROM THE COPPER PATCH PANEL TO THE SWITCH.
5. CISCO 9300 SWITCHES WILL BE STACKED USING PROPRIETARY CABLES FOR REDUNDANCY.

ISSUED FOR PERMIT

Engineering and
Land Surveying, P.C.

370 7th Avenue
SUITE 1604
New York, NY 10001

SOWINSKI
SULLIVAN

25 Mohawk Avenue
Sparta, NJ 07871

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B	FINAL SUBMISSION	JDH	RAB	12/08/2022
A	INTERIM SUBMISSION	JDH	CC	09/13/2022
REV	DESCRIPTION	DRW BY	CHK BY	DATE

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

COMMUNICATIONS
SYSTEM NETWORK RISER
(SERVICE BUILDING)

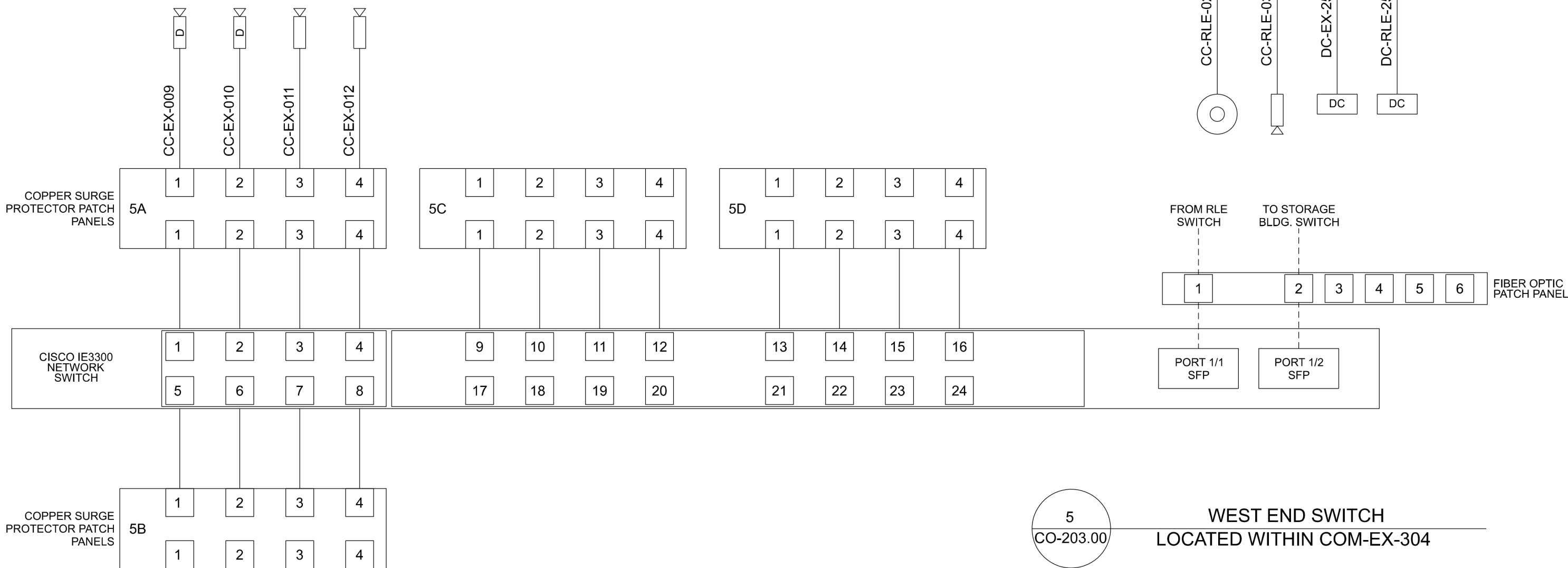
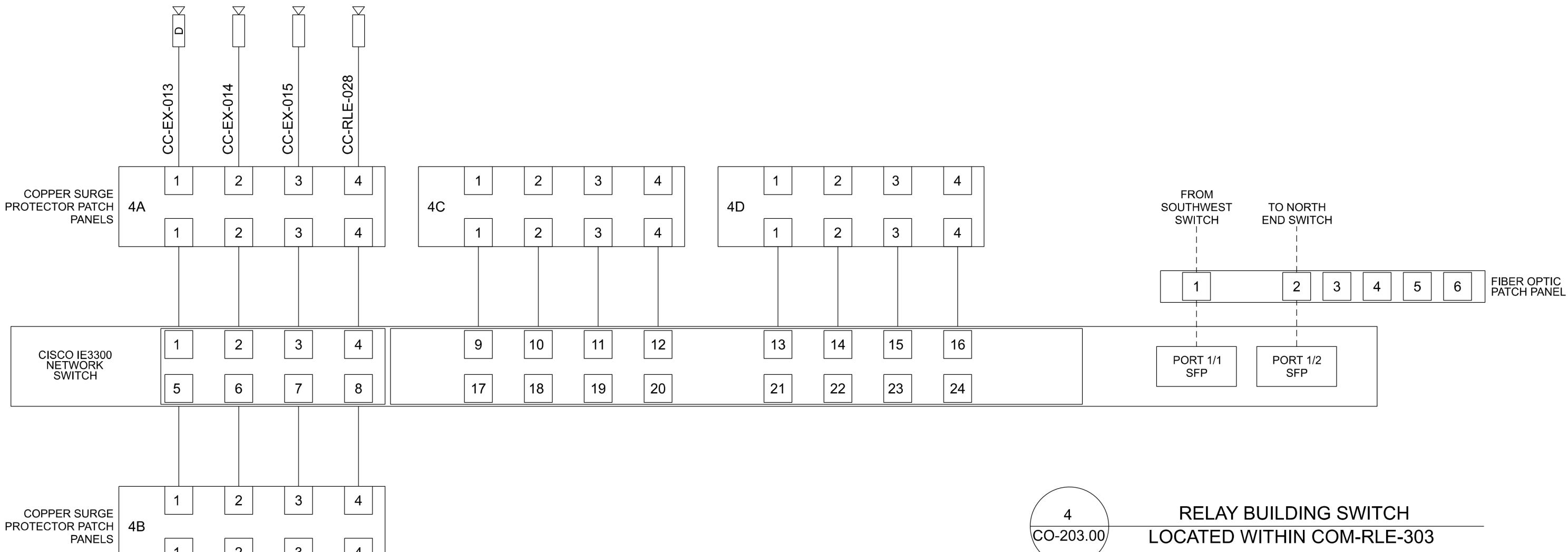
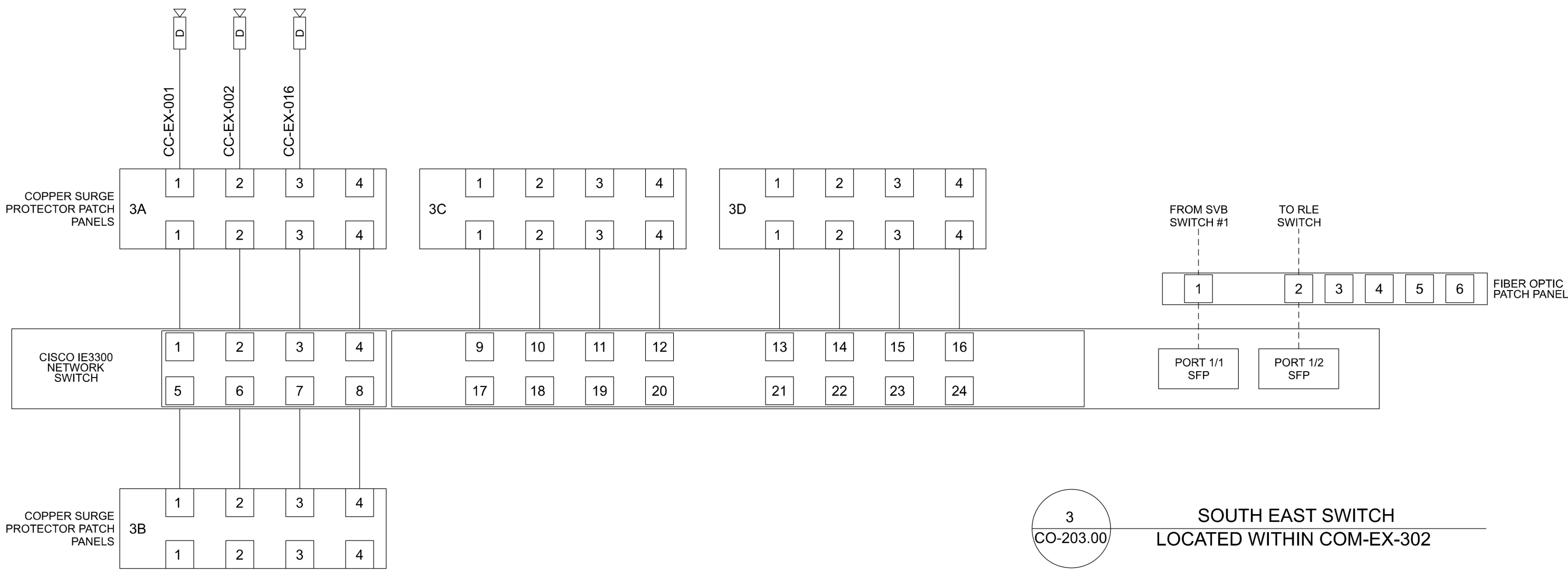
DATE 08/29/2022
PROJECT NO 105121
DRAWING BY J. HOWARD
CHECKED BY C. CARROLL

DRAWING NO

CO-202.00

CADD FILE NO
Astoria HVDC CHPE
Astoria CHA-KIE-200-00-M2-CO-001.rvt

12/7/2022 11:42:14 AM



GENERAL NOTES:

1. ALL CAT6 FIELD CABLES SHALL TERMINATE ON A CAT6 PATCH PANEL IN THE COMMUNICATIONS CABINET.
2. PRE-FABRICATED FIBER JUMPERS SHALL BE USED FROM THE FIBER PATCH PANEL TO THE SWITCH.
3. PRE-FABRICATED CAT6 JUMPERS SHALL BE USED FROM THE COPPER PATCH PANEL TO THE SWITCH.

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Land Surveying, P.C.

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SUITE 1604
New York, NY 10001

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SULLIVAN**
ARCHITECTURE*ENGINEERING

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REV	DESCRIPTION	DRW BY	CHK BY	DATE
A	INTERIM SUBMISSION	JDH	CC	09/13/2022

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

Hitachi Energy
901 Main Campus Drive
Raleigh, North Carolina 27606

PROJECT

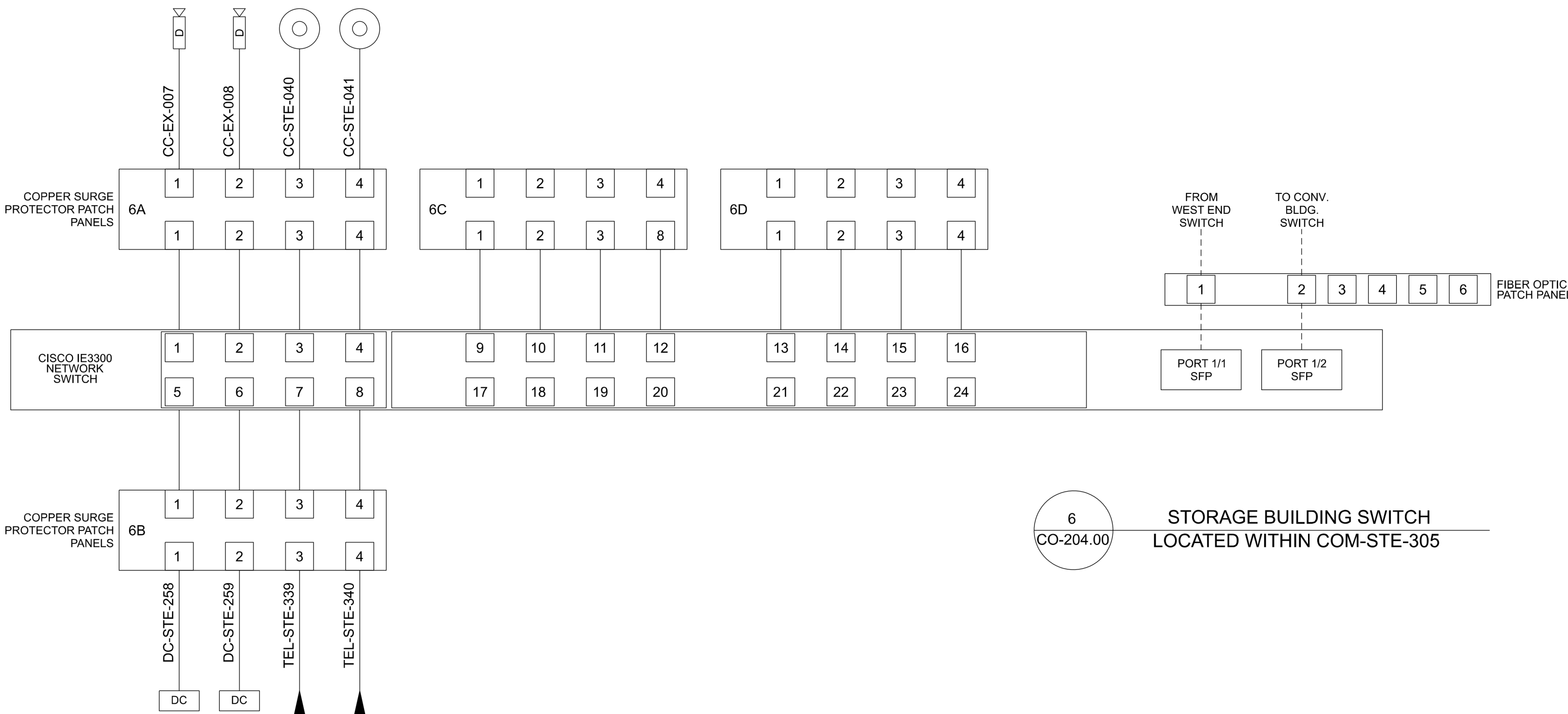
CHPE
Champlain Hudson
Power Express

Astoria HVDC Converter Station

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

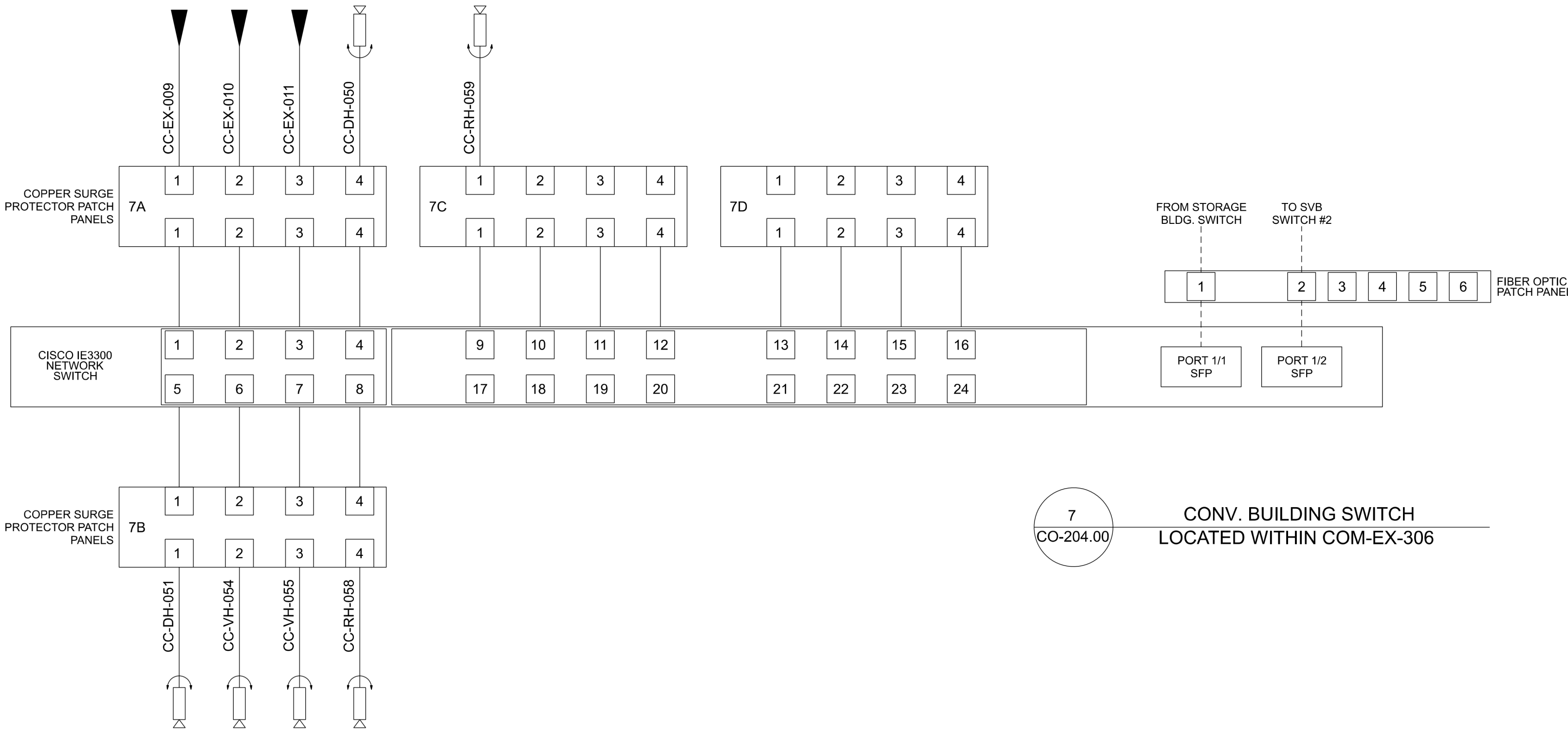
COMMUNICATIONS SYSTEM NETWORK RISER (SMALL FORM CABINETS) SHEET 1 OF 2

DATE 08/29/2022
PROJECT NO 105121
DRAWING BY J. HOWARD
CHECKED BY C. CARROLL
DRAWING NO
CO-203.00
CADD FILE NO
Astoria-HVDC-CHPE
Astoria-CHA-KIE 2003-00-MD-CO-001.rvt



6
CO-204.00

STORAGE BUILDING SWITCH
LOCATED WITHIN COM-STE-305



7
CO-204.00

CONV. BUILDING SWITCH
LOCATED WITHIN COM-EX-306

GENERAL NOTES:

- ALL CAT6 FIELD CABLES SHALL TERMINATE ON A CAT6 PATCH PANEL IN THE COMMUNICATIONS CABINET.
- PRE-FABRICATED FIBER JUMPERS SHALL BE USED FROM THE FIBER PATCH PANEL TO THE SWITCH.
- PRE-FABRICATED CAT6 JUMPERS SHALL BE USED FROM THE COPPER PATCH PANEL TO THE SWITCH.

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A	INTERIM SUBMISSION	JDH	CC	09/13/2022
REV	DESCRIPTION	DRW BY	CHK BY	DATE

Kiewit

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

Hitachi Energy

901 Main Campus Drive
Raleigh, North Carolina 27606

PROJECT

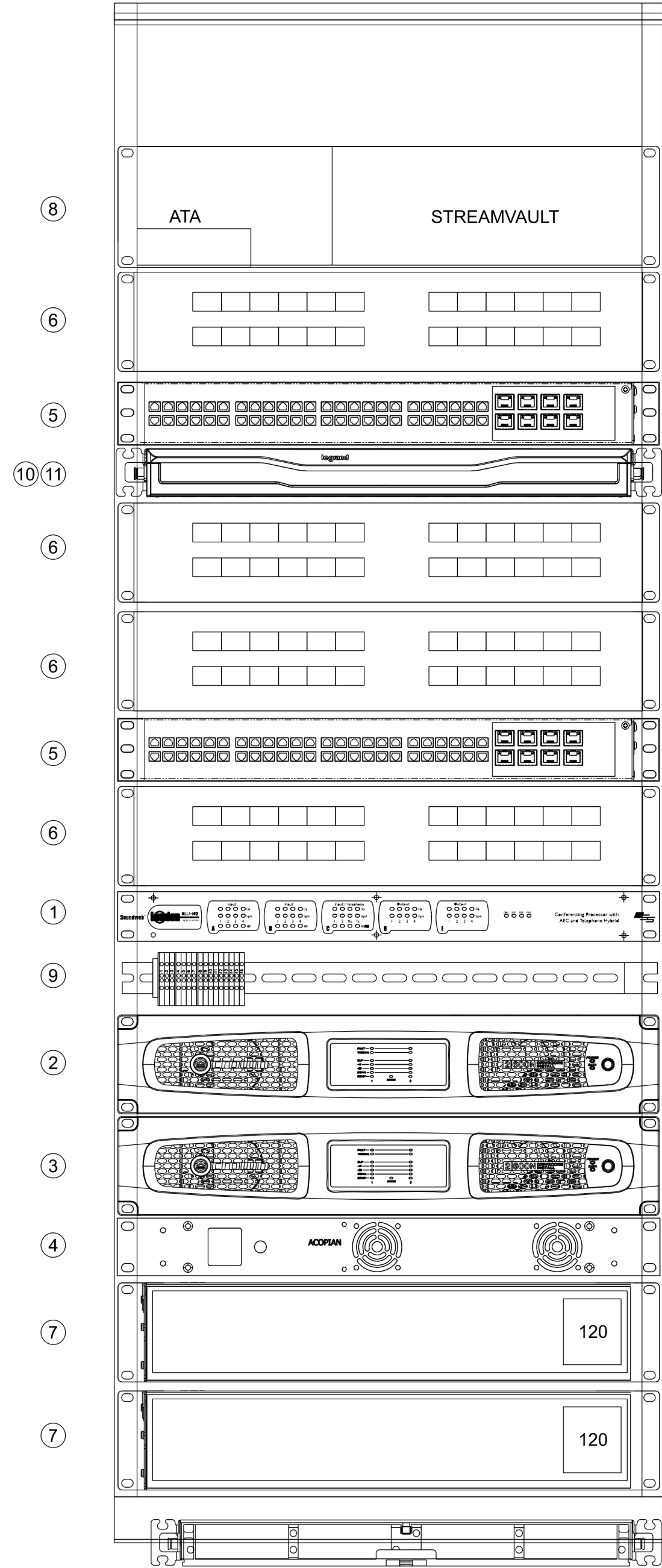
CHPE
Champlain Hudson
Power Express

Astoria HVDC
Converter Station

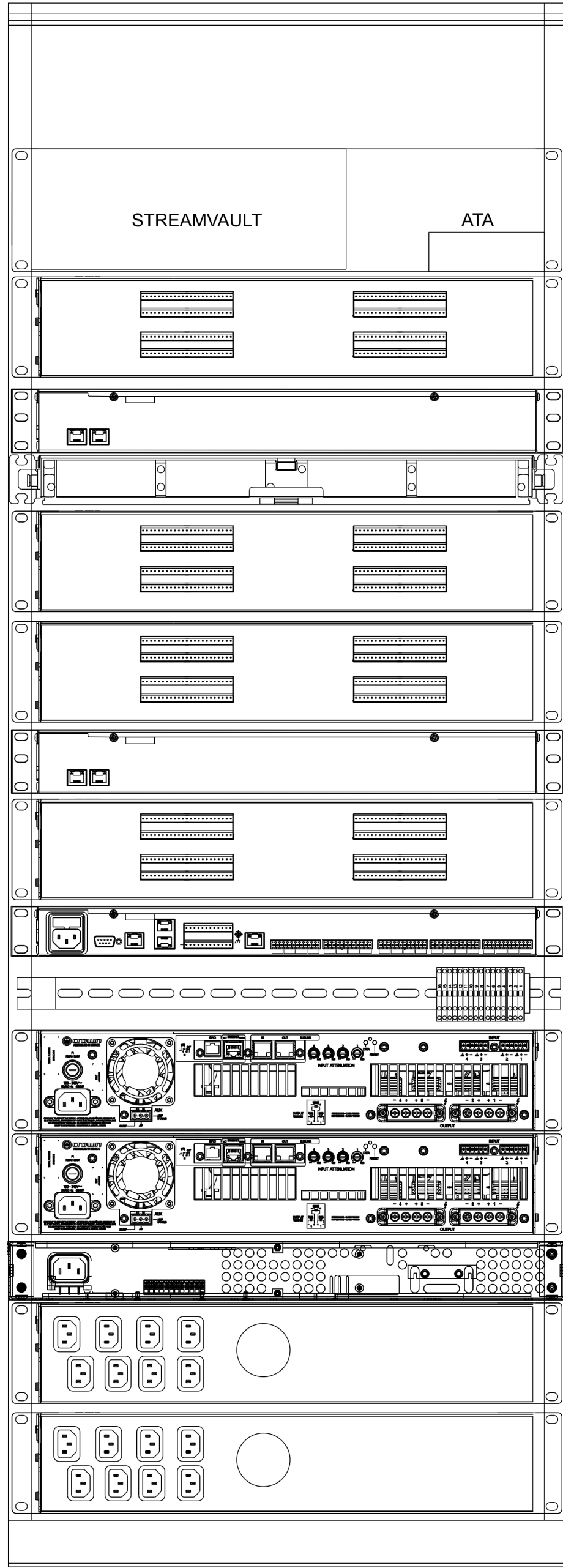
31-45 20th Avenue, Astoria, Queens NY 11105
Block #850 - Lot #310 - BIN #4624437

COMMUNICATIONS
SYSTEMS NETWORK
RISER (SMALL FORM
CABINETS) SHEET 2 OF 2

DATE 08/29/2022
PROJECT NO 105121
DRAWING BY Author
CHECKED BY Designer
DRAWING NO
CO-204.00
CADD FILE NO
Astoria-HVDC-CHPE
Astoria-CHA-KIE 200-00-MD-CO-001.rvt



1 COMMUNICATIONS CABINET (FRONT)
CO-205.00 NOT TO SCALE



2 COMMUNICATIONS CABINET (REAR)
CO-205.00 NOT TO SCALE

GENERAL NOTES:

- CONTRACTOR SHALL INSTALL AND LABEL ALL NEW EQUIPMENT AND CABLING AS INDICATED IN THE CONTRACT DOCUMENTS.
- CONTRACTOR MAY ADJUST THE RACKS AS NEEDED TO FIT IN THE ROOM.
- ALL EQUIPMENT AS LISTED OR APPROVED EQUAL.

ITEM	DESCRIPTION	QUANTITY	MANUFACTURE	PART NUMBER
1	DIGITAL SIGNAL PROCESSOR	1	BSS AUIDO	BLU-102
2	4 CHANNEL, 300W/ CHANNEL AMPLILFIER	1	CROWN	4300N
3	2 CHANNEL, 300W/CHANNEL AMPLIFIER	1	CROWN	2600N1-204-002
4	POWER SUPPLY	1	ACOPAN	W24LTU3000
5	48 PORT. PoE+ NETWORK SWITCH	2	CISCO	C9300-48U
6	19" RACK MOUNTED SURGE PROTECTION PANEL	4	CITEL	PCH24-POE-A
7	UNINTERTUPTIBLE POWER SUPPLY	2	TRIPP LITE	SMART3000RMXLN
8	UTILITY RACK SHELF	1	SHOWME CABLES	71-204-002
9	DISCONNECT TERMINAL BLOCK	15	PHOENIX CONTACT	3064027
10	FIBER ENCLOSURE	1	LEGRAND	INFC01U-M4-E
11	OFF ADAPTER PANEL 6 SC-DUPLEX	2	LEGRAND	OFF-SCD12LC

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

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REV	DESCRIPTION	DRW BY	CHK BY	DATE

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

Hitachi Energy 901 Main Campus Drive Raleigh, North Carolina 27606

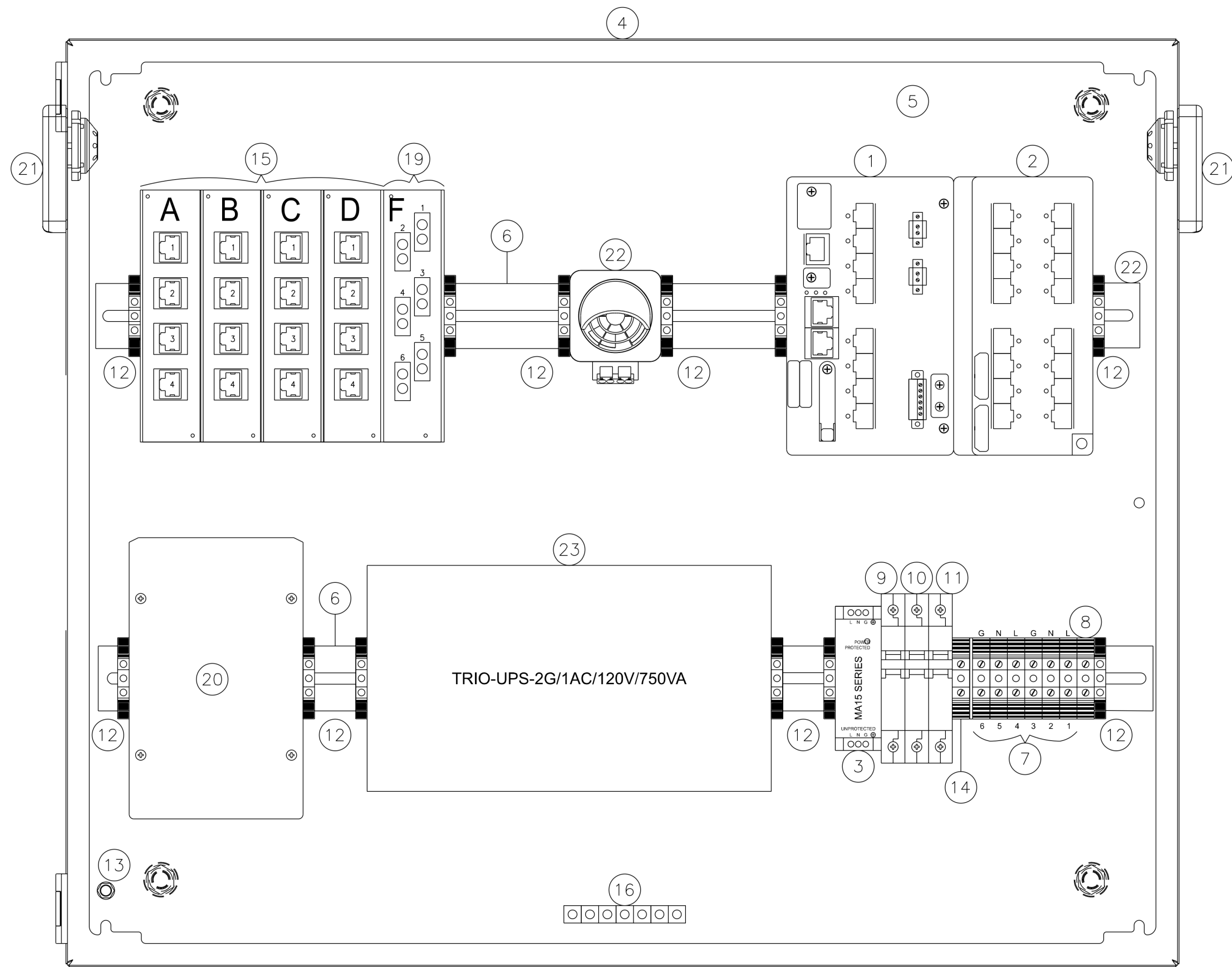
PROJECT CHPE Champlain Hudson Power Express

Astoria HVDC Converter Station

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

COMMUNICATIONS SYSTEM COMMUNICATION CABINET ELEVATION (SERVICE BLDG.)

DATE 08/29/2022
PROJECT NO 105121
DRAWING BY Author
CHECKED BY Designer
DRAWING NO
CO-205.00
CADD FILE NO
Astoria CHA-KIE-205.00-M2-CO-001.rvt



1 SMALL FORM CABINETS DETAILS
CO-206.00 NOT TO SCALE

GENERAL NOTES:

1. ALL EQUIPMENT WITHIN THE CABINET SHALL AFFIXED WITH THE APPROPRIATE LABEL.
2. ALL EQUIPMENT CABINET INSTALLATIONS SHALL ADHERE TO APPLICABLE BONDING AND GROUNDING WITH EQUIPMENT GROUNDING CONDUCTORS.
3. THE CONTRACTOR MUST MAINTAIN THE STRUCTURAL AND ENVIROMENTAL INTEGRITY OF THE ENCLOSURE AT ALL TIMES DURING INSTALLATION.
4. WHEN INSTALLED OUTDOORS, CONDUIT ENTRY SHALL BE FROM THE BOTTOM ONLY. TOP OR SIDE ENTRY MUST BE APPROVED BY ENGINEER.
5. ALL EQUIPMENT AS LISTED OR APPROVED EQUAL.

BILL OF MATERIALS				
ITEM	DESCRIPTION	QUANTITY	MANUFACTURER	PART NUMBER
1	HARDENED 8-PORT ETHERNET SWITCH, 48VDC	1	CISCO	IE3300-8P2S-E
2	EXPANSION MODULE (AS REQUIRED)	1	CISCO	IEM-3300-16P
3	POWER SURGE PROTECTIVE DEVICE	1	WEIDMULLER	MA15D1S1
4	EQUIPMENT ENCLOSURE, NEMA TYPE 4X-SS, WALL MT.	1	SAGINAW	SCE-20EL248SSLP
5	BACK PANEL 20" x 24" x 8"	1	SAGINAW	SCE-20P24J
6	DIN RAIL	2	PHOENIX CONTACT	0801733
7	DIN RAIL FEED-THROUGH TERMINAL, DARK BEIGE	6	PHOENIX CONTACT	3044131
8	DIN RAIL GROUND TERMINAL, GREEN/YELLOW	1	PHOENIX CONTACT	3044157
9	DIN RAIL CIRCUIT BREAKER, 120VAC, 15A	1	WEIDMULLER	9926251015
10	DIN RAIL CIRCUIT BREAKER, 120VAC, .5A	1	WEIDMULLER	9926251000
11	DIN RAIL CIRCUIT BREAKER, 120VAC, 4A	1	WEIDMULLER	9926251004
12	DIN RAIL MOUNT END BRACKET	10	WEIDMULLER	0800886
13	BOLT PACK GROUNDING KIT, 10-32	1	SAGINAW	SCE-102297
14	DIN RAIL MOUNT TERMINAL END PLATE	1	PHOENIX CONTACT	3047028
15	16 COPPER PATCH PANEL	4	BELDEN	MPP/BD-CUE4/CUE4./CUE4/CUE4/CUE4
16	GROUND BAR	1	EATON	GBK5
17	PADLOCK HASP (NOT SHOWN)	1	SAGINAW	SCE-PLHG
18	PRINT PAT (NO SHOWN)	1	SAGINAW	SCE-PP7701
19	12 FIBER MIPP PN	1	BELDEN	MPP/GP/IS3N
20	POWER SUPPLY, POE, IN 480W AC 100-240V/6.0A	1	CISCO	PWR-IE480W-PCAC-L
21	BREATHER VENT KIT	2	SAGINAW	SCE-BVK
22	COOLING FAN	1	STEGOJET	019250-00
23	UNINTERRUPTABLE POWER SUPPLY	1	PHOENIX CONTACT	2905908

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SUITE 1604
New York, NY 10001

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SULLIVAN

25 Mohawk Avenue
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B	FINAL SUBMISSION	JDH	RAB	12/08/2022
A	INTERIM SUBMISSION	JDH	CC	09/13/2022
REV	DESCRIPTION	DRW BY	CHK BY	DATE

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

COMMUNICATIONS
SYSTEMS SMALL FORM
CABINET DETAILS

DATE 08/29/2022
PROJECT NO 105121
DRAWING BY Author
CHECKED BY Designer
DRAWING NO
CO-206.00
CADD FILE NO
Astoria-HVDC-CHPE
Astoria-CHA-KIE 200-00-MD-CO-001.rvt

1. WHEN INSTALLED OUTDOORS, CONDUIT ENTRY SHALL BE FROM THE BOTTOM ONLY UNLESS APPROVED BY ENGINEER.
2. FOR ADDITIONAL ENCLOSURE DETAILS REFER TO CO-206.00

1. SAGINAW WALL-MOUNT NEMA 4X-SS TYPE EQUIPMENT ENCLOSURE WITH ENCLOSURE WITH BACK SUB PANEL. (NEMA-12 FOR INDOOR CABINETS).
2. SAGINAW PRINT POCKET SCE-PP7701.
3. SAGINAW BREATHER VENT KIT SCE-BVK.



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REV	DESCRIPTION	DRW BY	CHK BY	DATE	



PROJECT

CHPE
Champlain Hudson
Power Express

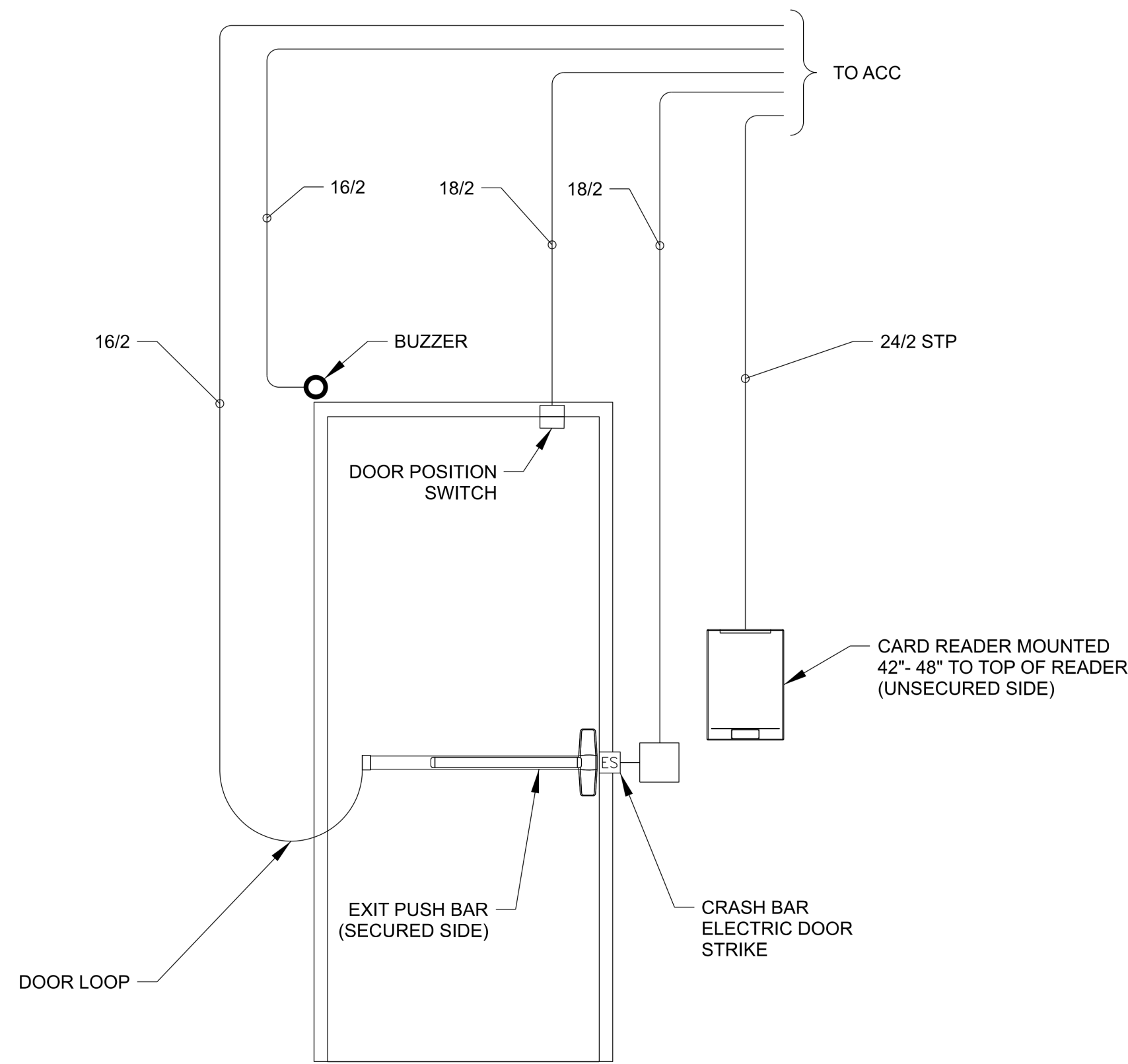
**Astoria HVDC
Converter Station**

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

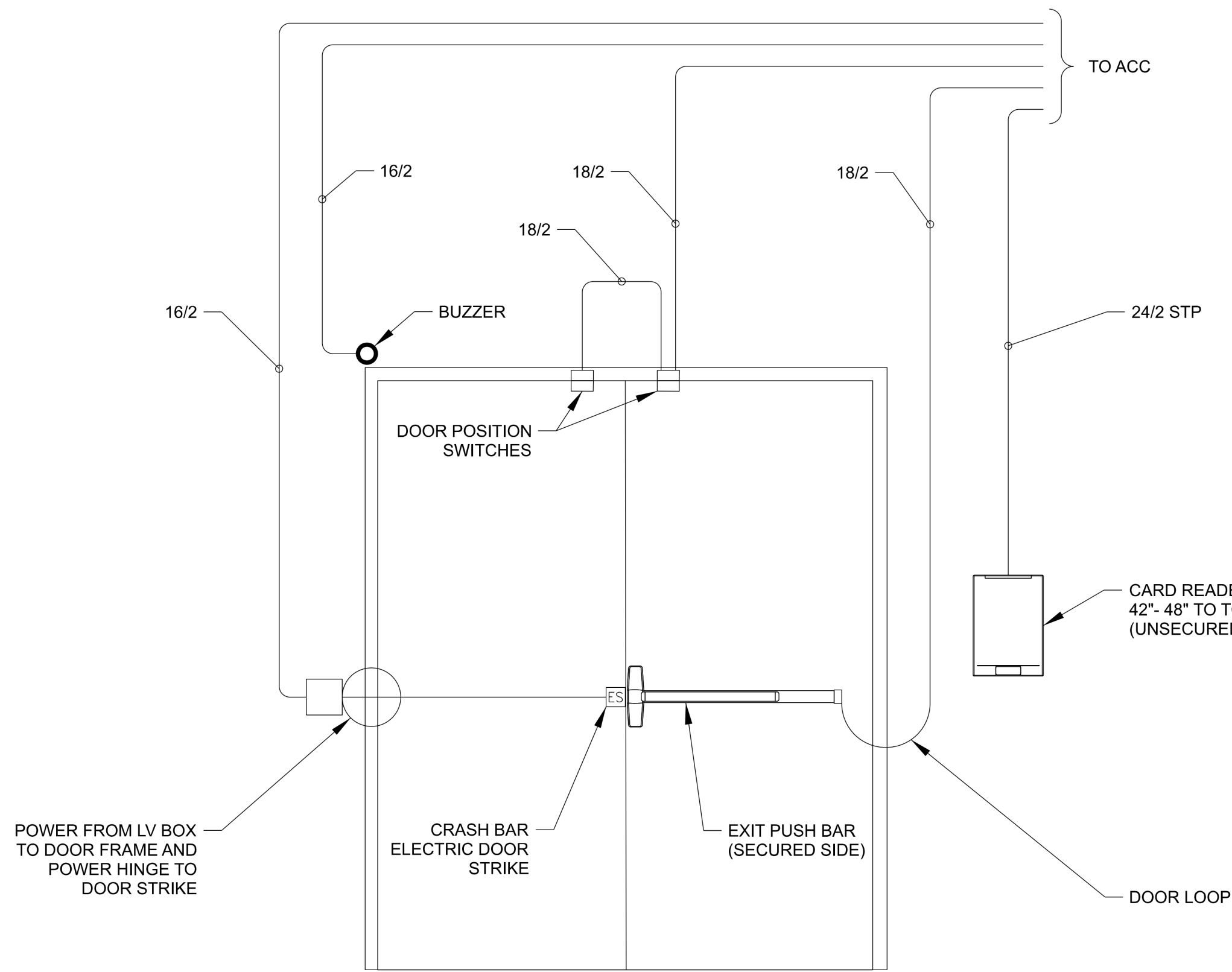
COMMUNICATIONS SYSTEM SMALL FORM CABINET MOUNTING DETAILS

DATE	08/29/2022
PROJECT NO	105121
DRAWING BY	Author
CHECKED BY	Designer
DRAWING NO	CO-207.00
CADD FILE N0 Autodesk Docs://CHPE Astoris/CHA-KIE-200-00-M2-CO-001.rvt	

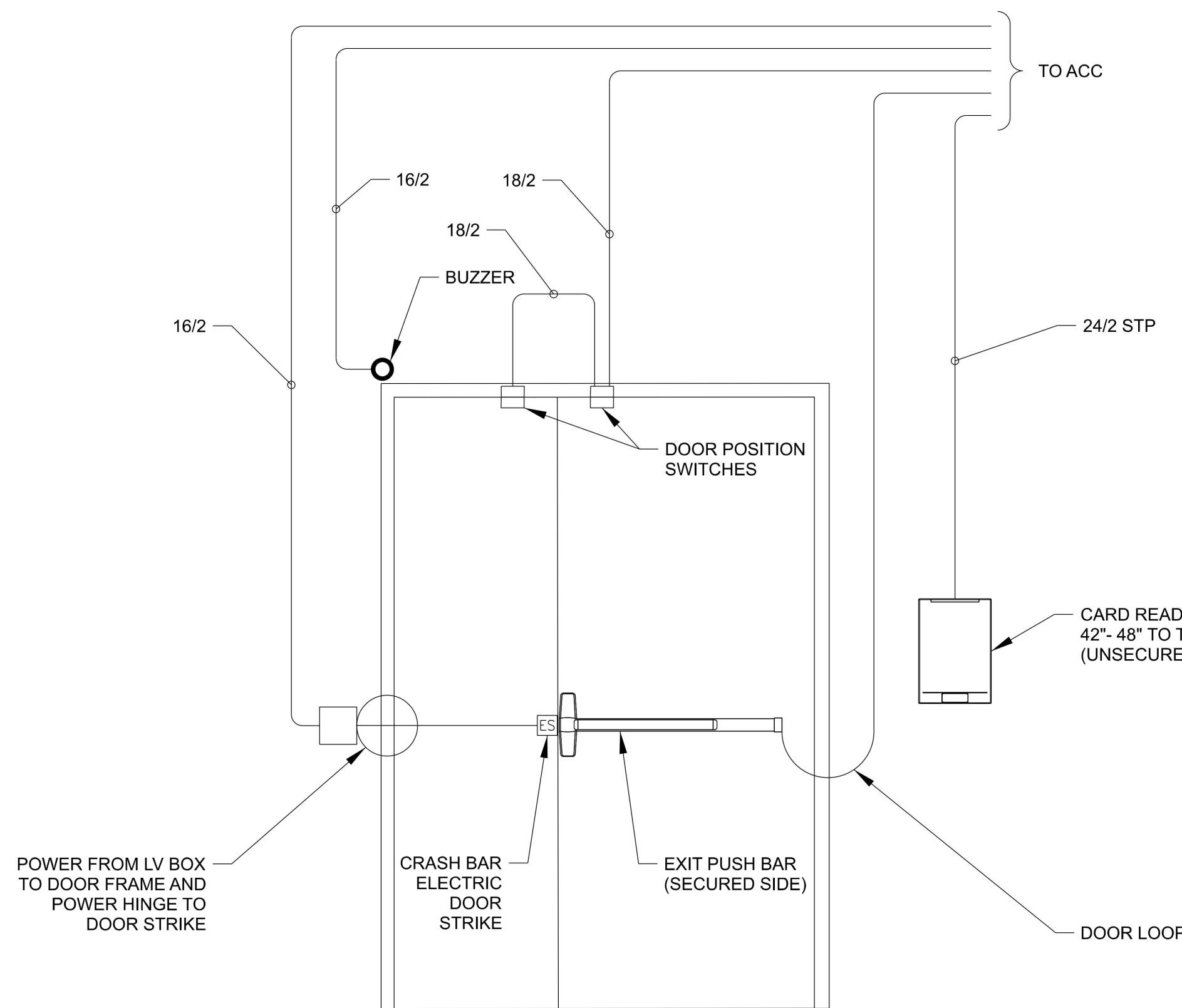
12/7/2022 11:22:42 AM



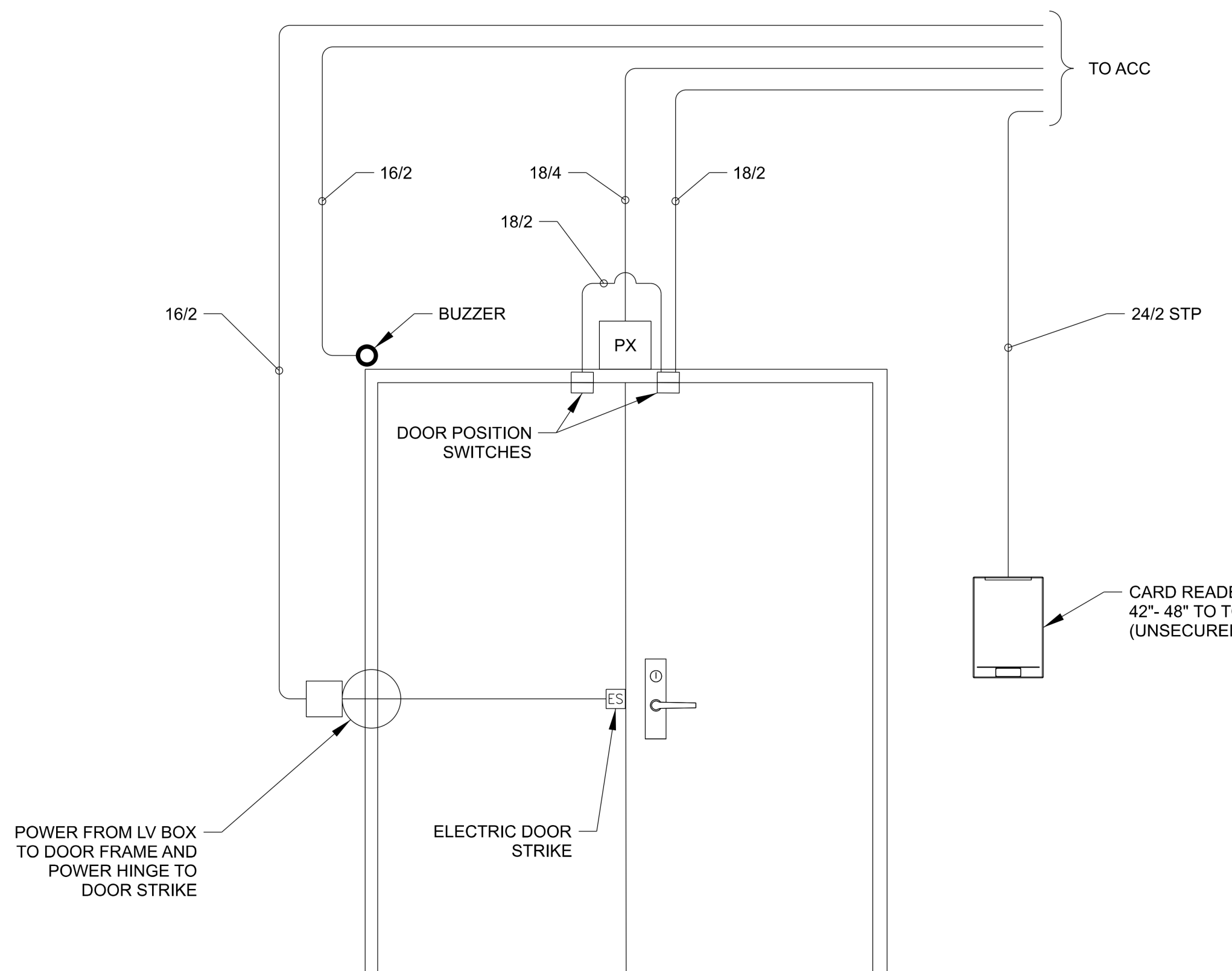
1
CO-208.00
EXTERIOR SINGLE DOOR WITH
MECHANICAL CRASH BAR - NTS



2
CO-208.00
EXTERIOR DOUBLE DOOR WITH
MECHANICAL CRASH BAR - NTS



3
CO-208.00
EXTERIOR UNEQUAL DOUBLE DOOR
WITH MECHANICAL CRASH BAR - NTS



4
CO-208.00
INTERIOR DOUBLE DOOR WITH
ELECTRIC DOOR STRIKE - NTS

GENERAL NOTES:

- DOORS WITH DOOR CONTACTS AND BUZZERS ONLY ARE NOT SHOWN ON THESE TYPICAL DRAWINGS.
- UNEQUAL DOORS MAY HAVE INACTIVE AND ACTIVE LEAVES INTERCHANGED. ALTER INSTALLATIONS ACCORDINGLY.
- MECHANICAL CRASH BARS WITH MICROCHIPS SHOULD BE USED TO SIGNAL AND EXIT REQUEST. SEE CO-216.00 AND CO-217.00 FOR DETAILS.

ISSUED FOR PERMIT

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370 7th Avenue
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New York, NY 10001

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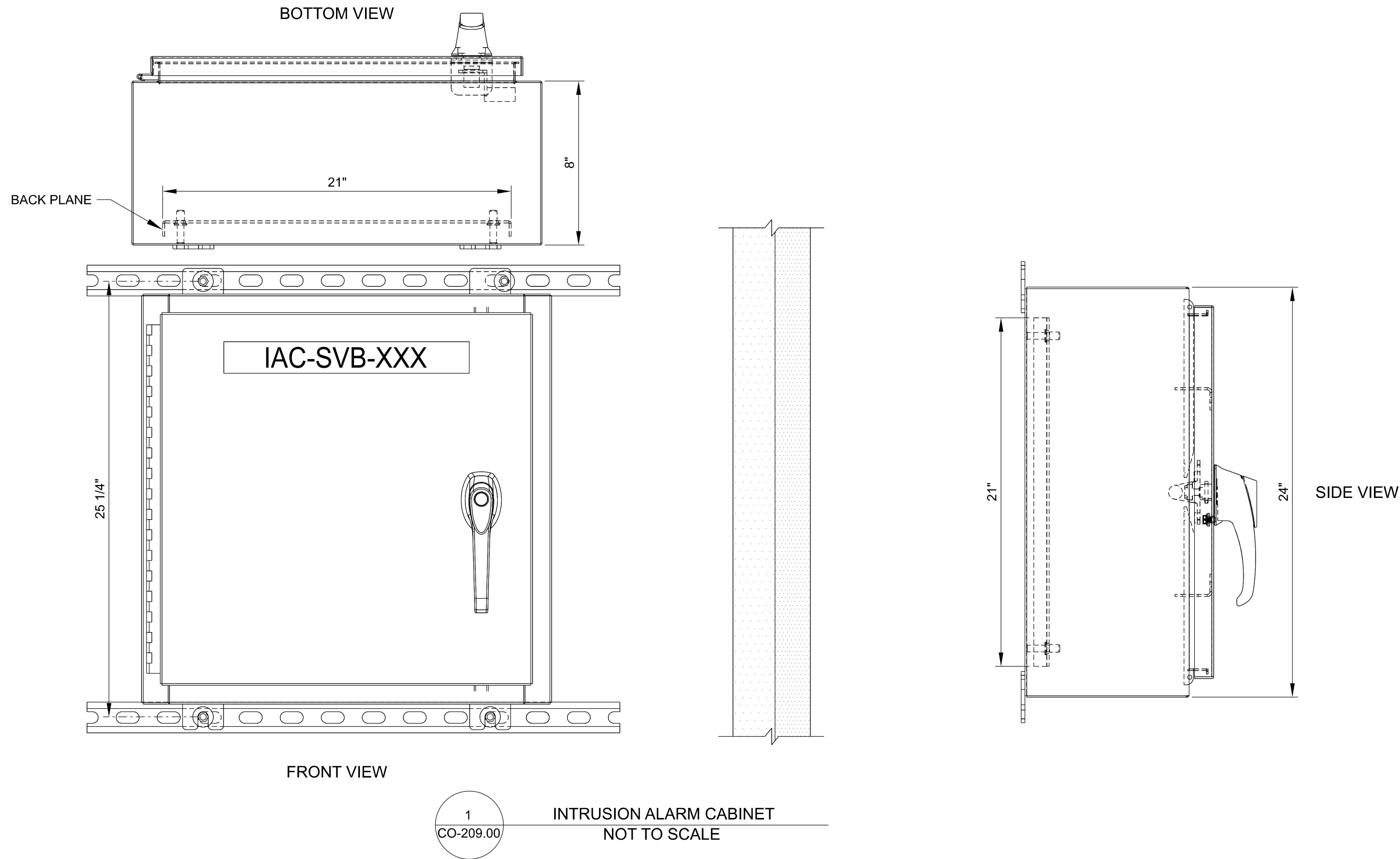
Kiewit
470 Chestnut Ridge Rd # 2,
Woodcliff Lake, NJ 07677

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

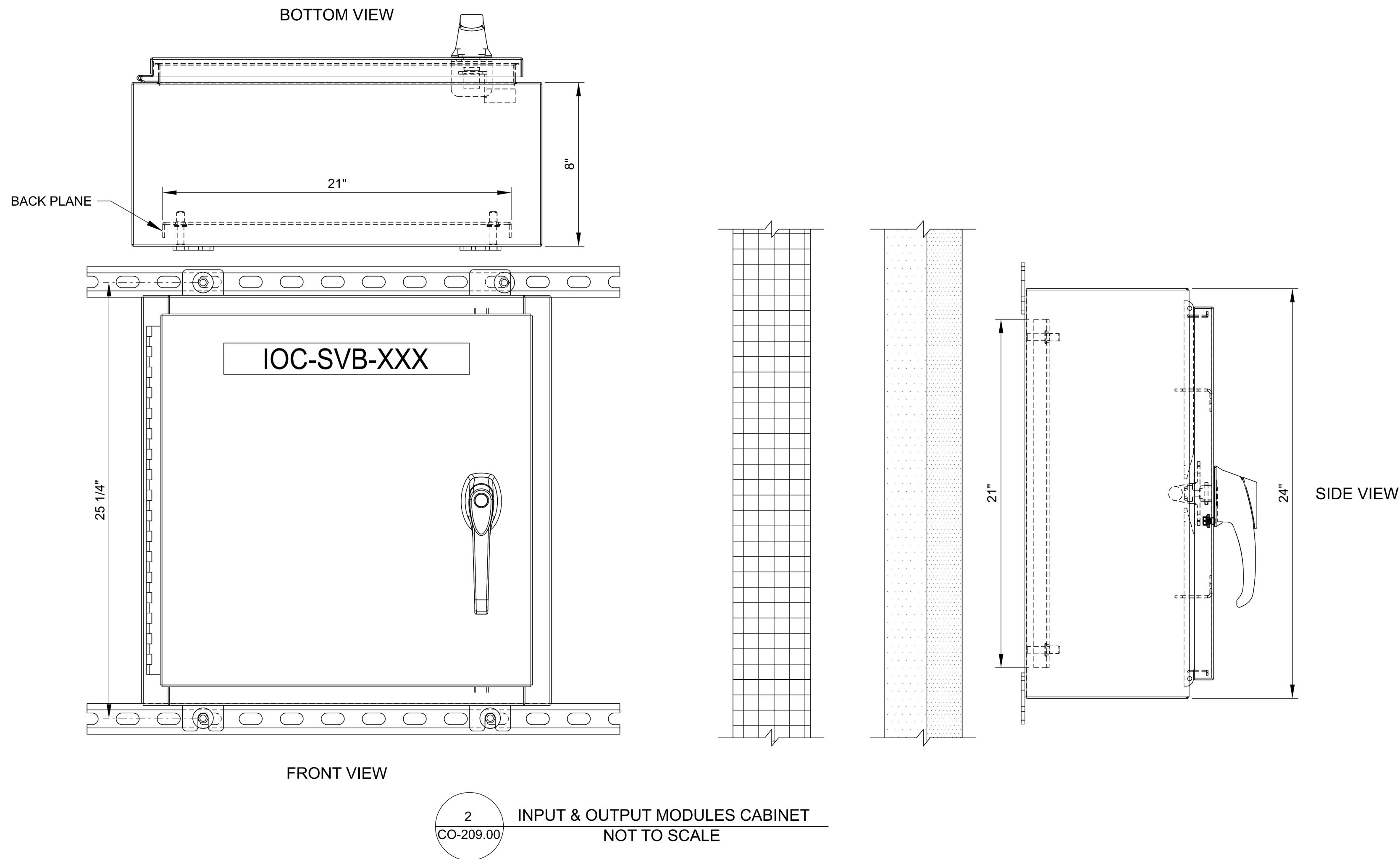
COMMUNICATIONS
SYSTEMS TYPICAL DOOR
CONFIGURATIONS

DATE 08/29/2022
PROJECT NO 105121
DRAWING BY Author
CHECKED BY Designer
DRAWING NO
CO-208.00
CADD FILE NO
Astoria/CHPE-208.00.MD
Astoria/CHPE-208.00.MD-CO-001.rvt



GENERAL NOTES:

1. ALL CABINETS MOUNTED WITH UNISTRUT SLOTTED CHANNELS AS SHOWN.
2. PROVISIONS WILL BE MADE TO MOUNT TO THE INSULATED METAL PANEL WALL.
3. MOUNTING HARDWARE TO BE SPECIFIED BY THE INSTALLER.



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B	FINAL SUBMISSION	JDH	RAB	12/08/2022
A	INTERIM SUBMISSION	JDH	CC	09/13/2022

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

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901 Main Campus Drive
Raleigh, North Carolina 27606

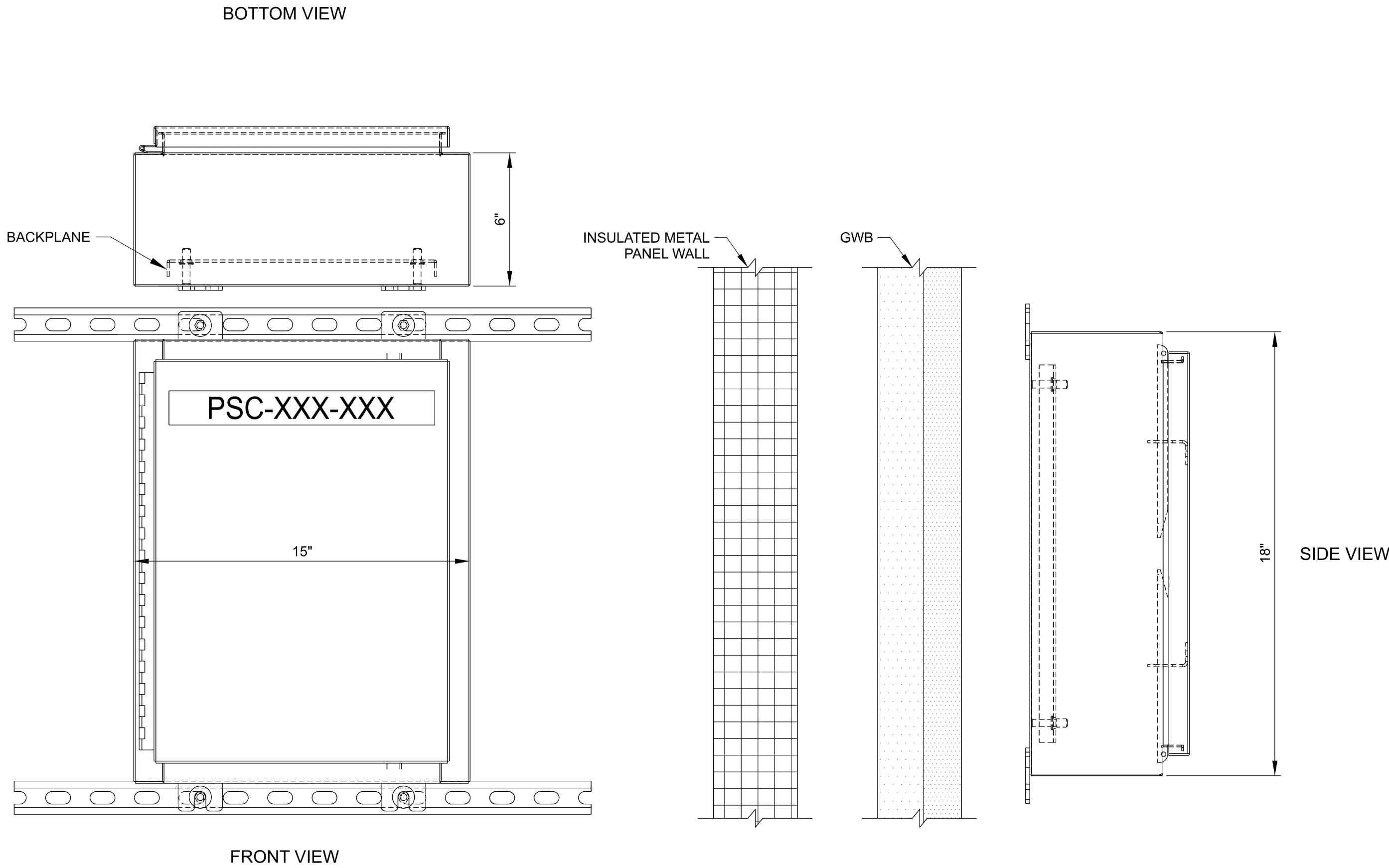
PROJECT

CHPE
Champlain Hudson
Power Express

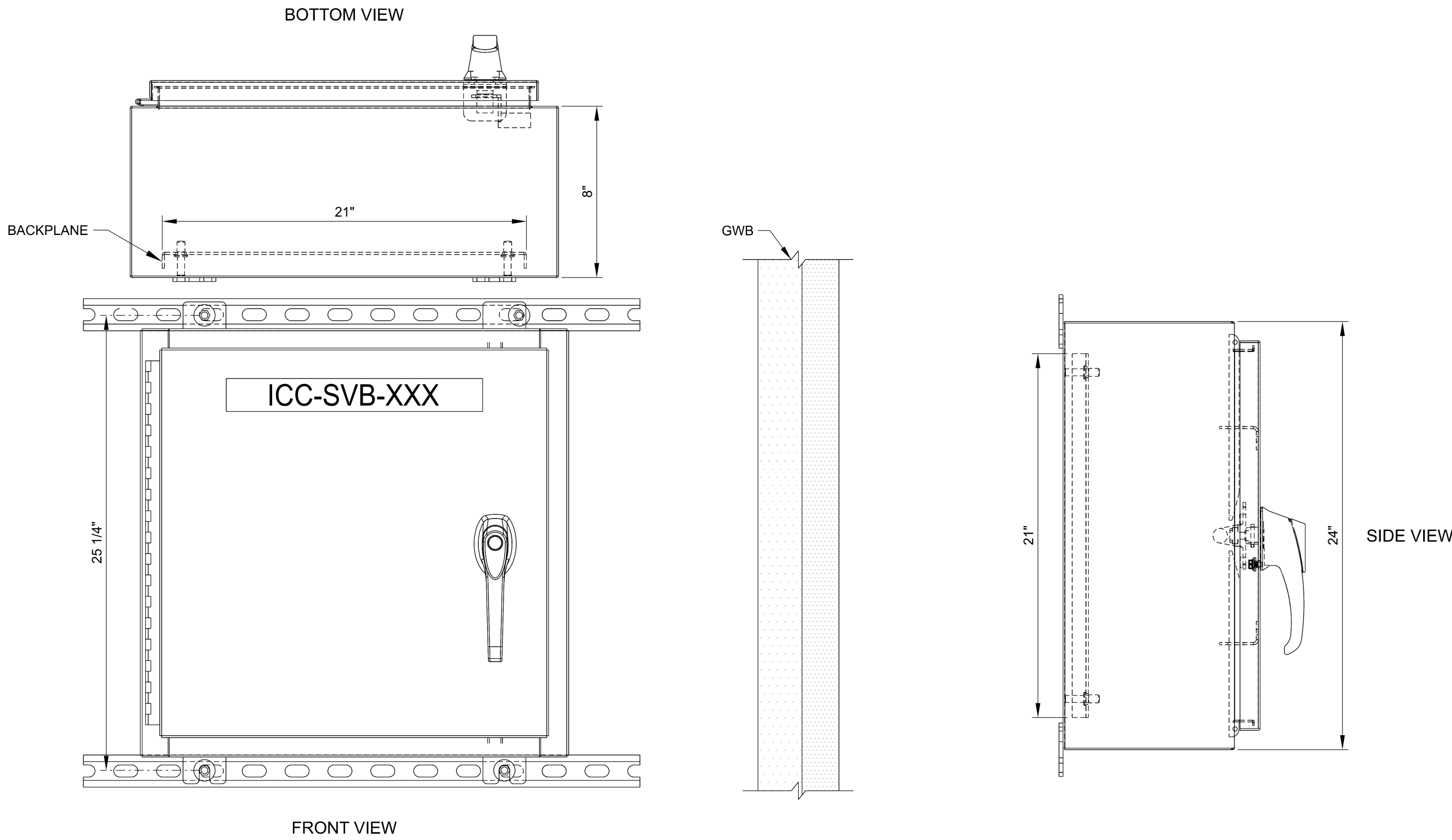
Astoria HVDC Converter Station
31-45 20th Avenue, Astoria, Queens NY 11105
Block #850 - Lot #310 - BIN #4624437

**COMMUNICATIONS
SYSTEMS INTRUSION
SYSTEM CABINET
MOUNTING DETAILS**

DATE 08/29/2022
PROJECT NO 105121
DRAWING BY Author
CHECKED BY Designer
DRAWING NO
CO-209.00
CADD FILE NO
Astoria-HVDC-CHPE
Astoria-CHPE-209.00-MD-CO-001.rvt



1 POWER SUPPLY CABINET
CO-210.00 NOT TO SCALE



2 INTELLIGENT CONTROLLER CABINET
CO-210.00 NOT TO SCALE

GENERAL NOTES:

- ALL CABINETS MOUNTED WITH UNISTRUT SLOTTED CHANNELS AS SHOWN.
- PROVISIONS WILL BE MADE TO MOUNT TO THE INSULATED METAL PANEL WALL.

KEY NOTES:

- ELECTRIC DISCONNECT SWITCH, SEE CO-214.00 & CO-233.00 FOR DETAILS.
- POWER SUPPLY, SEE CO-214.00 & CO-223 FOR DETAILS
- TERMINAL BOARD.
- BATTERY.

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Raleigh, North Carolina 27606

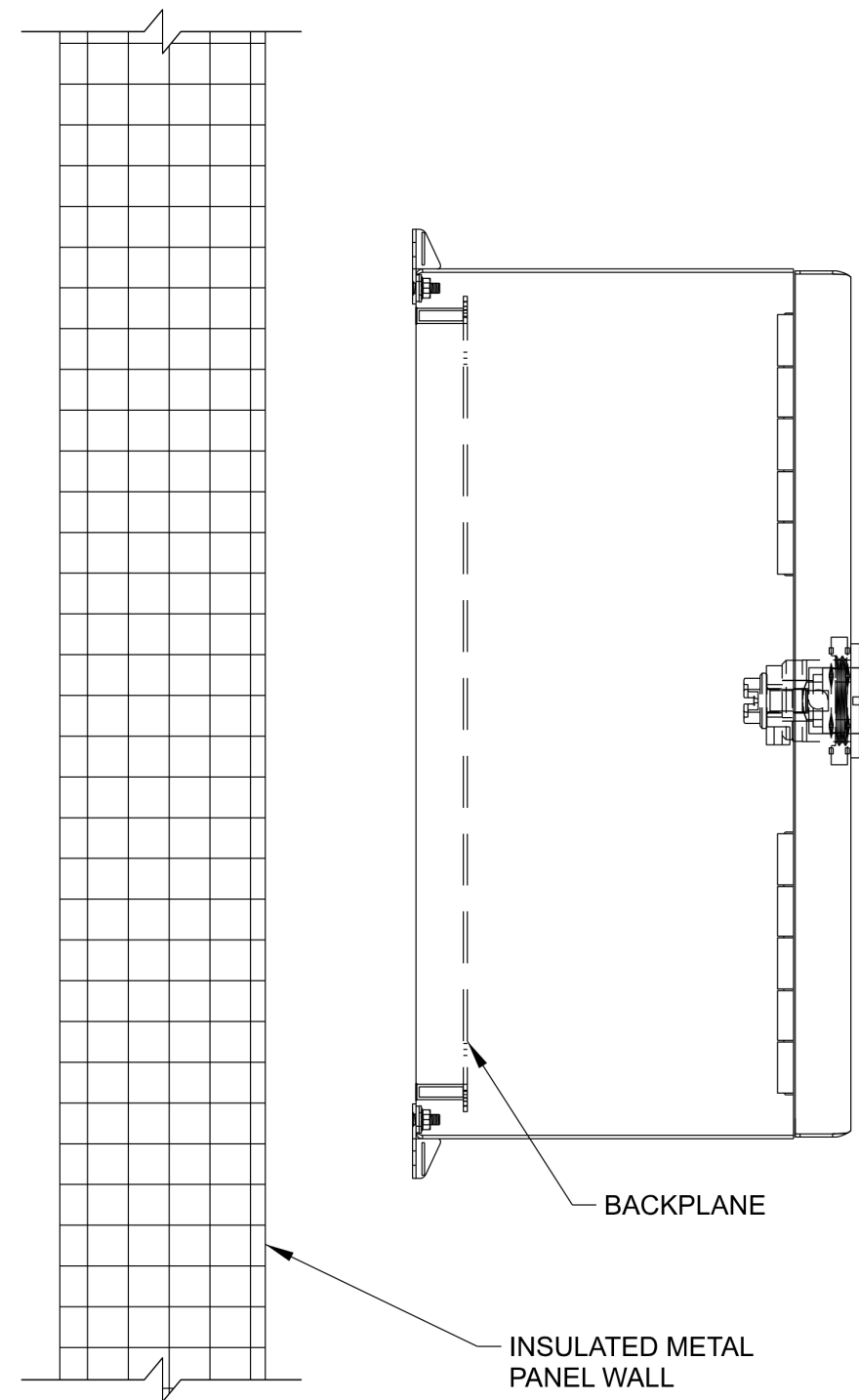
PROJECT
CHPE
Champlain Hudson
Power Express

Astoria HVDC
Converter Station

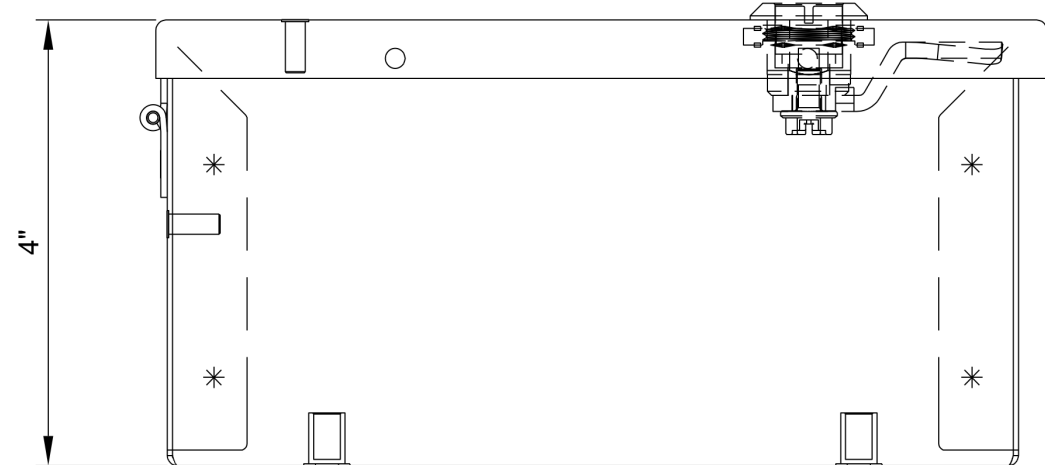
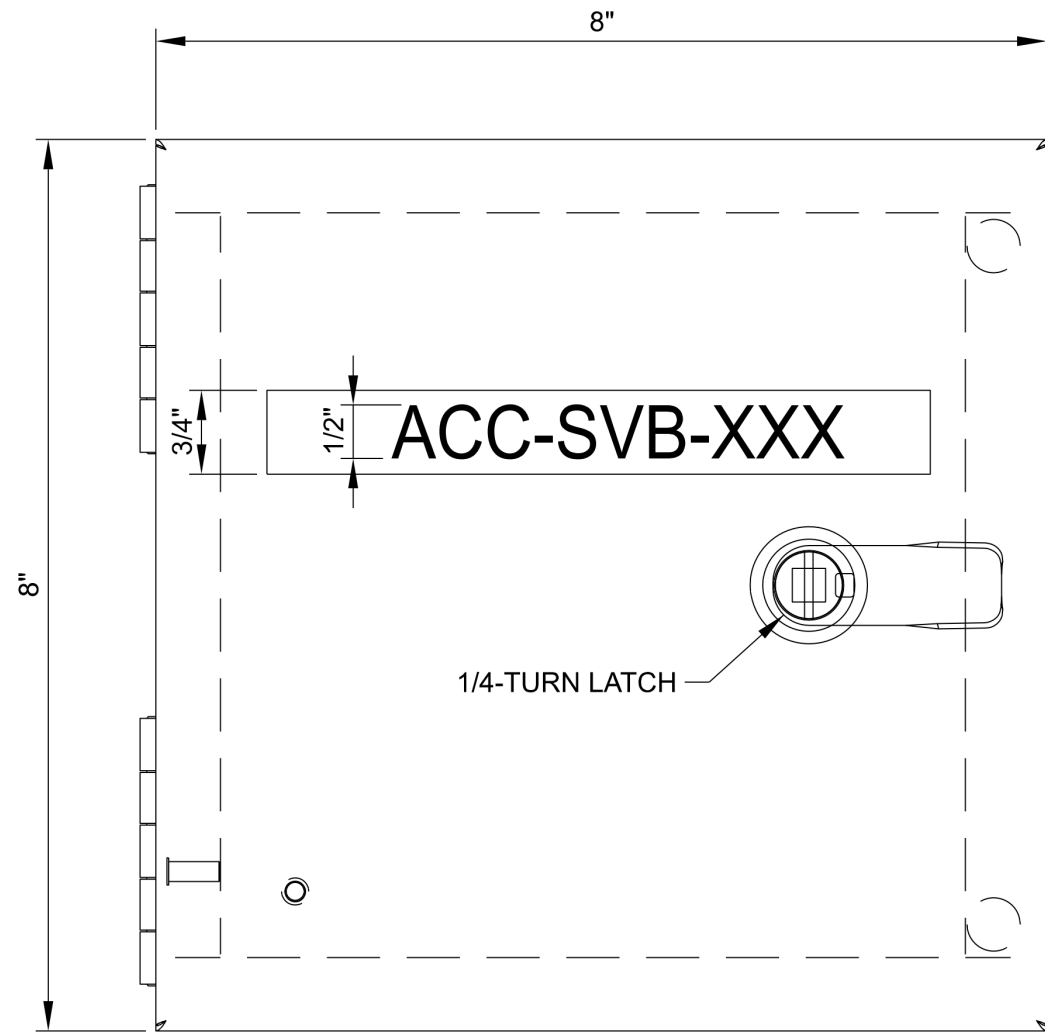
31-45 20th Avenue, Astoria, Queens NY 11105
Block #850 - Lot #310 - BIN #4624437

COMMUNICATIONS
SYSTEMS PSC & ICC
MOUNTING DETAILS

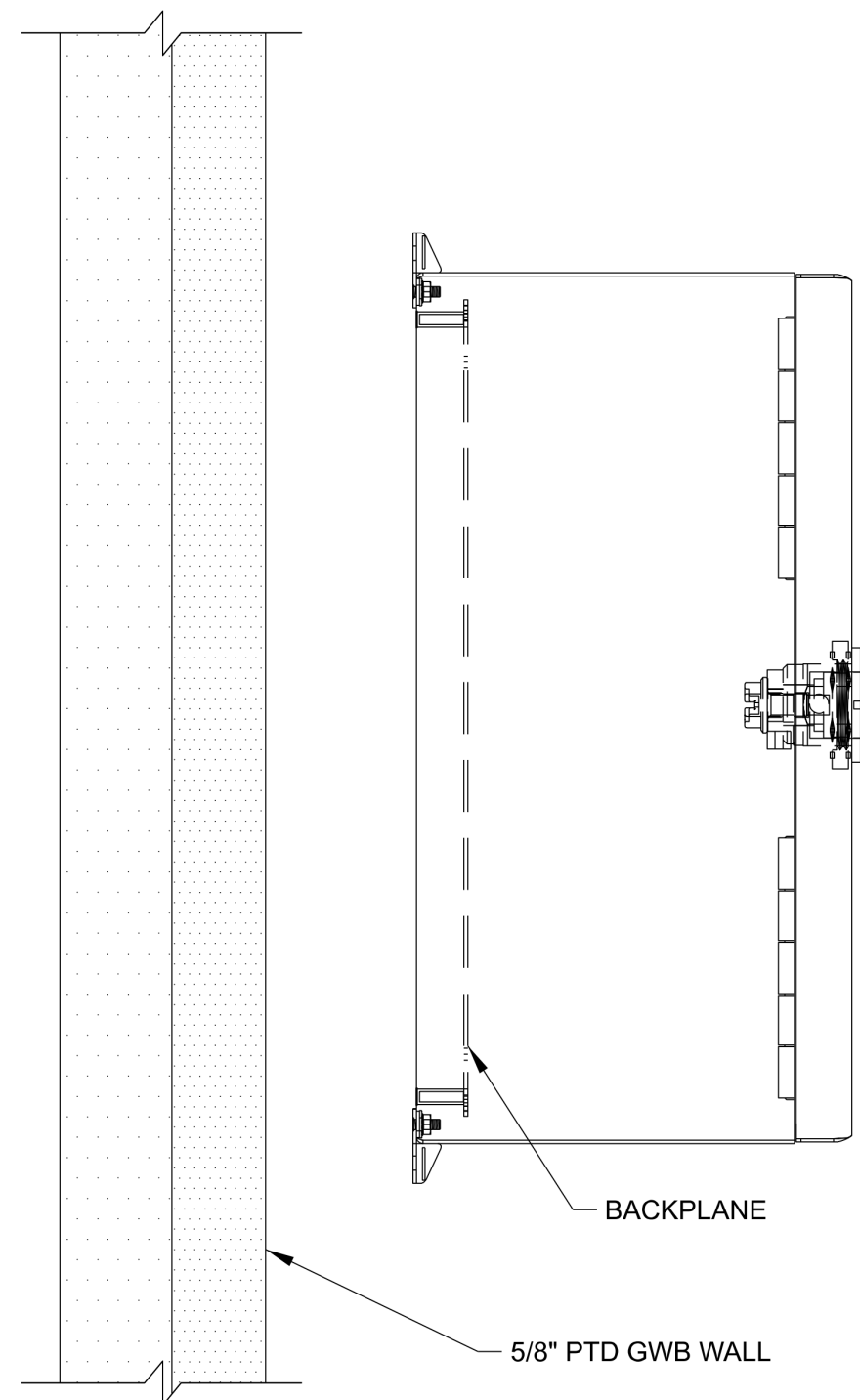
DATE 08/29/2022
PROJECT NO 105121
DRAWING BY Author
CHECKED BY Designer
DRAWING NO
CO-210.00
CADD FILE NO
Astoria-CHPE-2022-08-29-00-MD-CO-001.rvt



1 ACCESS CONTROL CABINET
METAL PANEL MOUNTING - NTS
CO-211.00



2 ACCESS CONTROL CABINET
W/ONE DOOR CONTROLLER - NTS
CO-211.00



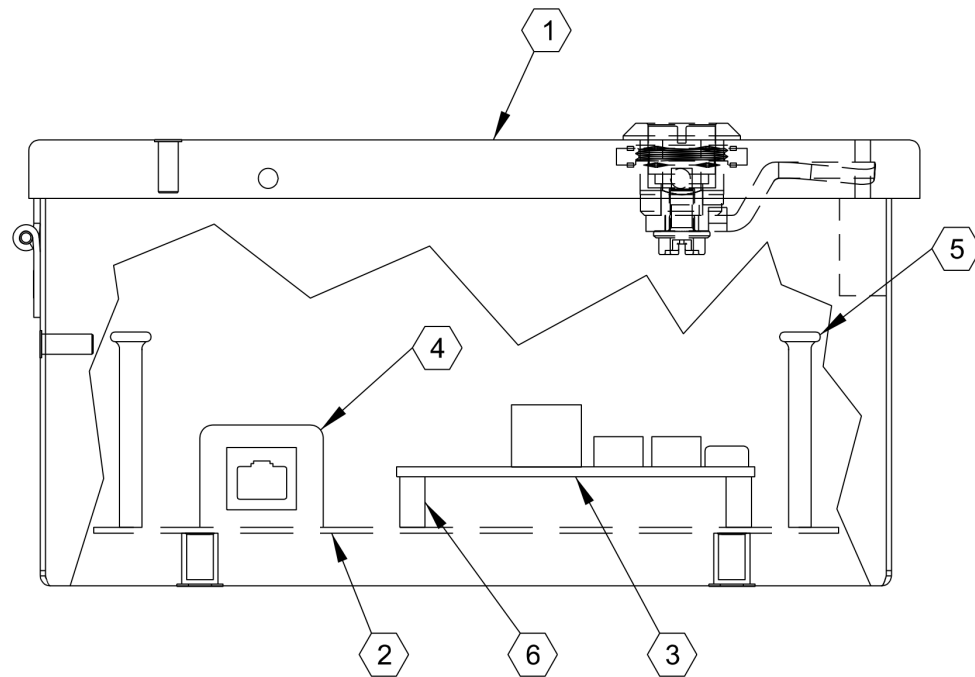
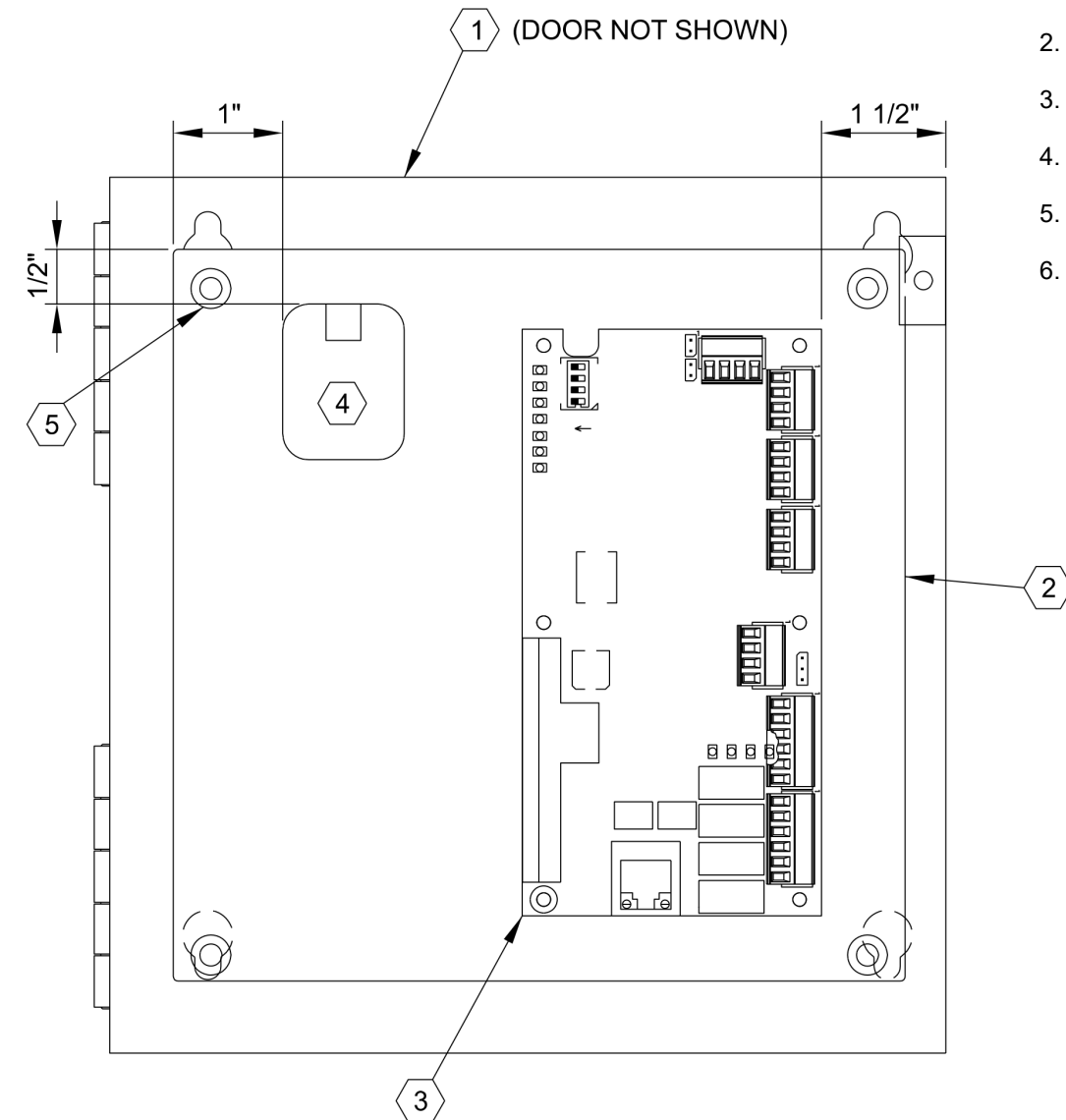
3 ACCESS CONTROL CABINET
DRYWALL MOUNTING - NTS
CO-211.00

GENERAL NOTES:

- ACCESS CONTROL CABINETS WILL BE USED ANYWHERE THE MR62e CONTROLLERS ARE USED. THIS INCLUDES THE MVS ENCLOSURE, STORAGE ENCLOSURE, RELAY ENCLOSURE, AND SERVICE BUILDING.
- ALL MOUNTING LOCATIONS WITH THE EXCEPTIONS OF THE SERVICE BUILDING, HAVE INSULATED METAL PANEL WALLS THAT WILL BE MOUNTED AS SHOWN.
- THE SERVICE BUILDING ACCESS CONTROL CABINETS WILL BE MOUNTED TO THE GWB WALLS SPECIFIED IN THE ARCHITECTURE PACKAGE.

KEY NOTES:

- ACCESS CONTROL CABINET.
- BACKPLANE.
- MR62e NETWORK DOOR CONTROLLER.
- CAT6 JACK.
- WIRE MANAGEMENT SPOOL.
- 1/4" STANDOFF.



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Kiewit
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Woodcliff Lake, NJ 07677

Hitachi Energy
901 Main Campus Drive
Raleigh, North Carolina 27606

PROJECT

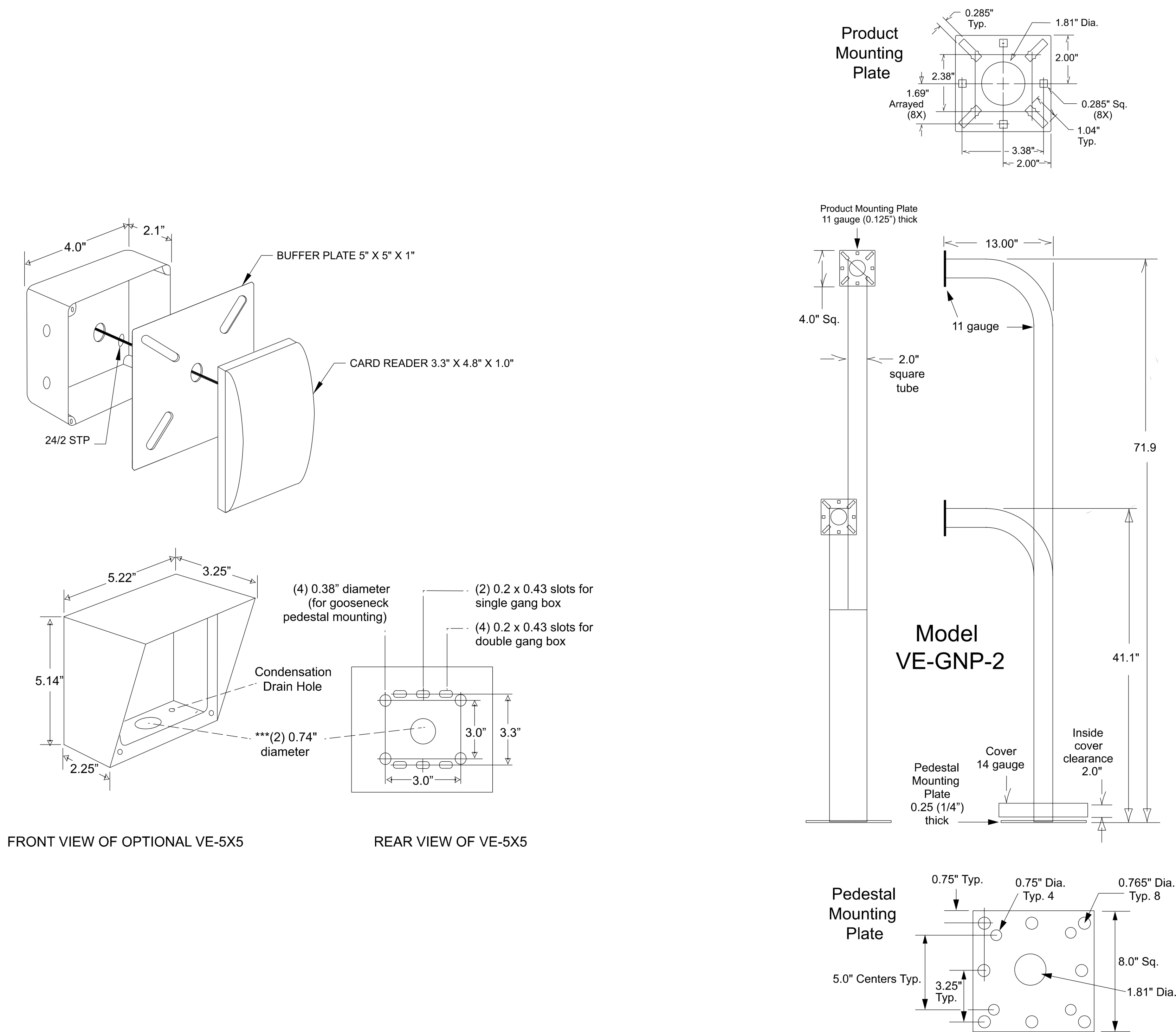
CHPE
Champlain Hudson
Power Express

Astoria HVDC
Converter Station

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

COMMUNICATIONS
SYSTEMS ACCESS
CONTROL CABINET
MOUNTING DETAILS

DATE 08/29/2022
PROJECT NO 105121
DRAWING BY Author
CHECKED BY Designer
DRAWING NO
CO-211.00
CADD FILE NO
Astoria-HVDC-CHPE
Astoria/CHA-KIE-200-00-M2-CD-001.rvt



1
CO-212.00 CARD READER PEDESTAL MOUNTING DETAILS
NOT TO SCALE

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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

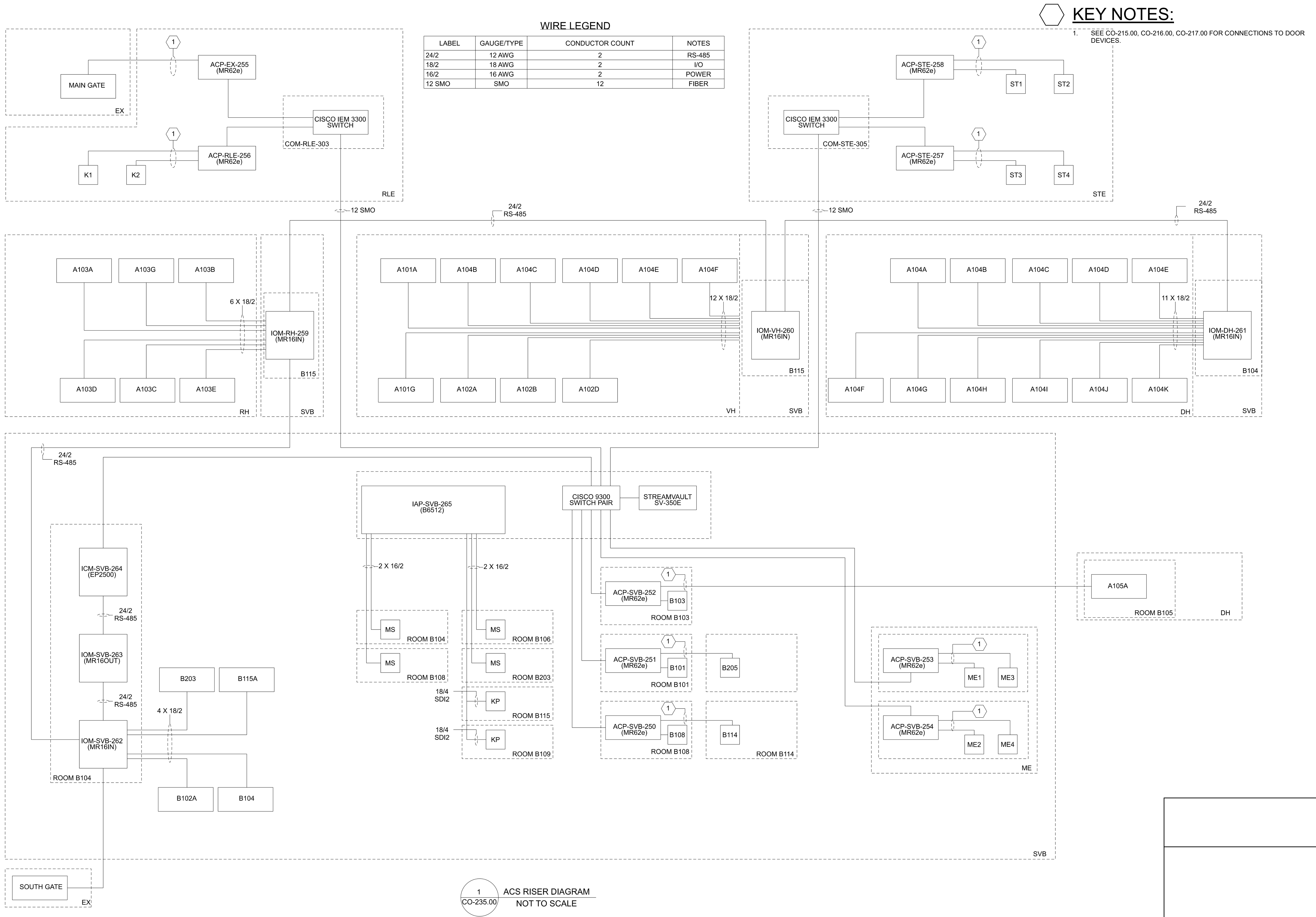
**Astoria HVDC
Converter Station**

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

**COMMUNICATIONS
SYSTEMS CARD READER
DUAL HEIGHT PEDESTAL
MOUNTING**

DATE	08/29/2022
PROJECT NO	105121
DRAWING BY	Author
CHECKED BY	Designer
DRAWING NO	CO-212.00
CADD FILE NO	
Author: Kiewit, SOWINSKI SULLIVAN	Astoria/CHPE-2022-00-M2-CO-001.rvt

12/7/2022 3:48:11 PM



1 ACS RISER DIAGRAM
CO-235.00 NOT TO SCALE

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Kiewit

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Woodcliff Lake, NJ 07677

Hitachi Energy

901 Main Campus Drive
Raleigh, North Carolina 27606

PROJECT

CHPE
Champlain Hudson
Power Express

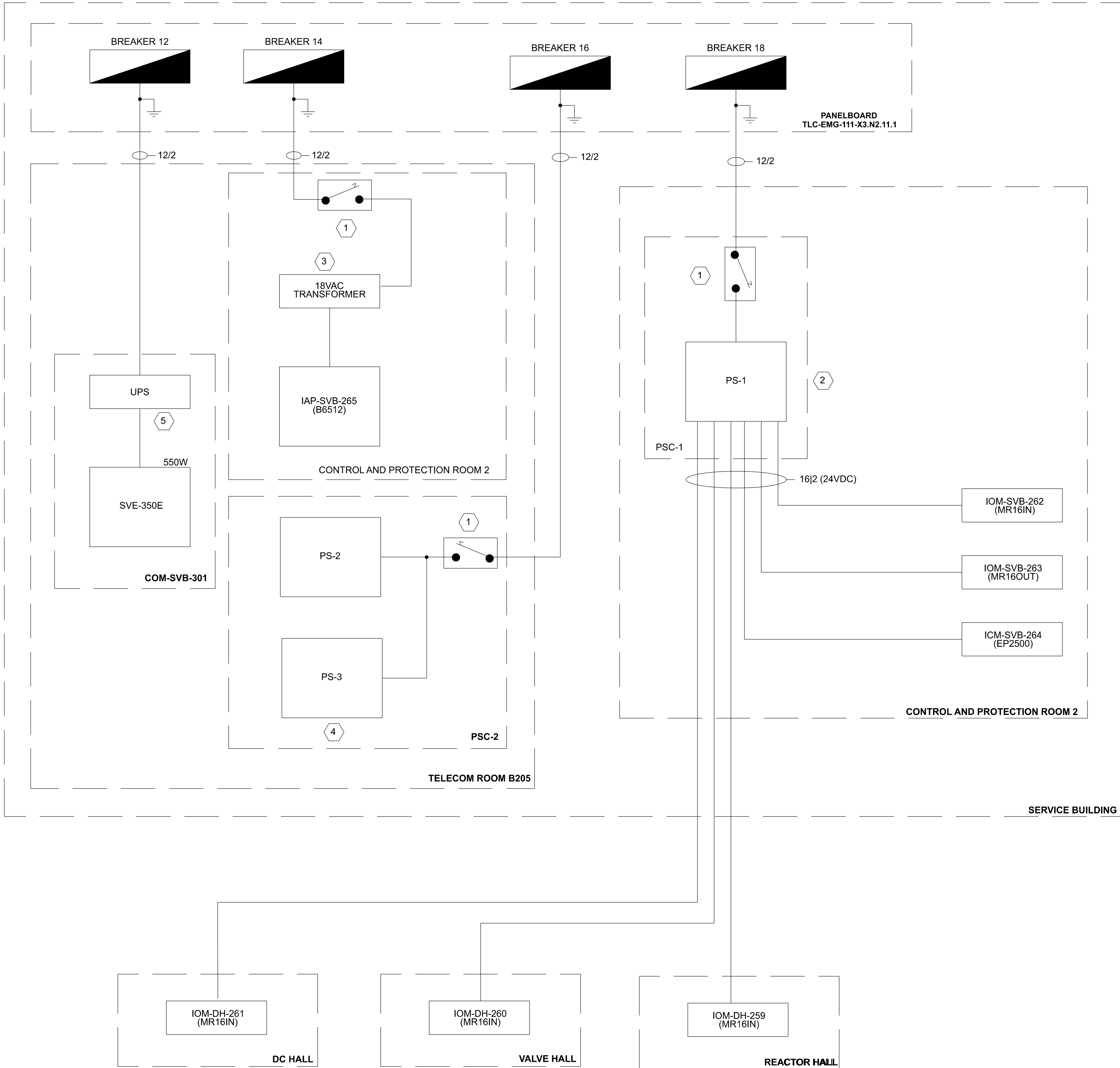
**Astoria HVDC
Converter Station**

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

COMMUNICATIONS
SYSTEMS ACS RISER
DIAGRAM

DATE 08/29/2022
PROJECT NO 105121
DRAWING BY Author
CHECKED BY Designer
DRAWING NO
CO-213.00
CADD FILE NO
Astoria/CHA-RIE-200-00-M2-CO-001.rvt

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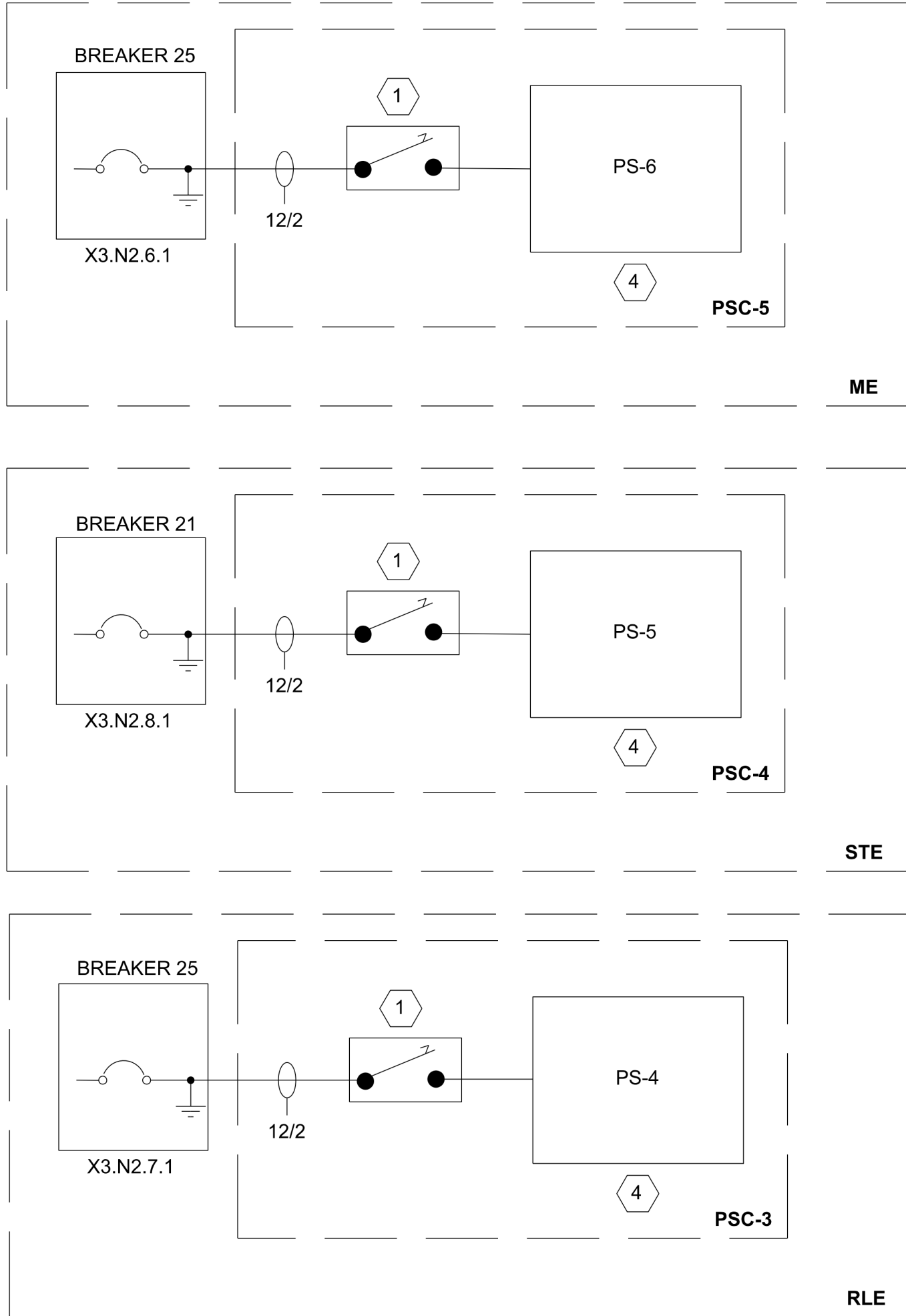


GENERAL NOTES:

- SEE ELECTRICAL DRAWINGS FOR FURTHER DETAILS ON BREAKERS AND PANELBOARDS.

KEY NOTES:

- 120VAC, 30A DISCONNECT SWITCH
- 24VDC POWER SUPPLY WITH 8 OUTPUT TERMINALS. SEE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.
- CX4010 PLUG-IN 18VAC, 22VA TRANSFORMER 60HZ.
- POWER SUPPLIES WILL SUPPLY POWER TO ALL MR62e BOARDS WITHIN THE SPECIFIED AREA. THESE CONTROLLER BOARD ARE NOT SHOWN HERE FOR SIMPLICITY.
- SEE DRAWING CO-229.00 FOR ADDITIONAL POWER LOADS.



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Raleigh, North Carolina 27606

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**Astoria HVDC
Converter Station**

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

**COMMUNICATIONS
SYSTEMS ACS POWER
SUPPLY DIAGRAM**

DATE 08/29/2022
PROJECT NO 105121
DRAWING BY Author
CHECKED BY Designer
DRAWING NO
CO-214.00
CADD FILE NO
Astoria-HVDC-CHPE
Astoria-CHPE-2022-00-MD-CO-001.rvt

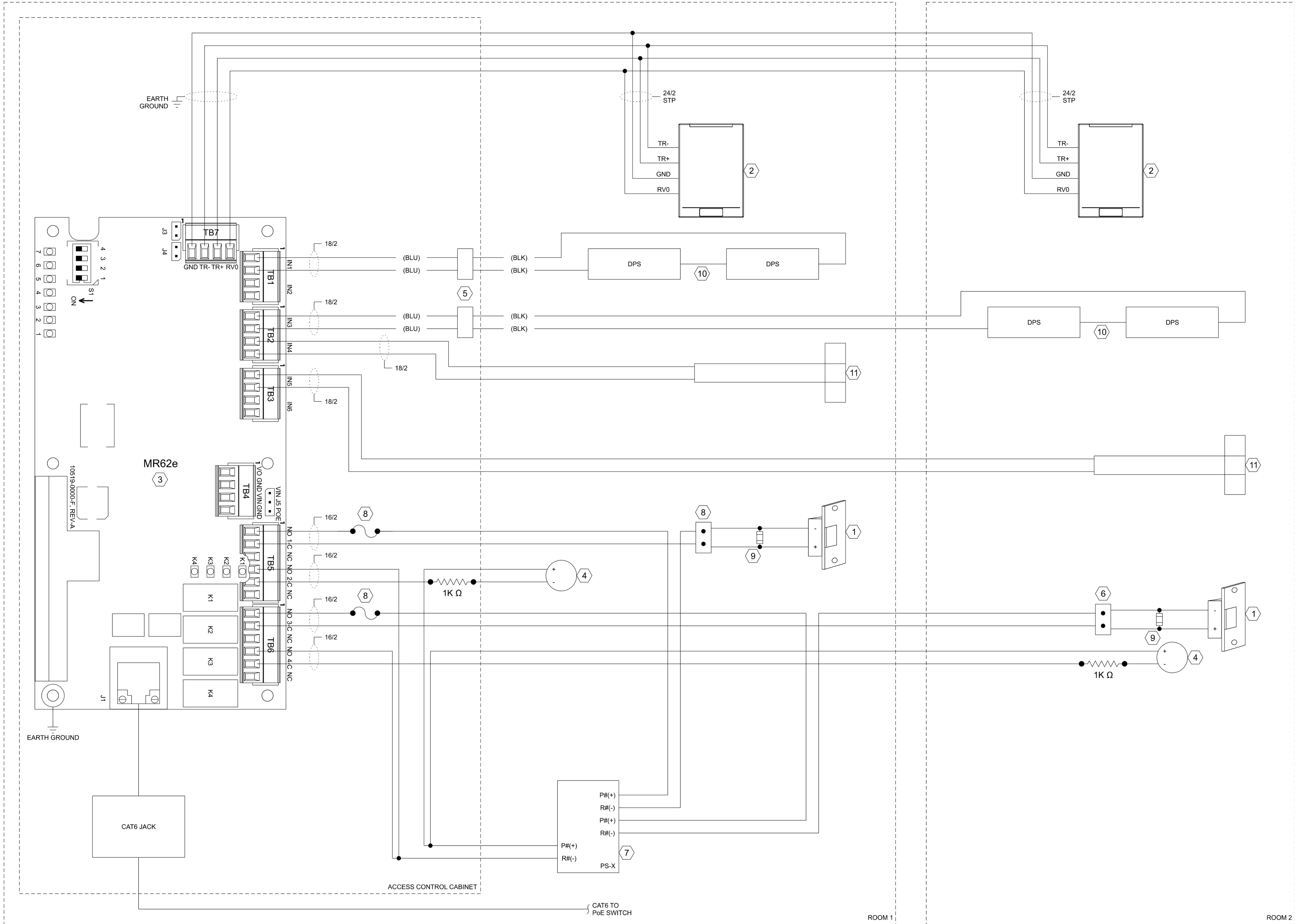
1
CO-214.00
AC POWER SUPPLY DIAGRAM
NOT TO SCALE

1. THE POWER SUPPLY SHOWN IS A 8 TERMINAL DEVICE, BUT ONLY THOSE RELEVANT TO THIS WIRING DIAGRAM ARE DISPLAYED HERE. THE DEPICTION IS USED TO BETTER SHOW WHICH COMPONENTS SHARE TERMINALS.
2. REFER TO BILL OF MATERIALS ON SHEET CO-223.00 FOR ADDITIONAL DETAILS.

1. DOOR POSITION SWITCH. SEE CO-223.00 FOR DETAILS
2. OSDP CARD READER. SEE CO-223.00 FOR DETAILS
3. TWO DOOR ACCESS CONTROL MODULE. SEE CO-223.00 FOR DETAILS
4. MOTOR CONTROLLER. SEE CO-223.00 FOR DETAILS.
5. RESISTOR RACK. SEE CO-223.00 FOR DETAILS.



DATE	08/29/2022
PROJECT NO	105121
DRAWING BY	Author
CHECKED BY	Designer
DRAWING NO	
CO-215.00	
CADD FILE NO	
Autosaved Desc:105121.dwg	
Astorita\CHA\KIE-200-00-MQ-CO-001.rvt	



1 TWO DOUBLE DOOR WIRING WITH READERS
CO-216.00 NOT TO SCALE

GENERAL NOTES:

1. THE POWER SUPPLY SHOWN IS A 8 TERMINAL DEVICE, BUT ONLY THOSE RELEVANT TO THIS WIRING DIAGRAM ARE DISPLAYED HERE. THE DEPICTION IS USED TO BETTER SHOW WHICH COMPONENTS SHARE TERMINALS.
2. ROOMS 1 & 2 DENOTE GENERIC LOCATIONS FOR THE READER AND CONTROLLER BOARD. REFER TO CO-213.00 FOR EXACT LOCATIONS OF DEVICES.
3. REFER TO BILL OF MATERIALS ON SHEET CO-223.00 FOR ADDITIONAL DETAILS.

KEY NOTES:

1. ELECTRIC DOOR STRIKE.
2. OSDP CARD READER.
3. TWO DOOR ACCESS CONTROL MODULE.
4. LOW POWER BUZZER.
5. RESISTOR PACK.
6. POWER TRANSFER HINGE.
7. POWER SUPPLY.
8. 2A FUSE.
9. DIODE.
10. DOOR POSITIONS SWITCH.
11. MECHANICAL CRASH BAR WITH MICROCHIP. ONLY TO BE USED WITH CRASH BAR INSTALLED DOORS.

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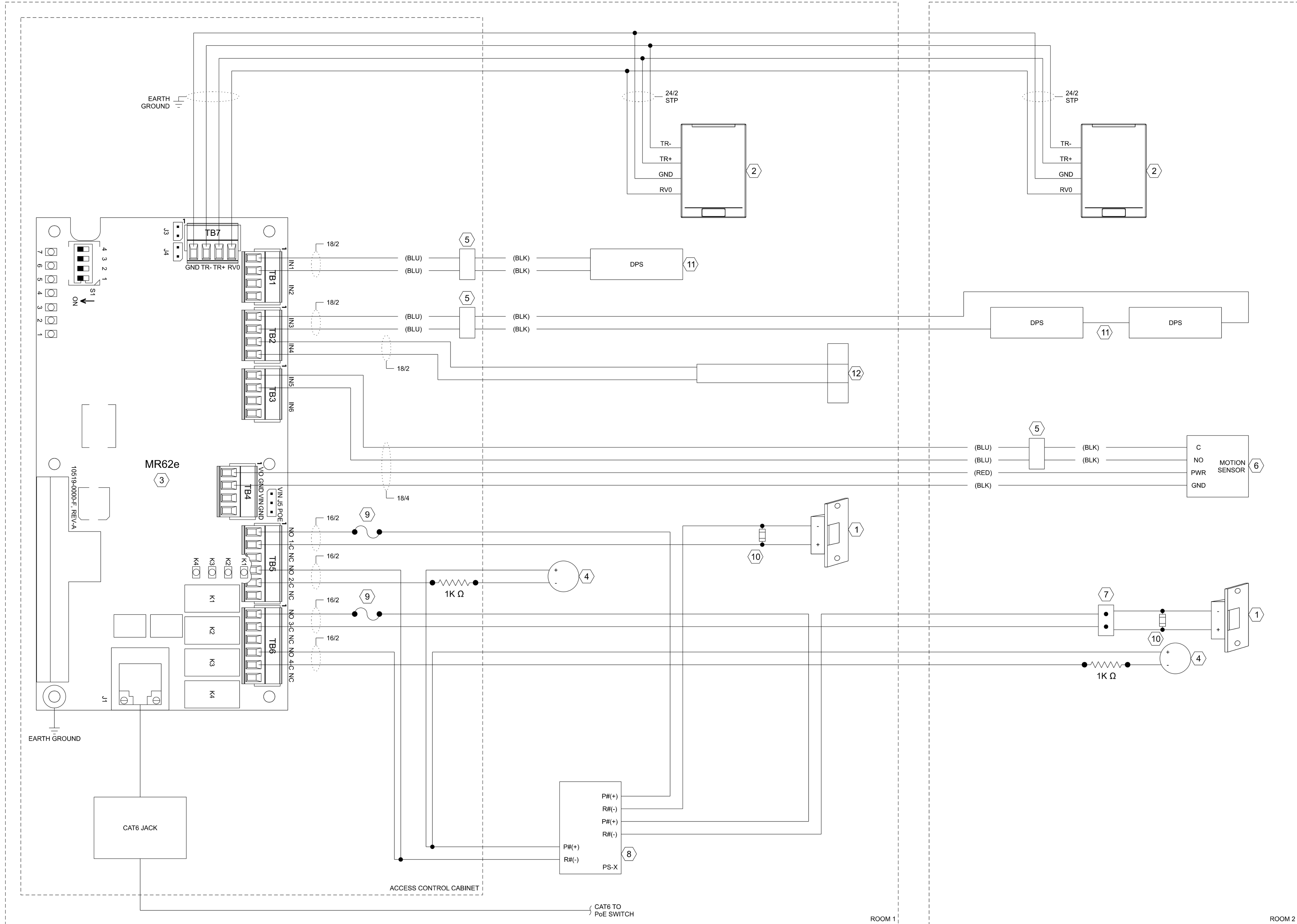
CHPE
Champlain Hudson
Power Express

Astoria HVDC
Converter Station

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

COMMUNICATIONS
SYSTEMS TWO DOUBLE
WIRING WITH READERS

DATE	08/29/2022
PROJECT NO	105121
DRAWING BY	Author
CHECKED BY	Designer
DRAWING NO	CO-216.00
CADD FILE NO	AstoriaHVDC-CHPE
Author: CHPE	AstoriaHVDC-CHPE



GENERAL NOTES:

1. THE REX MOTION SENSOR IS ONLY USED IF A CRASH BAR IS NOT INSTALLED ON A GIVEN DOOR. REFER TO THE ARCHITECTURAL DRAWINGS SET FOR THE DOOR HARDWARE SCHEDULE.
2. THE POWER SUPPLY SHOWN IS AN 8 TERMINAL DEVICE, BUT ONLY THOSE RELEVANT TO THIS WIRING DIAGRAM ARE DISPLAYED HERE. THE DEPICTION IS USED TO BETTER SHOW WHICH COMPONENTS SHARE TERMINALS.
3. ROOMS 1 & 2 DENOTE GENERIC LOCATIONS FOR THE READER AND CONTROLLER BOARD. REFER TO CO-213.00 FOR EXACT LOCATIONS OF DEVICES.
4. REFER TO BILL OF MATERIALS ON SHEET CO-223.00 FOR ADDITIONAL DETAILS.

KEY NOTES:

1. ELECTRIC DOOR STRIKE.
2. OSDP CARD READER.
3. TWO DOOR ACCESS CONTROL MODULE.
4. LOW POWER BUZZER.
5. RESISTOR PACK.
6. POWER TRANSFER HINGE.
7. POWER SUPPLY.
8. 2A FUSE.
9. DIODE.
10. DOOR POSITIONS SWITCH.
11. MECHANICAL CRASH BAR WITH MICROCHIP. ONLY TO BE USED WITH CRASH BAR INSTALLED DOORS.

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**Astoria HVDC
Converter Station**

31-45 20th Avenue, Astoria, Queens NY 11105
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**COMMUNICATIONS
SYSTEMS ONE SINGLE,
ONE DOUBLE DOOR
WIRING WITH READERS**

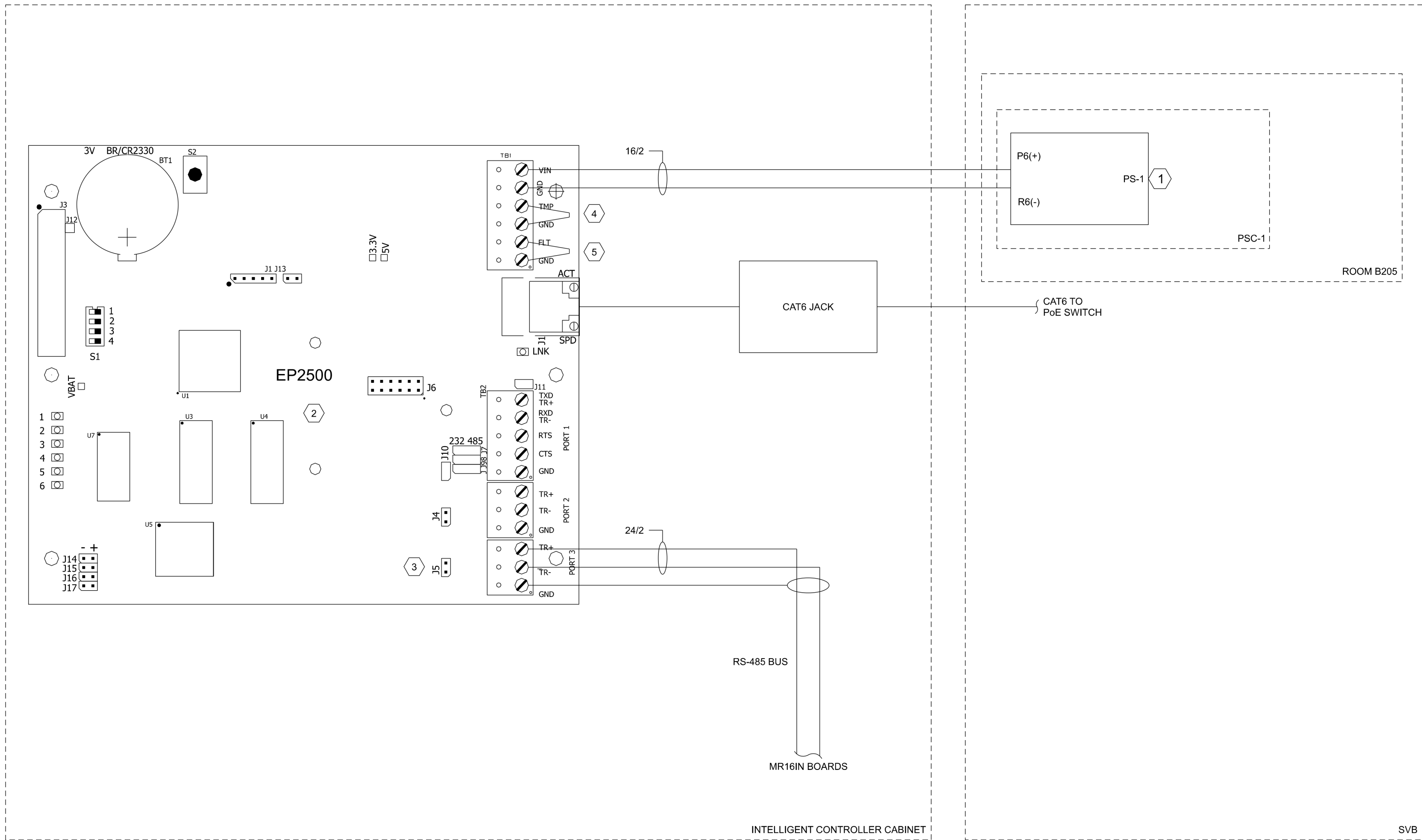
DATE 08/29/2022
PROJECT NO 105121
DRAWING BY Author
CHECKED BY Designer
DRAWING NO
CO-217.00
CADD FILE NO
Astoria-HVDC-CHPE
Astoria-CHPE-2022-08-29-00-MD-CO-001.rvt

GENERAL NOTES:

- SEE DRAWING CO-210.00 FOR MOUNTING DETAILS FOR THE INTELLIGENT CONTROLLER MODULE EP2500.
- THE POWER SUPPLY SHOWN IS AN 8 TERMINAL DEVICE, BUT ONLY THOSE RELEVANT TO THIS WIRING DIAGRAM ARE DISPLAYED HERE.
- REFER TO BILL OF MATERIALS ON SHEET CO-233.00 FOR ADDITIONAL DETAILS

KEY NOTES:

- POWER SUPPLY.
- INTELLIGENT CONTROLLER MODULE.
- PCB JUMPER REQUIRED AT J5 TO TERMINATE RS-485 SERIAL BUS.
- WIRE JUMPER USED IN LIEU OF TAMPER SWITCH.
- WIRE JUMPER USED IN LIEU OF POWER SUPERVISION.



1 INTELLIGENT CONTROLLER WIRING DIAGRAM
CO-218.00 NOT TO SCALE

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PROJECT
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Converter Station**

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

COMMUNICATIONS
SYSTEMS INTELLIGENT
CONTROLLER WIRING
DIAGRAM

DATE 08/29/2022
PROJECT NO 105121
DRAWING BY Author
CHECKED BY Designer

DRAWING NO

CO-218.00

CADD FILE NO
Astoria-HVDC-CHPE
Astoria-CHPE-KIE 200-00-MD-CO-001.rvt