Intermountain Infrastructure Group

SITE NAME: SANDPOINT

PROJECT: FIBER HUT

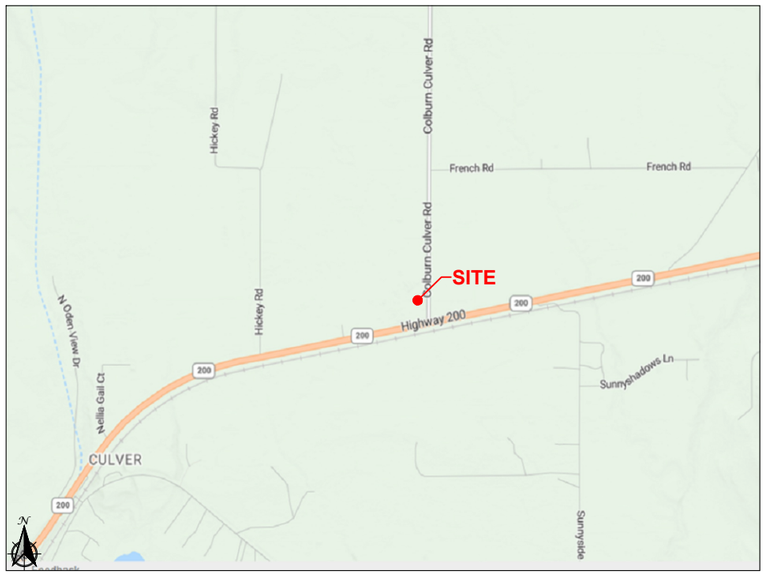
ADDRESS: 10690 COLBURN CULVER RD,
SANDPOINT, ID 83864

SHEET LIST:

ATTACHMENTS:

EXISTING CIVIL SURVEY
SHELTER MANUFACTURER DRAWINGS
GENERATOR SPECIFICATIONS

SITE MAP:



SITE PHOTO:

SCOPE OF WORK:

INSTALLATION OF A NEW PRE-FABRICATED EQUIPMENT SHELTER (FIBER HUT) AND 150 KW DIESEL GENERATOR WITHIN AN EXPANDED COMPOUND. SCOPE INCLUDES A NEW 600A, SINGLE-PHASE ELECTRICAL SERVICE.

PROJECT INFORMATION:

COUNTY:	BONNER
JURISDICTION:	BONNER COUNTY
PARCEL ID:	RP57N01W040080A
PROPERTY OWNER:	KRALY, STAN
ZONING DISTRICT:	C - (COMMERCIAL)
OCCUPANCY TYPE:	U - (UNMANNED FACILITY)
CONSTRUCTION TYPE:	VB
GOVERNING CODES:	IBC 2018, IMC 2018, IFC 2018, NEC 2017.
UTILITIES:	AVISTA UTILITIES | 208-660-6155
ONE-CALL IDAHO:	CONTRACTOR TO CALL BEFORE DIGGING!!! PHONE: 811 OR 800-342-1585

PROJECT TEAM:

PROJECT MANAGER:
DAYTON SAVAGE
ONTIVITY
281.703.4464
DAYTON.SAVAGE@ONTIVITY.COM

CONSTRUCTION MANAGER:
JORDAN SCHILLING
ONTIVITY - LEGACY DIVISION
509.660.3014
JORDAN.SCHILLING@ONTIVITY.COM

ENGINEER:
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IIG CONTACT:
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IIG CONTACT:
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INTERMOUNTAIN IG
JESSIE.HUENERGARDT@INTERMOUNTAINIG.COM

2 1 - REVISED THE SHEET LIST

ONTIVITY
LOCAL CONNECTIONS | NATIONAL SOLUTIONS

Intermountain Infrastructure Group
533 AIRPORT BLVD SUITE 400
BURLINGAME, CA 94010

SITE NAME:
SANDPOINT

SITE ADDRESS:
10690 COLBURN CULVER RD,
SANDPOINT, ID 83864

PROJECT:
FIBER HUT

SET ISSUE:

NO	DESC	DATE:
0	CDs	6/25/2025
1	CDs	11/21/2025

TITLE SHEET

T1

SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY
FILE NO. 637116 - SCHEDULE A:

A parcel of land located in Section 4, Township 57 North, Range 1 West, Boise Meridian, Bonner County, Idaho, being more particularly described as follows:

COMMENCING at the Northwest corner of the Northeast Quarter of Said Section 4;
Thence North 89 degrees 58' 31" East along the North line of Section 4, 1324.35 feet to the Northwest corner of Government Lot 1; Thence South 00 degrees 01' 18" East along the West line of Government Lot 1 a distance of 1205.94 feet to a point, said point being the TRUE POINT OF BEGINNING.
Thence continuing South 00 degrees 01' 18" East, 329.63 feet to the Southwest corner of Government Lot 1;
Thence South 00 degrees 01' 19" East, 293.38 feet to an intersection with the Northerly right of way of Highway 200;
Thence North 79 degrees 21' 57" East along said Northerly right of way a distance of 725.78 feet to an intersection with the Westerly right of way of Colburn Culver road;
Thence North 00 degrees 10' 16" East along said Westerly right of way a distance of 479.09 feet;
Thence North 89 degrees 11' 17" West, 715.06 feet to the TRUE POINT OF BEGINNING.

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY
FILE NO. 637116 - SCHEDULE B, SECTION II:

Numbers correspond with survey-related Schedule B exception items contained in the above referenced Title Commitment.

15. Negative easements, conditions, restrictions, and access rights contained in the deed to the State of Idaho. Recorded: September 23, 1946
Instrument No.: 21671
Highway 200 Government Lot 8
(DOES NOT AFFECT THE SUBJECT PROPERTY)

16. Negative easements, conditions, restrictions, and access rights contained in the deed to the State of Idaho. Recorded: October 7, 1941
Instrument No.: 5935
For Colburn Culver Road – Lot 1
(DOES NOT AFFECT THE SUBJECT PROPERTY)

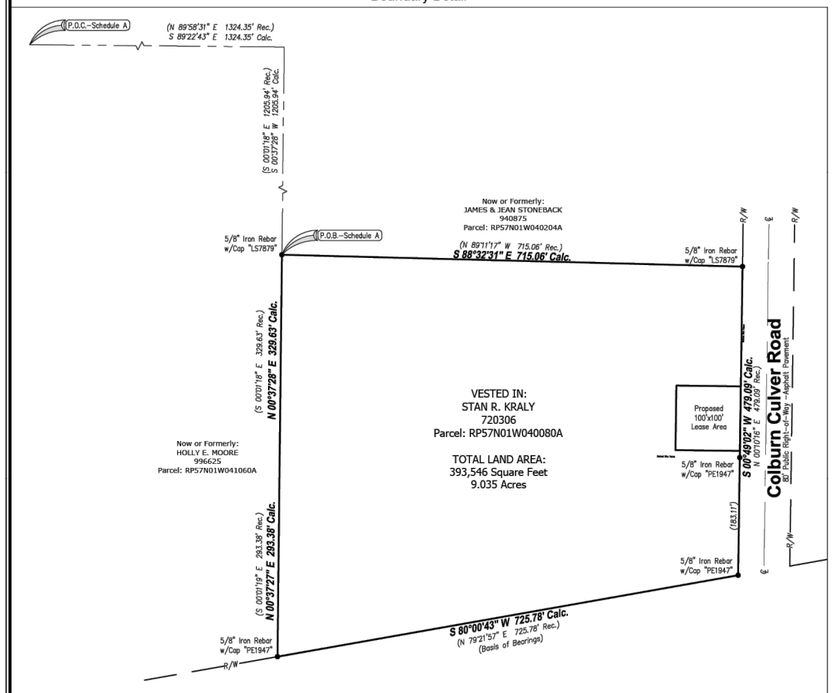
17. Negative easements, conditions, restrictions, and access rights contained in the deed to the State of Idaho. Recorded: October 7, 1941
Instrument No.: 5936
For Colburn Culver Road – Lot 8
(DOES NOT AFFECT THE SUBJECT PROPERTY)

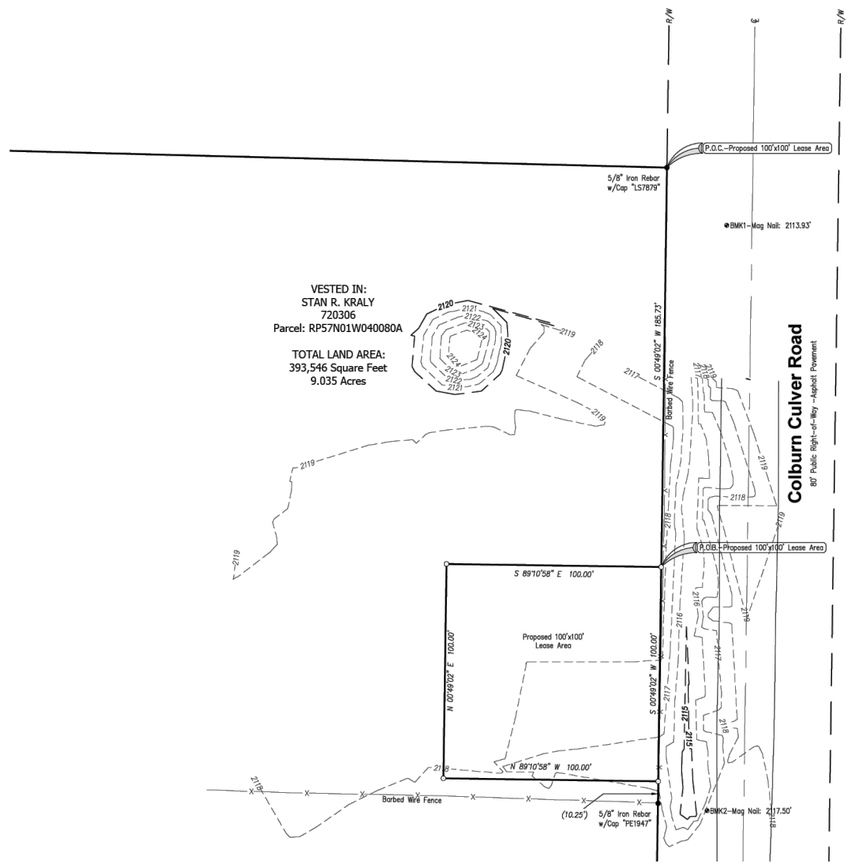
18. An easement for the purpose shown below and rights incidental thereto as set forth in document:
Granted To: The Washington Water Power Company, a corporation
Purpose: Public Utilities
Recorded: November 9, 1951
Instrument No.: 37139
(DOES NOT AFFECT THE SUBJECT PROPERTY)

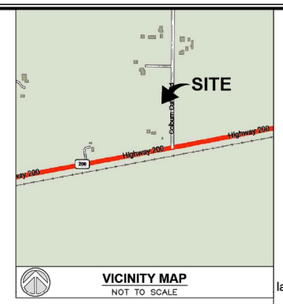
19. Rights, interests, or claims which may exist or arise by reason of the following fact(s) shown on a survey plat entitled Record of Survey for Stan Kraly
Dated: March 8, 2006
Prepared by: Northwest Traverse
Recorded: March 13, 2006
Instrument No.: 699761
Fact(s): Government lot lines and locations, Property lines, Fence location, Coluburn-Culver Road & Right-of-Way & Highway 200
(AFFECTS THE SUBJECT PROPERTY – CONTAINS NO PLOTTABLE ITEMS)

20. Rights, interests, or claims which may exist or arise by reason of the following fact(s) shown on a survey plat entitled Record of Survey for Stan Kraly
Dated: October 25, 2006
Prepared by: Northwest Traverse
Recorded: October 31, 2006
Instrument No.: 716296
Fact(s): Government lot lines and locations, Property lines, Fence location, Coluburn-Culver Road
Right-of-Way & Highway 200
(AFFECTS THE SUBJECT PROPERTY – CONTAINS NO PLOTTABLE ITEMS)

Boundary Detail







VICINITY MAP
NOT TO SCALE

SYMBOL LEGEND

R/W	–	Right-of-Way
P/L	–	Adjoiner Property Line
●	–	Benchmark Location
BMK	–	Benchmark
P.O.B.	–	Place/Point of Beginning
P.O.C.	–	Place/Point of Commencement
Calc.	–	Calculated
Rec.	–	Record
○	–	5/8" Iron Pin w/Cap Set Stamped "MILLMAN 33034201723"
●	–	Monumentation Found as Noted
—X—	–	Fence (As Noted)

PROPOSED 100'X100' LEASE PARCEL DESCRIPTION:

Commencing at a 5/8" Iron Rebar w/Cap Stamped "LS7879" located on the west right-of-way line of Colburn Culver Road (80' public right-of-way), said point also being the northeastern most corner of land conveyed to Stan R. Kraly (Document No. 720306; Parcel: RP57N01W040080A); thence along the west right-of-way line of Colburn Culver Road S 00°49'02" W a distance of 185.73 feet top the Point of Beginning; thence S 00°49'02" W a distance of 100.00 feet; thence N 89°10'58" W a distance of 100.00 feet; thence N 00°49'02" E a distance of 100.00 feet; thence S 89°10'58" E a distance of 100.00 feet to the Point of Beginning.

NOTES:

1. This is a specific purpose survey for the stated purpose of surveying a proposed telecommunication tower compound as requested by the client.
2. The locations of all utilities shown on the survey are from visible surface evidence only.
3. No Wetlands Areas have been investigated by the Survey.
4. All coordinates shown hereon are referenced to the Idaho State Plane Coordinate System (West Zone), in the North American Datum of 1983 (2011 Adjustment).
5. All elevations shown hereon are referenced to the North American Vertical Datum 1988 (NAVD88)
6. The Property surveyed and shown hereon is the same property described in Schedule A of Old Republic National Title Insurance Company File No. 637116 with a commitment date of April 25, 2023.

FLOOD ZONE:

By scaled map location and graphic plotting only, the subject property appears to lie entirely in Zone X–Unshaded (Areas determined to be outside the 0.2% Annual Chance Flod) according to the Flood Insurance Rate Map for the County of Bonner, State of Idaho, Community Panel No. 16017C0730E, Effective Date November 18, 2009.

BASIS OF BEARING:

The basis for all bearings shown hereon is the north right-of-way line of State Highway 220, assumed as being S 80°00'43" W, and is used to denote angles only.

BENCHMARK:

1. ON-SITE BENCHMARK:
Mag Nail Set = 2113.93'
Elevation (NAVD88)

2. ON-SITE BENCHMARK:
Mag Nail Set = 2117.50'
Elevation (NAVD88)

CERTIFICATION:

To: Old Republic National Title Insurance Company:

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1-9, 11, 13, 15, 16, 18 and 19 of Table A thereof. The field work was completed on May 5, 2023.

Date of Plat or Map: July 14, 2023

By: _____
Timothy L Fish, PLS
Idaho Professional Land Surveyor No. L-16948
For and on behalf of Millman Surveying, Inc.

REVISION HISTORY

BY:	DATE:	COMMENT:

millman
National Land Services
Transforming the Industry
Surveying
Zoning
Environmental
Real Support - Title Review
Millman Surveying, Inc.
Corporate Headquarters
4111 Bradley Circle NW
Canton, OH 44718
Phone: 800-520-1010
Fax: 330-342-0834
www.millmanland.com
landsurveyors@millmanland.com

SPECIAL PURPOSE
SURVEY PREPARED FOR:

B+T GROUP
1717 South Boulder Avenue
Suite 300
Tulsa, Oklahoma 74119

City of Sandpoint
County of Bonner
State of Idaho

NORTH

GRAPHIC SCALE
0 30 60
1 INCH = 30 FT.

PRELIMINARY FOR REVIEW ONLY

Surveyor's Seal

Sheet No. **1** of **1**

MSI Project No. 56507
PC: AFM
PM: ATK Drafter: ATK

1. GENERAL

1.1. CONTRACTOR SHALL VISIT THE SITE AND REVIEW ALL DESIGN DOCUMENTS FIELD VERIFYING ALL EXISTING CONDITIONS AND ASSESSING ALL MODIFICATIONS REQUIRED TO COMPLETE THE INSTALLATION. CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER AND ARCHITECT / ENGINEER WITH ANY DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND DESIGN DOCUMENTS AND OBTAIN WRITTEN CLARIFICATION PRIOR TO PROVIDING A QUOTE.

1.2. WHILE REVIEWING THE DESIGN DOCUMENTS, THE CONTRACTOR SHALL IDENTIFY ANY ITEMS WHERE THE DESIGN INTENT IS UNCLEAR AND OBTAIN WRITTEN CLARIFICATIONS PRIOR TO FURNISHING A BID.

1.3. CONTRACTOR SHALL OBTAIN WRITTEN AUTHORIZATION FROM THE CARRIER PRIOR TO PURCHASING ANY MATERIALS OR STARTING ANY WORK.

1.4. THESE DESIGN DOCUMENTS ARE DIAGRAMMATIC IN NATURE AND ARE INTENDED TO SHOW FINAL CONDITIONS. MULTIPLE PHASING STEPS MAYBE NEEDED TO MAINTAIN SITE OPERATION DURING CONSTRUCTION AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PLAN AND COORDINATE PHASING WITH CARRIER OPERATIONS.

1.5. CONTRACTOR SHALL, UNLESS OTHERWISE NOTED, INCLUDE IN THEIR SCOPE OF WORK ALL NECESSARY MATERIALS, LABOR AND EQUIPMENT TO COMPLETE THE INSTALLATION AS DESCRIBED IN DESIGN DOCUMENTS.

1.6. CONTRACTOR SHALL SUPERVISE AND DIRECT THE EXECUTION OF THE SHOWN PROJECT AND IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCING AND OBTAINING MATERIALS TO COMPLETE THE PROJECT. ANY REQUEST FOR ALTERATIONS TO THE DESIGN INTENT SHALL BE PROVIDED IN WRITING FOR REVIEW AND APPROVAL.

1.7. NO STRUCTURAL ALTERATIONS ARE TO BE MADE TO THE FACILITY UNLESS SPECIFICALLY NOTED.

1.8. CONTRACTOR SHALL MAKE PROVISIONS TO PROTECT EXISTING SITE FINISHES AS MUCH AS POSSIBLE. ANY IMPACT TO SITE AND SURROUNDINGS SHALL BE MITIGATED AND CONTRACTOR SHALL RETURN SITE TO PRE-CONSTRUCTION CONDITIONS.

1.9. ALL DEMOLISHED AND UNUSED MATERIALS SHALL BE REMOVED FROM SITE AND TRACKED ASSETS LOGGED AND RETURNED TO CARRIER FOR DISPOSAL OR RE-USE. CONTRACTOR TO KEEP THE SITE CLEAN, FREE OF HAZARDS AND TO PROPERLY DISPOSE OF ALL RUBBISH.

1.10. PLANS ARE NOT TO BE SCALED. UTILIZE DIMENSION CALL-OUTS FOR ESTIMATES. ALL CABLE LENGTHS ARE SHOWN FOR INFORMATIONAL PURPOSES AND IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY ALL LENGTHS PRIOR TO ORDERING.

1.11. CONTRACTOR TO OBTAIN X-RAY OR GPR (IF APPLICABLE) OF ANY MASONRY STRUCTURES IDENTIFYING ALL EMBEDMENT PRIOR TO CUTTING, DRILLING OR OTHER ACTIVITY WHICH COULD CAUSE DAMAGE. AVOID ALL EMBEDMENT. OBTAIN APPROVAL FROM STRUCTURAL ENGINEER PRIOR TO IMPACTING ANY STRUCTURAL FACILITIES.

1.12. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE MOST RECENT DESIGN DOCUMENTS AND ENSURING THEY ARE DISTRIBUTED AND ARE FOLLOWED BY ALL PERSONAL INVOLVED IN THE PROJECT.

1.13. EVERY EFFORT HAS BEEN MADE BY THE ARCHITECT / ENGINEERS TO PROVIDE ACCURATE AND COMPLETE DESIGN DOCUMENTS THOUGH MINOR ERRORS AND OMISSIONS MAYBE CONTAINED WITHIN THE DOCUMENTS. THESE SHALL NOT EXCUSE THE CONTRACTOR FROM PROVIDING AN ACCURATE PROPOSAL AND COMPLETING THE PROJECT IN ACCORDANCE WITH THE INTENT OF THE DESIGN DOCUMENTS.

1.14. THE CONTRACTOR SHALL BEAR THE RESPONSIBILITY OF IDENTIFYING ANY ISSUES AND NOTIFYING THE CONSTRUCTION MANAGER AND ARCHITECT / ENGINEER IN WRITING PRIOR TO SUBMITTING PRICING. IN THE EVENT OF DISCREPANCIES OR CONFLICTING ITEMS, THE CONTRACTOR SHALL PRICE THE MOST COSTLY OR EXPANSIVE OPTION UNLESS DIRECTED IN WRITING OTHERWISE.

1.15. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ACCESS WITH VENUE MANAGEMENT FOR ALL NECESSARY WORK AND TO COMPLY WITH ANY REQUIREMENTS IMPOSED BY THE VENUE

1.16. CONTRACTOR TO PROVIDE CLOSE OUT PACKAGE WITH ALL TEST RESULTS, SETTING SCREEN SHOTS, RELEVANT CATALOGS / CUT SHEETS, INSTRUCTION SHEETS AND A SET OF RED-LINED AS-BUILT DRAWINGS PRIOR TO FINAL BILLING.

2. CODE COMPLIANCE

2.1. ALL WORK TO MEET OR EXCEED ALL APPLICABLE STANDARDS, CODES, ORDNANCES, RULES AND REGULATIONS. WHEN TWO OR MORE ARE IN CONFLICT, THE MOST STRINGENT SHALL BE FOLLOWED. WHERE LICENSING IS REQUIRED, CONTRACTOR SHALL OBTAIN ALL REQUIRED LICENSES PRIOR TO START OF WORK.

2.2. CONTRACTOR TO COORDINATE WITH LOCAL JURISDICTION FOR ANY CODE RELATED QUESTIONS. ALL JURISDICTION REQUIRED CHANGES ARE THE RESPONSIBILITY OF THE CONTRACTOR.

2.3. EQUIPMENT ROOMS ARE NOT MANNED, ARE NOT HABITABLE, AND TO NOT REQUIRE POTABLE WATER, SEWER CONNECTION OR A.D.A. ACCESS ACCOMMODATIONS.

2.4. CONTRACTOR TO REMOVE TRASH AND REFUSE ON A DAILY BASIS AND NO SOLID WASTE RECEPTACLE WILL BE SITED.

3. SITE WORK:

3.3. ALL EFFORT HAS BEEN MADE TO IDENTIFY EXISTING UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL UTILITIES SHOWN OR NOT AND PROTECT FROM DAMAGE. EXCAVATION CONTRACTOR TO OBTAIN REQUIRED LOCATED PRIOR TO STARTING WORK.

3.4. CONTRACTOR TO VERIFY STATE REQUIREMENTS FOR UTILITY LOCATION SERVICES AND EXCAVATION CONTRACTOR SHALL NOTIFY STATE OR LOCAL NOTIFICATION CENTER AS REQUIRED PRIOR TO ANY SITE DISTURBANCES.

3.5. CONTRACTOR SHALL PROTECT ALL SITE FINISHES AND IMPROVEMENTS AND RETURN ALL TO PRE WORK CONDITION. IF EXTERIOR SITE IMPROVEMENTS ARE REQUIRED, CONTRACTOR TO INSTALL AND MAINTAIN DRAINAGE / RUNOFF MITIGATION MEASURES THROUGH OUT THE PROJECT AND REVEGETATE AREA TO RETURN IT TO ORIGINAL CONDITIONS.

3.6. GRUB AND DISPOSE OF ALL ORGANIC MATERIAL PRIOR

3.7. NO FILL OR EARTHWORK TO OCCUR WITH ON OR WITH FROZEN MATERIAL

4. MATERIALS:

4.1. CONTRACTOR SHALL PROVIDE ALL NECESSARY MATERIALS AND SUPPLIES TO COMPLETE THE PROJECT NOT SPECIFICALLY PROVIDED BY CARRIER. CONTRACTOR TO CLARIFY PROVIDED MATERIALS PRIOR TO FURNISHING A BID.

4.2. ALL FURNISHED MATERIALS SHALL MEET CARRIER SPECIFICATIONS AND MINIMUM REQUIREMENTS FOR THE PROJECT. ANY SUBSTITUTIONS SHALL BE APPROVED IN WRITING BY CARRIER CONSTRUCTION MANAGER PRIOR TO PURCHASE AND INSTALLATION.

4.3. ALL OUTDOOR STEEL ITEMS SHALL BE HOT DIPPED GALVANIZED PER ASTM A123.

4.4. ALL BOLTS AND HARDWARE TO BE HOT DIPPED GALVANIZED UNLESS SPECIFICALLY REQUIRED TO BE OTHERWISE BY CODE OR CARRIER REQUIREMENT.

4.5. ANY DAMAGED GALVANIZING OR PAINT TO BE FIELD REPAIRED WITH 'COLD-GALV' OR APPROPRIATE PAINT UNDER CONDITIONS APPROVED BY PRODUCT MANUFACTURER.

5. GENERAL CABLING

5.1. ALL INSTALLED CABLES SHALL HAVE SHEATHS (RISER / PLENUM / OUTDOOR / UV RESISTANT) APPROPRIATE FOR THE MOST RESTRICTIVE ENVIRONMENT WHICH THEY WILL TRAVERSE.

5.2. ALL CABLING TO BE SUPPORTED AND LACED PER NEC, LOCAL REQUIREMENTS AND TO MEET CARRIER SPECIFICATIONS.

5.3. MAINTAIN REQUIRED SEPARATION BETWEEN CONDUCTORS AND OTHER CABLES AS PRESCRIBED BY CARRIER SPECIFICATIONS AND BEST PRACTICES.

5.4. ALL FIRE, SMOKE OR DRAFT BARRIERS SHALL BE REPAIRED SUCH THAT THEY MAINTAIN THEIR INTENDED / REQUIRED RATINGS.

5.5. ALL MEASUREMENTS SHOWN ON PLANS ARE TO ADD CONTRACTOR AND DO NOT INCLUDE ANY SLACK OR CABLE DRESSING LENGTH. ALL CABLE LENGTHS SHALL BE FIELD VERIFIED PRIOR TO ORDERING.

6. FIBER OPTICS:

6.1. VERIFY SINGLE-MODE OR MULTI-MODE AND CONNECTOR TYPE

6.2. ALL CABLES AND CONNECTORS TO BE PRE-APPROVED, OR AN EXCEPTION OBTAINED PRIOR TO PURCHASE AND INSTALLATION

6.3. ALL FIBER STRANDS SHALL BE FUSION SPLICED THOUGHT OUT THE LENGTH OF THE RUN AND BE TERMINATED AT EACH END OF TRUNK UNLESS SPECIFICALLY NOTED.

6.4. ALL TERMINATIONS TO BE LANDED IN A BULKHEAD OR COILED AND PROTECTED IN A SPLICE CASE IF BULKHEAD IS SPACE CONSTRAINED.

6.5. ALL SPLICES TO BE FUSION TYPE AND INDIVIDUAL SPLICES SHALL HAVE A LOSS OF LESS THAN 0.1 dB. ANY SPLICES WITH HIGHER LOSSES TO BE REMADE.

6.6. ALL FIBERS TO BE TESTED WITH OTDR AND POWER METER. OTDR AND OPTICAL LOSS REPORT PROVIDED IN CLOSEOUT PACKAGE.

6.7. ALL FIBER CABLING TO BE INSTALLED IN PROTECTIVE CABLE MANAGEMENT SYSTEMS, DUCT OR BE ARMORED CABLE WHERE TRAVERSING SHARED SPACE.

7. COAX AND ANTENNAS

7.1. ALL ANTENNA MOUNTS SHALL BE INSTALLED IN ACCORDANCE WITH ANSI/TIA-222 AND APPLICABLE LOCAL CODES

7.2. ALL COAX TO BE INSTALLED PER CARRIER SPECIFICATIONS, SUPPORTED AT A MINIMUM OF EVERY 4'-0" IN PROPERLY SIZED BLOCKS OR OTHER COAX SUPPORTS U.N.O.

7.3. ALL COAX TRAVERSING EXTERIOR WALLS SHALL BE PROTECTED ON INTERIOR SIDE WITH LIGHTNING SURGE SUPPRESSOR GROUNDED TO BUILDING GROUNDING SYSTEM OR STEEL (NOT LIGHTNING PROTECTION SYSTEM). PROVIDE COAX GROUND KIT AT ANTENNA AND AS REQUIRED BY CARRIER.

7.4. ALL COAX TERMINATIONS SHALL BE LOW PIM AND APPROVED BY CARRIER.

7.5. MAINTAIN MINIMUM BEND RADIUS AND SUPPORT CABLE AS NEEDED TO PROTECT CABLES FROM SAGGING, KINKING OR BEING CAUGHT.

7.6. ALL COAX TO BE SWEEP (DTF & RETURN LOSS) AND PIM TESTED WITH PASSING REPORTS PROVIDED TO CARRIER.

7.7. PROVIDE 50 OHM LOAD ON ALL UNUSED PORTS.

7.8. WATERPROOF ALL EXTERIOR CONNECTIONS AND ANY OTHER CONNECTIONS EXPOSED TO MOISTURE OR CONDENSING ENVIRONMENTS WITH SELF AMALGAMATING BUYTAL TAPE WITH MINIMUM 1/2" OVERLAP.

7.9. TORQUE ALL CONNECTIONS TO MANUFACTURER SPECIFICATIONS WITH APPROPRIATE TORQUE WRENCH.

7.10. MOUNT GPS ANTENNA ON 1-1/4" SCH. 40 STEEL OR STAINLESS STEEL PIPE (MIN. 18"). GROUND PIPE WITH BURNDY GROUNDING CLAMP AND INSTALL WITHIN 2° OF VERTICAL.

ONTIVITY
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IIG Intermountain Infrastructure Group
533 AIRPORT BLVD SUITE 400
BURLINGAME, CA 94010

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SANDPOINT

SITE ADDRESS:
10690 COLBURN CULVER RD,
SANDPOINT, ID 83864

PROJECT:
FIBER HUT

SET ISSUE:

NO	DESC	DATE:
0	CDs	6/25/2025

GENERAL NOTES

GN1

SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET

LINETYPE LEGEND:

COAXIAL

COAX — COAX — COAX	FEEDLINE / JUMPER: GENERIC
PTS1-50 — PTS1-50	FEEDLINE: PTS1-50 | 1/4" DIAMETER | HIGH POWER | 50 Ohm
LDF4-50 — LDF4-50	FEEDLINE: LDF4-50 | 1/2" DIAMETER | HIGH POWER | 50 Ohm
LDF1-50 — LDF1-50	FEEDLINE: LDF1-50 | 1/4" DIAMETER | HIGH POWER | 50 Ohm
HL4RPV — HL4RPV	FEEDLINE: HL4RPV-50 | 1/2" DIAMETER | HIGH POWER | 50 Ohm
FSJ4-50 — FSJ4-50	FEEDLINE: FSJ4-50 | 1/2" DIAMETER | HIGH POWER | 50 Ohm
FSJ1-50 — FSJ1-50	FEEDLINE: FSJ1-50 | 1/4" DIAMETER | HIGH POWER | 50 Ohm
AL4RPV — AL4RPV	FEEDLINE: AL4RPV-50 | 1/2" DIAMETER | HIGH POWER | 50 Ohm
AVA5-50 — AVA5-50	FEEDLINE: AVA5-50 | 7/8" DIAMETER | HIGH POWER | 50 Ohm
AVA7-50 — AVA7-50	FEEDLINE: AVA7-50 | 1-5/8" DIAMETER | HIGH POWER | 50 Ohm
TFT-402 — TFT-402	JUMPER: TFT-402 | 3/16" DIAMETER | LOW PIM | 50 Ohm
LMR-240 — LMR-240	JUMPER: LMR-240 | 1/4" DIAMETER | LOW PIM | 50 Ohm
	JUMPER: UPLINK
	JUMPER: DOWNLINK

COMPOSITE

FO/DC — FO/DC — FO/DC	COMPOSITE CABLE: INDOOR FIBER / DC POWER TRUNK
HYBRID — HYBRID	HYBRID CABLE: OUTDOOR FIBER / DC POWER TRUNK

CONDUIT

1in — 1in — 1in	CONDUIT: 1 INCH
1.25in — 1.25in — 1.25in	CONDUIT: 1-1/4 INCH
1.5in — 1.5in — 1.5in	CONDUIT: 1-1/2 INCH
2in — 2in — 2in	CONDUIT: 2 INCH
2.25in — 2.25in — 2.25in	CONDUIT: 2-1/4 INCH
2.5in — 2.5in — 2.5in	CONDUIT: 2-1/2 INCH
3in — 3in — 3in	CONDUIT: 3 INCH
3.5in — 3.5in — 3.5in	CONDUIT: 3-1/2 INCH
4in — 4in — 4in	CONDUIT: 4 INCH

DATA

ALM — ALM — ALM	ALARM CABLE
CAT5 — CAT5 — CAT5	COPPER CABLE: CAT5
CAT6 — CAT6 — CAT6	COPPER CABLE: CAT6
ETH — ETH — ETH	COPPER CABLE: GENERIC ETHERNET
HDMI — HDMI — HDMI	HDMI CABLE

FIBER

MMF — MMF — MMF	MULTI MODE FIBER OPTIC CABLE
SMF — SMF — SMF	SINGLE MODE FIBER OPTIC CABLE
UGF — UGF — UGF	UNDERGROUND FIBER OPTIC CABLE
OHF — OHF — OHF	OVERHEAD FIBER OPTIC CABLE
SM6 — SM6 — SM6	SINGLE MODE FIBER TRUNK: 6 STRANDS
SM12 — SM12 — SM12	SINGLE MODE FIBER TRUNK: 12 STRANDS
SM24 — SM24 — SM24	SINGLE MODE FIBER TRUNK: 24 STRANDS
SM48 — SM48 — SM48	SINGLE MODE FIBER TRUNK: 48 STRANDS
SM96 — SM96 — SM96	SINGLE MODE FIBER TRUNK: 96 STRANDS
SM144 — SM144	SINGLE MODE FIBER TRUNK: 144 STRANDS
SM288 — SM288	SINGLE MODE FIBER TRUNK: 288 STRANDS

POWER / GROUND

ACP — ACP — ACP	POWER: AC
DCP — DCP — DCP	POWER: DC
OHP — OHP — OHP	POWER: OVERHEAD
UGP — UGP — UGP	POWER: UNDERGROUND
750MCM — 750MCM — 750MCM	POWER CONDUCTOR: #750 MCM
500MCM — 500MCM — 500MCM	POWER CONDUCTOR: #500 MCM
250MCM — 250MCM — 250MCM	POWER CONDUCTOR: #250 MCM
4/0AWG — 4/0AWG — 4/0AWG	POWER CONDUCTOR: #4/0 GAUGE
3/0AWG — 3/0AWG — 3/0AWG	POWER CONDUCTOR: #3/0 GAUGE
2/0AWG — 2/0AWG — 2/0AWG	POWER CONDUCTOR: #2/0 GAUGE
1/0AWG — 1/0AWG — 1/0AWG	POWER CONDUCTOR: #1/0 GAUGE
2 AWG — 2 AWG — 2 AWG	POWER CONDUCTOR: #2 GAUGE
4 AWG — 4 AWG — 4 AWG	POWER CONDUCTOR: #4 GAUGE
6 AWG — 6 AWG — 6 AWG	POWER CONDUCTOR: #6 GAUGE
8 AWG — 8 AWG — 8 AWG	POWER CONDUCTOR: #8 GAUGE
10AWG — 10AWG — 10AWG	POWER CONDUCTOR: #10 GAUGE
12AWG — 12AWG — 12AWG	POWER CONDUCTOR: #12 GAUGE
GND — GND — GND	GROUND CONDUCTOR

OTHER

X — X — X — X	CHAIN-LINK FENCE
GAS — GAS — GAS	GAS LINE
T — T — T	TELEPHONE LINE
W — W — W	WATER LINE

**** DASHED LINE = EXISTING ****

SYMBOL KEY:

- GROUNDING BOND: EXOTHERMIC / WELD
- GROUNDING BOND: MECHANICAL
- GROUNDING BOND: COMPRESSION
- GROUND ROD
- GROUND ROD W/ INSPECTION WELL

ABBREVIATIONS:

A/C	AIR CONDITIONING
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AWS	ADVANCED WIRELESS SERVICE
BBU	BASE BAND UNIT
BRS	BROADBAND RADIO SERVICE
BTS	BASE TRANSMISSION STATION
C	CONDUIT
CC	CENTER TO CENTER
CONC	CONCRETE
D	DEPTH
DC	DIRECT CURRENT
°, DEG	DEGREE
Ø, DIA	DIAMETER
DIAG	DIAGONAL
DISC	DISCONNECT
EX	EXISTING
EA	EACH
EMT	ELECTRICAL METALLIC TUBE
EXT	EXTERIOR
FT	FOOT, FEET
FO	FIBER OPTIC
GA	GAUGE
GB	GROUND BAR
GC	GENERAL CONTRACTOR
GPS	GLOBAL POSITIONING SYSTEM
GRC	GALVANIZED RIGID CONDUIT
GRND	GROUND
GSM	GLOBAL SYSTEM MOBILE
HH	HANDHOLE
HORZ	HORIZONTAL
ID	INSIDE DIAMETER
INT	INTERIOR
L	LENGTH
LBS	POUNDS
LTE	LONG TERM EVOLUTION
MAX	MAXIMUM
MBO	MULTI-BAND OUTDOOR
MECH	MECHANICAL
MFR	MANUFACTURER
MIMO	MULTIPLE IN MULTIPLE OUT
MIN	MINIMUM
MISC	MISCELLANEOUS
MMF	MULTI MODE FIBER
N/A	NOT APPLICABLE
NTS	NOT TO SCALE
OC	ON CENTER
ONEW	ON CENTER EACH WAY
OD	OUTSIDE DIAMETER
PCS	PERSONAL COMMUNICATION SERVICE
PDU	POWER DISTRIBUTION UNIT
PVC	POLYVINYL CHLORIDE
RAN	RADIO ACCESS NETWORK
REQ	REQUIRED
RF	RADIO FREQUENCY
RFDS	RADIO FREQUENCY DATA SHEET
RRH	REMOTE RADIO HEAD
SBO	SINGLE-BAND OUTDOOR
SISO	SINGLE IN SINGLE OUT
SMF	SINGLE MODE FIBER
TYP	TYPICAL
UMTS	UNIVERSAL MOBILE TELECOMMUNICATION SERVICE
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W/	WITH
W/O	WITHOUT
WCS	WIRELESS COMMUNICATION SERVICE
XMFR	TRANSFORMER

ONTIVITY
LOCAL CONNECTIONS | NATIONAL SOLUTIONS

IG Intermountain Infrastructure Group
533 AIRPORT BLVD SUITE 400
BURLINGAME, CA 94010

SITE NAME:
SANDPOINT

SITE ADDRESS:
10690 COLBURN CULVER RD,
SANDPOINT, ID 83864

PROJECT:
FIBER HUT

SET ISSUE:

NO	DESC	DATE:
0	CDs	6/25/2025

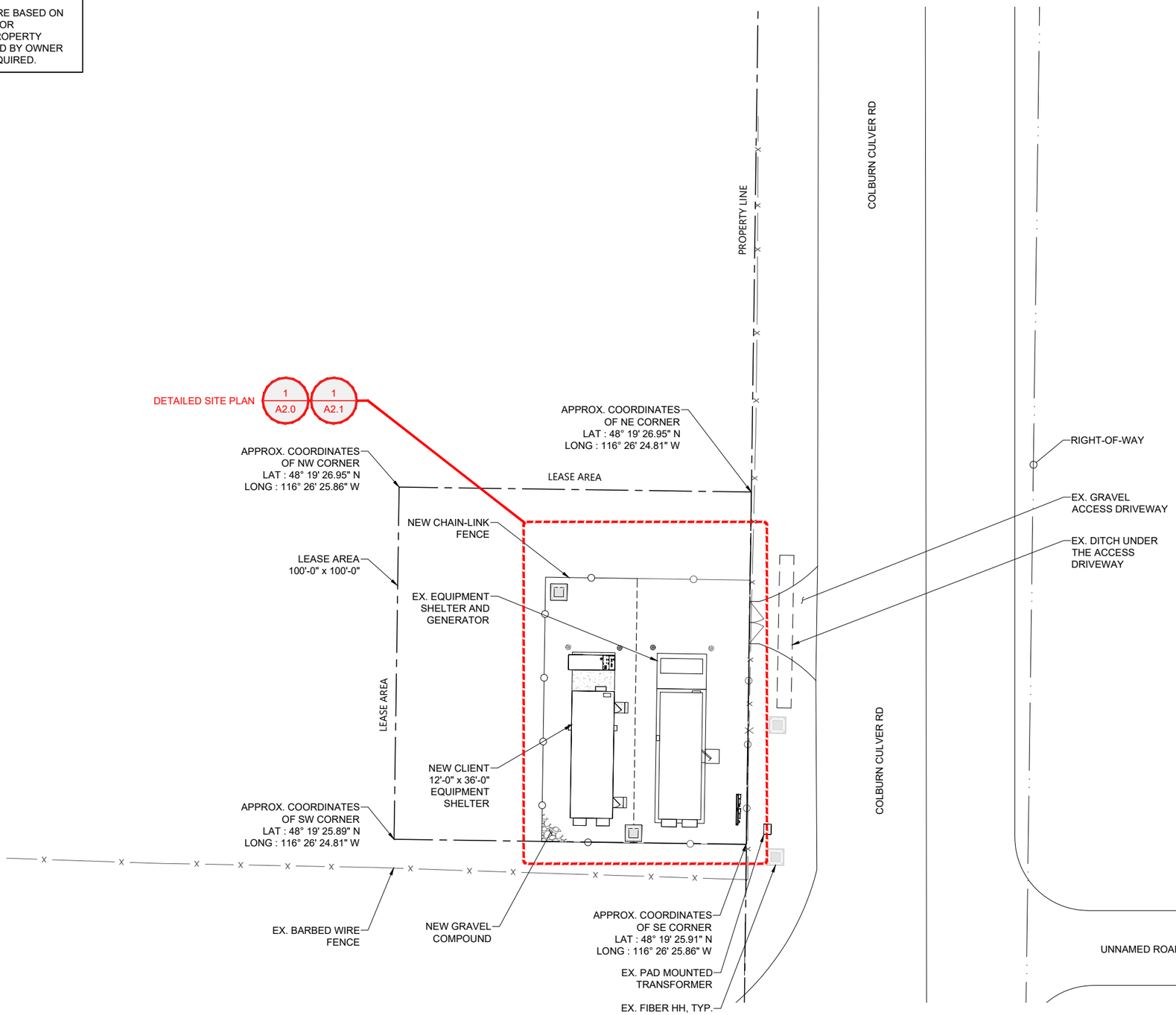
LEGEND & SYMBOL KEY

GN2

SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET

NOTES:

1. PROPERTY LINES SHOWN ARE BASED ON AVAILABLE DATA AND ARE FOR REFERENCE ONLY. FINAL PROPERTY BOUNDARIES TO BE VERIFIED BY OWNER OR LAND SURVEYOR AS REQUIRED.



1 OVERALL SITE PLAN
SCALE: 1/32" = 1'-0"

0' 16' 32' 64'
Scale: 1/32" = 1'-0"

ONTIVITY
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IIG Intermountain Infrastructure Group
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BURLINGAME, CA 94010

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PROJECT:
FIBER HUT

SET ISSUE:

NO	DESC	DATE:
0	CDs	6/25/2025

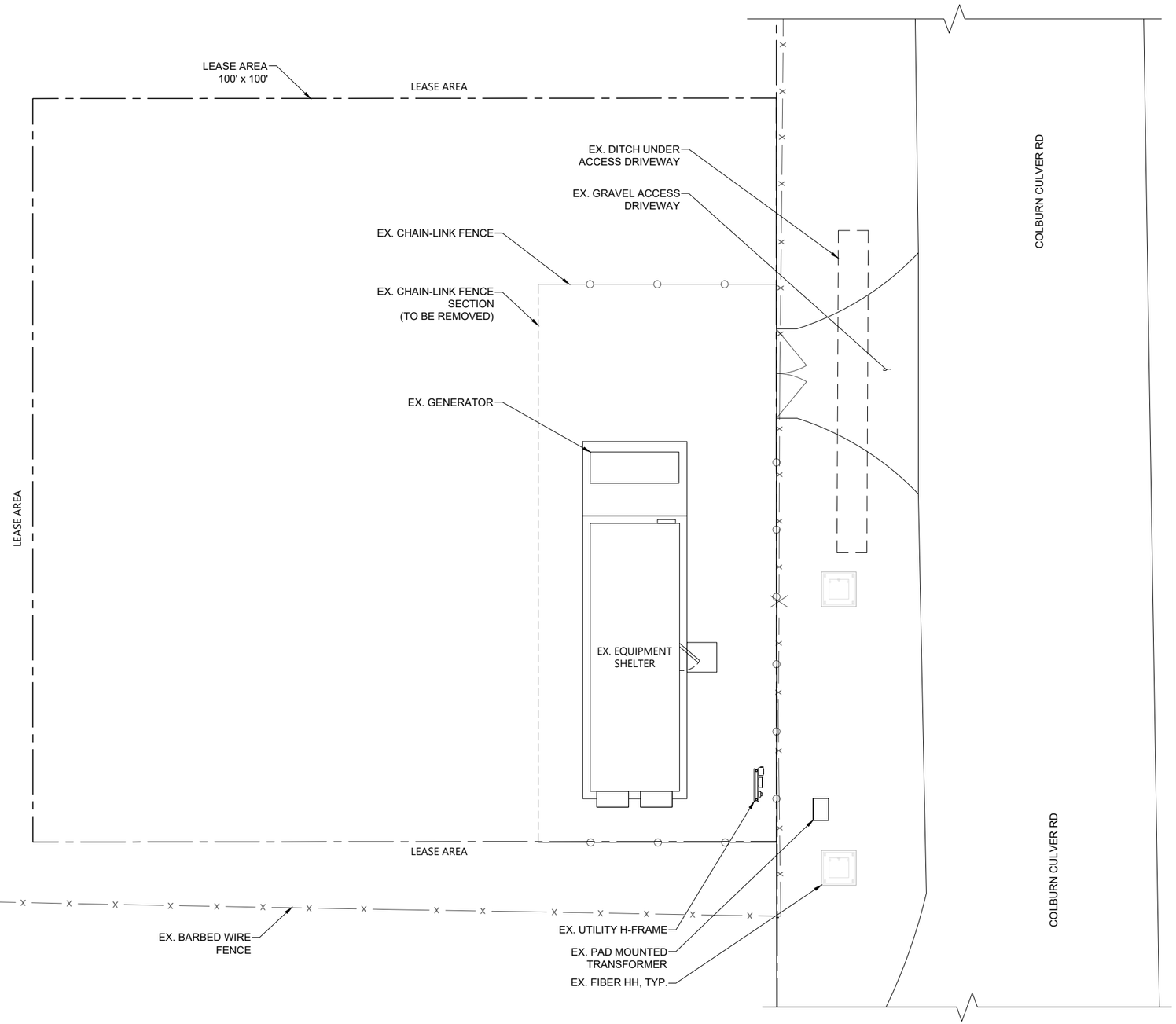
OVERALL SITE PLAN

A1.0

SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET

NOTES:

1. PROPERTY LINES SHOWN ARE BASED ON AVAILABLE DATA AND ARE FOR REFERENCE ONLY. FINAL PROPERTY BOUNDARIES TO BE VERIFIED BY OWNER OR LAND SURVEYOR AS REQUIRED.



N

1 DETAILED EXISTING SITE PLAN
SCALE: 1/8" = 1'-0"

0' 4' 8' 16'
Scale: 1/8" = 1'-0"

ONTIVITY
LOCAL CONNECTIONS | NATIONAL SOLUTIONS

IIG Intermountain Infrastructure Group
533 AIRPORT BLVD SUITE 400
BURLINGAME, CA 94010

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SANDPOINT, ID 83864

PROJECT:
FIBER HUT

SET ISSUE:

NO	DESC	DATE:
0	CDs	6/25/2025

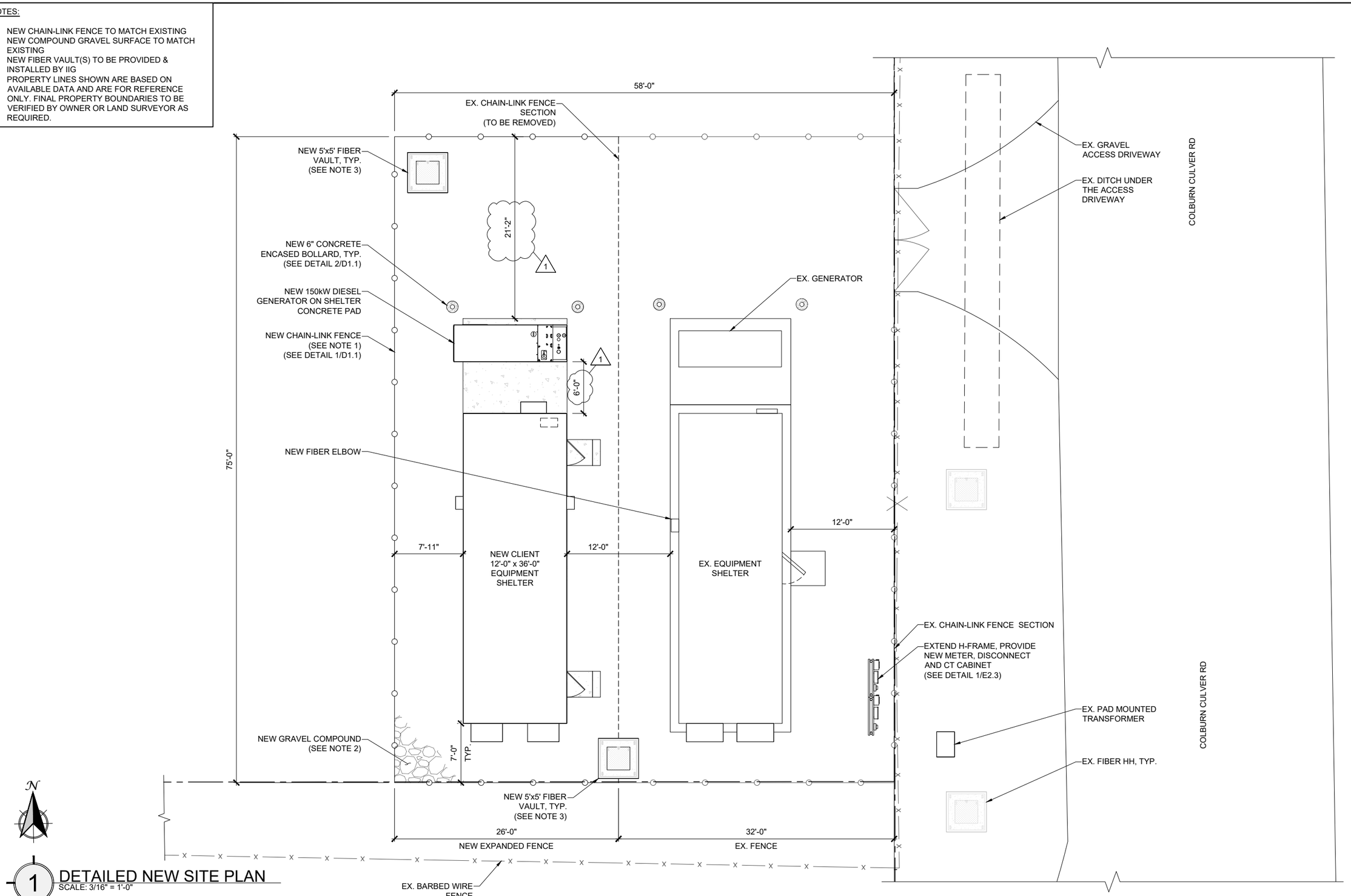
DETAILED EXISTING SITE PLAN

A2.0

SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET

NOTES:

1. NEW CHAIN-LINK FENCE TO MATCH EXISTING
2. NEW COMPOUND GRAVEL SURFACE TO MATCH EXISTING
3. NEW FIBER VAULT(S) TO BE PROVIDED & INSTALLED BY IIG
4. PROPERTY LINES SHOWN ARE BASED ON AVAILABLE DATA AND ARE FOR REFERENCE ONLY. FINAL PROPERTY BOUNDARIES TO BE VERIFIED BY OWNER OR LAND SURVEYOR AS REQUIRED.



1 DETAILED NEW SITE PLAN
SCALE: 3/16" = 1'-0"

0' 2' 4' 8' 12'
Scale: 3/16" = 1'-0"

1 - REVISED SHELTER FOUNDATION AND DIMENSIONS

ONTIVITY
LOCAL CONNECTIONS | NATIONAL SOLUTIONS

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533 AIRPORT BLVD SUITE 400
BURLINGAME, CA 94010

SITE NAME:
SANDPOINT

SITE ADDRESS:
10690 COLBURN CULVER RD,
SANDPOINT, ID 83864

PROJECT:
FIBER HUT

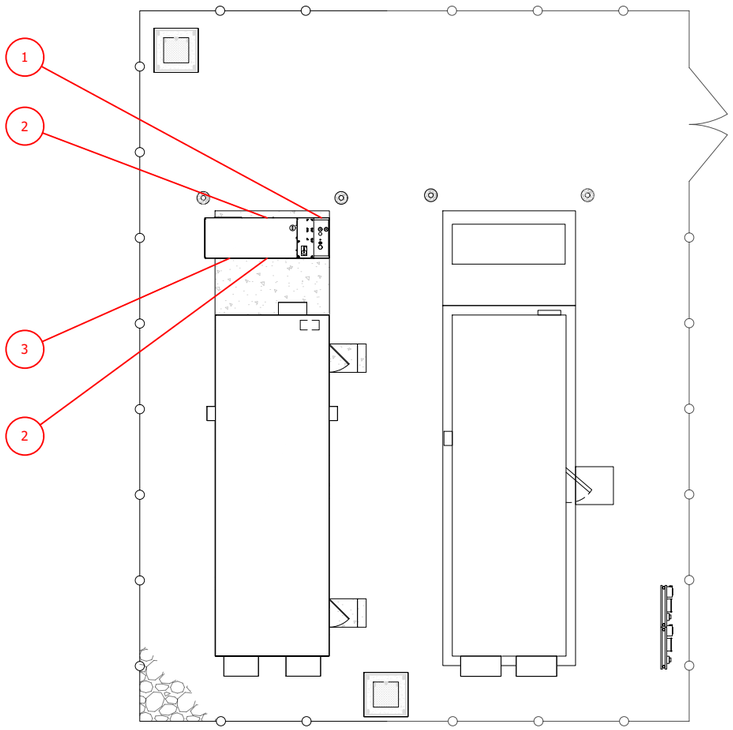
SET ISSUE:

NO	DESC	DATE:
0	CDs	6/25/2025
1	CDs	11/21/2025

DETAILED NEW SITE PLAN

A2.1

SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET



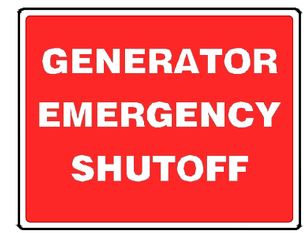
SIGNAGE KEY			
ID	DESCRIPTION	LOCATION	QTY
1	DANGER FLAMMABLE MATERIAL NO SMOKING	GENERATOR FUEL TANK	2
2	DANGER DIESEL FUEL	GENERATOR ACCESS DOOR	1
3 (1)(2)	GENERATOR EMERGENCY SHUTOFF	ABOVE INTEGRATED GENERATOR SHUT-OFF SWITCH	2
	GENERATOR EMERGENCY SHUTOFF	TO LEFT OF FIBER HUT ACCESS DOOR (MIN 20' FROM GENERATOR)	

NOTES:

1. PROVIDE SECONDARY SHELTER MOUNTED GENERATOR SHUT OFF SWITCH IN BREAK GLASS TYPE WEATHERPROOF ENCLOSURE TO COMPLY WITH NFPA 110.
2. SECONDARY LOCATION TO BE MIN. 20' FROM GENERATOR ENCLOSURE.

1

2



3

N

1 SITE SIGNAGE PLAN
SCALE: 1/8" = 1'-0"

0' 4' 8' 16'
Scale: 1/8" = 1'-0"

ONTIVITY
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PROJECT:
FIBER HUT

SET ISSUE:

NO	DESC	DATE:
0	CDs	6/25/2025

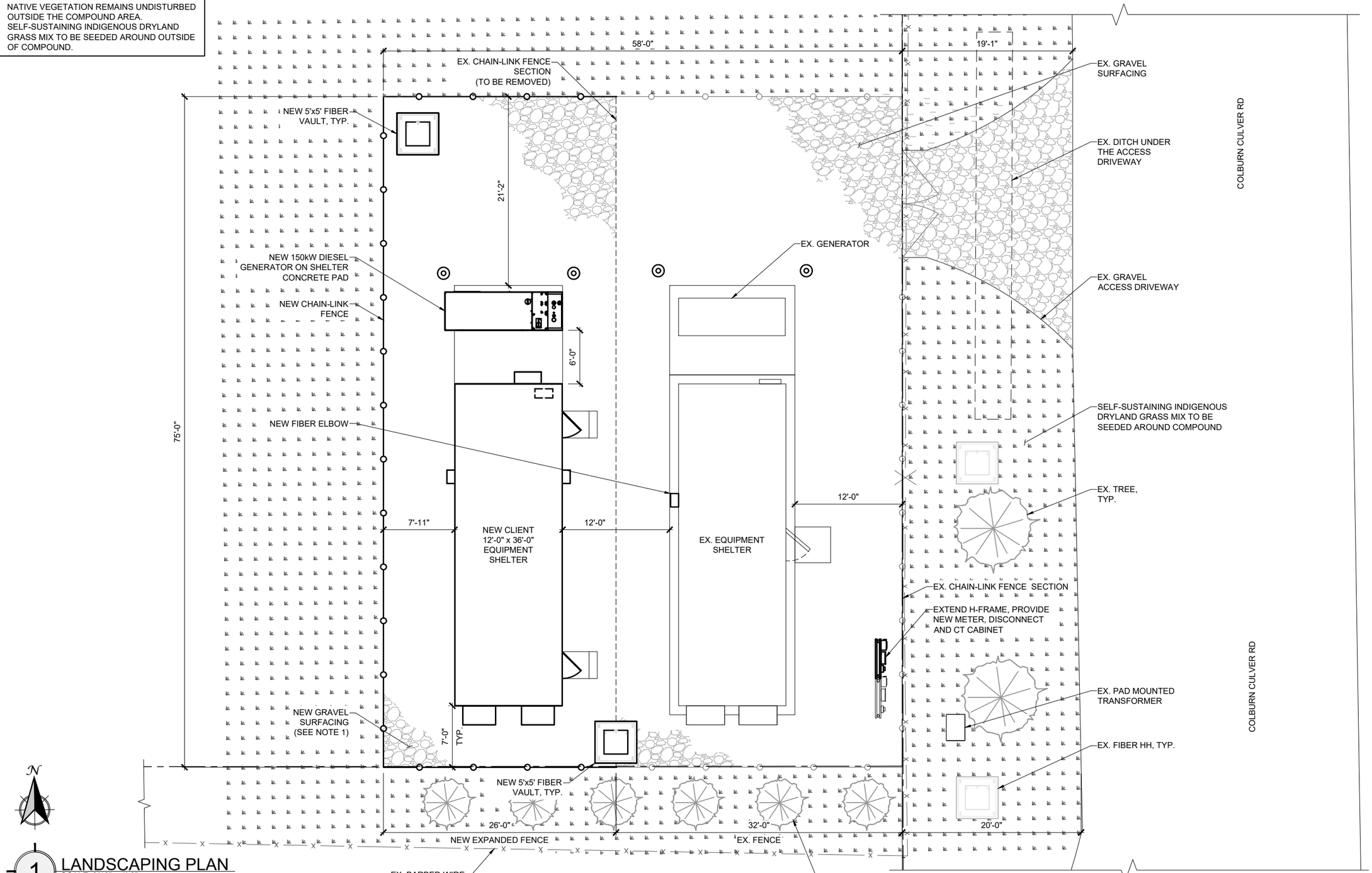
SITE SIGNAGE LAYOUT

A2.2

SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET

NOTES:

1. NEW COMPOUND SURFACE TO MATCH EXISTING CONDITION.
2. NATIVE VEGETATION REMAINS UNDISTURBED OUTSIDE THE COMPOUND AREA.
3. SELF-SUSTAINING INDIGENOUS DRYLAND GRASS MIX TO BE SEEDED AROUND OUTSIDE OF COMPOUND.



1 LANDSCAPING PLAN

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

0' 2' 4' 8' 12'

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

2 - ADDED NEW SHEET FOR LANDSCAPING PLAN

ONTIVITY
LOCAL CONNECTIONS | NATIONAL SOLUTIONS

IIG Intermountain Infrastructure Group
533 AIRPORT BLVD SUITE 400
BURLINGAME, CA 94010

SITE NAME:
SANDPOINT

SITE ADDRESS:
10690 COLBURN CULVER RD,
SANDPOINT, ID 83864

PROJECT:
FIBER HUT

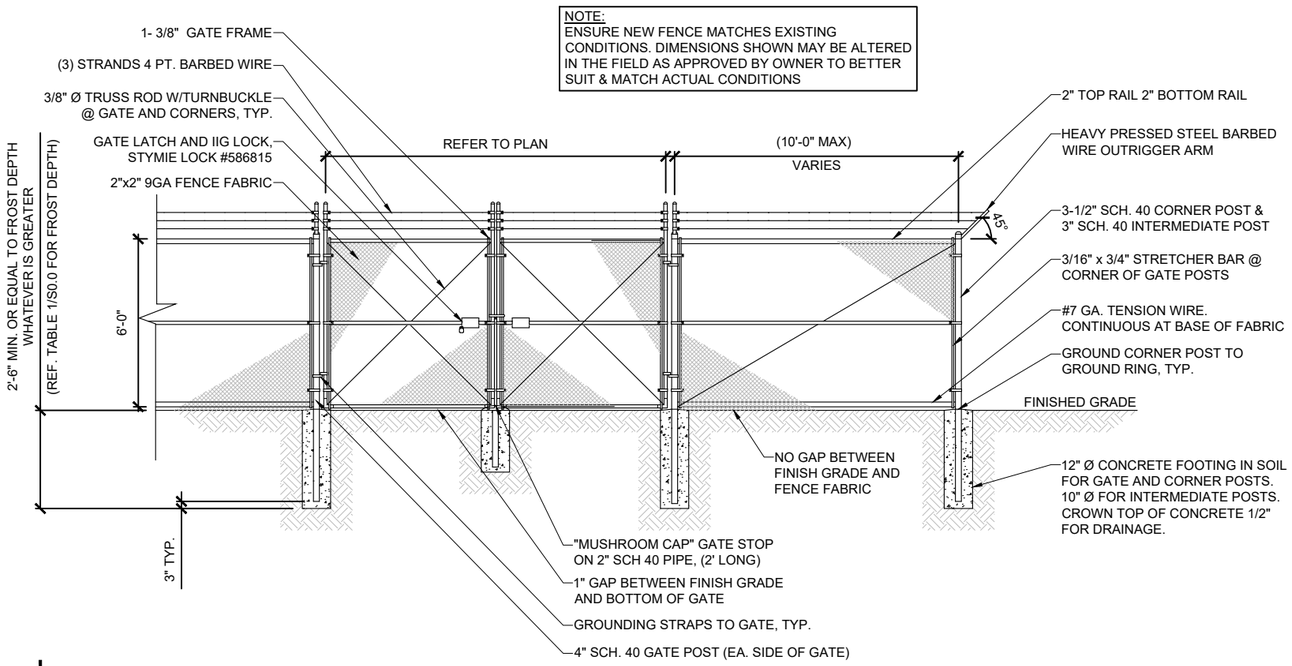
SET ISSUE:

NO	DESC	DATE:
2	CDs	11/25/2025

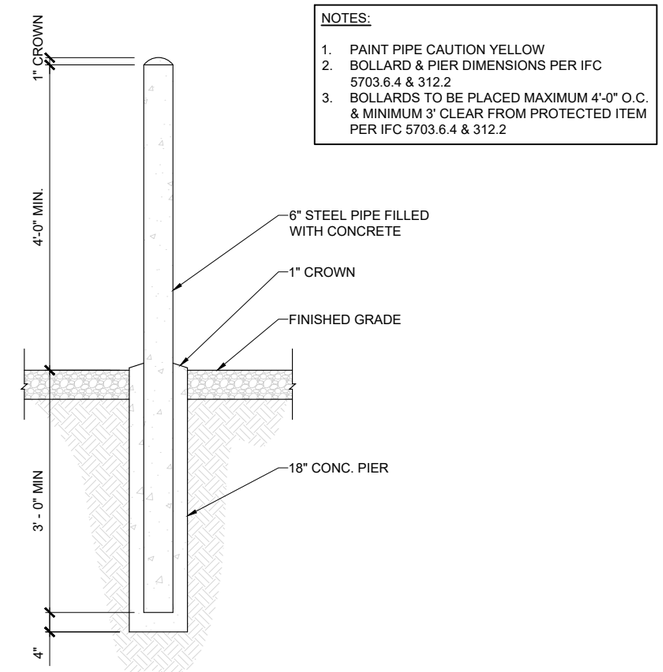
2 LANDSCAPING PLAN

C1.0

SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET



1 CHAIN-LINK FENCE DETAIL
SCALE: N.T.S



2 BOLLARD DETAIL
SCALE: N.T.S

ONTIVITY
LOCAL CONNECTIONS | NATIONAL SOLUTIONS

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533 AIRPORT BLVD SUITE 400
BURLINGAME, CA 94010

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SANDPOINT

SITE ADDRESS:
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SANDPOINT, ID 83864

PROJECT:
FIBER HUT

SET ISSUE:

NO	DESC	DATE:
0	CDs	6/25/2025

DETAILS

D1.1

SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET

1. CODES

1.1. (IBC) INTERNATIONAL BUILDING CODE WITH LOCAL AMENDMENTS

2. GENERAL:

2.1. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE 48 HOURS IN ADVANCE OF THE TIME WHEN A SIGNIFICANT PORTION OF THE REINFORCING HAS BEEN TIED AND WHEN THE CONCRETE IS TO BE POURED FOR SCHEDULING SITE INSPECTIONS.

2.2. POSITIVE DRAINAGE SHALL BE PROVIDED ADJACENT TO ALL FOUNDATIONS SO PONDING OF RAINFALL NEAR THE FOUNDATIONS DOES NOT OCCUR.

2.3. DURING CONSTRUCTION, TEMPORARY GRADES SHALL BE ESTABLISHED TO PREVENT RUNOFF FROM ENTERING THE FOUNDATION AND ANCHORAGE EXCAVATIONS.

2.4. DRAINAGE PATTERNS APPROVED AT THE TIME OF FINISH GRADING SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE TOWER.

3. CONCRETE MIXTURE:

3.1. ALL DETAILING, FABRICATION AND PLACING OF REINFORCING BARS SHALL BE IN ACCORDANCE WITH THE ACI DETAILING MANUAL SP-68 (LATEST REVISION).

3.2. REINFORCING BARS SHALL BE GRADE 60 DEFORMED BARS CONFORMING TO ASTM SPECIFICATION A615, EXCEPT TIES WHICH MAY BE ASTM A615 (GRADE 40). USE CLASS 8 LAP SPLICES.

3.3. ALL REINFORCING BARS SHALL BE TIED WITH TIE WIRE AT ALL REINFORCING BAR INTERSECTIONS. THE CONTRACTOR SHALL SUPPORT THE REINFORCING BAR MAT WITH STEEL CHAIRS SPACED NO MORE THAN 4 FEET O.C.

3.4. ALL WATER SHALL BE REMOVED FROM THE BOTTOM OF THE EXCAVATION PRIOR TO COMPACTING FILL AND PLACING CONCRETE.

3.5. CONCRETE SHALL BE NORMAL WEIGHT (N.W.) AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.

3.6. ALL CONCRETE SHALL HAVE AIR ENTRAINMENT AS BELOW:

NOMINAL MAXIMUM AGGREGATE SIZE, in.	TARGET AIR CONTENT, PERCENT F1
3/8	6
1/2	5.5
3/4	5
1	4.5
1-1/2	4.5
2	4
3	3.5

3.7. CONCRETE SHALL BE PLACED AGAINST UNDISTURBED SOIL WHERE POSSIBLE. FORMS, WHEN REQUIRED SHALL BE REMOVED PRIOR TO BACKFILLING. THE MAXIMUM WATER CEMENT RATIO SHALL BE 0.55.

3.8. PREPARE AND SUBMIT BATCH TICKETS FOR EACH TYPE AND STRENGTH OF CONCRETE. CEMENT SHALL CONFORM TO ASTM C150 TYPE-1.

3.9. FOR FIELD MIXING, PREPARE AND SUBMIT MIX DESIGNS FOR PRE-APPROVAL FOR EACH TYPE AND STRENGTH OF CONCRETE IN ACCORDANCE WITH ACI 211, "PROPORTIONING CONCRETE MIXTURES", AND ACI 301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE".

3.10. SLUMP TEST SHALL BE MADE IN ACCORDANCE WITH ASTM C143. THE ALLOWABLE CONCRETE SLUMP SHALL BE 3 INCHES (±1") UNLESS ADMIXTURES ARE USED. ADMIXTURE SHALL BE IN ACCORDANCE WITH ASTM C494 STANDARD TYPES A,B,C,D OR E. THE ENGINEER SHALL PRE-APPROVE SUPERPLASTICIZER USE. DO NOT USE CHLORIDE-CONTAINING ADMIXTURES. AIR ENTRAINING ADMIXTURES SHALL CONFORM TO ASTM C260.

3.11. FINE AGGREGATE SHALL CONFORM TO ASTM C33. COURSE AGGREGATE SHALL BE GRAVEL OF CRUSHED STONE CONFORMING TO ASTM C33. MAXIMUM AGGREGATE SIZE SHALL BE 3/4".

3.12. WATER SHALL BE CLEAN AND FREE FROM OILS, ACIDS, ALKALIES AND ORGANIC MATERIALS. NO ADDITIONAL WATER SHALL BE ADDED TO THE CONCRETE AT THE JOB SITE.

3.13. HOT WEATHER CONCRETE PLACEMENT SHALL COMPLY WITH ACI 305R. COLD WEATHER CONCRETE PLACEMENT SHALL COMPLY WITH ACI 306.1.

3.14. CONCRETE SHALL NOT BE POURED WHEN TEMPERATURES ARE LOWER THAN 32°F. ACCELERATORS SUCH AS CALCIUM CHLORIDE SHALL NOT BE USED.

3.15. CONCRETE SHALL NOT BE POURED DURING FREEZING OR NEAR-FREEZING TEMPERATURES. IF TEMPERATURE IS BELOW 40°F, ALL CONCRETE PLACED IN FORMS SHALL HAVE A TEMPERATURE OF 70° TO 80°F. DURING FREEZING OR NEAR-FREEZING WEATHER, CONCRETE MUST BE HEATED TO 70°F FOR 5 DAYS OR 50°F FOR 7 DAYS. A COVERING MUST BE MAINTAINED IN PLACE 2 HOURS AFTER HEATING HAS BEEN DISCONTINUED.

3.16. CONCRETE SHALL BE PLACED WITH 24 HOURS OF EXCAVATION INSPECTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXPOSED EXCAVATIONS PRIOR TO CONCRETE PLACEMENT.

3.17. PLACE CONCRETE BY USING A CHUTE OR HOPPER DEVICE SUCH THAT CONCRETE SHALL NOT FREE FALL FROM A HEIGHT GREATER THAN 5 FEET. DEPOSIT CONCRETE WITHIN THE CENTER OF THE STEEL REINFORCING CAGE TO PREVENT SEGREGATION.

3.18. CONSOLIDATE PLACED CONCRETE WITH MECHANICAL VIBRATING EQUIPMENT IN ACCORDANCE WITH ACI 309R. DO NOT USE VIBRATORS TO TRANSPORT CONCRETE.

3.19. CONCRETE SHALL BE CURED IN ACCORDANCE WITH ACI 301. WHEN APPLICABLE, CURING COMPOUNDS SHALL BE WATER CLEAR, STYRENE ACRYLATE TYPE A MINIMUM SOLIDS CONTENT OF 30%. APPLICATION SHALL BE IN CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS.

3.20. ALL CONCRETE TESTING SHALL BE IN ACCORDANCE WITH ACI 318. A MINIMUM OF (2) 6" x 12" CONCRETE CYLINDERS PER ANCHOR BLOCK AND A MINIMUM OF (6) 6" x 12" CYLINDERS PER BATCH REQUIRED.

3.21. FOR THE LESSER OF 26 C.Y. OR ONE DAY'S PLACEMENT, A MINIMUM OF 4 CONCRETE CYLINDERS SHALL BE TAKEN. CONCRETE SHALL BE TESTED AS REQUIRED BY OWNER'S PROJECT MANAGER

4. CONCRETE REINFORCING STEEL:

4.1. REINFORCING STEEL SHALL BE DETAILED, FABRICATED, BENT AND PLACED IN ACCORDANCE WITH THE CRSI MANUAL OF STANDARD PRACTICE AND THE ACI 315 (LATEST EDITION).

4.2. WELDING OF REINFORCING AND EMBEDMENTS IS PROHIBITED.

4.3. SPACING DEVICES SHALL BE USED AS REQUIRED TO MAINTAIN THE SIDE AND BOTTOM CLEARANCE BETWEEN THE STEEL REINFORCEMENT AND EXCAVATION.

5. CONCRETE MISCELLANEOUS:

5.1. ALL GROUT FOR STEEL BEARING AND LEVELING SHALL BE NON-SHRINK AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI.

6. FOUNDATIONS BACKFILL

6.0.1. SELECT FILL

6.0.1.1. PRIOR TO PLACING REQUIRED FILL MATERIAL, REMOVE FROM THE SITE ALL COBBLES, BOULDERS, AND VEGETATION, AS WELL AS OTHER DELETERIOUS MATERIALS, INCLUDING ANY LOOSE OR EXCESSIVELY ORGANIC MATERIAL FROM THE EXISTING SUBGRADE. THIS MATERIAL SHOULD BE STRIPPED TO A MINIMUM DEPTH OF 6 INCHES AND REMOVED FROM THE SITE. ALL EXPOSED SURFACES SHALL THEN BE INSPECTED BY PROBING, AND TESTING.

6.0.1.2. THE EXPOSED SUBGRADE SHOULD NOT BE ALLOWED TO DRY OUT PRIOR TO PLACING SELECT STRUCTURAL FILL.

6.0.1.3. GRANULAR FILL PLACED BENEATH FOUNDATION COMPONENTS AND FLOOR SLABS SHALL CONSIST OF NON-EXPANSIVE, GRANULAR SOIL, FREE OF ORGANIC MATTER, UNSUITABLE MATERIALS, DEBRIS, AND COBBLES GREATER THAN 3 INCHES IN DIAMETER.

6.0.1.4. AFTER PROFILING AND REPLACING AND WEAK YIELDING ZONES, SCRAPING THE SUBGRADE TO A DEPTH OF 12 INCHES, MOISTURE CONDITION THE SOILS BETWEEN OPTIMUM AND +/- 2 PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT AND COMPLETE AT LEAST 95% OF THE MAXIMUM DENSITY. PER ASTM D698.

6.0.1.5. SELECT STRUCTURAL FILL MATERIAL SHALL MEET THE FOLLOWING GRADATION:

PERCENT PASSING 3" SIEVE: 100%
PERCENT PASSING 1/4" SIEVE: 25%-70%
PERCENT PASSING NO. 40 SIEVE: 0% - 30%
PERCENT PASSING NO. 200 SIEVE: 0% - 5%
MAXIMUM ALLOWABLE ORGANIC CONTENT: 3%
LIQUID LIMIT: < 40
PLASTICITY INDEX: 7 - 20

6.0.1.6. SELECT FILL SHALL BE PLACED IN LIFTS BETWEEN 6 INCHES AND 8 INCHES THICK, WATERED AS REQUIRED AND COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DEFINED IN ASTM TEST METHOD D698 AT A MOISTURE CONTENT WITHIN -2 TO +3 PERCENT OF THE OPTIMUM MOISTURE CONTENT.

6.0.1.7. COMPACTION AND MOISTURE CONTENT OF SUBGRADE AND EACH LIFT OF SELECT FILL SHALL BE INSPECTED AND APPROVED BY A QUALIFIED ENGINEERING TECHNICIAN, SUPERVISED BY A GEOTECHNICAL ENGINEER.

7. MOISTURE MANAGEMENT

7.1. EVERY EFFORT SHALL BE MADE TO KEEP EXCAVATIONS DRY SHOULD GROUNDWATER BE ENCOUNTERED.

7.2. SEEPAGE CAN BE EFFECTIVELY HANDLED BY SIMPLE DEWATERING METHODS, SUCH AS PERIPHERY DITCHES AND SUMPS. A SUITABLE SUMP COULD CONSIST OF A LARGE DIAMETER PIPE SET VERTICALLY WITH A COARSE SAND AND GRAVEL MIXTURE PLACED IN THE BOTTOM TO ACT AS A FILTER.

7.3. CARE SHALL BE EXERCISED IN PUMPING DIRECTLY FROM THE EXCAVATION SINCE THIS MAY CAUSE DETERIORATION OF THE EXCAVATION BASE.

7.4. THE TRAFFIC OF HEAVY EQUIPMENT (INCLUDING HEAVY COMPACTION EQUIPMENT) MAY CREATE PUMPING AND GENERAL DETERIORATION OF THE SHALLOWER SOILS.

8. SLAB-ON-GRADE

8.1. SLAB-ON-GRADE FOUNDATIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ENGINEERING DESIGN FOR SITE PREPARATION, DRAINAGE, AND MAINTENANCE.

8.2. WITHIN THE AREA OF THE PROPOSED SLAB-ON-GROUND, REMOVE AND DISPOSE OF ALL SURFACE VEGETATION, ANY DELETERIOUS MATERIALS WHICH MAY BE PRESENT, AND ALL SOIL REQUIRED TO PROVIDE FOUNDATION BACKFILL BELOW AND ADJACENT TO THE SLAB AS INDICATED IN THE DRAWINGS. IF SOFT, WEAK, OR UNSTABLE SOIL CONDITIONS ARE REVEALED, OVER EXCAVATE THE AREA AND BRING BACK TO GRADE WITH FOUNDATION BACKFILL.

8.3. PLACE A 15 MIL POLYETHYLENE, ASTM E 1745 (CLASS A), VAPOR BARRIER OVER COMPACTED SOIL PRIOR TO PLACING FOUNDATION SLAB.

8.4. REFER TO PLANS FOR STIFFENED SLAB-ON-GRADE DIMENSIONS, THICKNESS, AND REINFORCING.

8.5. THE TROWEL FINISHED CONCRETE SLAB-ON-GRADE FLOOR PROFILE SHALL COMPLY WITH THE FOLLOWING FLATNESS AND LEVELNESS VALUES AS DEFINED IN THE ASTM E 1155:

	SPECIFIED OVERALL	MINIMUM LOCAL
FLATNESS (FF)	25	17
LEVELNESS (FL)	20	15

9. ANCHOR BOLTS:

9.1. ANCHOR BOLTS SHALL CONFORM TO ASTM A307 WITH HEAVY HEXAGONAL NUTS.

10. BOLTS:

10.1. COMMON (MACHINE) BOLTS SHALL CONFORM TO ASTM A307 GRADE A AND NUTS TO ASTM A563. ONE COMMON BOLT ASSEMBLY SHALL CONSIST OF A BOLT. A HEAVY HEX NUT AND A HARDENED WASHER AND A LOCK WASHER.

10.2. HIGH-STRENGTH BOLTS SHALL CONFORM TO ASTM A325; ONE HIGH STRENGTH BOLT ASSEMBLY SHALL CONSIST OF A HEAVY HEX STRUCTURAL BOLT, A HEAVY HEX NUT, A HARDENED WASHER, AND A LOCK WASHER CONFORMING TO ASTM F436. THE HARDENED WASHER SHALL BE INSTALLED AGAINST THE ELEMENT TURNED IN TIGHTENING. UNLESS NOTED OTHERWISE ON THE DRAWINGS, ALL CONNECTIONS SHALL BE BEARING TYPE CONNECTIONS.

SITE	LATITUDE	LONGITUDE	CITY	COUNTY	STATE	FROST DEPTH
Snohomish WA	47.90107	-122.85715	Snohomish	Snohomish county	WA	12"
Trinidad WA	47.23799	-119.85777	Trinidad	Grant	WA	24"
Soap Lake WA	47.3827167	-119.3459388	Soap Lake	Grant	WA	24"
Odessa WA	47.333	-118.6911472	Odessa	Lincoln	WA	24"
Harrington WA	47.836056	-118.2605917	Harrington	Lincoln	WA	30"
Espanola WA	47.6141306	-117.7371833	Medical Lake	Spokane	WA	30"
Chattaroy WA	47.8895444	-117.3430944	Chattory	Spokane	WA	30"
Blanchard ID	48.0988194	-117.0235611	Blanchard-Glengary, ID	Bonner County	ID	36"
Sandpoint ID	48.3240056	-116.4402778	Sandpoint	Bonner	ID	36"
Noxon MT	48.0726417	-115.9534417	Heron	Sanders	MT	42"
Thompson Falls MT	47.6194417	-115.3972611	Thompson Falls	Sanders	MT	42"
Paradise MT	47.3523194	-114.7742278	Plains	Sanders	MT	42"
Superior MT	47.1813333	-114.8628639	Superior	Mineral	MT	42"
Frenchtown MT	47.1262472	-447.2753278	Frenchtown	Missoula	MT	42"
Turah, MT	46.7985667	-113.765556	Clinton	Missoula	MT	42"
Drummond MT	46.6670722	-113.145075	Drummond	Granite	MT	48"
Deer Lodge MT	46.3370833	-112.7308806	Deer Lodge	Powell	MT	48"
Butte MT	45.9172222	-112.4907333	Butte	Silver Bow	MT	48"
Willow Creek, MT	45.8210056	-11.8331157	Whitehall	Jefferson	MT	48"
Bemis, WA	46.9088222	-118.3331611	Lind-Washtuncna	Adams	WA	24"
Pickard, WA	46.4355306	-118.4075139	Eureka Flat, WA	Walla walla	WA	24"
Touchet WA	46.0383611	-1187661	Touchet, WA	Walla walla	WA	24"

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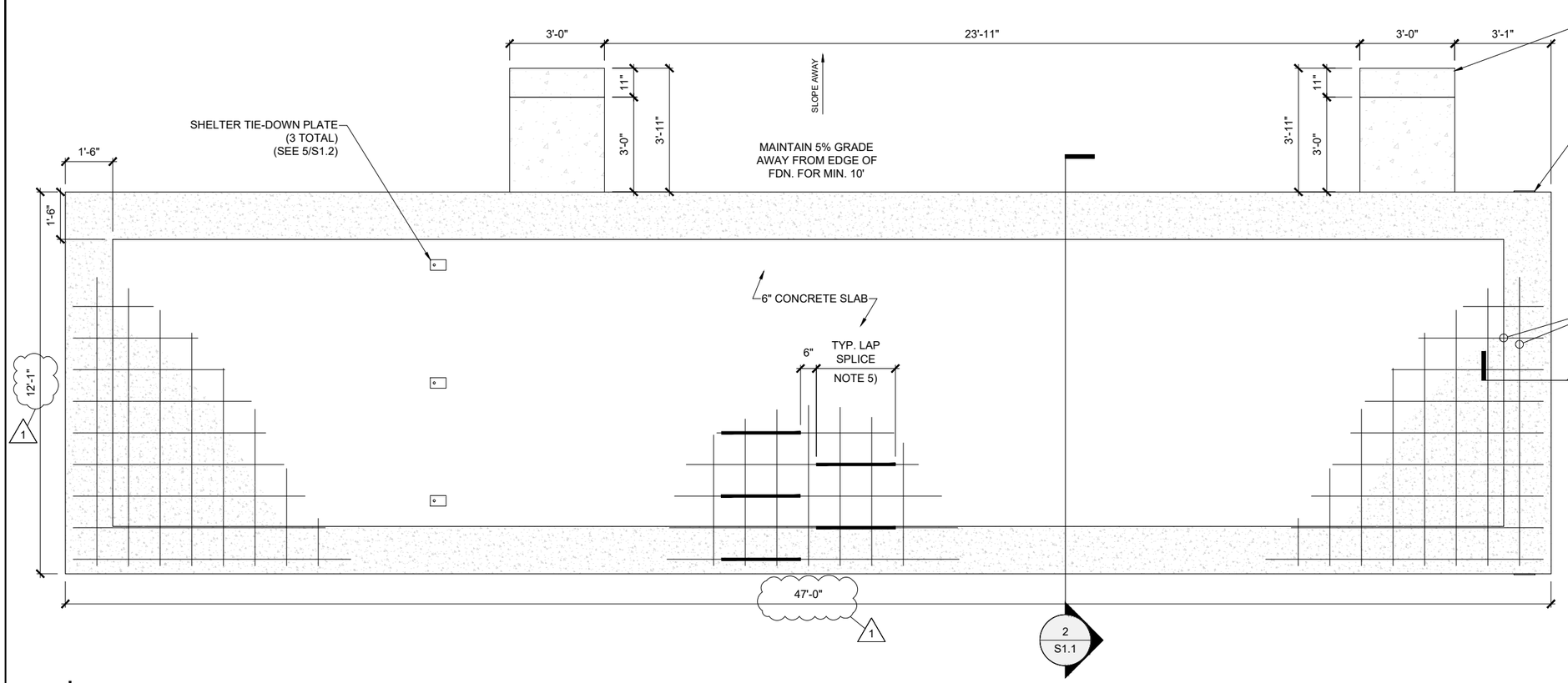
STRUCTURAL NOTES

S0.0

SCALE SET FOR 24"X36" SHEET
USE 1/2 SCALE FOR 11"X17" SHEET



1 SHELTER & GENERATOR FOUNDATION PLAN

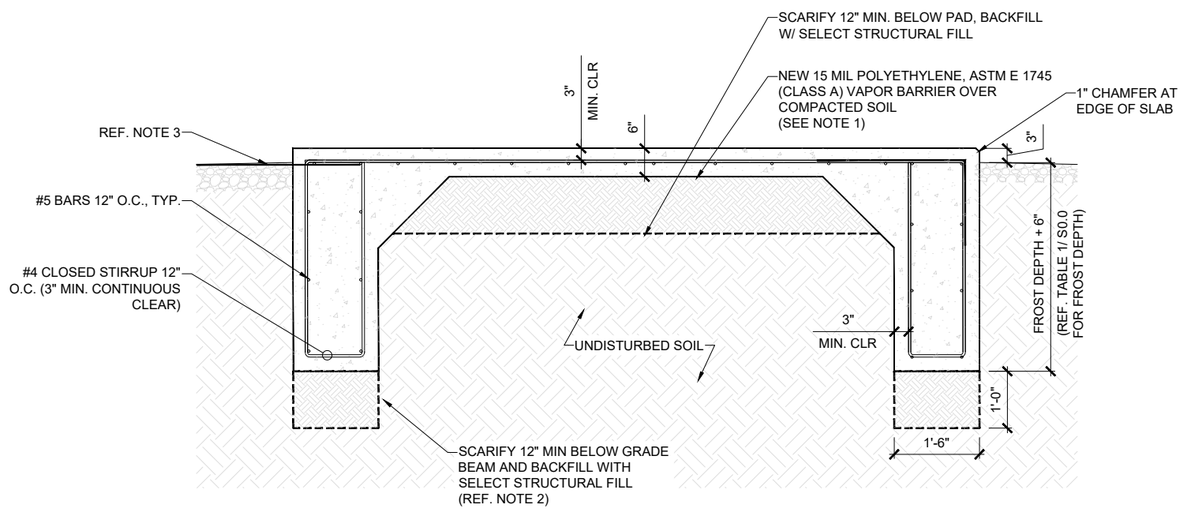
SCALE: 1/2" = 1'-0"

0' 1' 2' 4'

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

NOTES:

1. DIMENSIONS ARE APPROXIMATE, VERIFY SHELTER DIMENSIONS PRIOR TO SETTING FORMS. ADJUST AS NEEDED.
2. GRUB SITE AND ORGANIC MATTER.
3. REFER TO SHEET S0.1 FOR ALL STRUCTURAL NOTES.
4. REFER TO STATE APPROVED PRE-FABRICATED SHELTER DRAWINGS FOR FULL SHELTER TIE-DOWN ATTACHMENT SPECIFICATIONS.
5. A MINIMUM SPLICE LENGTH OF 30 INCHES SHALL BE MAINTAINED FOR ALL REINFORCING BARS WITHIN THE REBAR CAGE, UNLESS OTHERWISE DETAILED. ALL SPLICES SHALL CONFORM TO APPLICABLE CODES AND STANDARDS AND BE STAGGERED TO AVOID CONGESTION AND MAINTAIN STRUCTURAL INTEGRITY



2 SECTION

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

0' 6" 1' 2' 3'

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

NOTES:

1. THE MOISTURE RETARDER SHALL HAVE A PERMEANCE LESS THAN 0.01 US PERMS AS DETERMINED BY ASTM E96.
2. BASED ON THE ON FIELD TESTING, IF THE BEARING CAPACITY OF SOIL IS MORE THAN 5000 PSF, THE STRUCTURAL FILL UNDER THE GRADE BEAMS IS NOT REQUIRED. THE FIELD TEST DATA SHALL BE PROPERLY DOCUMENTED.
3. LEAVE DOWELS OUT TO CONNECT THE STOOP. REF. DETAIL 2/S1.2 FOR STOOP REINFORCEMENT.

1 - REVISED FOUNDATION DIMENSIONS

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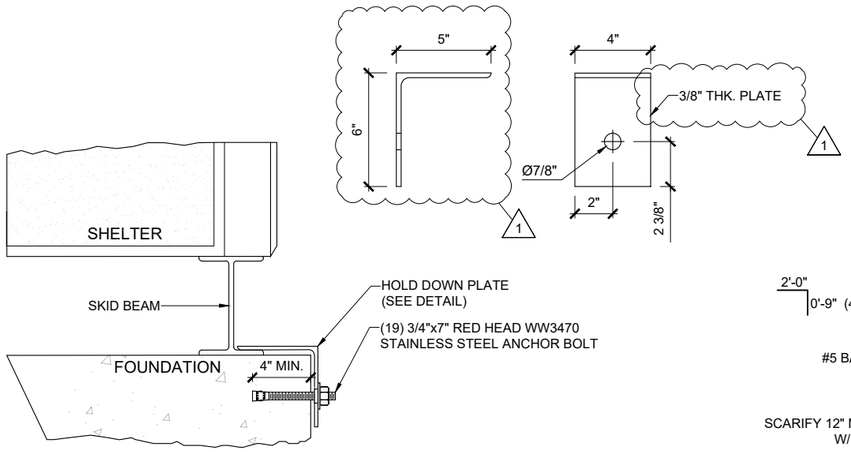
STRUCTURAL DETAILS

S1.1

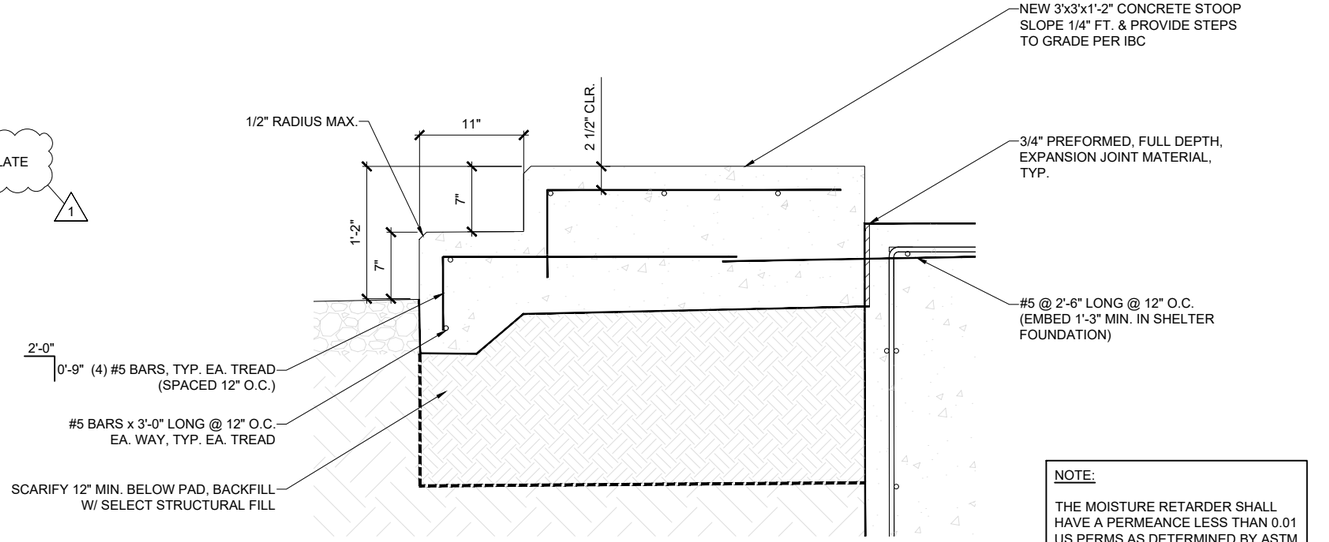
SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET

CONTRACTOR NOTE:

REFER TO GENERATOR MANUFACTURER'S RECOMMENDATIONS FOR ANCHORING TO SLAB. DETAILS NOT SHOWN IN THIS SET.



1 ANCHOR PLATE DETAIL - 1
SCALE: N.T.S.

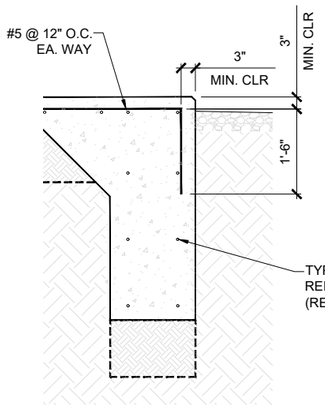


NOTE:

THE MOISTURE RETARDER SHALL HAVE A PERMEANCE LESS THAN 0.01 US PERMS AS DETERMINED BY ASTM E96.

2 STOOP FOUNDATION SECTION
SCALE: 1-1/2" = 1'-0"

0' 3" 6" 1' 1'-6"
Scale: 1-1/2" = 1'-0"

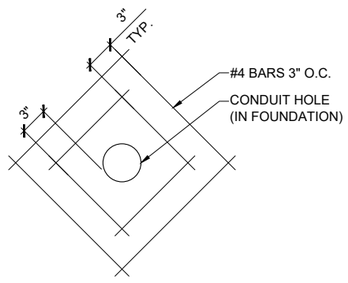


NOTE:

STIRRUP NOT SHOWN FOR CLARITY PURPOSE

3 SHELTER FOUNDATION SECTION
SCALE: 3/4" = 1'-0"

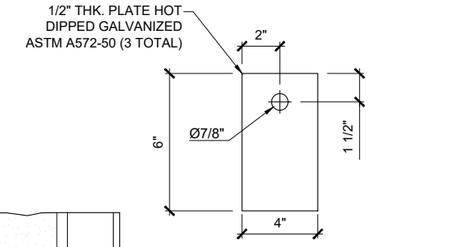
0' 6" 1' 2' 3'
Scale: 3/4" = 1'-0"

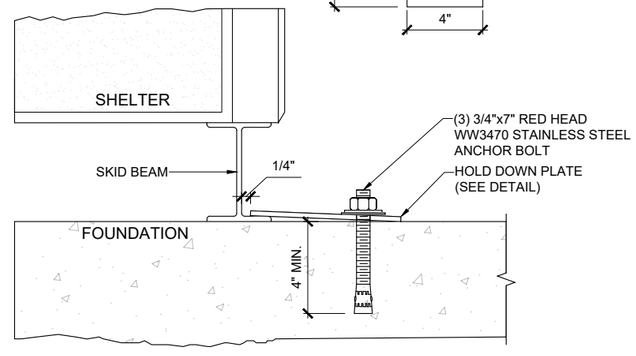


NOTE:

DIAMOND REINFORCEMENT RING NEEDED AT ALL CONDUIT LOCATIONS. (2) #4 BARS AROUND THE CONDUITS WITH 3" SPACING.

4 REBAR DETAIL AT CONDUIT HOLE
SCALE: N.T.S.





5 ANCHOR PLATE DETAIL - 2
SCALE: N.T.S.

1 - REVISED THE HOLD DOWN PLATE DETAIL DIMENSIONS

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STRUCTURAL DETAILS

S1.2

SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET

REINFORCEMENT STEEL SCHEDULE FOR SHELTER AND GENERATOR FOUNDATION (EACH FOUNDATION)

S.NO	TYPE	REBAR SIZE	REBAR SPACING	DIMENSIONS				QUANTITY
				a	b	c	d	
1	D	#5	1'-0"	46'-6" (NOTE 1)	1'-6"	0'-2 1/2"	-	13
2	A	#5	1'-0"	11'-7"	-	-	-	X (REF. TABLE 1)
3	B	#4	1'-0"	1'-0"	FROST D. + 3"	0'-3"	0'-2"	118
4	A	#5	1'-0"	46'-6" (NOTE 1)	-	-	-	Y (REF. TABLE 1)
5	A	#4	0'-3"	VARIABLE	-	-	-	NOTE 2

TABLE-1

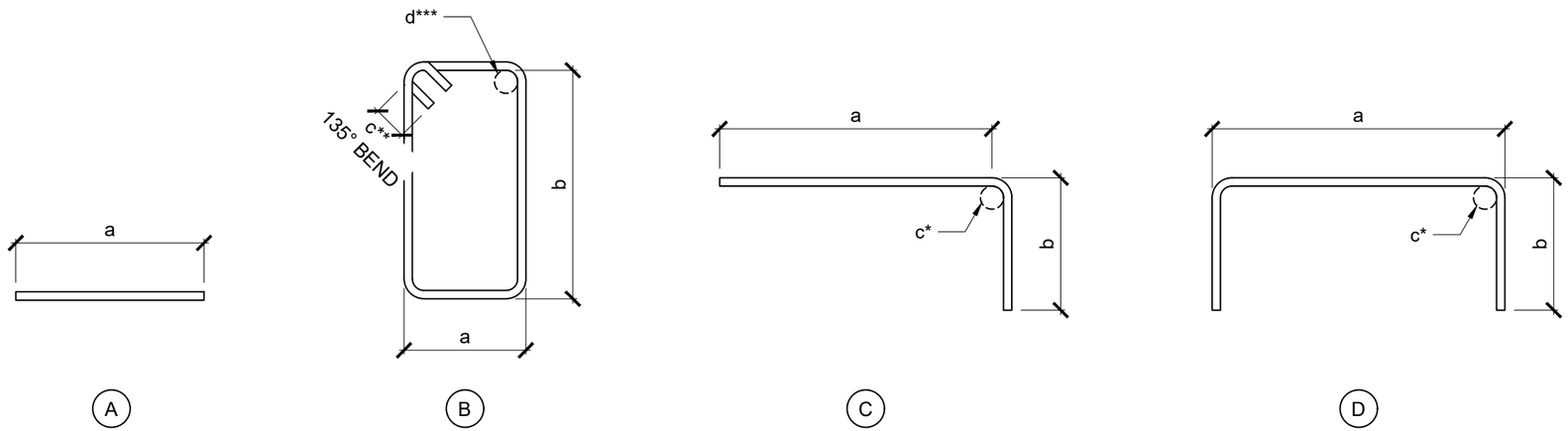
FROST DEPTH	QUANTITY	
	X	Y
0" TO 18"	52	4
19" TO 30"	56	8
31" TO 42"	60	12
43" TO 54"	64	16

NOTE:
1. A MINIMUM SPLICE LENGTH OF 30 INCHES SHALL BE MAINTAINED FOR ALL REINFORCING BARS WITHIN THE REBAR CAGE, UNLESS OTHERWISE DETAILED. ALL SPLICES SHALL CONFORM TO APPLICABLE CODES AND STANDARDS AND BE STAGGERED TO AVOID CONGESTION AND MAINTAIN STRUCTURAL INTEGRITY (REFER 1/S1.1).
2. THE REBAR QUANTITY WILL VARY BASED ON THE NUMBER OF CONDUITS PASSING THROUGH THE PAD.

1

REINFORCEMENT STEEL SCHEDULE FOR EACH STOOP

S.NO	TYPE	REBAR SIZE	REBAR SPACING	DIMENSIONS				QUANTITY
				a	b	c	d	
1	A	#5	1'-0"	2'-6"	-	-	-	9
2	C	#5	1'-0"	2'-7"	0'-9"	0'-2 1/2"	-	8



A B C D

* - NUMBER OF BENDS

1 - REVISED STEEL SCHEDULE

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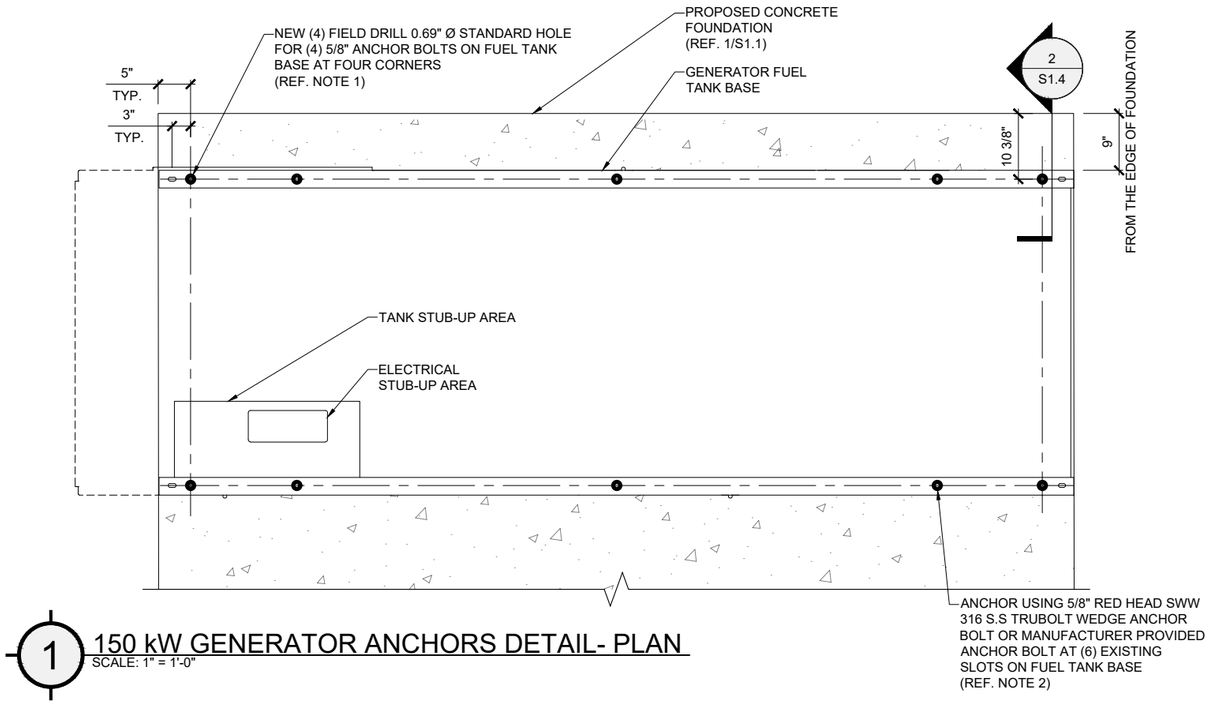
1	CDs	11/21/2025

STRUCTURAL DETAILS

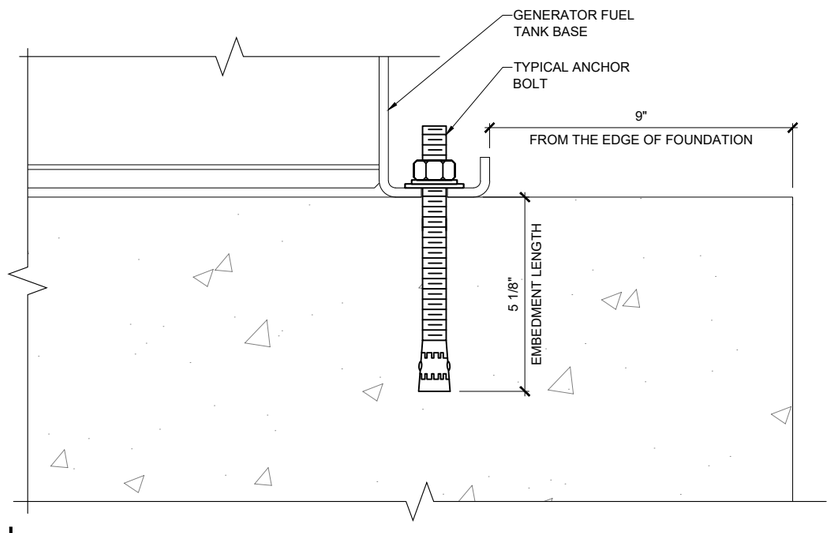
S1.3

SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET



1 150 kW GENERATOR ANCHORS DETAIL- PLAN
SCALE: 1" = 1'-0"

0' 6" 1' 2'
Scale: 1" = 1'-0"



2 GENERATOR ANCHOR BOLT DETAIL - ELEVATION
SCALE: 6" = 1'-0"

0' 3" 6"
Scale: 6" = 1'-0"

NOTES:

1. FIELD CUTTING AND FIELD DRILLING MAY BE NECESSARY TO ACHIEVE THE REQUIRED DIMENSIONS. CUTTING, DRILLING, AND RUST LOCATIONS SHALL BE MECHANICALLY CLEANED WITH METAL BRISTLE BRUSH. APPLY TWO BRUSH-ON COATS OF ZINGA/ZRA (OR PPROVED EQUIVALENT).

2. MANUFACTURER PROVIDED SLOTS WITH SIZES AS APPROPRIATE.

1 - ADDED NEW SHEET FOR GENERATOR MOUNTING DETAIL

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1
STRUCTURAL DETAILS

S1.4

SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET

ELECTRICAL

1. CODES

1.1. (NEC) NATIONAL ELECTRICAL CODE

2. GENERAL

2.1. CONTRACTOR SHALL PROVIDE ALL ITEMS OF LABOR AND MATERIALS TO MAKE A COMPLETE INSTALLATION OF ELECTRICAL WORK, AS SHOWN ON DRAWINGS, AS SPECIFIED, AND AS NECESSARY FOR COMPLETE SYSTEMS, INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:

- MAIN POWER BRANCH/FEEDERS AS REQUIRED.
- BRANCH FEEDER FOR POWER AND LIGHTING.
- ALL ELECTRICAL CONDUCTORS AND CONDUIT.
- ALL WIRING DEVICES, SAFETY SWITCHES.
- ALL LIGHTING FIXTURES AND LAMPS.
- ALL COMMUNICATION EMPTY CONDUIT SYSTEMS.
- LIGHTNING SURGE PROTECTION DEVICE.
- ANTENNA AND EQUIPMENT GROUNDING.

2.2. ALL INSTALLATIONS TO MAINTAIN REQUIRED CLEARANCES.
2.3. CONTRACTOR TO SIZE CONDUCTORS PER NEC AND CARRIER REQUIREMENTS AND UPSIZE AS REQUIRED TO MINIMIZE VOLTAGE DROP.
2.4. CONTRACTOR TO SIZE CONDUIT PER NEC.

3. REQUIREMENTS:

3.1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL LOCAL AND NATIONAL ELECTRICAL CODES.
3.2. ALL WORK SHALL BE COMPLETED BY A CERTIFIED MASTER ELECTRICIAN.
3.3. ALL WORK SHALL CONFORM TO THE LATEST VERSION OF MOTOROLA R56 STANDARDS.
3.4. AFTER INSTALLATION TEST ALL CONDUCTORS FOR SHORTS AND GROUNDS BEFORE ENERGIZING.

4. GUARANTEE:

4.1. THE CONTRACTOR SHALL FURNISH A WRITTEN CERTIFICATE, GUARANTEEING ALL MATERIALS, EQUIPMENT AND LABOR FURNISHED BY CONTRACTOR TO BE FREE OF ALL DEFECTS FOR A PERIOD OF ONE YEAR FROM AND AFTER THE DATE OF FINAL ACCEPTANCE OF ELECTRICAL WORK. THE CONTRACTOR SHALL FURTHER GUARANTEE THAT IF ANY DEFECTS APPEAR WITHIN THE STIPULATED GUARANTEED PERIOD, SUCH WORK SHALL BE REPLACED WITHOUT COST TO THE OWNER.

5. FEEDERS, SWITCHES AND METERING EQUIPMENT:

5.1. MAKE ARRANGEMENTS WITH OWNERS AS NEEDED TO BRING IN BRANCH FEEDERS FOR ELECTRICAL SERVICE AS SHOWN ON DRAWINGS. PAY ALL CHARGES INVOLVED THEREWITH. FURNISH, INSTALL FEEDER WIRE TO OWNER DISTRIBUTION PANEL. PROVIDE METER AS SHOWN ON DRAWINGS

6. PANELBOARD CONSTRUCTION:

6.1. PANELBOARDS SHALL CONSIST OF A CAN, FRONT, INTERIOR AND CIRCUIT PROTECTIVE DEVICES AND SHALL BE MANUFACTURED IN ACCORDANCE WITH UNDERWRITER'S LABORATORIES. THE GAUGE OF METAL USED AND THE GUTTER SPACE SHALL BE IN ACCORDANCE WITH APPLICABLE UL STANDARDS. EACH PANEL SHALL HAVE A DOOR MOUNTED ON A SEMI-CONCEALED HINGES WITH A CYLINDER LOCK, INDEX CARD HOLDER PROPERLY FILLED IN AS TO CIRCUIT; ALL PANELS WITH MASTER KEY. ALL PANELS SHALL BE FINISHED WITH BAKED-ON GRAY ENAMEL, OVER RUST INHIBITOR COAT. PANEL BOARDS SHALL BE AS MANUFACTURED BY G.E., ITE, SQUARE "D" OR CUTLER HAMMER.

7. WIRING:

7.1. CONDUCTORS SHALL BE TYPE "THHN/THWN" OR "XHHW-2" INSULATION.
7.2. INSTALL CONDUCTORS IN CLEAN, DRY CONDUITS. USE UL APPROVED PULLING LUBRICANT WHERE REQUIRED.
7.3. USE #12 AS MINIMUM CONDUCTOR SIZE FOR POWER SYSTEMS. ALL CONTROL WIRES SHALL BE STRANDED AND TERMINATED WITH CRIMPED-ON LUGS.
7.4. MAKE CONNECTION, SPLICES AND TAPS ONLY IN APPROVED BOXES AND FITTINGS. FOR SMALL BRANCH CIRCUIT CONDUCTORS, FIRST TWIST CONDUCTORS TOGETHER, THEN INSTALL A "SCOTCHLOK" OR EQUAL SPRING CONNECTOR OF PROPER SIZE. FOR LARGE CONDUCTORS USE SPLIT-BOLT OR HYDRAULICALLY COMPRESSED CONNECTIONS, THEN APPLY ENOUGH LAYERS OF VINYL ELECTRICAL TAPE TO EQUAL THE INSULATION VALUE OF THE CONDUCTOR INSULATION.
7.5. WHERE FACTORY COLOR CODED CONDUCTORS ARE NOT AVAILABLE, INSTALL BANDS OF COLORED VINYL PLASTIC TAPE AT EACH END OF EACH CONDUCTOR.

8. CONDUIT:

8.1. PROVIDE A COMPLETE ASSEMBLY OF CONDUIT, TUBING OR DUCT WITH FITTINGS, INCLUDING, BUT NOT LIMITED TO, CONNECTORS, NIPPLES, COUPLINGS, LOCKNUTS, BUSHINGS, EXPANSION FITTINGS, OTHER COMPONENTS AND ACCESSORIES AS NEEDED. CONNECTIONS AND COUPLING MUST BE COMPRESSION TYPE TO MEET R56 FOR BONDING REQUIREMENTS.
8.2. FITTINGS SHALL BE DESIGNED AND APPROVED FOR THE SPECIFIC USE INTENDED. PROVIDE INSULATED THROATS OR BUSHINGS FOR ALL CONDUITS. GROUNDING BUSHINGS SHALL ALSO HAVE INSULATED THROATS.
8.3. MINIMUM CONDUIT SIZE IN ALL CASES SHALL BE 1/2" UNLESS MINIMUM SIZE IS SPECIFIED TO BE LARGER FOR SPECIFIC SYSTEMS SPECIFIED ELSEWHERE IN THE SPECIFICATIONS OR ON THE DRAWINGS.
8.4. RIGID STEEL CONDUIT SHALL BE HEAVY-WALL STEEL TUBE WITH METALLIC CORROSION-RESISTANT COATING ON INTERIOR AND EXTERIOR, HOT-DIPPED GALVANIZED, FREE FROM DEFECTS, MANUFACTURED IN ACCORDANCE TO ANSI STANDARDS, AND UL-LISTED. USE THREADED COUPLINGS. USE RIGID GALVANIZED STEEL CONDUIT IN ALL LOCATIONS UNLESS NOTED OTHERWISE.
8.5. UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC (UNLESS NOTED OTHERWISE).
8.6. AS A MINIMUM, CONDUIT SIZES SHALL BE IN ACCORDANCE WITH NEC CONDUIT FILL REQUIREMENTS, REGARDLESS OF SIZE SCHEDULE OR INDICATED. IF LARGER SIZE IS SCHEDULED OR INDICATED, THE LARGER SIZE SHALL BE USED.

9. CONDUIT INSTALLATION:

9.1. ANCHOR CONDUIT WITH HANGERS, CONDUIT STRAPS OR OTHER DEVICES SPECIFICALLY DESIGNED FOR THE PURPOSE. WIRE TIES SHALL NOT BE PERMITTED. USE TRAPEZE HANGERS FOR MULTIPLE PARALLEL CONDUIT RUNS.
9.2. ALL CONCRETE INSERTS SHALL BE GALVANIZED OR CADMIUM PLATED; INDIVIDUAL HANGERS, TRAPEZE HANGERS AND RODS SHALL BE PRIME COATED.
9.3. INSTALL HORIZONTAL RUNS OF CONDUIT TO PROVIDE A NATURAL DRAIN TO PREVENT MOISTURE COLLECTING IN THE POCKETS OR TRAPS.
9.4. CAP CONDUIT ENDS UNTIL CONDUCTOR IS INSTALLED TO PREVENT FOREIGN OBJECTS FROM ENTERING CONDUIT.
9.5. FITTINGS AND CONDUITS SHALL BE APPROVED FOR GROUNDING PURPOSES OR SHALL BE JUMPERED WITH A COPPER GROUNDING CONDUCTOR OF PROPER AMPACITY. LEAVE TERMINATION OF SUCH JUMPERS EXPOSED.
9.6. INSTALL (2) 200 POUND NYLON PULL CORDS IN ROUGH-IN RACEWAYS.
9.7. INSTALL OFFSETS, PULL BOXES AND ELBOWS AS REQUIRED TO ACCOMPLISH A HARMONIOUS ROUTING OF THE SYSTEMS.
9.8. OPENINGS AROUND ELECTRICAL PENETRATIONS THROUGH FIRE RESISTANT RATED CONSTRUCTION SHALL BE FIRE-STOPPED USING APPROVED METHODS TO MAINTAIN THE FIRE RESISTANT RATING.

10. JUNCTION AND PULL BOXES:

10.1. USE GALVANIZED PULL AND JUNCTION BOXES THAT COMPLY WITH NEC AS TO SIZE AND CONSTRUCTION.
10.2. FOR JUNCTION AND PULL BOXES, USE BOXES NOT LESS THAN 4" SQUARE AND 1 1/2" DEEP WITH REMOVABLE COVERS.
10.3. IN WET AREAS OR OUTDOORS, USE CAST ALUMINUM OR CAST IRON BOXES WITH THREADED HUBS AND GASKET COVERS.
10.4. INSTALL JUNCTION AND PULL BOXES IN ACCESSIBLE LOCATIONS. POSITION BOXES SO COVERS CAN BE REMOVED.
10.5. INSTALL BOXES ON CONCEALED CONDUITS WITH COVERS FLUSH WITH FINISH.

GROUNDING

1. GENERAL:

1.1. GROUNDING SHALL BE INSTALLED PER MOTOROLA R56 STANDARDS AND GUIDELINES FOR COMMUNICATIONS SITES.
1.2. CONTRACTOR TO BOND METALLIC ITEMS TO GROUNDING SYSTEM WITHIN SITE PER CARRIER REQUIREMENTS.

2. CONNECTIONS:

2.1. ALL EXTERNAL GROUNDING CONNECTIONS SHALL BE MADE BY THE EXOTHERMIC PROCESS, BY IRREVERSIBLE HIGH COMPRESSION, AND/OR BY 2-HOLE LONG BARREL LUGS. NO SINGLE-HOLE, CRIMP-ON, OR SOLDER CONNECTIONS SHALL BE USED. CONNECTIONS SHALL INCLUDE ALL CABLE TO CABLE SPLICE. ALL MATERIALS USED (MOLDS, WELDING METAL, TOOLS, ETC.) SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES.
2.2. ALL INTERIOR GROUNDING AND BONDING CONDUCTORS SHALL BE CONNECTED BY TWO HOLE-TYPE (COMPRESSION) CONNECTIONS. MECHANICAL CONNECTIONS, FITTINGS OR CONNECTIONS THAT DEPEND SOLELY ON SOLDER SHALL NOT BE USED.

3. GROUND RODS:

3.1. ALL GROUND RODS SHALL BE COPPER-CLAD STEEL 5/8" DIAMETER X 10'-0" LONG AND OF THE NUMBER AND AT LOCATIONS INDICATED. GROUND RODS SHALL BE DRIVEN FULL LENGTH VERTICALLY IN UNDISTURBED EARTH.
3.2. GROUND RODS SHALL BE LOCATED SO AS TO AVOID THE TOWER FOUNDATION.
3.3. IF ROCK IS ENCOUNTERED, GROUND RODS MAY BE DRIVEN AT AN OBLIQUE ANGLE OF NOT GREATER THAN 45 DEGREES FROM VERTICAL OR MAY BE BURIED HORIZONTALLY AND PERPENDICULAR TO THE BUILDING, IN A TRENCH AT LEAST 36" DEEP.
3.4. GROUND RODS SHALL BE BURIED TO A MINIMUM DEPTH OF 30 INCHES BELOW FINISHED GRADE, WHERE POSSIBLE, OR BURIED BELOW THE FREEZE LINE, WHICHEVER DEPTH IS GREATER.
3.5. GROUND RODS SHALL NOT BE INSTALLED MORE THAN 20 FEET APART (OR TWICE THE LENGTH OF THE ROD) AND NOT LESS THAN 6 FEET (PER NFPA 70, ARTICLE 250-56).

4. GROUND BARS:

4.1. ALL GROUND BARS SHALL BE 1/4" THICK BARE COPPER PLATES (U.N.O.) AND OF SUFFICIENT SIZE TO GROUND ATTACHMENTS INDICATED IN THE DRAWINGS (MIN. 2"x12"). HOLES SHALL BE 7/16" DIAMETER ON 3/4" CENTERS TO PERMIT THE CONVENIENT USE OF TWO-HOLE LUGS.
4.2. THE METHOD OF ATTACHMENT OF THE GROUNDING ELECTRODE CONDUCTOR TO GROUND BARS SHALL BE EXOTHERMIC OR IRREVERSIBLE HIGH COMPRESSION.

5. CABLES:

5.1. ALL EXTERIOR GROUNDING CABLES SHALL BE #2 STRANDED GREEN JACKETED COPPER WIRE UNLESS INDICATED OTHERWISE ON DRAWINGS.
5.2. WHEN THE DIRECTION OF THE CONDUCTOR MUST CHANGE, IT SHALL BE DONE GRADUALLY. ALL BENDS SHALL BE MADE WITH THE GREATEST PRACTICAL RADIUS AND SHALL NOT BE LESS THAN 8".
5.3. ALL CONDUITS SHALL BE MECHANICALLY SUPPORTED.
5.4. ALL METALLIC CONDUIT SHALL USE GROUND-BUSHING CONNECTIONS.
5.5. ALL CONDUITS USED AS RACEWAYS FOR GROUNDING CONDUCTORS SHALL BE BONDED AT BOTH ENDS IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC).
5.6. PROVIDE WIRE PROTECTION PIPES AT ALL GROUND WIRES AT GRADE LEVEL PER GROUND WIRE PROTECTION DETAIL.

6. DISSIMILAR MATERIALS:

6.1. BONDING OF TWO DISSIMILAR METALS MAY RESULT IN GALVANIC CORROSION, A REACTION THAT OCCURS AT THE JUNCTION OF DISSIMILAR METALS WHEN THEY ARE EXPOSED TO MOISTURE. THE DEGREE AND RATE OF CORROSION DEPENDS ON THE RELATIVE POSITION OF THE METALS IN THE ELECTROCHEMICAL SERIES. TO DETERMINE THE LIKELIHOOD OF TWO METALS REACTING REFERENCE SECTION 6.5.2 IN THE R56 SPECIFICATIONS.
6.2. THE SAME METAL SHALL BE USED THROUGHOUT THE SYSTEM WHEN POSSIBLE.
6.3. EXOTHERMICALLY WELD CONNECTIONS OF DIFFERENT METALS WHEN WELD MATERIAL IS AVAILABLE FOR THE METALS BEING BONDED.
6.4. COPPER CONDUCTORS SHALL NOT BE INSTALLED ON ALUMINUM ROOFING OR SIDING.
6.5. ALUMINUM AND COPPER SHALL NOT BE DIRECTLY CONNECTED TO EACH OTHER UNLESS USING EXOTHERMIC WELDING MATERIALS SPECIFICALLY INTENDED FOR THESE TWO METALS TO MAKE THE CONNECTION. ALUMINUM AND COPPER MAY BE JOINED WITH THE USE OF A LISTED BIMETALLIC TRANSITION CONNECTOR OF STAINLESS STEEL. THESE CONNECTORS SHALL BE LISTED FOR THE SIZE AND NUMBER OF CONDUCTORS AND MARKED WITH AL/CU. THESE CONNECTIONS SHALL BE LIBERALLY COATED WITH A CONDUCTIVE ANTIOXIDANT AT THE POINT OF INSERTION INTO THE CONNECTOR.
6.6. COPPER SHALL NOT COME IN CONTACT WITH GALVANIZED STEEL.
6.7. TINNED COPPER SHALL BE USED WHEN CONNECTING TO A GALVANIZED STEEL STRUCTURE.

7. ANTI-OXIDANT:

7.1. ANTI-OXIDANT COMPOUND SHALL BE USED BETWEEN ALL EXTERNAL MECHANICAL CONNECTIONS. CARE SHALL BE TAKEN TO USE THE APPROPRIATE ANTI-OXIDANT TYPE. ZINC ANTI-OXIDANT (GRAY COLOR) SHALL BE USED WHEN CONNECTING TO GALVANIZED AND ALUMINUM OBJECTS AND COPPER ANTI-OXIDANT (COPPER COLOR) SHALL BE USED WHEN CONNECTING TO COPPER OBJECTS.

8. TEST PROCEDURE:

8.1. THE GROUND SYSTEM RESISTANCE SHALL NOT EXCEED 10 OHMS. A DESIGN GOAL OF 5 OHMS IS RECOMMENDED. TESTING SHALL BE PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARD RESISTANCE TESTING.
8.2. GROUND TEST MUST BE PERFORMED PRIOR TO UTILITY CONNECTION AND GROUND CONNECTION TO ANY EXISTING SITE COMMON GROUNDING ELECTRODE SYSTEM.

9. GROUNDING RING:

9.1. THE GROUND RING ENCIRCLING THE BUILDING SHALL BE A MINIMUM SIZE OF NO. 2 AWG SOLID TINNED COPPER CONDUCTOR IN DIRECT CONTACT WITH THE EARTH AT A MINIMUM DEPTH OF 36 INCHES. CONDUCTOR BENDS SHALL HAVE A MINIMUM RADIUS OF 8 INCHES.
9.2. ALL EXTERNAL GROUND RINGS ARE TO BE JOINED TOGETHER AND ALL CONNECTIONS SHALL BE EXOTHERMIC OR IRREVERSIBLE HIGH COMPRESSION. NO LUGS OR CLAMPS WILL BE ACCEPTED.

10. FENCE / GATE:

10.1. GROUND ALL SECTIONS OF FENCE AND GATE AS INDICATED ON DRAWINGS. GROUND EACH GATE POST AND CORNER POST. ALL CONNECTIONS FOR THE FENCE GROUND SYSTEM SHALL BE EXOTHERMIC WELD AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES.

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ELECTRICAL & GROUNDING NOTES

E0.0

SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET

NOTES:

1. GENERATOR

1.1. CLEARANCES

1.1.1. **LOCATION OF EXTERIOR TANKS** (IFC 5704.2.9.6.1.1. & NFPA TABLE 22.4.1.1A) GENERATOR TANKS WITH A CAPACITY LESS THAN 275 GALLONS MUST BE A MINIMUM OF 5' FROM A PROPERTY LINE, ROW OR STRUCTURE WITH COMBUSTIBLE WALLS. TANKS WITH A CAPACITY OF 276-750 MUST BE 10' FROM PROPERTY LINE.

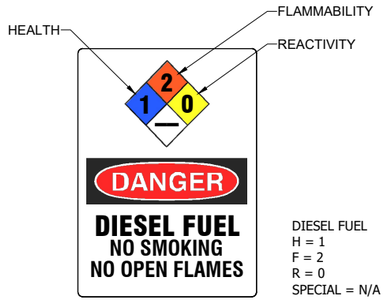
1.2. SIGNAGE

1.2.1. **NO SMOKING OR OPEN FLAMES** (IFC 5704.2.3.1) THE FOLLOWING SIGNS MADE OF DURABLE MATERIAL ARE REQUIRED ON THE GENERATOR ROOM DOOR. (SEE BELOW)

1.2.2. **NFPA HAZMAT PLACARD** (IFC 5003.5 & NFPA 704) VISIBLE HAZARD IDENTIFICATION SIGNS AS SPECIFIED BY NFPA 704 SHALL BE PLACED ON GENERATOR ROOM DOOR REFLECTING HIGHEST HAZARD WITHIN THE COMPOUND (SEE BELOW).

1.2.3. **FILLING INSTRUCTIONS** (IFC 5704.2.9.7.6.1) A PERMANENT SIGN SHALL BE PROVIDED AT THE FILL POINT FOR THE TANK, DOCUMENTING THE FILLING PROCEDURE AND TANK CALIBRATION CHART.

1.2.4. **EMERGENCY SHUT DOWN PROCEDURES** (NFPA 37.10.2.1) PROVIDE CLEAR EMERGENCY SHUTDOWN PROCEDURES, FOR SAFELY DISABLING THE GENERATOR



DIESEL FUEL
H = 1
F = 2
R = 0
SPECIAL = N/A

1.3. **TANK VENTILATION** (IFC 5704.2.9.7.2 & IFC 5704.2.7.3. & NFPA 30) STORAGE TANKS MUST BE EQUIPPED WITH NORMAL **AND** EMERGENCY VENTING. NORMAL TANK VENT PIPES MUST EXIT STRUCTURE & SHALL BE NO SHORTER THAN 12 FEET ABOVE FINISHED GROUND. VAPORS SHALL BE DISCHARGED AWAY FROM EAVES OR OBSTRUCTIONS. EMERGENCY VENT PIPES MUST EXIT STRUCTURE & SHALL COMPLY WITH NFPA 30/22.7. & IMC 1305.7.

1.4. **HAZARDOUS MATERIALS INVENTORY STATEMENT** (IFC APPENDIX H) ALL HAZARDOUS CHEMICALS MUST BE REPORTED TO LOCAL COUNTY FIRE DEPARTMENT PRIOR TO INSPECTION.

1.5. **INSPECTIONS:** CONTRACTOR SHALL VERIFY WITH LOCAL FIRE DEPARTMENT INSPECTION REQUIREMENTS INCLUDING:

1.5.1. INSPECTION TEAM WITNESS FILLING OF THE DIESEL TANK.

1.5.2. INSPECTION TEAM WITNESS DEMONSTRATION OF FLOAT SWITCH SET POINTS OF 90% & 40%

1.6. **DIESEL SUB BASE TANK CONSTRUCTION** (U.L. 142)

1.6.1. FUEL CONTAINMENT BASIN: SUB BASE TANK SHALL INCLUDE WELDED STEEL CONTAINMENT BASIN SIZED AT A MINIMUM OF 125% OF THE TANK CAPACITY TO PREVENT ESCAPE OF FUEL IN THE EVENT OF A TANK RUPTURE

1.6.2. LEAK DETECTION SYSTEM: A FUEL CONTAINMENT BASIN LEAK DETECTOR SHALL BE SUPPLIED AND WIRED FOR ALARM CONDITION VISIBLE FROM GENERATOR CONTROL PANEL.

1.6.3. SUB BASE TANK VENTING: NORMAL EMERGENCY VENTING SHALL BE SIZED PER U.L. 142 SPECIFICATION FOR WETTED SURFACE AREA OF TANK.

1.6.4. ENGINE ENVIRONMENTAL SPILL PROTECTION: TOP OF FUEL TANK BASE SHALL INCLUDE SPILL CONTAINMENT TO CATCH ANY EXCESS SPILL OR LEAKS FROM ENGINE AND COOLING SYSTEM. THIS SHALL BE SIZED FOR 125% OF ENGINE FLUIDS AND FUEL SPILL CONTAINMENT.

1.7. **REMOTE MANUAL STOP** (NFPA 110 5.6.5.6 & 5.6.5.6.1)

1.7.1. ALL INSTALLATIONS SHALL BE PROVIDED WITH AT LEAST ONE REMOTE EMERGENCY STOP SWITCH FOR EACH PRIME MOVER.

1.7.2. THE REMOTE EMERGENCY STOP SWITCH SHALL BE LOCATED OUTSIDE THE ROOM HOUSING THE PRIME MOVER OR EXTERIOR ENCLOSURE A MINIMUM OF 20' FROM THE FUEL SOURCE AND SHALL BE PERMITTED TO BE MOUNTED ON THE EXTERIOR OF THE ENCLOSURE.

1.8. **VEHICLE PROTECTION**

1.8.1. IMPACT PROTECTION IS REQUIRED FOR ETXERIOR GENERATORS WHERE SUBJECT TO VEHICLE IMPACTS WHERE 4" CONCRETE FILLED BOLLARDS ARE USED , THEY SHALL BE SET AT A MINIMUM OF 3 FEET FROM THE GENERATOR . (DFC 312)

1.9. **EMERGENCY GENERATOR STATUS PANEL** CONTRACTOR IS TO COORDINATE WITH LOCAL FIRE DEPARTMENT WITH GETTING FIELD APPROVAL OF FINAL LOCATION PRIOR TO INSTALLATION.
ALL GENERATORS SHALL BE PROVIDED WITH A REMOTE STATUS PANEL THAT SHOWS THE FOLLOWING:

1.9.1 OPERATING STATUS (ON-OFF) AND MALFUNCTION INDICATION PANEL AS REQUIRED BY NFPA 110

1.9.2 INDICATION OF TRANSFER SWITCH POSITION (NORMAL-EMERGENCY)

1.9.3 INDICATION THAT GENERATOR IS IN AUTOMATIC MODE

1.9.4 MAIN FUEL OIL STORAGE TANK LOW FUEL LEVEL ALARM. THE LOW FUEL SENSING SWITCH SHALL INDICATE WHEN LESS THAN THE MINIMUM FUEL NECESSARY FOR FULL LOAD RUNNING AS PER NFPA 110 SECTION 5.5.2 OR A MINIMUM OF 75% OF THE TANK SIZE

1.10. LOAD DURATION CALCULATIONS

1.10.1 FUEL TANK SIZE (357.9) GALLONS.

1.10.2 FUEL FILL ALARM @ 90% = 322.11 GALLONS

1.10.3 FUEL CONSUMPTION = 10 GAL/HR @ 100% LOAD W/ FAN PER MANUFACTURE CUT SHEET

1.10.4 (10 GAL/HR X 2HRs X 133% = 26.6 GALLONS) TANK PROVIDED 357.9 GALLON / 10 GPH = 35.79 HR RUNTIME

1.11. FUEL OIL PIPING AND STORAGE

THE GENERATOR TANK MAXIMUM STATIC HEAD PRESSURE AT 5'-0" FUEL FILL IS 2.2 PSI. THE GENERATOR TANK MAXIMUM STATIC HEAD PRESSURE CALCULATION AT 12'-0" VENT PIPE IS 5.2 PSI. (2.31 FT OF HEAD EQUALS 1 PSI (POUND PER SQUARE INCH) OF PRESSURE).

5'-0" HEAD AT FUEL FILL (5/2.31 2.2PSI)

12'-0" HEAD AT VENT PIPE (12/2.31 = 5.2PSI)

THE CURRENT DESIGN DOES NOT EXCEED THE MAXIMUM 10PSI PER IMC. 1305.7

1.12. LOCATION OF EXHAUST OUTLETS

THE TERMINATION POINT OF EXHAUST OUTLETS AND DUCTS DISCHARGING TO THE OUTDOORS SHALL BE LOCATED WITH THE FOLLOWING MINIMUM DISTANCES:

1.12.1 FOR DUCTS CONVEYING EXPLOSIVE OR FLAMMABLE VAPORS, FUMES OR DUSTS: 30 FEET (9144 MM) FROM PROPERTY LINES; 10 FEET (3048 MM) FROM OPERABLE OPENINGS INTO BUILDINGS; 6 FEET (1829 MM) FROM EXTERIOR WALLS AND ROOFS; 30 FEET (9144 MM) FROM COMBUSTIBLE WALLS AND OPERABLE OPENINGS INTO BUILDINGS WHICH ARE IN THE DIRECTION OF EXHAUST DISCHARGE; 10 FEET (3048 MM) ABOVE ADJOINING GRADE.

1.12.2 FOR OTHER PRODUCT-CONVEYING OUTLETS: 10 FEET (3048 MM) FROM THE PROPERTY LINES; 3 FEET (914 MM) FROM EXTERIOR WALLS AND ROOFS; 10 FEET (3048 MM) FROM OPERABLE OPENINGS INTO BUILDINGS; 10 FEET (3048 MM) ABOVE ADJOINING GRADE.

1.12.3 FOR ALL ENVIRONMENTAL AIR EXHAUST: 3 FEET (914 MM) FROM PROPERTY LINES; 3 FEET (914 MM) FROM OPERABLE OPENINGS INTO BUILDINGS FOR ALL OCCUPANCIES OTHER THAN GROUP U, AND 10 FEET (3048 MM) FROM MECHANICAL AIR INTAKES. SUCH EXHAUST SHALL NOT BE CONSIDERED HAZARDOUS OR NOXIOUS.

1.12.4 EXHAUST OUTLETS SERVING STRUCTURES IN FLOOD HAZARD AREAS SHALL BE INSTALLED AT OR ABOVE THE ELEVATION REQUIRED BY SECTION 1612 OF THE INTERNATIONAL BUILDING CODE FOR UTILITIES AND ATTENDANT EQUIPMENT.

1.13. PERMIT & INSPECTION NOTES

1.13.1 CONTRACTOR SHALL PROVIDE ANY INSPECTIONS REQUIRED BY LOCAL JURISDICTION PRIOR TO FUELING THE GENERATOR.

1.13.2 LEGALLY REQUIRED EMERGENCY OR STANDBY GENERATORS SHALL BE ACCEPTANCE TESTED IN ACCORDANCE WITH NFPA 110. DOCUMENTATION SHALL BE PROVIDED BY CONTRACTOR TO THE LOCAL JURISDICTION OUTLINING THE NFPA 110 ACCEPTANCE TEST CONDUCTED AND RESULTS SHOWING CONFORMITY WITH NFPA 110 ACCEPTANCE TESTING REQUIREMENTS.

1.13.3 CONTRACTOR SHALL INQUIRE WITH LOCAL JURISDICTION FOR ANY ADDITIONAL ANNUAL PERMITS RELATING TO GENERATORS OR COMBUSTIBLE STORAGE.

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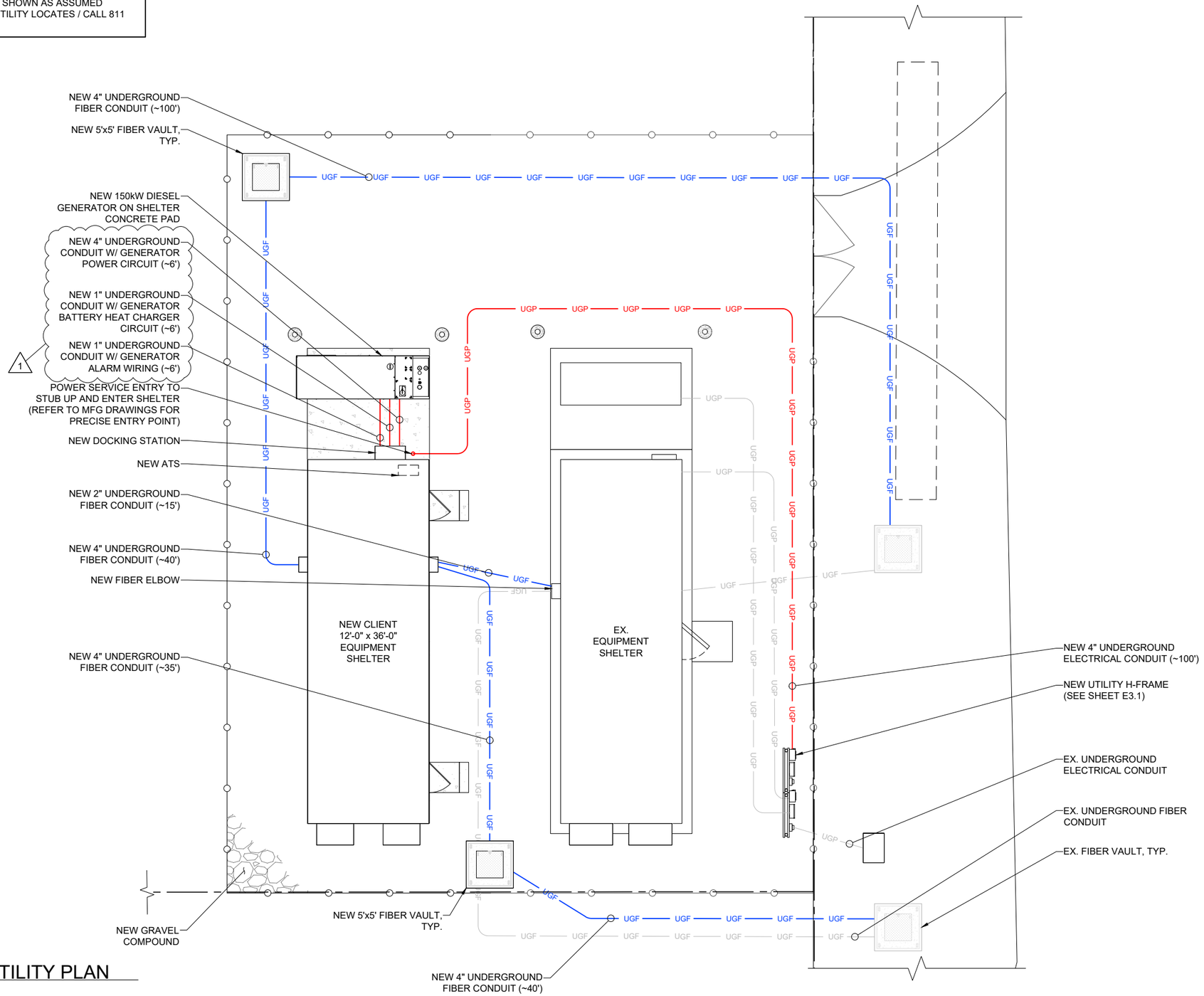
GENERATOR NOTES

EO.1

SCALE SET FOR 24"X36" SHEET
USE 1/2 SCALE FOR 11"X17" SHEET

NOTES:

1. ALL NEW UNDERGROUND CONDUIT TO BE SCHEDULE 40 PVC.
2. EXISTING BURIED UTILITY LINES WERE NOT VERIFIED BY MEANS OF GPR / UTILITY LOCATES, AND ARE SHOWN AS ASSUMED ROUTES. CONTRACTOR TO OBTAIN UTILITY LOCATES / CALL 811 PRIOR TO DIGGING.



1 DETAILED UTILITY PLAN

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

0' 2' 4' 8' 12'

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

1 - REVISED THE CONDUITS LENGTH

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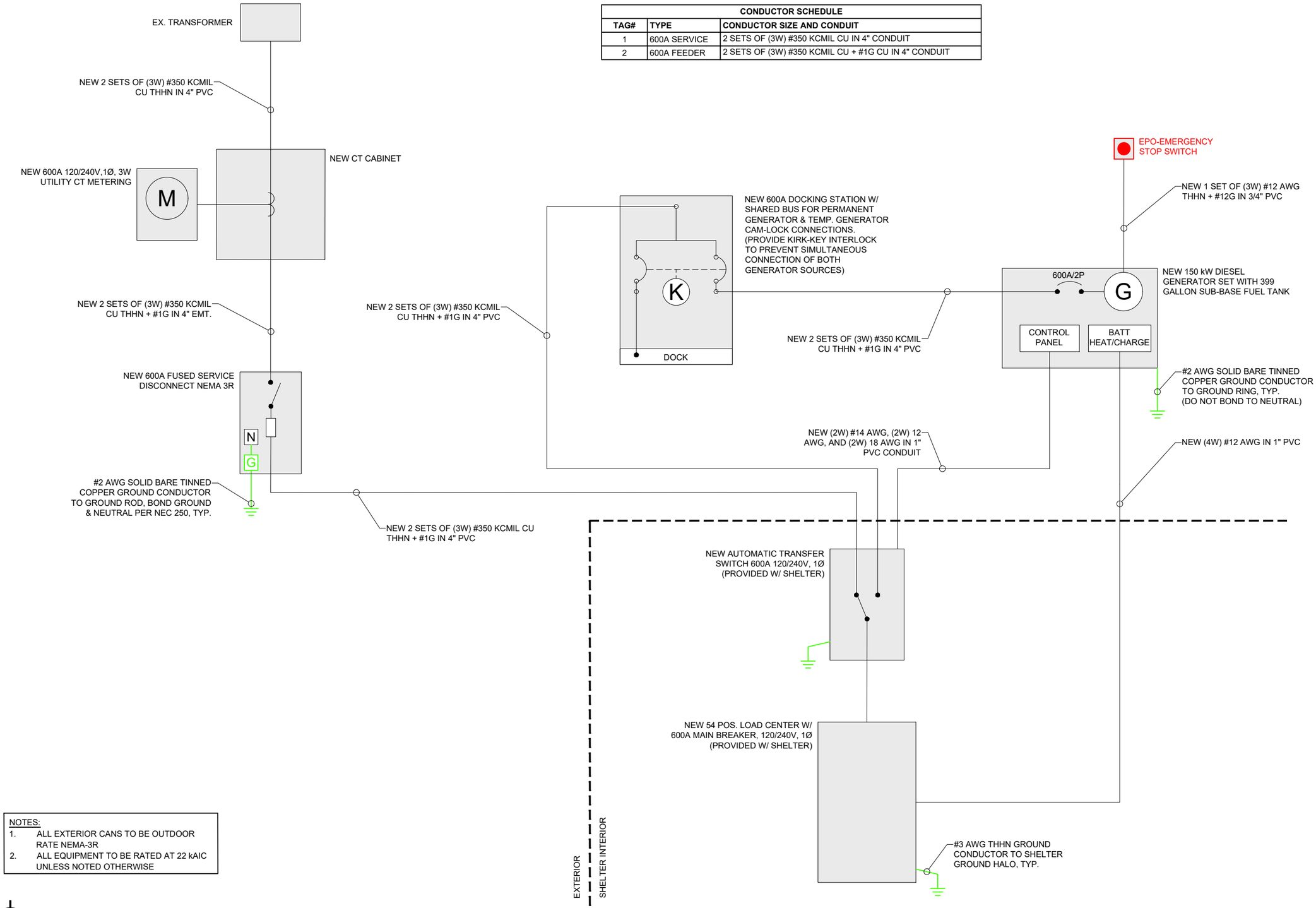
DETAILED UTILITY PLAN

E1.1

SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET

CONDUCTOR SCHEDULE		
TAG#	TYPE	CONDUCTOR SIZE AND CONDUIT
1	600A SERVICE	2 SETS OF (3W) #350 KCMIL CU IN 4" CONDUIT
2	600A FEEDER	2 SETS OF (3W) #350 KCMIL CU + #1G CU IN 4" CONDUIT



NOTES:
1. ALL EXTERIOR CANS TO BE OUTDOOR RATE NEMA-3R
2. ALL EQUIPMENT TO BE RATED AT 22 kAIC UNLESS NOTED OTHERWISE

1 ONE-LINE DIAGRAM
SCALE: N.T.S

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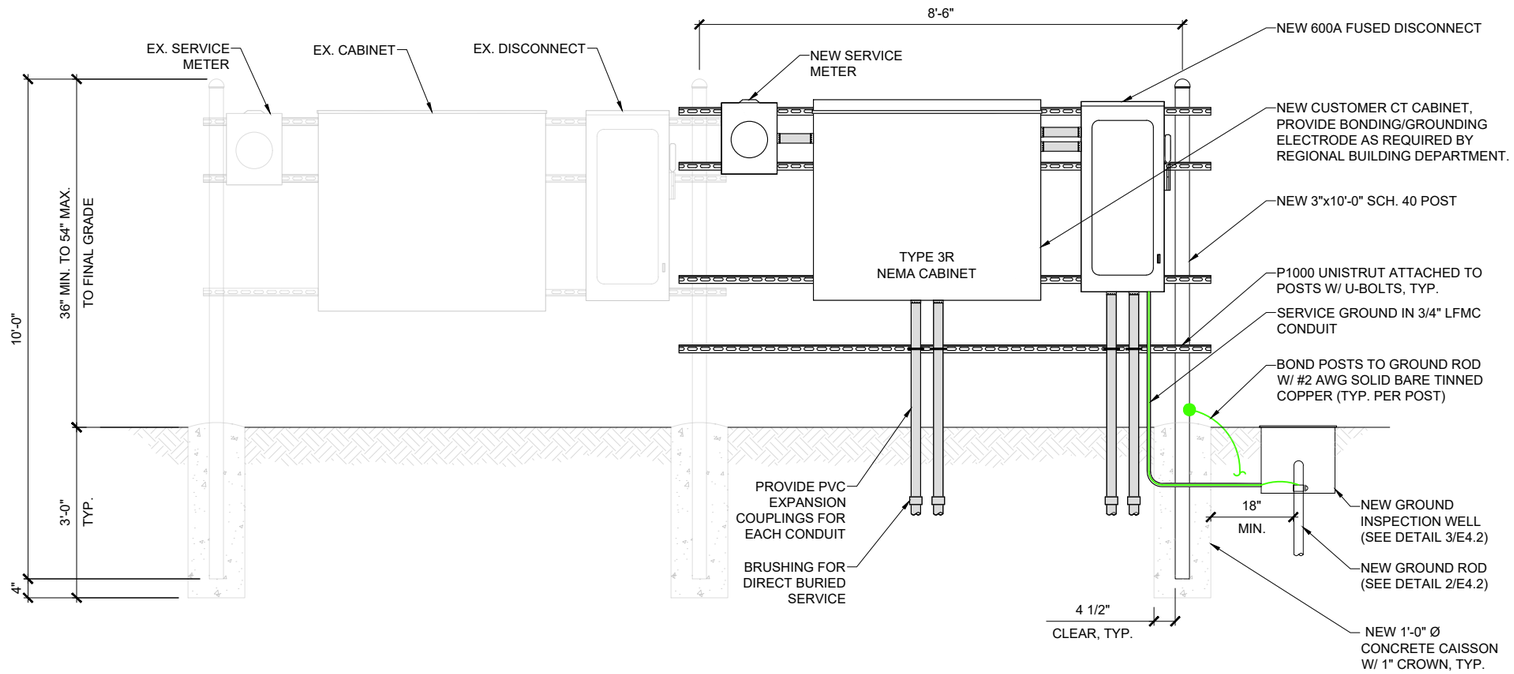
ELECTRICAL ONE-LINE DIAGRAM

E2.1

SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET

NOTES:

1. POST(S) MUST BE EFFECTIVELY GROUNDED.
2. BOLLARDS SHOULD BE INSTALLED TO PROTECT EQUIPMENT WHEN INSTALLATION IS IN A TRAFFIC AREA.
3. ADEQUATE CLEARANCE SHALL BE MAINTAINED FROM DRIVEWAYS, OR OTHER OBSTRUCTIONS. MAINTAIN 3' CLEARANCE IN FRONT OF METER AND 2' CLEARANCE AT SIDES OF METER.
4. PVC CONDUIT MUST EXTEND 18" BELOW FINAL GRADE, MINIMUM.



1 UTILITY H-FRAME DETAIL
SCALE: N.T.S

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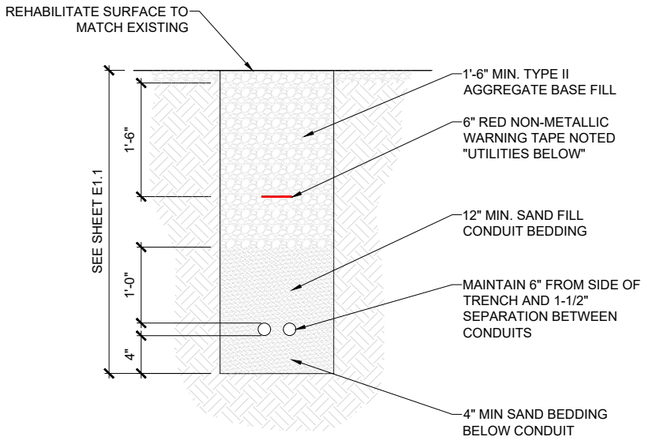
ELECTRICAL DETAILS

E3.1

SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET

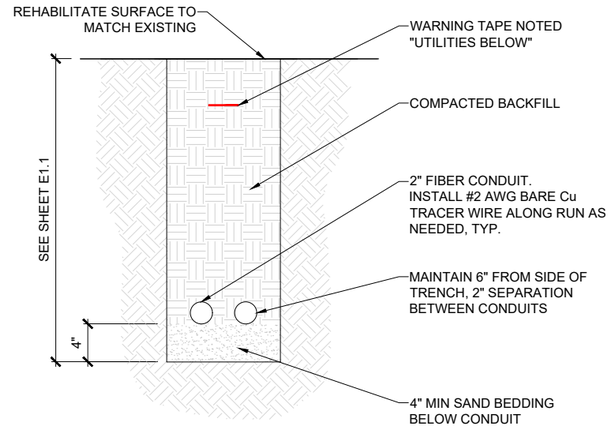


ELECTRIC TRENCH NOTES:

1. COMPACT TYPE II TO 95% STANDARD PROCTOR @ 2% MOISTURE.
2. COMPACT SAND TO 90% STANDARD PROCTOR @ 2% MOISTURE.
3. COORDINATE TRENCH INSPECTIONS WITH UTILITY REPRESENTATIVES AND JURISDICTIONAL INSPECTORS.
4. VERIFY JOINT TRENCH USE RESTRICTIONS AND REQUIREMENTS PRIOR TO PLACING UTILITY. MAINTAIN 12" RADIAL SEPARATION FROM WATER AND TELECOM.
5. VERIFY MOST RECENT STANDARDS AND SPECIFICATIONS WITH UTILITY PROVIDER.
6. FOR CONDUITS ROUTED BENEATH FUTURE SHELTERS, TRENCH TO ENSURE A MINIMUM COVER OF 5'-0" FROM FINISHED GRADE TO THE TOP OF CONDUIT.

1 ELECTRICAL SERVICE TRENCH

SCALE: N.T.S



TRENCH NOTES:

1. COMPACT TYPE II TO 95% STANDARD PROCTOR @ 2% MOISTURE.
2. COMPACT SAND TO 90% STANDARD PROCTOR @ 2% MOISTURE.
3. COORDINATE TRENCH INSPECTIONS WITH UTILITY REPRESENTATIVES AND JURISDICTIONAL INSPECTORS.
4. VERIFY JOINT TRENCH USE RESTRICTIONS AND REQUIREMENTS PRIOR TO PLACING UTILITY. MAINTAIN 12" RADIAL SEPARATION FROM WATER AND TELECOM.
5. VERIFY MOST RECENT STANDARDS AND SPECIFICATIONS WITH UTILITY PROVIDER.
6. FOR CONDUITS ROUTED BENEATH FUTURE SHELTERS, TRENCH TO ENSURE A MINIMUM COVER OF 5'-0" FROM FINISHED GRADE TO THE TOP OF CONDUIT.

2 FIBER SERVICE TRENCH

SCALE: N.T.S

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ELECTRICAL DETAILS

E3.2

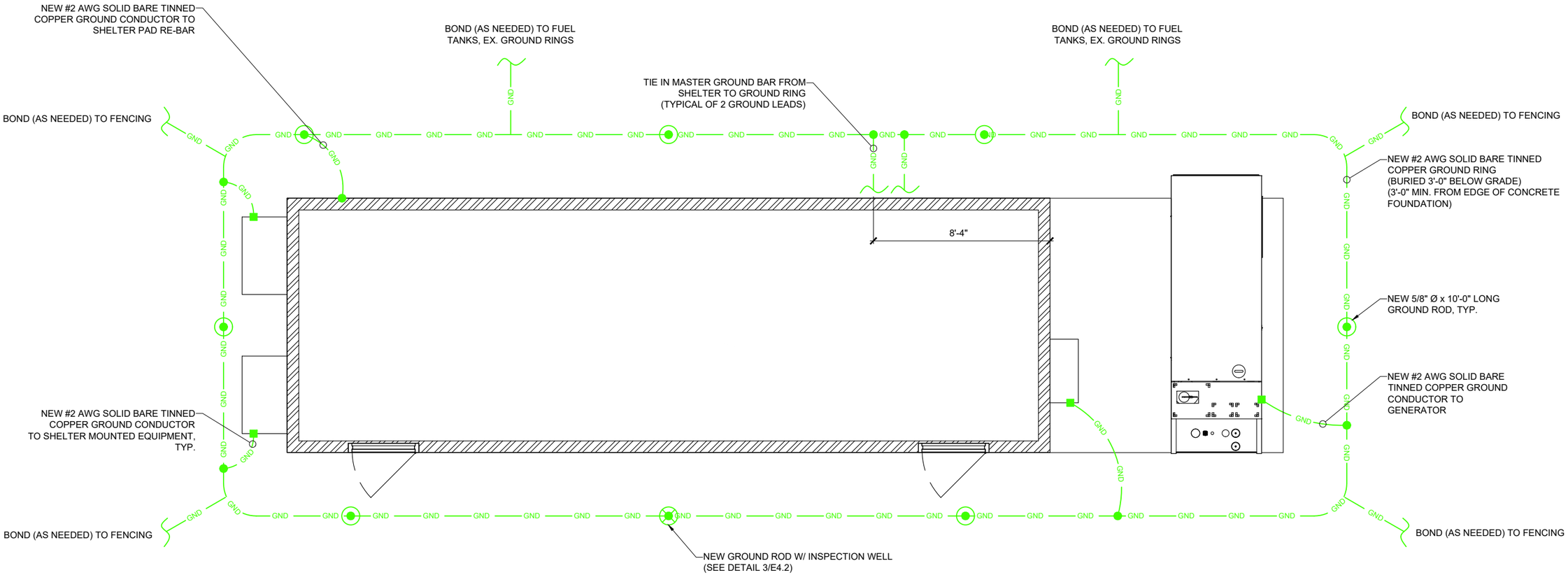
SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET

NOTES:

1. GROUND RODS SHALL BE COPPER-CLAD STEEL, MINIMUM 5/8" DIAMETER BY 10'-0" LENGTH, INSTALLED VERTICALLY UNLESS SITE-SPECIFIC CONSTRAINTS DICTATE OTHERWISE.
2. GROUND RODS SHALL BE SPACED NO MORE THAN 20 FEET APART, AND SHALL BE BONDED TO THE GROUND RING USING EXOTHERMIC WELDS OR LISTED IRREVERSIBLE COMPRESSION CONNECTORS.
3. THE PERIMETER GROUND RING SHALL BE INSTALLED AT A MINIMUM DEPTH OF 36 INCHES BELOW FINISHED GRADE AND AT LEAST 36 INCHES AWAY FROM THE BUILDING FOUNDATION.
4. BOND ALL METALLIC STRUCTURAL AND NON-STRUCTURAL COMPONENTS INCLUDING HVAC UNITS, JUNCTION BOXES, ENTRY PORTS, AND METALLIC CONDUIT SLEEVES DIRECTLY TO THE PERIMETER GROUND RING.
5. PROVIDE 2X MIN. BONDS TO EXTERNAL SYSTEMS SUCH AS FUEL TANKS, GENERATORS, PERIMETER FENCING, AND EXISTING GROUND RINGS IN ACCORDANCE WITH THEIR RESPECTIVE R56 GROUNDING DETAILS.
6. AT LEAST ONE GROUND ROD SHALL BE EQUIPPED WITH A TEST WELL FOR INSPECTION AND GROUND RESISTANCE TESTING PURPOSES.
7. TEST ELECTRODE SYSTEM RESISTANCE TO ENSURE ≤ 5 OHMS.
8. NEW FENCE POST(S) TO BE GROUNDED PER DETAILS 1 & 2/E4.4

GROUNDING SYMBOLS:

- EXOTHERMIC
- MECHANICAL
- COMPRESSION
- GROUND ROD W/ INSPECTION WELL
- GROUND ROD



1 TYPICAL SHELTER GROUNDING DETAIL

SCALE: N.T.S.

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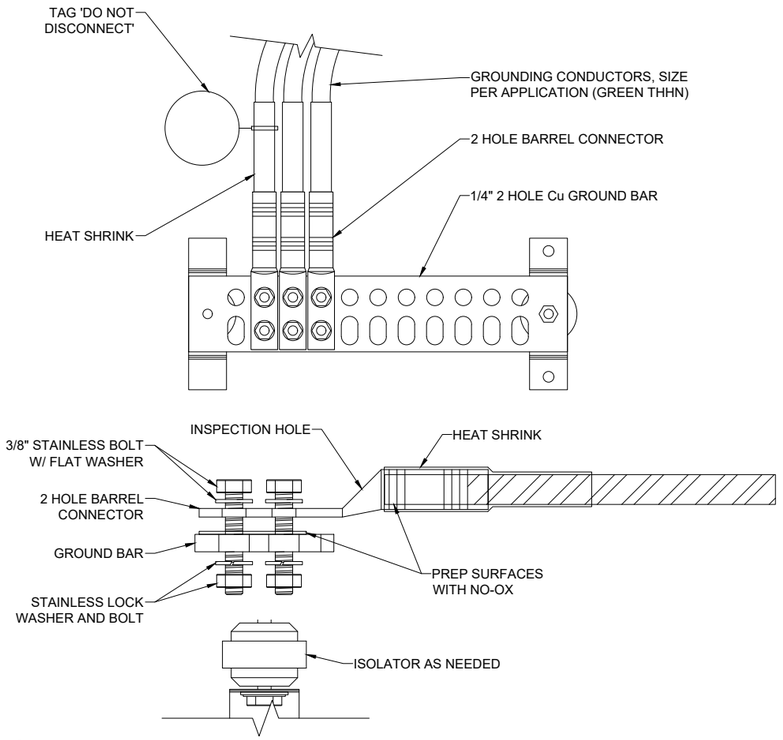
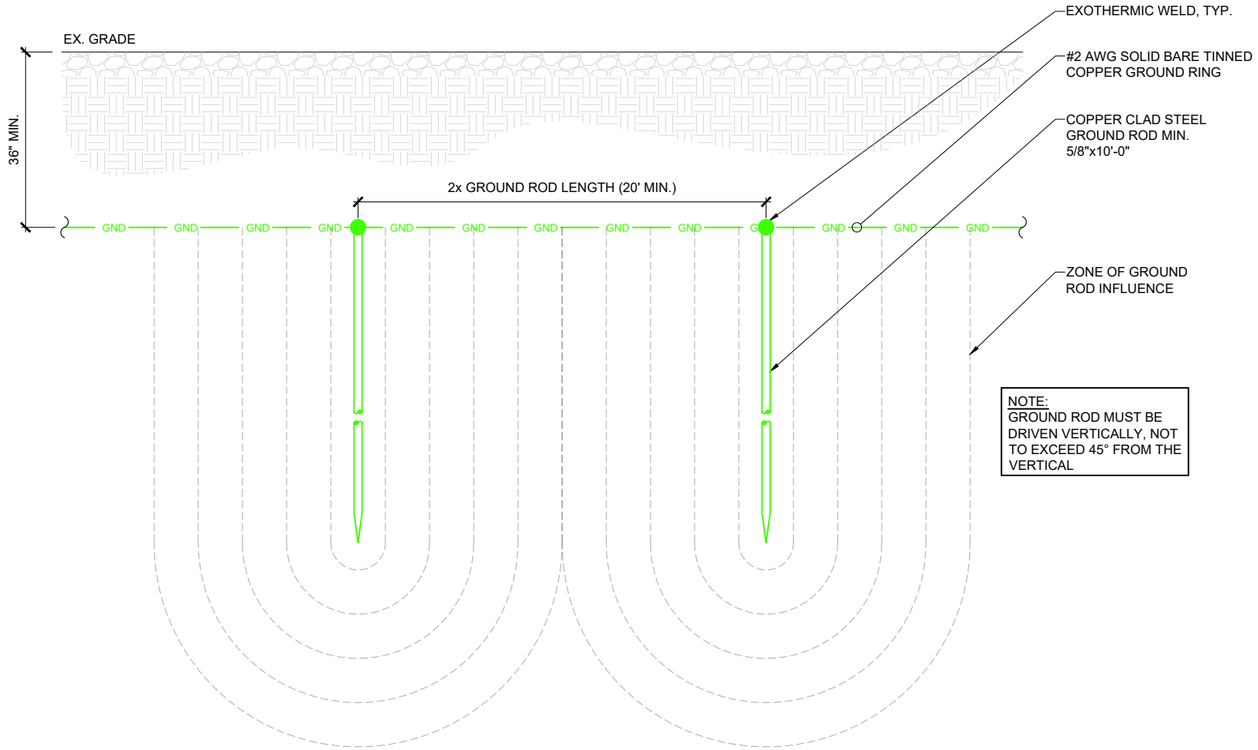
GROUNDING PLAN

E4.1

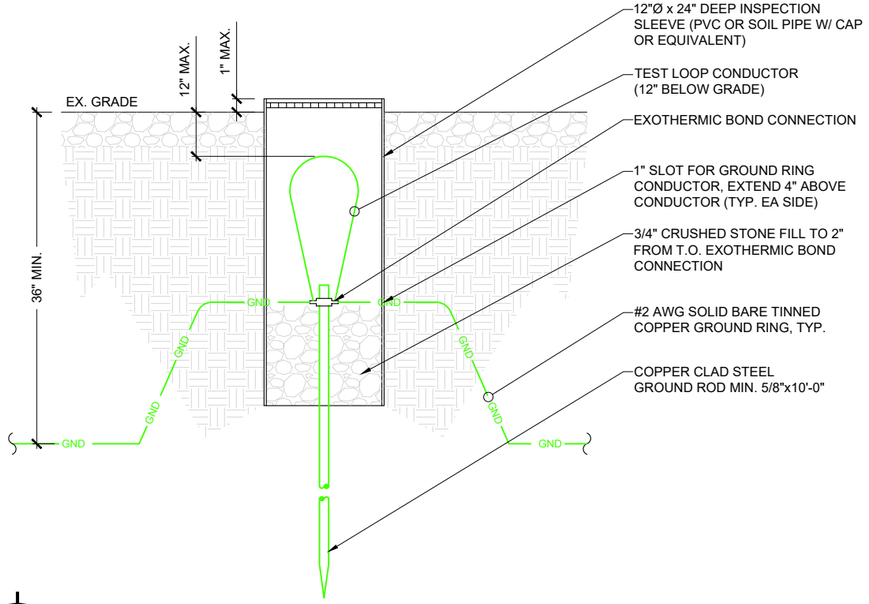
SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET



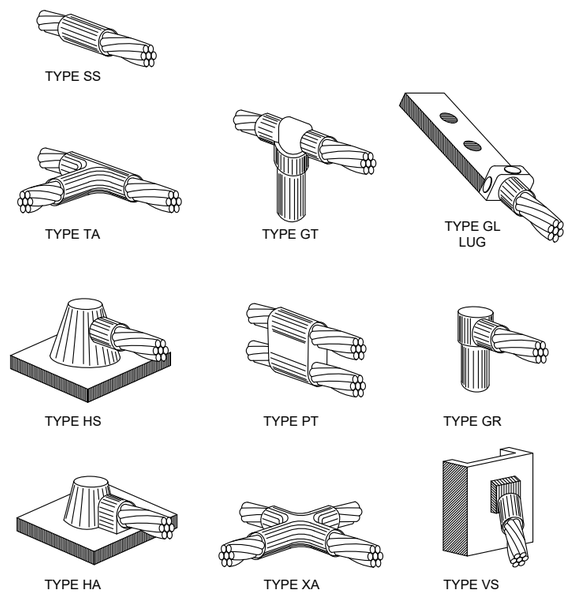
1 2 HOLE GROUND BAR
SCALE: N.T.S



2 GROUND ROD DETAIL
SCALE: N.T.S



3 TEST GROUND ROD WITH INSPECTION SLEEVE
SCALE: N.T.S



4 CADWELD DETAILS
SCALE: N.T.S

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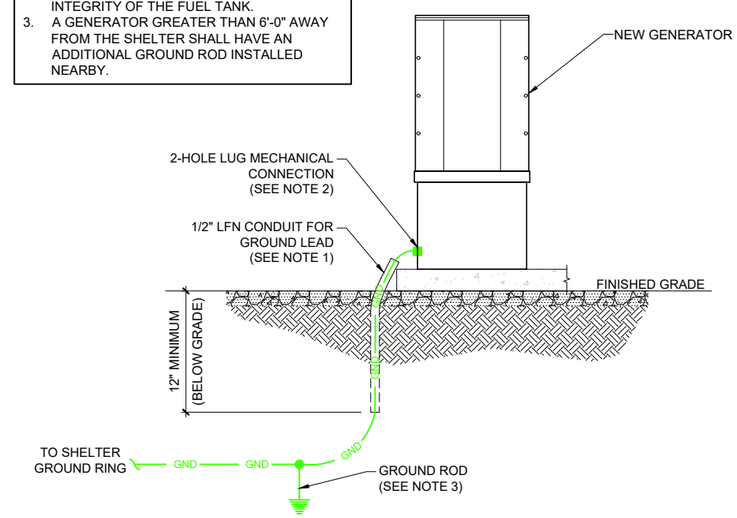
GROUNDING DETAILS

E4.2

SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET

NOTES:

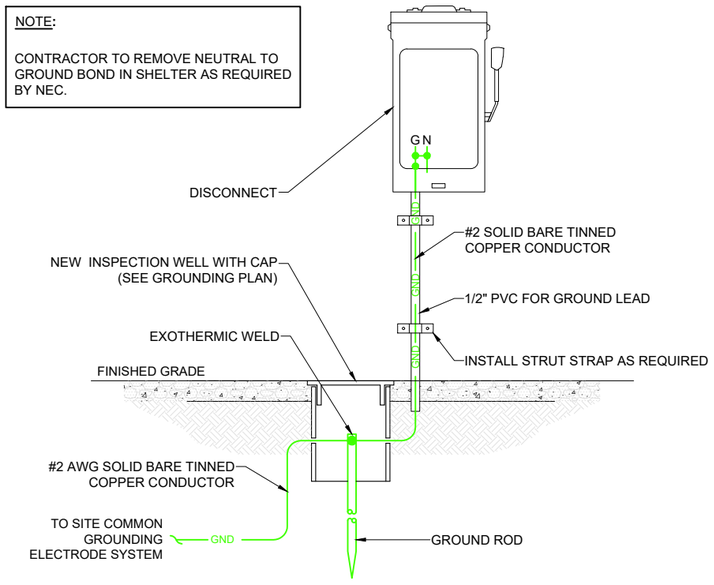
1. LFN CONDUIT SHALL BE PROPERLY CAPPED AND SEALED AT ENDS
2. CONTRACTOR SHALL NOT DAMAGE THE INTEGRITY OF THE FUEL TANK.
3. A GENERATOR GREATER THAN 6'-0" AWAY FROM THE SHELTER SHALL HAVE AN ADDITIONAL GROUND ROD INSTALLED NEARBY.



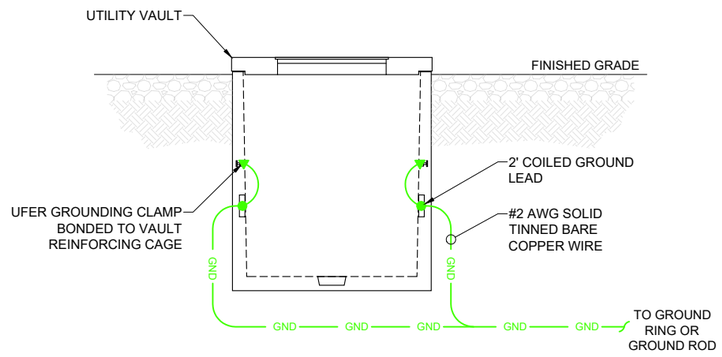
1 GENERATOR GROUNDING DETAIL
SCALE: N.T.S

NOTE:

CONTRACTOR TO REMOVE NEUTRAL TO GROUND BOND IN SHELTER AS REQUIRED BY NEC.



2 SERVICE GROUND DETAIL
SCALE: N.T.S



3 UTILITY VAULT GROUNDING
SCALE: N.T.S

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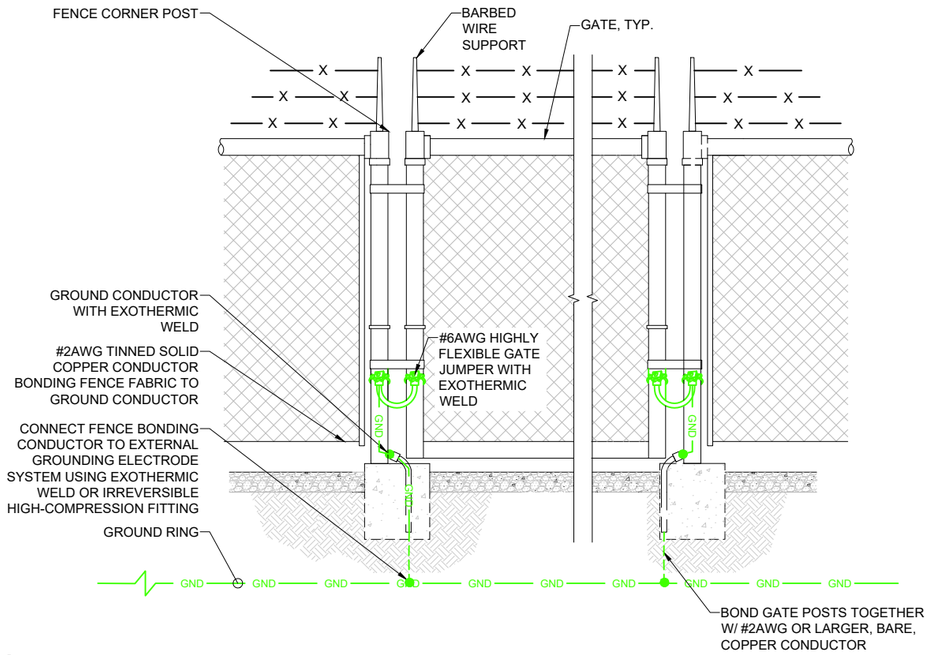
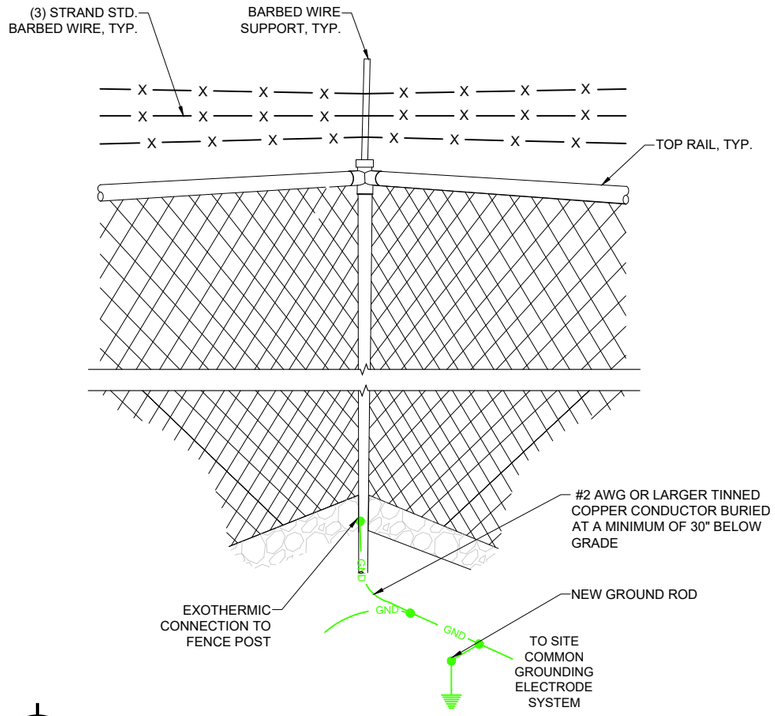
GROUNDING DETAILS

E4.3

SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET



1 FENCE & GATE STANDARD GROUNDING DETAIL
SCALE: N.T.S



2 GROUNDING DETAIL AT CORNER POST
SCALE: N.T.S

ONTIVITY
LOCAL CONNECTIONS | NATIONAL SOLUTIONS

IIG Intermountain Infrastructure Group
533 AIRPORT BLVD SUITE 400
BURLINGAME, CA 94010

SITE NAME:
SANDPOINT

SITE ADDRESS:
10690 COLBURN CULVER RD,
SANDPOINT, ID 83864

PROJECT:
FIBER HUT

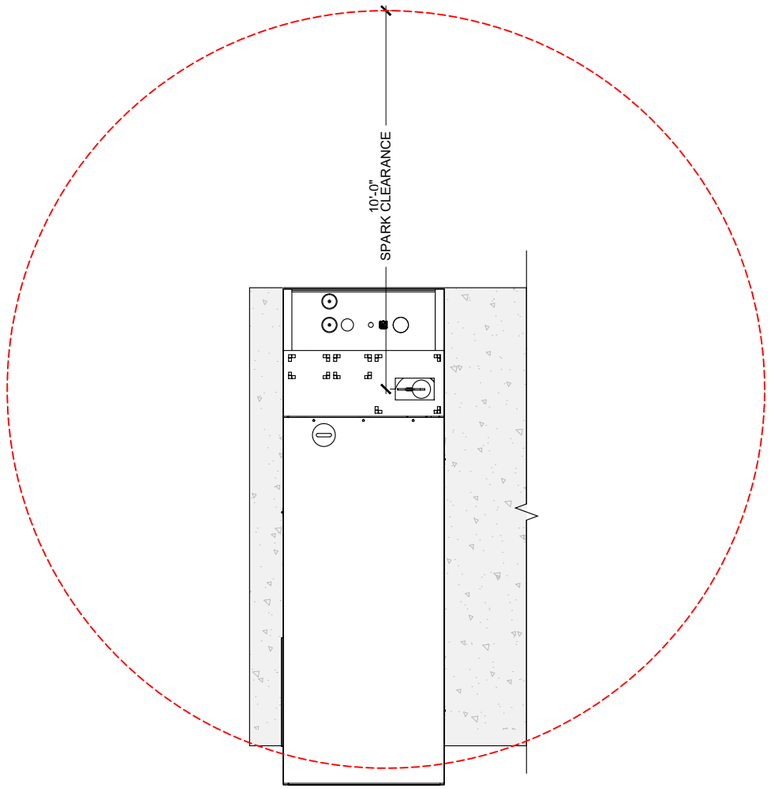
SET ISSUE:

NO	DESC	DATE:
0	CDs	6/25/2025

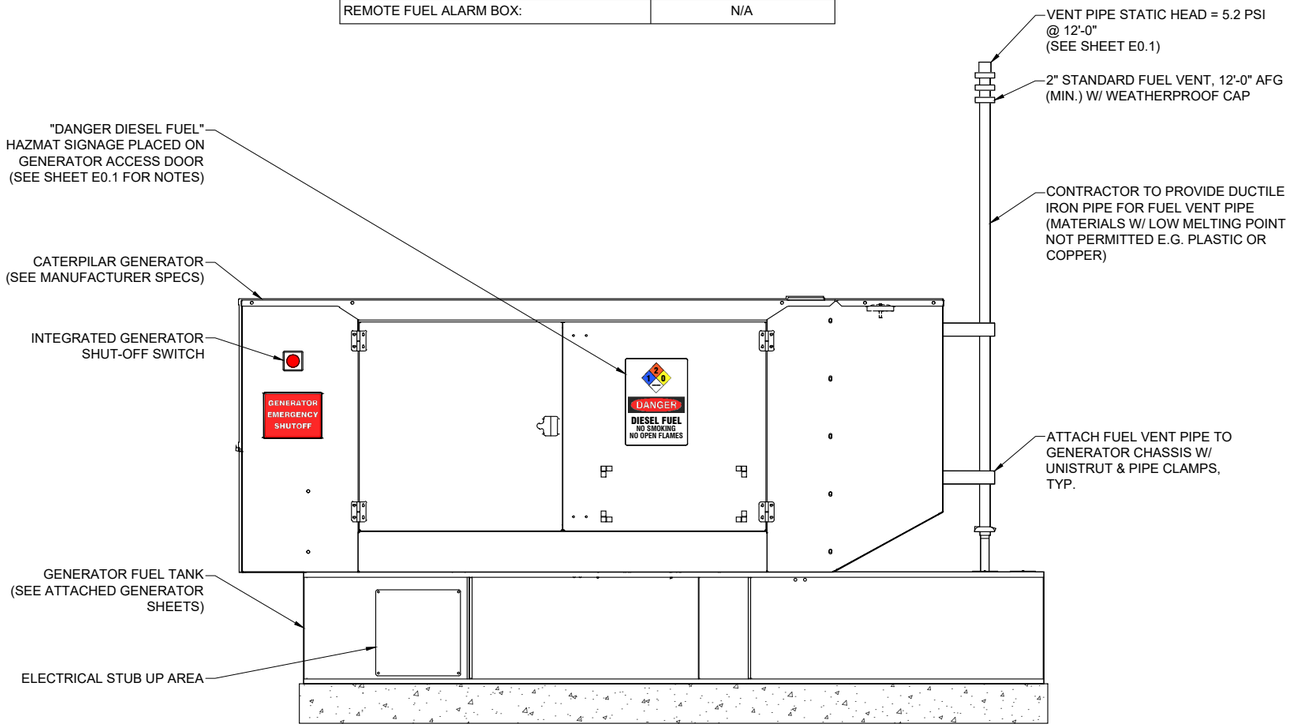
GROUNDING DETAILS

E4.4

SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET



MANUFACTURER:	CATERPILLER
MODEL NUMBER:	D150 GC
TYPE:	150kW DIESEL
POWER RATING:	187.5 kVA
BREAKER SIZE:	600A/2P
UL 142 BASE TANK SIZE (USABLE):	357.9 GAL.
REMOTE EMERGENCY STOP SWITCH	YES (SEE MFR. SPEC.)
REMOTE FUEL ALARM BOX:	N/A



1 GENERATOR CLEARANCE PLAN
SCALE: N.T.S

2 GENERATOR ELEVATION
SCALE: N.T.S

ONTIVITY
LOCAL CONNECTIONS | NATIONAL SOLUTIONS

IIG Intermountain Infrastructure Group
533 AIRPORT BLVD SUITE 400
BURLINGAME, CA 94010

SITE NAME:
SANDPOINT

SITE ADDRESS:
10690 COLBURN CULVER RD,
SANDPOINT, ID 83864

PROJECT:
FIBER HUT

SET ISSUE:

NO	DESC	DATE:
0	CDs	6/25/2025

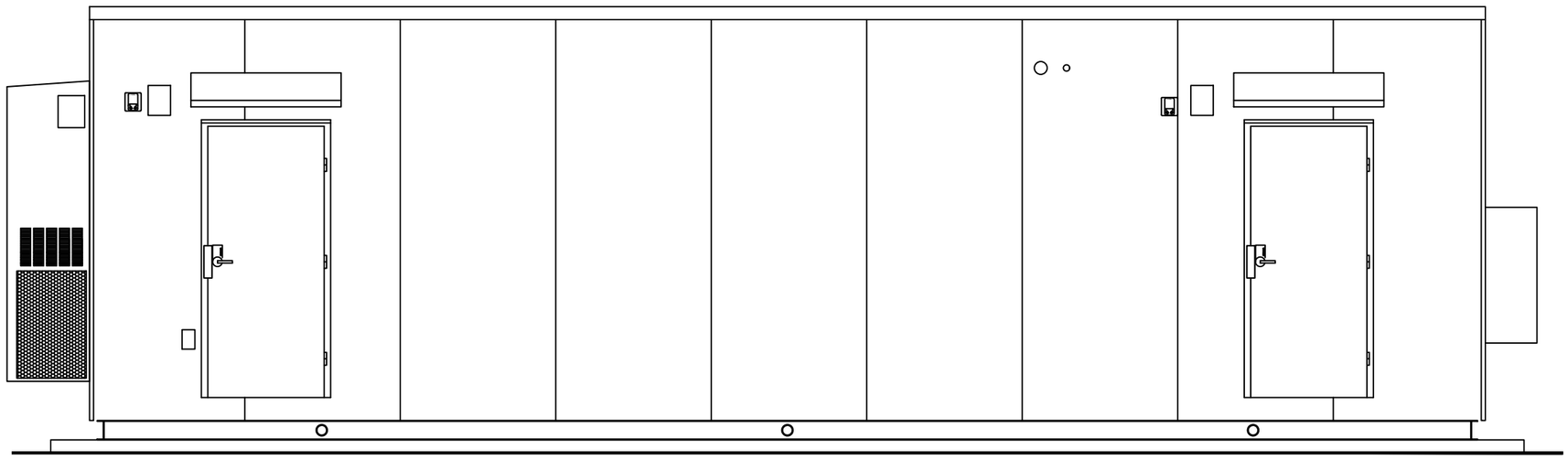
GENERATOR
DETAILS

E5.1

SCALE SET FOR 24"x36" SHEET
USE 1/2 SCALE FOR 11"x17" SHEET

INTERMOUNTAIN INFRASTRUCTURE GROUP
12'W. OD X 36'L. OD X 9'H. ID

DRAWING INDEX	
SHEET	DESCRIPTION
C1.0	COVER PAGE
C2.0	REVISIONS & NOTES
C3.0	BILL OF MATERIALS
A1.0	OVERALL FLOOR PLAN
A1.1	REFLECTED CEILING PLAN
A1.2	CABLE LADDER LAYOUT
A1.3	CABLE LADDER TIER LAYOUT
A1.4	FLOOR LAYOUT
A1.5	WALL A INTERIOR ELEVATION
A1.6	WALL B INTERIOR ELEVATION
A1.7	WALL C INTERIOR ELEVATION
A1.8	WALL D INTERIOR ELEVATION
A2.0	EXTERIOR ELEVATIONS
A3.0	DOOR DETAIL
E1.0	ELECTRICAL SCHEMATIC
E1.1	ALARMS
E2.0	GROUNDING
E2.1	GROUND BAR DETAIL
E2.2	RACK ELEVATIONS
E2.3	RACK DETAILS
E2.3	DC PLANT BREAKER SCHEDULE
S1.0	CORNER CONSTRUCTION
S1.1	ROOF CONSTRUCTION
S1.2	FASTENER SCHEDULE
S2.0	SKID
S2.1	SKID DETAILS
S3.0	FOUNDATION
S4.0	RIGGING NOTES



PLANT LOCATION:
300 N HERITAGE RD
BRANDON, SD 57005

DESIGN CRITERIA		SPECIAL CONDTIONS/LIMITATIONS:	STATE CODES	NOTES	FOR SIGNATURE OR STAMPED APPROVAL
USAGE	UNOCCUPIED SHELTER	1. THE VENTILATION OF THE ROOF CAVITY SHALL BE ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.		AGENCY LABEL, STATE INSIGNIA, AND DATA PLATE TO BE LOCATED ON THE MAIN PANEL.	
CONSTRUCTION TYPE	VB	2. THIS BUILDINGS WILL NOT BE LOCATED IN A FLOOD PLAIN.		PROPER DOOR FUNCTION WAS VERIFIED AT THE FACTORY. HOWEVER, DUE TO BUILDING MOVEMENT DURING SHIPPING. IT IS THE CUSTOMERS RESPONSIBILITY TO VERIFY PROPER DOOR OPERATION, AND ADJUST AS NECESSARY, AFTER THE BUILDING IS SET AND ANCHORED.	
OCCUPANCY GROUP	U				
STORIES	1				
ULTIMATE WIND SPEED	115 MPH VULT				
FLOOR LOAD	200 PSF				
ROOF LOAD	100 PSF				
FLOOR AREA	184 SQ. FT.				
BUILDING HEIGHT	12'- 3"				
SEISMIC DESIGN	CAT D				
WIND EXPOSURE	CAT C				
BUILDING WEIGHT	24,600 LBS				

THERMOBOND BUILDINGS
300 N Heritage Rd. Brandon, SD 57005
1103 W Main St. Elk Point, SD 57025
58120 County Road 3 Elkhart, IN 46517
www.thermobond.com 800-356-2686

PROJECT SERIAL NUMBER: **2412-516A**
SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID

PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP
SITE NAME: ----

DRAWN: 2/10/25 | DRAWN BY: NRS
REVISION #: 3 | REVISED: 4/22/25

SHEET NAME: COVER PAGE
DRAWING NUMBER: **TBB1945** | SHEET NUMBER: **C1.0**

ITEMS SHIPPED LOOSE					
ITEM	QTY	UM	DESCRIPTION	MFR PART NUMBER	TBB PART NUMBER
1	22	EA	ANGLE HOLD DOWN PLATE		699-602-GALV
2	22	EA	HEX NUT		299-0007
3	22	EA	FLAT WASHER		299-0016
4	22	EA	LOCK WASHER		299-0018
5	6	EA	LIFTING PIPE		101-510
6	2	EA	DOOR AWNING		199-0016-BRNZ

CONSTRUCTION NOTES

1. SHELTER FINISH: OZARK AGGREGATE
2. FLOOR TO HAVE 2X6 JOISTS ON 12" CENTERS
3. FLOOR TO HAVE R-21 FIBERGLASS INSULATION
4. WALLS TO HAVE 2X4 STUDS ON 12" CENTERS
5. WALLS TO HAVE R-15 FIBERGLASS INSULATION WITH R-7.5 RIGID FOAM
6. ROOF TO HAVE 2X12 TRUSS ON 12" CENTERS
7. ROOF TO HAVE R-38 SPRAY IN FOAM INSULATION APPLIED TO UNDERSIDE OF FR DECK PANEL A
8. ROOF TO BE FR DECK PANEL A
9. PERIMETER SKID TO BE HOT DIP GALVANIZED
10. ALL EDGING AND TRIM TO DARK BRONZE IN COLOR
11. 10 1/2" X 1 1/2" 18 GAUGE GALVANIZED STRAPS TO BE INSTALLED ON ALL ROOF RIM JOISTS AND WHERE INDICATED ON FLOOR RIM JOISTS (SEE SKID). STRAPS ARE TO BE FASTENED WITH 1 1/2" X .100 KNURLED MG NAILS.
12. DOUBLE FLOOR JOISTS TO BE INSTALLED EVERY 4'.
13. FRAME OUT FOR FUTURE BARD 5 TON HVAC

ELECTRICAL NOTES

1. ALL WIRING SHALL BE IN ACCORDANCE WITH THE APPLICABLE EDITION OF THE NEC.
2. ALL ELECTRICAL MATERIALS SHALL BE U.L. LISTED AND CLASSIFIED AS SUITABLE FOR THE PURPOSE SPECIFIED.
3. ALL WIRING SHALL BE SURFACE MOUNTED IN RACEWAYS USING APPROVED CONNECTORS, COUPLINGS, AND CLAMPS. ALL CONDUIT SHALL BE ANCHORED IN PLACE AT APPROXIMATELY EVERY 4 FT AND A MAXIMUM OF 3' FROM EVERY ELECTRICAL BOX.
4. ALL AC WIRING SHALL BE THHN STRANDED COPPER CONDUCTORS.
5. ALL WIRING SHALL BE TESTED AND INSPECTED PRIOR TO SHIPMENT.
6. GREEN GROUNDING CONDUCTORS SHALL BE ROUTED TO ALL OF THE BUILDING'S AC POWERED DEVICES. CONDUIT SHALL NOT BE USED AS THE SOLE SOURCE OF GROUNDING.
7. ALL ALARM DEVICES WIRING SHALL BE IN ITS OWN CONDUIT SYSTEM.
8. MINIMUM EMT CONDUIT SIZE SHALL BE TRADE SIZE 16 (1/2")
9. ELECTRICAL CONDUIT FITTINGS SHALL BE THE SET SCREW TYPE.
10. IF SMOKE DETECTORS, SPRINKLER HEADS, OR HYDROGEN DETECTORS ARE PRESENT, THEY SHALL NOT BE INSTALLED ABOVE CABLE LADDER WHEN CABLE LADDER IS USED IN THE SHELTER.
11. USE CONDUIT STUBS TO TOP TIER CABLE LADDER FOR ALARMS AND ETHERNET CABLING IF AVAILABLE, USE VELCRO FOR ALARMS ON CABLE TRAY.

INTEGRATION NOTES

1. CABLE LADDER TO BE MOUNTED AT 7'-4" AND 8'-4" A.F.F.
2. FIBERGUIDE TO BE MOUNTED AT 7'-9" A.F.F.
3. LINEUP FEEDER OF #2 GREEN TELCOFLEX III WILL BE RUN ALONG BOTTOM TIER ONLY ON CABLE LADDER LINEUP AND BONDED TO THE MGB. #6 BONDING JUMPER TO BE INSTALLED TO EACH RELAY RACK.
4. CABLE LADDER JUNCTIONS AND CORNERS WILL BE BONDED. EACH CABLE LADDER TIER WILL BE BONDED TO THE MASTER MGB SEPARATELY.
5. THERMO BOND TO PROVIDE WIRING TO BATTERY RACK. CUSTOMER TO INSTALL BATTERIES.
6. VERTICAL 2" FIBERGUIDE TO BE MOUNTED TO THE FRONT OF RACK.
7. WESTELL RMX-4200 PANEL TO BE POWERED BY FUSE PANEL IN RR202.
   ALARM AND ETHERNET CABLING TO BE RAN TO THEIR APPROPRIATE LOCATIONS
   DC POWER CABLING WILL BE RAN ON BOTTOM TIER OF LADDER

   FIBERGUIDE WILL BE MOUNTED TO BOTTOM TIER OF LADDER, NO HORIZONTAL FIBERGUIDE COVERS TO BE INSTALLED.
   USE CONDUIT STUBS TO TOP TIER CABLE LADDER FOR ALARMS AND ETHERNET CABLING IF AVAILABLE, USE VELCRO FOR ALARMS AND ETHERNET ON CABLE TRAY.
   USE FISH PAPER ON POWER RUNS AND FIBER RUNS WHERE NEEDED.

REVISION LOG			
REV	BY	DATE	DESCRIPTION
1	NRS	2/19/25	CUSTOMER REVISIONS
2	TLS	3/5/25	ADDED INTEGRATION PACKAGE
3	TLS	4/10/25	INTEGRATION CHANGES
4	TLS	4/22/2025	CHANGES PER EVAN N
5			
6			
7			
8			
9			
10			
11			
12			

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58120 County Road 3 Elkhart, IN 46517
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PROJECT SERIAL NUMBER: **2412-516A**

SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID

PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP

SITE NAME: ----

DRAWN: 2/10/25 | DRAWN BY: NRS

REVISION #: 3 | REVISED: 4/22/25

SHEET NAME: REVISIONS & NOTES

DRAWING NUMBER: **TBB1945** | SHEET NUMBER: **C2.0**

BILL OF MATERIALS				
NO.	QTY.	TBB PART #	MFG PART #	DESCRIPTION
1.	2		DRL100022	3' X 7' STEEL DOOR SLAB
	2		DRL100115	3070 STEEL DOOR FRAME, WELDED FRAME, RIGHT HAND REVERSE
	2			PAINTED BRONZE
	2		PDL6200IC/26D	TRILOGY LOCKSET
	2		AUX100019	LATCH GUARD, 13"
	2	099-0067	CLO100014	HYDRAULIC DOOR CLOSER
	2		CLO100015	HYDRAULIC DOOR CLOSER HOLD OPEN ARM
	2		CLO100021	BLADE STOP SPACER FOR HYDRAULIC DOOR CLOSER
	6		HNG100005	STAINLESS STEEL HINGES
	2		WTH100012	WEATHERSTRIPING
	2		SWP100004	SWEEP
	2		THR100014	THRESHOLD 36"
	2		THR100003	THRESHOLD STOP STRIP
	2	099-003	1C-7D1 STD 626	CONSTRUCTION CORE
	2	100-001		DOOR ALARM
2.	1	199-0016-BRNZ		DOOR AWNING, 3070, BRONZE
3.	2	500-128	MS-OPS5M-WH	OCCUPANCY SENSOR SWITCH
4.	1	200-1694	PBSABGBTB54A	600A. 120/240V. SINGLE PHASE, 54 POSITION
		200-1389		DISTRIBUTION PANEL W/ 600A. MAIN BREAKER
5.	1	100-0084	MC4002-A	BARD HVAC THERMOSTAT
6.	2	899-856	W60AF-A05ZPXXXJ	BARD 5 TON AC W/5KW HEAT, 11 EER, W/ ECONOMIZER
7.	1	915-054	GBI14420TBI	20" MASTER GROUND BAR
8.	2			4" RMC WALL PENETRATION
9.	10	500-741		4', LED LIGHT FIXTURE, 22W, 120V
				SMW4N-LED48-B-VK-WHT-DIM-FR-NL-DD/22W
10.	2	500-085	SLIM	EXTERIOR LED LIGHT WITH PHOTOCELL, 12W
11.	7	800-101		DUPLEX RECEPTACLES 20A.
12.	A/R	900-186	CLR-12-2	12" CABLE LADDER RACK
13.	A/R	A/R		4" WIRE RACEWAY
14.	1	001-2048		METAL WALL FILE
15.	2	800-100		GFI RECEPTACLE 20A. W/WEATHERPROOF COVER
16.	1	050-001		66 ALARM PUNCH BLOCK
17.	1			POWER FAIL, SINGLE PHASE, LOCATED IN CUSTOMER
				SUPPLIED TRANSFER SWITCH (REMOVE BOX, KEEP RELAY)
	2	200-0040		FUSE MIDGET, 5A
	1	200-0100		FUSE BLOCK, MIDGET, 30A, 600V, 2 POLE
	2	550-0028	YH292C	H-TAP, BURNDY, 250-2 AWG MAIN, 2-6 AWG TAP, 8-14 AWG
				TAP 2, TIN PLATED
	2	500-0021	CFD-FR	COVER, H-TAP, CVR FLAME RETARDANT, BLACK, BURNDY
	5'	600-0120-BLK		STRANDED, #12 AWG, BLACK
	5'	600-0120-RED		STRANDED, #12 AWG, RED
18.	1			FIRE SUPPRESSION SYSTEM
	1	100-0629		FIRE ALARM PANEL
	3	100-0660		SMOKE DETECTOR
	1	202-0196		CLEAN AGENT TANK
	2			PULL AND ABORT STATION
	2			HORN/STROBE
	2			EXTERIOR STROBE
19.	2	500-0177	ECRG LED M6	EMERGENCY EXIT SIGN WITH EMERGENCY LIGHTS
20.	1	399-0255	3ARD6	EYEWASH
21.	1	399-0254	4EY92	FIRST AID KIT
22.	1	399-0051	PRO10CDM	FIRE EXTINGUISHER, 10LB C02
23.				NOT USED
24.	1	499-005Y		TELCO BOARD 4' X 4'
25.	1	100-0025	B82XPR	SURGE ARRESTER, TYPE 2, MOV/SAD
26.	1	751-1557	8271001001	FUSE PANEL, TRIMM
27.	13	915-211-GRY		UNISTRUT, 1 5/8" X 1 5/8" X 16"
28.	12	850-1178	PC-23784GRR	RELAY RACK, TWO POST, 23" X 84" X 45RU
	12	850-1179	R2R084-CTS	STEEL CABLE TIE KIT, 2 KITS PER RACK
	96	752-0117	BC-4	TE BC-4 CABLE BRACKET KIT STRAIGHT 4"
29.	8	751-1448	NRG300CB08-SENS	FUSE PANEL, TPA, 8/8, 250A DUAL-FEED, SENS
29A.	1	751-1621	NRG300CB08-CTRL	FUSE PANEL, 8/8, 250A DUAL-FEED, CTRL
30.	10	450-8083	FGS-KTW1-JA	VERTICAL SLOTTED DUCT FIBERGUIDE, 2" X 2"

BILL OF MATERIALS				
NO.	QTY.	TBB PART #	MFG PART #	DESCRIPTION
31.	1	751-1642	RMX-4200	WESTELL REMOTE MONITORING
	1	751-1643	RMX-INSTKIT	INSTALL HARDWARE FOR REMOTE FAMILY
	1	751-1650	CABKIT-RMM9PK-4	CABLE KIT, 25 FT
	1	751-1653	SBTEMP-RJ-45	SITEBUS TEMP SENSOR KIT
	1	751-1654	A90-RS232-ISO	RS232 ISOLATOR DONGLE
	1	751-1655	560-00416	DUAL TEMP/HUMIDITY SENSOR
32.	4	450-0052	FGS-KTW2-K	VERTICAL SLOTTED DUCT FIBERGUIDE, 4" X 4"
33.	A/R	450-0034	FGS-MSHS-A	FIBERGUIDE STRAIGHT SECTION
34.	16	450-0019	FGS-MDSP-A	FIBERGUIDE DOWNSPOUT 4" X 4"
	16	450-0015	FGS-MCDS-AB	FIBERGUIDE DOWNSPOUT COVER 4" X 4" OR 4" X 6"
35.	2	450-0023	FGS-MH9E-A	FIBERGUIDE HORIZONTAL 90°
36.	4	450-0064	FGS-MHRT-A	FIBERGUIDE HORIZONTAL T
37.	10	850-1180	CLB423DGK	CABLE LACING BRACKET 23X4
38.	12	450-0006	FGS-HDSI-AB	FIBERGUIDE, COMMSCOPE, DOWNSPOUT INSERT,
				CONVERTS 4" X 4" OR 4" X 6" TO 2" X 2" VERTICAL
	12	450-8112	FGS-MTRM-C	FIBERGUIDE, TRUMPET 2" X 2"
39.	2	850-0299	CCH-04-U	CLOSET CONNECTOR HOUSING-4U
	2	750-0600	RRSP-4	ADAPTER RACK RRSP 4
	18	752-0292	CCH-CP12-B3	BULKHEADS LC/APC (9 IN EACH 4U HOUSING)
40.	9	850-0335	CCH-01U	CLOSET CONNECTOR HOUSING-1U
	10	750-0065	RRSP-1	ADAPTER RACK RRSP 1
	18	752-0292	CCH-CP12-B3	BULKHEADS LC/APC (2 IN EACH 1U HOUSING)
41.	1	350-1173	PDU1215	PDU, 1.8KW, 120V, 5-15 INPUT, 13 OUTLET, 5-15R, EATON
42.	1	751-1649	T351A30301	INVERTER, Y-ONE 1000VA 48VDC/120VAC, CE+T MODEL
43.	4	450-0016	FGS-MTRM-A	FIBERGUIDE, TRUMPET 4" X 4"
44.	1			1/4" STEEL LOAD PLATE
45.	1	753-0167	UBI-U6+	WIFI ACCESS POINT (MOUNTED ON TELCO BOARD)

CUSTOMER SUPPLIED MATERIAL				
NO.	QTY.	TBB PART #	MFG PART #	DESCRIPTION
A.	1	CS8985-0013		CUSTOMER SUPPLIED AUTOMATIC TRANSFER SWITCH,
				ASCO, 300 SERIES, 600A
B.	1	CS8985-0008		CUSTOMER SUPPLIED DOCKING STATION, 800A, 240V,
				1 PHASE, NEMA 3R
C.	1	CS8985-0014		CUSTOMER SUPPLIED, DC PLANT, 1500A, 48VDC
	5	CS8985-0012		CUSTOMER SUPPLIED, RECTIFIERS
	13	CS8985-0016		CUSTOMER SUPPLIED, RECTIFIER BLANK OFF PLATE
	20	CS8985-0017		CUSTOMER SUPPLIED, DC BREAKER, 60A., PLUG-IN, MIDTRIP
D.	1	CS8985-0011		CUSTOMER SUPPLIED, ALPHA RACK, 23"
E.	1	CS8985-0020		CUSTOMER SUPPLIED, OSP TERM PANEL, BLUE, LCA-A
	1	CS8985-0022		CUSTOMER SUPPLIED, OSP TERM PANEL, RED, LCA-A
F.	1	CS8985-0023	7280SE	CUSTOMER SUPPLIED, ETHERNET SWITCH
G.	2	CS8985-0024	200 X SFP-1G-T	CUSTOMER SUPPLIED, SFP MODULE

THERMO BOND BUILDINGS

300 N Heritage Rd. Brandon, SD 57005 | 1103 W Main St. Elk Point, SD 57025 | 58120 County Road 3 Elkhart, IN 46517 | www.thermobond.com 800-356-2686

PROJECT SERIAL NUMBER: **2412-516A**

SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID

PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP

SITE NAME: ----

DRAWN: 2/10/25 | DRAWN BY: NRS

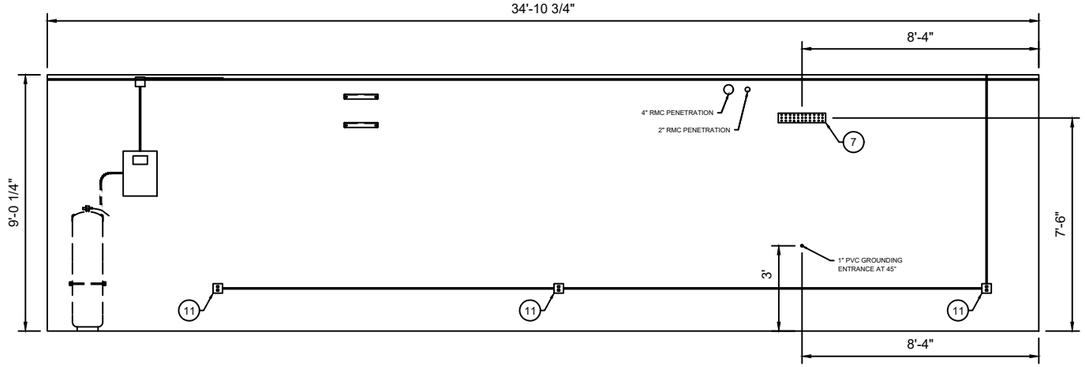
REVISION #: 3 | REVISED: 4/22/25

SHEET NAME: BILL OF MATERIALS

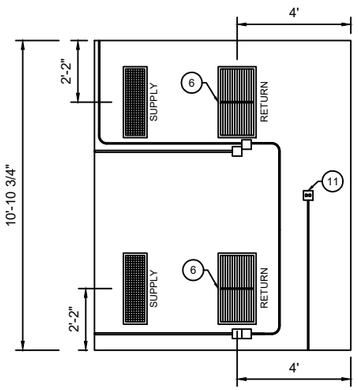
DRAWING NUMBER: **TBB1945** | SHEET NUMBER: **C3.0**

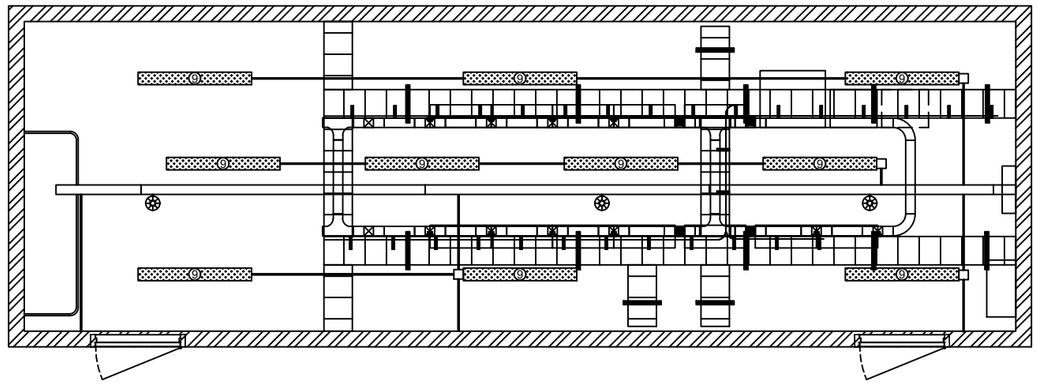
NOTES:
1. ALL CONDUIT SHOWN IS APPROXIMATE AND MAY NOT REFLECT ACTUAL RUNS IN BUILDING

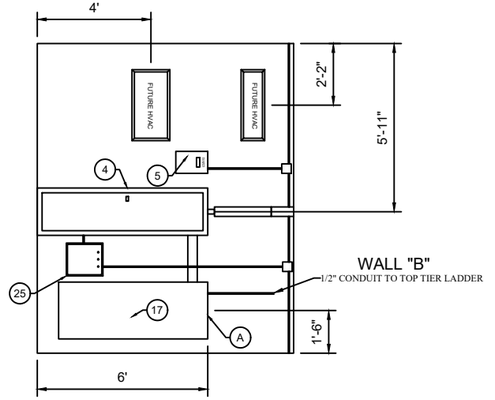
WALL "C"

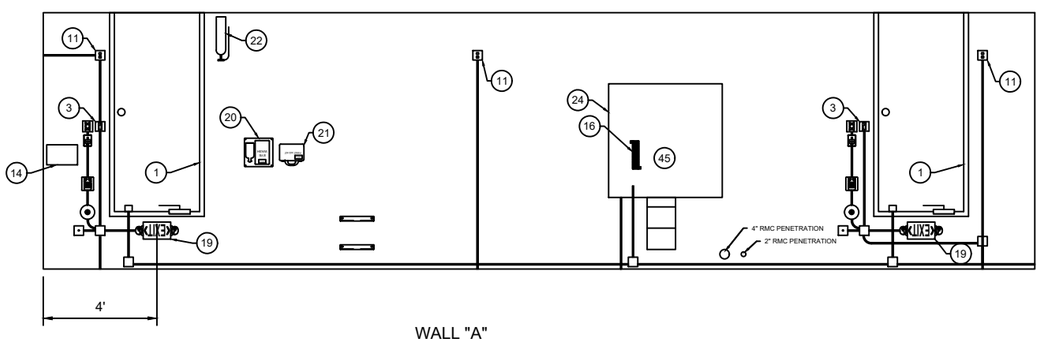


WALL "D"

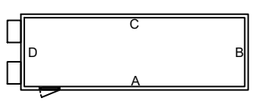








WALL "A"



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

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1103 W Main St. Elk Point, SD 57025
58120 County Road 3 Elkhart, IN 46517
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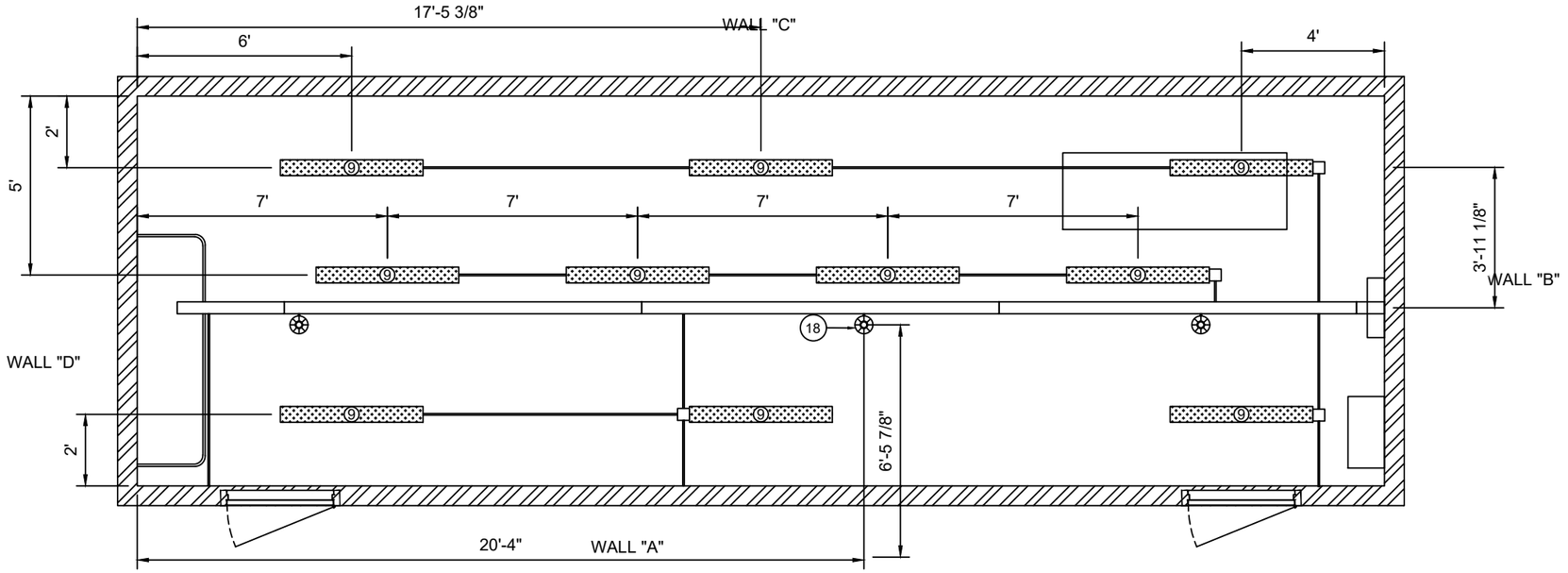
PROJECT SERIAL NUMBER: **2412-516A**	PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP	DRAWN: 2/10/25	DRAWN BY: NRS
SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID	SITE NAME: ----	REVISION #: 3	REVISED: 4/22/25

SHEET NAME: OVERALL FLOOR PLAN

DRAWING NUMBER: **TBB1945**

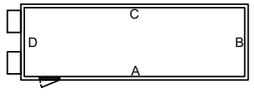
SHEET NUMBER: **A1.0**

NOTES:
1. ALL CONDUIT SHOWN IS APPROXIMATE AND MAY NOT REFLECT ACTUAL RUNS IN BUILDING



CEILING ELECTRICAL LAYOUT

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



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58120 County Road 3 Elkhart, IN 46517
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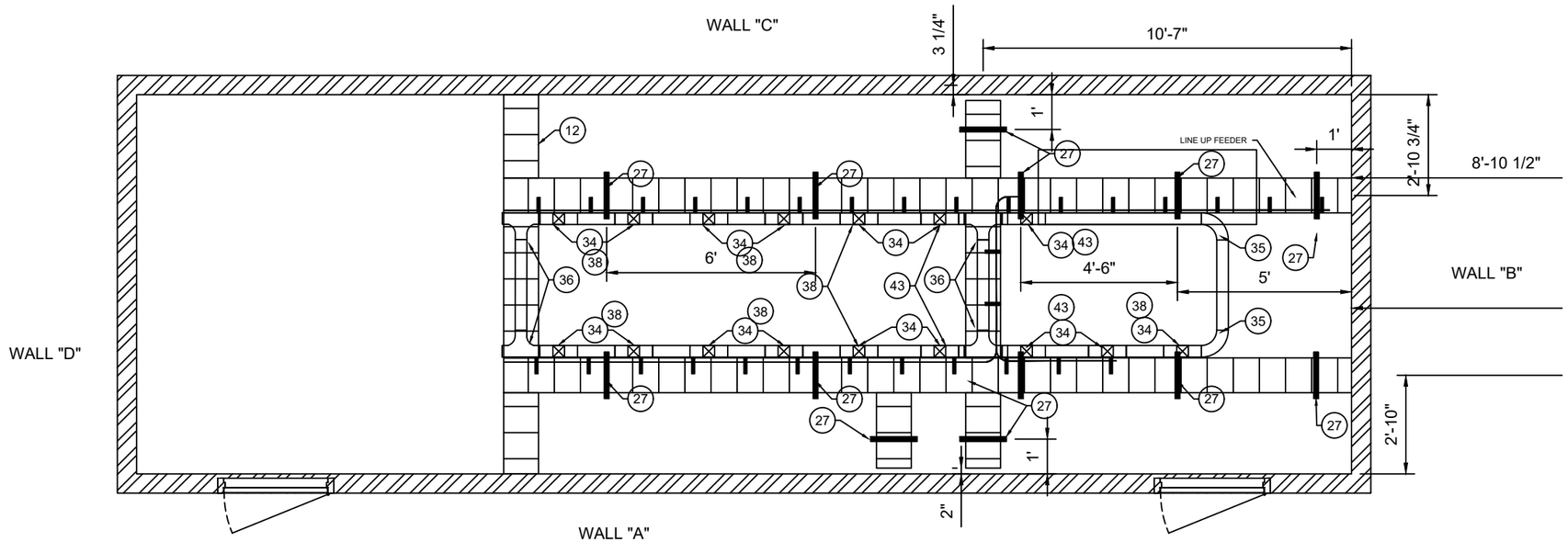
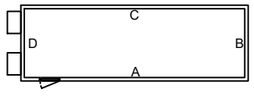
PROJECT SERIAL NUMBER: **2412-516A**	PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP	DRAWN: 2/10/25	DRAWN BY: NRS
SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID	SITE NAME: ----	REVISION #: 3	REVISED: 4/22/25

SHEET NAME: REFLECTED CEILING	
DRAWING NUMBER: **TBB1945**	SHEET NUMBER: **A1.1**

NOTES:
1. ALL CONDUIT SHOWN IS APPROXIMATE AND MAY NOT REFLECT ACTUAL RUNS IN BUILDING



CABLE LADDER AND FIBERGUIDE LAYOUT



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

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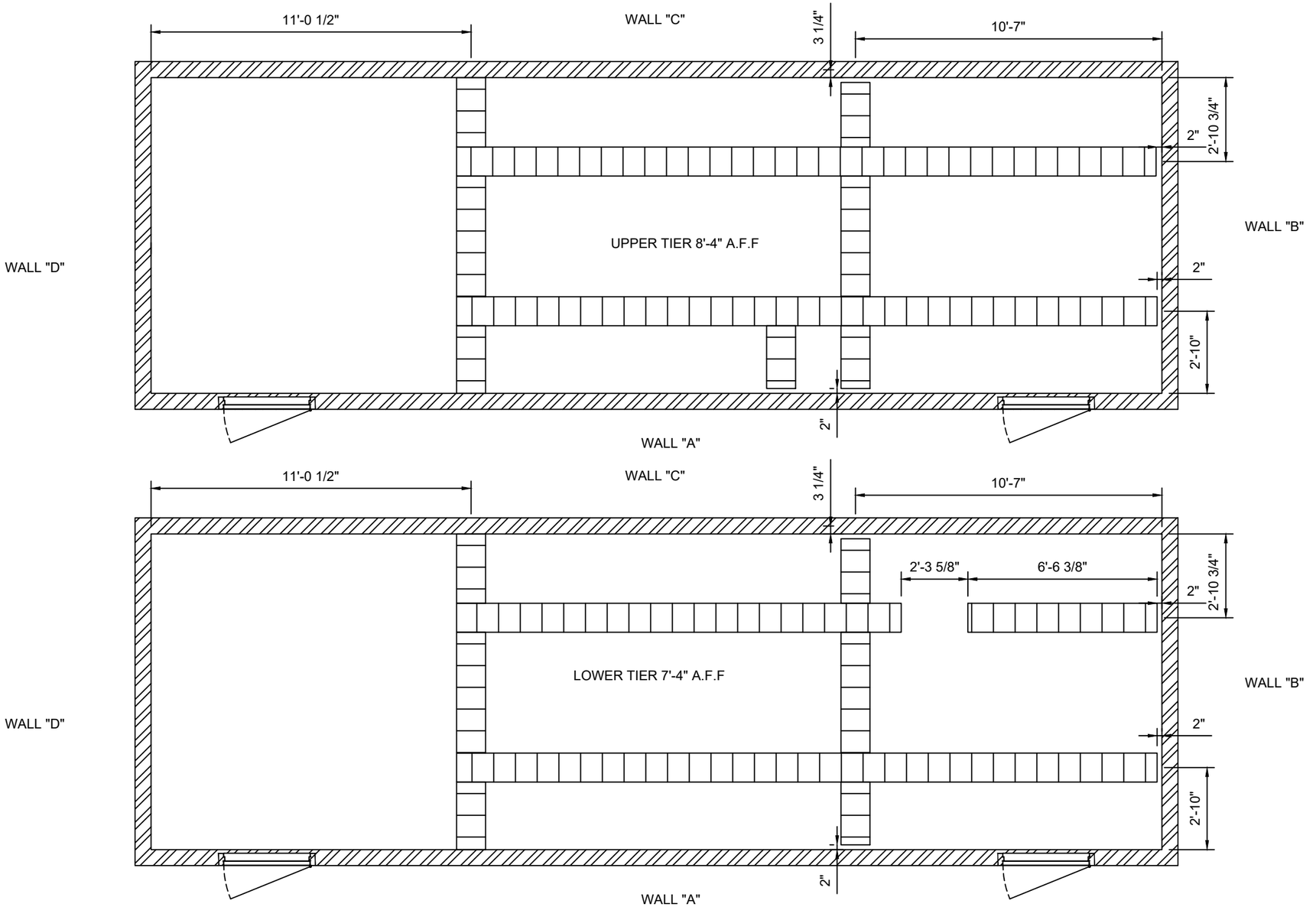
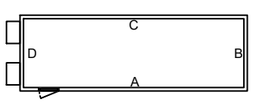
PROJECT SERIAL NUMBER: **2412-516A**	PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP	DRAWN: 2/10/25	DRAWN BY: NRS
SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID	SITE NAME: ----	REVISION #: 3	REVISED: 4/22/25
SHEET NAME: CABLE LADDER LAYOUT		DRAWING NUMBER: **TBB1945**	SHEET NUMBER: **A1.2**





SCALE: ##########

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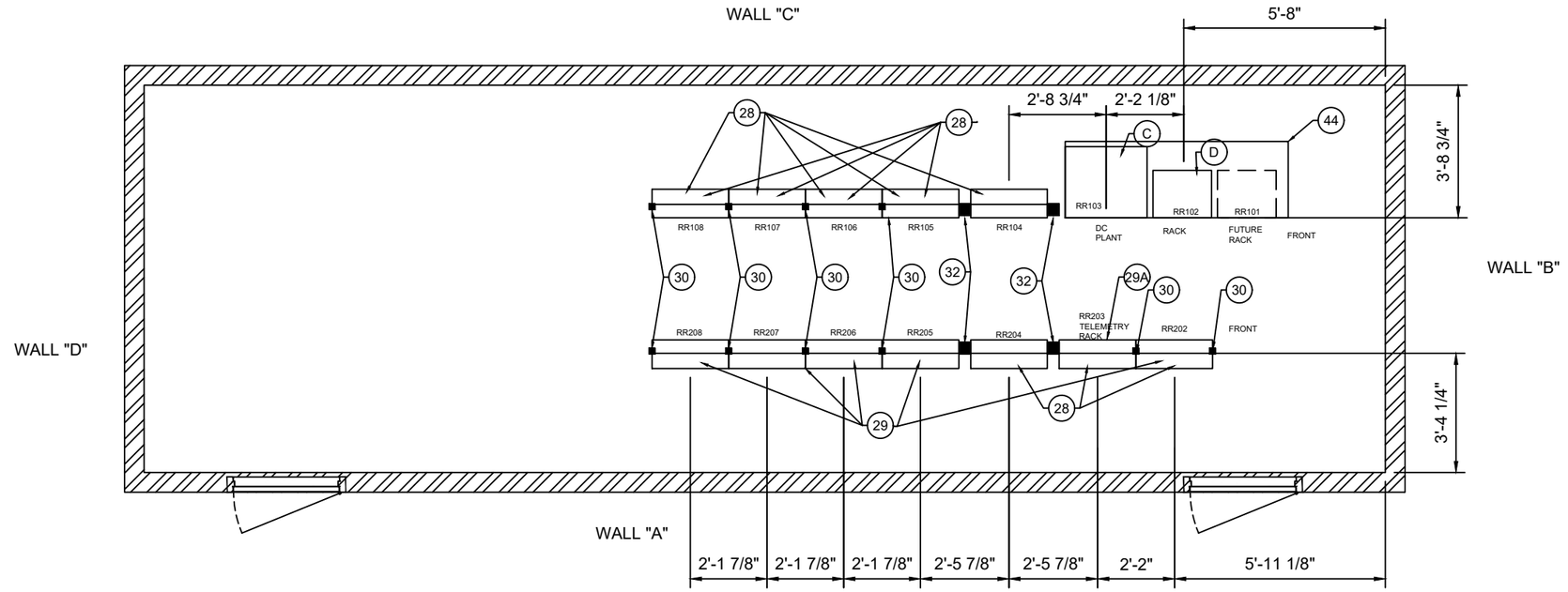
PROJECT SERIAL NUMBER: **2412-516A**	PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP	DRAWN: 2/10/25	DRAWN BY: NRS
SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID	SITE NAME: ----	REVISION #: 3	REVISED: 4/22/25

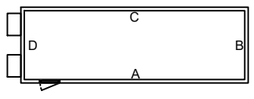
SHEET NAME: CABLE LADDER TIER LAYOUT	
DRAWING NUMBER: **TBB1945**	SHEET NUMBER: **A1.3**

NOTES:
1. ALL CONDUIT SHOWN IS APPROXIMATE AND MAY NOT REFLECT ACTUAL RUNS IN BUILDING



FLOOR LAYOUT

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



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PROJECT SERIAL NUMBER: **2412-516A**

SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID

PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP

SITE NAME: ----

DRAWN: 2/10/25

DRAWN BY: NRS

REVISION #: 3

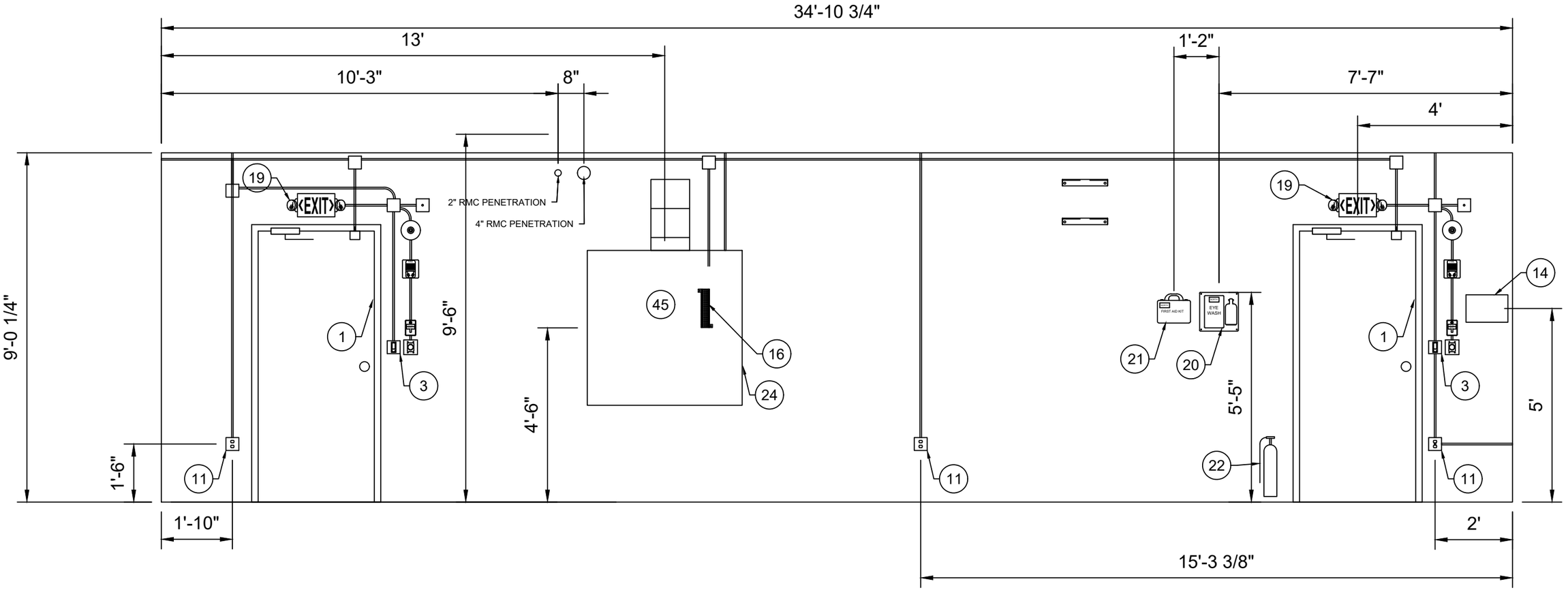
REVISED: 4/22/25

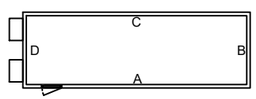
SHEET NAME: FLOOR LAYOUT

DRAWING NUMBER: **TBB1945**

SHEET NUMBER: **A1.4**

NOTES:
1. ALL CONDUIT SHOWN IS APPROXIMATE AND MAY NOT REFLECT ACTUAL RUNS IN BUILDING





WALL "A" INTERIOR LAYOUT

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

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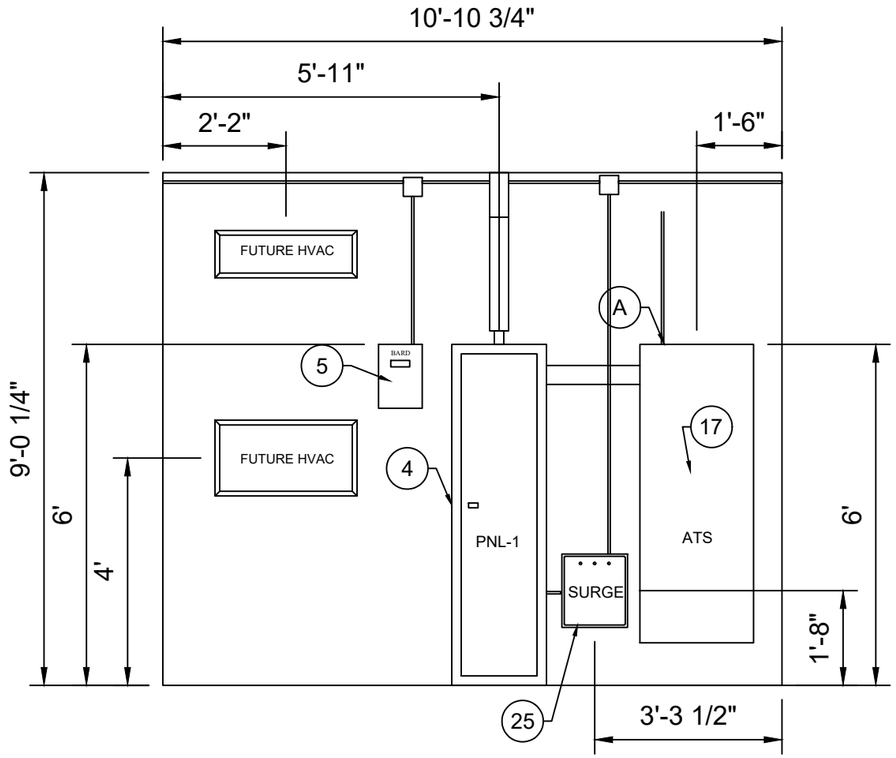
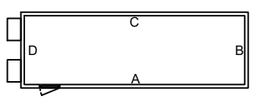
PROJECT SERIAL NUMBER: **2412-516A**	PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP	DRAWN: 2/10/25	DRAWN BY: NRS
SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID	SITE NAME: ----	REVISION #: 3	REVISED: 4/22/25
SHEET NAME: WALL A INTERIOR LAYOUT			
DRAWING NUMBER: **TBB1945**	SHEET NUMBER: **A1.5**		

NOTES:
1. ALL CONDUIT SHOWN IS APPROXIMATE AND MAY NOT REFLECT ACTUAL RUNS IN BUILDING





WALL "B" INTERIOR LAYOUT

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

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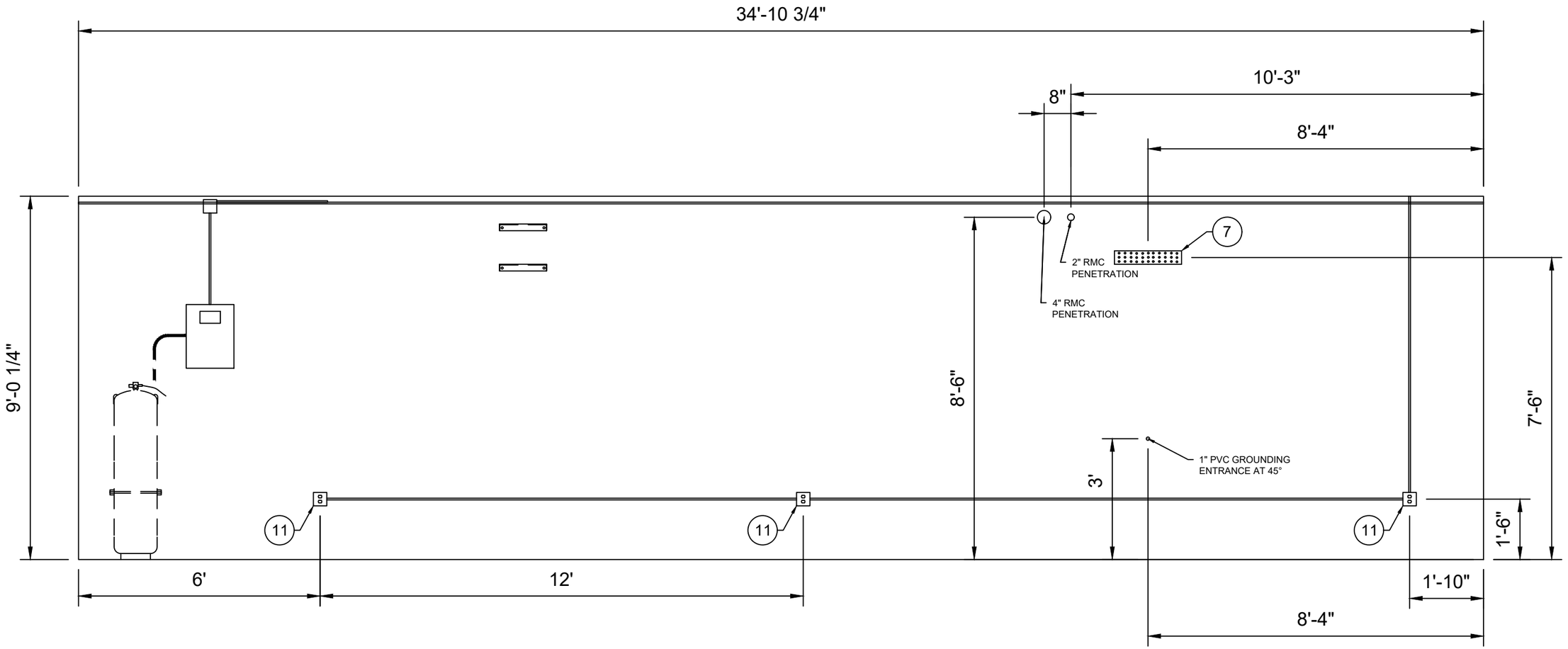
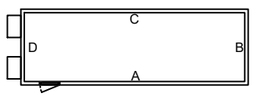
PROJECT SERIAL NUMBER:	**2412-516A**
SHELTER SIZE:	12'W. OD X 36'L. OD X 9'H. ID
PROJECT NAME:	INTERMOUNTAIN INFRASTRUCTURE GROUP
SITE NAME:	----
DRAWN:	2/10/25
DRAWN BY:	NRS
REVISION #:	3
REVISED:	4/22/25
SHEET NAME:	WALL B INTERIOR LAYOUT
DRAWING NUMBER:	**TBB1945**
SHEET NUMBER:	**A1.6**

NOTES:
1. ALL CONDUIT SHOWN IS APPROXIMATE AND MAY NOT REFLECT ACTUAL RUNS IN BUILDING





WALL "C" INTERIOR LAYOUT

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

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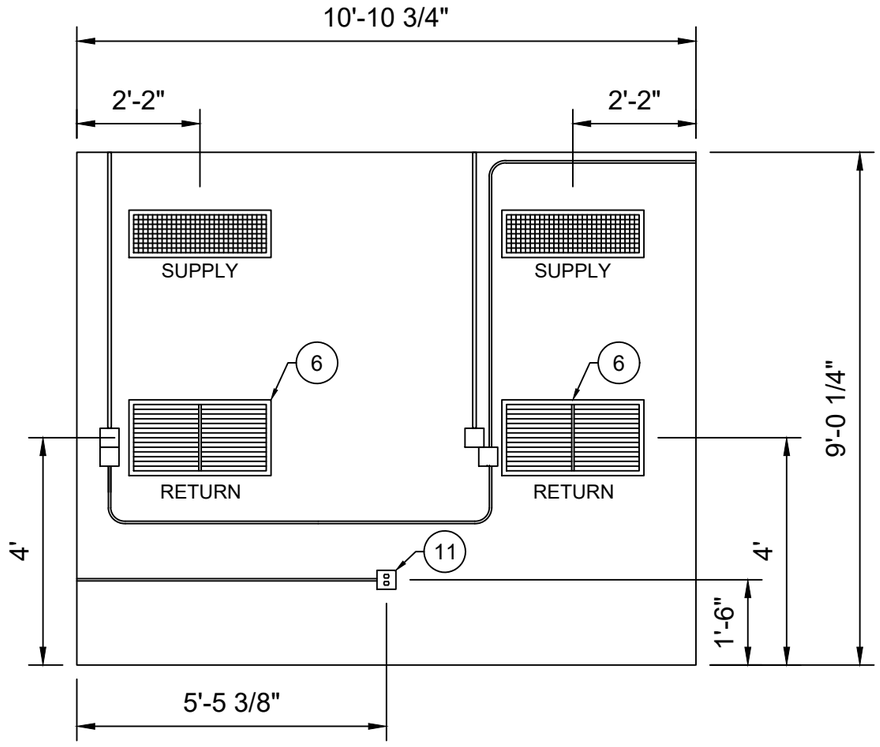
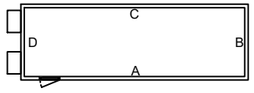
PROJECT SERIAL NUMBER: **2412-516A**	PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP	DRAWN: 2/10/25	DRAWN BY: NRS
SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID	SITE NAME: ----	REVISION #: 3	REVISED: 4/22/25
SHEET NAME: WALL C INTERIOR LAYOUT			
DRAWING NUMBER: **TBB1945**	SHEET NUMBER: **A1.7**		

NOTES:
1. ALL CONDUIT SHOWN IS APPROXIMATE AND MAY NOT REFLECT ACTUAL RUNS IN BUILDING





WALL "D" INTERIOR LAYOUT

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

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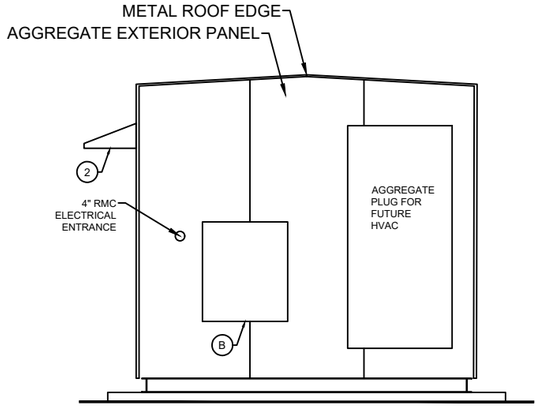
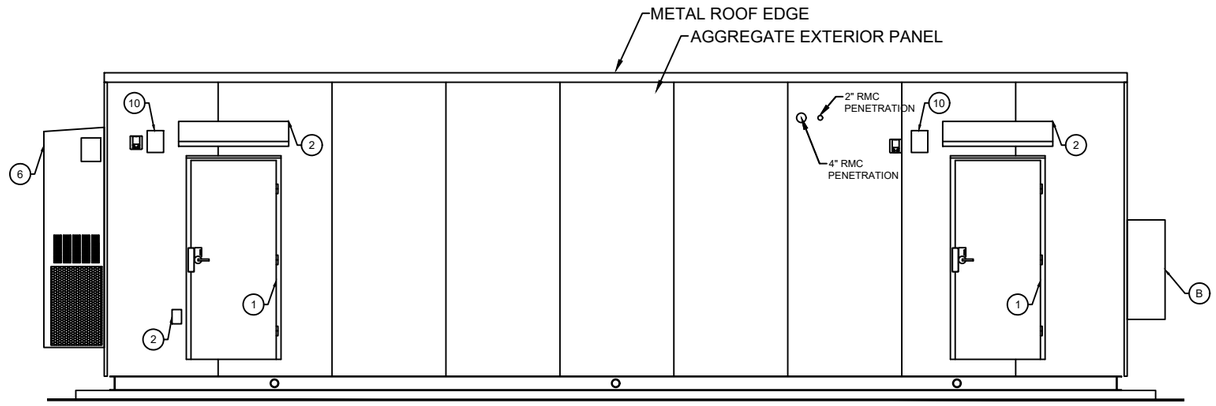
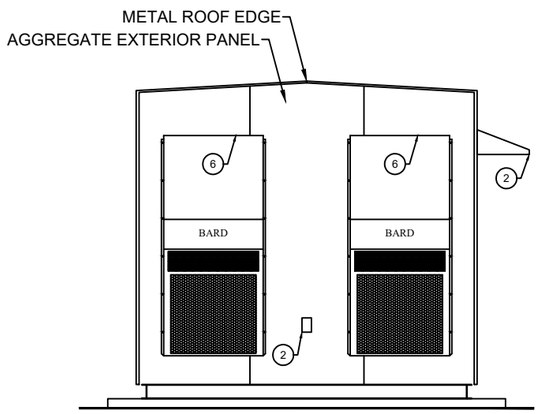
PROJECT SERIAL NUMBER: **2412-516A**	PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP	DRAWN: 2/10/25	DRAWN BY: NRS
SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID	SITE NAME: ----	REVISION #: 3	REVISED: 4/22/25
SHEET NAME: WALL D INTERIOR LAYOUT		DRAWING NUMBER: **TBB1945**	SHEET NUMBER: **A1.8**



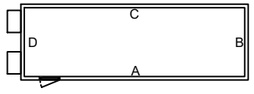
WALL "B"

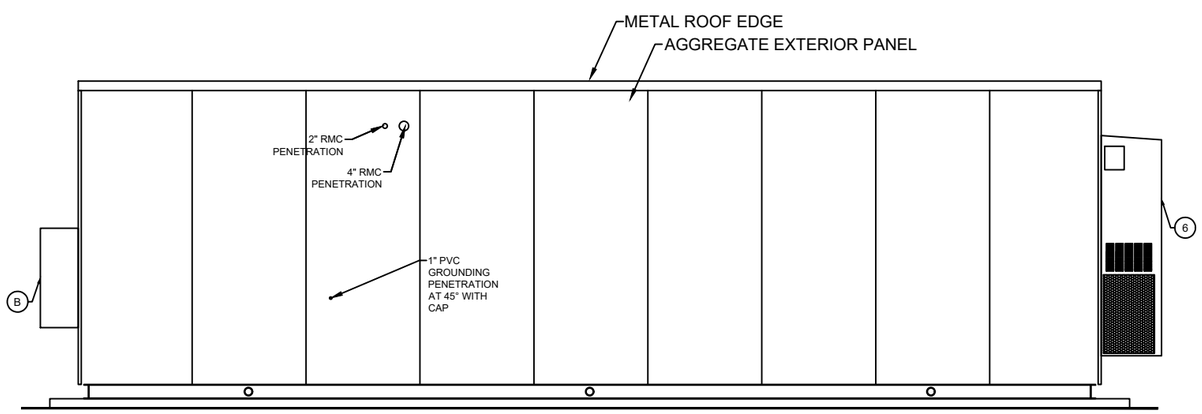


WALL "A"



WALL "D"





WALL "C"

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

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Elk Point, SD 57025

58120 County Road 3
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PROJECT SERIAL NUMBER: **2412-516A**

SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID

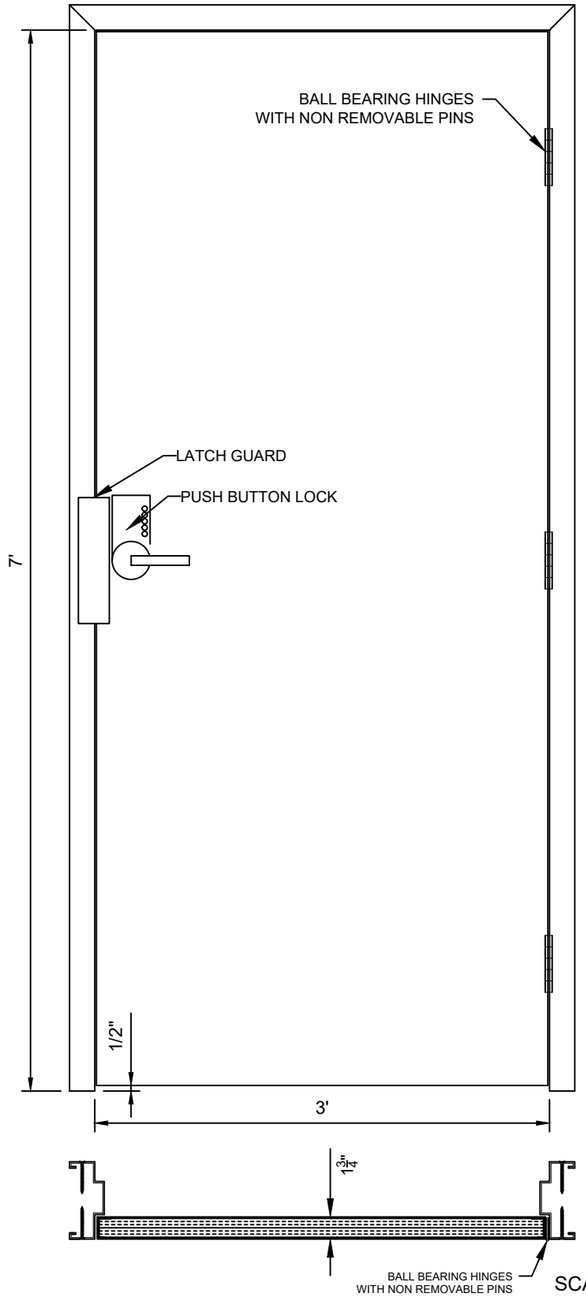
PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP

SITE NAME: ----

DRAWN:	DRAWN BY:
2/10/25	NRS
REVISION #:	REVISED:
3	4/22/25

SHEET NAME: EXTERIOR ELEVATIONS

DRAWING NUMBER:	SHEET NUMBER:
TBB1945	**A2.0**



SCALE: NONE

NOTES:

- DOOR FRAME 16 GAUGE PRIMED AND PAINTED STEEL.
- DOOR SLAB 18 GAUGE PRIMED AND PAINTED STEEL.
- WEATHER STRIPPING AROUND DOOR OPENING.
- THRESHOLD BELOW DOOR.
- DRIP CAP ABOVE DOOR FRAME.
- LATCH GUARD
- TRILOGY NETWORK ELECTRONIC PUSHBUTTON

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PROJECT SERIAL NUMBER: **2412-516A**

SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID

PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP

SITE NAME: ----

DRAWN: 2/10/25

DRAWN BY: NRS

REVISION #: 3

REVISED: 4/22/25

SHEET NAME: DOOR DETAIL

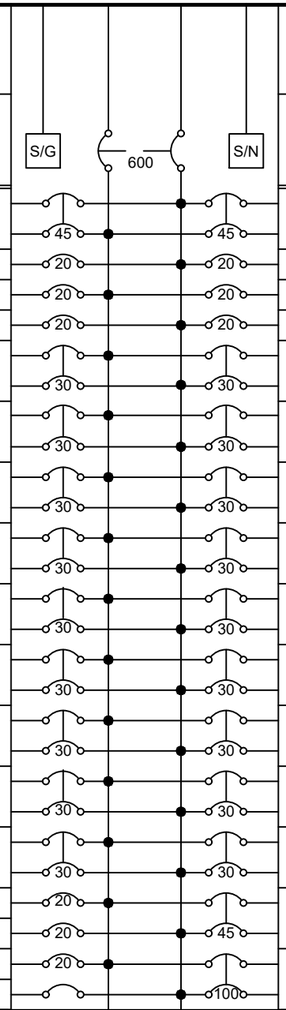
DRAWING NUMBER: **TBB1945**

SHEET NUMBER: **A3.0**

PANEL CIRCUIT AND LOAD SCHEDULE

SERVICE:
DESIGNATION: PNL-1
LOCATION:

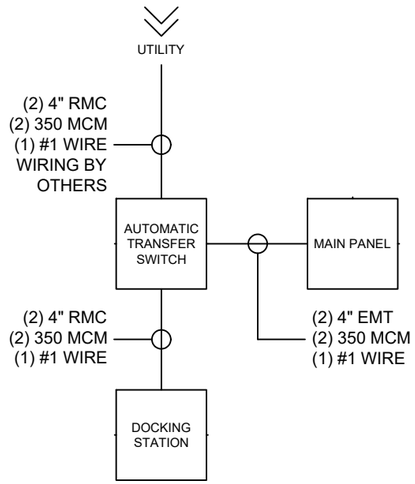
	LOAD DESCRIPTION	QTY.	UNIT V.A.	LOAD PER PHASE (VA) A	LOAD PER PHASE (VA) B	TRIP	POLES	WIRE SIZE	A.I.C.		A.I.C.	WIRE SIZE	POLES	TRIP	LOAD PER PHASE (VA) B	LOAD PER PHASE (VA) A	UNIT V.A.	QTY.	LOAD DESCRIPTION	
1	5 TON BARD HVAC	1	4968	2484		45	2	8	10k		10k	8	2	45		2484	4968	1	5 TON BARD HVAC	2
3					2484										2484					4
5	LIGHTS	11	21.1	232		20	1	12	10k		10k	12	1	20		360	180	2	GFI	6
7	DUPLEXES	3	180		540	20	1	12	10k		10k	12	1	20	360		180	2	DUPLEXES	8
9	DUPLEXES	2	180	360		20	1	12	10k		10k	12	1	20		12	12	1	SMOKE	10
11	RECTIFIER #1	1				30	2	10	10k		10k	10	2	30				1	RECTIFIER #10	12
13																				14
15	RECTIFIER #2	1				30	2	10	10k		10k	10	2	30				1	RECTIFIER #11	16
17																				18
19	RECTIFIER #3	1				30	2		10k		10k	10	2	30				1	RECTIFIER #12	20
21																				22
23	RECTIFIER #4	1				30	2		10k		10k	10	2	30				1	RECTIFIER #13	24
25																				26
27	RECTIFIER #5	1				30	2		10k		10k		2	30				1	RECTIFIER #14	28
29																				30
31	RECTIFIER #6	1				30	2		10k		10k		2	30				1	RECTIFIER #15	32
33																				34
35	RECTIFIER #7	1				30	2		10k		10k	10	2	30				1	RECTIFIER #16	36
37																				38
39	RECTIFIER #8	1				30	2		10k		10k		2	30				1	RECTIFIER #17	40
41																				42
43	RECTIFIER #9	1				30	2		10k		10k		2	30				1	RECTIFIER #18	44
45																				46
47	HYDROGEN DETECTOR					20	1		10k		10k		2	45					FUTURE HVAC	48
49	SPARE					20	1		10k											50
51	SPARE					20	1		10k		10k	12	2	100				1	SURGE ARRESTER	52
53																				54
	SUBTOTAL			3076	3024						2844	2856	SUBTOTAL CONTINUOUS							



TOTAL KVA PHASE A	5.9
TOTAL KVA PHASE B	5.9
TOTAL AMPS PHASE A	49.4
TOTAL AMPS PHASE B	48.9

VOLTAGE: 120/240V. | CYCLE: 60 | PHASE: 1 | WIRES: 3
NEUTRAL:
MAIN BREAKER: 600 AMP FRAME | A/C: 22 KA | TRIP: 600 AMP
MAIN LUGS: | MAIN COPPER BUS: 600 AMP
MAINS: TOP ☒ BOTTOM ☐

MANUFACTURER:
CATALOG NUMBERS:
NO EQUAL: ☐ APPROVED EQUAL ☒
MOUNTING: SURFACE ☒ FLUSH ☐



WIRING SCHEMATIC

SCALE: NONE

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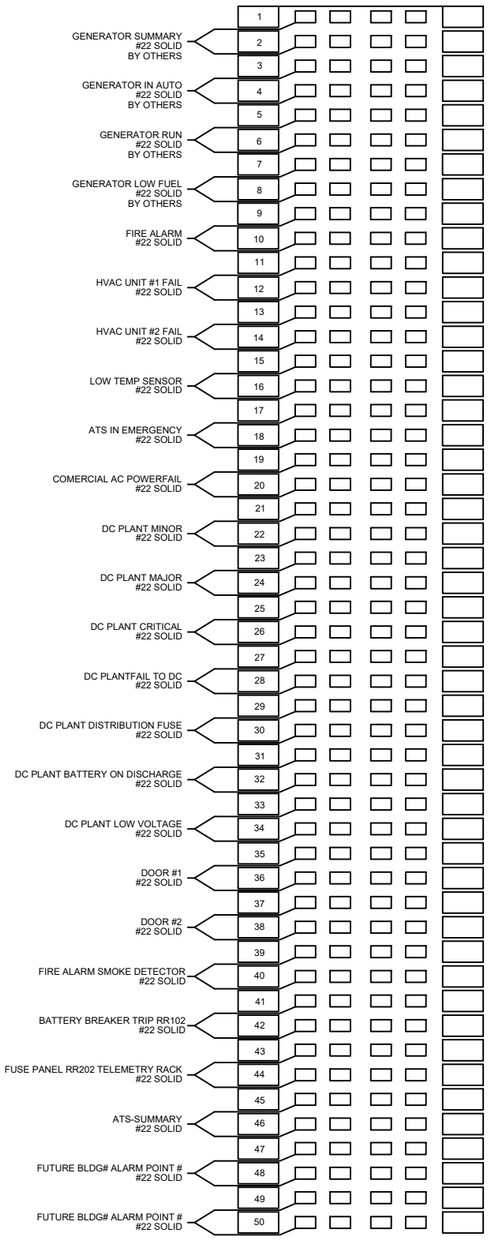
PROJECT SERIAL NUMBER: **2412-516A**
SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID

PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP
SITE NAME: ----

DRAWN: 2/10/25 | DRAWN BY: NRS
REVISION #: 3 | REVISED: 4/22/25

SHEET NAME: ELECTRICAL SCHEMATIC
DRAWING NUMBER: **TBB1945** | SHEET NUMBER: **E1.0**

ALARM BLOCK



NOTES:

1. PROVIDE A LABEL ON THE BLOCK COVER LISTING ALL ALARMS AND TERMINAL LOCATIONS.
2. BRIDGE CLIPS TO BE INSTALLED ON ALL 50 POSITIONS.

TABLE 1

ALARM BLOCK-1

LEFT SIDE							CENTER	RIGHT SIDE					
ALARM	DESTINATION	WIRE		TERMINAL	66 BLOCK PIN		BRIDGE CLIP INSTALLED		66 BLOCK PIN	TERMINAL	WIRE		ALARM
GENERATOR SUMMARY	GENERATOR	22 SOLID (BYOTHERS)		N/C	1	(TIP+)	YES	(TIP+)	1			22 SOLID	FUTURE BLDG# ALARM POINT#
				C	2	(RING-)	YES	(RING-)	2				
GENERATOR NOT IN AUTO	GENERATOR	22 SOLID (BYOTHERS)		N/C	3	(TIP+)	YES	(TIP+)	3			22 SOLID	FUTURE BLDG# ALARM POINT#
				C	4	(RING-)	YES	(RING-)	4				
GENERATOR RUN	GENERATOR	22 SOLID (BYOTHERS)		N/C	5	(TIP+)	YES	(TIP+)	5			22 SOLID	FUTURE BLDG# ALARM POINT#
				C	6	(RING-)	YES	(RING-)	6				
GENERATOR LOW FUEL	GENERATOR	22 SOLID (BYOTHERS)		N/C	7	(TIP+)	YES	(TIP+)	7			22 SOLID	FUTURE BLDG# ALARM POINT#
				C	8	(RING-)	YES	(RING-)	8				
FIRE ALARM	HVAC CONTROLLER	22 SOLID	RED	N/O	9	(TIP+)	YES	(TIP+)	9			22 SOLID	FUTURE BLDG# ALARM POINT#
			WHITE	C	10	(RING-)	YES	(RING-)	10				
HVAC UNIT#1 FAIL	HVAC #1	22-2 SOLID	RED	N/C	11	(TIP+)	YES	(TIP+)	11			22 SOLID	FUTURE BLDG# ALARM POINT#
			WHITE	C	12	(RING-)	YES	(RING-)	12				
HVAC UNIT#2 FAIL	HVAC #2	22-2 SOLID	RED	N/C	13	(TIP+)	YES	(TIP+)	13			22 SOLID	FUTURE BLDG# ALARM POINT#
			WHITE	C	14	(RING-)	YES	(RING-)	14				
LOW TEMP TEMP SENSOR	TEMPERATURE	22 SOLID	RED	N/O	15	(TIP+)	YES	(TIP+)	15			22 SOLID	FUTURE BLDG# ALARM POINT#
			BLACK	C	16	(RING-)	YES	(RING-)	16				
ATS IN EMERGENCY	ATS	22 SOLID	RED	N/C	17	(TIP+)	YES	(TIP+)	17			22 SOLID	FUTURE BLDG# ALARM POINT#
			WHITE	C	18	(RING-)	YES	(RING-)	18				
COMERCIAL AC POWER FAIL	UTILITY POWER INSIDE ATS	22 SOLID	RED	N/C	19	(TIP+)	YES	(TIP+)	19			22 SOLID	FUTURE BLDG# ALARM POINT#
			WHITE	C	20	(RING-)	YES	(RING-)	20				
DC PLANT MINOR	DC PLANT L-ADIO K10	CAT6 CABLE #1	W/BL	N/C	21	(TIP+)	YES	(TIP+)	21			22 SOLID	FUTURE BLDG# ALARM POINT#
			BL/W	C	22	(RING-)	YES	(RING-)	22				
DC PLANT MAJOR	DC PLANT L-ADIO K11		W/O	N/C	23	(TIP+)	YES	(TIP+)	23			22 SOLID	FUTURE BLDG# ALARM POINT#
			O/W	C	24	(RING-)	YES	(RING-)	24				
DC PLANT CRITICAL	DC PLANT L-ADIO K12		W/GR	N/C	25	(TIP+)	YES	(TIP+)	25			22 SOLID	FUTURE BLDG# ALARM POINT#
			GR/W	C	26	(RING-)	YES	(RING-)	26				
DC PLANT FAIL TO DC	DC PLANT L-ADIO K-6		W/BR	N/C	27	(TIP+)	YES	(TIP+)	27			22 SOLID	FUTURE BLDG# ALARM POINT#
			BR/W	C	28	(RING-)	YES	(RING-)	28				
DC PLANT DISTRIBUTION FUSE	DC PLANT L-ADIO K-7	CAT6 CABLE #2	W/BL	N/C	29	(TIP+)	YES	(TIP+)	29			22 SOLID	FUTURE BLDG# ALARM POINT#
			BL/W	C	30	(RING-)	YES	(RING-)	30				
DC PLANT BATTERY ON DISCHARGE	DC PLANT L-ADIO K-8		W/O	N/C	31	(TIP+)	YES	(TIP+)	31			22 SOLID	FUTURE BLDG# ALARM POINT#
			O/W	C	32	(RING-)	YES	(RING-)	32				
DC PLANT LOW VOLTAGE	DC PLANT L-ADIO K9		W/GR	N/C	33	(TIP+)	YES	(TIP+)	33			22 SOLID	FUTURE BLDG# ALARM POINT#
			GR/W	C	34	(RING-)	YES	(RING-)	34				
DOOR1	DOOR1	22 SOLID	RED	N/C	35	(TIP+)	YES	(TIP+)	35			22 SOLID	FUTURE BLDG# ALARM POINT#
			WHITE	C	36	(RING-)	YES	(RING-)	36				
DOOR2	DOOR2	22 SOLID	RED	N/C	37	(TIP+)	YES	(TIP+)	37			22 SOLID	FUTURE BLDG# ALARM POINT#
			WHITE	C	38	(RING-)	YES	(RING-)	38				
FIRE ALARM SMOKE DETECTOR	SMOKE DETECTORS	22 SOLID	RED	N/O	39	(TIP+)	YES	(TIP+)	39			22 SOLID	FUTURE BLDG# ALARM POINT#
			WHITE	C	40	(RING-)	YES	(RING-)	40				
BATTERY BREAKER TRIP RR102	RR102	22-2 SOLID	RED	N/C	41	(TIP+)	YES	(TIP+)	41			22 SOLID	FUTURE BLDG# ALARM POINT#
			WHITE	C	42	(RING-)	YES	(RING-)	42				
FUSE PANEL RR202 TELEMETRY RACK	FUSE PANEL	CAT6	W/B	N/C	43	(TIP+)	YES	(TIP+)	43			22 SOLID	FUTURE BLDG# ALARM POINT#
			B/W	C	44	(RING-)	YES	(RING-)	44				
ATS- SUMMARY	ATS	22 SOLID	RED	N/C	45	(TIP+)	YES	(TIP+)	45			22 SOLID	FUTURE BLDG# ALARM POINT#
			WHITE	C	46	(RING-)	YES	(RING-)	46				
FUTURE BLDG# ALARM POINT#		22 SOLID			47	(TIP+)	YES	(TIP+)	47			22 SOLID	FUTURE BLDG# ALARM POINT#
					48	(RING-)	YES	(RING-)	48				
FUTURE BLDG# ALARM POINT#		22 SOLID			49	(TIP+)	YES	(TIP+)	49			22 SOLID	FUTURE BLDG# ALARM POINT#
					50	(RING-)	YES	(RING-)	50				

THERMOBOND BUILDINGS

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PROJECT SERIAL NUMBER: **2412-516A**

SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID

PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP

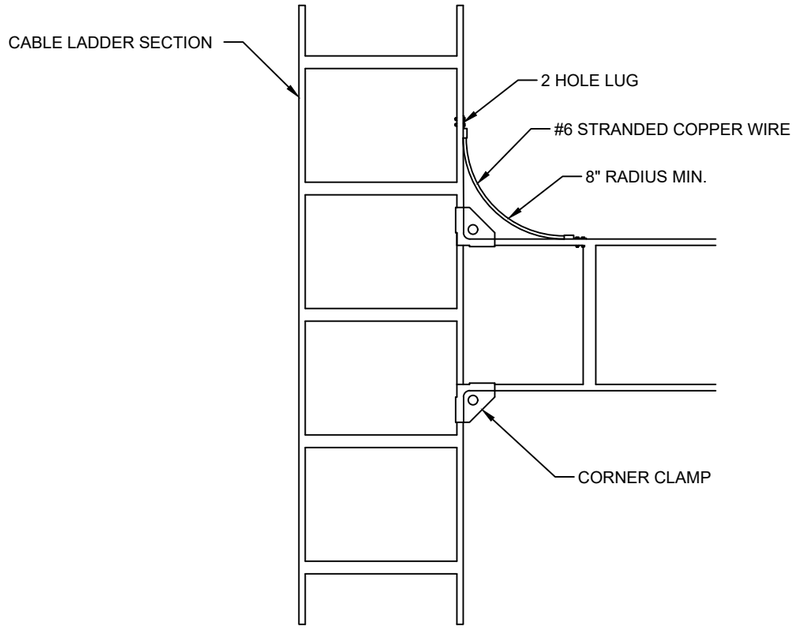
SITE NAME: ----

DRAWN: 2/10/25 | DRAWN BY: NRS

REVISION #: 3 | REVISED: 4/22/25

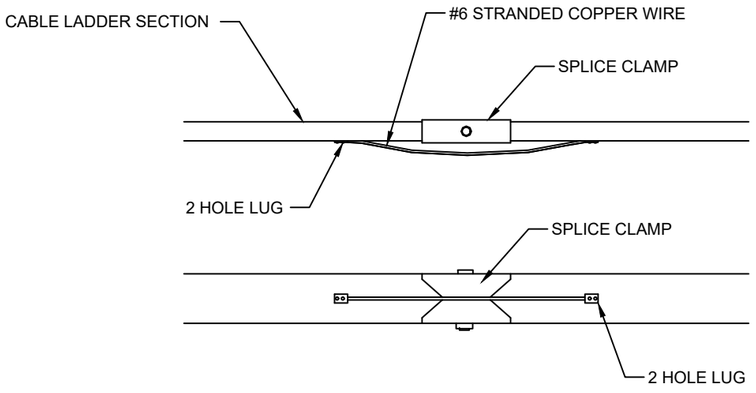
SHEET NAME: ALARMS

DRAWING NUMBER: **TBB1945** | SHEET NUMBER: **E1.1**



1 CABLE LADDER CORNER BOND

EXTEND ACROSS EVERY LADDER-LADDER CONNECTION



2 LADDER SPLICE WITH BONDING JUMPER

EXTEND ACROSS EVERY LADDER-LADDER CONNECTION

SCALE: NONE

THERMOBOND BUILDINGS

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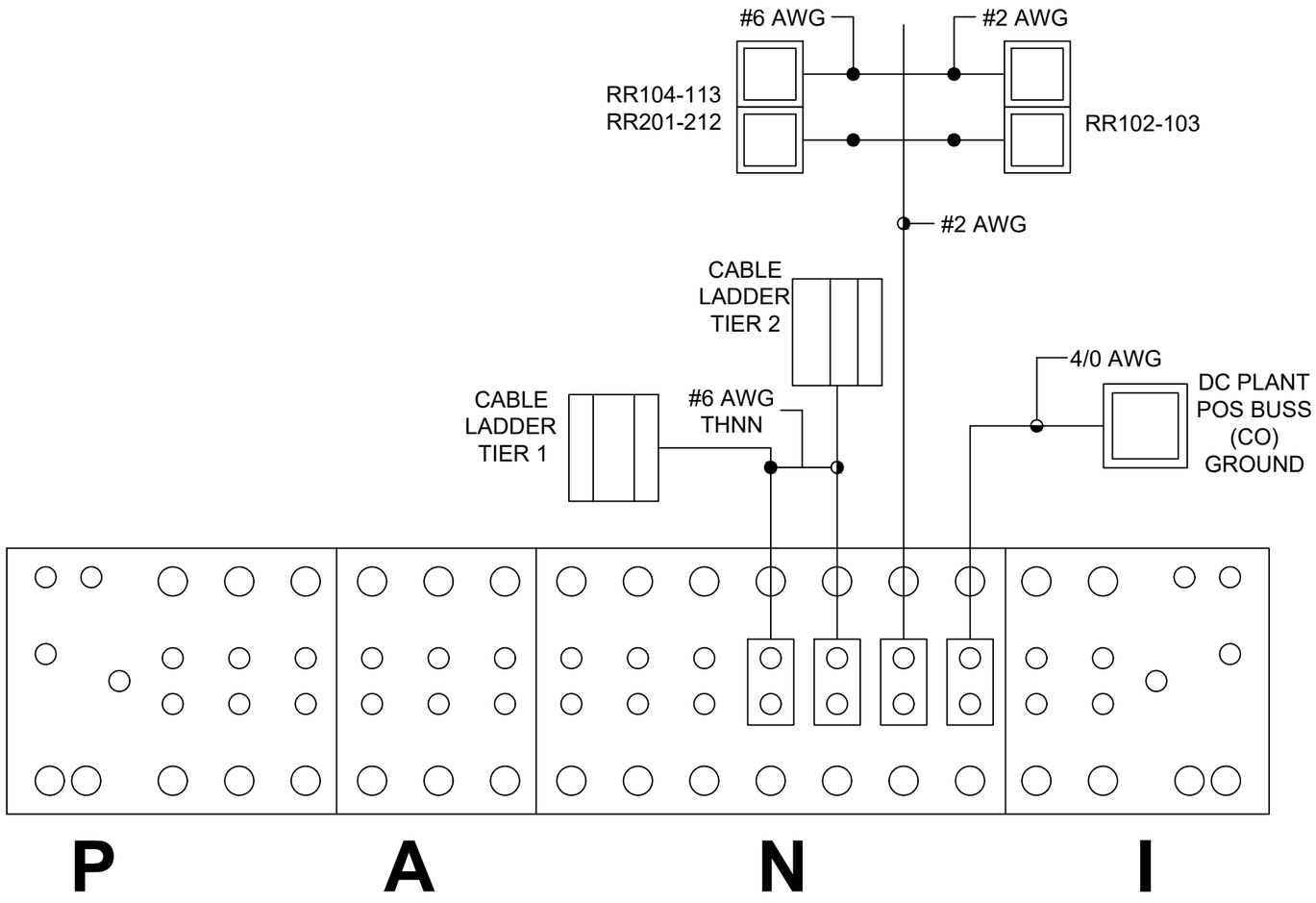
PROJECT SERIAL NUMBER: **2412-516A**	PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP	DRAWN: 2/10/25	DRAWN BY: NRS	SHEET NAME: GROUNDING	
SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID	SITE NAME: ----	REVISION #: 3	REVISED: 4/22/25	DRAWING NUMBER: **TBB1945**	SHEET NUMBER: **E2.0**



NOTES:
1. ALL GROUNDS ARE TELCOFLEX III UNLESS OTHERWISE NOTED

SCALE: NONE

THERMO BOND BUILDINGS
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58120 County Road 3 Elkhart, IN 46517
www.thermobond.com 800-356-2686

PROJECT SERIAL NUMBER:	**2412-516A**
SHELTER SIZE:	12'W. OD X 36'L. OD X 9'H. ID
PROJECT NAME:	INTERMOUNTAIN INFRASTRUCTURE GROUP
SITE NAME:	----
DRAWN:	2/10/25
DRAWN BY:	NRS
REVISION #:	3
REVISED:	4/22/25
SHEET NAME:	GROUND BAR DETAIL
DRAWING NUMBER:	**TBB1945**
SHEET NUMBER:	**E2.1**

RACK RR105-108, RR202, RR205-208			
RU NO.	ITEM NO.	DESCRIPTION	PART NO.
45			
44	29	FUSE PANEL	751-1448
43	37	CABLE LACING BRACKET (MOUNTED TO BACK)	850-1180
42	40	FDP 12 X 12 W/2 CCHP-CP12-B3-C ITEM 40	850-0335 (2) 752-0292 750-0065
41			
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RACK RR104, RR204 FIBER RACK			
RU NO.	ITEM NO.	DESCRIPTION	PART NO.
45			
44			
43			
42			
41			
40	E	OSP TERM PANEL 5 RU CUSTOMER SUPPLIED ITEM SHIPPED LOOSE	CS8985-0020 CS8985-0022
39			
38			
37			
36			
35			
34	39	LANDSCAPE 4 RRU 144 PORT PANEL #1 W/9 CCHP-CP12-B3 ITEM 39	850-0299 (9) 752-0292 750-0600
33			
32			
31			
30			
29	39	LANDSCAPE 4 RRU 144 PORT PANEL #2 W/12 CCHP-CP12-B3 ITEM 39	850-0299 (9) 752-0292 750-0600
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RACK RR203 TELEMETRY RACK			
RU NO.	ITEM NO.	DESCRIPTION	PART NO.
45			
44	26	FUSE PANEL	751-1557
43	37	CABLE LACING BRACKET (MOUNTED TO BACK)	850-1180
42	40	FDP 12 X 12 W/2 CCHP-CP12-B3-C ITEM 40	850-0335 (2) 752-0292 750-0065
41			
40	31	WESTELL RMX-4200	751-1642
39			
38			
37			
36	42	INVERTER	751-1649
35			
34	41	PDU PLUGGED INTO INVERTER	350-1173
33			
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RACK RR202			
RU NO.	ITEM NO.	DESCRIPTION	PART NO.
45			
44	29A	FUSE PANEL	751-1620
43	37	CABLE LACING BRACKET (MOUNTED TO BACK)	850-1180
42	40	FDP 12 X 12 W/2 CCHP-CP12-B3-C ITEM 40	850-0335 (2) 752-0292 750-0065
41			
40			
39			
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RACK ELEVATIONS

SCALE: NONE

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PROJECT SERIAL NUMBER: **2412-516A**

SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID

PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP

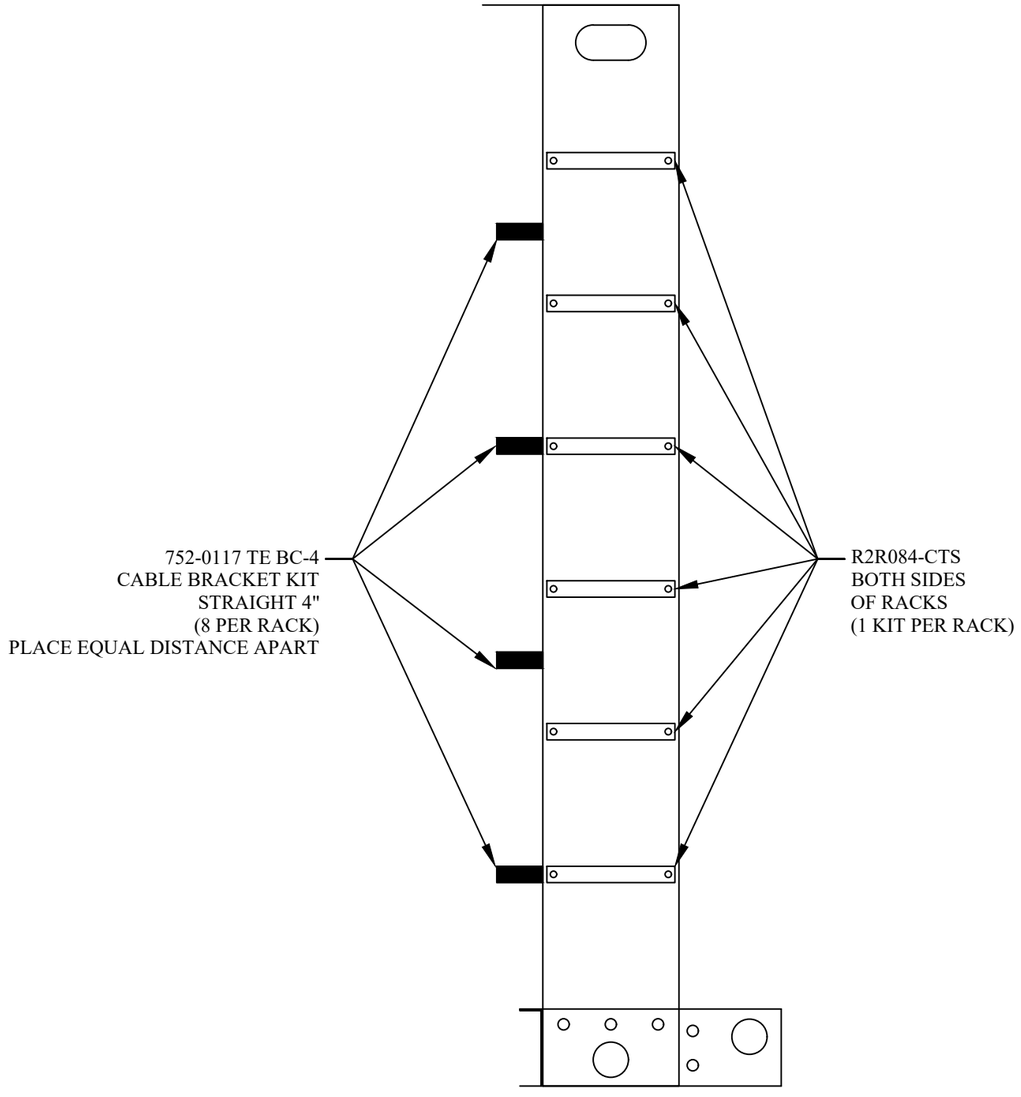
SITE NAME: ----

DRAWN: 2/10/25 | DRAWN BY: NRS

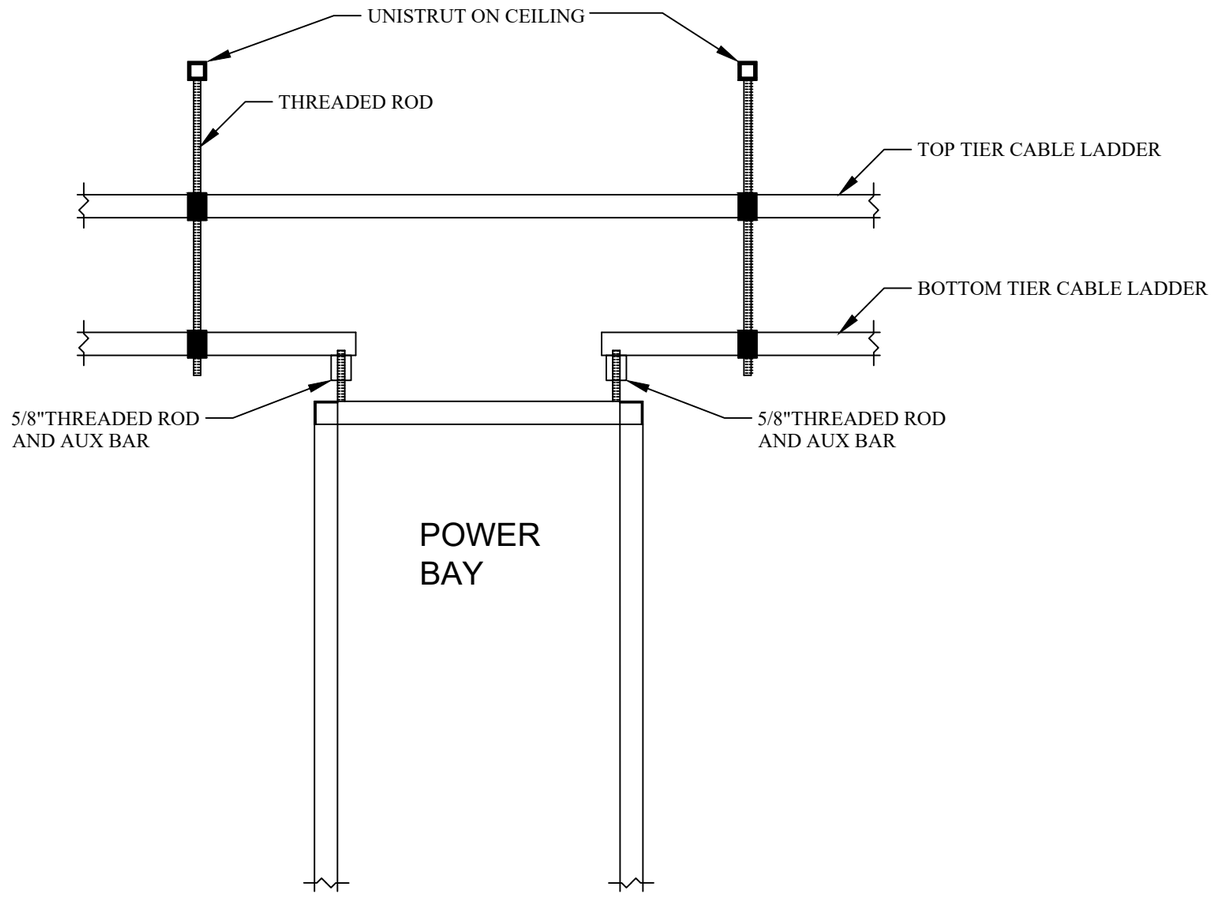
REVISION #: 3 | REVISED: 4/22/25

SHEET NAME: RACK ELEVATIONS

DRAWING NUMBER: **TBB1945** | SHEET NUMBER: **E2.2**



RELAY RACK -
COMPONENTS ALL RACKS



SCALE: NONE

THERMOBOND BUILDINGS
300 N Heritage Rd. Brandon, SD 57005
1103 W Main St. Elk Point, SD 57025
58120 County Road 3 Elkhart, IN 46517
www.thermobond.com 800-356-2686

PROJECT SERIAL NUMBER: **2412-516A**	PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP	DRAWN: 2/10/25	DRAWN BY: NRS
SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID	SITE NAME: ----	REVISION #: 3	REVISED: 4/22/25

SHEET NAME: RACK DETAILS	
DRAWING NUMBER: **TBB1945**	SHEET NUMBER: **E2.3**

RR103 PDU-01 BULK OUTPUTS										CABLE INFO	
BREAKER DESTINATION	BREAKER SIZE AMPS	SUPPLY CABLE SIZE	CABLE TYPE COLOR HOT-RED, RETURN- BLACK	TO	ROW	Equipment	PLANT LUGS	EQUIPMENT LUGS	NOTES	CABLE LENGTH	PART #	QTY
BULK 1	N/A	500 Kcmil	TELCOFLEX IV	RR102	1	RACK	250-0050 YA38L2NT38FX	250-0050 YA38L2NT38FX		10	901-003-BLK-10	1
											901-003-RED-10	1

RR103 PDU-01 A DC DISTRIBUTION PANEL										CABLE INFO		
BREAKER	BREAKER SIZE	SUPPLY	CABLE TYPE	TO	ROW	Equipment	PLANT LUGS	EQUIPMENT LUGS	NOTES	CABLE	PART #	QTY
CB-A-01	60	2 AWG	TELCOFLEX IV	RR105	1	FAP-01-A	250-1037 YAV2CL2NT14FX	250-1037 YAV2CL2NT14FX		16	901-001-BLK-16	1
											901-001-RED-16	1
CB-A-02	60	2 AWG	TELCOFLEX IV	RR106	1	FAP-01-A	250-1037 YAV2CL2NT14FX	250-1037 YAV2CL2NT14FX		18	901-001-BLK-18	1
											901-001-RED-18	1
CB-A-03	60	2 AWG	TELCOFLEX IV	RR107	1	FAP-01-A	250-1037 YAV2CL2NT14FX	250-1037 YAV2CL2NT14FX		20	901-001-BLK-20	1
											901-001-RED-20	1
CB-A-04	60	2 AWG	TELCOFLEX IV	RR108	1	FAP-01-A	250-1037 YAV2CL2NT14FX	250-1037 YAV2CL2NT14FX		22	901-001-BLK-22	1
											901-001-RED-22	1
CB-A-05	60	2 AWG	TELCOFLEX IV	RR207	1	FAP-01-A	250-1037 YAV2CL2NT14FX	250-1037 YAV2CL2NT14FX		27	901-001-BLK-27	1
											901-001-RED-27	1
CB-A-06	60	2 AWG	TELCOFLEX IV	RR206	1	FAP-01-A	250-1037 YAV2CL2NT14FX	250-1037 YAV2CL2NT14FX		25	901-001-BLK-25	1
											901-001-RED-25	1
CB-A-07	60	2 AWG	TELCOFLEX IV	RR205	1	FAP-01-A	250-1037 YAV2CL2NT14FX	250-1037 YAV2CL2NT14FX		23	901-001-BLK-23	1
											901-001-RED-23	1
CB-A-08	60	2 AWG	TELCOFLEX IV	RR204	1	FAP-01-A	250-1037 YAV2CL2NT14FX	250-1037 YAV2CL2NT14FX		21	901-001-BLK-21	1
											901-001-RED-21	1
CB-A-09	60	2 AWG	TELCOFLEX IV	RR202	1	FAP-01-A	250-1037 YAV2CL2NT14FX	250-1037 YAV2CL2NT14FX		19	901-001-BLK-19	1
											901-001-RED-19	1
CB-A-10	60	2 AWG	TELCOFLEX IV	RR201	1	FAP-01-A	250-1037 YAV2CL2NT14FX	250-1037 YAV2CL2NT14FX		21	901-001-BLK-21	1
											901-001-RED-21	1
CB-A-11												
CB-A-12												
CB-A-13												
CB-A-14												
CB-A-15												
CB-A-16												
CB-A-17												
CB-A-18												
CB-A-19												
CB-A-20												
CB-A-21												
CB-A-22												
CB-A-23												
CB-A-24												

RR103 PDU-01 B DC DISTRIBUTION PANEL										CABLE INFO		
BREAKER	BREAKER SIZE	SUPPLY	CABLE TYPE	TO	ROW	Equipment	PLANT LUGS	EQUIPMENT LUGS	NOTES	CABLE	PART #	QTY
CB-B-01	60	2 AWG	TELCOFLEX IV	RR105	1	FAP-01-A	250-1037 YAV2CL2NT14FX	250-1037 YAV2CL2NT14FX		16	901-001-BLK-16	1
											901-001-RED-16	1
CB-B-02	60	2 AWG	TELCOFLEX IV	RR106	1	FAP-01-A	250-1037 YAV2CL2NT14FX	250-1037 YAV2CL2NT14FX		18	901-001-BLK-18	1
											901-001-RED-18	1
CB-B-03	60	2 AWG	TELCOFLEX IV	RR107	1	FAP-01-A	250-1037 YAV2CL2NT14FX	250-1037 YAV2CL2NT14FX		20	901-001-BLK-20	1
											901-001-RED-20	1
CB-B-04	60	2 AWG	TELCOFLEX IV	RR108	1	FAP-01-A	250-1037 YAV2CL2NT14FX	250-1037 YAV2CL2NT14FX		22	901-001-BLK-22	1
											901-001-RED-22	1
CB-B-05	60	2 AWG	TELCOFLEX IV	RR207	1	FAP-01-A	250-1037 YAV2CL2NT14FX	250-1037 YAV2CL2NT14FX		27	901-001-BLK-27	1
											901-001-RED-27	1
CB-B-06	60	2 AWG	TELCOFLEX IV	RR206	1	FAP-01-A	250-1037 YAV2CL2NT14FX	250-1037 YAV2CL2NT14FX		25	901-001-BLK-25	1
											901-001-RED-25	1
CB-B-07	60	2 AWG	TELCOFLEX IV	RR205	1	FAP-01-A	250-1037 YAV2CL2NT14FX	250-1037 YAV2CL2NT14FX		23	901-001-BLK-23	1
											901-001-RED-23	1
CB-B-08	60	2 AWG	TELCOFLEX IV	RR204	1	FAP-01-A	250-1037 YAV2CL2NT14FX	250-1037 YAV2CL2NT14FX		21	901-001-BLK-21	1
											901-001-RED-21	1
CB-B-09	60	2 AWG	TELCOFLEX IV	RR202	1	FAP-01-A	250-1037 YAV2CL2NT14FX	250-1037 YAV2CL2NT14FX		19	901-001-BLK-19	1
											901-001-RED-19	1
CB-B-10	60	2 AWG	TELCOFLEX IV	RR201	1	FAP-01-A	250-1037 YAV2CL2NT14FX	250-1037 YAV2CL2NT14FX		21	901-001-BLK-21	1
											901-001-RED-21	1
CB-B-11												
CB-B-12												
CB-B-13												
CB-B-14												
CB-B-15												
CB-B-16												
CB-B-17												
CB-B-18												
CB-B-19												
CB-B-20												
CB-B-21												
CB-B-22												
CB-B-23												
CB-B-24												

RR103 PDU-01 C DC DISTRIBUTION PANEL										CABLE INFO		
BREAKER DESTINATION	BREAKER SIZE AMPS	SUPPLY CABLE SIZE	CABLE TYPE COLOR HOT-RED, RETURN- BLACK	TO	ROW	Equipment	PLANT LUGS	EQUIPMENT LUGS	NOTES	CABLE LENGTH	PART #	QTY
CC-C-01												
CC-C-02												
CC-C-03												
CC-C-04												
CC-C-05												
CC-C-06												
CC-C-07												
CC-C-08												
CC-C-09												
CC-C-10												
CC-C-11												
CC-C-12												
CC-C-13												
CC-C-14												
CC-C-15												
CC-C-16												
CC-C-17												
CC-C-18												
CC-C-19												
CC-C-20												
CC-C-21												
CC-C-22												
CC-C-23												
CC-C-24												

RR202 (TELEMETRY RACK) FAP-01 DC DISTRIBUTION PANEL										CABLE INFO		
BREAKER DESTINATION	FUSE SIZE AMPS	SUPPLY CABLE SIZE	CABLE TYPE COLOR HOT-RED, RETURN- BLACK	TO	ROW	Equipment	FUSE PANEL LUGS	EQUIPMENT LUGS	NOTES	CABLE LENGTH	PART #	QTY
CB-A-GMT-01	5	751-1643 RMX-INSTKIT		RR202	2	RMX-4200	751-1643 RMX-INSTKIT	N/A				
CB-A-GMT-02												
CB-A-GMT-03												
CB-A-GMT-04												
CB-A-GMT-05												
CB-A-TPA-01												
CB-A-TPA-02												
CB-A-TPA-03												
CB-A-TPA-04												
CB-B-GMT-01	5	751-1643 RMX-INSTKIT		RR202	2	RMX-4200	751-1643 RMX-INSTKIT	N/A				
CB-B-GMT-02												
CB-B-GMT-03												
CB-B-GMT-04												
CB-B-GMT-05												
CB-B-TPA-01	20	12	THHN	RR202	2	INVERTER	700-0162 TERMINAL, RING, #10 STUD, YELLOW, 12-10 AWG	N/A				
CB-B-TPA-02												
CB-B-TPA-03												
CB-B-TPA-04												

SCALE: NONE

THERMOBOND BUILDINGS

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PROJECT SERIAL NUMBER: **2412-516A**

SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID

PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP

SITE NAME: ----

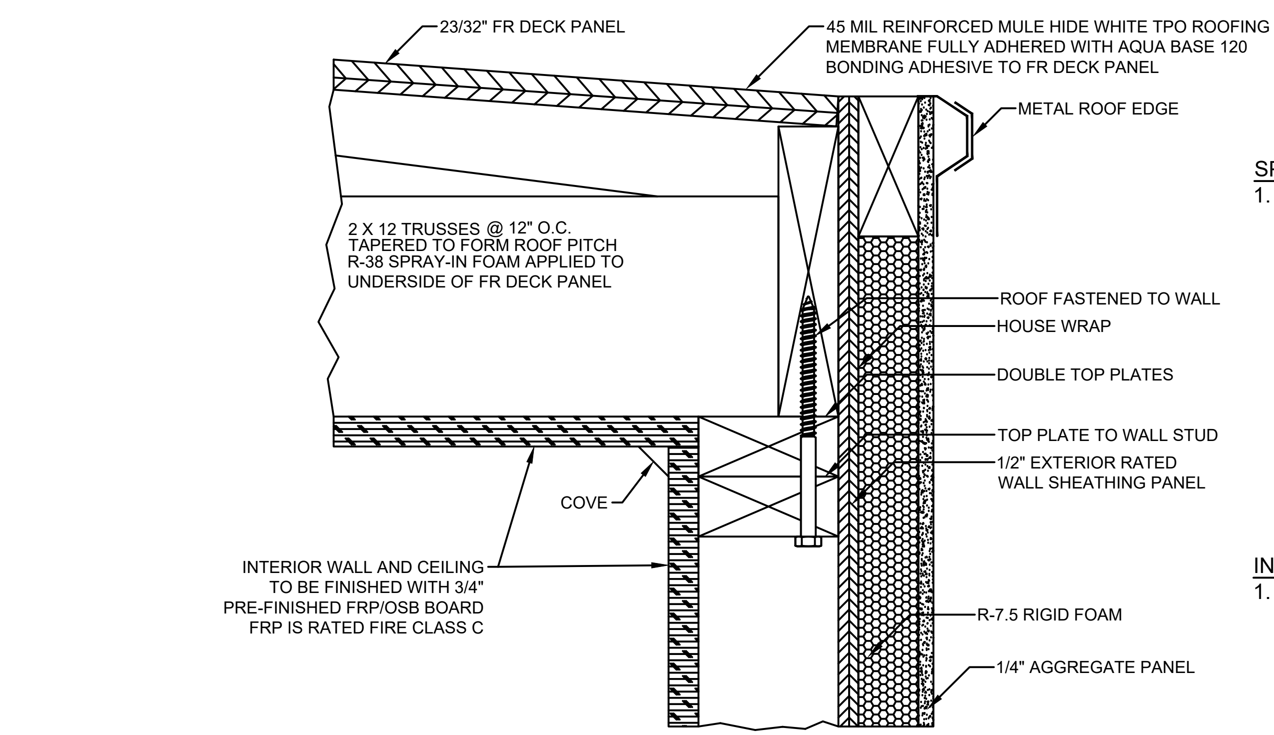
DRAWN:	DRAWN BY:
2/10/25	NRS
REVISION #:	REVISED:
3	4/22/25

SHEET NAME: DC PLANT BREAKER SCHEDULE

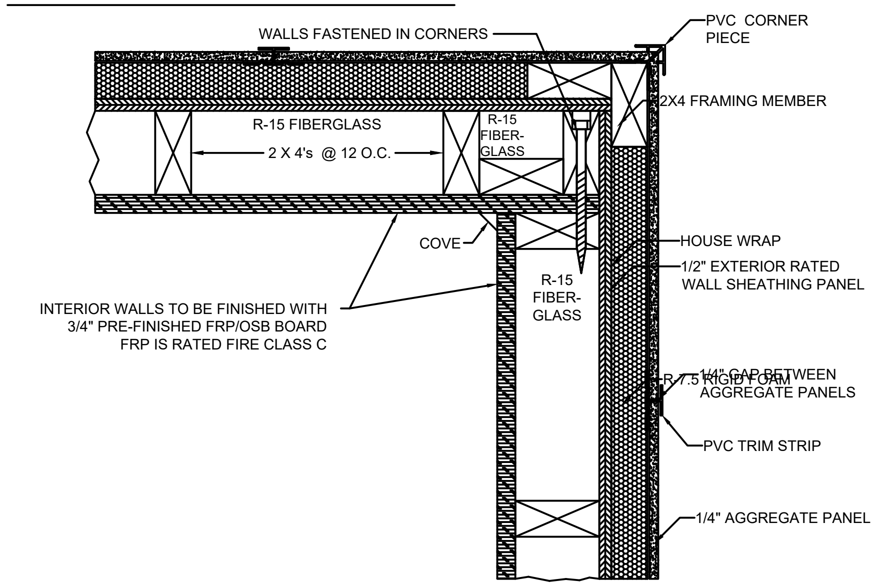
DRAWING NUMBER: **TBB1945**

SHEET NUMBER: **E2.4**

WALL TO ROOF DETAIL



WALL CORNER DETAIL



SPRAY-IN FOAM REQUIREMENT NOTES:

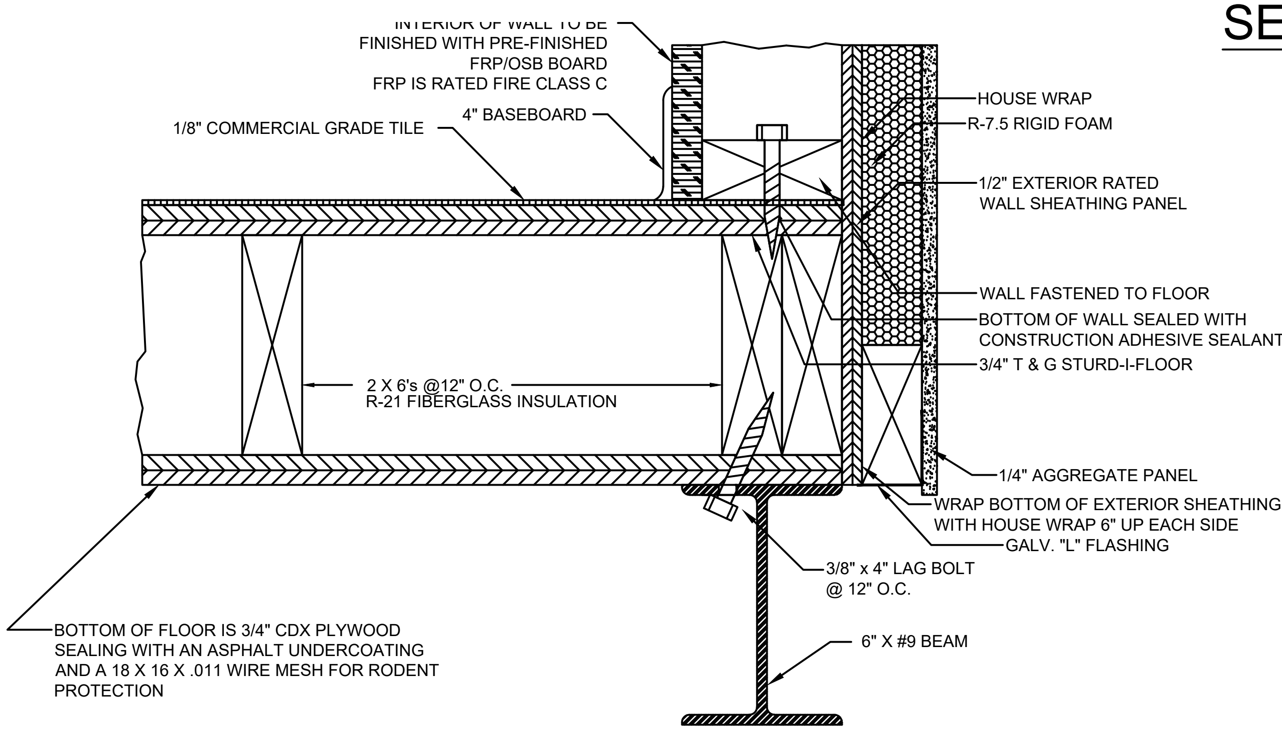
1. SPRAY-IN FOAM TO BE BASF SPRAYTITE 178 APPLIED AT THE FOLLOWING THICKNESS (PER INTERTEK REPORT CCRR-1031):

R-21	3-1/2" THICK
R-25	4" THICK
R-30	5" THICK
R-35	6" THICK
R-38	6" THICK

INSULATION REQUIREMENT NOTES:

1. RIGID FOAM BOARD TO BE OWENS-CORNING FOAMULAR 150 WITH THE FOLLOWING R VALUES (PER UL ER811-01):
   - R-3 - 1/2" THICK
   - R-5 - 1" THICK
   - R-7.5 - 1 1/2" THICK

SEE FASTENER SCHEDULE



WALL TO FLOOR DETAIL

CONSTRUCTION NOTES:

FR DECK PANEL A AND TPO MEMBRANE MUST BE INSTALLED PER ICC-ESR 1776.

1. MULE-HIDE FR DECK PANEL A ROOF DECK MUST BE INSTALLED WITH PYROTITE LAMINATE FACING UP.
2. ALL DECK JOINTS MUST BE BLOCKED WITH 2X4 BLOCKING OR INSTALLED OVER A ROOF JOIST.
3. GAPS IN THE DECK PANELS MUST BE CAULKED WITH RECTORSEAL FLAMESAFE FS9000+.

NOTES:

1. SEE FASTENER SCHEDULE FOR FASTENER INFORMATION
2. HOUSE WRAP TO BE INSTALLED 1/8" BELOW SHEETING AND EXTEND TO TOP OF TOP PLATE. ALL SEAMS TO BE LAPPED 6" AND TAPED W/SEAM TAPE.
3. ALL SCREW HOLES THROUGH PANEL SHALL BE FILLED WITH POLYURETHANE CAULK PRIOR TO SCREWS BEING INSTALLED.
4. ALL STRUCTURAL LUMBER SHALL BE SPF #2 [illegible]
5. ALL [illegible] EXTERIOR SHEATHING & T&G GLUED TO STRUCTURE [illegible] ALL STUDS BEFORE NAILING.

CONSTRUCTION NOTES:
1. FR DECK PANEL A AND TPO MEMBRANE MUST BE INSTALLED PER ICC-ESR 1776.
3. MULE-HIDE FR DECK PANEL A ROOF DECK MUST BE INSTALLED WITH PYROTITE LAMINATE FACING UP.
4. ALL DECK JOINTS MUST BE BLOCKED WITH 2X4 BLOCKING OR INSTALLED OVER A ROOF JOIST.
5. GAPS IN THE DECK PANELS MUST BE CAULKED WITH RECTORSEAL FLAMESAFE FS9000+.

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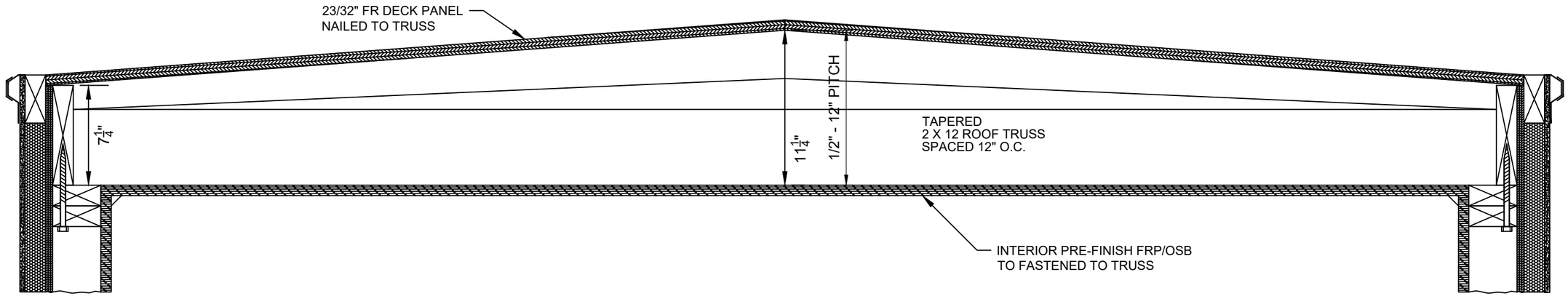
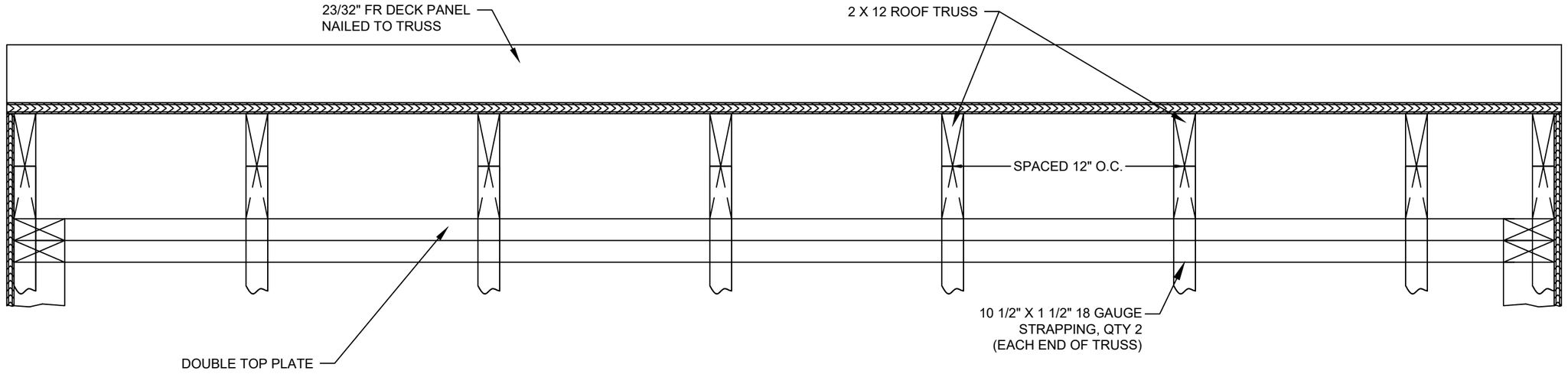
PROJECT SERIAL NUMBER: **2412-516A**	PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP	DRAWN: 2/10/25	DRAWN BY: NRS	SHEET NAME: CORNER CONSTRUCTION
SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID	SITE NAME: ----	REVISION #: 3	REVISED: 4/22/25	DRAWING NUMBER: **TBB1945** / SHEET NUMBER: **S1.0**



ROOF STRUCTURE END DETAIL



ROOF STRUCTURE SIDE DETAIL

NOTES:
1. SEE FASTENER SCHEDULE FOR FASTENER INFORMATION.
2. HOUSE WRAP TO BE INSTALLED 1/8" BELOW SHEETING AND EXTEND TO TOP OF TOP PLATE. ALL SEAMS TO BE LAPPED 6" AND TAPED W/SEAM TAPE.
3. ALL SCREW HOLES THROUGH PANELS FILLED WITH POLYURETHANE CAULK PRIOR TO SCREW BEING INSTALLED.
4. ALL STRUCTURAL LUMBER SHALL BE SPF #1 OR #2.
5. ALL CDX, EXTERIOR SHEATHING & T&G GLUED TO STUDS WITH ENERBOND SF GLUE TO ALL STUDS BEFORE NAILING.

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PROJECT SERIAL NUMBER: **2412-516A**	PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP	DRAWN: 2/10/25	DRAWN BY: NRS	SHEET NAME: ROOF CONSTRUCTION
SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID	SITE NAME: ----	REVISION #: 3	REVISED: 4/22/25	DRAWING NUMBER: **TBB1945** / SHEET NUMBER: **S1.1**

FASTENER SCHEDULE CHART

ITEM	SIZE	TYPE	SPACING	TOLERANCE	MINIMUM	TBB PART #
INTERIOR OSB/FRP TO ASSEMBLY FRAMEWORK	15GA X 2 1/2"	FINISH NAIL	6" AROUND PERIMETER, 12" IN FIELD	+/- 1/4"	36	299-0003
ALL OSB, CDX & T&G TO ASSEMBLY FRAMEWORK	.131 X 2 1/2"	COMMON NAIL	4" AROUND PERIMETER, 12" IN FIELD	+/- 1/4"	36	299-0006
SHEATHING TO RIM JOIST	.131 X 2 1/2"	COMMON NAIL	4" ON CENTER	+/- 1/4"	VARIES	299-0006
CORNER WALL TO WALL	3/8" X 6"	LAG	3/4" FROM OUTER EDGE, 24" OC IN FIELD	+/- 3/4"	VARIES	299-0012
FLOOR TO SKID	3/8" X 4"	LAG	12" OC STAGGERED		VARIES	299-0284
WALL TO FLOOR	3/8" X 4"	LAG	2" FROM FLUSH OUTER EDGE, EVERY 24"	+/- 3/4"	VARIES	299-0284
ROOF TO WALL	3/8" X 6"	LAG	12" OC	+/- 3/4"	VARIES	299-0012
TOP PLATE TO STUD 2X4	.131 X 3"	COMMON NAIL	2 END NAILED		2	299-0002
STUD TO SOLE PLATE	.131 X 3"	COMMON NAIL	2 END NAILED		2	299-0002
DOUBLE TOP PLATES	.131 X 3"	COMMON NAIL	16" OC TYPICAL FACE NAIL	+/- 3/4"	VARIES	299-0002
TOP PLATES LAP & INTERSECTIONS	.131 X 3"	COMMON NAIL	2 FACE NAILED		2	299-0002
CONTINUOUS HEADER, TWO PIECES	.131 X 3"	COMMON NAIL	16" OC ALONG EDGE	+/- 3/4"	VARIES	299-0002
CONTINUOUS HEADER TO STUD	.131 X 3"	COMMON NAIL	4 END NAILED		4	299-0002
ROOF TRUSS TO PLATE	.131 X 3"	COMMON NAIL	6 FACE NAILED		6	299-0002
ROOF DECK	.131 X 2 1/2"	COMMON NAIL	6" AROUND PERIMETER, 12" IN FIELD	+/- 1/4"	36	299-0006
END WALL SHEATHING	.131 X 2 1/2"	COMMON NAIL	4" AROUND PERIMETER, 12" IN FIELD	+/- 1/4"	VARIES	299-0006
SIDE WALL SHEATHING	.131 X 2 1/2"	COMMON NAIL	6" AROUND PERIMETER, 12" IN FIELD	+/- 1/4"	VARIES	299-0006
ROOF FACE TO ROOF BASE	#8 X 3/4"	TEK SCREW	12" O.C.		VARIES	299-0013
EXTERIOR AGGREGATE PANEL WITH NO RIGID INSULATION	#10 X 2"	SS SCREW	1" FROM EDGE, 1 EVERY 2' IN FIELD; PREDRILLED 3/16" HOLES	+/- 1/4"	VARIES	299-0008
EXTERIOR AGGREGATE PANEL WITH R5RIGID INSULATION	#10 X 2 1/2"	SS SCREW	1" FROM EDGE, 1 EVERY 2' IN FIELD; PREDRILLED 3/16" HOLES	+/- 1/4"	VARIES	299-0009
EXTERIOR AGGREGATE PANEL WITH R7.5 RIGID INSULATION	#10 X 3 1/2"	SS SCREW	1" FROM EDGE, 1 EVERY 2' IN FIELD; PREDRILLED 3/16" HOLES	+/- 1/4"	VARIES	299-0045
18 GA STRAPPING OF DOUBLE STUDS TO RIM JOIST	.148 X 2 1/2"	COMMON NAIL	16 NAILS MIN, 8 INTO DOUBLE STUDS AND 8 ONTO RIM JOIST (BOTH STRAPS)		16	299-0508

SPAN RATINGS FOR CONSTRUCTION MATERIALS:
FLOOR 23/32" T&G: 24 OC
WALL 15/32" OSB: 32/16
ROOF 23/32" PLYWOOD: 48/24

THERMO BOND BUILDINGS

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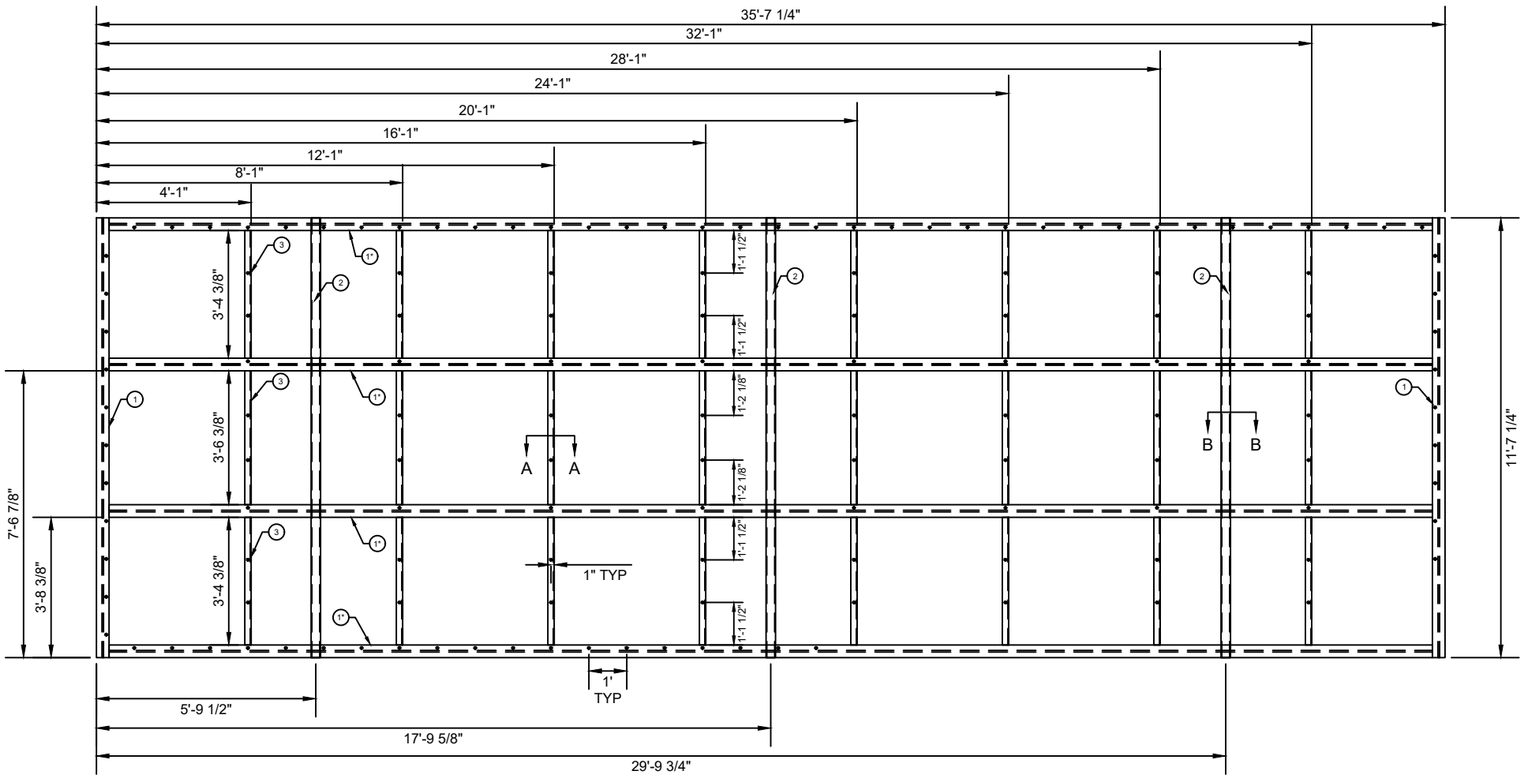
PROJECT SERIAL NUMBER: **2412-516A**
SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID

PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP
SITE NAME: ----

DRAWN: 2/10/25 | DRAWN BY: NRS
REVISION #: 3 | REVISED: 4/22/25

SHEET NAME: FASTENER SCHEDULE
DRAWING NUMBER: **TBB1945** | SHEET NUMBER: **S1.2**



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

TOP VIEW

WELDED ASSEMBLY

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS SHOWN ON THIS DRAWING SHALL HAVE THE FOLLOWING TOLERANCE:
FRACTION ± 1/8"
ANGLE ± 2°

NOTES:

1. FINISH: HOT DIP GALVANIZED.
*2. BOTH ENDS OF THIS BEAM ARE COPED, SEE BEAM COPING DETAIL
3. STRAPPING TO BE ATTACHED TO KING STUDS ON OPENINGS MARKED

			TOTAL BLACK STEEL WEIGHT	1992.3#
3.	24	A36	ANGLE, SUPPORT (2 X 2 X 1/4)	261.8#
2.	3	A500B	PIPE SUPPORT (3" NOM. SCH 40)	263.9#
1.	6	A992	BEAM SUPPORT (W6 X 9#) GRADE 50	1466.6#
NO.	QTY.	GRADE	DESCRIPTION	WEIGHT

LIST OF MATERIAL

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PROJECT SERIAL NUMBER: **2412-516A**

SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID

PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP

SITE NAME: ----

DRAWN: 2/10/25

DRAWN BY: NRS

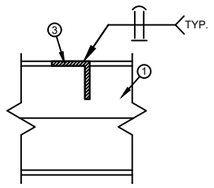
REVISION #: 3

REVISED: 4/22/25

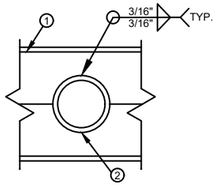
SHEET NAME: SKID

DRAWING NUMBER: **TBB1945**

SHEET NUMBER: **S2.0**



1 1/2" = 1' SCALE
SECTION "A-A"



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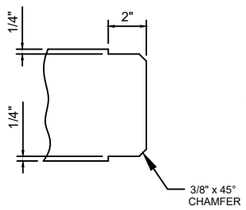
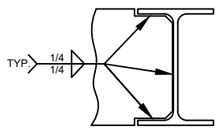
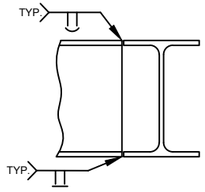
SECTION "B-B"



1 1/2" = 1' SCALE
BEAM COPING DETAIL



1 1/2" = 1' SCALE
BEAM COPING WELD



1 1/2" = 1' SCALE
BEAM TO BEAM WELD

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PROJECT SERIAL NUMBER: **2412-516A**

SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID

PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP

SITE NAME: ----

DRAWN: 2/10/25

DRAWN BY: NRS

REVISION #: 3

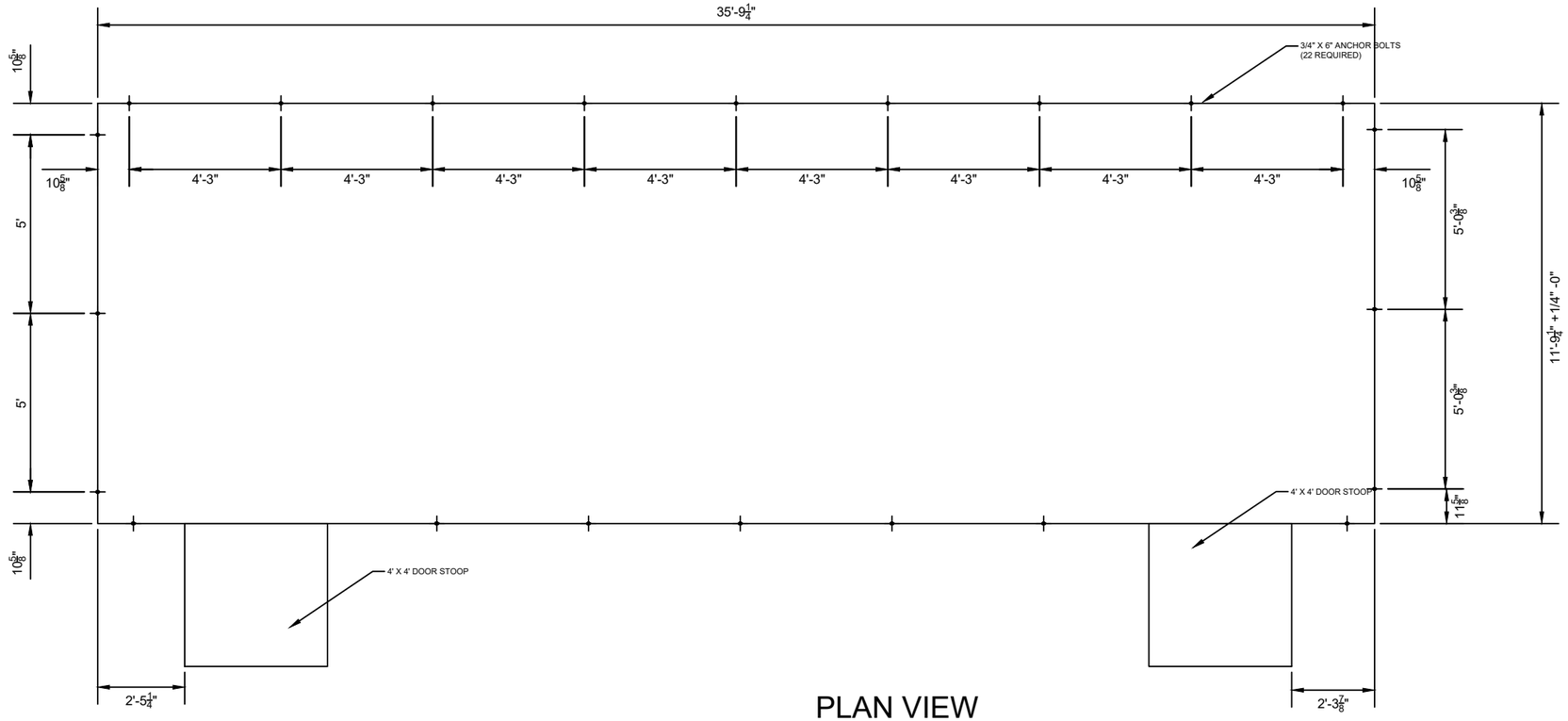
REVISED: 4/22/25

SHEET NAME: SKID DETAILS

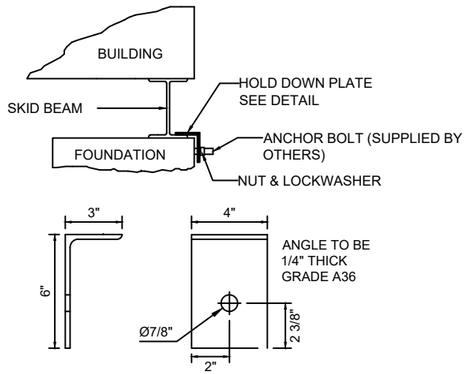
DRAWING NUMBER: **TBB1945**

SHEET NUMBER: **S2.1**

THIS IS NOT A FOUNDATION DESIGN. FOUNDATION DESIGN MUST BE COMPLETED BY A LICENSED PROFESSIONAL.



PLAN VIEW



1 1/2" = 1' SCALE
ANCHOR PLATE DETAIL

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

NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR ENSURING COMPLIANCE WITH ANY LOCAL, STATE, OR FEDERAL REGULATIONS.
2. FOUNDATION MUST SUPPORT THE FULL WEIGHT OF THE SHELTER.
3. UNLESS OTHERWISE NOTED, THE SHELTER MUST BE SUPPORTED AT ALL LIFTING LOCATIONS (MINIMUM). ADDITIONAL SUPPORT MAY BE REQUIRED PER PLAN.
4. SHELTER IS DESIGNED FOR A SLAB FOUNDATION FOR NON-STRUCTURAL REASONS. IF A DIFFERENT DESIGN IS REQUESTED, CONTACT THERMO BOND FOR APPROVAL.
5. ANCHOR LOCATION AND QUANTITY ARE REQUIRED PER PLAN. IF A DIFFERENT LOCATION OR QUANTITY IS REQUESTED, CONTACT THERMO BOND FOR APPROVAL.
6. SHELTER ANCHORING DEVICES MUST BE ENTIRELY ABOVE GRADE.
7. FOUNDATION MUST BE SQUARE TO WITHIN +/- 1/4".
8. FOUNDATION SUPPORT LOCATIONS MUST BE LEVEL TO +/- 1/4" AND FOUNDATION MAY NOT BE CROWNED BETWEEN SUPPORT LOCATIONS.
9. FOUNDATION FOOTPRINT PER PLAN +/- 1" EACH DIRECTION UNLESS OTHERWISE NOTED.

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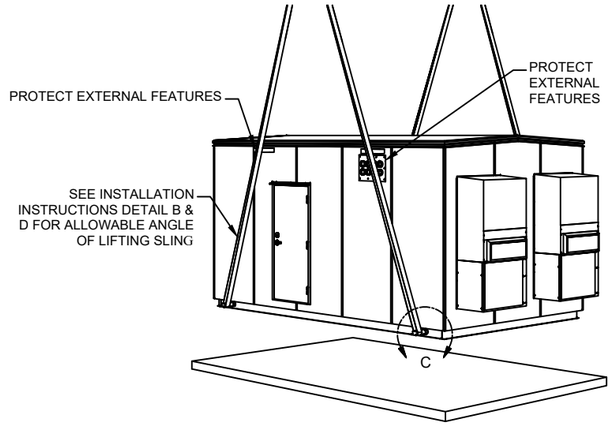
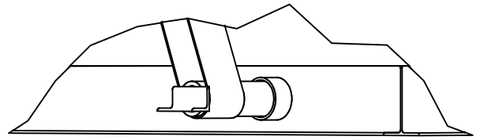
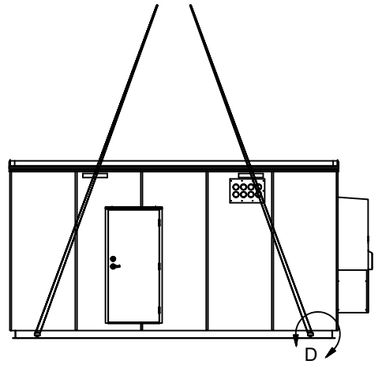
PROJECT SERIAL NUMBER: **2412-516A**	PROJECT NAME: INTERMOUNTAIN INFRASTRUCTURE GROUP	DRAWN: 2/10/25	DRAWN BY: NRS	SHEET NAME: FOUNDATION
SHELTER SIZE: 12'W. OD X 36'L. OD X 9'H. ID	SITE NAME: ----	REVISION #: 3	REVISED: 4/22/25	DRAWING NUMBER: **TBB1945** / SHEET NUMBER: **S3.0**

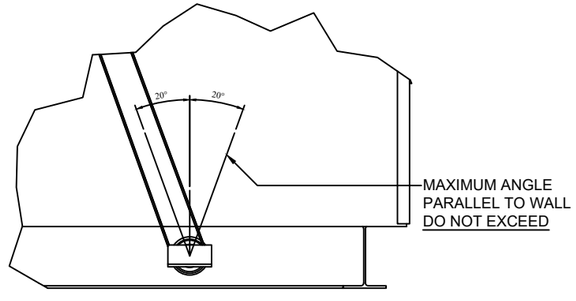
LIFTING POINT DEVICES WILL BE PROVIDED AS NOTED BELOW. ALL OTHER RIGGING EQUIPMENT AND PLAN IS THE RESPONSIBILITY OF THE RIGGING CONTRACTOR.



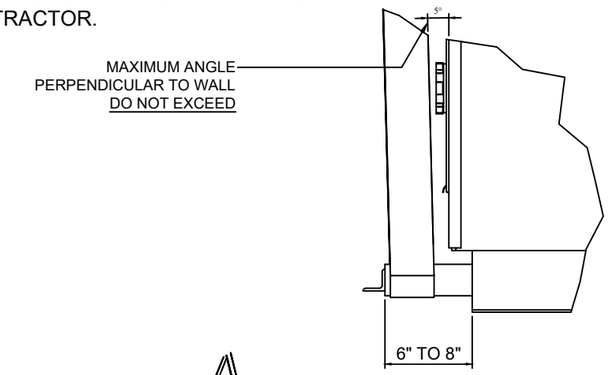


DETAIL C

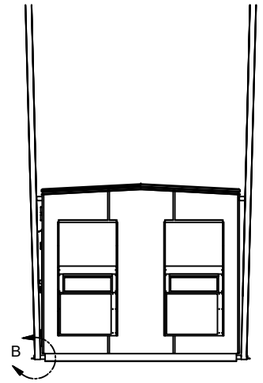


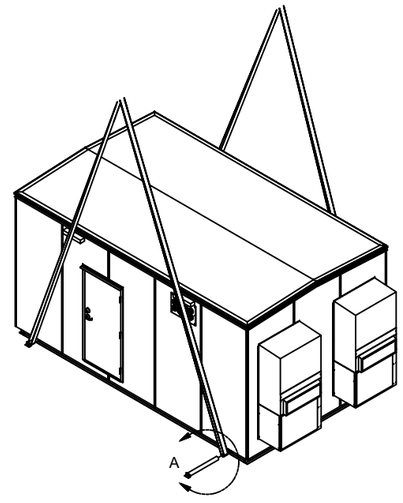


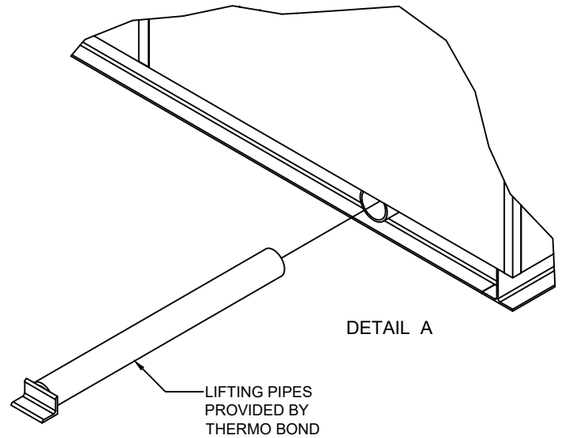
DETAIL D



DETAIL B







DETAIL A

RIGGING NOTES:

1. THE SHELTER MUST BE LIFTED ONLY AT THE INDICATED LIFTING POINTS.
2. THE SHELTER MUST BE LIFTED USING ALL INDICATED LIFTING POINTS.
3. THE SHELTER MUST BE LEVEL WHEN LIFTING.
4. ANY TEMPORARY STRUCTURE MUST REMAIN IN PLACE DURING THE LIFTING PROCESS.
5. NO ADDITIONAL ON-SITE EQUIPMENT MAY BE ADDED TO THE SHELTER PRIOR TO LIFTING.
6. THERMO BOND LIFTING POINT DEVICES MUST BE USED FOR LIFTING. IF OTHER LIFTING DEVICES ARE REQUESTED, CONTACT THERMO BOND FOR APPROVAL.
7. MODIFICATION OF LIFTING POINT DEVICES IS NOT PERMITTED.
8. INSPECT LIFTING POINT DEVICES FOR DAMAGE PRIOR TO LIFTING. DO NOT USE DEVICES WITH DAMAGE AND CONTACT THERMO BOND FOR REPLACEMENT.
9. ROUTE RIGGING AWAY FROM ROOF LINE OR PROTECT FROM DAMAGE PRIOR TO LIFTING.
10. ROUTE RIGGING AWAY FROM EXTERNAL EQUIPMENT AND PROTRUSIONS OR PROTECT FROM DAMAGE PRIOR TO LIFTING.
11. DO NOT PLACE THE SHELTER ON UNEVEN OR UNSTABLE SURFACES.
12. RIGGING CONTRACTOR IS RESPONSIBLE FOR ENSURING SAFETY AND QUALITY REQUIREMENTS ARE MET.
13. RIGGING CONTRACTOR IS RESPONSIBLE FOR ENSURING COMPLIANCE WITH ANY LOCAL, STATE, OR FEDERAL REGULATIONS.
14. INSPECT SHELTER AND EQUIPMENT FOR DAMAGE AFTER PLACEMENT.
15. THESE LIFTING INSTRUCTIONS ARE NOT ENGINEERED BY THERMO BOND BUILDINGS, ANY LIFTING ENGINEERING THAT NEEDS TO BE DONE TO LIFT THE SHELTER IS THE RESPONSIBILITY OF THE CUSTOMER AND/OR RIGGING COMPANY.
16. AN UNBALANCED LOAD SHOULD BE ANTICIPATED, TAKE ALL NECESSARY PRECAUTIONS TO BALANCE THE LOAD PRIOR TO LIFTING THE SHELTER.

THERMO BOND BUILDINGS

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PROJECT SERIAL NUMBER:	**2412-516A**
SHELTER SIZE:	12'W. OD X 36'L. OD X 9'H. ID
PROJECT NAME:	INTERMOUNTAIN INFRASTRUCTURE GROUP
SITE NAME:	----
DRAWN:	2/10/25
DRAWN BY:	NRS
REVISION #:	3
REVISED:	4/22/25
SHEET NAME:	RIGGING NOTES
DRAWING NUMBER:	**TBB1945**
SHEET NUMBER:	**S4.0**

Cat® D150 GC
Diesel Generator Sets

Standby : 60 Hz

Image shown may not reflect actual configuration.

Engine Model	Cat® C7.1 In-line 6, 4-cycle diesel
Bore x Stroke	105 mm x 135 mm (4.1 in x 5.3 in)
Displacement	7.01 L (428 in³)
Compression Ratio	16.7:1
Aspiration	Turbocharged Air-to-Air-Aftercooled
Fuel Injection System	Electronic, Common Rail
Governor	Electronic

Model	Standby	Emission Strategy
D150 GC	150 ekW	EPA TIER III

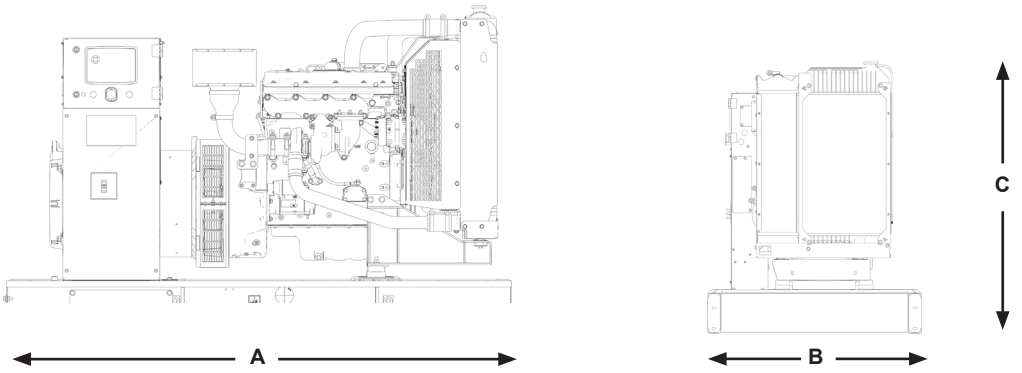
PACKAGE PERFORMANCE

Performance	Standby
Frequency	60 Hz
Genset Power Rating	187.5 kVA
Genset power rating with fan, 3p@ 0.8 & 1p@1.0 power factor	150 ekW
Performance Number	P4390A-00
Fuel Consumption	
100% load with fan, L/hr (gal/hr)	37.8 (10.0)
75% load with fan, L/hr (gal/hr)	30.3 (8.0)
50% load with fan, L/hr (gal/hr)	21.9 (5.8)
Cooling System[1]	
Radiator air flow restriction (system), kPa (in. Water)	0.12 (0.48)
Engine coolant capacity, L (gal)	9.5 (2.5)
Radiator coolant capacity, L (gal)	11.5 (3.0)
Total coolant capacity, L (gal)	21 (5.5)
Inlet Air	
Combustion air inlet flow rate, m³/min (cfm)	15.3 (540.3)
Max. Allowable Combustion Air Inlet Temp, °C (°F)	51 (124)
Exhaust System	
Exhaust stack gas temperature, °C (°F)	441 (825)
Exhaust gas flow rate, m³/min (cfm)	31.2 (1102)
Exhaust system backpressure (maximum allowable) kPa (in. water)	15.0 (60.2)
Heat Rejection	
Heat rejection to exhaust (total) kW (Btu/min)	132.0 (7496)
Heat rejection to aftercooler, kW (Btu/min)	38.0 (2138)
Heat rejection to atmosphere from engine, kW (Btu/min)	29.0 (1649)
Emissions (Nominal)[2]	
NOx + HC, g/kW-hr	4.0
CO, g/kW-hr	1.0
PM, g/kW-hr	0.2

D150 GC Diesel Generator Sets
Electric Power

Alternator[3]			
Voltages	480V	208V	600V
Motor starting capability @ 30% Voltage Dip, skVA	257	280	625
Current Amps	226	520	180
Frame Size	M2256L4	M2294L4	M2275L4
Excitation	SE	SE	AREP
Temperature Rise, °C	130	105	130

WEIGHTS & DIMENSIONS



Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
2634 (103.7)	1300 (51.2)	1402 (52.2)	1562 (3443)

Note: General configuration not to be used for installation. See general dimension drawings for detail.

APPLICABLE CODES AND STANDARDS:

AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200, NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG1-22, NEMA MG1-33, 2006/95/EC, 2006/42/EC, 2004/108/EC.
Note: Codes may not be available in all model configurations. Please consult your local Cat Dealer representative for availability.

STANDBY: Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

PRIME: Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year

RATINGS: Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions.

DEFINITIONS AND CONDITIONS

[1] For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.

[2] Emissions data measurement procedures are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state operating conditions of 77° F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 BTU/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.

[3] UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics. Generator temperature rise is based on a 40° C ambient per NEMA MG1-32.

LET'S DO THE WORK.™

LEHE2665-02 (06/22)

Image shown may not reflect actual configuration

D40 GC - D200 GC

Sound Attenuated Level 2 Enclosures

60 Hz: 40 ekW - 200 ekW

Features

Robust/Highly Corrosion Resistant Construction

- Factory installed on skid base or 24hr Integral fuel tank
- Caterpillar white paint
- Environmentally friendly, polyester powder baked paint
- 18 gauge steel minimum.
- Zinc plated fasteners
- Stainless steel hinges
- Internally mounted exhaust silencing system
- Designed and tested to comply with UL 2200 Listed generator set package.
- Enclosures are weatherproof and are extremely rugged to withstand outdoor exposure to the elements of weather.
- Comply with ASCE /SEI 7 for Wind Loads up to 100mph
- Optional seismic certification offered
- Compression door latches providing solid door seal

Excellent Access

- Large cable entry area for installation ease
- Accommodates side mounted single or multiple breakers
- Single door on left hand side
- Dual doors on right hand side
- Doors vertically hinged allow 180° opening rotation
- Doors capable of lift off at 90° opening rotation
- For non-routine service access are removeable panels
- Lube oil drain valve standard with coolant drain and valve piped to the exterior of the enclosure base
- Radiator fill cover

Security and Safety

- Lockable (keyed or padlock) doors which give full access to control panel and breaker
- Cooling fan and battery charging alternator fully guarded
- Fuel fill, oil fill and battery can only be reached via lockable access
- Optional externally mounted emergency stop button
- Designed for spreader bar lifting to ensure safety
- Stub-up area is rodent proof

- **Options**
- Skid base compatible
- UL Listed integral fuel tank with 24 hour running time capacity
- DC lighting package

Enclosure Package Operating Characteristics

A. Sound Attenuated- Level 2

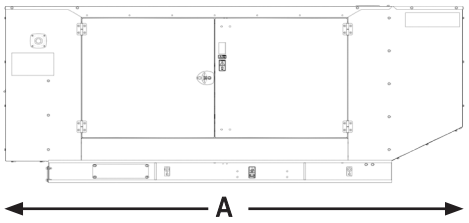
Model	Hz	ekW	SB	Sound Pressure Levels dBA 7m (23ft) 100% Load	Air Flow Rate		Ambient Capability* @100% Load	
					m^3/s	cfm	°C	°F
D40 GC	60	40	SB	67.7	1.5	3178.3	60	140
D50 GC	60	50	SB	68.6	1.5	3178.3	54	129
D60 GC	60	60	SB	69.6	1.5	3178.3	48	118
D80 GC	60	80	SB	76.5	3.5	7416.1	60	140
D100 GC	60	100	SB	76.4	3.5	7416.1	52	126
D125 GC	60	125	SB	74.8	3.4	7204.2	61	142
D150 GC	60	150	SB	75.4	3.4	7204.2	54	129
D175 GC	60	175	SB	79.3	4.1	8687.4	49	120
D200 GC	60	200	SB	79.5	4.1	8687.4	44	111

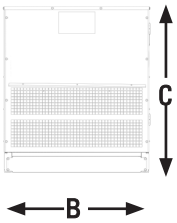
*Cooling system performance at sea level. Consult your Cat dealer for site specific ambient and altitude capabilities.
*Note: Sound level measurements are subject to instrumentation, installation and manufacturing variability, as well as ambient site conditions.

B. Component Weights to Calculate Package Weight

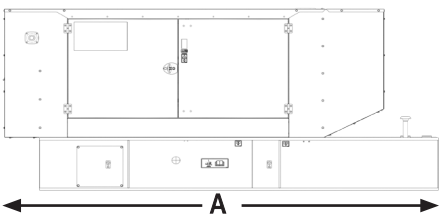
Standby ekW	Wide Skid Base		Sound Attentuted Enclosure (Steel)	
	kg	lb	kg	lb
40-60	92.6	204.1	178.8	394.2
80-100	96.2	212.1	189.1	416.9
125-200	115.9	255.5	274.4	604.9

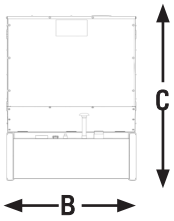
C. Weights & Dimensions





Sound Attenuated Enclosure on Skid Base





Sound Attenuated Enclosure
on a UL Listed Integral Fuel Tank Base

*Note: For reference only – do not use for installation design. Please contact your local dealer for exact weights and dimensions

Cat® GC Enclosures

Enclosure Type	Standby ratings	Length, L		Width, W		Height, H		Package Weights	
	ekW	mm	in	mm	in	mm	in	kg	lb
Open Set on Skid (wide Base)	40	1976	77.2	1099.8	43.3	1219.2	48.0	837.7	1847
	50	1976	77.2	1099.8	43.3	1219.2	48.0	931.6	2054
	60	1976	77.2	1099.8	43.3	1219.2	48.0	905.8	1997
	80	2098	82.6	1099.8	43.3	1343.6	52.9	950.2	2095
	100	2098	82.6	1099.8	43.3	1343.6	52.9	1007.8	2222
	125	2634	103.7	1300.4	51.2	1402	55.2	1405.6	3099
	150	2634	103.7	1300.4	51.2	1402	55.2	1561.7	3443
	175	2634	103.7	1300.4	51.2	1490.9	58.7	1696.8	3741
	200	2634	103.7	1300.4	51.2	1490.9	58.7	1776.7	3917
Open Set on a UL Listed Integral Fuel Tank Base	40	2707.6	106.6	1099.8	43.3	1384.3	54.5	1536.3	3387
	50	2707.6	106.6	1099.8	43.3	1384.3	54.5	1630.2	3594
	60	2707.6	106.6	1099.8	43.3	1384.3	54.5	1604.3	3537
	80	3035.3	119.5	1099.8	43.3	1582.4	62.3	1914.1	4220
	100	3035.3	119.5	1099.8	43.3	1582.4	62.3	1972.2	4348
	125	3670.3	144.5	1300.4	51.2	1757.6	69.2	3207.8	7072
	150	3670.3	144.5	1300.4	51.2	1757.6	69.2	3363.3	7415
	175	3670.3	144.5	1300.4	51.2	1846.6	72.7	3498.5	7713
	200	3670.3	144.5	1300.4	51.2	1846.6	72.7	3578.4	7889
Sound Attenuated Enclosure on Skid Base	40	2456.1	96.1	1120.1	44.1	1330.9	52.4	1016.5	2241
	50	2456.1	96.1	1120.1	44.1	1330.9	52.4	1110.4	2448
	60	2456.1	96.1	1120.1	44.1	1330.9	52.4	1084.5	2391
	80	2768.6	109.0	1120.1	44.1	1432.5	56.4	1139.4	2512
	100	2768.6	109.0	1120.1	44.1	1432.5	56.4	1197.0	2639
	125	2633.9	103.7	1318.2	51.9	1569.7	61.8	1680.1	3704
	150	2633.9	103.7	1318.2	51.9	1569.7	61.8	1836.1	4048
	175	2633.9	103.7	1318.2	51.9	1569.7	61.8	1971.3	4346
	200	2633.9	103.7	1318.2	51.9	1569.7	61.8	2051.1	4522
Sound Attenuated Enclosure on a UL Listed Integral Fuel Tank Base	40	2931.1	115.4	1120.1	44.1	1496	58.9	1715.0	3781
	50	2931.1	115.4	1120.1	44.1	1496	58.9	1808.9	3988
	60	2931.1	115.4	1120.1	44.1	1496	58.9	1783.1	3931
	80	3256.2	128.2	1120.1	44.1	1673.8	65.9	2103.3	4637
	100	3256.2	128.2	1120.1	44.1	1673.8	65.9	2161.4	4765
	125	4008.1	157.8	1318.2	51.9	1925.3	75.8	3481.8	7676
	150	4008.1	157.8	1318.2	51.9	1925.3	75.8	3637.8	8020
	175	4008.1	157.8	1318.2	51.9	1925.3	75.8	3773.0	8318
	200	4008.1	157.8	1318.2	51.9	1925.3	75.8	3852.8	8494

*Note: Weights include genset, enclosure (where applicable), tank and fuel (where applicable)

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LEHE20120-04 (05/24)

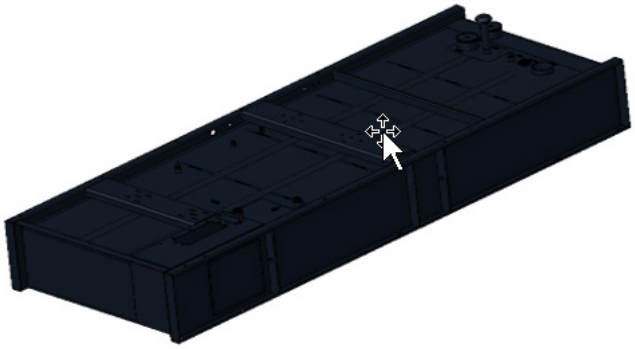

Image show might not reflect actual product

Integral Fuel Tanks

D40 GC – D200 GC

Features

- UL Listed for United States (UL 142) and Canada (CAN/ULC S601)
- Facilitates compliance with NFPA 30 code, NFPA 37 and 110 standards and CSA C282 code
- Dual wall
- Low fuel level warning standard, customer configurable warning or shutdown
- Primary tank leak detection switch in containment basin
- Tank design provides capacity for thermal expansion of fuel
- Fuel supply dip tube is positioned so as not to pick up fuel sediment
- Fuel return and supply dip tube is separated by an internal baffle to prevent immediate re-supply of heated return fuel
- Pressure washed with an iron phosphate solution
- Interior tank surfaces coated with a solvent-based thin-film rust preventative
- Heavy gauge steel gussets with internal lifting rings
- Primary and secondary tanks are leak tested at 20.7 kPa (3 psi) minimum
- Compatible with open packages and enclosures
- Gloss black polyester alkyd enamel exterior paint
- Welded steel containment basin (minimum of 110% of primary tank capacity)
- Direct reading fuel gauge with variable electrical

Integral

- Integral diesel fuel tank is incorporated into the generator set base frame
- Robust base design includes linear vibration isolators between tank base and engine generator.

Options

- Audio/visual fuel level alarm panel
- 5 gal (18.9L) spill containment
- Fuel tank fill pipe and lockable cap
- Overfill prevention Valve

Integral Fuel Tank Base Useable Capacities with Fuel Tank Dimensions & Weights

The heights listed above do not include lumber used during manufacturing and shipping

A. Open Set & Sound Attenuated Enclosure

Standby eKW	Feature Code	Total Capacity		Useable Capacity	
		Litre	Gallon	Litre	Gallon
40-60	FTDW044	523	138.2	466	123.1
80-100	FTDW043	769	203.1	690	182.3
125-200	FTDW045	1511	399.2	1355	357.9

Standby eKW	Feature Code	Tank Only								Overall Package Height with Tank			
		Dry Weight		Height 'H'		Length 'L'		Width		Open		Enclosure	
		kg	lb	mm	in	mm	in	mm	in	mm	in	mm	in
40-60	FTDW044	387.5	853.2	365	14.4	2708	106.6	1100	43.3	1384	54.5	1496	58.9
80-100	FTDW043	462.5	1019.6	440	17.3	3035	119.5	1100	43.3	1583	62.3	1673	65.9
125-200	FTDW045	736.1	1622.8	555	21.9	3670	144.5	1300	51.2	1847	72.7	1925	75.8

Time (Hours)

Tank Design	Feature Code	Standby Ratings (kVA)						
		ekW	100%		75%		50%	
			Hrs	L/hr	Hrs	L/hr	Hrs	L/hr
Integral Tank	FTDW044	40	33.5	13.9	43.1	10.8	57.5	8.1
		50	27.7	16.8	36.4	12.8	50.1	9.3
		60	24.0	19.4	27.7	16.8	35.6	13.1
	FTDW043	80	29.1	23.7	36.3	19.0	49.6	13.9
		100	24.0	28.8	29.7	23.2	40.1	17.2
	FTDW045	125	35.8	37.8	44.7	30.3	61.9	21.9
		150	31.5	43.0	38.8	34.9	54.2	25.0
		175	26.5	51.2	32.3	41.9	47.4	28.6
		200	24.0	56.4	29.6	45.8	41.6	32.6

Tanks include RH stub-up area directly below the circuit breaker or power terminal strips.

Fuel tanks and applicable options facilitate compliance with the following United States NFPA Code and Standards:

NFPA 30: Flammable and Combustible Liquids Code

NFPA 37: Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines

NFPA 110: Standard for Emergency and Standby Power Systems

Fuel tanks and applicable options facilitate compliance with the following Canadian Standard and Code:

CSA C282 – Emergency Electrical Power Supply for Buildings

CSA B139-09 – Installation Code for Oil-Burning Equipment

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LEHE2681-00 (09/20)

GCCP 1.2
Control Panel

Image shown may not reflect actual configuration.

GCCP 1.2 – Control Panel

GCCP 1.2 is an Auto Start Control Module suitable for a wide variety of diesel gen-set applications. Monitoring an extensive number of engine parameters, the modules will display warnings, shutdown and engine status information on the back-lit LCD screen, illuminated LEDs and remote PC.

Description

The controller is compatible with electronic (CAN) and non-electronic (magnetic pick-up/alternator sensing) engines and offer an extensive number of flexible inputs, outputs and extensive engine protections so the system can be easily adapted to meet the most demanding industry requirements.

The extensive list of features includes enhanced event and performance monitoring, remote communications & PLC functionality. The modules can be easily configured using a configuration suite PC software.

Full Range of Attachments

- Wide range of system expansion attachments, designed specifically to work with the GCCP controller
- Flexible packaging options for easy and cost effective installation

Benefits

- Hours counter provides accurate information for monitoring and maintenance periods
- User-friendly set-up and button layout for ease of use
- Multiple parameters are monitored & displayed simultaneously for full visibility
- The module can be configured to suit a wide range of applications for user flexibility
- PLC editor allows user configurable functions to meet user specific application requirements
- RS485 Communication port can be used for the Remote Monitoring Communication (Compatible with Cat PLG)

World Wide Product Support

- Cat dealers provide extensive pre and post sale support
- Cat dealers have over 1,600 dealer branch stores operating in 200 countries

Features

- 4-line back-lit LCD text display
- Multiple display languages
- Five-key menu navigation
- LCD alarm indication
- Customisable power-up text and images
- Data logging facility
- Internal PLC editor
- Protections disable feature
- Fully configurable via PC using USB & RS485 communication
- Front panel configuration with PIN protection
- Power save mode
- 3-phase generator sensing and protection
- Generator current and power monitoring (kW, kvar, kVA, pf) kW and kvar overload and reverse power alarms
- Over current protection
- Unbalanced load protection
- Breaker control via fascia buttons
- Fuel and start outputs configurable when using CAN Support for 0V to 10V & 4 mA to 20 mA sensors
- 8 Configurable digital inputs (3 available for Customer use)
- 8 Configurable digital outputs (5 available for Customer use)
- 4 Configurable analogue inputs (3 available for Customer use)
- CAN, MPU and alternator frequency speed sensing in one variant
- Real time clock
- Engine pre-heat and post-heat functions
- Engine run-time scheduler
- Engine idle control for starting & stopping
- Fuel usage monitor and low fuel level alarms
- 3 Configurable maintenance alarms
- MODBUS RTU & TCP support
- User configurable MODBUS pages

SPECIFICATIONS

DC SUPPLY

CONTINUOUS VOLTAGE RATING

8V to 35V continuous
5V for upto 1 minute

CRANKING DROPOUTS

Able to survive 0V for 100 mS, providing supply was at least 10V before dropout and supply recovers to 5V. This is achieved without the need for internal batteries.

LEDs and backlight will not be maintained during cranking

MAXIMUM OPERATING CURRENT

260 mA at 12V, 150 mA at 24V

MAXIMUM STANDBY CURRENT

145 mA at 12V, 85 mA at 24V

CHARGE FAIL/EXCITATION RANGE

0V to 35V

GENERATOR & MAINS (UTILITY) VOLTAGE RANGE

15V to 415 V AC (Ph to N)
26 V to 719 V AC (Ph to Ph)

MAGNETIC PICK-UP VOLTAGE RANGE

+/- 0.5 V to 70 V

FREQUENCY RANGE

10,000 Hz (max)

INPUTS

DIGITAL INPUTS A TO H

Negative switching

ANALOGUE INPUTS A TO D

Configurable as:

Negative switching digital input 0-10V sensor 4 mA to 20 mA Resistive Sensor

ANALOGUE INPUTS A TO C

Configurable as:

Negative switching digital input Resistive Sensor

OUTPUTS

OUTPUT A and B (FUEL & START)

15 A DC at supply voltage

AUXILIARY OUTPUTS C, D, E, F, G, H, I & J 2

A DC at supply voltage

DIMENSIONS

OVERALL

216 mm x 158 mm x 43 mm
8.5" x 6.2" x 1.5"

PANEL CUTOUT

184 mm x 137 mm
7.2" x 5.3"

MAXIMUM PANEL THICKNESS

8 mm
0.3"

OPERATING TEMPERATURE

-30°C to +70°C
-22°F to +158°F

STORAGE TEMPERATURE RANGE

-40°C to +85°C
-40°F to +185°F

STANDARDS

UL, cUL Listed
NFPA 70#
Electro-Magnetic Compatibility: BS EN 61000-6-2/6-4 Electrical Safety: BS EN 60950
Temperature: BS EN 60068-2-1, BS EN 60068-2-2
Vibration: BS EN 60068-2-6
Humidity: BS EN 60068-2-30, BS EN 60068-2-78 Shock: BS EN 60068-2-27
Degrees of protection provided by enclosures: BS EN 60529 Ingress Protection: IP65 – Front of module when installed into the control panel with the optional sealing gasket
Applicable codes and standards facilitate compliance to NFPA 70

GCCP 1.2 Control Panel
Electric Power

OPTIONAL MODULES

Remote annunciator

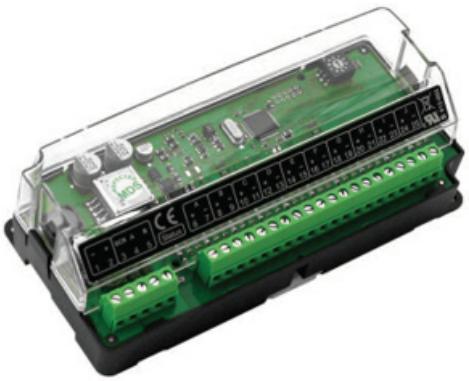
The Remote annunciator with an integral sounder is an output LED expansion module is designed to display a maximum of eight individual LED indications up to a maximum distance of 1 km (0.6 miles). The annunciator will consist of two modules to provide a 16 Channel Fault annunciation. The Panels are fitted with removable label cards which can be used to identify the standard NFPA alarms.

Key Features:

- Panel mount
- Vertical design
- In-built alarm
- Alarm mute button
- Max of 80 configurable LED's

Input Expansion Module

The Input Expansion module is used in conjunction with supported GCCP controllers to provide additional, flexible, input functionality. The module's ID switch is configurable from the module and the 10 inputs can be configured from within the 'host controller'. The inputs can be configured in a number of ways to connect to digital switches, resistive sensors, 0-10V DC signals or 4-20 mA signals.



Key Features:

- DIN rail & chassis mount
- Power on/link lost LED
- 1.2 km (0.75 Mile) working range
- Connect maximum of 4 x Input Modules to a single host controller
- Max of 40 configurable inputs

Output Expansion Module

The output relay expansion module for use with compatible GCCP control modules has been designed to extend a host module's output capabilities.
A maximum of 10 relays can be connected to an individual module at any one time.
All outputs are configurable via the host controller.

Key Features:

- Power On/Link Lost LED ID SWITCH
- 10 Expansion modules can be connected to 1 host controller at a time
- 8 Configurable relay contacts with LED indicators:
  - o 4 Normally Open (N/O)
  - o 4 Change Over (C/O)
- Terminal strip connection for quick and easy set-up

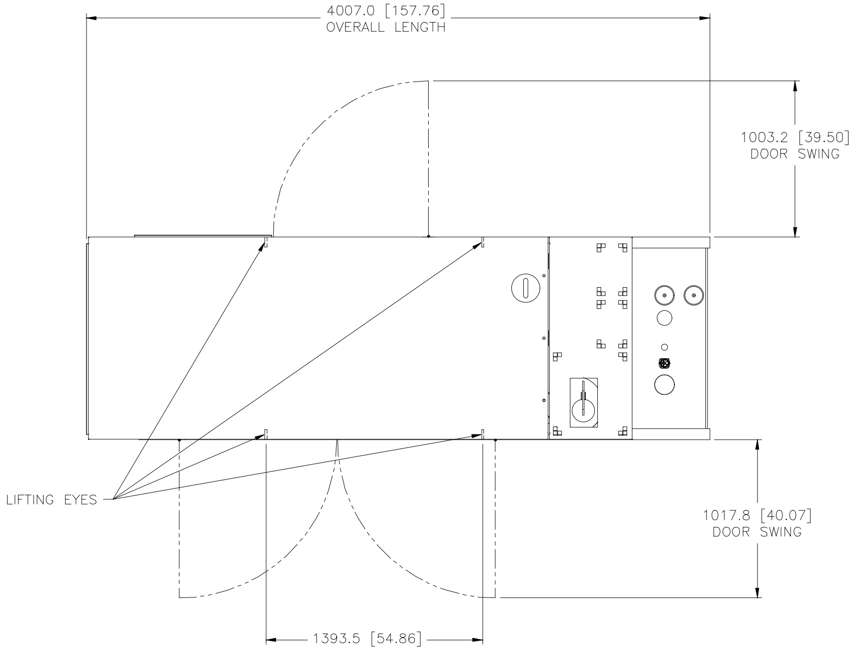
LET'S DO THE WORK.™

LEHE2017-05 (11/24)

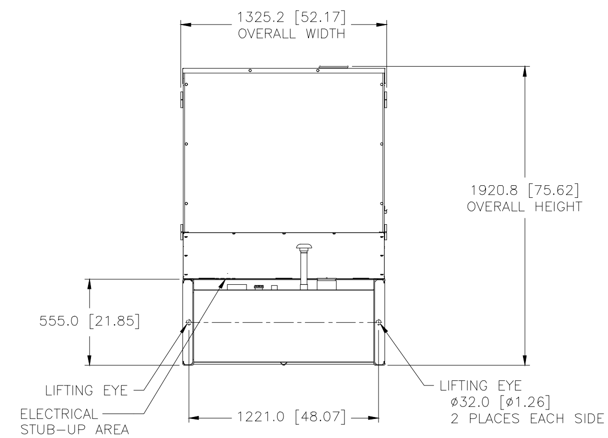
METRIC 610-4588

QTY	ENGINE CONNECTIONS	SIZE	SHEETS
1	EXHAUST	ø127.0 [ø5.00] OD	2
1	FUMES DISPOSAL HOSE	ø25.4 [ø1.00] ID	3
1	COOLANT DRAIN	13/16-16 THD	3

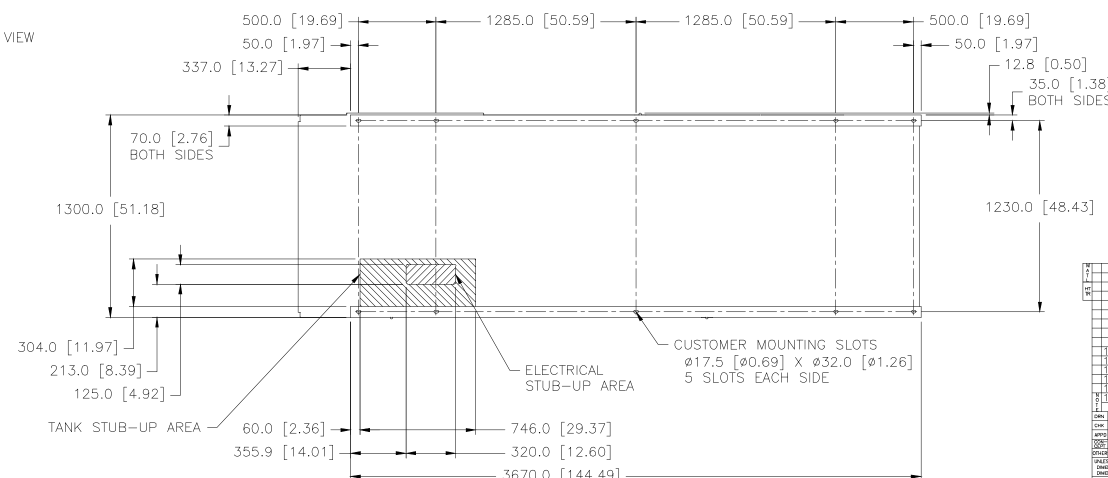
QTY	TANK CONNECTIONS	SIZE	SHEET
1	FUEL LEVEL SWITCH	1-1/2" NPTF	4
1	VENT	1-1/4" NPT	4
1	VALVE	4-8 NPTF THD	4
1	FUEL RETURN	3/4-16 THD	4
1	FUEL SUPPLY	3/4-16 THD	4



TOP VIEW



FRONT VIEW



FOOTPRINT
(DIMENSIONED OUTLINE VIEW FROM ABOVE)
(RIGHT SIDE ORIENTATION)

PACKAGE LIFTED IN 4 PLACES ON TANK

PACKAGE SHOWN WITH MORE DETAIL ON FOLLOWING SHEETS

MODEL	TYPE	PRICING AR	ENCLOSURE	TANK BASE
C7.1	-	LS-4238 CHG 00	LS-4330 CHG 00	LS-4267 CHG 00
		LS-4239 CHG 00		
		LS-4240 CHG 00	LS-4331 CHG 00	
		LS-4241 CHG 00		

SPEC NO.	NAME
1E2966B	IDENT
1E2733	DRAWING-AUTOCAD
1E0198W	BRAND MARKINGS
1E0013G	CONFIDENTIALITY
1E0012A	INTERPRETATION
1E0011	INTPR & TOL

DRN J.E. NELSON
CHK M.J. SWIFT
APPD N.P. MOUNTJOY
CONCEPT EXP PRE PROD. PROD.
OTHER RECORDS X

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MM [INCH]
DIMENSIONS W/O TOL ARE BASIC

SCALE 1 = 10
SHEET 1 OF 4
THIRD ANGLE PROJECTION

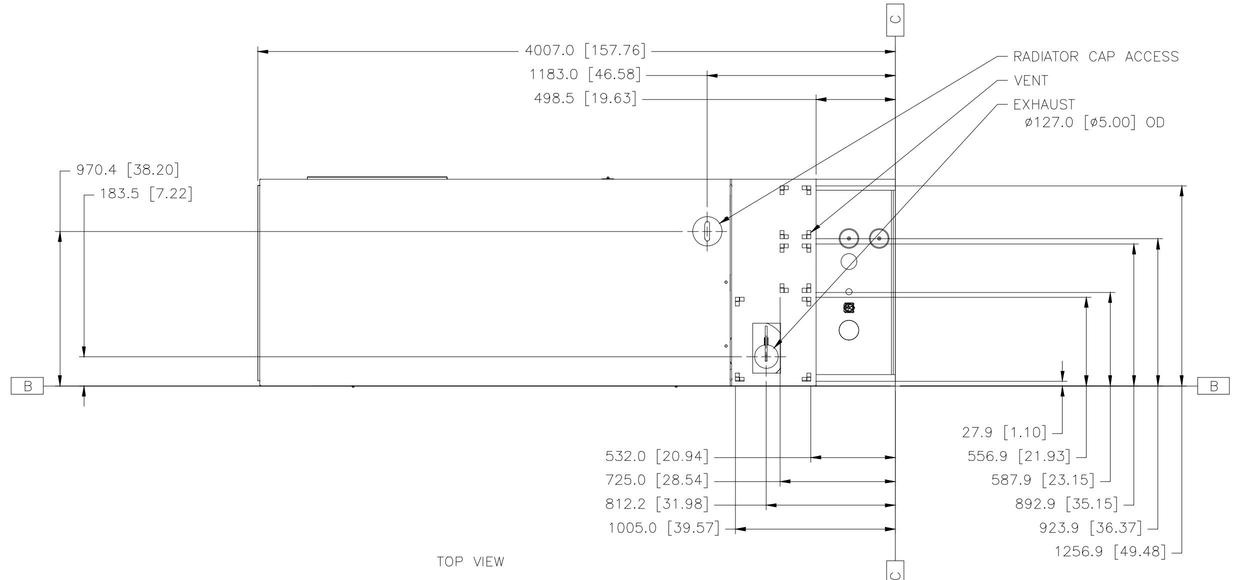
CHG	DATE
01	26APR21

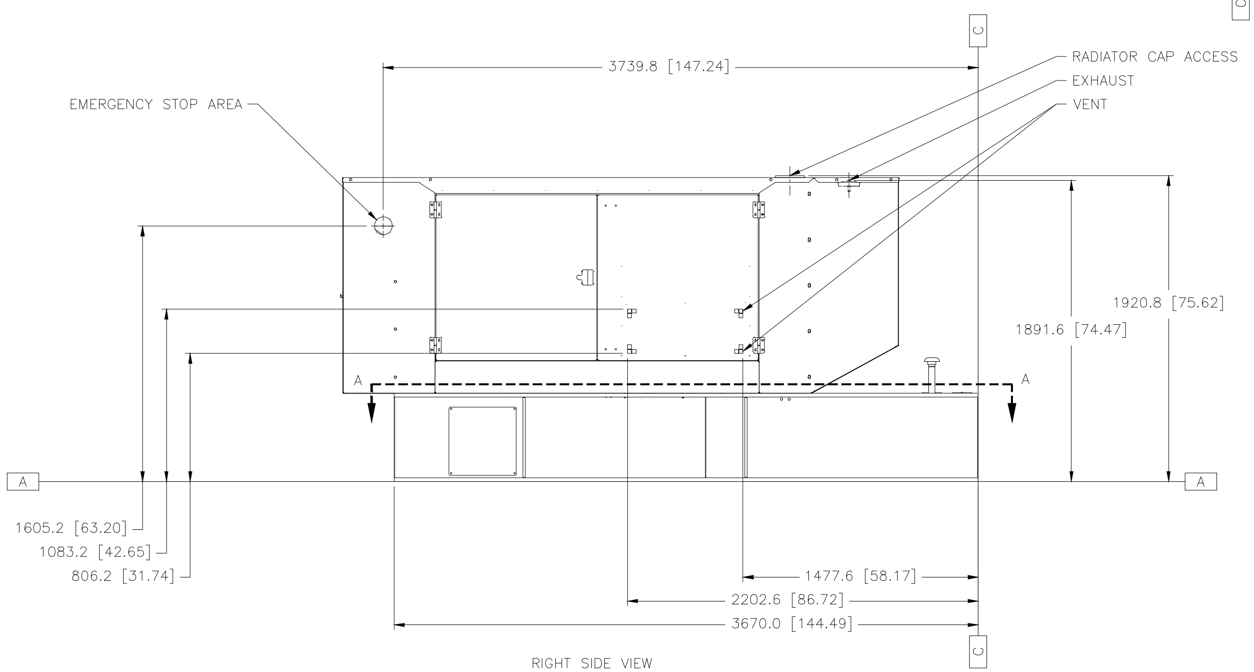
CATERPILLAR INC.

INSTALLATION-COMPOSITE
C7.1 ENCL W/TANK BASE

610-4588 VER - CONTROL DES ☒ SUB W971 E

METRIC 610-4588





SPEC NO.	NAME
1E2966B	IDENT
1E2733	DRAWING–AUTOCAD
1E0198W	BRAND MARKINGS
1E0013G	CONFIDENTIALITY
1E0012A	INTERPRETATION
1E0011	INTPR & TOL

DRN J.E. NELSON
CHK M. J. SWIFT
APPD N.P. MOUNTJOY
CONCEPT EXP PRE PROD. PROD.
OTHER RECORDS X

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MM [INCH]
DIMENSIONS W/O TOL ARE BASIC

SCALE 1 = 10
SHEET 2 OF 4
THIRD ANGLE PROJECTION

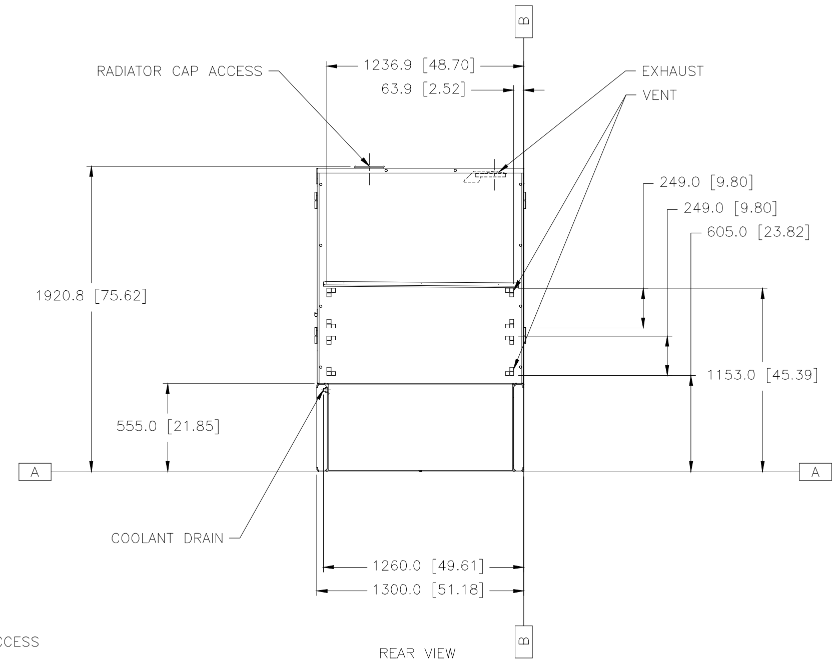
CHG	DATE
01	26APR21

CATERPILLAR INC.

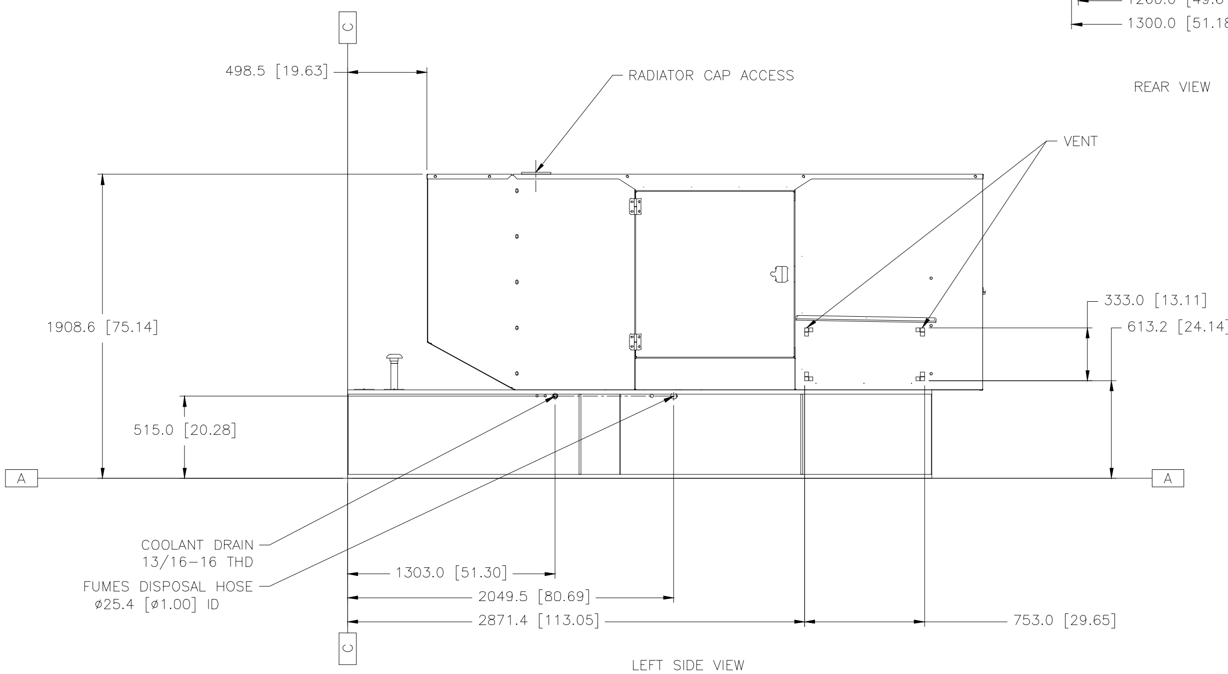
INSTALLATION–COMPOSITE
C7.1 ENCL W/TANK BASE

610–4588 VER - CONTROL DES SUB W971 E

METRIC 610-4588



REAR VIEW



LEFT SIDE VIEW

SPEC NO.	NAME
1E2966B	IDENT
1E2733	DRAWING-AUTOCAD
1E0198W	BRAND MARKINGS
1E0013G	CONFIDENTIALITY
1E0012A	INTERPRETATION
1E0011	INTPR & TOL

DRN J.E. NELSON
CHK M. J. SWIFT
APPD N.P. MOUNTJOY
CONCEPT | EXP | PRE PROD. | PROD.
OTHER RECORDS X

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MM [INCH]
DIMENSIONS W/O TOL ARE BASIC

SCALE 1 = 10
SHEET 3 OF 4
THIRD ANGLE PROJECTION

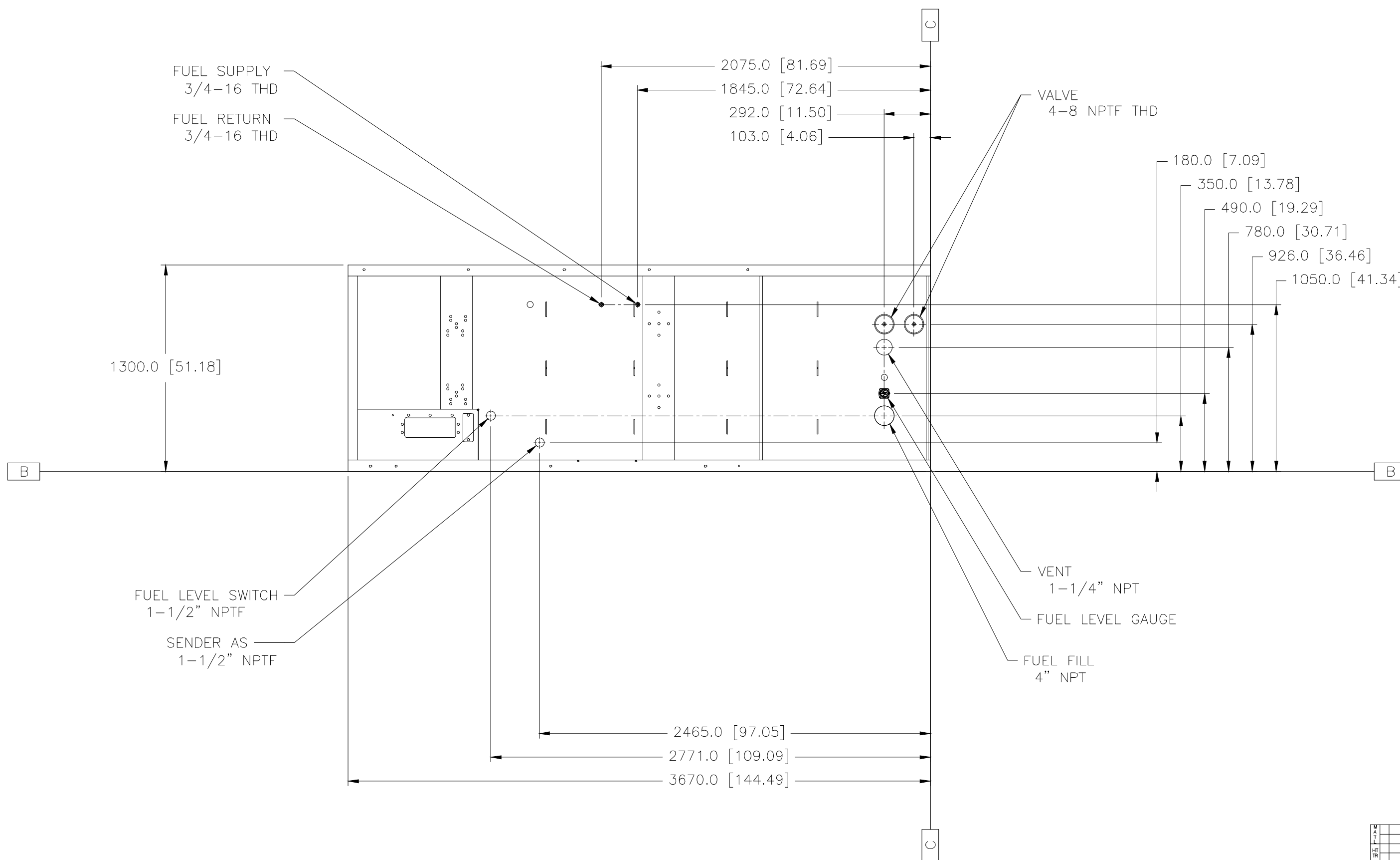
CHG	DATE
01	26APR21

CATERPILLAR INC.

INSTALLATION-COMPOSITE
C7.1 ENCL W/TANK BASE

610-4588 VER - CONTROL DES W971 E

METRIC 610-4588



A-A VIEW (TANK TOP)
LS4267 CHG 00
(RIGHT SIDE ORIENTATION)

SPEC NO.	NAME
1E2966B	IDENT
1E2733	DRAWING-AUTOCAD
1E0198W	BRAND MARKINGS
1E0013G	CONFIDENTIALITY
1E0012A	INTERPRETATION
1E0011	INTPR & TOL

DRN J.E. NELSON
CHK M. J. SWIFT
APPD N.P. MOUNTJOY
CONCEPT | EXP | PRE PROD. | PROD.
OTHER RECORDS X

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MM [INCH]
DIMENSIONS W/O TOL ARE BASIC

SCALE 1 = 10
SHEET 4 OF 4
THIRD ANGLE PROJECTION

CHG	DATE
01	26APR21

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