

# NIKOLAI, ALASKA

## POWER SYSTEM UPGRADE PROJECT

### ISSUED FOR CONSTRUCTION SEPTEMBER 2021



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ISSUED FOR  
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SEPTEMBER  
2021



DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: BCG	DATE: 9/1/21
FILE NAME: NIKO G1	SHEET: G1 OF 9
PROJECT NUMBER:	

 ALASKA ENERGY AUTHORITY	
PROJECT:	NIKOLAI POWER SYSTEM UPGRADE
TITLE:	SCHEDULE OF DRAWINGS & VICINITY PLAN

**HORIZONTAL AND VERTICAL CONTROL STATEMENT**

**COORDINATE SYSTEM:**

THE COORDINATE SYSTEM USED FOR THIS PROJECT WAS DEVELOPED BY THE STATE OF ALASKA DOT&PF, NORTHERN REGION AND IS A LOCAL MCGRATH AREA AND UPPER KUSKOKWIM LOW DISTORTION PROJECTION (LDP) SURFACE GRID COORDINATE SYSTEM - "MCGRATH 2019 LDP"

**MCGRATH 2019 LDP PARAMETERS:**

PROJECTION TYPE: OBLIQUE MERCATOR  
 LATITUDE OF LOCAL ORIGIN: 63°00'00.00000"N  
 LONGITUDE OF LOCAL ORIGIN: 156°00'00.00000"W  
 FALSE NORTHING: 300000.0000 ft  
 FALSE EASTING: 400000.0000 ft  
 GRID SCALE FACTOR: 1.00002 (EXACT)  
 SKEW AXIS AZIMUTH: 60°00'00.00000"  
 LINEAR UNIT: SURVEY FEET  
 DATUM: NAD83 NATIONAL SPATIAL REFERENCE SYSTEM 2011  
 ELLIPSOID: GRS 1980

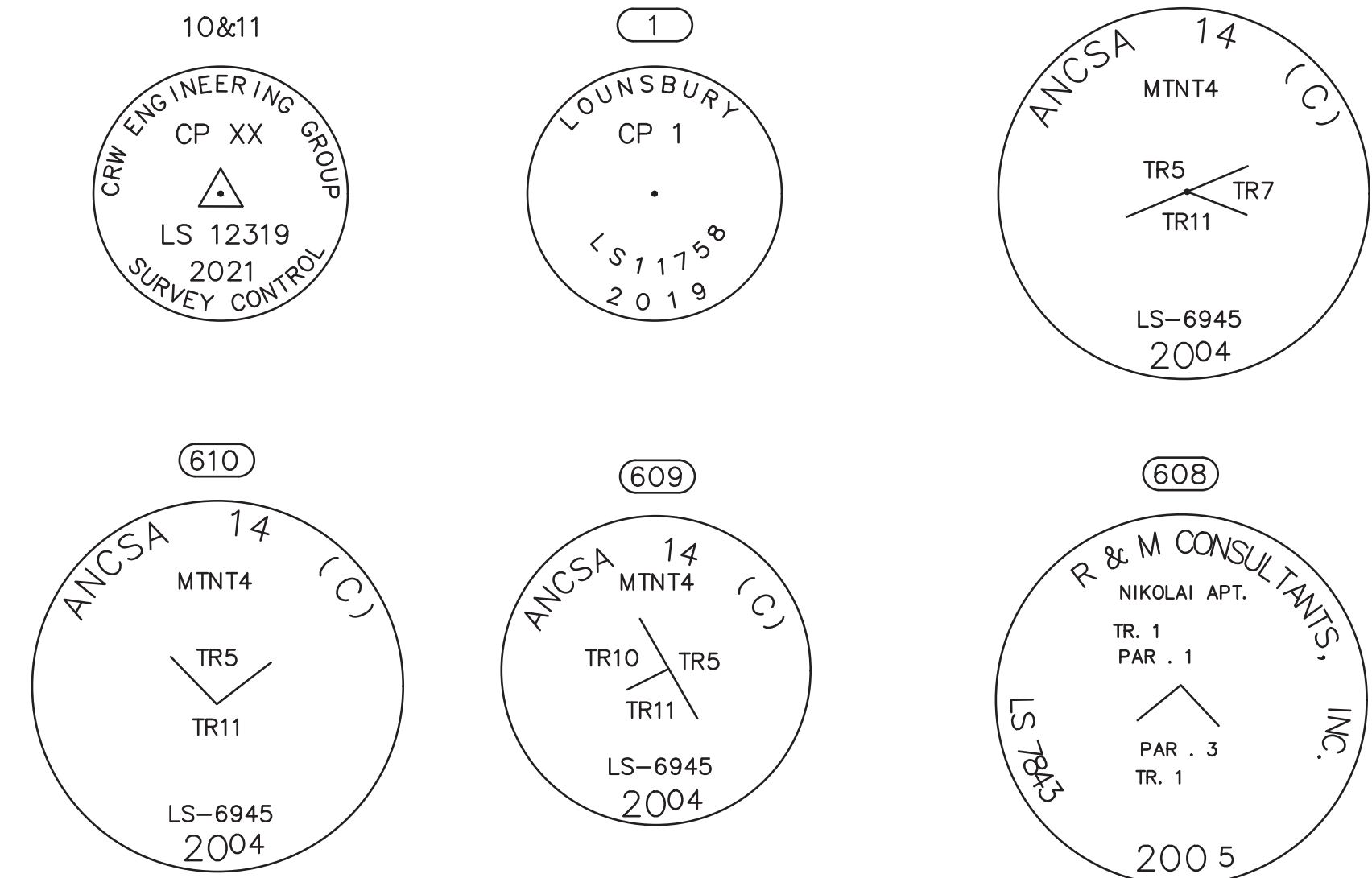
**BASIS OF COORDINATES:**

THE BASIS OF THE HORIZONTAL CONTROL IS POINT 1 AS SHOWN IN THE DOT SURVEY CONTROL SHEET FOR THE NIKOLAI AIRPORT, RECORDED AS PLAT 2020-1.

**VERTICAL DATUM:**

THE VERTICAL DATUM IS MEAN SEA LEVEL (MSL) AS SHOWN/ESTABLISHED BY THE NIKOLAI AIRPORT LAYOUT PLAN (ALP). THE CORRELATION FROM OTHER VERTICAL DATUMS USED AND MSL ELEVATIONS IS AS FOLLOWS:

MSL = 0.0  
 TO CONVERT TO GEOID 12B ADD (+) 6.54' - ELEVATIONS SHOWN ON DOT SURVEY CONTROL SHEET RECORDED 2020-1.  
 TO CONVERT TO GEOID 99 ADD (+) 5.53' - ELEVATIONS SHOWN ON DOT RECORD OF SURVEY (2005) RECORDED PLAT 2005-1.  
 TO CONVERT TO GEOID 06 ADD (+) 7.42' - ELEVATIONS SHOWN ON DCCED CONTROL DIAGRAM.



**SURVEY CONTROL**



**LEGEND**

- EXISTING BRASS CAP
- EXISTING ALUMINUM CAP
- TEMPORARY BENCHMARK
- EXISTING REBAR OR IRON PIPE
- ▲ CONTROL SET BY CRW
- 500 CONTROL POINT NUMBER

VERTICAL CONTROL				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	14159831.54	24661299.58	436.61'	FOUND 2" ALUMINUM CAP, FLUSH W/ GRAVEL AIRPORT APRON, PLUMB & GOOD CONDITION
351	14159333.7	24660274.0	433.21'	SET 10" STEEL SPIKE IN TELEPHONE POLE, 1.0' ABOVE GROUND ON EAST SIDE OF POLE 'A4 U'
352	14159184.7	24660331.1	433.33'	TOP OF WELL CASING OF 'TOP OF THE KUSKOKWIM' SCHOOL WELL, PAINTED WITH 'X'
10	14159219.77	24660409.46	431.79	SET 2" ALUMINUM CAP ON 5/8" X 30" REBAR, 0.1' BELOW GRADE
11	14159405.69	24660335.97	430.96	SET 2" ALUMINUM CAP ON 5/8" X 30" REBAR, 0.1' BELOW GRADE

HORIZONTAL CONTROL				
POINT NO.	NORTHING	EASTING	DESCRIPTION	
1	14159831.54	24661299.58	FOUND 2" ALUMINUM CAP, FLUSH W/ GRAVEL AIRPORT APRON, PLUMB & GOOD CONDITION	
10	14159219.77	24660409.46	SET 2" ALUMINUM CAP ON 5/8" X 30" REBAR, 0.1' BELOW GRADE	
11	14159405.69	24660335.97	SET 2" ALUMINUM CAP ON 5/8" X 30" REBAR, 0.1' BELOW GRADE	
603	14159495.42	24660150.91	FOUND 3 1/4" BRASS CAP, 0.3' ABOVE GROUND, PLUMB & GOOD CONDITION	
604	14159664.03	24661440.16	FOUND 1 1/2" ALUMINUM CAP ON 5/8" REBAR, 0.1' ABOVE GROUND, PLUMB & GOOD CONDITION	
605	14159355.92	24661136.36	FOUND 2" ALUMINUM CAP, FLUSH W/ GROUND, PLUMB & GOOD CONDITION	
606	14159215.58	24660872.45	FOUND 2" ALUMINUM CAP, 0.5' BELOW GRADE, PLUMB & GOOD CONDITION	
607	14159287.95	24660758.12	FOUND 3 1/4" BRASS CAP, 0.3' BELOW GRADE, PLUMB & GOOD CONDITION	
608	14159458.49	24660666.67	FOUND 3 1/4" BRASS CAP ON 2 1/2" STAINLESS STEEL POST, 0.2' ABOVE GROUND, PLUMB & GOOD CONDITION	
609	14159348.20	24660460.53	FOUND 2 1/2" ALUMINUM CAP ON 5/8" REBAR, FLUSH W/ GROUND, PLUMB & GOOD CONDITION	
610	14159176.16	24660555.60	FOUND 3 1/4" BRASS CAP ON 2 1/2" STAINLESS STEEL POST, FLUSH W/ GROUND, PLUMB & GOOD CONDITION	
611	14159189.90	24660224.26	FOUND 3 1/4" BRASS CAP ON 2 1/2" STAINLESS STEEL POST, FLUSH W/ GROUND, PLUMB & GOOD CONDITION	
612	14159193.70	24660222.29	FOUND 2 1/2" ALUMINUM CAP, 0.2' BELOW GROUND, PLUMB & GOOD CONDITION	

**NOTES**

- ALL COORDINATES AND DIMENSIONS SHOWN ARE IN U.S. SURVEY FEET.
- FIELD SURVEY WAS CONDUCTED JUNE 29, 2021 THROUGH JULY 2, 2021.
- TEMPORARY BENCH MARKS 351 AND 352 WERE ESTABLISHED AND LEVELED TO FROM POINT 1 USING LEICA DNA10 LEVEL AND PROCESSED USING LEICA INFINITY VER. 3.0.
- ALL POINTS SHOWN HEREON WERE ESTABLISHED BY STATIC OR RTK GPS SURVEY METHODS, USING LEICA 1200 & GS14 GPS UNITS, AND PROCESSED USING LEICA GEO OFFICE VER. 8.4 AND LEICA INFINITY VER. 3.0.
- WHETHER LISTED OR NOT, ALL MONUMENTS OR PROPERTY MARKERS, CORNERS, OR ACCESSORIES, WHICH WILL BE DISTURBED OR BURIED, SHALL BE REFERENCED OR RE-ESTABLISHED IN THEIR ORIGINAL POSITION (A.S. 19.10.260) AND RECORDED (A.S. 34.65.040).
- ALL MONUMENTS ARE SUBJECT TO SEASONAL DISTURBANCE. ELEVATIONS MUST BE VERIFIED PRIOR TO CONSTRUCTION.
- THE BACKGROUND LOT INFORMATION SHOWN IS FOR ORIENTATION PURPOSES ONLY AND DOES NOT REPRESENT ROW.

REFERENCE POINTS			
POINT NO.	NORTHING	EASTING	DESCRIPTION
10211	14159357.6	24660478.2	SET 30" REBAR, 1.0' ABOVE GRADE, 20' EAST FROM NW CORNER OF TRACT 1 PARCEL 3 ON NORTHERN PROPERTY LINE.
10212	14159376.5	24660513.5	SET 30" REBAR, 1.0' ABOVE GRADE, 60' EAST FROM NW CORNER OF TRACT 1 PARCEL 3 ON NORTHERN PROPERTY LINE, NIKOLAI AIRPORT

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NIKOLAI POWER SYSTEM UPGRADE  
 SURVEY CONTROL  
 NIKOLAI, ALASKA

NO.	REVISION	DATE	BY
0	ISSUED FOR CONSTRUCTION	9/1/21	BWW

Plot Date: 8/31/21  
 Designed: KEG  
 Drawn: BWW  
 Approved: KH



1

**VICINITY MAP**



Plot: 8/31/21
Date: 8/31/21
Designed: KEG
Drawn: KEG
Approved: KH

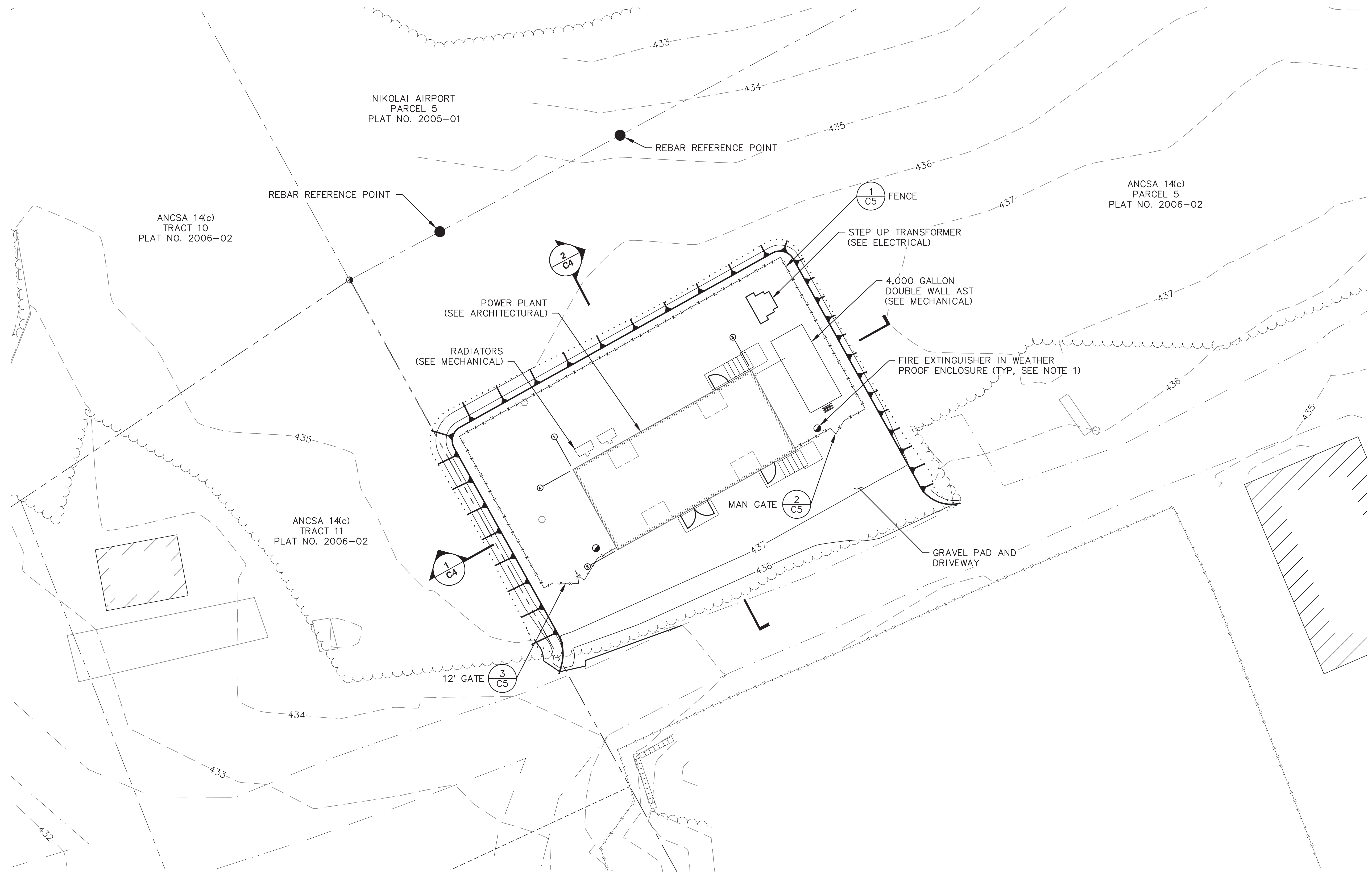
NO.	REVISION	BY	DATE
0	ISSUED FOR CONSTRUCTION	KH	9/1/21

**NIKOLAI POWER SYSTEM UPGRADE**  
VICINITY MAP  
NIKOLAI, ALASKA



Sheet No. **C1**

File: J:\JobsData\72307.00 Nikolai RPSU\00 CADD 2019\01 Working Set\01 Civil\72307.00 Site Plan.dwg Plot Date: 8/31/2021 2:04 PM



**CAUTION - BURIED UTILITIES**  
 CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITIES TO PERFORM UTILITY LOCATES PRIOR TO ANY EXCAVATIONS. CONTRACTOR SHALL REPAIR DAMAGED UTILITIES AT NO ADDITIONAL COST TO THE PROJECT.

1

**SITE PLAN**



**NOTES:**  
 1. FURNISH AND INSTALL PORTABLE FIRE EXTINGUISHERS AT LOCATIONS SHOW (●). EXTINGUISHERS SHALL BE AMEREX A411 OAE. EXTERIOR EXTINGUISHERS SHALL BE MOUNTED WITHIN ENCLOSURES (STRIKE FIRST USA MODEL HDOC-20 OAE).



**NIKOLAI POWER SYSTEM UPGRADE**  
**SITE PLAN**  
 NIKOLAI, ALASKA

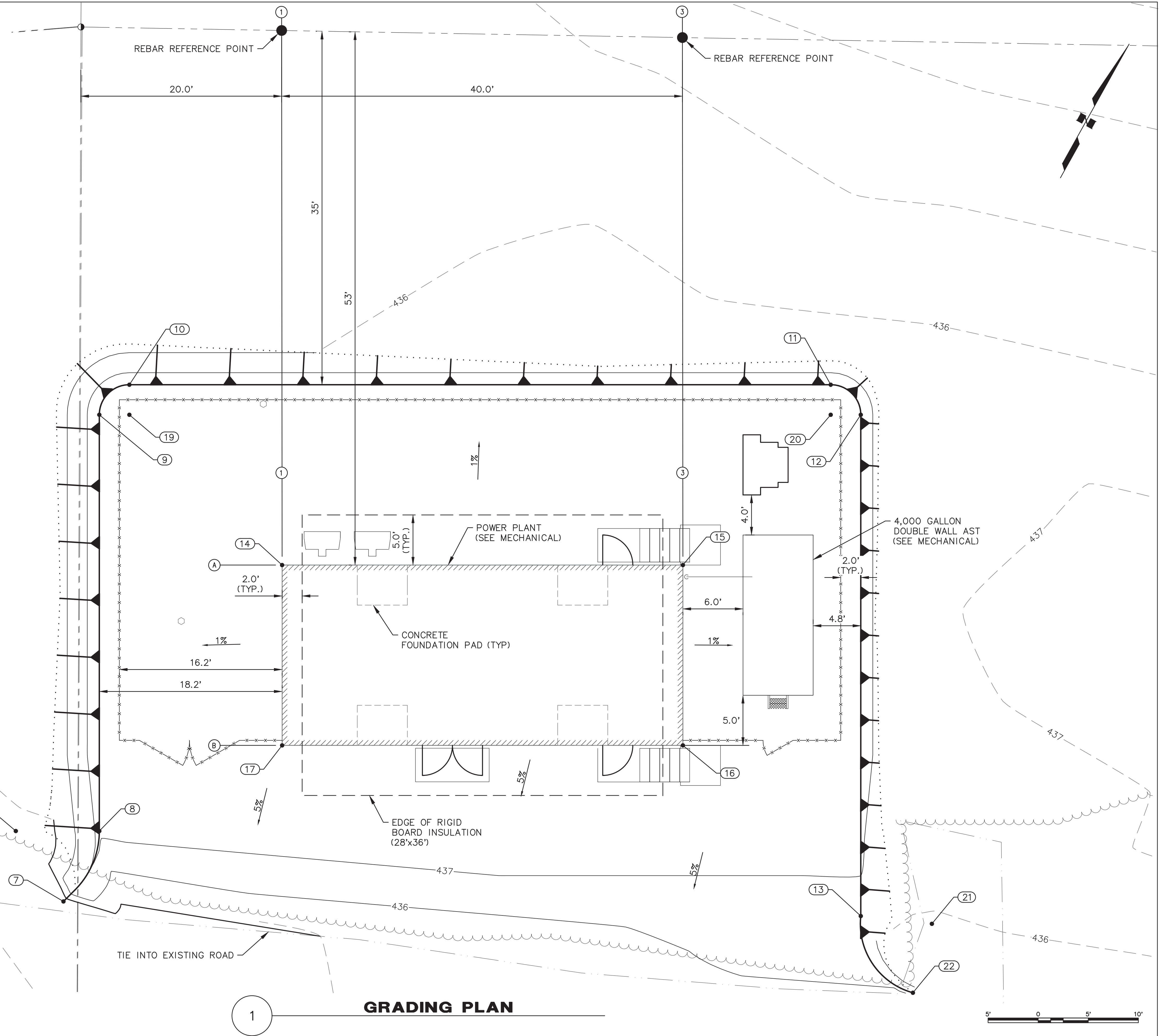
NO.	REVISION	BY	DATE
0	ISSUED FOR CONSTRUCTION	KH	9/1/21

Plot Date: 8/31/21  
 Designed: KEG  
 Drawn: KEG  
 Approved: KH

Sheet No. **C2**

File: J:\JobsData\72307.00 Nikolai RPSU\00 CADD 2019\01 Working Set\01 Civil\72307.00 Grading.dwg Plot Date: 8/31/2021 2:04 PM

POINT TABLE				
POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
7	434.37	14159271.12	24660501.53	MATCH EXISTING
8	437.60	14159279.00	24660501.23	TOP OF PAD
9	437.60	14159315.29	24660480.99	TOP OF PAD
10	437.60	14159319.37	24660482.15	TOP OF PAD
11	437.60	14159353.47	24660543.28	TOP OF PAD
12	437.60	14159352.31	24660547.36	TOP OF PAD
13	437.60	14159308.62	24660571.73	TOP OF PAD
14	437.85	14159311.08	24660504.23	POWER PLANT CORNER
15	437.85	14159330.56	24660539.16	POWER PLANT CORNER
16	437.85	14159314.84	24660547.93	POWER PLANT CORNER
17	437.85	14159295.36	24660513.00	POWER PLANT CORNER
18	0.00	14159274.94	24660493.95	RADIUS POINT
19	437.61	14159316.75	24660483.61	RADIUS POINT
20	437.63	14159350.85	24660544.74	RADIUS POINT
21	0.00	14159311.40	24660578.31	RADIUS POINT
22	435.73	14159304.47	24660580.01	MATCH EXISTING ROAD

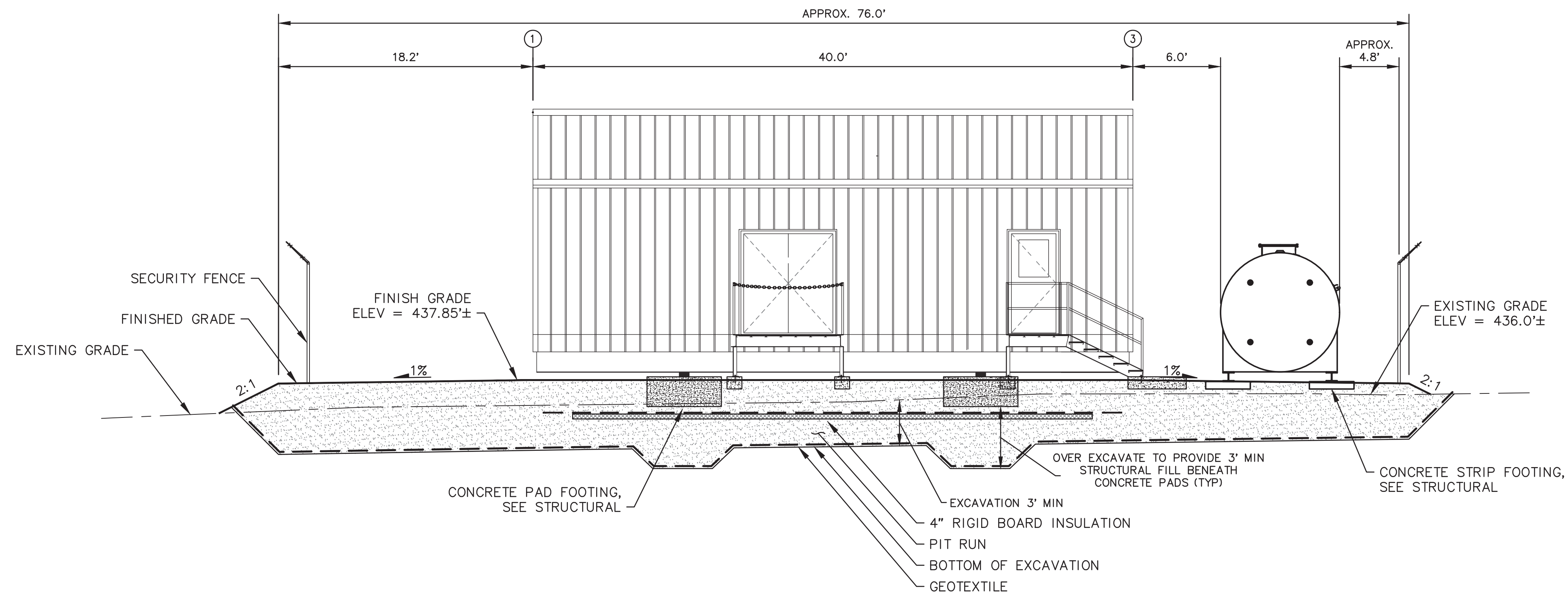


**NIKOLAI POWER SYSTEM UPGRADE**  
**GRADING PLAN**  
 NIKOLAI, ALASKA

NO.	REVISION	BY	DATE
0	ISSUED FOR CONSTRUCTION	KH	9/1/21

Plot: 8/31/21  
 Date: 8/31/21  
 Designed: KEG  
 Drawn: KEG  
 Approved: KH

Sheet No. **C3**

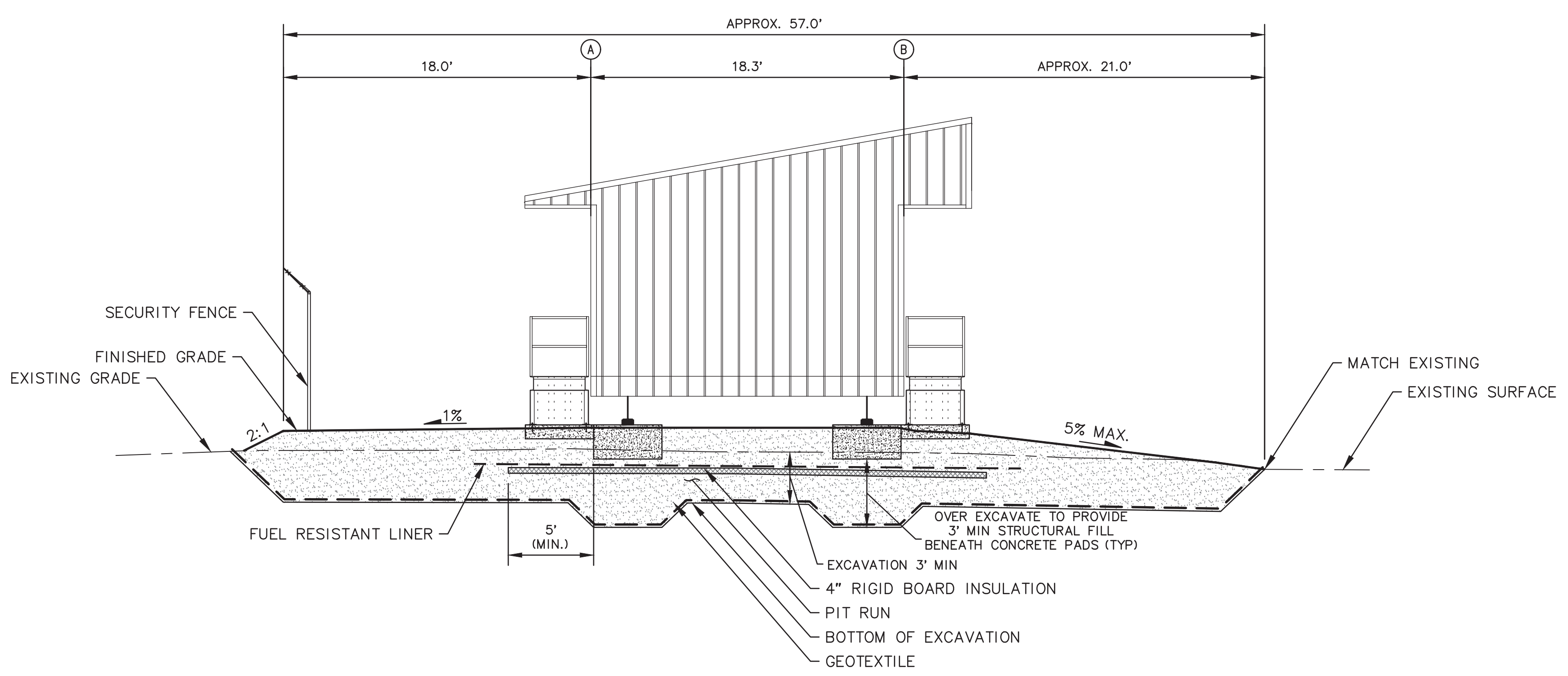


1 POWER PLANT PAD SECTION



SEQUENCE OF CONSTRUCTION:

1. CLEAR AND GRUB EXISTING GROUND BENEATH PROPOSED FOUNDATION PAD FOOTPRINT. EXCAVATE A MINIMUM 3 FT TO EXPOSE IN-SITU UNDERNEATH SILTS (BOTTOM OF EXCAVATION ELEV = 433.0'), PERFORM ADDITIONAL EXCAVATION BENEATH CONCRETE PAD FOOTING AS SHOWN.
2. SCARIFY EXPOSED SILTS 8" DEEP THEN PROOF COMPACT TO 95% MAX DRY DENSITY.
3. INSTALL GEOTEXTILE FABRIC.
4. PLACE AND COMPACT CLASSIFIED FILL MATERIAL IN ACCORDANCE WITH THE SPECIFICATIONS.
5. INSTALL RIGID BOARD INSULATION AND FUEL RESISTANT LINER. COVER LINER WITH GEOTEXTILE. TOP OF LINER ELEV = 435.5'.
6. EXCAVATE CLASSIFIED FILL AND INSTALL CONCRETE FOOTERS AS SHOWN.



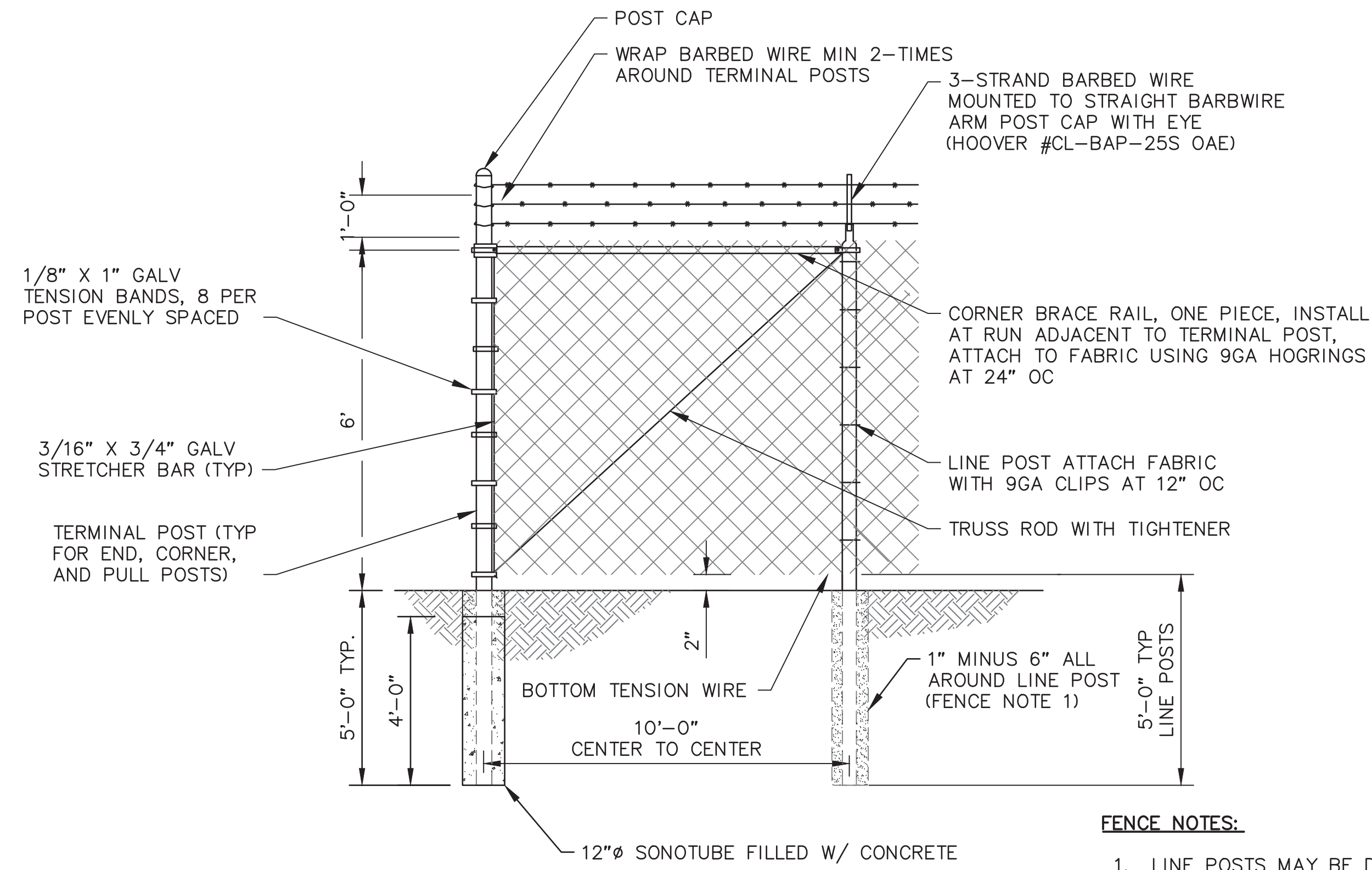
2 POWER PLANT PAD SECTION



NIKOLAI POWER SYSTEM UPGRADE  
TYPICAL SECTIONS  
NIKOLAI, ALASKA

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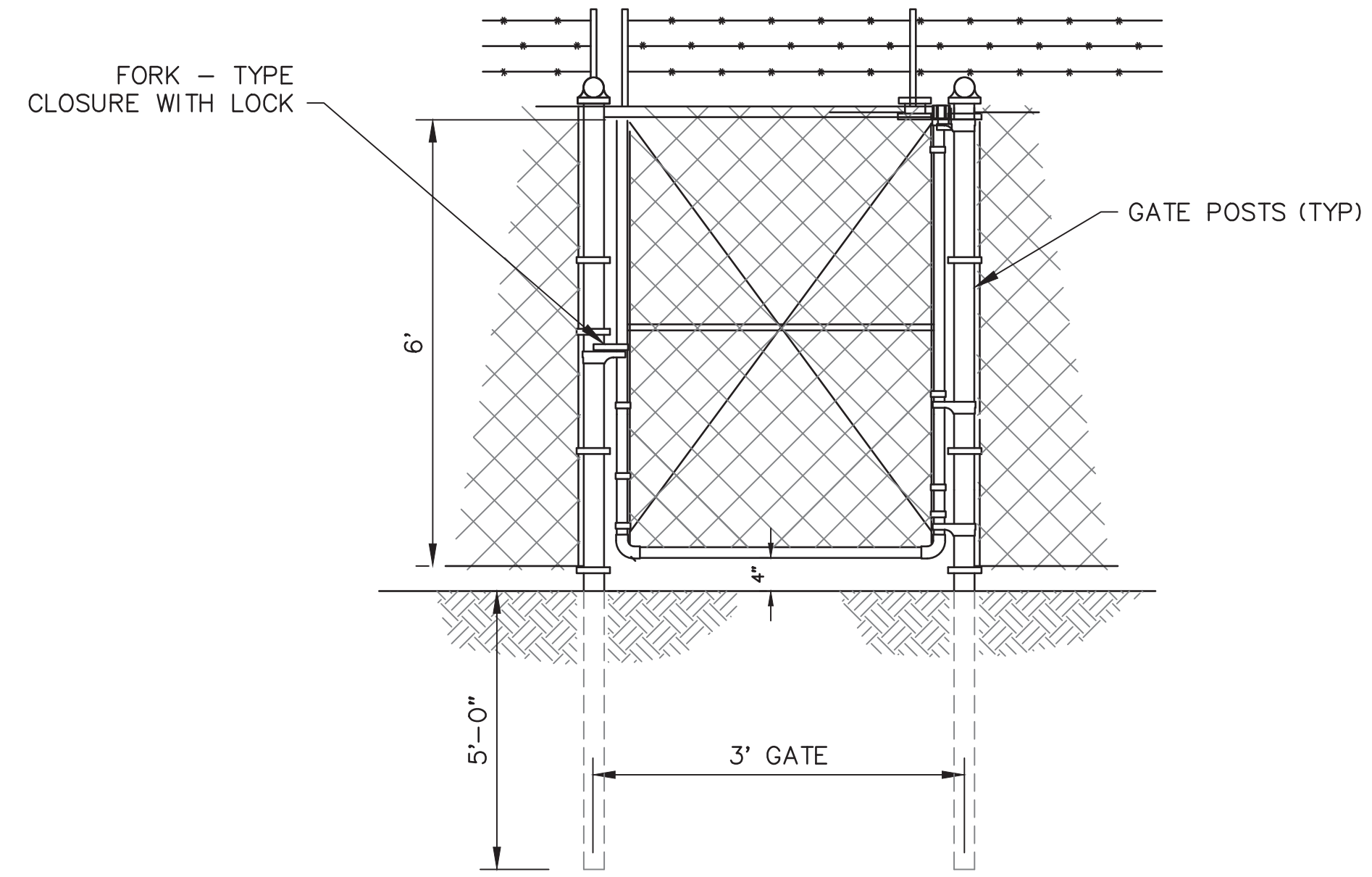
Plot Date: 8/31/21	Designed: KEG	Drawn: KEG	Approved: KH
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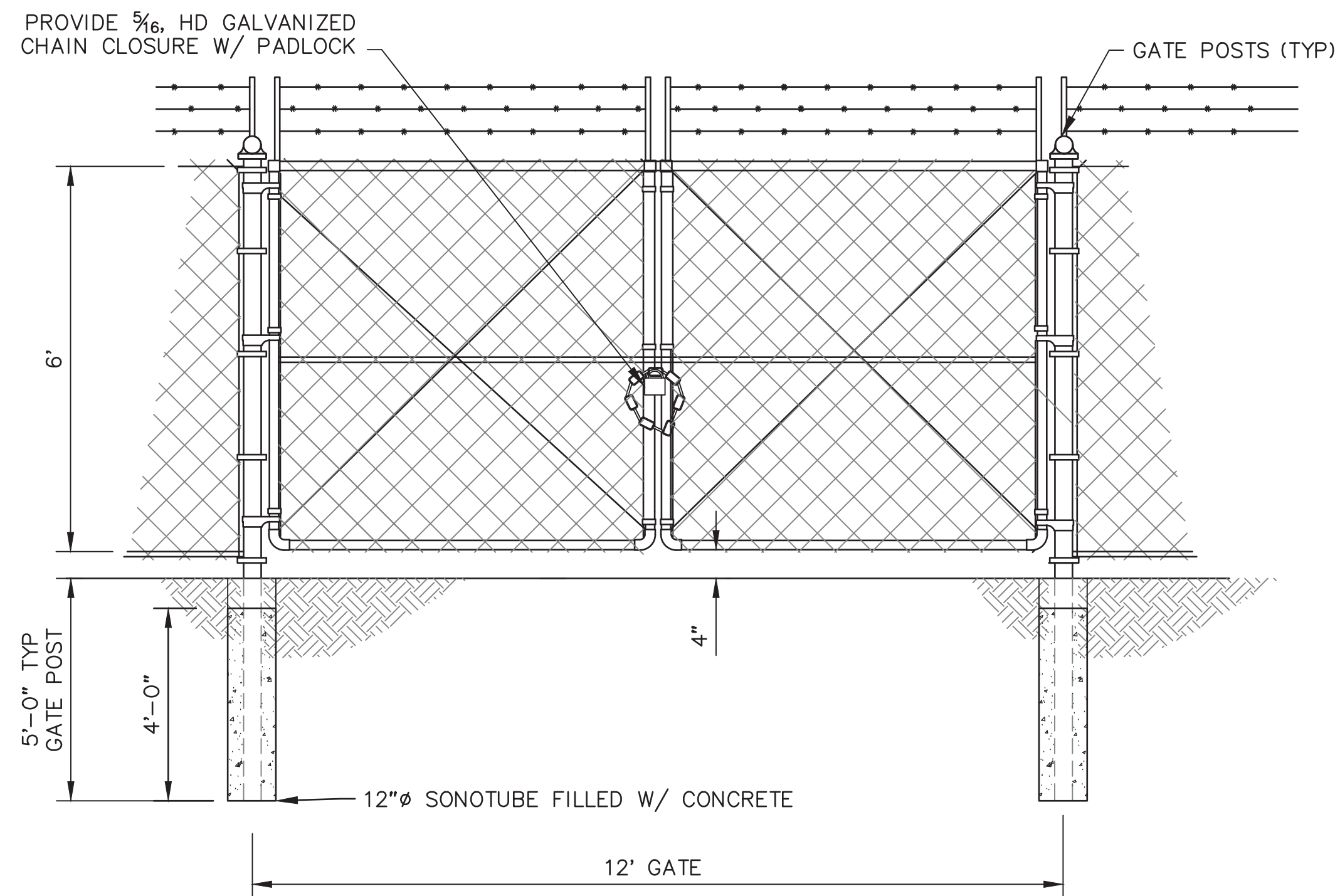
**FENCE NOTES:**

1. LINE POSTS MAY BE DRIVEN IF APPROVED BY ENGINEER. CORNER POSTS SHALL BE BEDDED IN CONCRETE AS SHOWN.

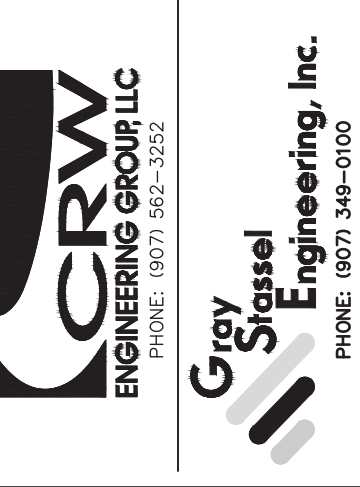
1 **FENCE DETAIL**



2 **MAN GATE DETAIL**



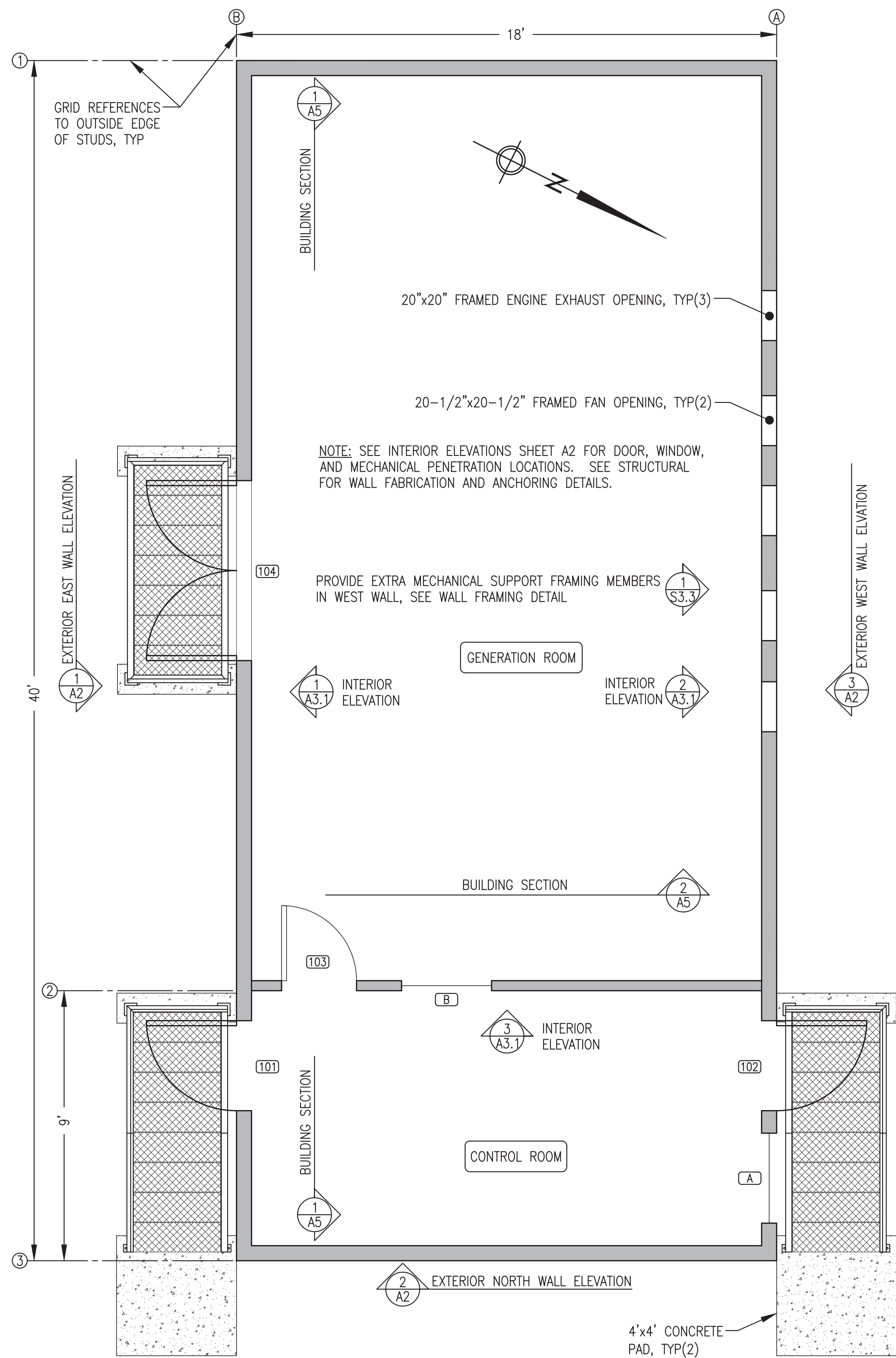
3 **12-FOOT DOUBLE SWING GATE DETAIL**



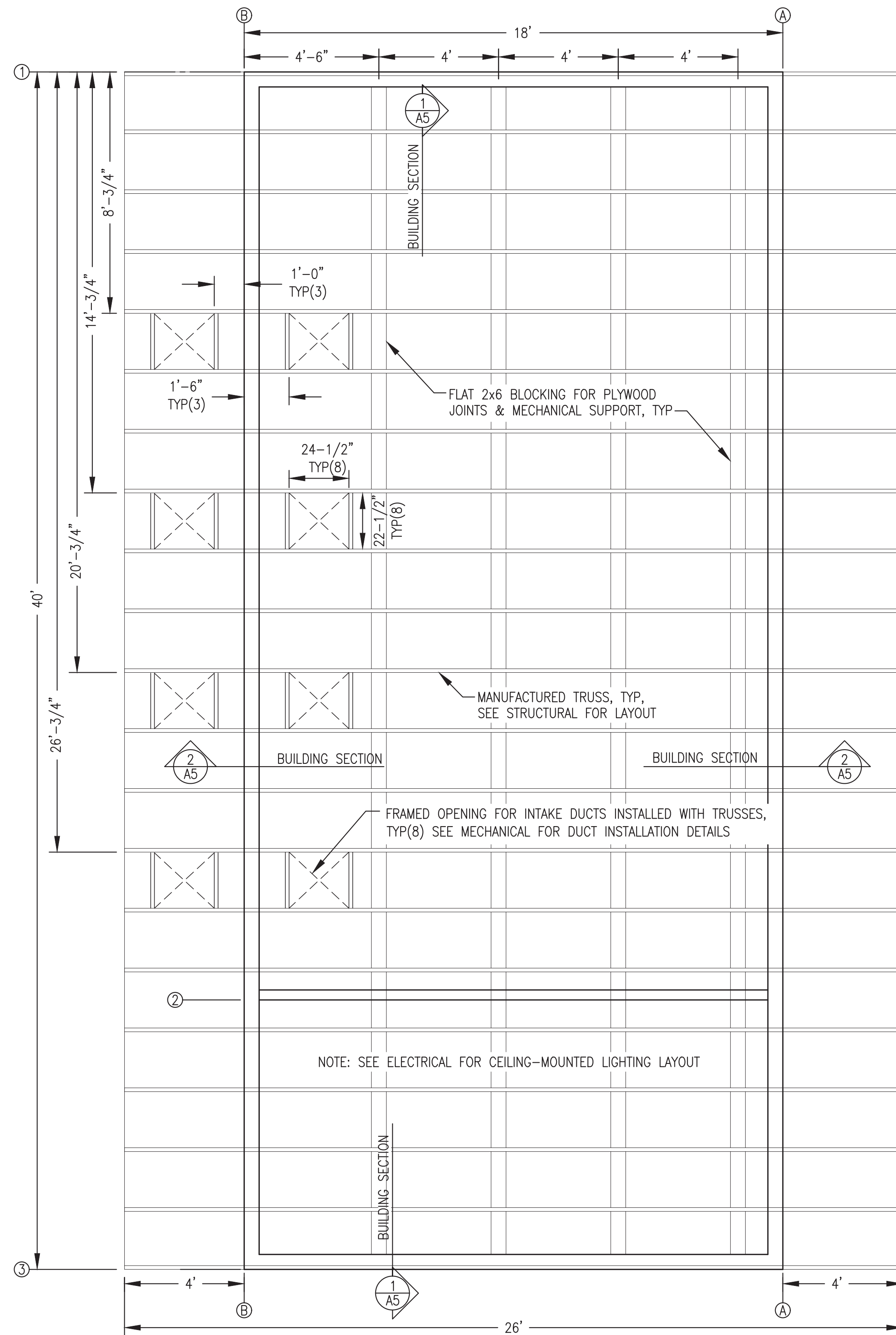
NIKOLAI POWER SYSTEM UPGRADE  
 FENCE DETAILS  
 NIKOLAI, ALASKA

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1 BUILDING PLAN  
3/8"=1'-0"




2 ROOF PLAN  
3/8"=1'-0"

CODE ANALYSIS – 2012 EDITION INTERNATIONAL BUILDING CODE	
OCCUPANCY CLASSIFICATION	REF: IBC-2012, SEC. 306.2
GROUP F-1: FACTORY INDUSTRIAL MODERATE HAZARD – ELECTRIC GENERATION PLANT	
TYPE OF CONSTRUCTION	REF: IBC-2012, TABLE 601
TYPE V-B (NON-RATED)	REF: IBC-2012, SEC. 602.5
BUILDING HEIGHTS AND AREAS	REF: IBC-2012, TABLE 503
ALLOWED 40'-0" 1 STORY 8,500 S.F. PROVIDED: 16'-0" 1 STORY 720 S.F.	
FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS	REF: IBC-2012, TABLE 601
STRUCTURAL FRAME: 0 HR BEARING WALLS: 0 HR INTERIOR PARTITIONS: 0 HR FLOOR: 0 HR ROOF: 0 HR	
FIRE RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS	REF: IBC-2012, TABLE 602
EXTERIOR WALLS 10' < X < 30' 0 HR	
FIRE PROTECTION SYSTEM	REF: IBC-2012, SEC. 903.2.4
FIRE PROTECTION NOT REQUIRED. WATER MIST FIRE SUPPRESSION SYSTEM PROVIDED (SEE MECHANICAL).	
OCCUPANT LOAD	REF: IBC-2012, TABLE 1004.1.2
MECHANICAL/STORAGE = 300 S.F./PERSON 720 S.F./300 S.F. PER OCCUPANT = 2 OCCUPANTS	
MEANS OF EGRESS – TRAVEL DISTANCE	REF: IBC-2012, TABLE 1016.2
REQUIRED = 200' PROVIDED = 45'	
COMBUSTIBLE LIQUIDS STORAGE	REF: IBC-2012, TABLE 307.1(1)(i) & IFC 2009 603.3.2
660 GAL CLASS II LIQUIDS 200 GAL CLASS II (DIESEL FUEL DAY TANK)	
13200 GAL CLASS IIIB LIQUIDS 110 GAL CLASS IIIB (GLYCOL & LUBE OIL)	

- ARCHITECTURAL GENERAL NOTES:**
- 1) PROVIDE A COMPLETE AND OPERATIONAL FACILITY. ALL WORK TO BE IN ACCORDANCE WITH CURRENT APPROVED EDITIONS OF THE IBC, IMC, IFC, AND NEC INCLUDING STATE OF ALASKA AMENDMENTS.
  - 2) SEE CIVIL SITE PLAN FOR LOCATION AND LAYOUT. PROVIDE SEPARATION TO PROPERTY BOUNDARIES IN ACCORDANCE WITH CODE ANALYSIS.
  - 3) DIMENSIONS TO FACE OF STUD OR STRUCTURAL MEMBER UNLESS INDICATED OTHERWISE.
  - 4) FRAME EXTERIOR WALLS WITH 6" DIMENSIONAL LUMBER AND INTERIOR WALL WITH 4" DIMENSIONAL LUMBER WITH 5/8" CDX PLYWOOD BOTH SIDES. PROVIDE CONTINUOUS 2x BLOCKING ON PLYWOOD JOINTS AND AS INDICATED.
  - 5) FRAME OPENINGS, INSTALL AIR INTAKE DUCTS AND TRIM OUT AS INDICATED. SEE MECHANICAL FOR FLASHING & INSTALLATION DETAILS.
  - 6) ALL EXPOSED SURFACES TO BE PAINTED OR FACTORY FINISHED. CAULK ALL JOINTS AND PROVIDE FLASHING AS NEEDED TO PROVIDE COMPLETE WEATHER PROOF INSTALLATION.
  - 7) INSTALL LOW PROFILE 1/4" METAL SIDING OVER INTERIOR WALL SURFACES AND 5/8" METAL SIDING OVER INTERIOR CEILING SURFACES. SEE SHEETS A3.1 AND A6.
  - 8) INSTALL METAL SIDING OVER ALL EXTERIOR WALL SURFACES. SEE SHEETS A2 AND A6.
  - 9) INSTALL ICE AND WATER SHIELD OVER ROOF SHEATHING AND INSTALL NEW METAL ROOFING OVER ENTIRE ROOF. INSTALL PERFORATED SOFFIT OVER ROOF OVERHANGS. SEE SHEETS A5 AND A6.
  - 10) INSTALL DOORS AND WINDOWS AS INDICATED. SEE PLANS AND ELEVATIONS FOR LOCATIONS AND SEE SHEET A4 FOR DETAILS AND SPECIFICATIONS.

ISSUED FOR  
CONSTRUCTION  
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ALASKA ENERGY AUTHORITY

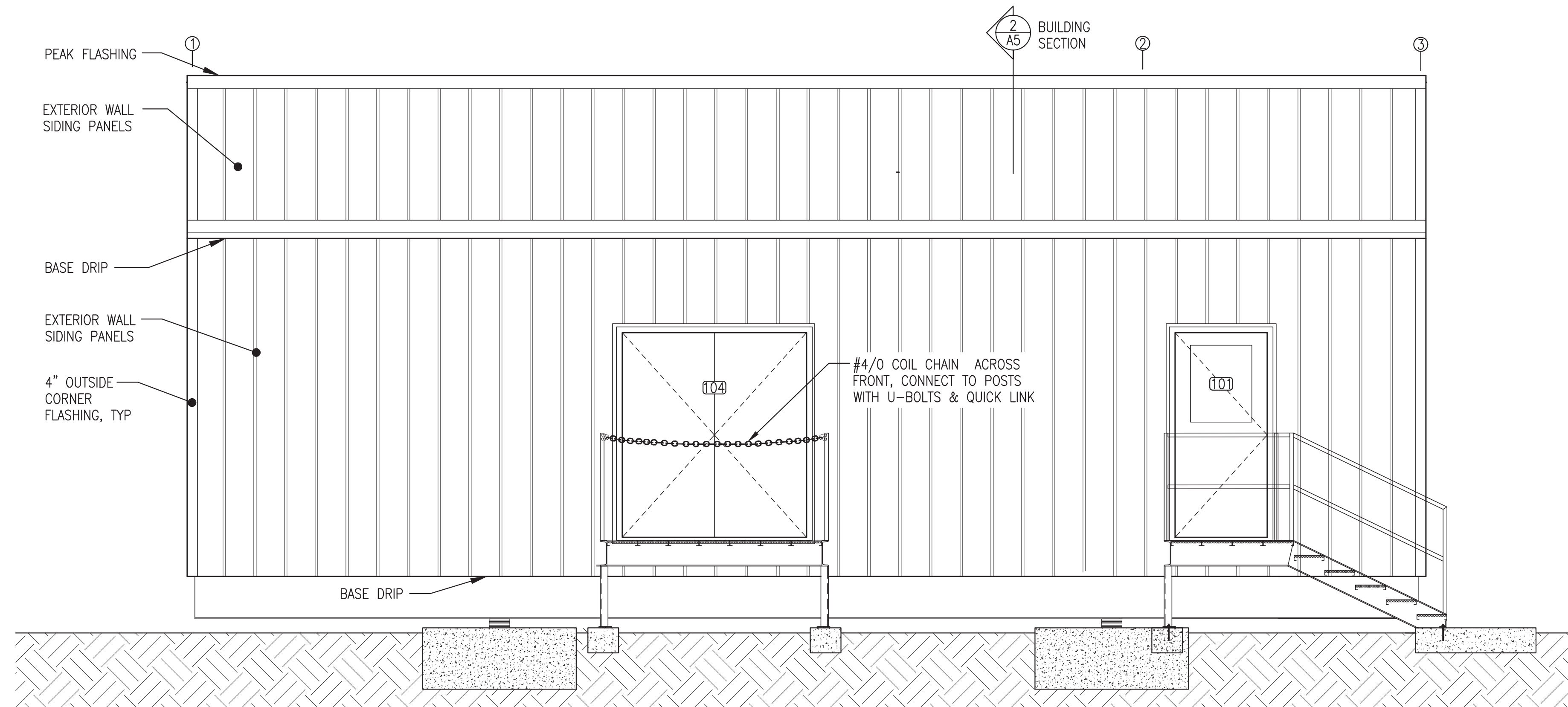
PROJECT: NIKOLAI POWER SYSTEM UPGRADE

TITLE: BUILDING PLANS, CODE ANALYSIS, & NOTES

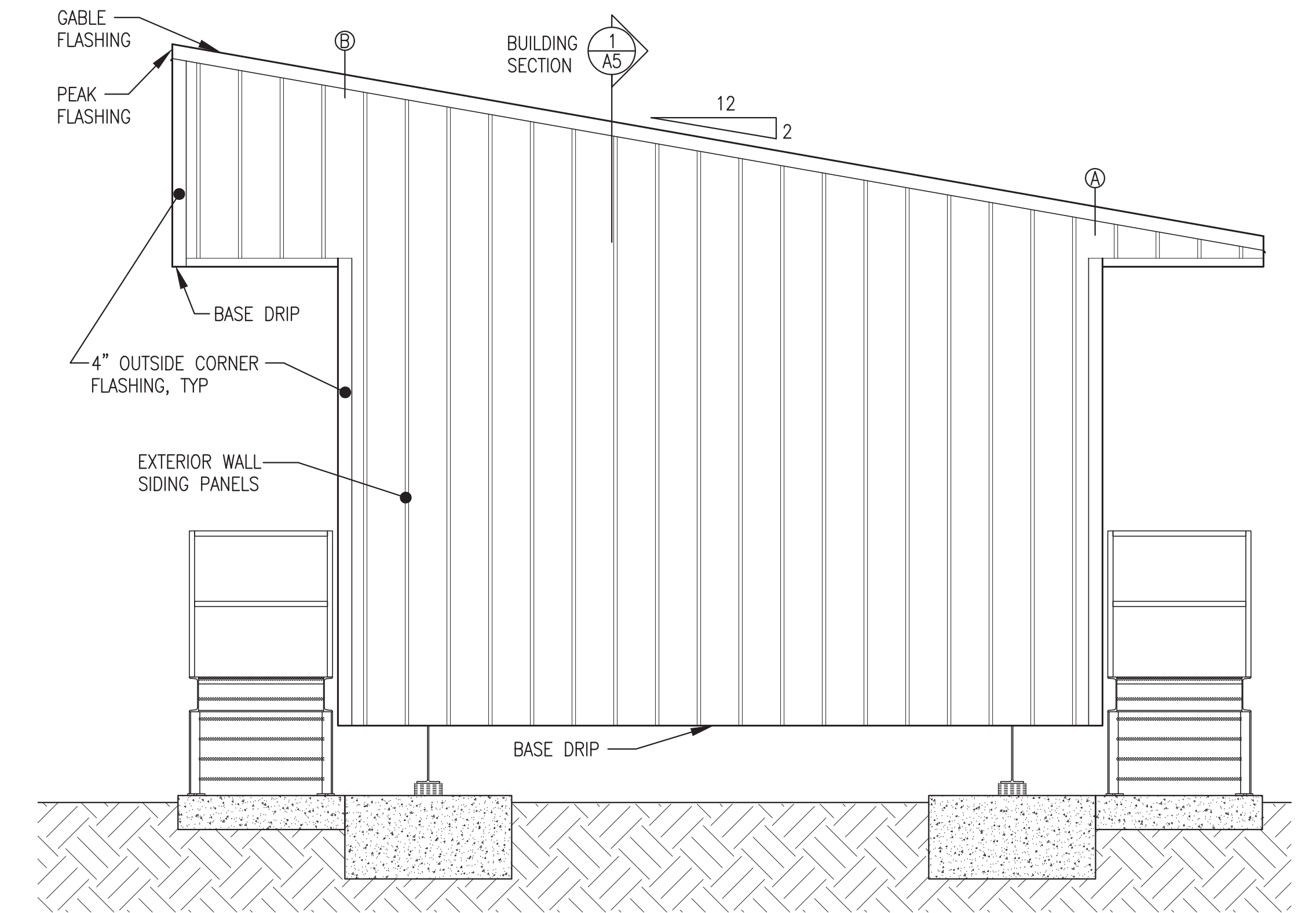
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DESIGNED BY: DGT/BCG	DATE: 9/1/21
FILE NAME: NIKORPSU A&S	SHEET: A1 OF 6
PROJECT NUMBER:	

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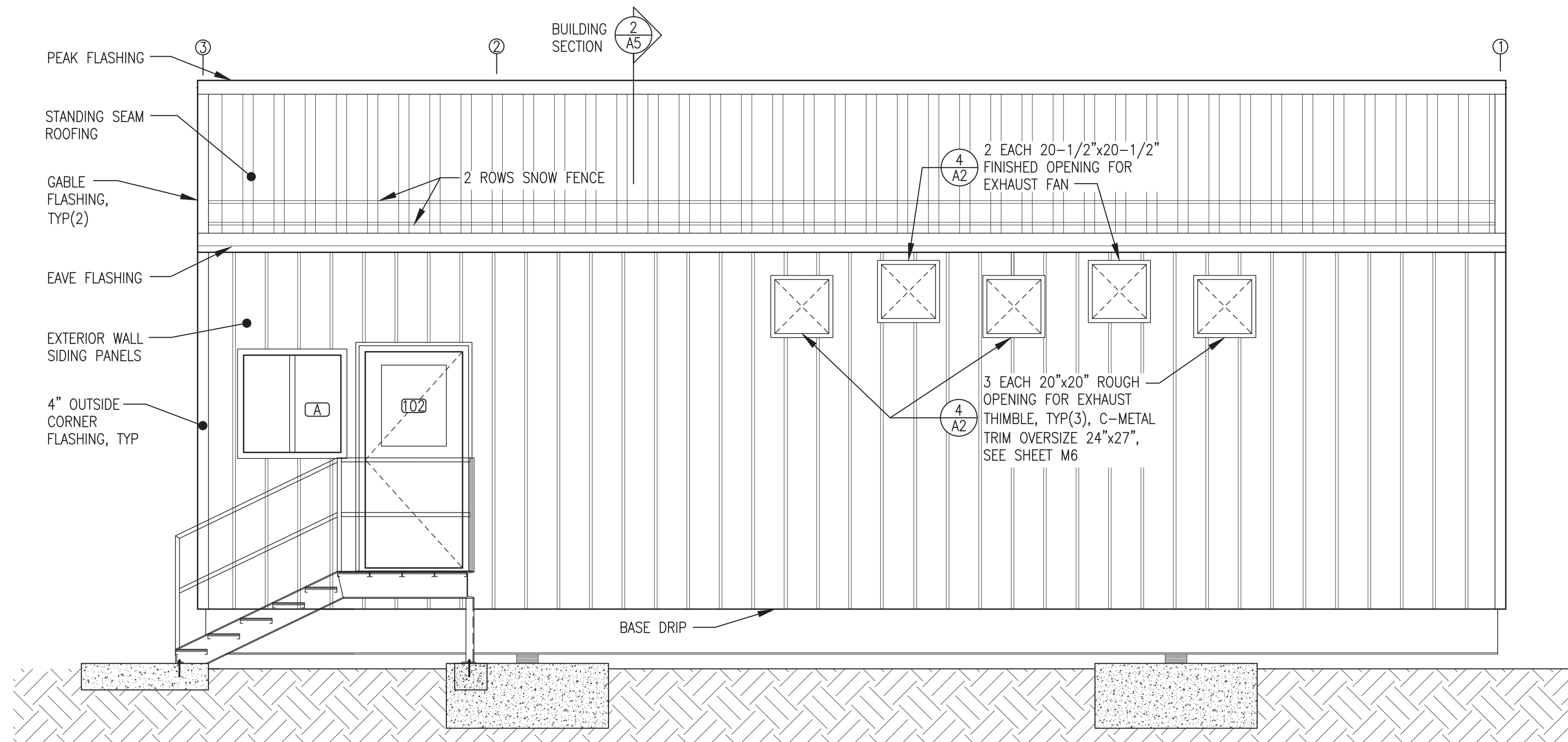




1 EXTERIOR FRONT (GRID B) WALL ELEVATION  
A2 3/8"=1'-0"

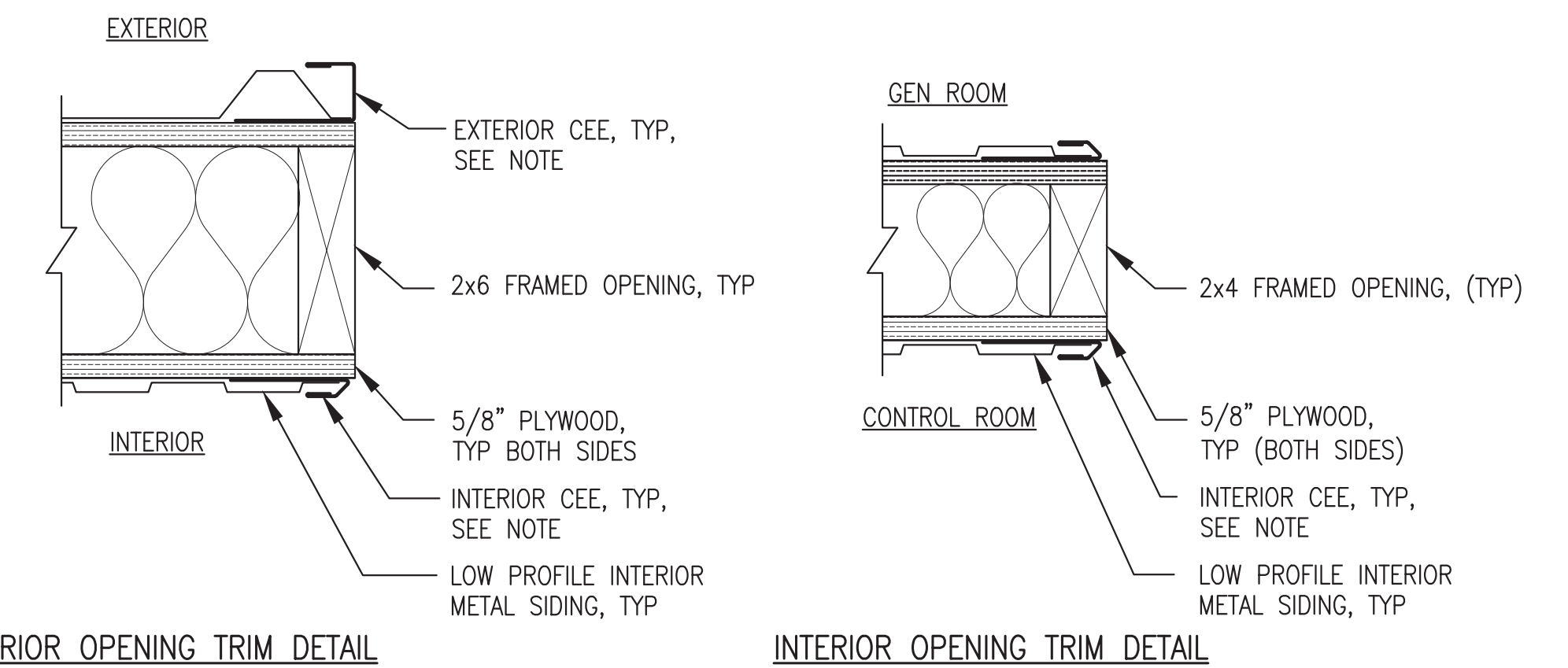


2 EXTERIOR END WALL ELEVATION  
A2 3/8"=1'-0"



3 EXTERIOR BACK (GRID A) WALL ELEVATION  
A2 3/8"=1'-0"

NOTE: CAULK CEE METAL TO EQUIPMENT, DUCT OR WIREWAY ALL AROUND, COLOR GRAY.



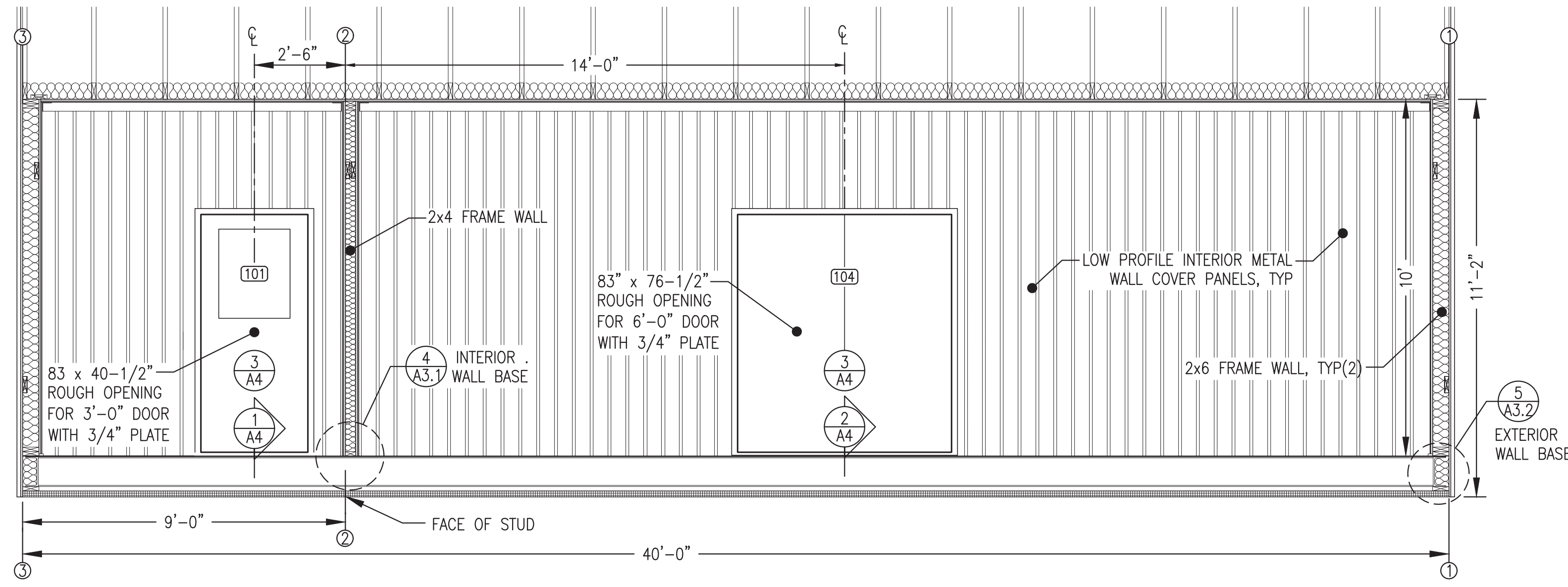
4 TYPICAL MECHANICAL/ELECTRICAL OPENING TRIM DETAIL  
A2 NO SCALE

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SEPTEMBER 2021

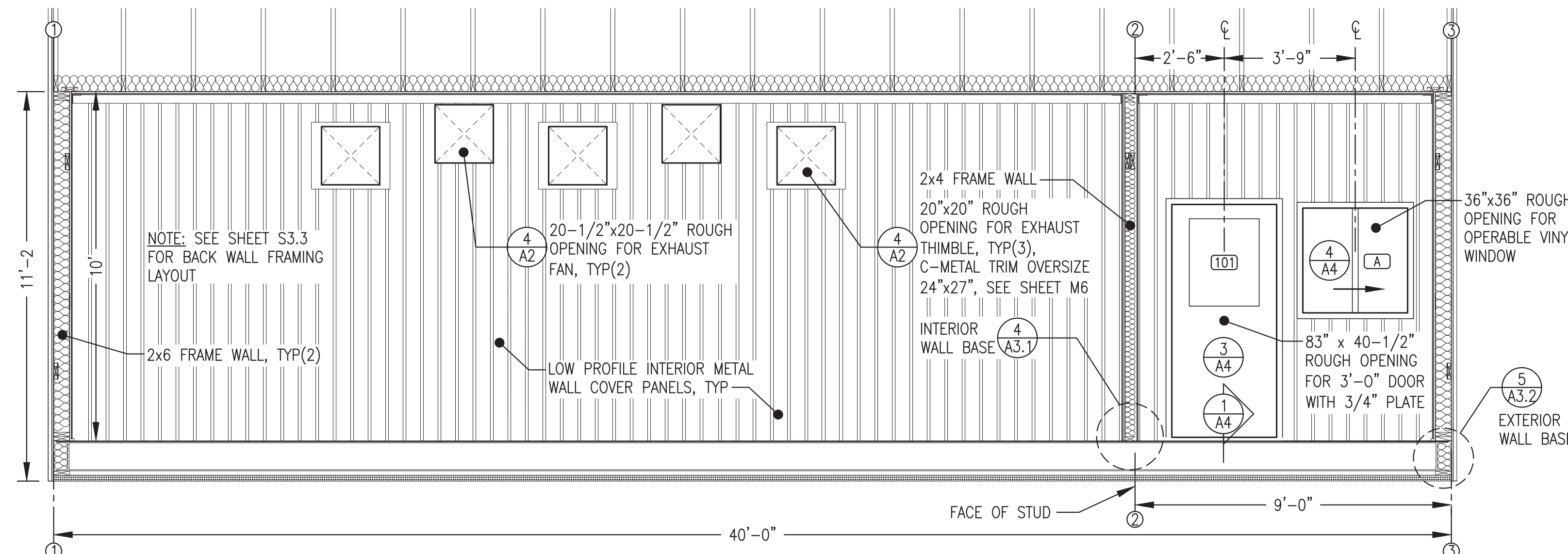


PROJECT: NIKOLAI POWER SYSTEM UPGRADE		
TITLE: EXTERIOR BUILDING ELEVATIONS		
DRAWN BY: JTD	SCALE: AS NOTED	
DESIGNED BY: DGT/BCG	DATE: 9/1/21	
FILE NAME: NIKORPSU A&S	SHEET: A2	OF 6
PROJECT NUMBER:		

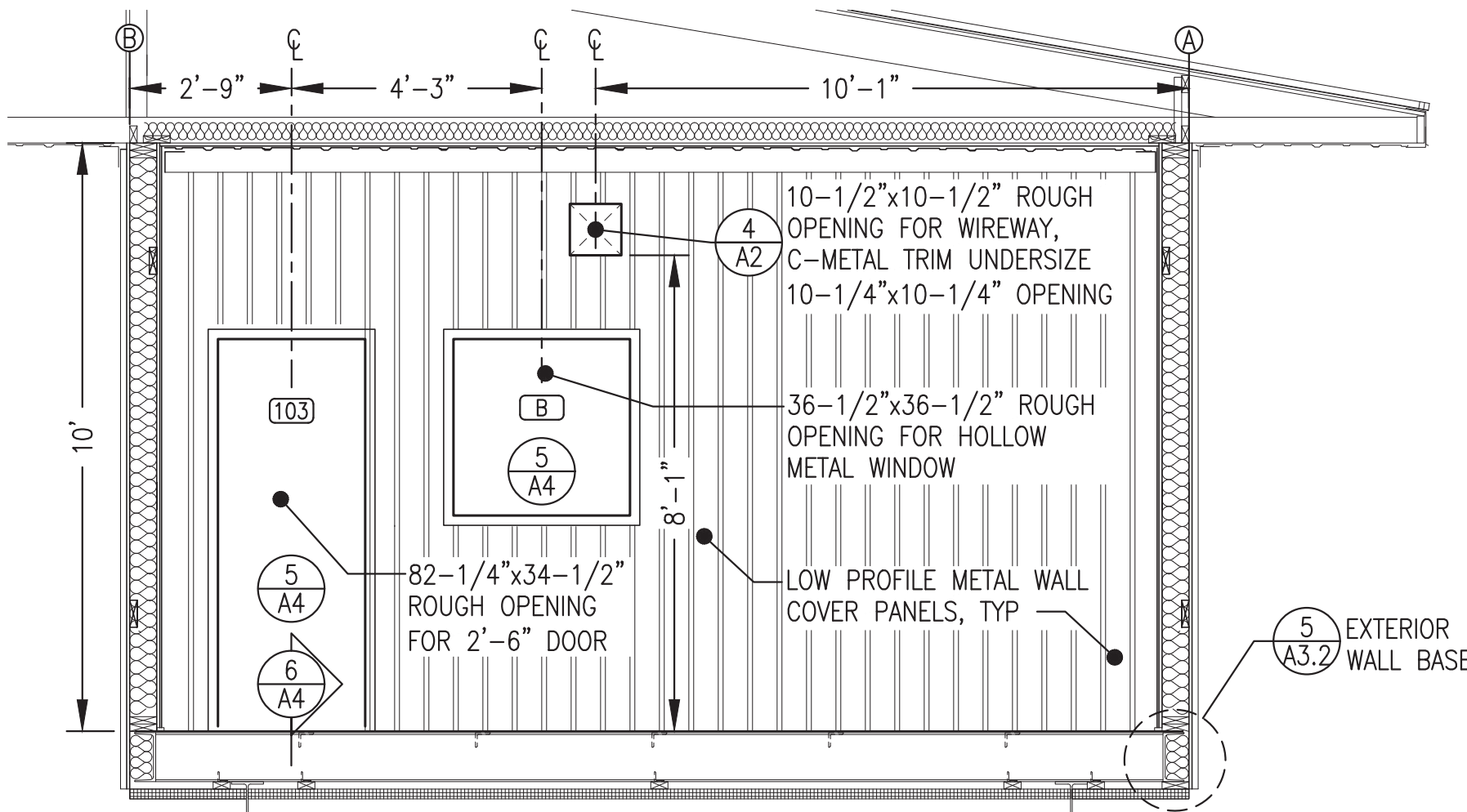




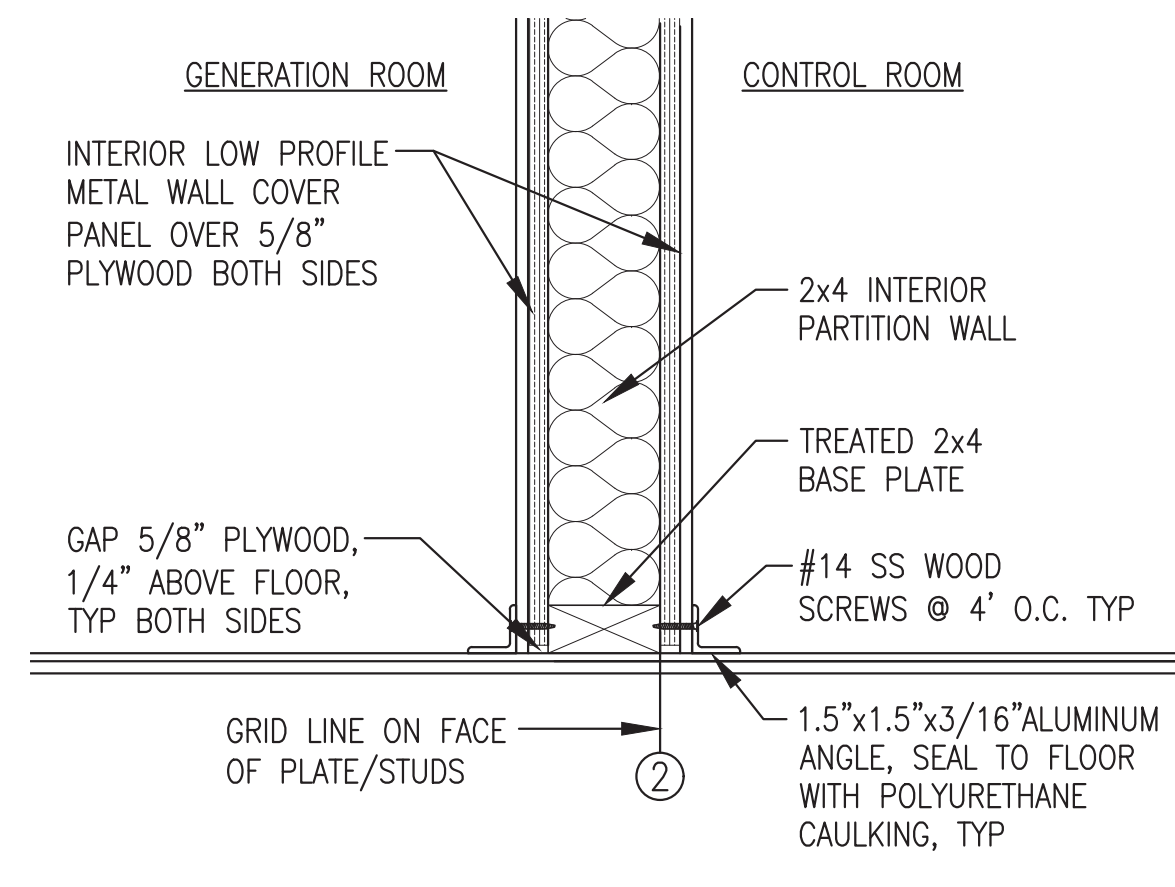
**1 FRONT WALL INTERIOR ELEVATION**  
 A3.1 3/8"=1'-0"



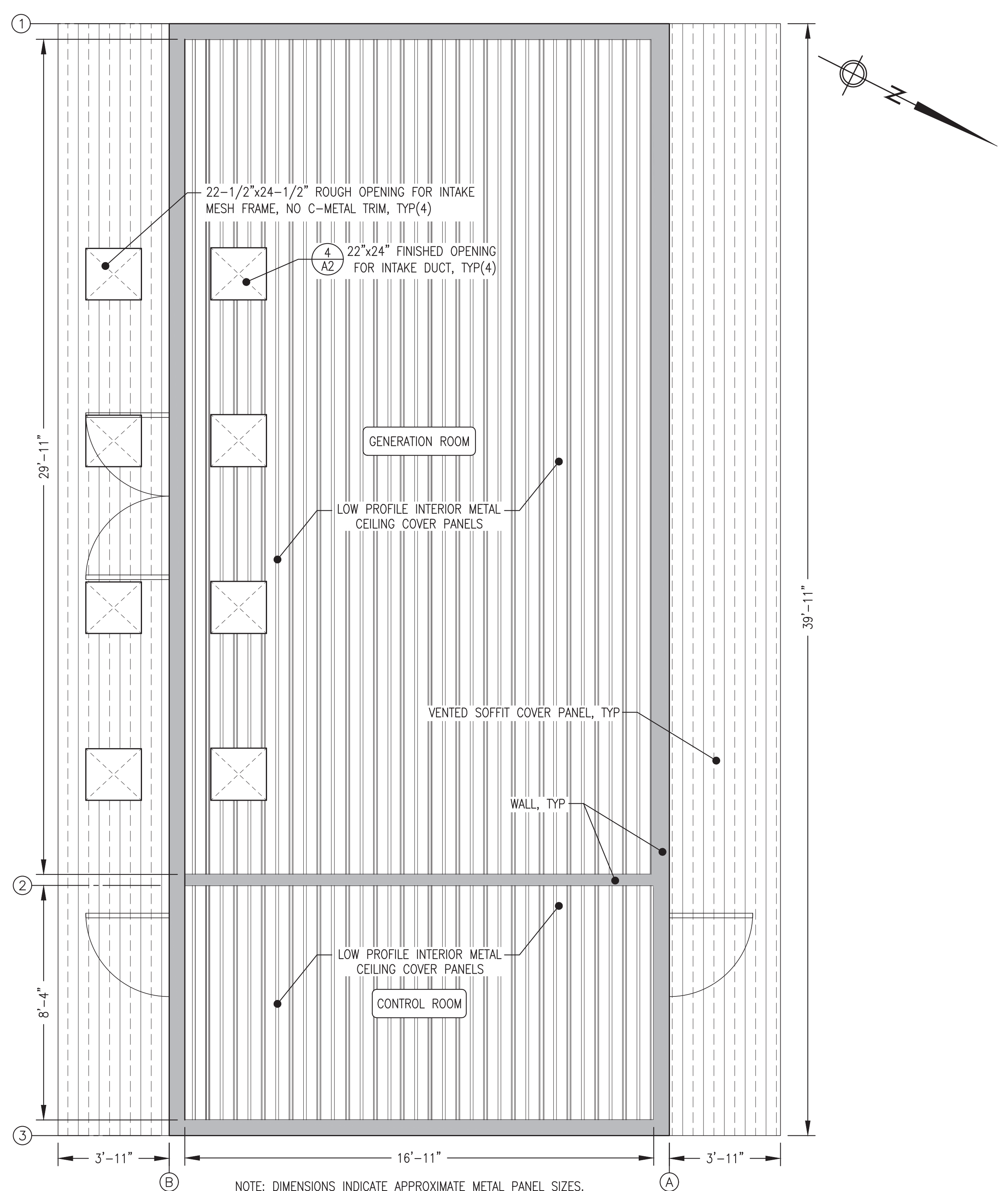
**2 BACK WALL INTERIOR ELEVATION**  
 A3.1 3/8"=1'-0"



**3 INTERIOR PARTITION ELEVATION**  
 A3.1 3/8"=1'-0"



**4 INTERIOR PARTITION WALL BASE**  
 A3.1 1"=2'-0"



**6 REFLECTED CEILING COVER & SOFFIT PLAN**  
 A3.1 3/8"=1'-0"

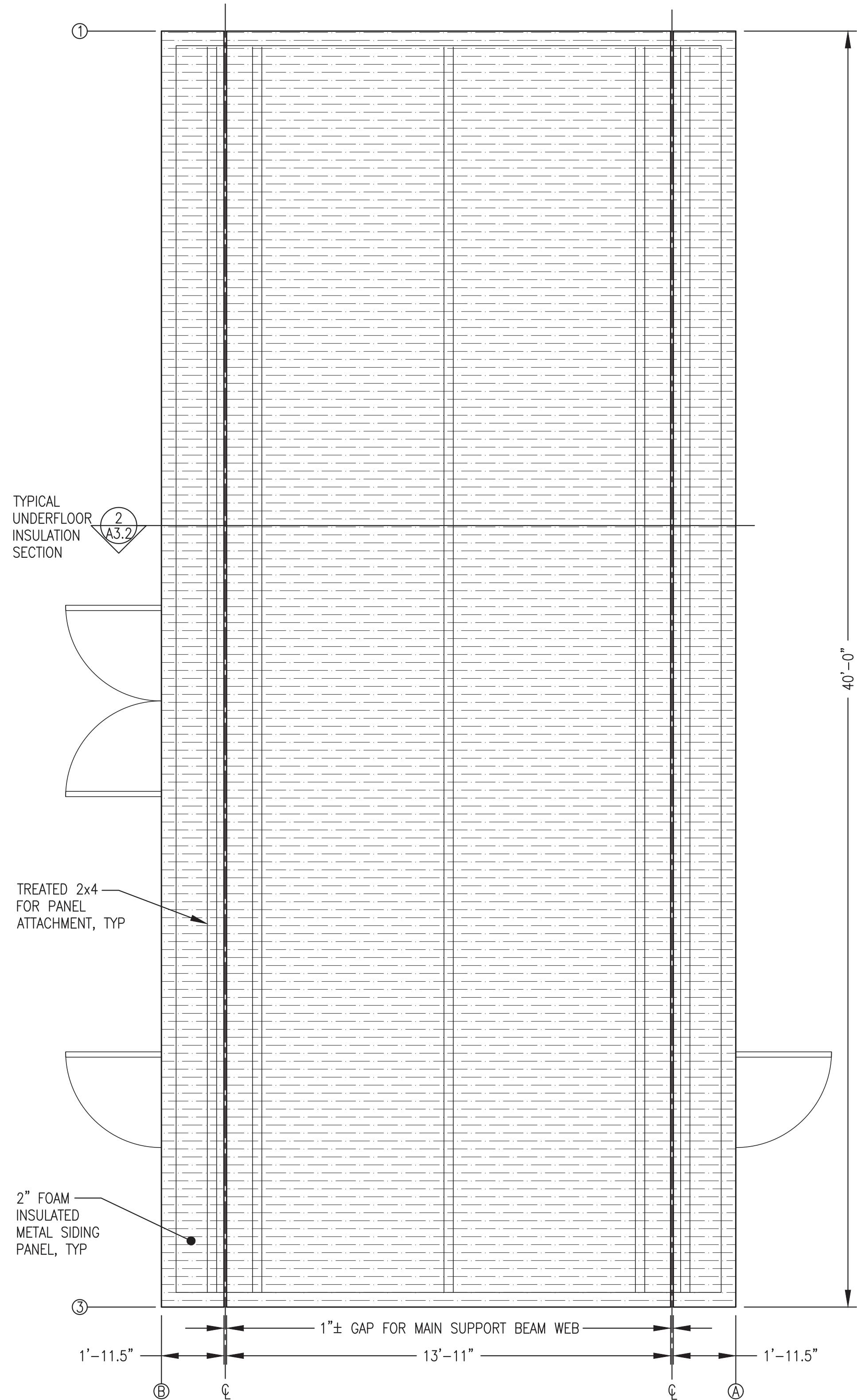
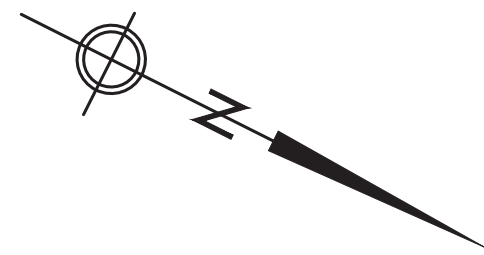
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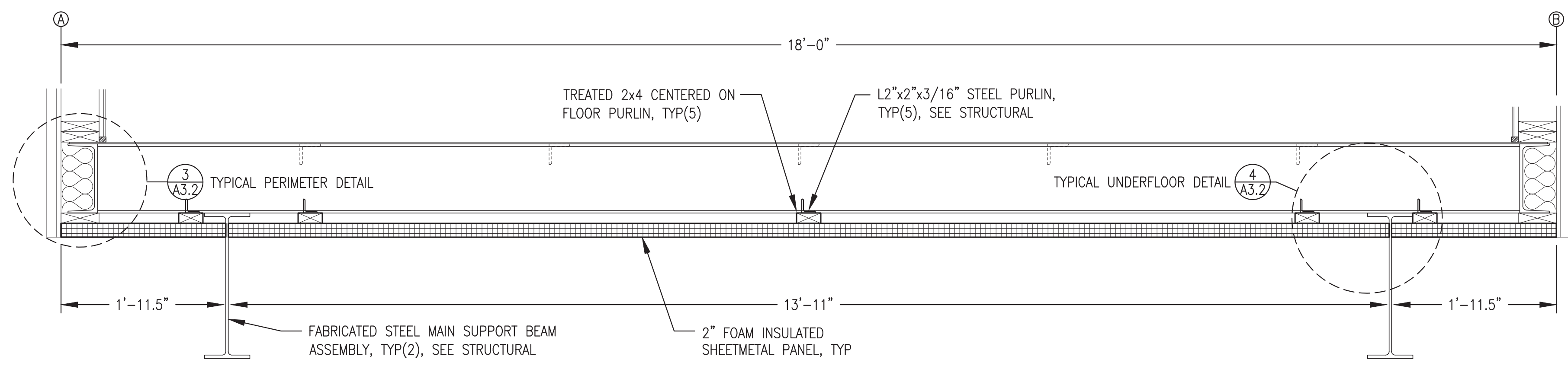
PROJECT: <b>NIKOLAI POWER SYSTEM UPGRADE</b>	
TITLE: <b>INTERIOR BUILDING ELEVATIONS, DETAILS, &amp; REFLECTED CEILING PLAN</b>	
DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: DGT/BCG	DATE: 9/1/21
FILE NAME: NIKORPSU A&S	SHEET: <b>A3.1</b> OF 6
PROJECT NUMBER:	



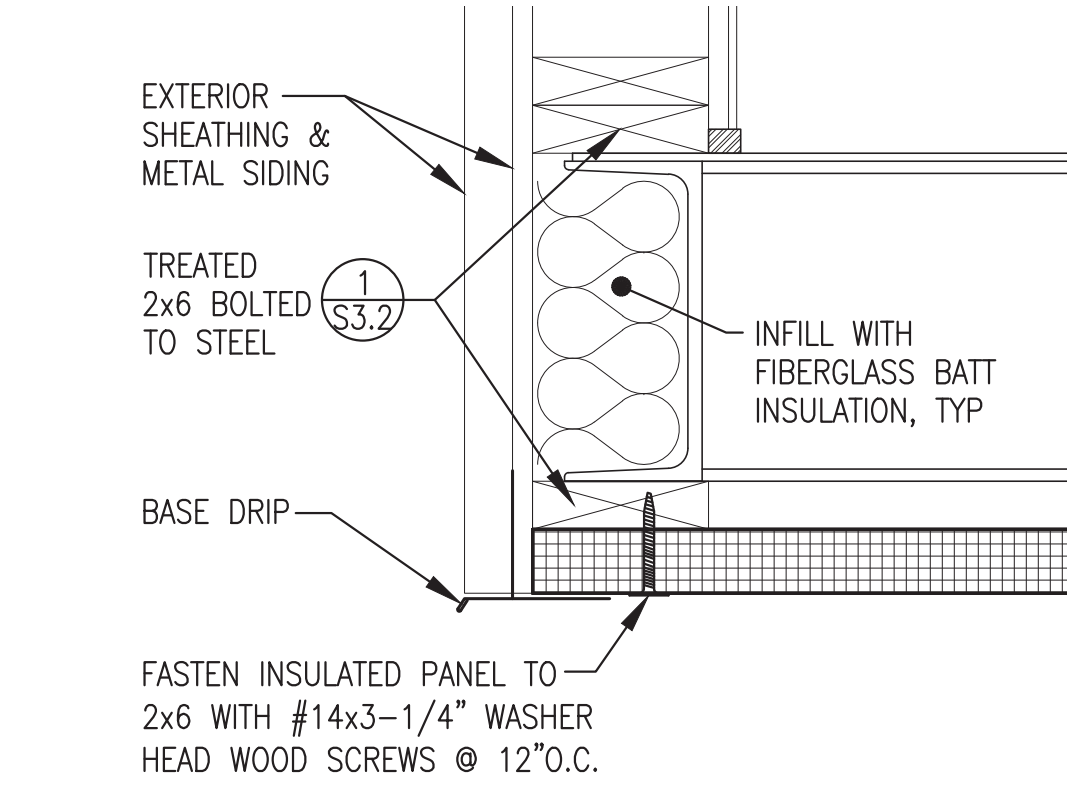
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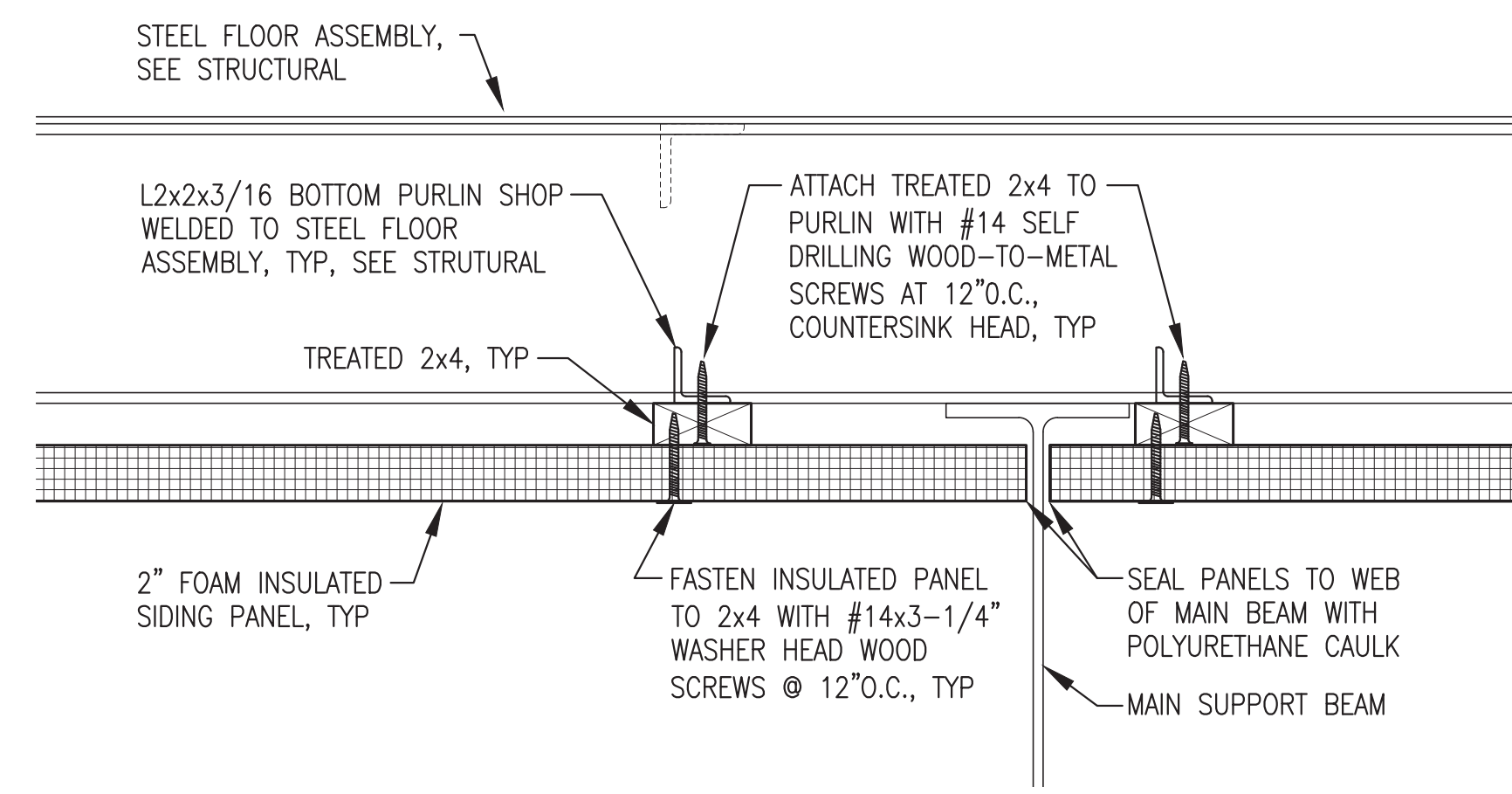
**1**  
**A3.2** UNDERFLOOR INSULATION PLAN  
3/8"=1'-0"



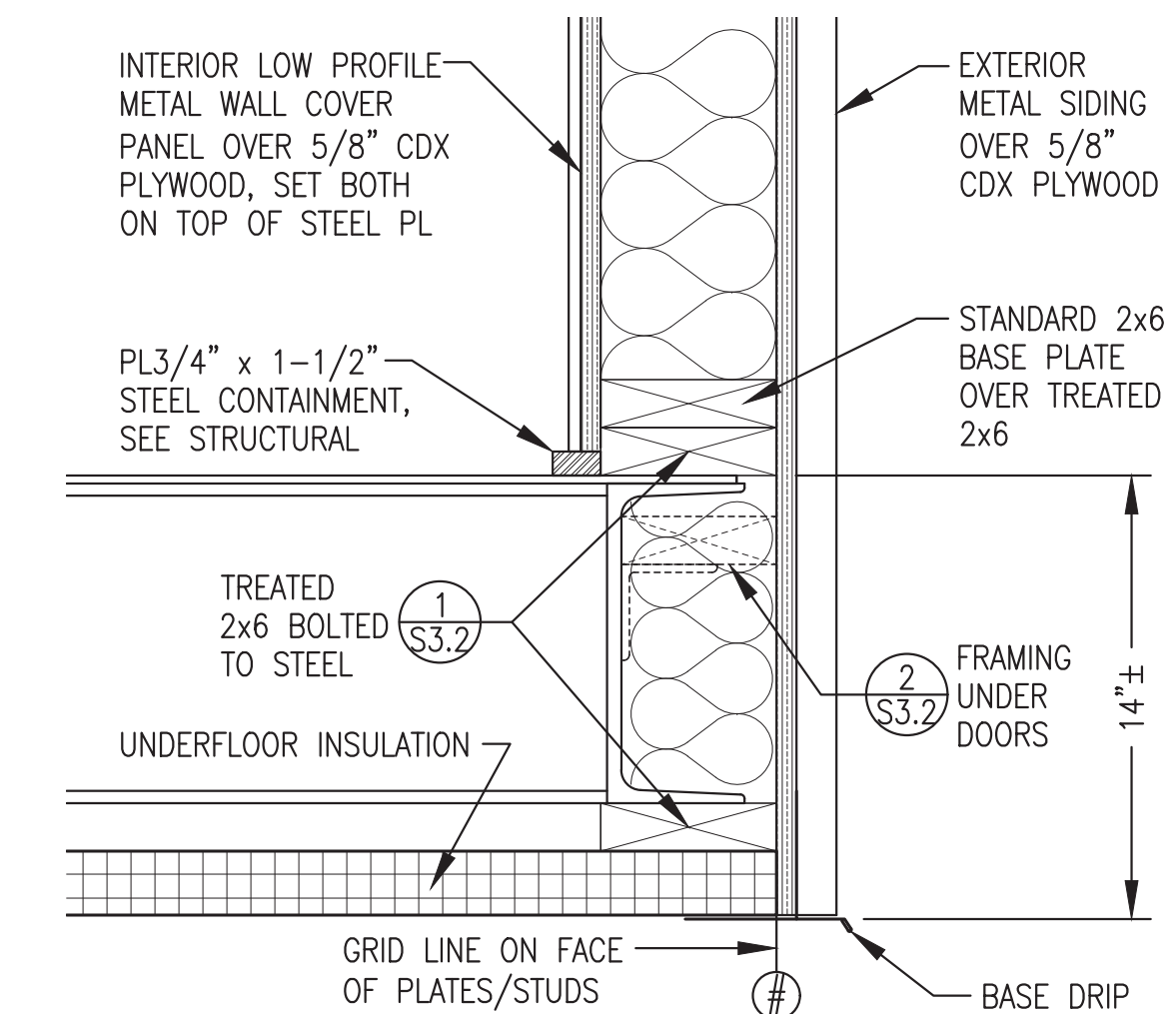
**2**  
**A3.2** TYPICAL UNDERFLOOR INSULATION SECTION  
1"=1'-0"



**3**  
**A3.2** TYPICAL PERIMETER DETAIL  
1"=1'-0"




**4**  
**A3.2** TYPICAL UNDERFLOOR DETAIL  
1"=1'-0"



**5**  
**A3.2** EXTERIOR WALL BASE  
1"=2'-0"

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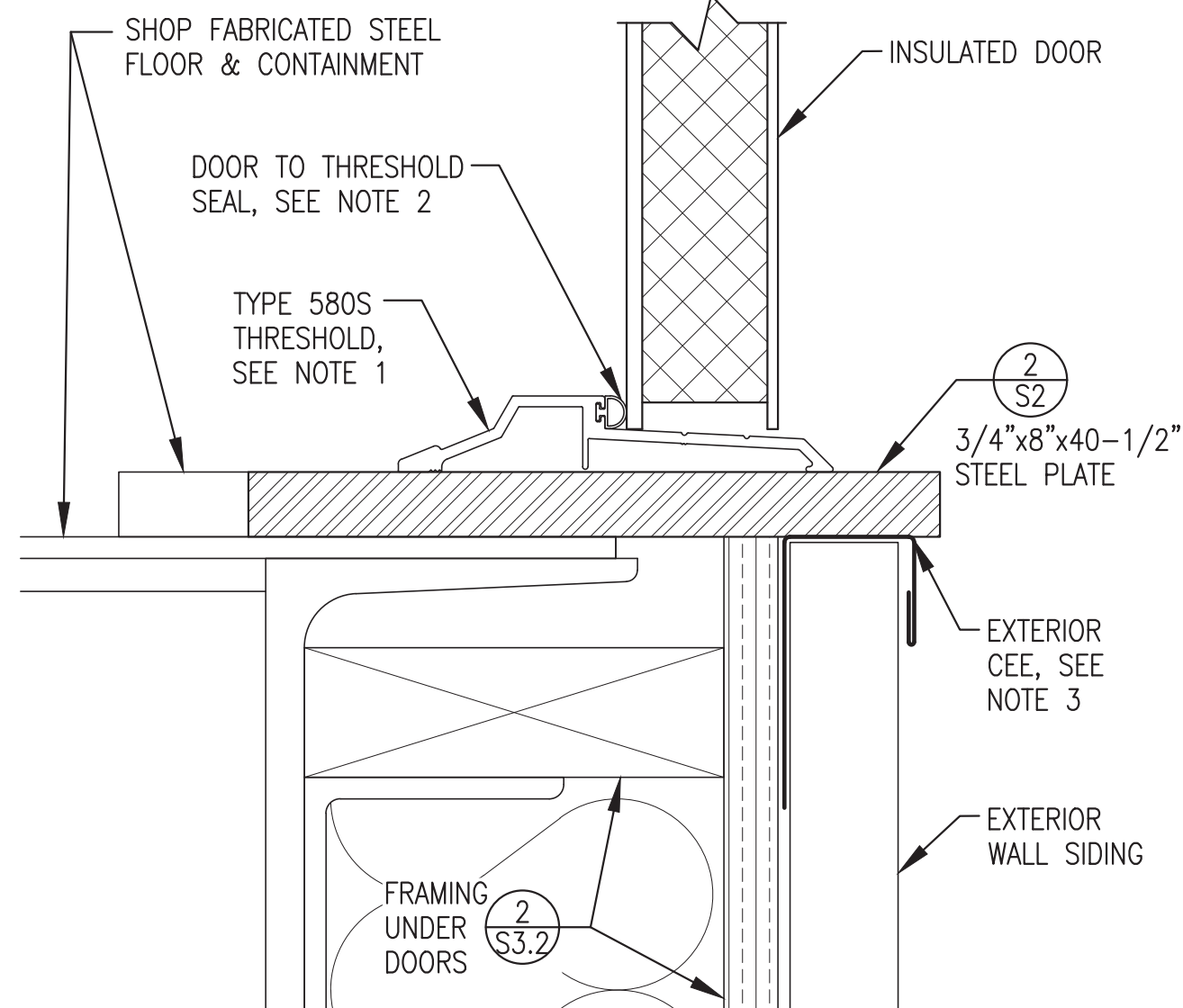
 ALASKA ENERGY AUTHORITY		
PROJECT: NIKOLAI POWER SYSTEM UPGRADE		
TITLE: UNDERFLOOR INSULATION INSTALLATION PLAN & DETAILS		
DRAWN BY: JTD	SCALE: AS NOTED	
DESIGNED BY: DGT/BCG	DATE: 9/1/21	
FILE NAME: NIKORPSU A&S	SHEET: <b>A3.2</b> OF 6	
PROJECT NUMBER:		



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**NOTES:**

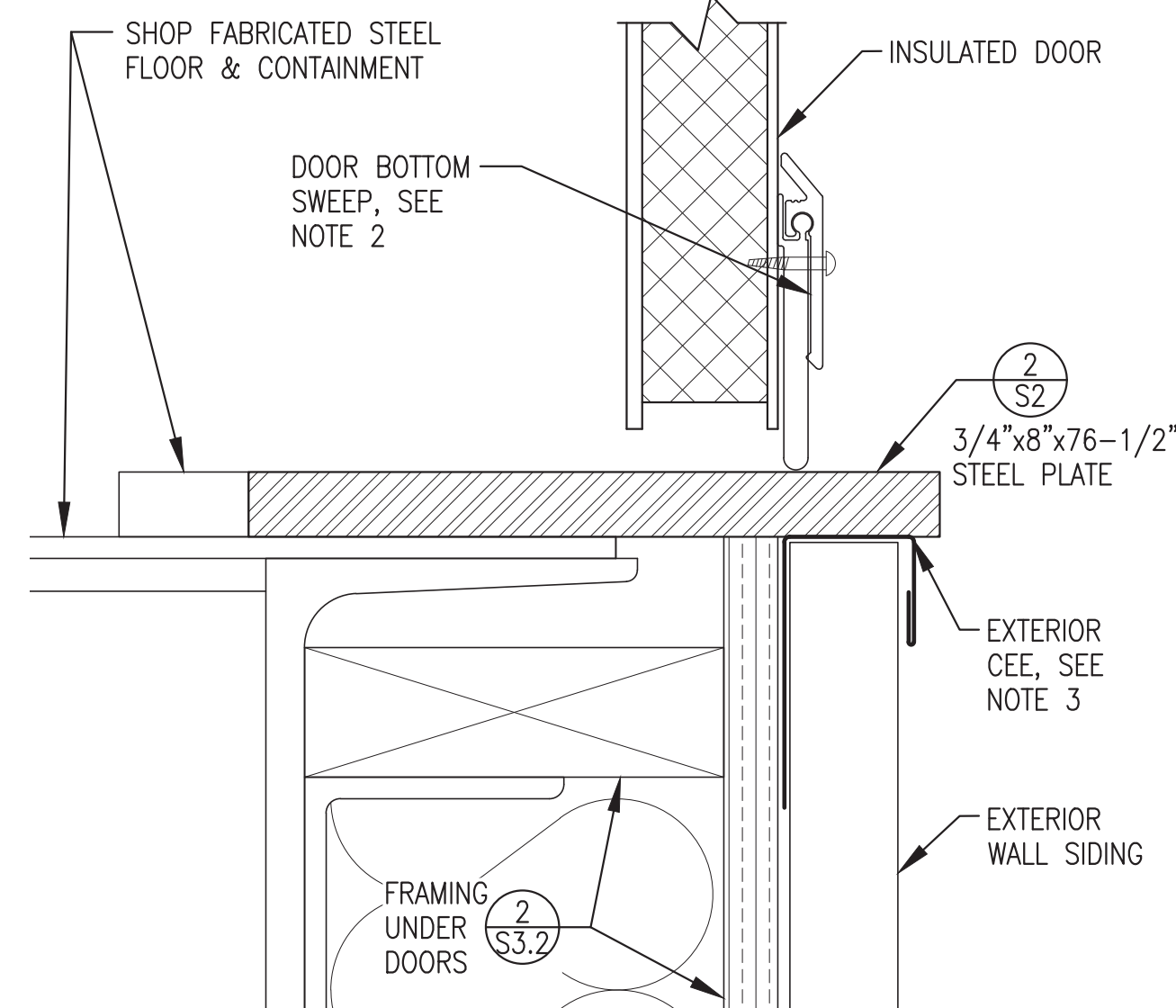
1. SET DOOR FRAME ON TOP OF 3/4" STEEL PLATE AND CAULK FRAME TO PLATE ALL AROUND. SET THRESHOLD ON STEEL PLATE IN CONTINUOUS BED OF POLYURETHANE CAULKING AND CAULK ENDS TO DOOR JAMB.
2. ENSURE DOOR HEIGHT ABOVE STEEL PLATE SET PROPERLY FOR FULL ENGAGEMENT OF DOOR SURFACE WITH THRESHOLD SEAL.
3. CAULK CEE METAL TO STEEL PLATE, COLOR GRAY TO MATCH DOOR FRAME.



**1** EXTERIOR DOOR 101/102 THRESHOLD  
A4 NO SCALE

**NOTES:**

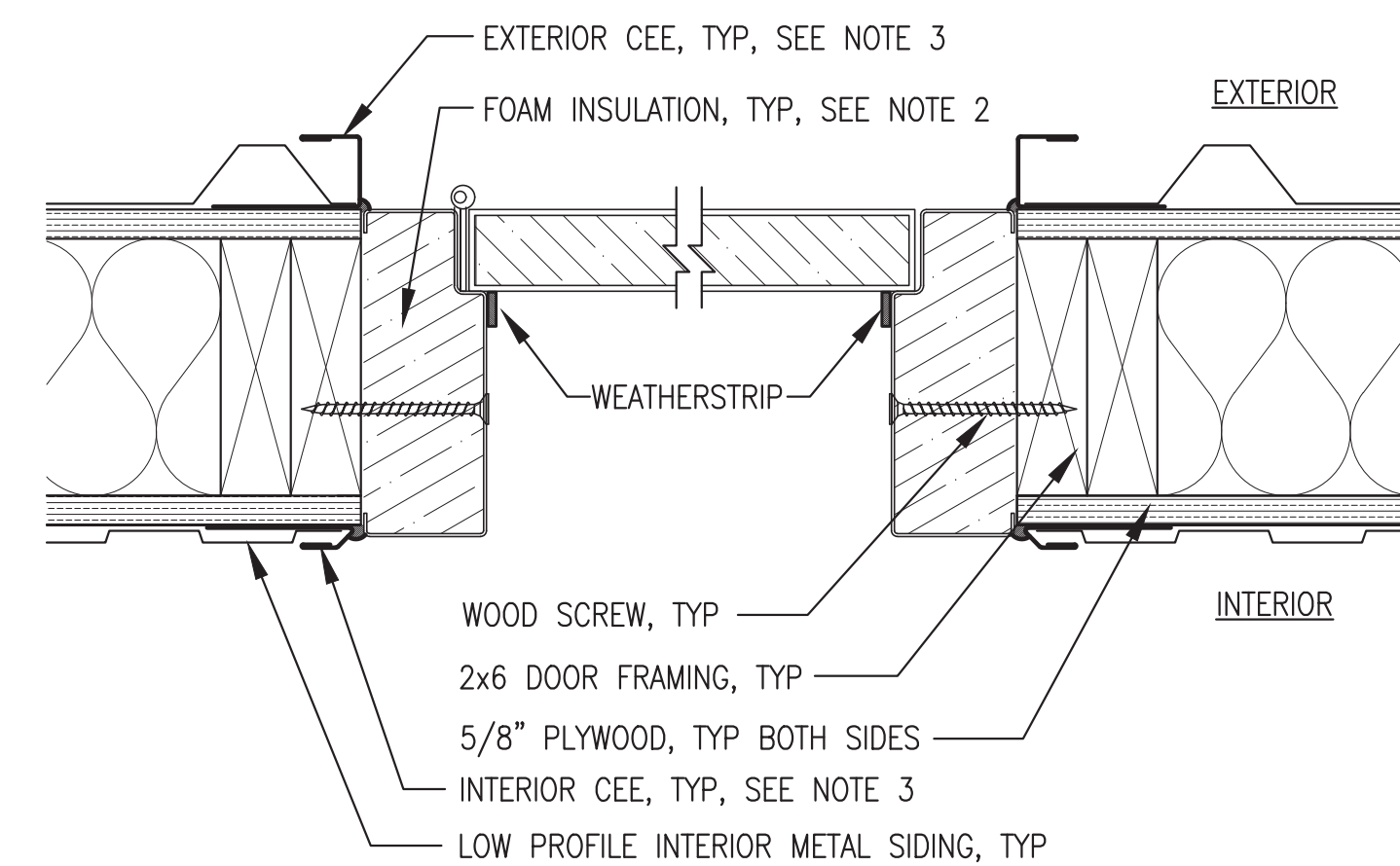
1. SET DOOR FRAME ON TOP OF 3/4" STEEL PLATE AND CAULK FRAME TO PLATE ALL AROUND.
2. ENSURE DOOR HEIGHT ABOVE STEEL PLATE AND SWEEP POSITION SET PROPERLY FOR FULL CONTACT OF SWEEP WITH PLATE.
3. CAULK CEE METAL TO STEEL PLATE, COLOR GRAY TO MATCH DOOR FRAME.



**2** EXTERIOR DOOR 104 THRESHOLD  
A4 NO SCALE

**NOTES:**

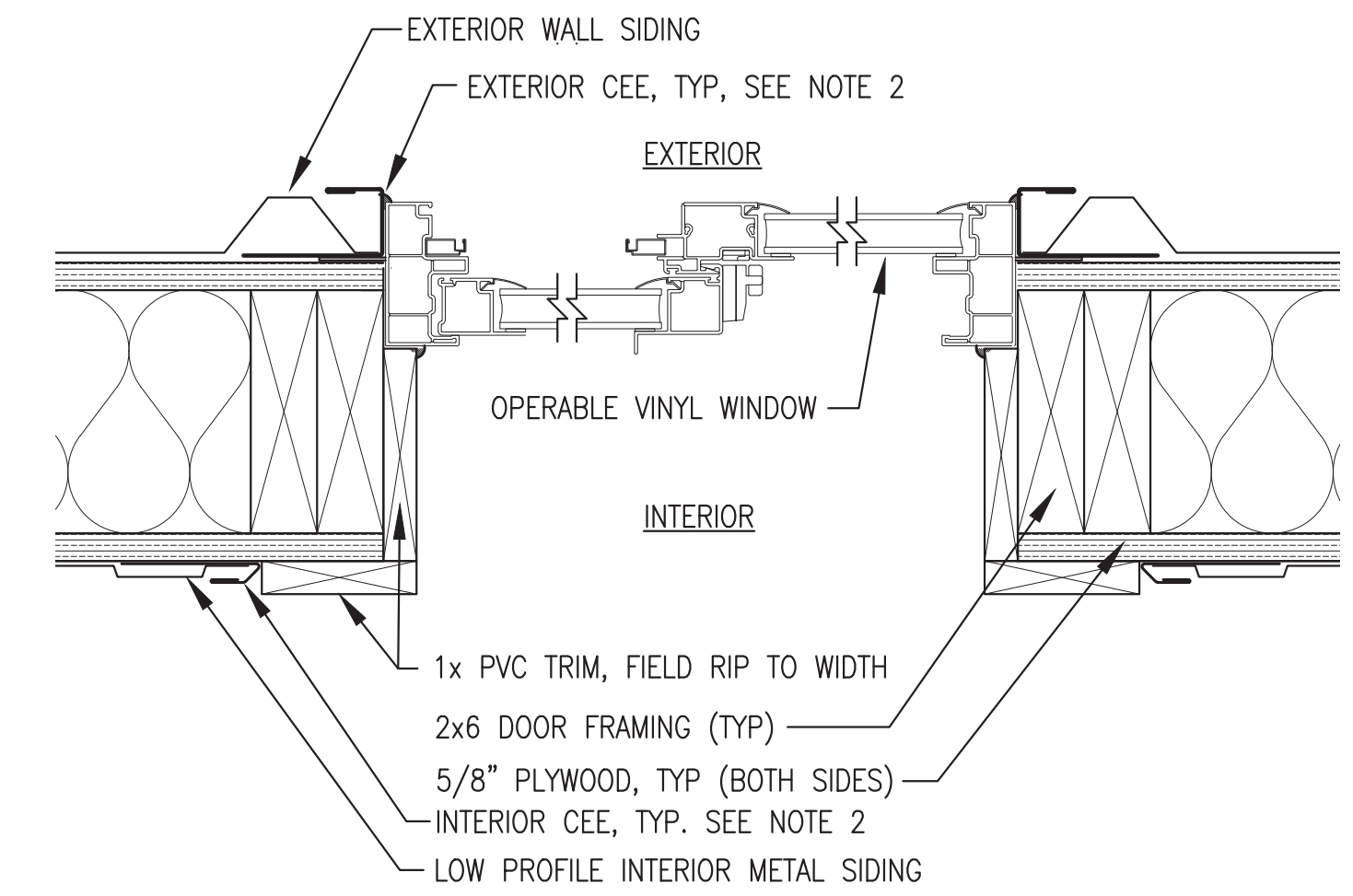
- 1) DOOR JAMB SHOWN, HEAD SIMILAR.
- 2) AFTER ADJUSTING & ANCHORING FRAME, FILL VOID BETWEEN FRAME & STUDS WITH MINIMAL EXPANDING FOAM INSULATION.
- 3) CAULK CEE METAL TO FRAME ALL AROUND, COLOR GRAY TO MATCH DOOR FRAME.



**3** TYPICAL EXTERIOR DOOR INSTALLATION  
A4 NO SCALE

**NOTES:**

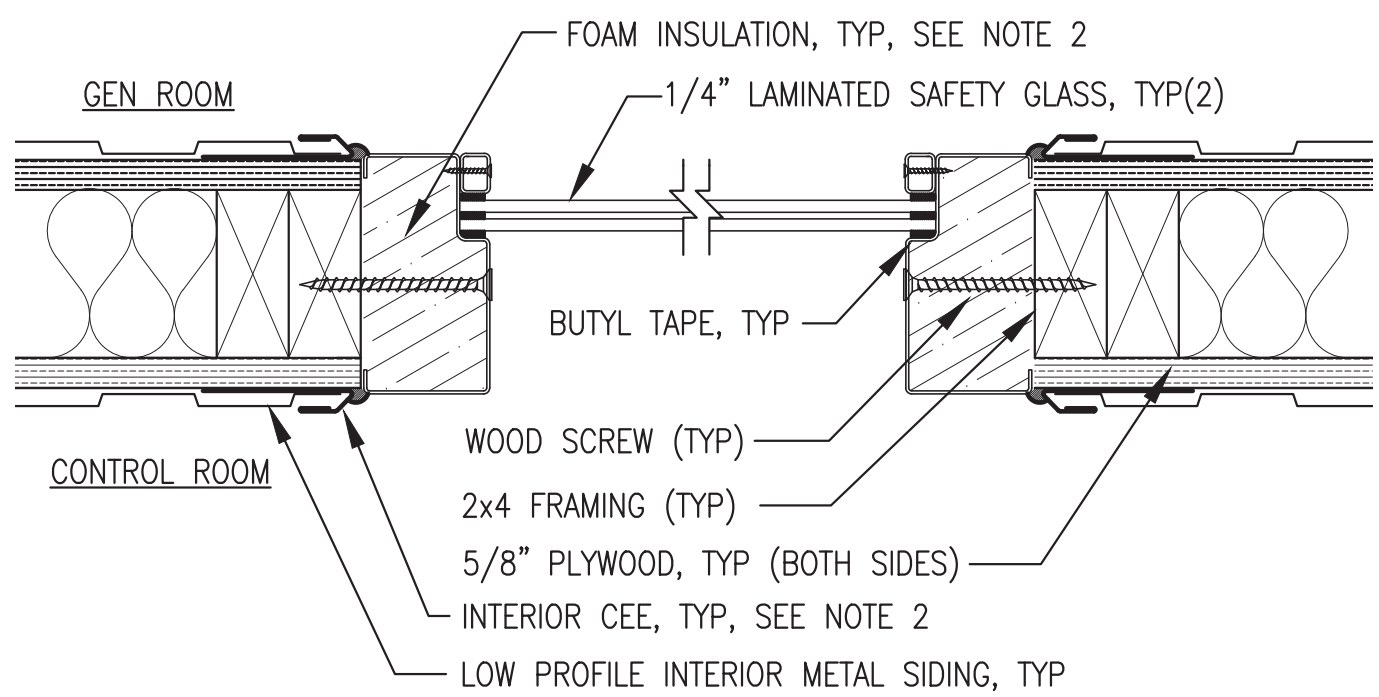
- 1) WINDOW JAMB SHOWN, HEAD & SILL SIMILAR.
- 2) CAULK CEE METAL TO WINDOW/PVC TRIM ALL AROUND, COLOR WHITE TO MATCH PVC TRIM & WINDOW.



**4** EXTERIOR WINDOW A INSTALLATION  
A4 NO SCALE

**NOTES:**

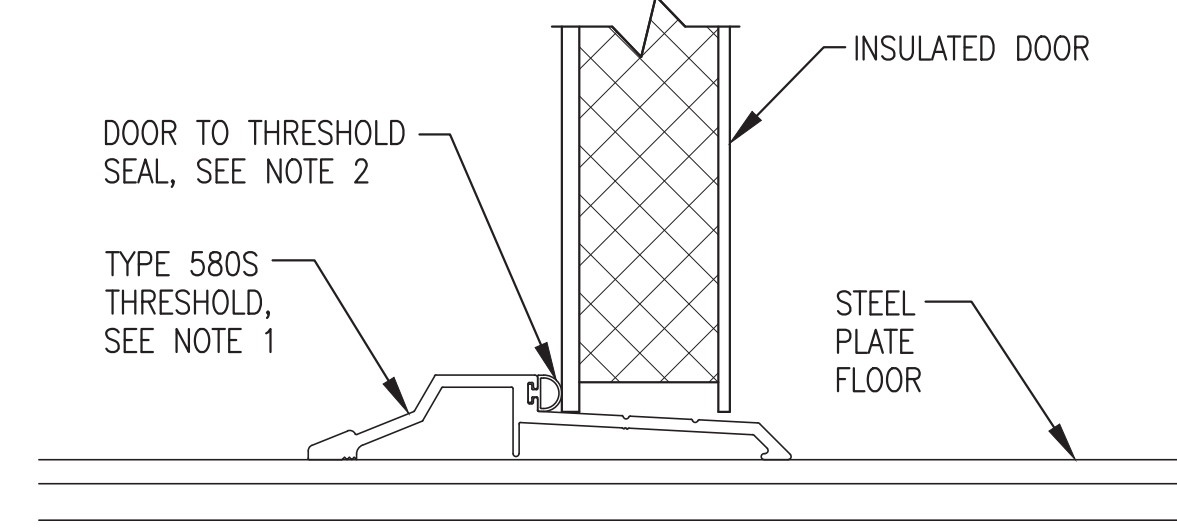
- 1) WINDOW SHOWN, DOOR SIMILAR. JAMB SHOWN, HEAD SIMILAR.
- 2) AFTER ADJUSTING & ANCHORING FRAME, FILL VOID BETWEEN FRAME & STUDS WITH MINIMAL EXPANDING FOAM INSULATION.
- 3) CAULK CEE METAL TO FRAME ALL AROUND, COLOR GRAY TO MATCH DOOR FRAME.



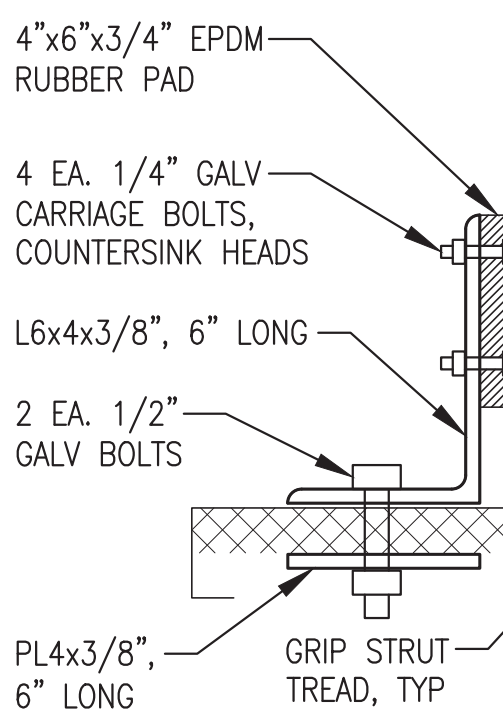
**5** INTERIOR DOOR 103/WINDOW B INSTALLATION  
A4 NO SCALE

**NOTES:**

1. SET DOOR FRAME DIRECTLY ON STEEL FLOOR AND CAULK FRAME TO FLOOR ALL AROUND. SET THRESHOLD ON FLOOR IN CONTINUOUS BED OF POLYURETHANE CAULKING AND CAULK ENDS TO DOOR JAMB.
2. ENSURE DOOR HEIGHT ABOVE FLOOR SET PROPERLY FOR FULL ENGAGEMENT OF DOOR SURFACE WITH THRESHOLD SEAL.



**6** INTERIOR DOOR 103 THRESHOLD  
A4 NO SCALE



**NOTES:**

1. CUT PLATE & ANGLE TO LENGTH, ROUND CORNERS, WIRE BRUSH, & COVER WITH TWO COATS OF COLD GALVANIZING.
2. POSITION SO THAT STOP CATCHES OUTSIDE CORNER OF DOOR 1" PRIOR TO REACHING OVERHEAD STOP LIMIT.
3. INSTALL ON EVERY EXTERIOR DOOR.

**7** TYPICAL EXTERIOR DOOR BOTTOM STOP  
A4 NO SCALE

DOOR CONSTRUCTION							FRAME CONSTRUCTION							
DOOR NO.	WIDTH	HEIGHT	THICK NESS	MATERIAL	CORE	REMARKS	HEAD/JAMB DETAIL	SILL DETAIL	FIRE RATING	MATERIAL	TYPE	PROFILE	FRAME DEPTH	HWR
101	3'-0"	6'-8"	1-3/4"	16 GA. H.M.	INSULATED	24"x24" RE-LIGHT {3}	3/A4	1/A4	NONE	16 GA. H.M.	WELDED	SINGLE RABBETED	6.75"	HW-1
102	3'-0"	6'-8"	1-3/4"	16 GA. H.M.	INSULATED	24"x24" RE-LIGHT {3}	3/A4	1/A4	NONE	16 GA. H.M.	WELDED	SINGLE RABBETED	6.75"	HW-1
103	2'-6"	6'-8"	1-3/4"	16 GA. H.M.	INSULATED	24"x18" RE-LIGHT {3}	5/A4	6/A4	NONE	16 GA. H.M.	WELDED	SINGLE RABBETED	4.75"	HW-2
104	6'-0"	6'-8"	1-3/4"	16 GA. H.M.	INSULATED		3/A4	2/A4	NONE	16 GA. H.M.	WELDED	SINGLE RABBETED	6.75"	HW-3
HOLLOW METAL WINDOW B							5/A4	5/A4	NONE	16 GA. H.M.	WELDED	SINGLE RABBETED	4.75"	N/A

**DOOR HARDWARE:**

HW-1	HW-2	HW-3
3 EA HINGES HAGER BB1191 4.5 x 4.5NRP x 630	3 EA HINGES HAGER BB1191 4.5 x 4.5 x 630	6 EA HINGES HAGER BB1191 4.5 x 4.5NRP x 630
1 EA EXIT DEVICE PRECISION 2108 x 4908AX3 x 630	1 EA EXIT DEVICE PRECISION 2108 x 4908AX3 x 630	1 EA EXIT LOCK SCHLAGE ND25D x RHODES x 626
1 EA CORE BEST BROWN CONSTRUCTION CORE 4040 x SCUSH x 689	1 EA DOOR CLOSER LCN 4040 x CUSH x 689	2 EA OVERHEAD STOP ROCKWOOD OH903H x US32D
1 EA DOOR CLOSER LCN 4040 x SCUSH x 689	1 EA KICK PLATE ROCKWOOD K1050 10 x 28 x 630	2 EA WEATHER STRIP PEMKO 2891AS x 36 (HEAD)
1 EA KICK PLATE ROCKWOOD K1050 10 x 34 x 630	1 EA WEATHER STRIP PEMKO 2891AS x 36 (HEAD)	2 EA WEATHER STRIP PEMKO 290AS x 80 (SIDE JAMBS)
1 EA WEATHER STRIP PEMKO 2891AS x 36 (HEAD)	1 EA MOP PLATE ROCKWOOD K1050 10 x 29 x 630	1 EA ASTRAGAL PEMKO 355S x 80 (GASKETED "T")
2 EA WEATHER STRIP PEMKO 290AS x 80 (SIDE JAMBS)	1 EA SOUND SEAL PEMKO 2891AS x 30 (HEAD)	2 EA BOTTOM SWEEP HAGER 750S x 36
1 EA THRESHOLD HAGER 580S x 36	2 EA SOUND SEAL PEMKO 290AS x 80 (SIDE JAMBS)	
	1 EA THRESHOLD HAGER 580S x 30	

**DOOR/WINDOW B FRAME PROFILE:**

**WINDOW TYPES:**

**NOTES:**

- {1} DOORS AND WINDOW FRAMES GALVANIZED AND FACTORY PRIMED. HOLLOW METAL WINDOW FRAMES FACTORY PRIMED. ALL FRAMES WELDED WITH EXPANSION ANCHORS.
- {2} DOORS TO HAVE TOPS INVERTED AND CAULKED.
- {3} INSTALL 24"x24" OR 24"x18" INSULATED RE-LIGHT WITH TWO PANES OF 1/4" LAMINATED SAFETY GLASS WITH 1/2" AIR GAP IN EACH DOOR PANEL AS NOTED.
- {4} FIELD FINISH ALL DOORS AND FRAMES WITH TWO COATS OF EPOXY, PPG AMERLOC 2 VOC OR APPROVED EQUAL, COLOR ANSI 61 GRAY.

NOTE: DIMENSIONS ARE OVERALL FRAME SIZE.

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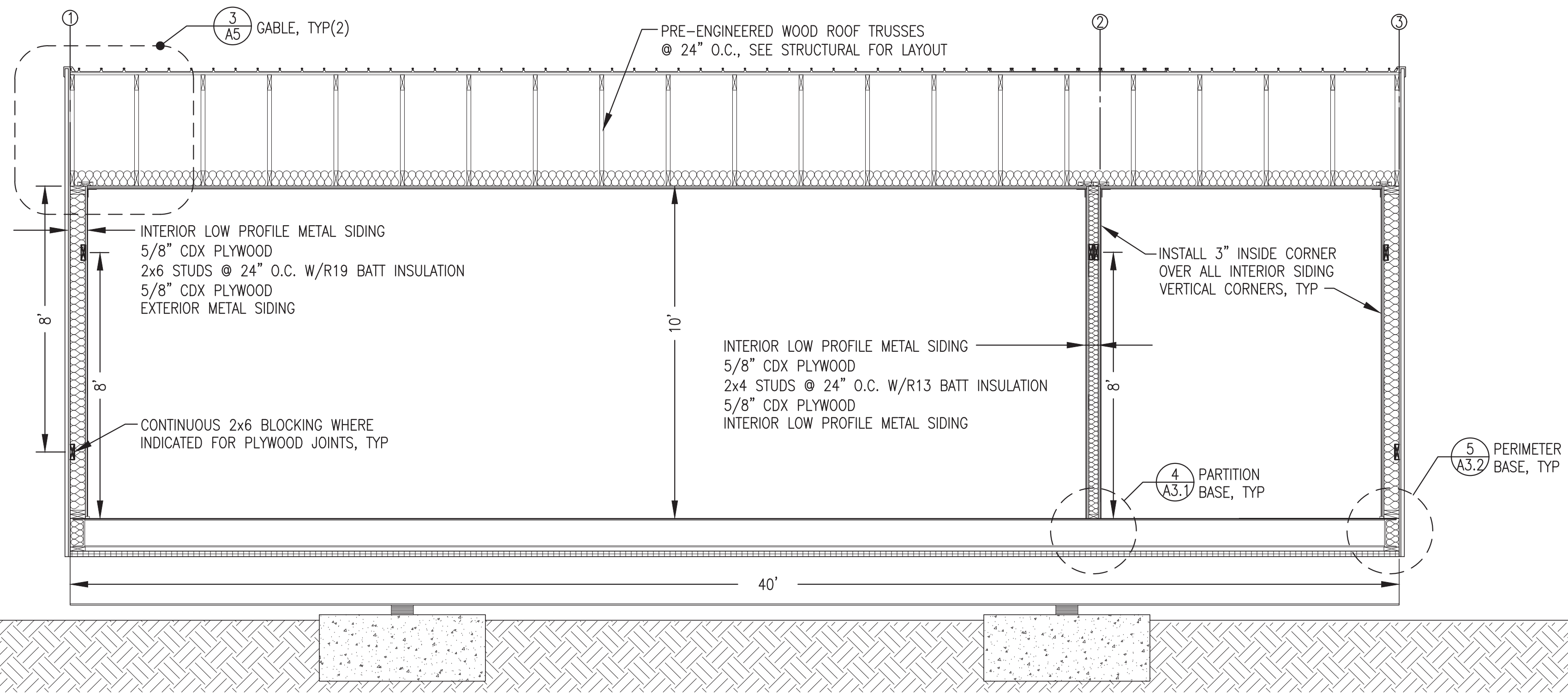


**ALASKA ENERGY AUTHORITY**

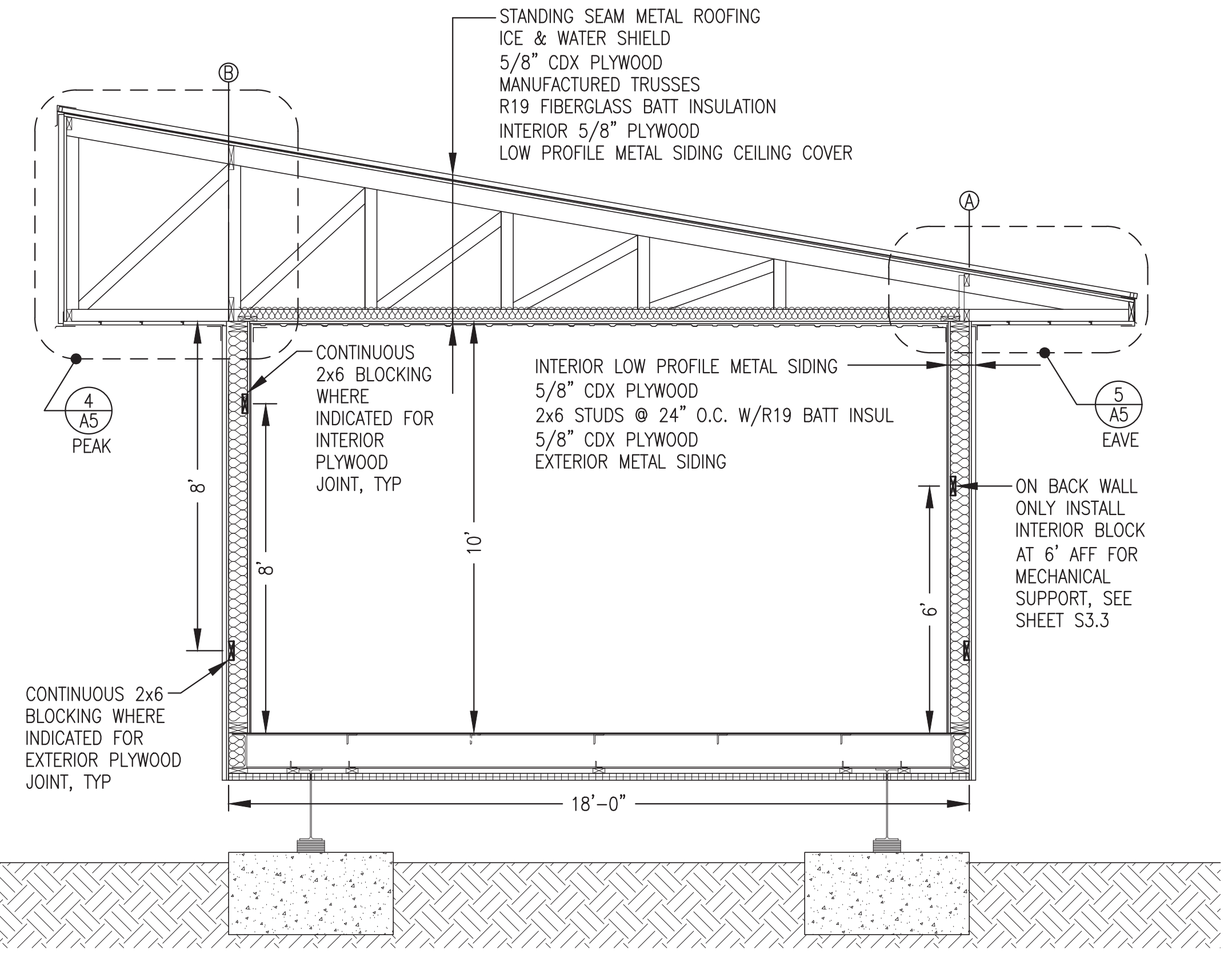
PROJECT: **NIKOLAI POWER SYSTEM UPGRADE**

TITLE: **DOORS/WINDOWS SCHEDULES & DETAILS**

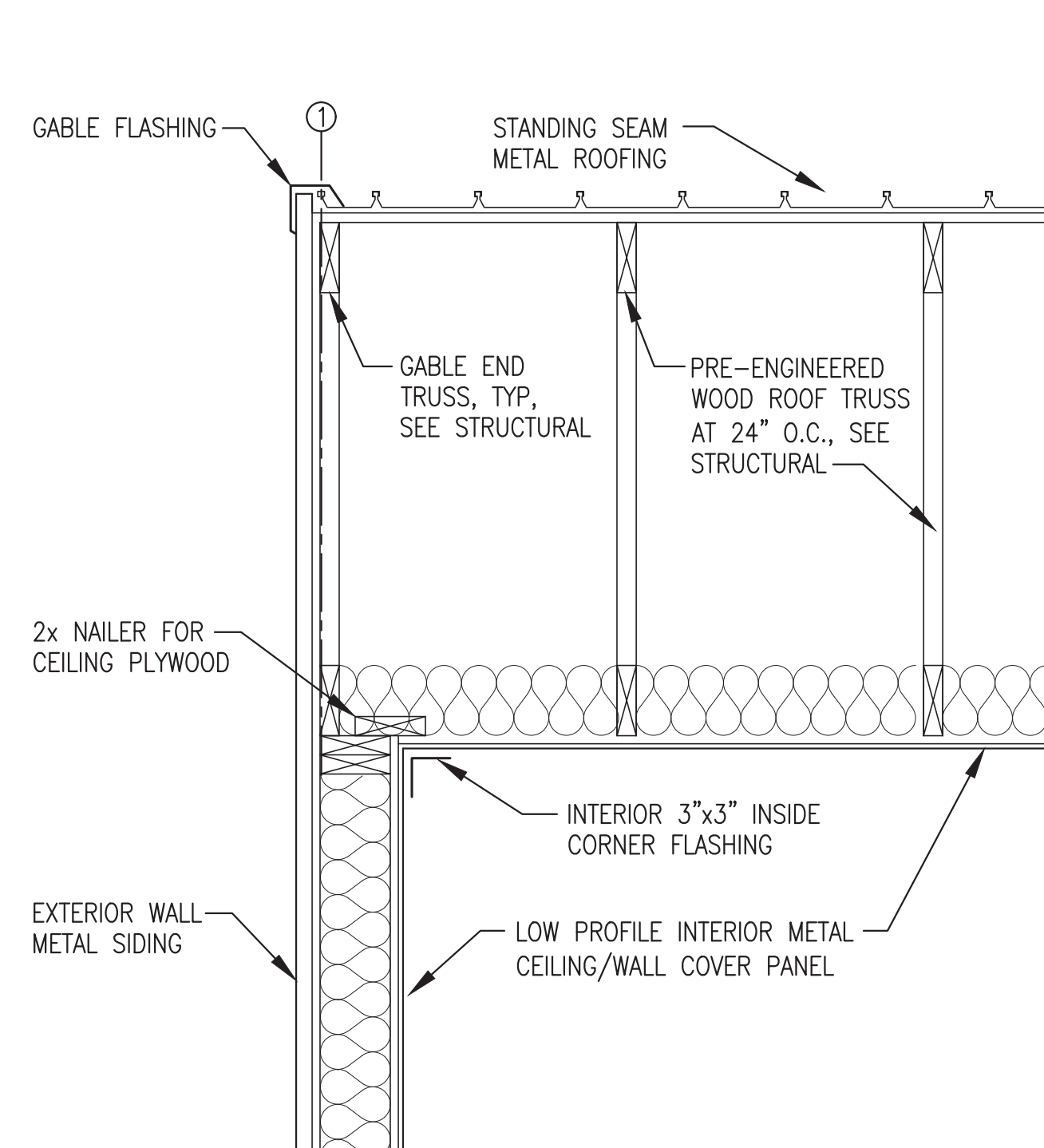
GRAY STASSSEL ENGINEERING, INC.	DRAWN BY: JTD	SCALE: AS NOTED
	DESIGNED BY: DGT/BCG	DATE: 9/1/21
	FILE NAME: NIKORPSU A&S	SHEET: <b>A4</b> OF 6
P.O. 111405, Anchorage, AK 99511 (907)349-0100	PROJECT NUMBER:	



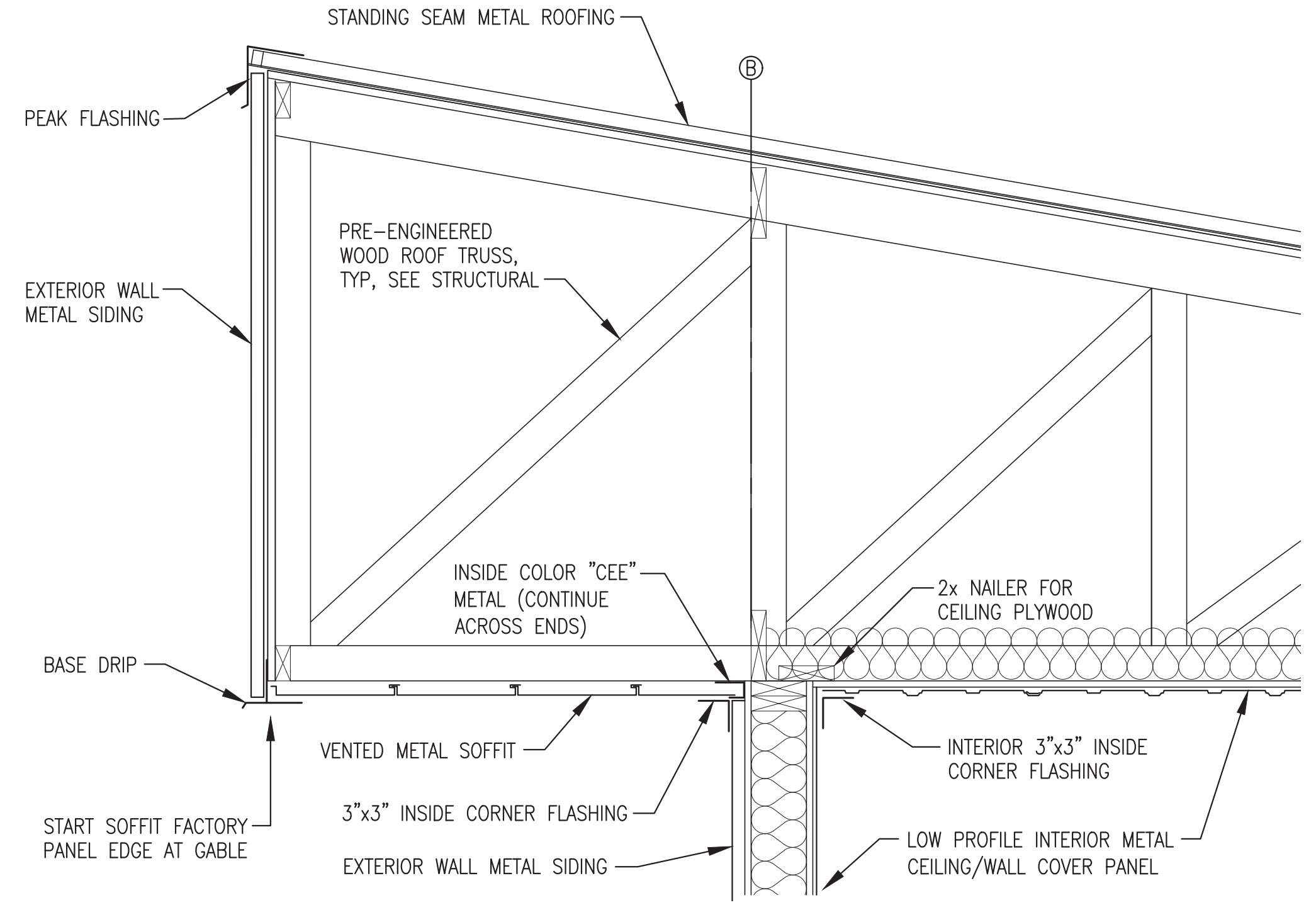
**1** BUILDING SECTION  
A5 3/8"=1'-0"



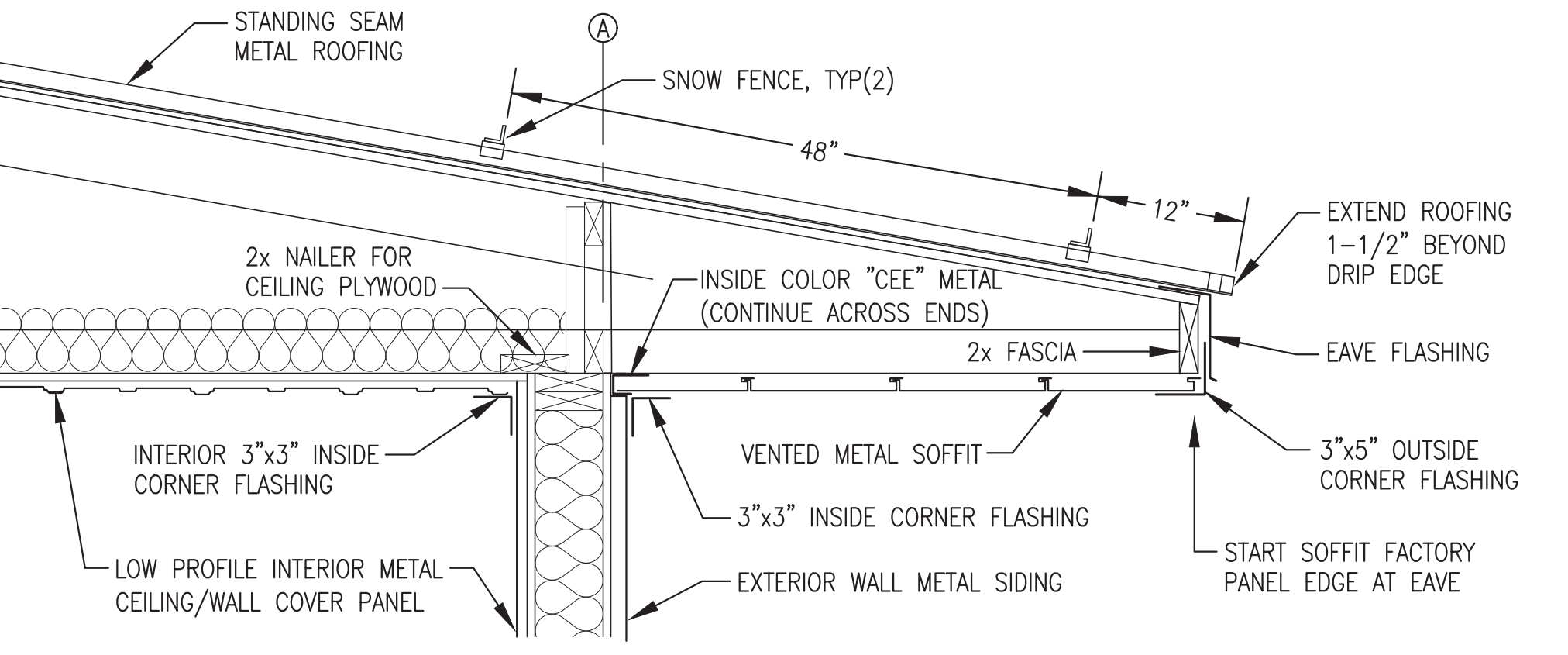
**2** BUILDING SECTION  
A5 3/8"=1'-0"



**3** GABLE DETAIL  
A5 1"=1'-0"



**4** PEAK DETAIL  
A5 1"=1'-0"



**5** EAVE DETAIL  
A5 1"=1'-0"

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2021



ALASKA ENERGY AUTHORITY		
PROJECT: NIKOLAI POWER SYSTEM UPGRADE		
TITLE: BUILDING SECTIONS & DETAILS		
	DRAWN BY: JTD	SCALE: AS NOTED
	DESIGNED BY: DGT/BCG	DATE: 9/1/21
	FILE NAME: NIKORPSU A&S	SHEET: A5 OF 6
	PROJECT NUMBER:	
P.O. 111405, Anchorage, AK 99511 (907)349-0100		

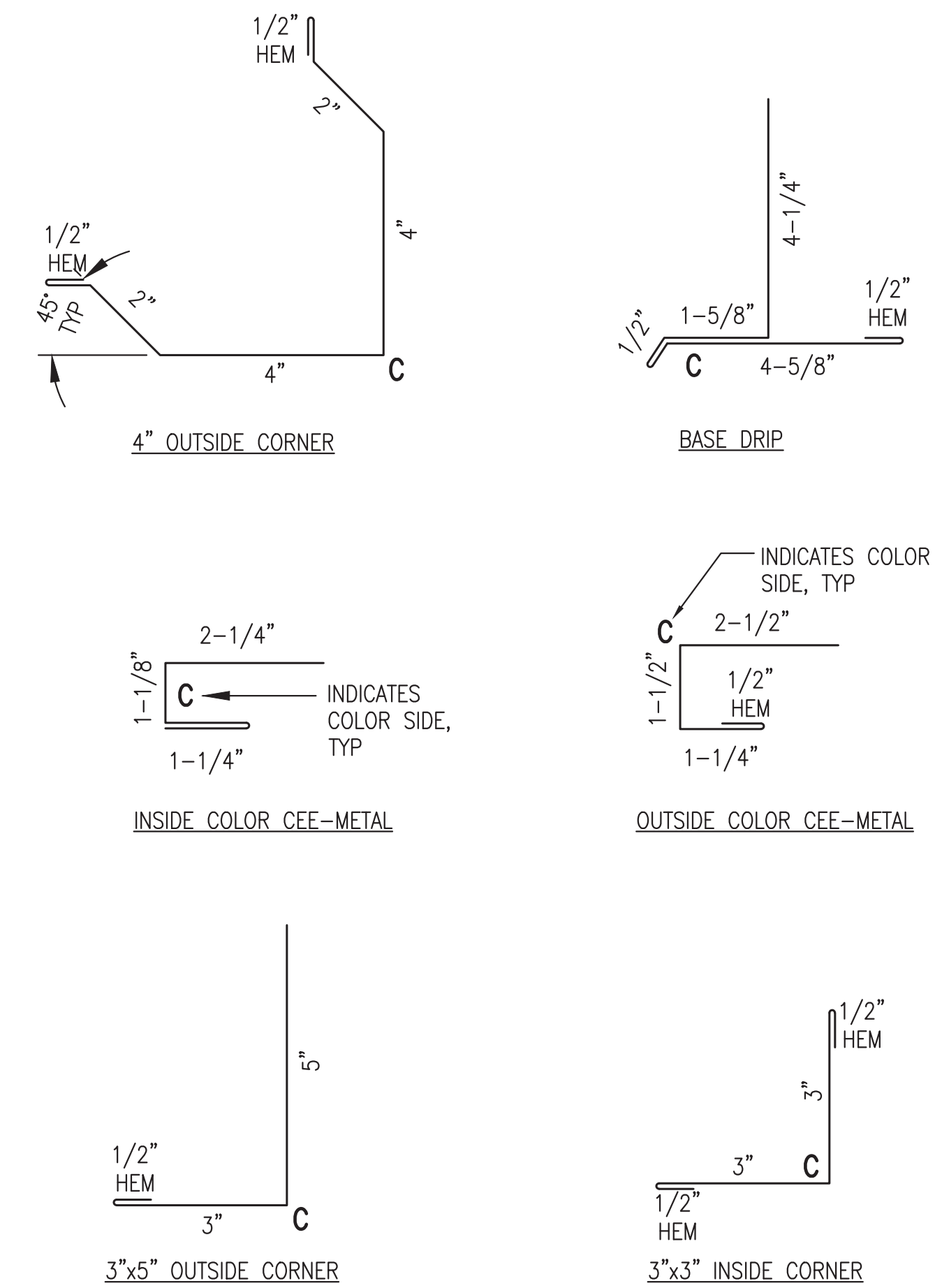
**METAL ROOFING/SIDING GENERAL NOTES:**

- 1) FURNISH A COMPLETE EXTERIOR METAL ROOFING SYSTEM AND METAL SIDING SYSTEM WITH ALL FLASHINGS AND ACCESSORIES REQUIRED TO FORM A CONTINUOUS WEATHERPROOF SEAL.
- 2) FURNISH CLIPS AND FASTENERS AS REQUIRED TO MEET MEET LOAD CONDITIONS INDICATED ON SHEET S1.2. ALL FASTENERS CORROSION RESISTANT STAINLESS STEEL OR ALUMINUM.
- 3) FURNISH A COMPLETE INTERIOR METAL CEILING AND WALL COVERAGE SYSTEMS WITH ALL FLASHING AND ACCESSORIES AS INDICATED.
- 4) PROVIDE CEE METAL TRIM FOR ALL DOORS, WINDOWS, AND MECHANICAL/ELECTRICAL OPENINGS SHOWN ON PLANS AND SECTIONS. CEE METAL TO MATCH ASSOCIATED METAL SIDING AS INDICATED.
- 5) ROOFING SYSTEM COLOR FORREST GREEN TO INCLUDE ROOF TRIM AS INDICATED. EXTERIOR WALL COLOR SIERRA TAN TO COVER ALL EXTERIOR SURFACES UP TO ROOF TRIM INCLUDING SOFFIT. ALL INTERIOR METAL COLOR WHITE.
- 6) IN ADDITION TO PANELS REQUIRED FOR COMPLETE COVERAGE OF ALL SURFACES FURNISH ONE EACH SPARE OF LONGEST OF EACH TYPE OF PANEL INCLUDING ROOF, SOFFIT, EXTERIOR SIDING, INTERIOR WALL, AND INTERIOR CEILING.
- 7) PROVIDE COMPLETE SHOP DRAWINGS FOR ALL METAL ROOFING AND SIDING INCLUDING LAYOUT, DETAILS, AND BILL OF MATERIALS.

**EXTERIOR WALL SIDING SYSTEM SPECIFICATIONS:**

- 1) EXTERIOR SIDING SYSTEM PANELS SHALL BE MIN 24 GAUGE GALVANIZED STEEL, 36" NET COVERAGE, 1-1/4" HIGH MAJOR RIBS AT 12" O.C. AND 1/4" HIGH MINOR RIBS AT 4" O.C. AEP SPAN PBR OR EQUAL. KYNAR OR PVDF FINISH, COLOR COOL SIERRA TAN.
- 2) VENTED SOFFIT PANELS SHALL BE 24 GAUGE GALVANIZED STEEL, 12" NET COVERAGE, KYNAR FINISH, 1" STANDOFF FROM SUBSTRATE, CONCEALED FASTENERS, WITH TWO PENCIL RIBS PROVIDING MINIMUM 7.8% NET FREE AREA. AEP SPAN FLUSH-PANEL OR EQUAL. KYNAR OR PVDF FINISH, COLOR COOL SIERRA TAN.
- 3) EXTERIOR SIDING SYSTEM TRIM/FLASHING SHALL BE MIN 24 GAUGE GALVANIZED STEEL, KYNAR OR PVDF FINISH TO MATCH EXTERIOR SIDING PANELS.

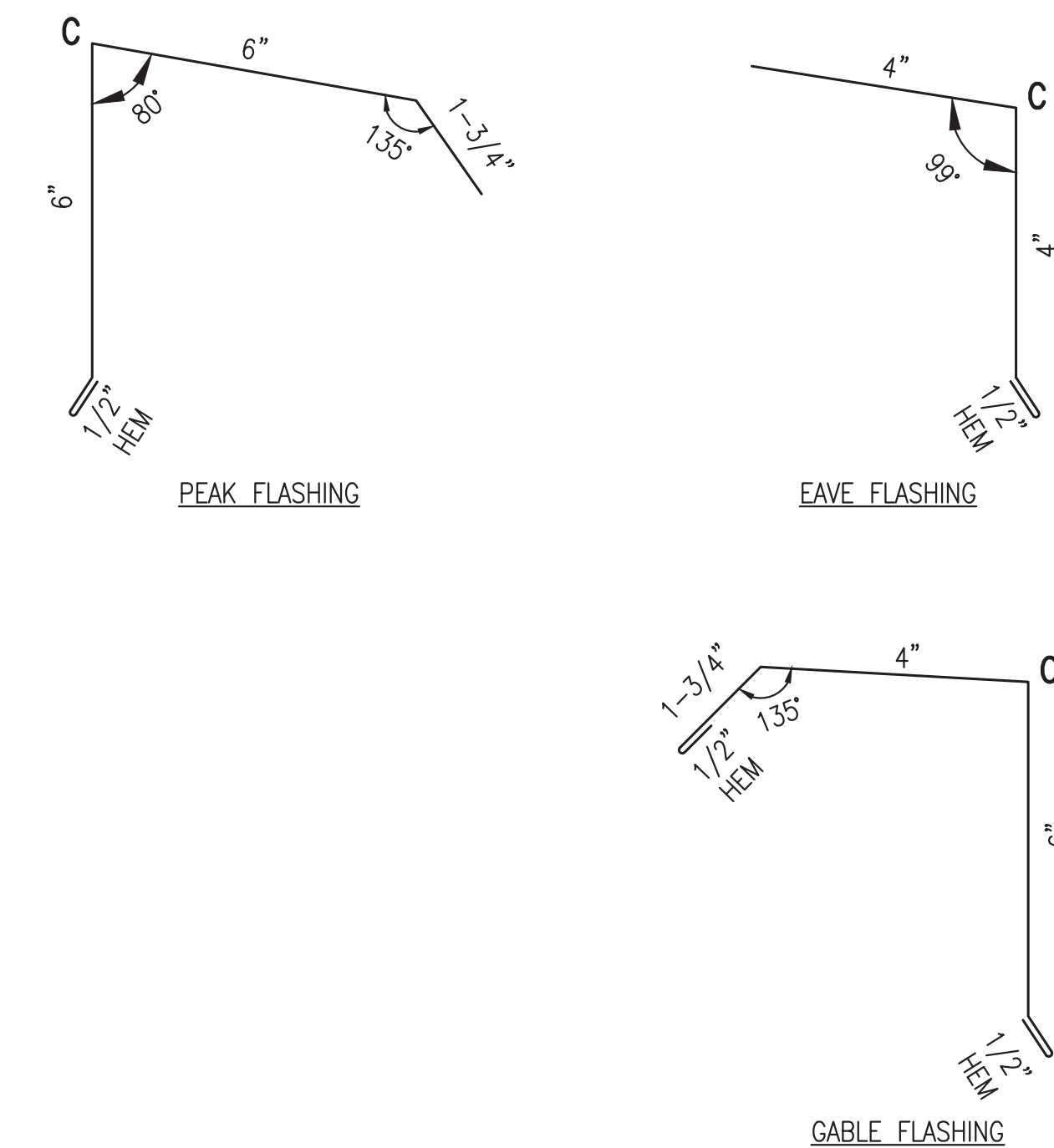
**EXTERIOR WALL SIDING SYSTEM TRIM & FLASHING (PVDF FINISH, COLOR COOL SIERRA TAN):**



**ROOFING SYSTEM SPECIFICATIONS:**

- 1) ROOFING SYSTEM STANDING SEAM PANELS SHALL BE MIN 22 GAUGE GALVANIZED STEEL, 16" NET COVERAGE, 1-7/8" HIGH RIBS. AEP SPAN DESIGN SPAN HP OR EQUAL. KYNAR OR PVDF FINISH, COLOR COOL FOREST GREEN.
- 2) ROOFING SYSTEM TRIM/FLASHING SHALL BE MIN 24 GAUGE GALVANIZED STEEL. KYNAR OR PVDF FINISH TO MATCH ROOF PANELS.

**ROOFING SYSTEM TRIM & FLASHING (PVDF FINISH, COLOR COOL FOREST GREEN):**



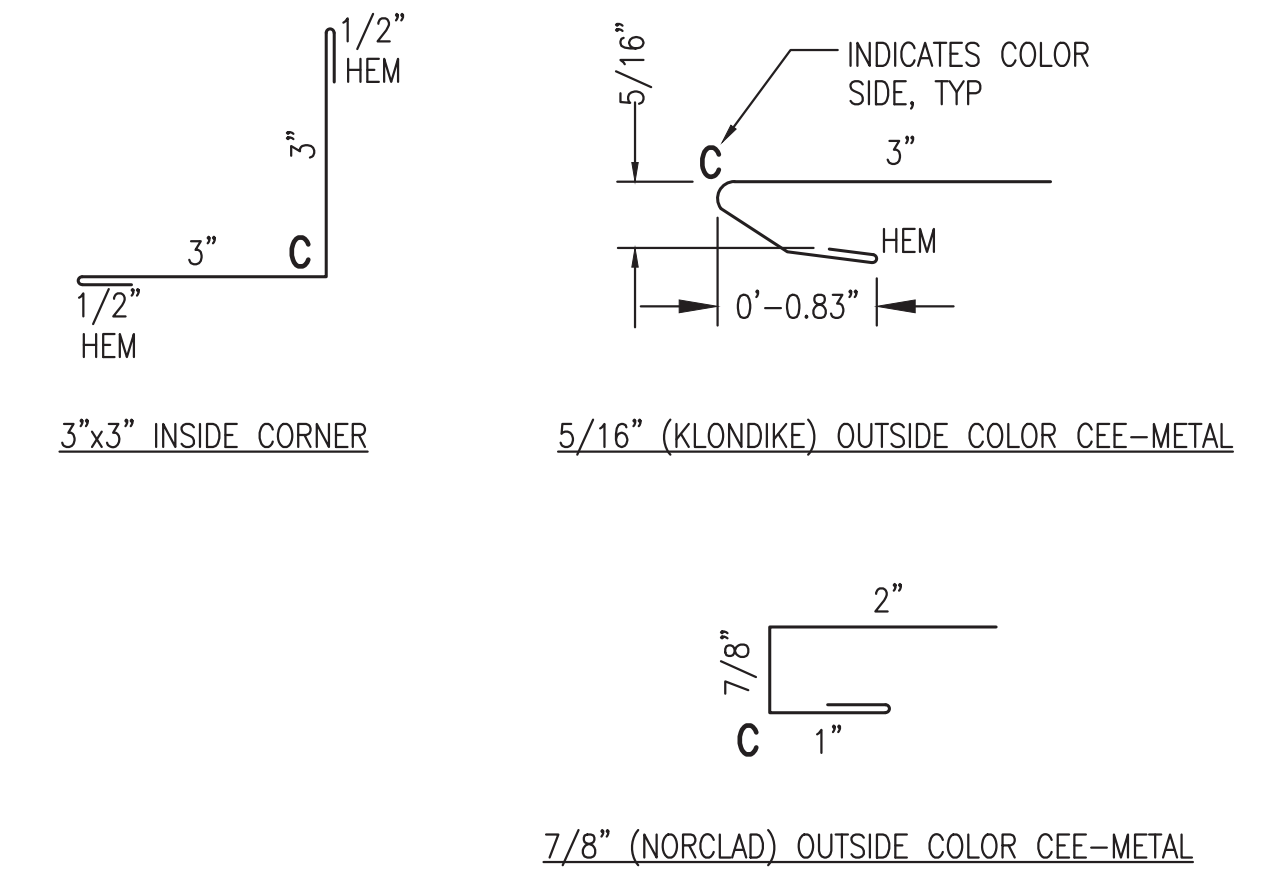
**SNOW FENCE SPECIFICATIONS:**

- 1) PROVIDE 2 ROWS OF SNOW RETENTION FENCE AS INDICATED.
- 2) SNOW FENCE SHALL BE I.M. CURBS COLOR GUARD OR APPROVED EQUAL. FURNISH COMPLETE SYSTEM INCLUDING UNPUNCHED COLOR GUARD, SPLICES, VERSA CLIPS, SNO CLIPS III, S5 KHD CLAMPS, 6" INSERTS, AND ALL REQUIRED FASTENERS.

**INTERIOR CEILING/WALL COVER SPECIFICATIONS:**

- 1) INTERIOR METAL CEILING COVER SHALL BE MIN 29 GAUGE GALVANIZED STEEL, 36" NET COVERAGE, 5/8" LOW PROFILE RIBS AT 9" O.C. ASC NOR-CLAD OR EQUAL. STMP, KYNAR, OR PVDF FINISH, COLOR WINTER WHITE.
- 2) INTERIOR METAL WALL COVER SHALL BE MIN 29 GAUGE GALVANIZED STEEL, 36" NET COVERAGE, 1/4" LOW PROFILE RIBS AT 4" O.C. ASC KLONDIKE OR EQUAL. STMP, KYNAR, OR PVDF FINISH, COLOR WINTER WHITE.
- 3) INTERIOR METAL CEILING/WALL COVER TRIM/FLASHING SHALL BE MIN 29 GAUGE GALVANIZED STEEL. STMP, KYNAR, OR PVDF FINISH, COLOR WINTER WHITE.

**INTERIOR CEILING/WALL TRIM & FLASHING (COLOR REGAL WHITE):**



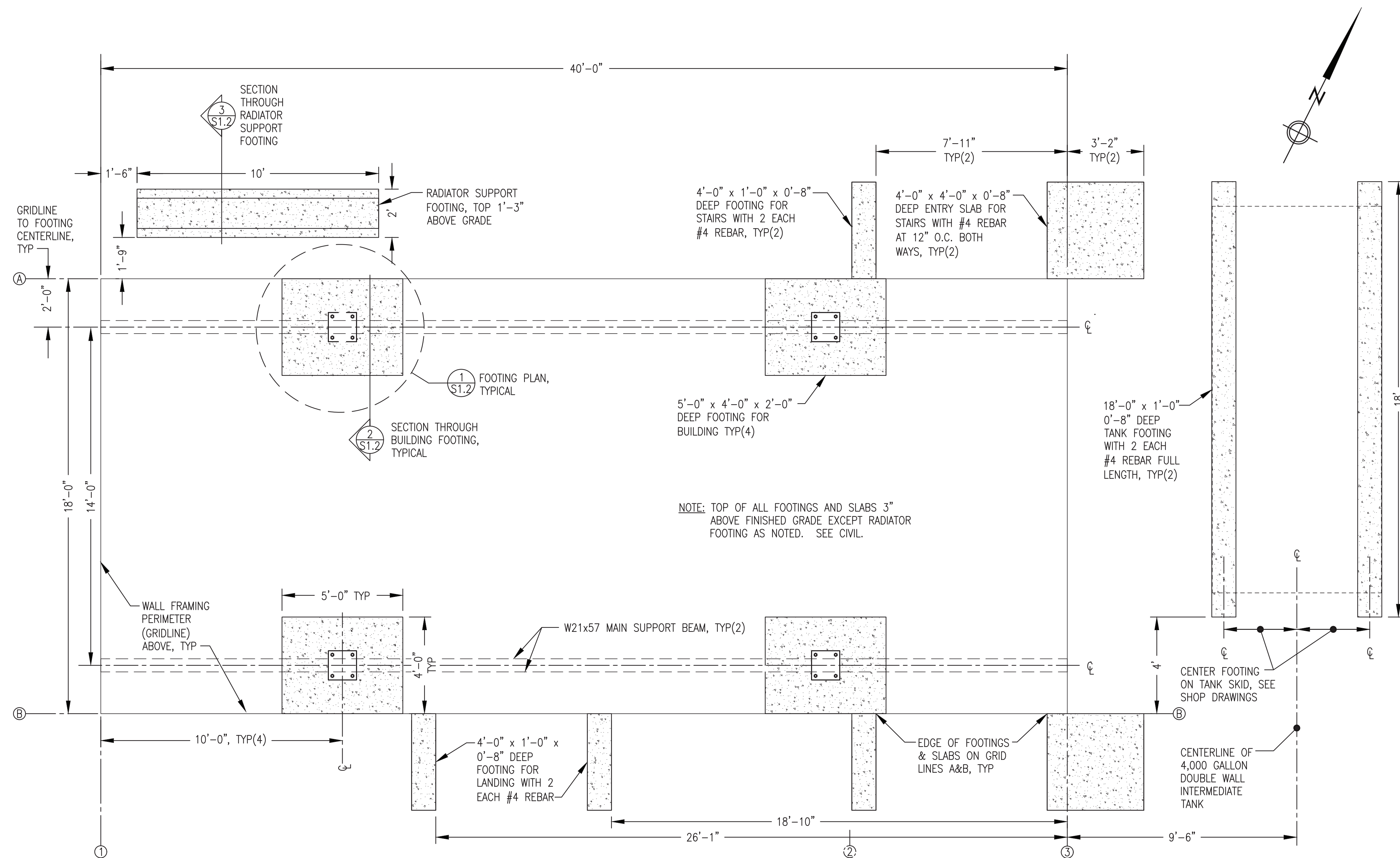
**UNDERFLOOR INSULATED SIDING PANEL SPECIFICATIONS:**

- 1) INSULATED UNDERFLOOR SHALL BE ROLL-FORMED GALVANIZED STEEL SHEET FACES CHEMICALLY BONDED TO INSULATED CORE. CONTINUOUSLY FOAMED-IN-PLACE POLYURETHANE, FACTORY MUTUAL CLASS 1 APPROVAL. METL-SPAN SANTA FE OR APPROVED EQUAL.
- 2) EXTERIOR FACE SHALL BE MINIMUM 24 GAUGE STUCCO EMBOSSED FLAT WALL PANEL. KYNAR OR PVDF FINISH, COLOR COOL ZINC GRAY. INTERIOR FACE SHALL BE MINIMUM 24 GAUGE STUCCO EMBOSSED FLAT WALL PANEL. STMP, KYNAR, OR PVDF FINISH, COLOR WHITE.
- 3) SIDE CONNECTION JOINTS SHALL BE OFFSET DOUBLE TONGUE AND GROOVE WITH AN EXTENDED METAL SHELF.

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SEPTEMBER  
2021



PROJECT: <b>NIKOLAI POWER SYSTEM UPGRADE</b>		
TITLE: <b>ROOFING/SIDING SPECIFICATIONS &amp; DETAILS</b>		
 P.O. 111405, Anchorage, AK 99511 (907)349-0100	DRAWN BY: JTD DESIGNED BY: DGT/BCG FILE NAME: NIKORPSU A&S PROJECT NUMBER:	SCALE: AS NOTED DATE: 9/1/21 SHEET: <b>A6</b> OF 6



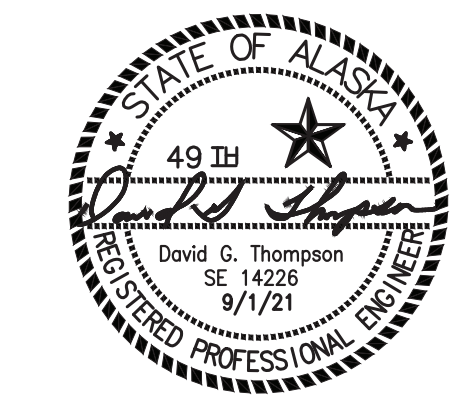
NOTE: TOP OF ALL FOOTINGS AND SLABS 3" ABOVE FINISHED GRADE EXCEPT RADIATOR FOOTING AS NOTED. SEE CIVIL.


1 FOUNDATION PLAN  
S1.1 3/8"=1'-0"

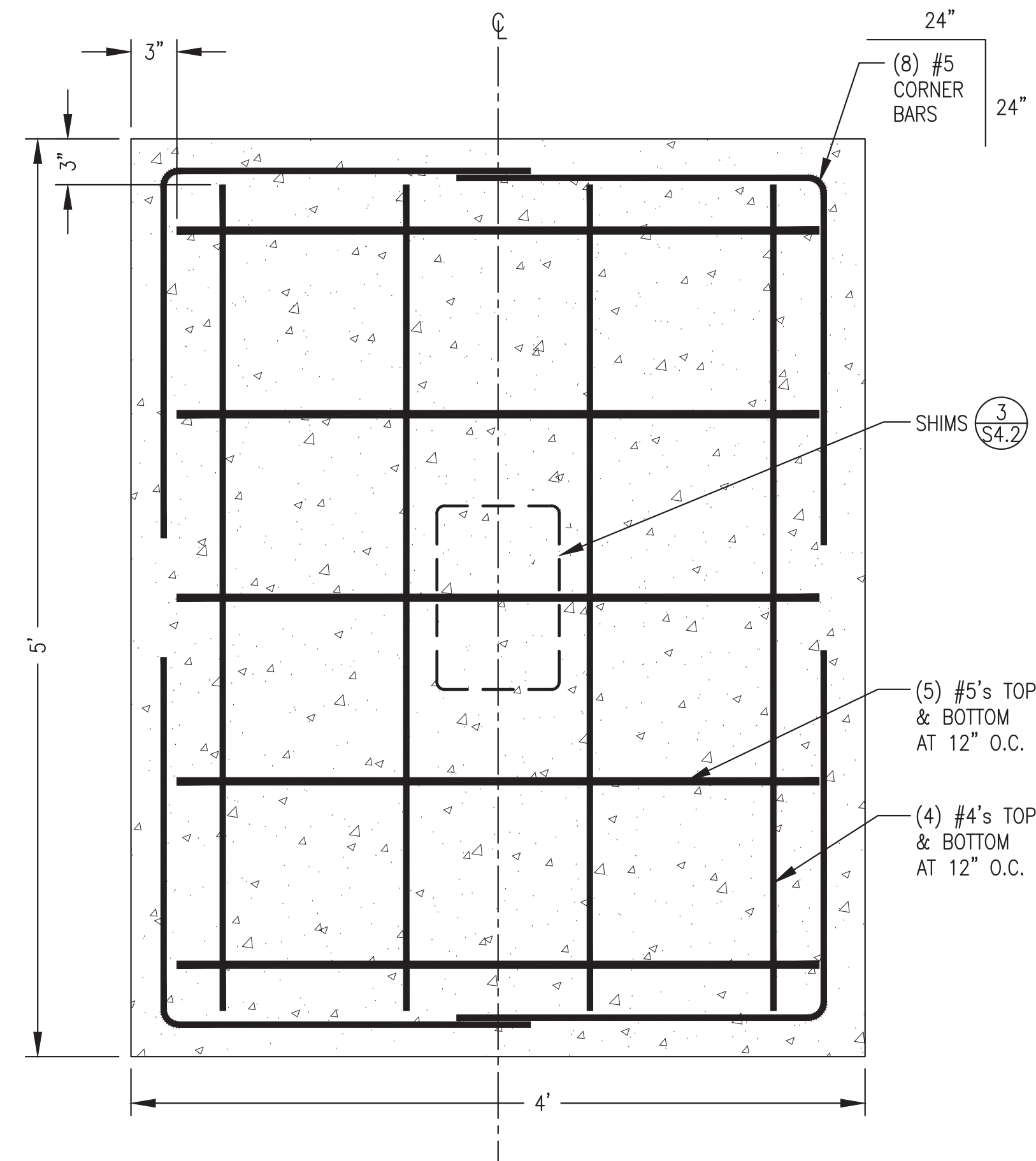
**STRUCTURAL GENERAL NOTES:**

- 1.0 DESIGN LOADS:**
- A. BUILDING CODE: 2012 INTERNATIONAL BUILDING CODE
  - B. FLOOR LIVE LOADS: (IBC TABLE 1607.1)
    - LIGHT STORAGE/MANUFACTURING 125 PSF OR 2000 POUND POINT LOAD
    - MAXIMUM GENERATOR UNIT WEIGHT 6,000 POUNDS
  - C. SNOW LOADS: (ASCE 7-10)
    - GROUND SNOW LOAD,  $P_g$  = 70 PSF
    - COEFFICIENT OF EXPOSURE,  $C_e$  = 1.0 PARTIALLY EXPOSED
    - SNOW IMPORTANCE FACTOR,  $I_s$  = 1.2 CATEGORY IV
    - THERMAL COEFFICIENT,  $C_t$  = 1.1 COLD, VENTILATED ROOF
    - ROOF/FLAT SNOW LOAD,  $P_f$  = 65 PSF
  - D. WIND LOADS:
    - BASIC WIND SPEED = 127 MPH, 3 SECOND GUST
    - RISK CATEGORY = CATEGORY IV
    - EXPOSURE CLASSIFICATION = EXPOSURE C
  - E. SEISMIC LOADING:
    - SEISMIC =  $S_s = 0.54$   $S_1 = 0.26$
    - SEISMIC IMPORTANCE FACTOR = 1.50, CATEGORY IV
    - SITE CLASS "D"
    - BASIC SEISMIC FORCE RESISTANCE SYSTEM = BUILDING - WOOD BEARING/SHEAR WALLS
    - FOUNDATION - SPREAD CONCRETE FOOTINGS
    - SEISMIC RESPONSE COEFFICIENT,  $R$  = 6-1/2
- 2.0 FOUNDATIONS:**
- A. SEE CIVIL FOR NFS STRUCTURAL GRAVEL PAD.
  - B. PROVIDE REINFORCED CONCRETE FOUNDATIONS IN ACCORDANCE WITH SPECIFICATIONS AND AS DETAILED ON SHEET S1.2.
- 3.0 STRUCTURAL STEEL:**
- A. THE DESIGN, FABRICATION, AND ERECTION OF ALL STRUCTURAL STEEL SHALL COMPLY WITH THE CODE OF STANDARD PRACTICE OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
  - B. ALL STEEL PLATE, SHAPES, AND ROLLED SECTIONS SHALL BE ASTM A36. ALL STEEL TUBING SHALL BE ASTM A500, GRADE B.
  - C. ALL METAL TO METAL CONNECTIONS SHALL BE EQUAL TO STANDARD CONNECTION, OR AS DETAILED USING A325 BOLTS (BEARING TYPE CONNECTIONS). TIGHTEN HIGH STRENGTH BOLTS WITH PROPERLY CALIBRATED WRENCHES, BY TURN-OF-THE-NUT METHOD, OR BY LOAD WASHERS. ALL CONNECTIONS UNLESS OTHERWISE DETAILED, SHALL HAVE THE MAXIMUM NUMBER OF 3/4" DIAMETER BOLTS USING STANDARD GAUGES AND CLEARANCES.
  - D. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH THE CURRENT CODE OF THE AMERICAN WELDING SOCIETY. USE AWS 5.1 E70XX ELECTRODES. MINIMUM FILLET WELD SHALL BE 3/16" EXCEPT FOR SEAL WELDS TO GAUGE METAL AS INDICATED.
  - E. STEEL SURFACES SHALL BE PREPARED AND PAINTED AS INDICATED IN THE ASSOCIATED FABRICATION AND ASSEMBLY NOTES.
- 4.0 WOOD:**
- A. 5/8" PLYWOOD SHALL HAVE A PANEL SPAN RATING OF 32/16 - MINIMUM NAILING FOR PANELS, UNLESS OTHERWISE NOTED, SHALL EQUAL 10d NAILS AT 4" CENTERS AROUND PLYWOOD PANEL EDGES AND 10d'S @ 12" CENTERS ALONG INTERMEDIATE FRAMING. BLOCK ALL DIAPHRAGM PANEL EDGES WITH 2X4 FLAT BLOCKING. OSB PANELS WILL NOT BE ACCEPTED.
  - B. FRAMING MATERIAL: DOUGLAS FIR OR HEM FIR, NO. 2 OR BETTER MINIMUM FOR JOISTS, STUDS, PANEL JOINTS, WOOD PLATES, BLOCKING, AND HEADERS. MAXIMUM MOISTURE CONTENT SHALL BE 19%. FOR FRAMING SPECIFICALLY INDICATED AS TREATED PROVIDE LUMBER TREATED FOR GROUND CONTACT TO 0.4 RETENTION MINIMUM.
  - C. ALL METAL TO WOOD OR WOOD TO WOOD CONNECTIONS SHALL BE STANDARD OR AS DETAILED ON THE DRAWINGS. ALL FASTENERS SHALL BE GALVANIZED OR STAINLESS STEEL.
  - D. ALL METAL FRAMING ANCHORS AND SPLICE PLATES SHALL BE FABRICATED FROM GALVANIZED STEEL AND SHALL SUPPORT THE LOADS INDICATED ON THE DRAWINGS. ANCHORS INDICATED ON THE DRAWINGS ARE "SIMPSON COMPANY" OR EQUAL.
  - E. MINIMUM NAILING SHALL EQUAL THAT INDICATED IN 2012 IBC TABLE 2304.9.1 UNLESS OTHERWISE INDICATED ON THE DRAWINGS OR ANCHOR MANUFACTURER'S INSTALLATION INSTRUCTIONS. MINIMUM NAILING FOR EXTERIOR PLYWOOD PANELS SHALL EQUAL 10d NAILS AT 4" CENTERS AROUND PLYWOOD PANEL EDGES AND 10d'S @ 12" CENTERS ALONG INTERMEDIATE FRAMING. BLOCK ALL DIAPHRAGM PANEL EDGES WITH 2x4 OR 2x6 BLOCKING.
  - F. ERECT WOOD FRAMING MEMBERS TRUE TO LINES AND LEVELS. DO NOT DEVIATE FROM TRUE ALIGNMENT MORE THAN 1/4 INCH.
  - G. PREMANUFACTURED ROOF TRUSSES: ALL PRE-MANUFACTURED WOOD TRUSSES SHALL BE "GANG NAIL" OR EQUAL AND SHALL BE FABRICATED WITH GALVANIZED PLATES AND FASTENERS AS INDICATED ABOVE. TRUSSES SHALL BE DESIGNED FOR THE GRAVITY LOADS, WIND & SEISMIC LATERAL & UPLIFT LOADS, AND SUPPORT CONDITIONS AS INDICATED ON THE DRAWINGS. NO DURATION OF LOAD INCREASE IN STRESSES WILL BE ALLOWED FOR SNOW LOADING. UNBALANCED SNOW AND DRIFT LOADING IS REQUIRED. SUBMIT TRUSS DESIGNS STAMPED BY AN ENGINEER LICENSED TO PRACTICE IN THE STATE OF ALASKA. TRUSS DRAWINGS SHALL INDICATE ALL MATERIALS OF CONSTRUCTION.

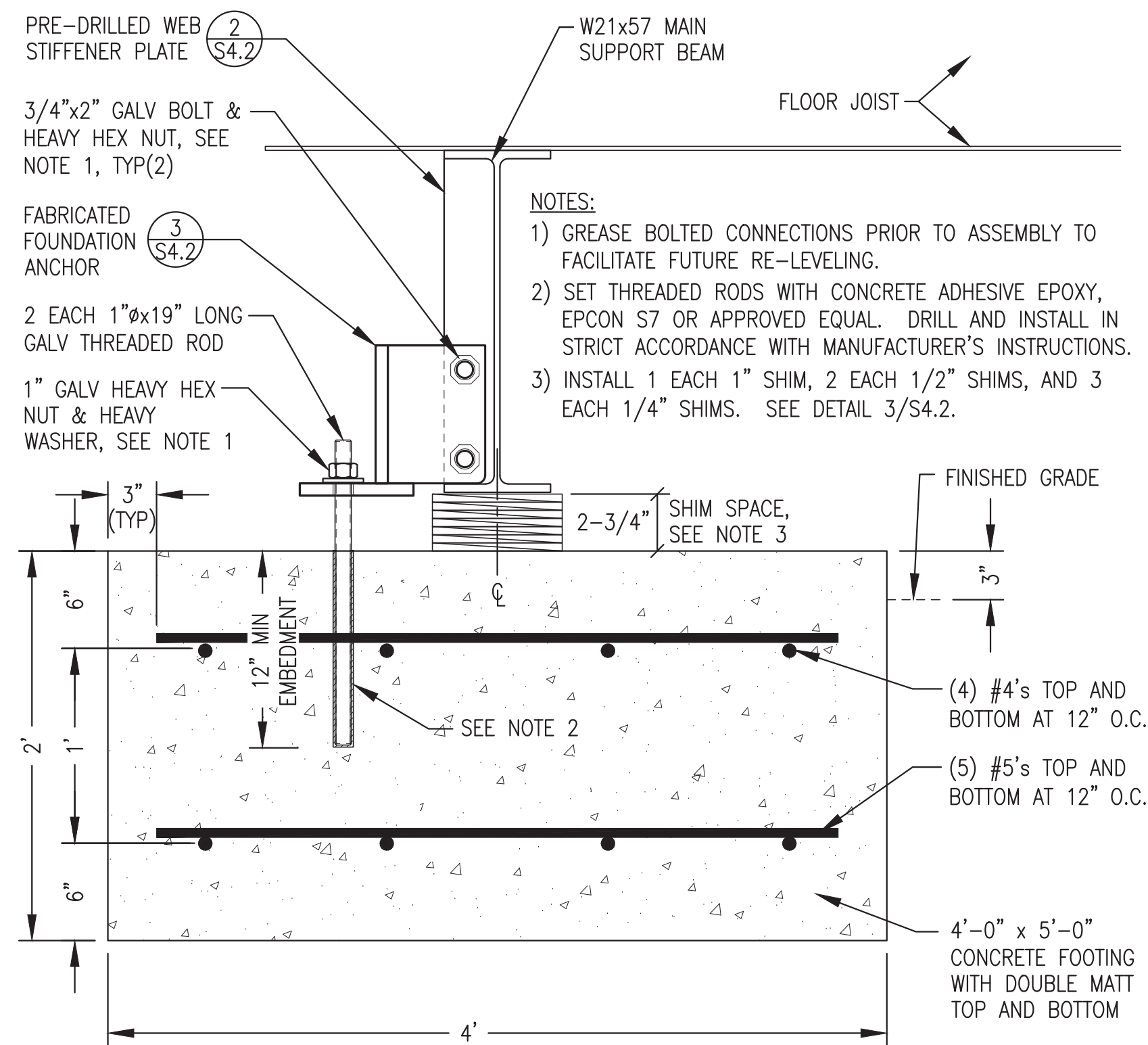
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CONSTRUCTION  
SEPTEMBER  
2021



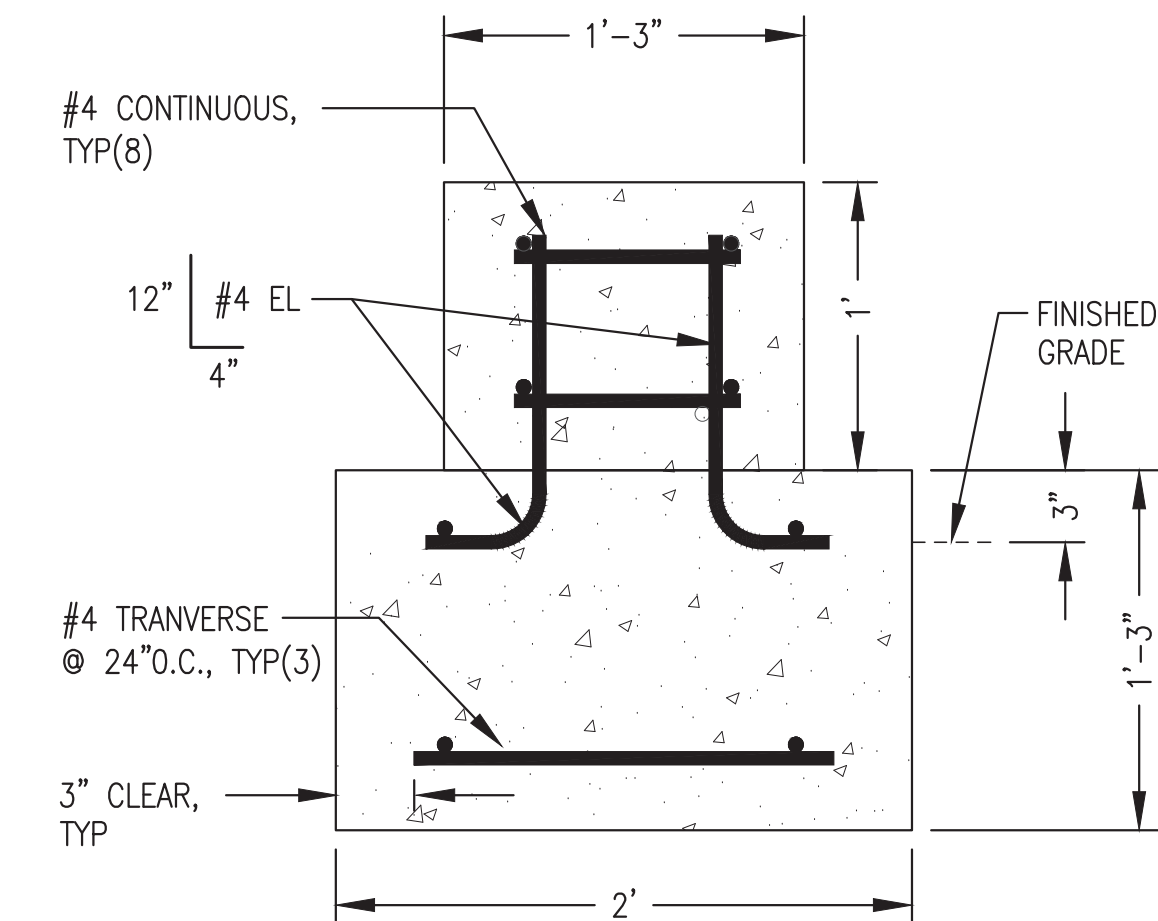
 ALASKA ENERGY AUTHORITY	
PROJECT: NIKOLAI POWER SYSTEM UPGRADE	
TITLE: FOUNDATION PLAN, CODE ANALYSIS, & STRUCTURAL NOTES	
DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: DGT/BCG	DATE: 9/1/21
FILE NAME: NIKORPSU A&S	SHEET: S1.1 OF 4
PROJECT NUMBER:	
P.O. 111405, Anchorage, AK 99511 (907)349-0100	



**1** BUILDING FOOTING PLAN  
S1.2 1 1/2"=1'-0"

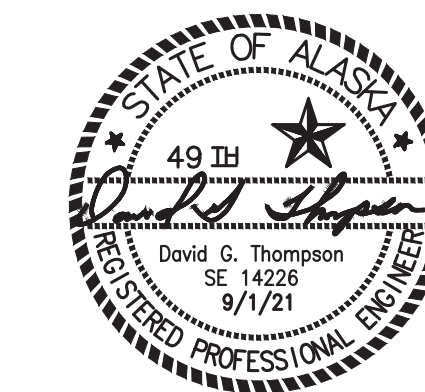



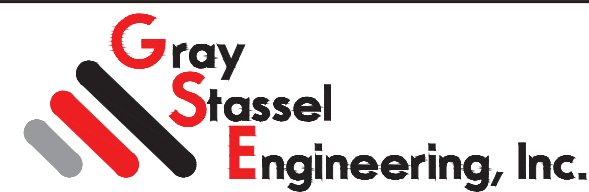
**2** SECTION THROUGH BUILDING FOOTING  
S1.2 1 1/2"=1'-0"



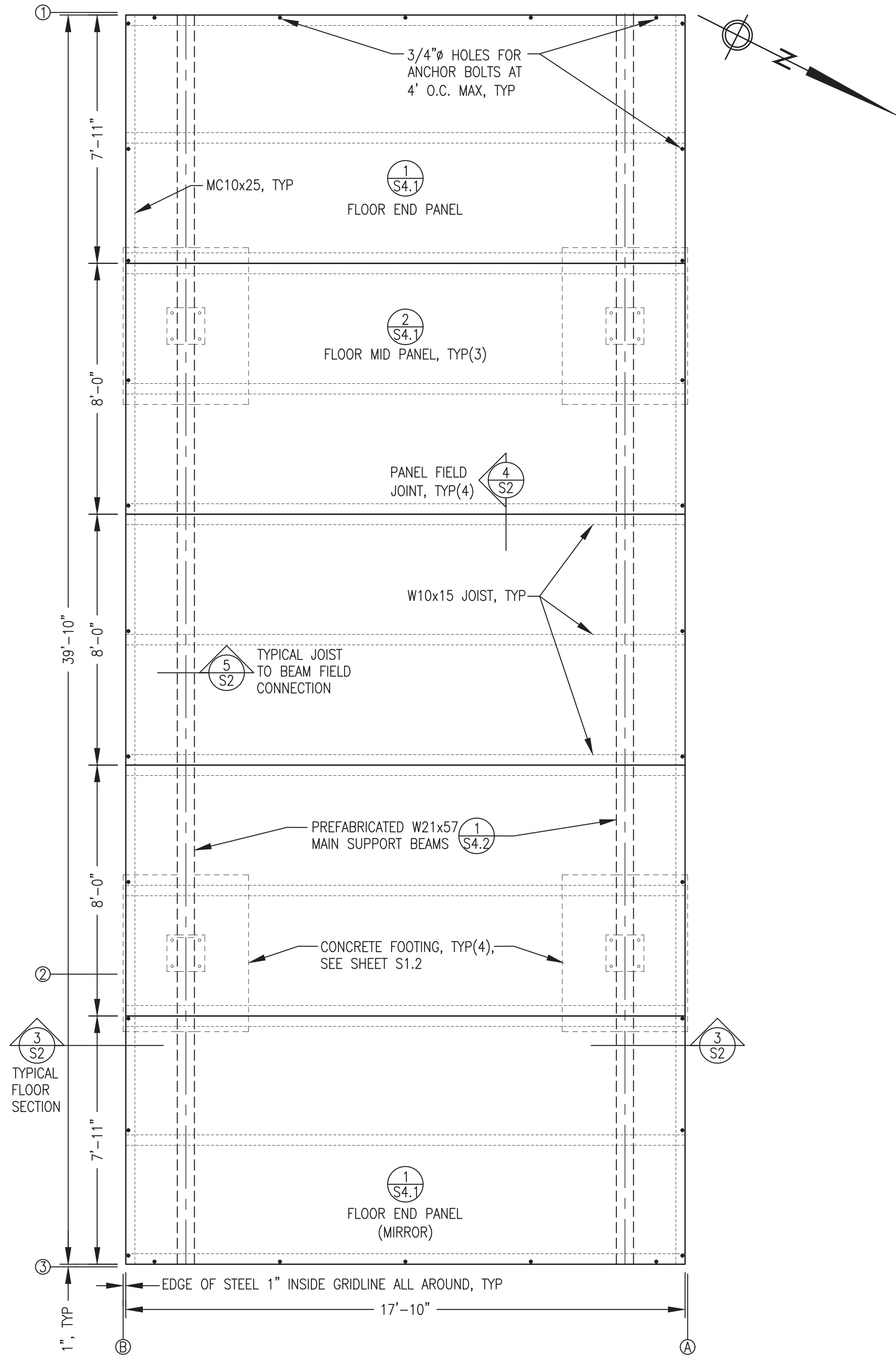
**3** SECTION THROUGH RADIATOR SUPPORT FOOTING  
S1.2 1 1/2"=1'-0"

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CONSTRUCTION  
SEPTEMBER  
2021

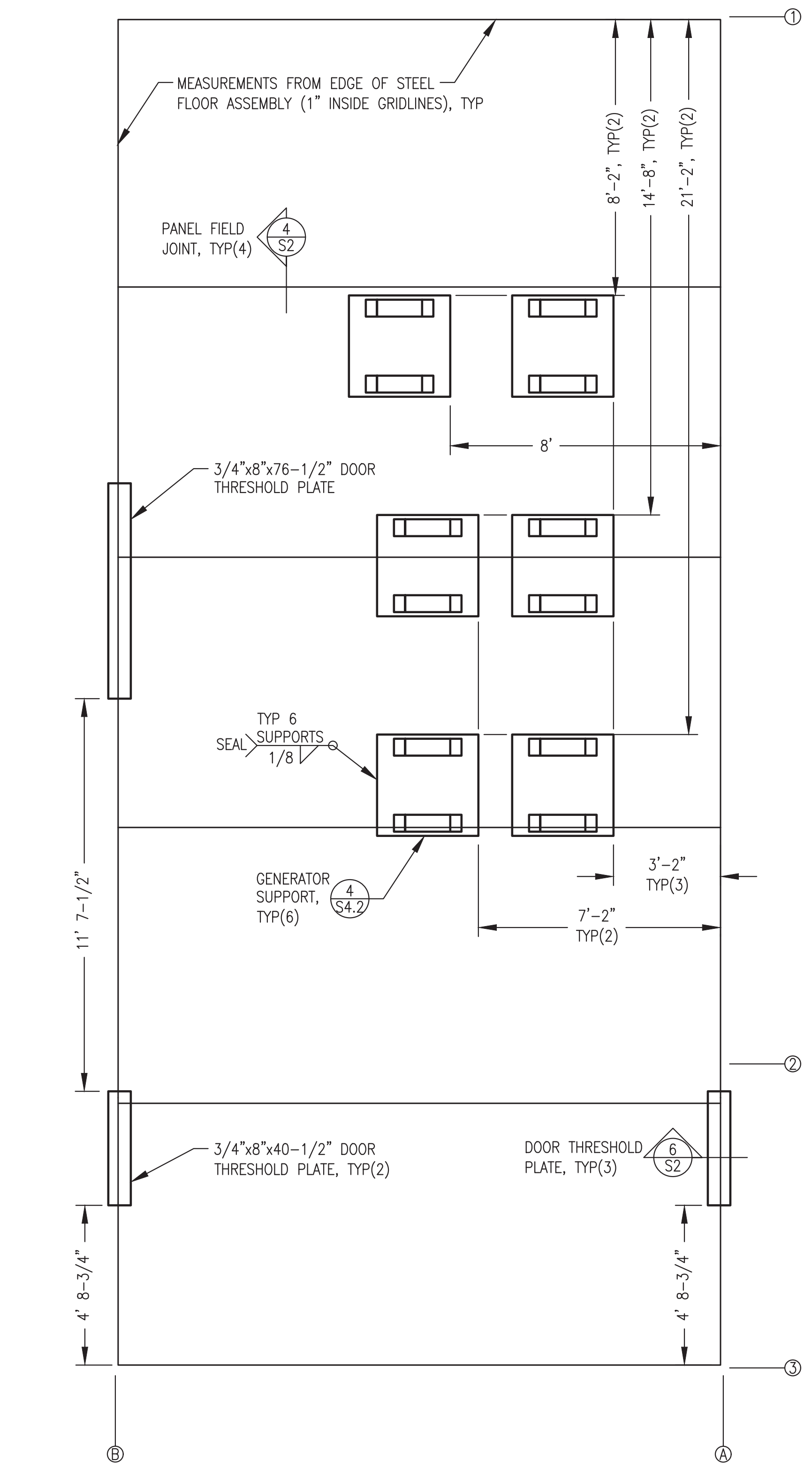


 ALASKA ENERGY AUTHORITY		
PROJECT: NIKOLAI POWER SYSTEM UPGRADE		
TITLE: FOUNDATION DETAILS		
 Gray Stassel Engineering, Inc. P.O. 111405, Anchorage, AK 99511 (907)349-0100	DRAWN BY: JTD	SCALE: AS NOTED
	DESIGNED BY: DGT/BCG	DATE: 9/1/21
	FILE NAME: NIKORPSU A&S	SHEET: S1.2 OF 4
PROJECT NUMBER:		

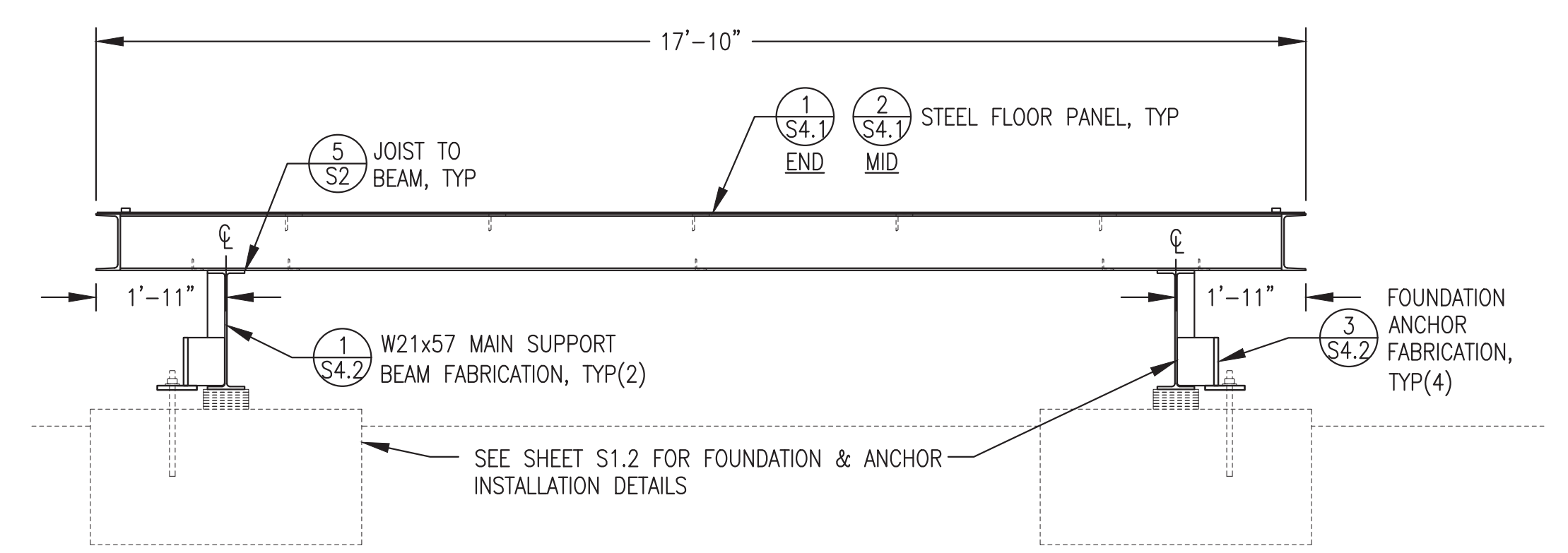




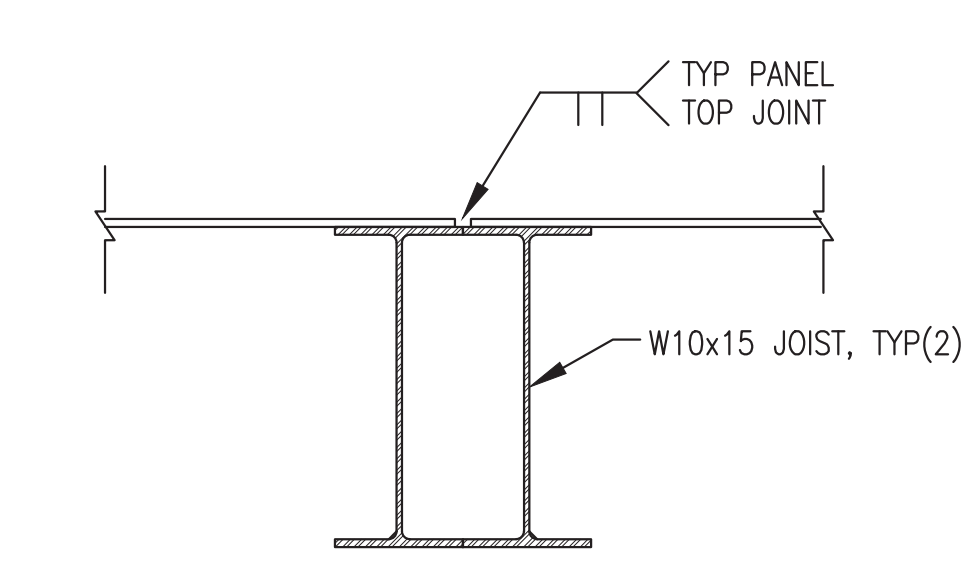
**1** STEEL FLOOR PANEL ASSEMBLY PLAN  
3/8"=1'-0"



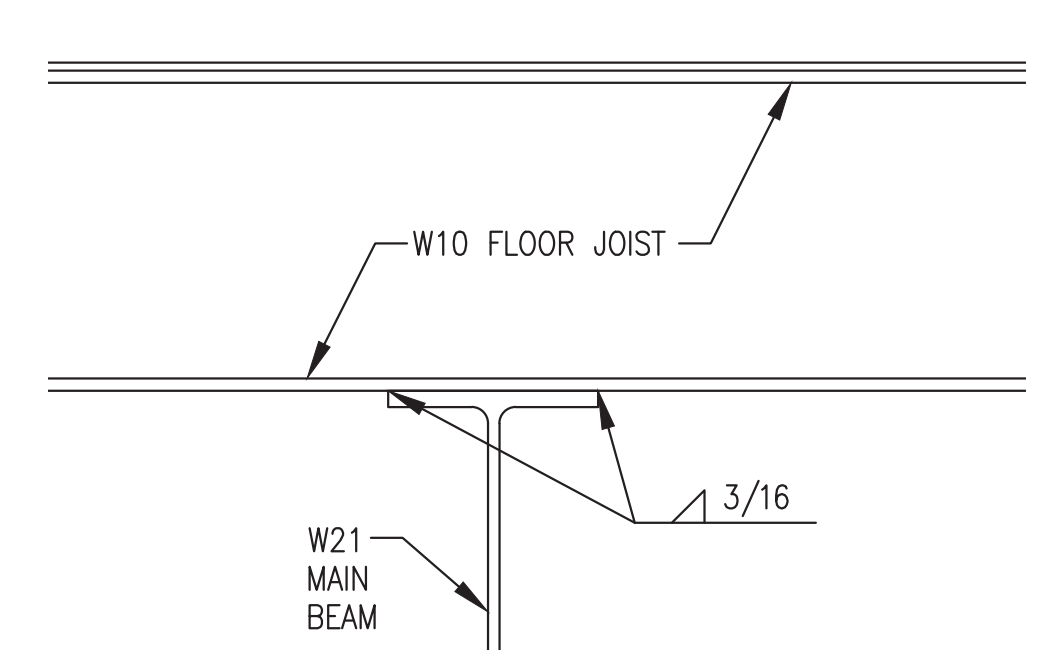
**2** GENERATOR SUPPORT & THRESHOLD PLATES PLAN  
3/8"=1'-0"



**3** TYPICAL FLOOR SECTION  
1/2"=1'-0"



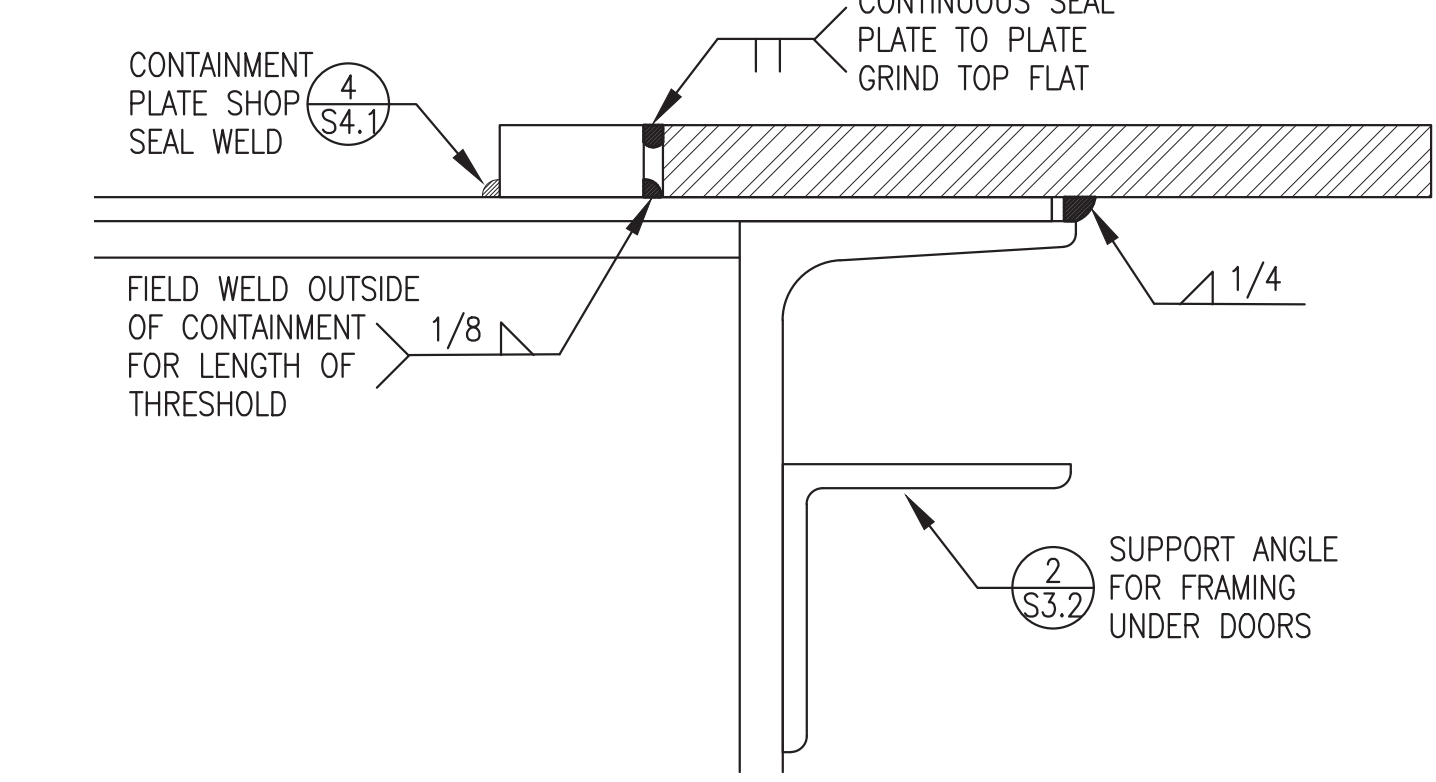
**4** TYPICAL FLOOR PANEL JOINT  
NO SCALE



**5** TYPICAL JOIST TO BEAM CONNECTION  
NO SCALE

NOTES:

- AFTER GRINDING AND PREPARING THRESHOLD AREAS, WELD OUTSIDE EDGE OF CONTAINMENT PLATE TO FLOOR PLATE AS SHOWN.
- REPOSITION DOOR THRESHOLD PLATES AND WELD TO FLOOR PLATE AND CONTAINMENT PLATE AS SHOWN.
- GRIND TOP OF GROOVE WELD FLAT TO CREATE SMOOTH BASE FOR DOOR THRESHOLD INSTALLATION.



**6** DOOR THRESHOLD PLATE INSTALLATION DETAIL  
3/8"=1'-0"

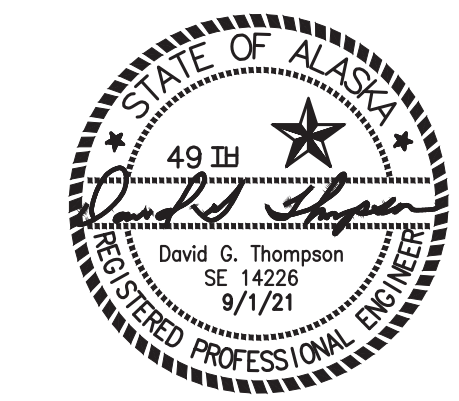
STEEL FLOOR ASSEMBLY AND PAINTING NOTES:

- SHOP FABRICATED FLOOR PANELS TO BE PROVIDED WITH EPOXY PRIME COAT ON ENTIRE FLOOR SURFACE AREA EXCEPT EDGE JOINT WELD AREAS. REMOVE ALL MASKING AND CLEAN ANY ADHESIVE FROM WELD AREA PRIOR TO WELDING & RE-PRIMING.
- MAKE ALL FLOOR PANEL JOINTS AND CONNECTIONS WITH GROOVE OR FILLET WELDS FOR CONTINUOUS SEAL.
- UPON COMPLETION OF FLOOR PANEL ASSEMBLY LAYOUT PERIMETER OF ALL GENERATOR SUPPORTS AND DOOR THRESHOLD PLATES. MARK EDGES FOR WELDING. GRIND OFF MINIMUM 2" WIDE STRIP OF PAINT ALONG ALL WELD

- PERIMETERS. GRIND ALL FLOOR JOINT WELDS FLAT WITHIN THE GENERATOR SUPPORT AND DOOR THRESHOLD FOOTPRINTS. REPOSITION GENERATOR SUPPORTS AND DOOR THRESHOLDS AND WELD TO FLOOR PLATE.
- AFTER COMPLETING INSTALLATION OF ALL SUPPORTS AND PLATES GRIND ALL REMAINING FLOOR JOINT AND GENERATOR SUPPORT WELDS SMOOTH. GRIND/WIRE BRUSH AREAS ADJACENT TO WELDS TO REMOVE ANY RESIDUAL SLAG OR HEAT DAMAGED PRIMER. WIRE BRUSH BARE METAL AND ADJOINING PAINT AREAS AS REQUIRED TO ABRASE SURFACE FOR PRIMING. PRIME ALL PREPARED SURFACES WITH ONE COAT OF EPOXY, PPG AMERLOC 2 VOC OR APPROVED EQUAL, COLOR ANSI 61 GRAY, MINIMUM 4 MILS DRY FILM THICKNESS.

- SEE MECHANICAL AND ELECTRICAL FOR ADDITIONAL EQUIPMENT, TANKS, SUPPORT RACKS, ETC.. TO BE WELDED TO STEEL FLOOR. FOLLOW PROCEDURES LISTED ABOVE FOR SURFACE PREPARATION AND RE-PRIMING OF ALL ADDITIONAL MISCELLANEOUS FLOOR WELD AREAS.
- UPON PROJECT COMPLETION OF POWER PLANT CONSTRUCTION, CLEAN AND DECREASE ENTIRE FLOOR. LIGHTLY SAND ENTIRE FLOOR TO ABRASE SURFACE FOR TOP COAT. FINISH WITH ONE OR MORE COATS OF EPOXY, PPG AMERLOC 2 VOC OR APPROVED EQUAL, COLOR ANSI 61 GRAY, MINIMUM 4 MILS DRY FILM THICKNESS.

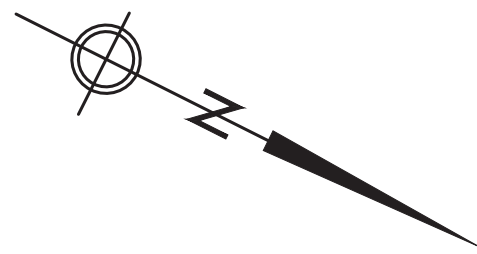
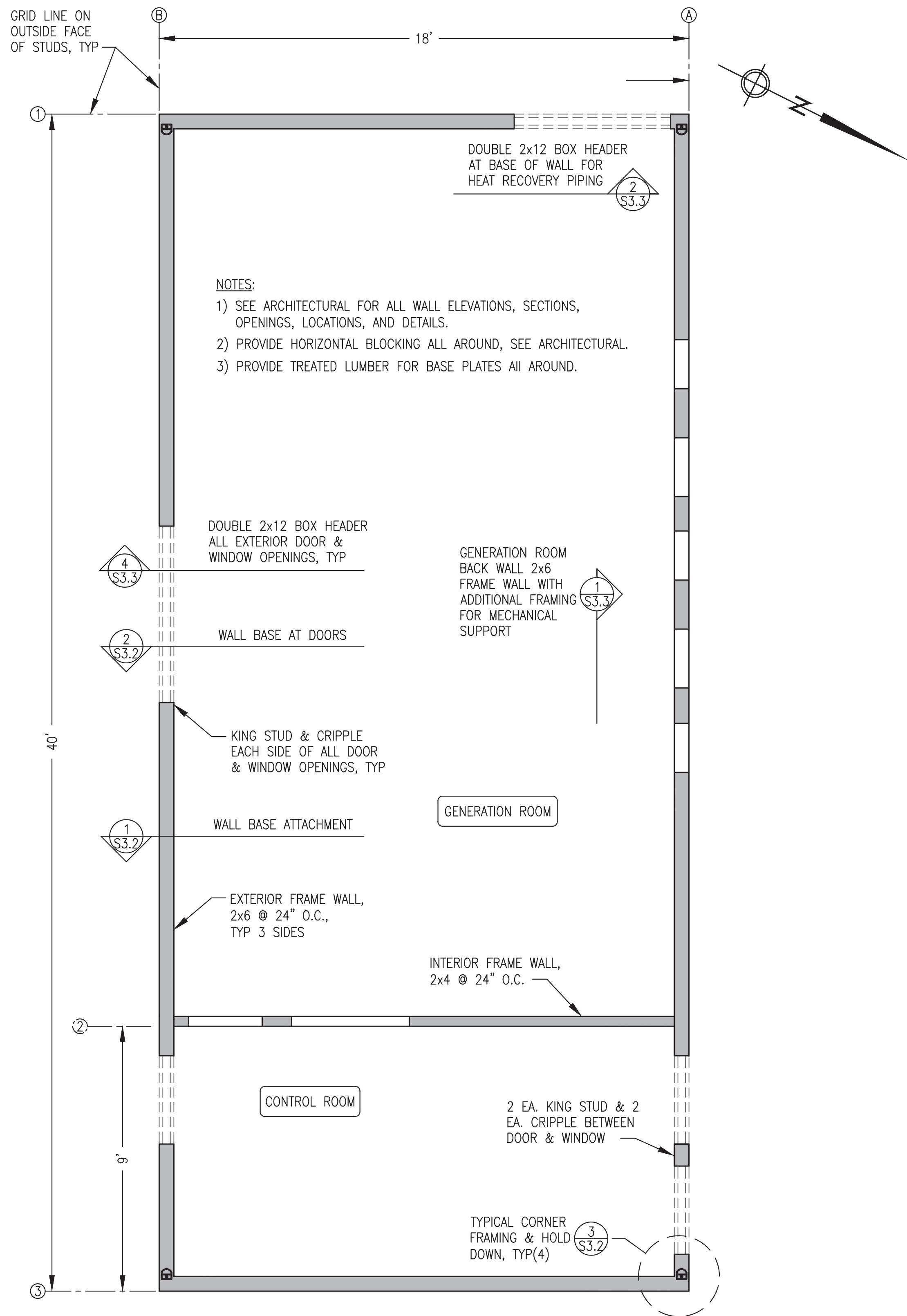
ISSUED FOR CONSTRUCTION SEPTEMBER 2021



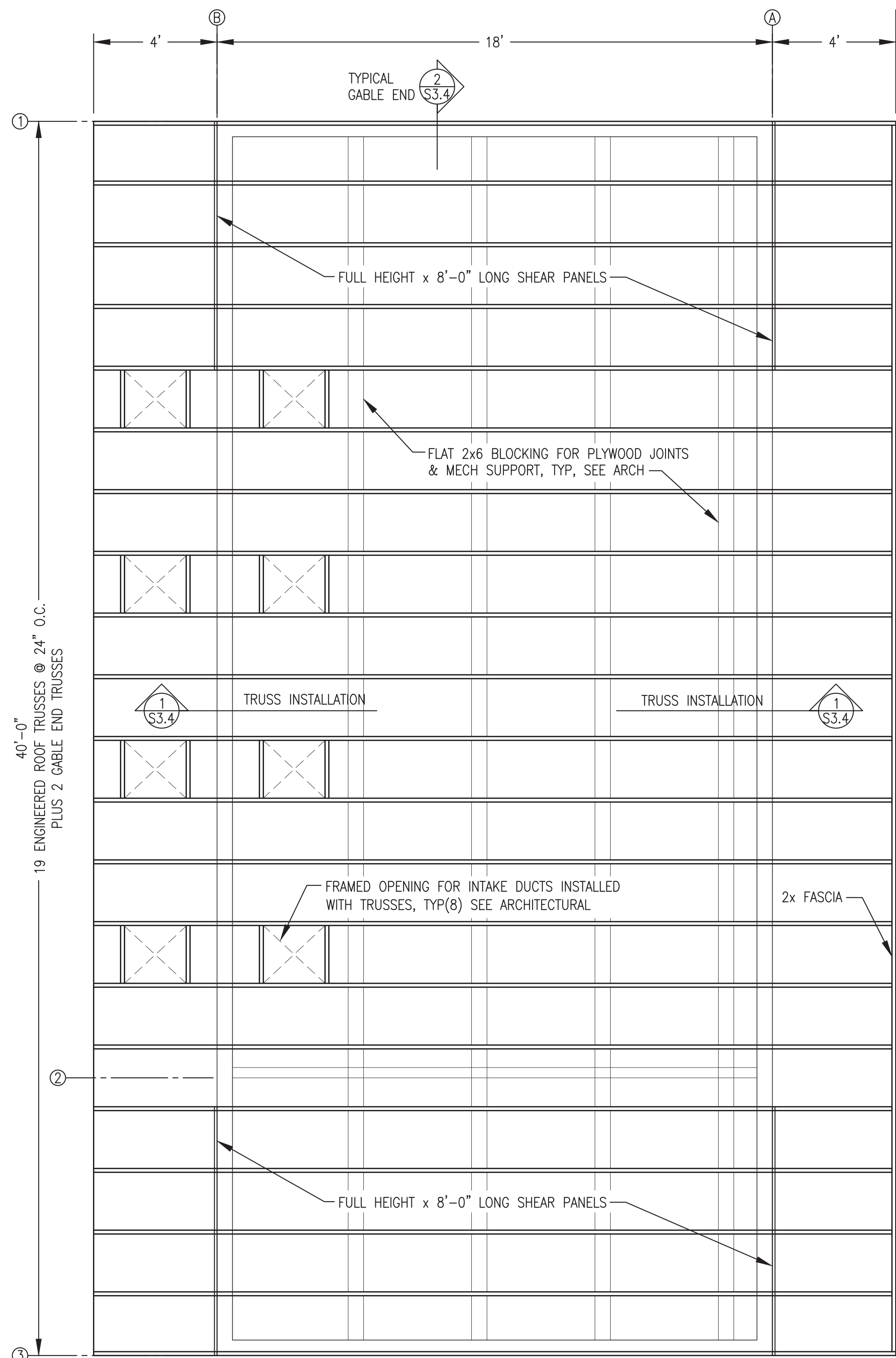
ALASKA ENERGY AUTHORITY	
PROJECT:	NIKOLAI POWER SYSTEM UPGRADE
TITLE:	STEEL FLOOR FIELD INSTALLATION PLANS & DETAILS
DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: DGT/BCG	DATE: 9/1/21
FILE NAME: NIKORPSU A&S	SHEET: S2 OF 4
PROJECT NUMBER:	



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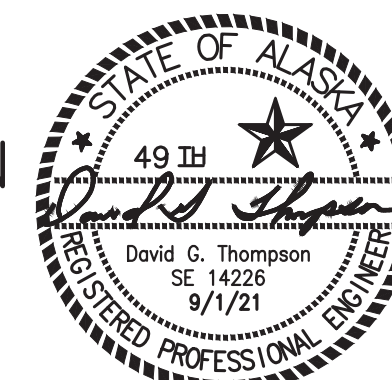



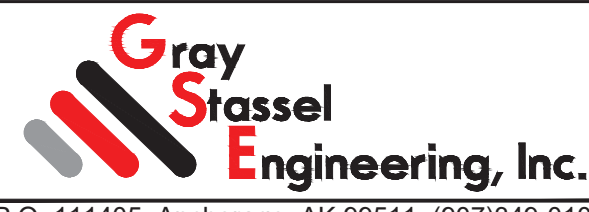
1 WALL FRAMING PLAN  
 S3.1 3/8"=1'-0"

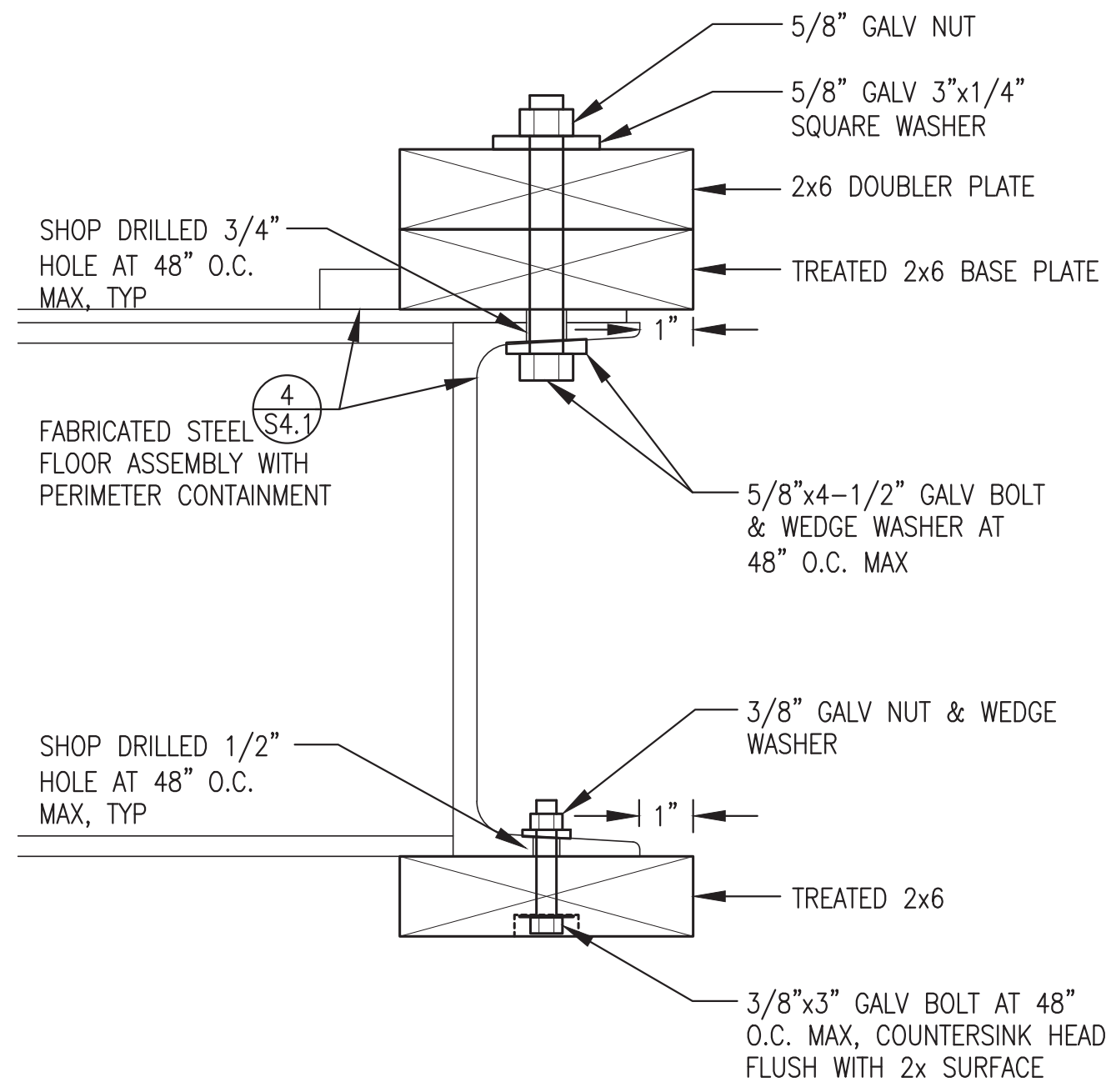


2 ROOF FRAMING PLAN  
 S3.1 3/8"=1'-0"

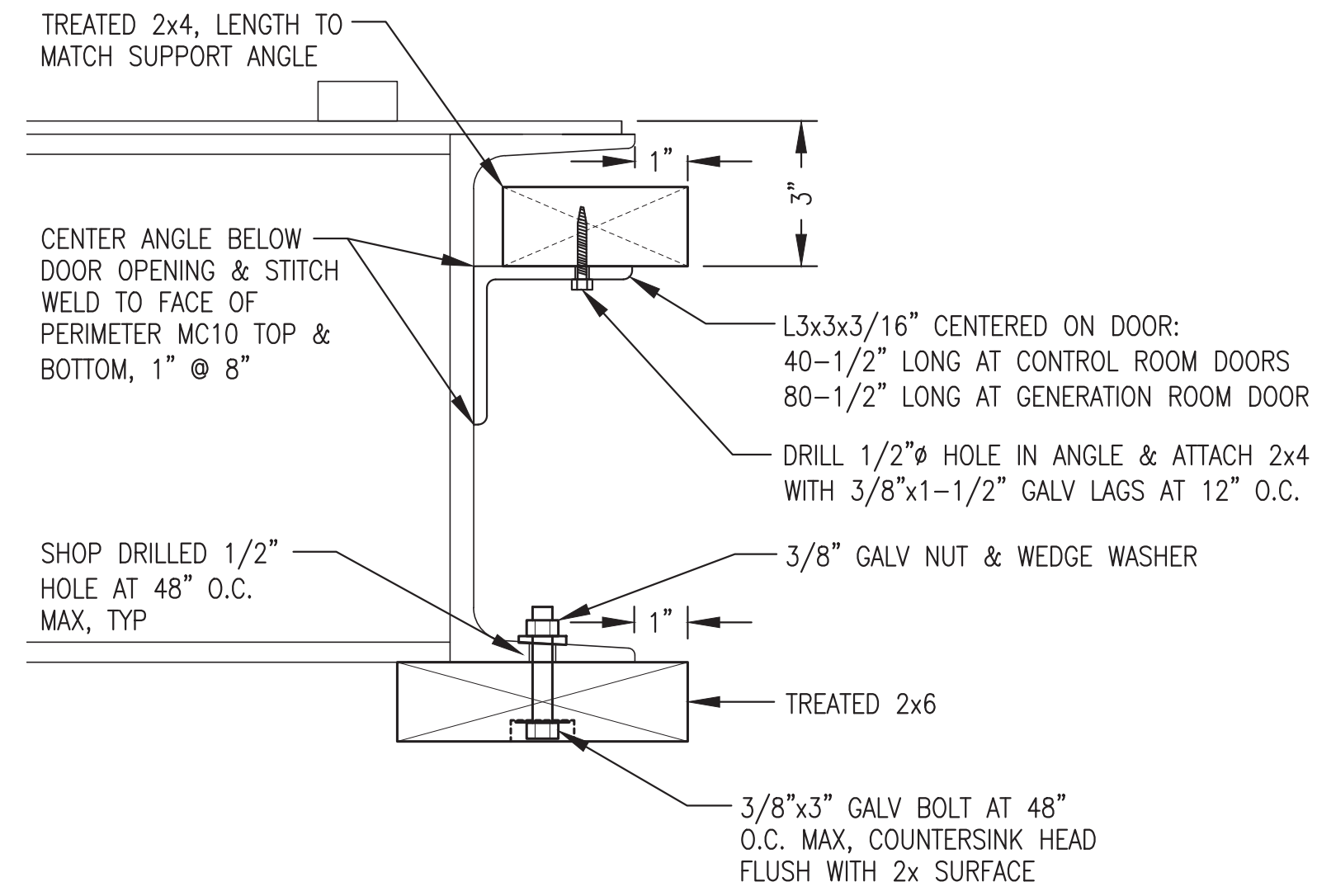
ISSUED FOR CONSTRUCTION  
 SEPTEMBER 2021



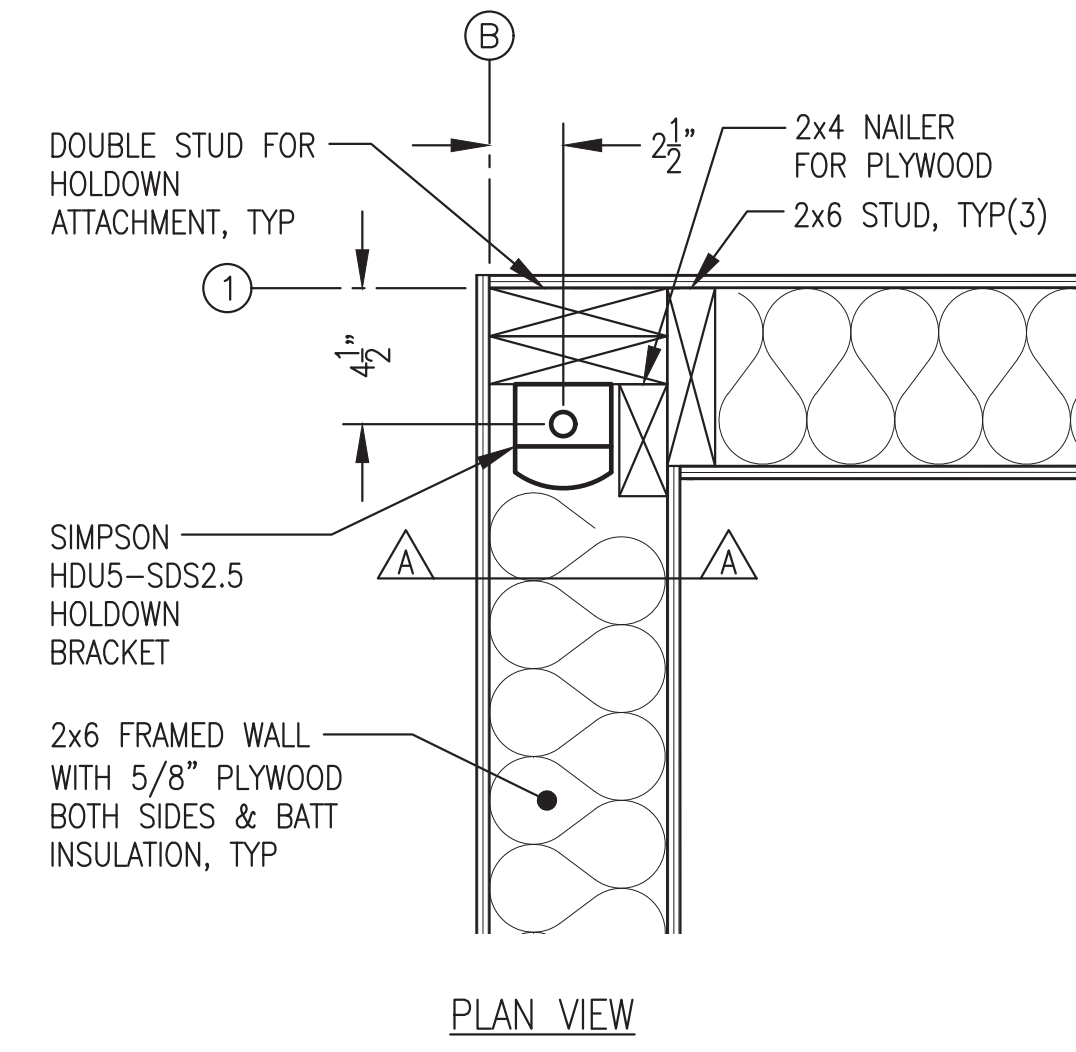
 ALASKA ENERGY AUTHORITY		
PROJECT: NIKOLAI POWER SYSTEM UPGRADE		
TITLE: WALL & ROOF FRAMING PLANS		
 Gray Stassel Engineering, Inc. P.O. 111405, Anchorage, AK 99511 (907)349-0100	DRAWN BY: JTD DESIGNED BY: DGT/BCG FILE NAME: NIKORPSU A&S PROJECT NUMBER:	SCALE: AS NOTED DATE: 9/1/21 SHEET: S3.1 OF 4



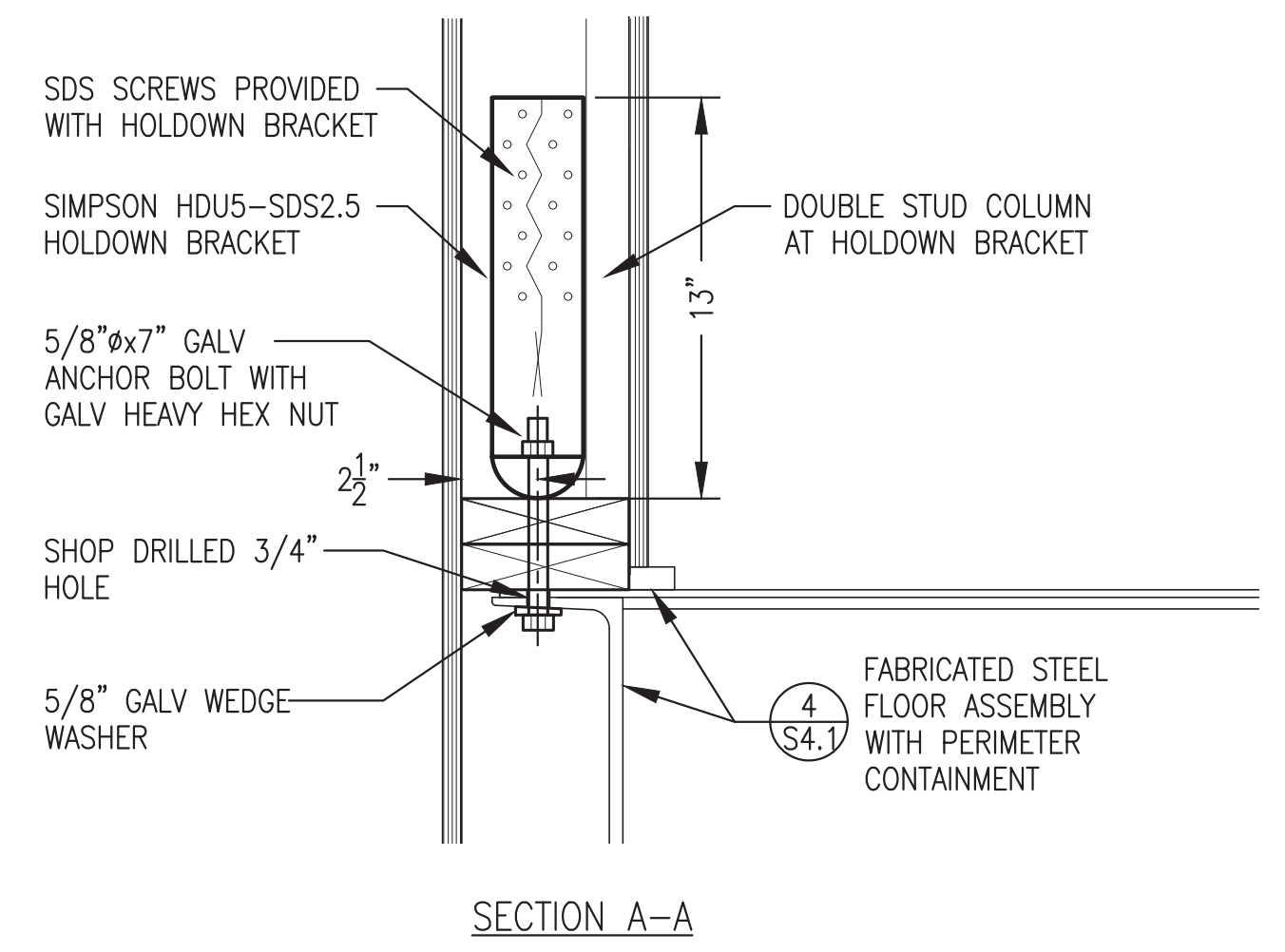
**1** WALL BASE ATTACHMENT  
S3.2 NO SCALE



**2** WALL BASE AT DOORS  
S3.2 NO SCALE



**3** WALL CORNER HOLD DOWN BRACKET DETAIL  
S3.2 NO SCALE

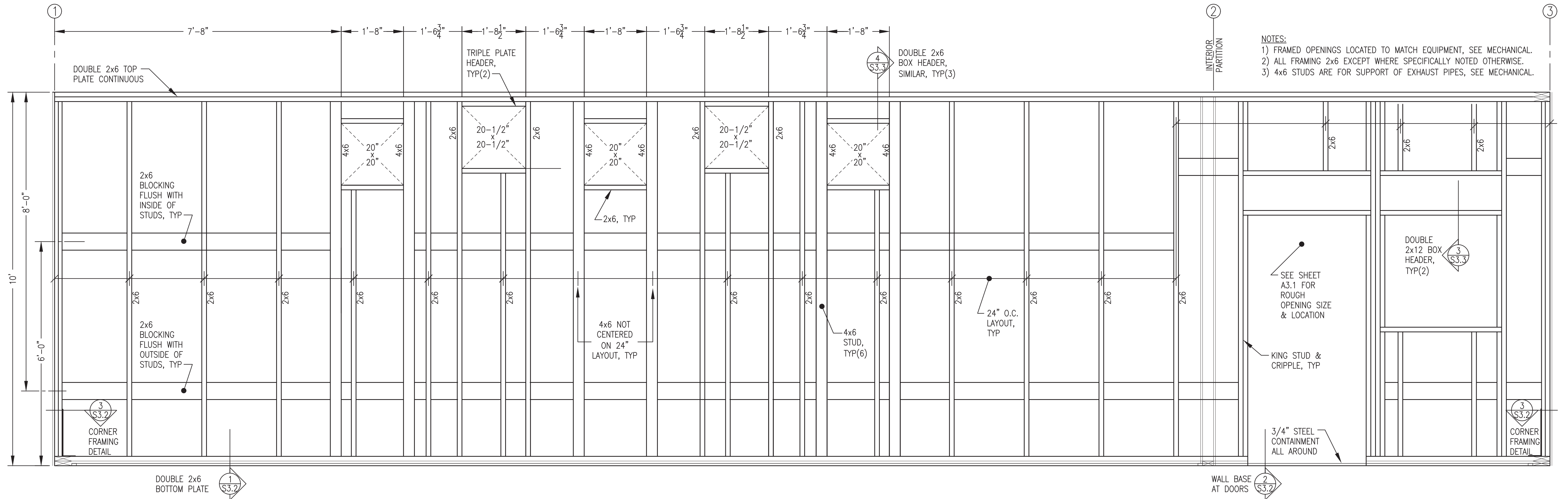


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2021



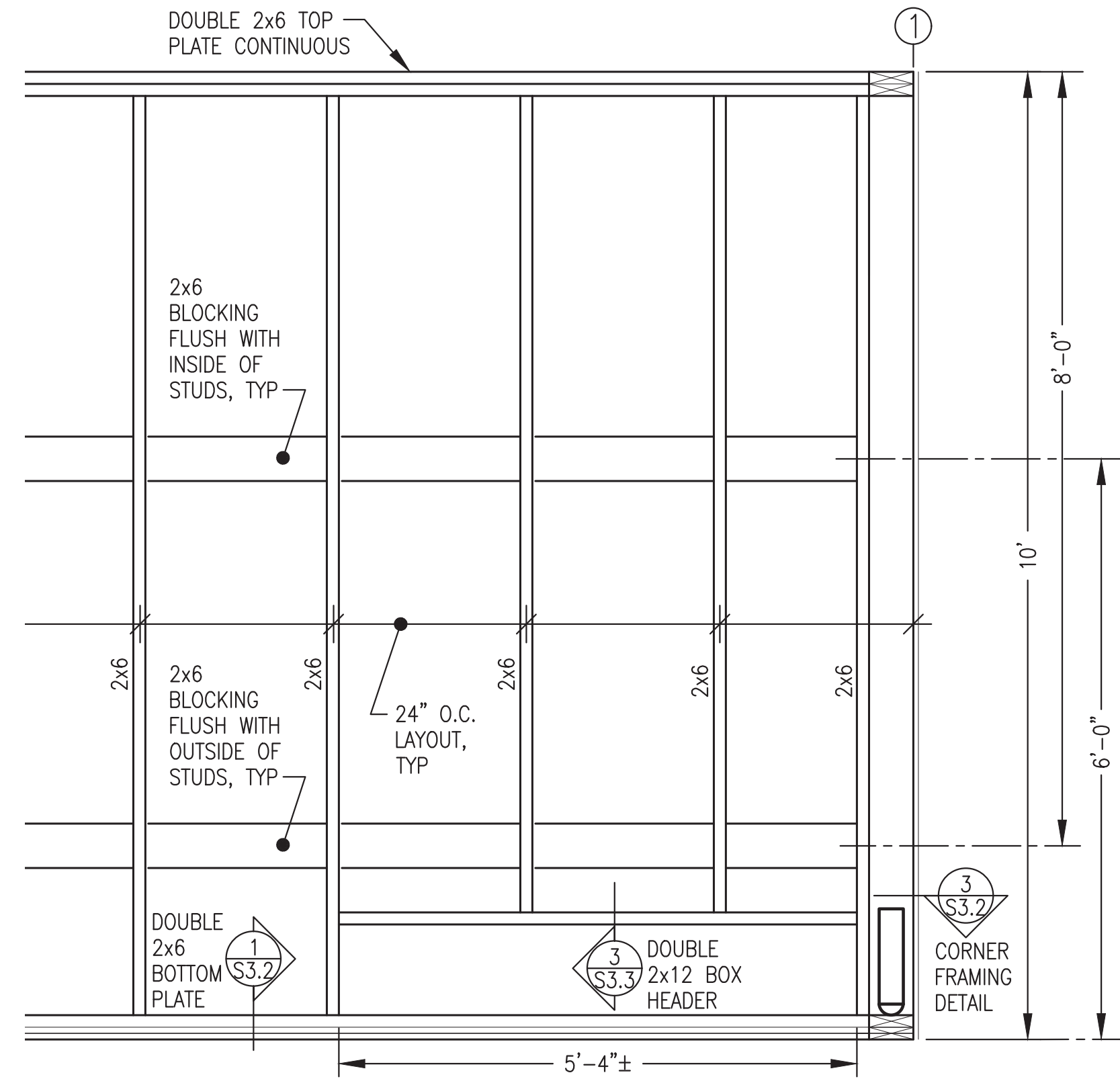
ALASKA ENERGY AUTHORITY		
PROJECT: NIKOLAI POWER SYSTEM UPGRADE		
TITLE: WALL BASE & HOLD DOWN DETAILS		
Gray Stassel Engineering, Inc.	DRAWN BY: JTD DESIGNED BY: DGT/BCG FILE NAME: NIKORPSU A&S PROJECT NUMBER:	SCALE: AS NOTED DATE: 9/1/21 SHEET: S3.2 OF 4

P.O. 111405, Anchorage, AK 99511 (907)349-0100

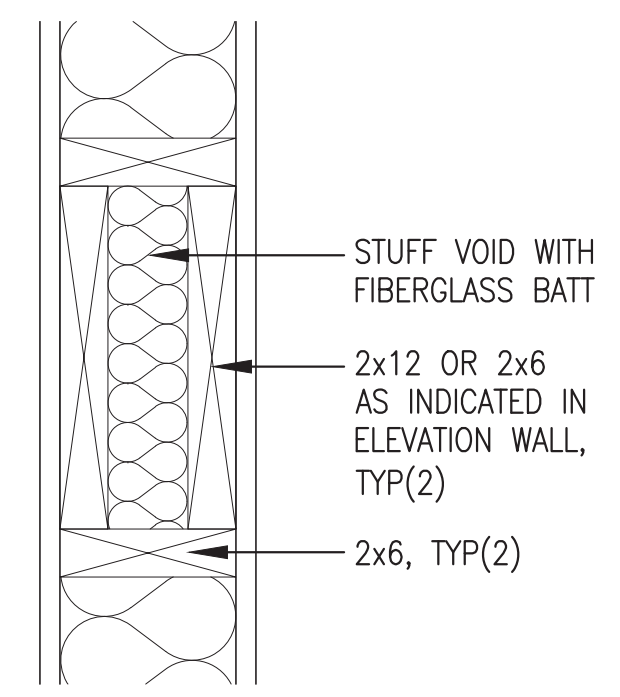


- NOTES:**
- 1) FRAMED OPENINGS LOCATED TO MATCH EQUIPMENT, SEE MECHANICAL.
  - 2) ALL FRAMING 2x6 EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE.
  - 3) 4x6 STUDS ARE FOR SUPPORT OF EXHAUST PIPES, SEE MECHANICAL.

**1** GENERATION ROOM BACK WALL MECHANICAL SUPPORT FRAMING ELEVATION  
 S3.3 3/4"=1'-0"

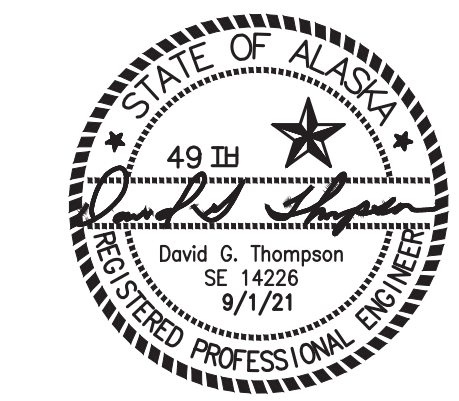


**2** GENERATION ROOM END WALL PARTIAL FRAMING ELEVATION  
 S3.3 3/4"=1'-0"



**3** BOX HEADER  
 S3.3 NO SCALE

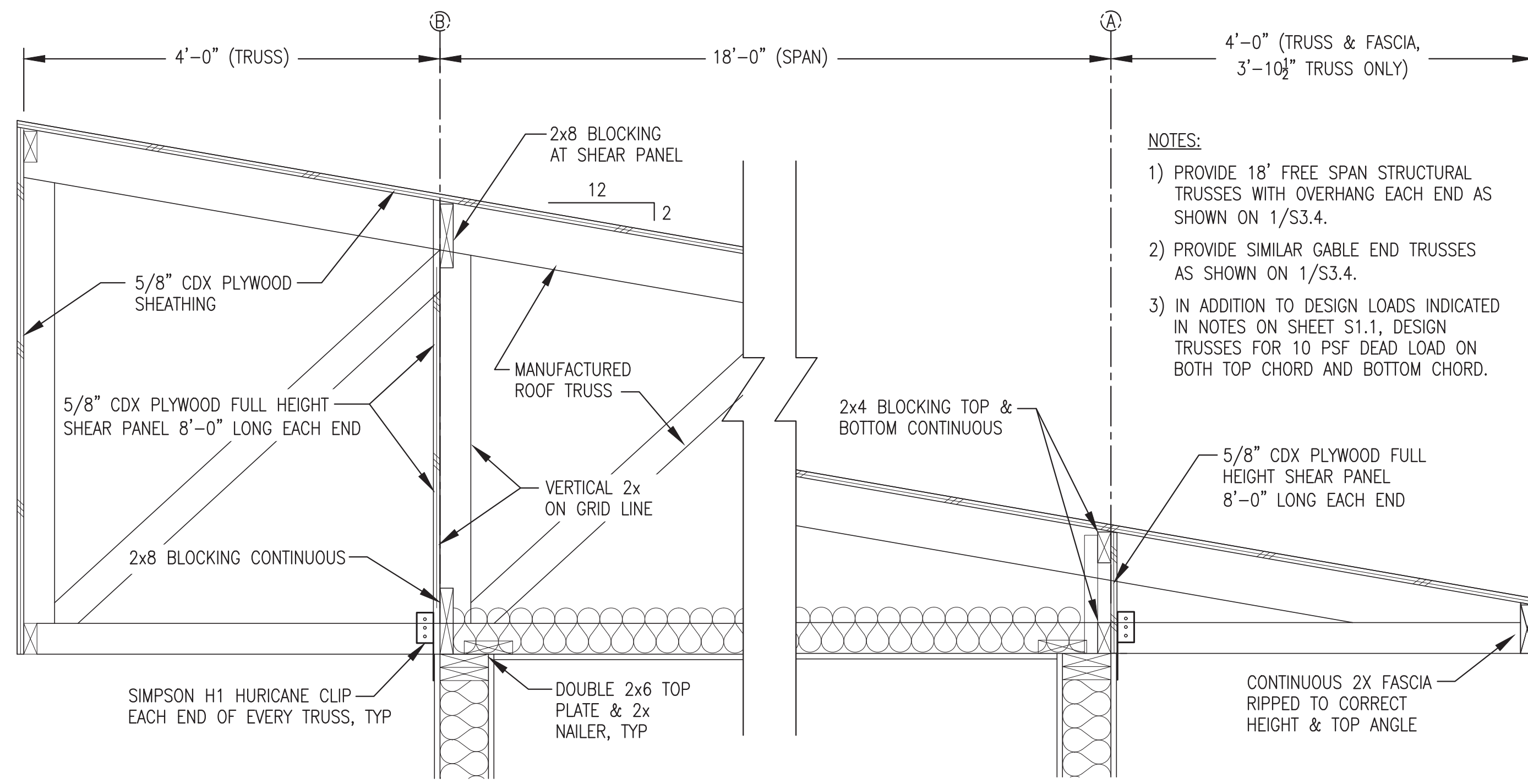
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 2021



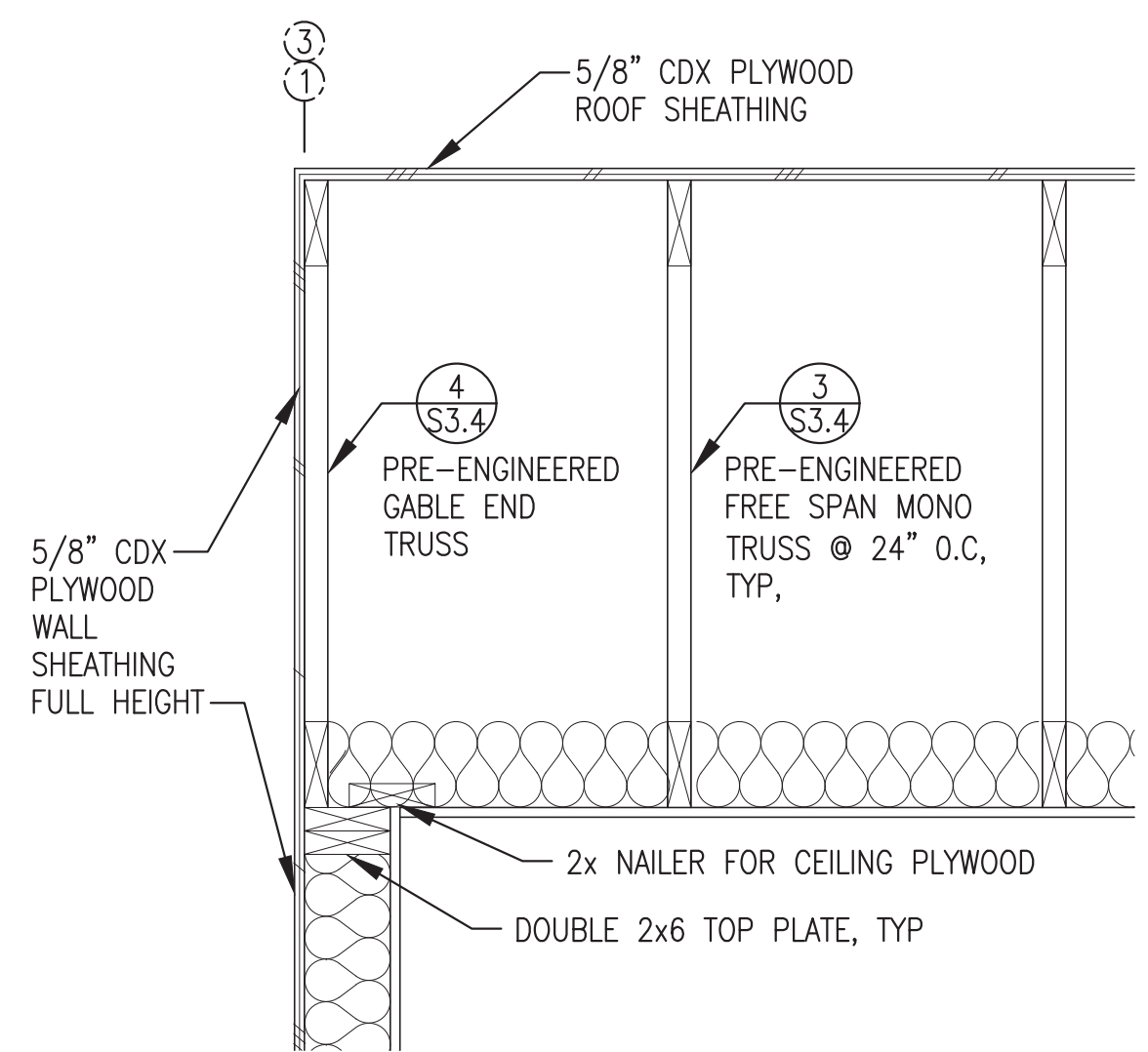
ALASKA ENERGY AUTHORITY		
PROJECT: NIKOLAI POWER SYSTEM UPGRADE		
TITLE: WALL FRAMING DETAILS		
DRAWN BY: JTD	SCALE: AS NOTED	
DESIGNED BY: DGT/BCG	DATE: 9/1/21	
FILE NAME: NIKORPSU A&S	SHEET:	<b>S3.3</b> OF 4
PROJECT NUMBER:		



P.O. 111405, Anchorage, AK 99511 (907)349-0100



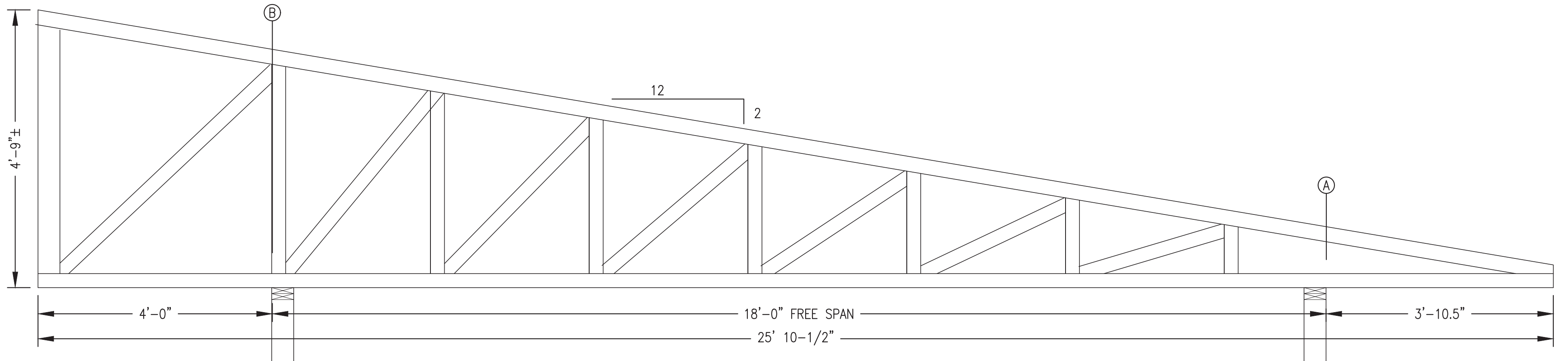
- NOTES:**
- 1) PROVIDE 18' FREE SPAN STRUCTURAL TRUSSES WITH OVERHANG EACH END AS SHOWN ON 1/S3.4.
  - 2) PROVIDE SIMILAR GABLE END TRUSSES AS SHOWN ON 1/S3.4.
  - 3) IN ADDITION TO DESIGN LOADS INDICATED IN NOTES ON SHEET S1.1, DESIGN TRUSSES FOR 10 PSF DEAD LOAD ON BOTH TOP CHORD AND BOTTOM CHORD.



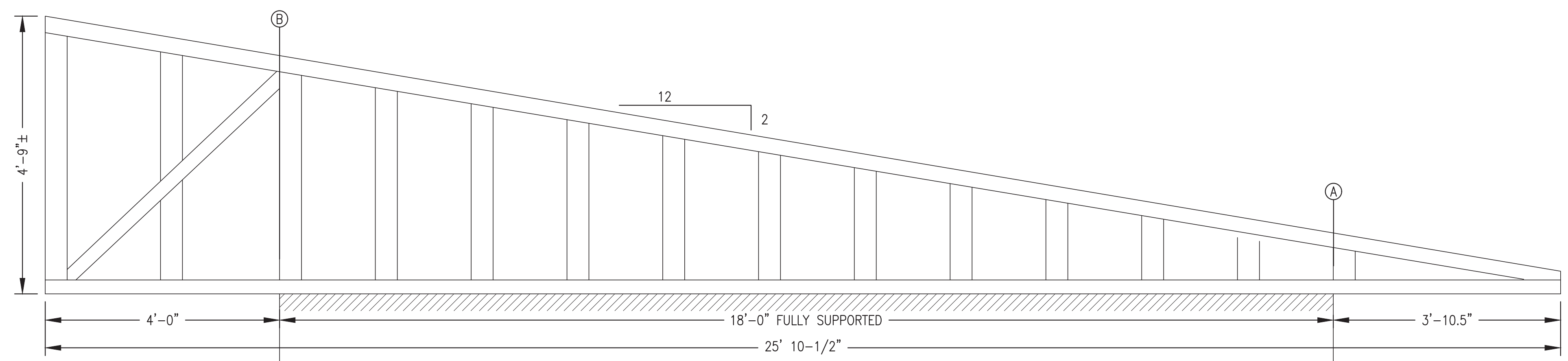
- NOTES:**
- 1) PROVIDE 19 EACH 18' FREE SPAN STRUCTURAL TRUSSES WITH OVERHANG EACH END AS SHOWN IN DETAIL 1/S3.4.
  - 2) PROVIDE 2 EACH SIMILAR GABLE END TRUSSES WITH VERTICAL MEMBERS AT 24" O.C. MIN AS SHOWN IN DETAIL 2/S3.4.
  - 3) IN ADDITION TO DESIGN LOADS INDICATED IN NOTES ON SHEET S1, DESIGN TRUSSES FOR 10 PSF DEAD LOAD ON BOTH TOP CHORD AND BOTTOM CHORD.

**1** TYPICAL TRUSS INSTALLATION  
S3.4 NO SCALE

**2** GABLE DETAIL  
S3.4 NO SCALE

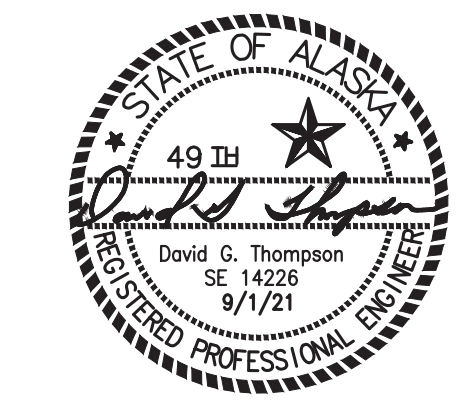




**3** TYPICAL ENGINEERED FREE SPAN MONO TRUSS LAYOUT  
S3.4 NO SCALE

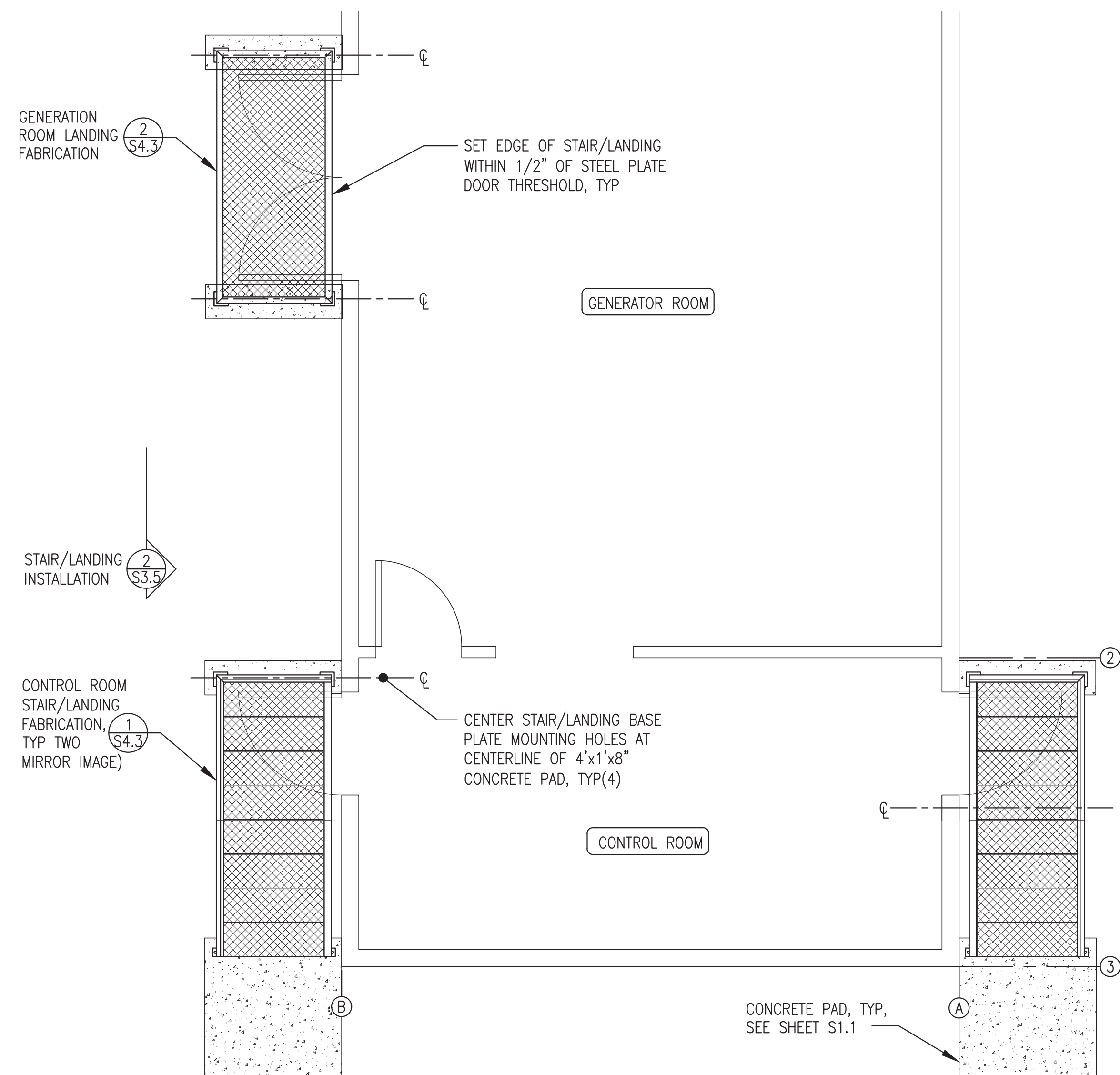


**4** TYPICAL FULLY SUPPORTED GABLE END TRUSS LAYOUT  
S3.4 NO SCALE

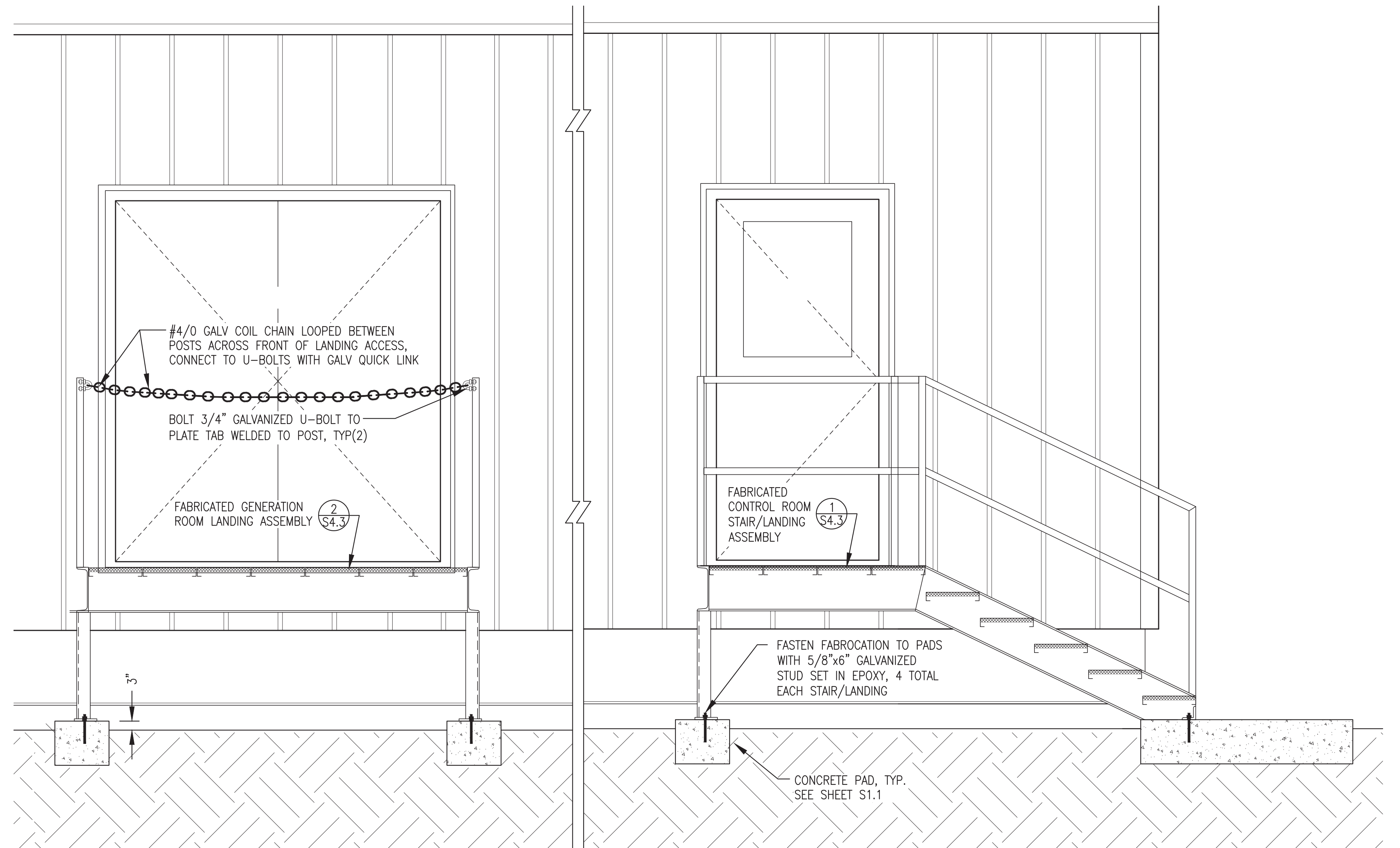
ISSUED FOR  
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 ALASKA ENERGY AUTHORITY		
PROJECT: NIKOLAI POWER SYSTEM UPGRADE		
TITLE: ROOF FRAMING DETAILS		
 Gray Stassel Engineering, Inc. P.O. 111405, Anchorage, AK 99511 (907)349-0100	DRAWN BY: JTD DESIGNED BY: DGT/BCG FILE NAME: NIKORPSU A&S PROJECT NUMBER:	SCALE: AS NOTED DATE: 9/1/21 SHEET: S3.4 OF 4

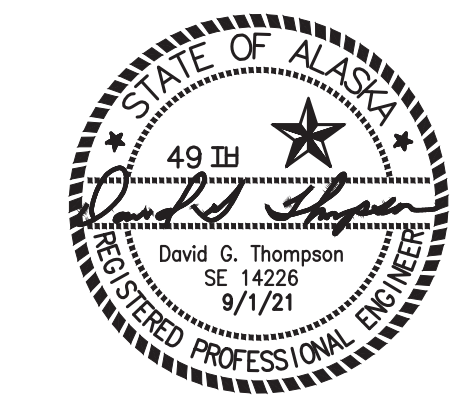


**1** STAIR/LANDING INSTALLATION PLAN  
3/8"=1'-0"

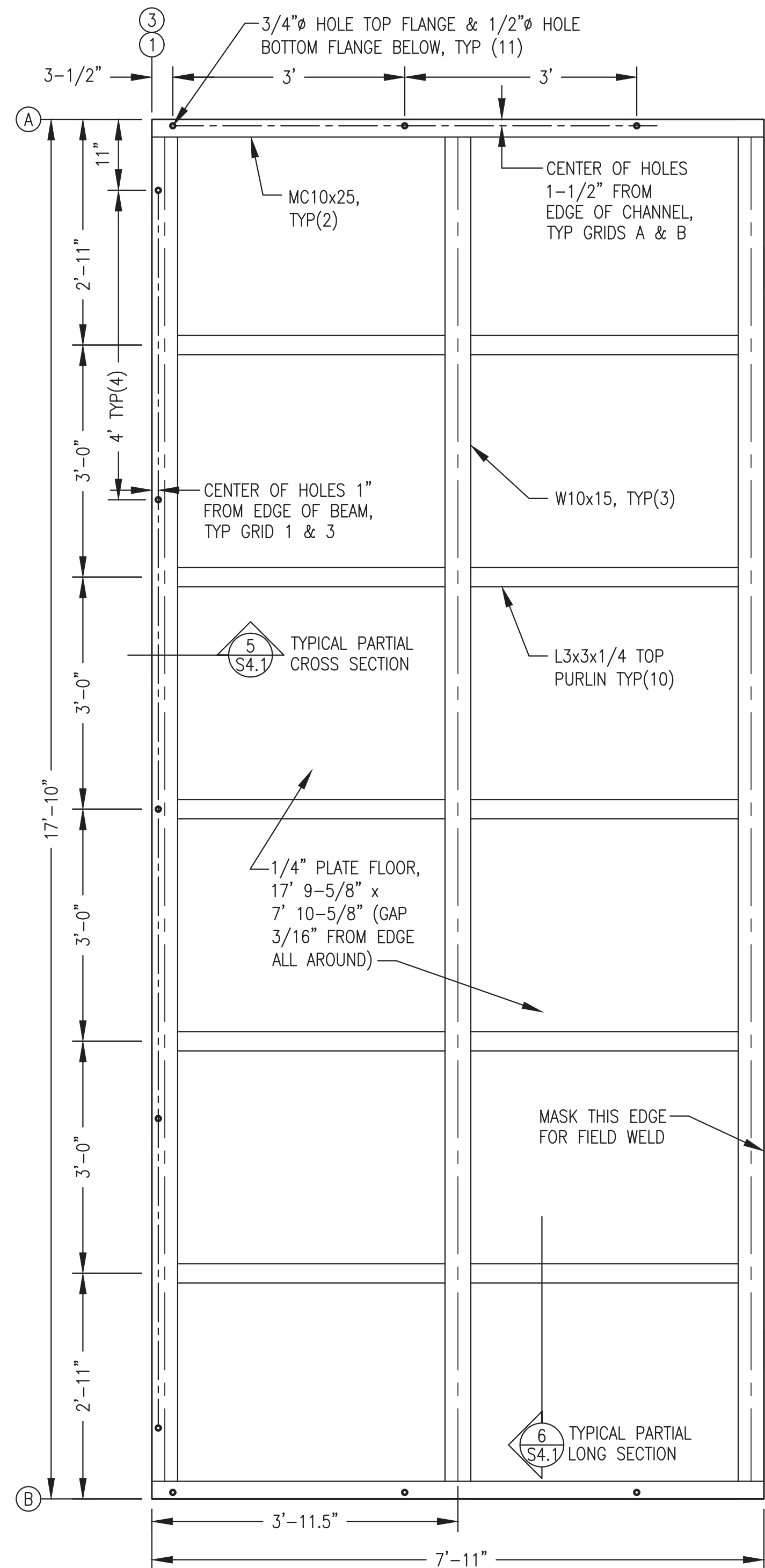


**2** STAIR/LANDING INSTALLATION ELEVATION  
3/4"=1'-0"

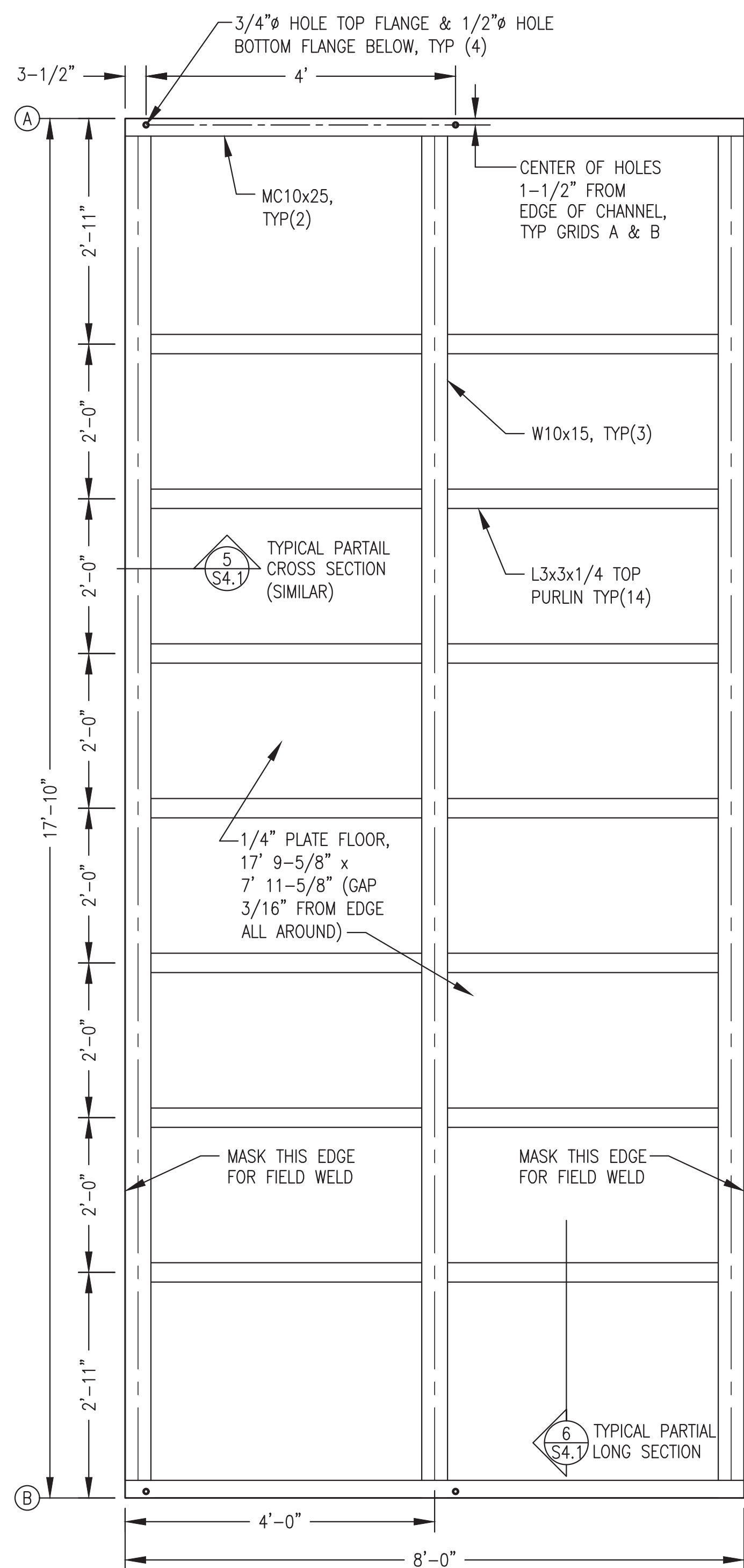
ISSUED FOR  
CONSTRUCTION  
SEPTEMBER  
2021



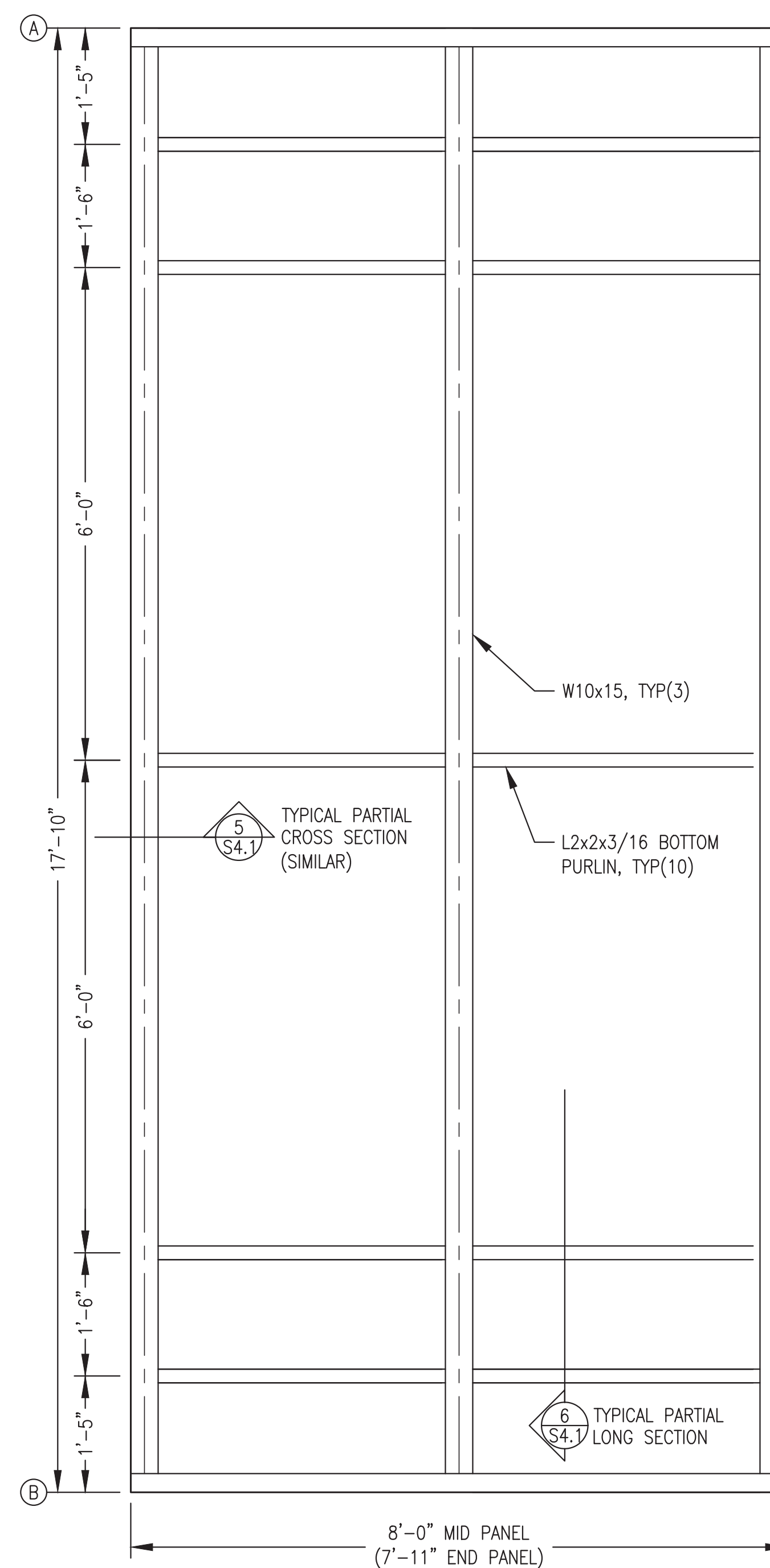
ALASKA ENERGY AUTHORITY		
PROJECT: NIKOLAI POWER SYSTEM UPGRADE		
TITLE: STAIR/LANDING INSTALLATION PLAN & ELEVATION		
	DRAWN BY: JTD	SCALE: AS NOTED
	DESIGNED BY: DGT/BCG	DATE: 9/1/21
	FILE NAME: NIKORPSU A&S	SHEET: <b>S3.5</b> OF 4
P.O. 111405, Anchorage, AK 99511 (907)349-0100		



**1** END PANEL WITH TOP PURLIN LAYOUT (TWO MIRROR IMAGE)  
 S4.1 3/4"=1'-0"



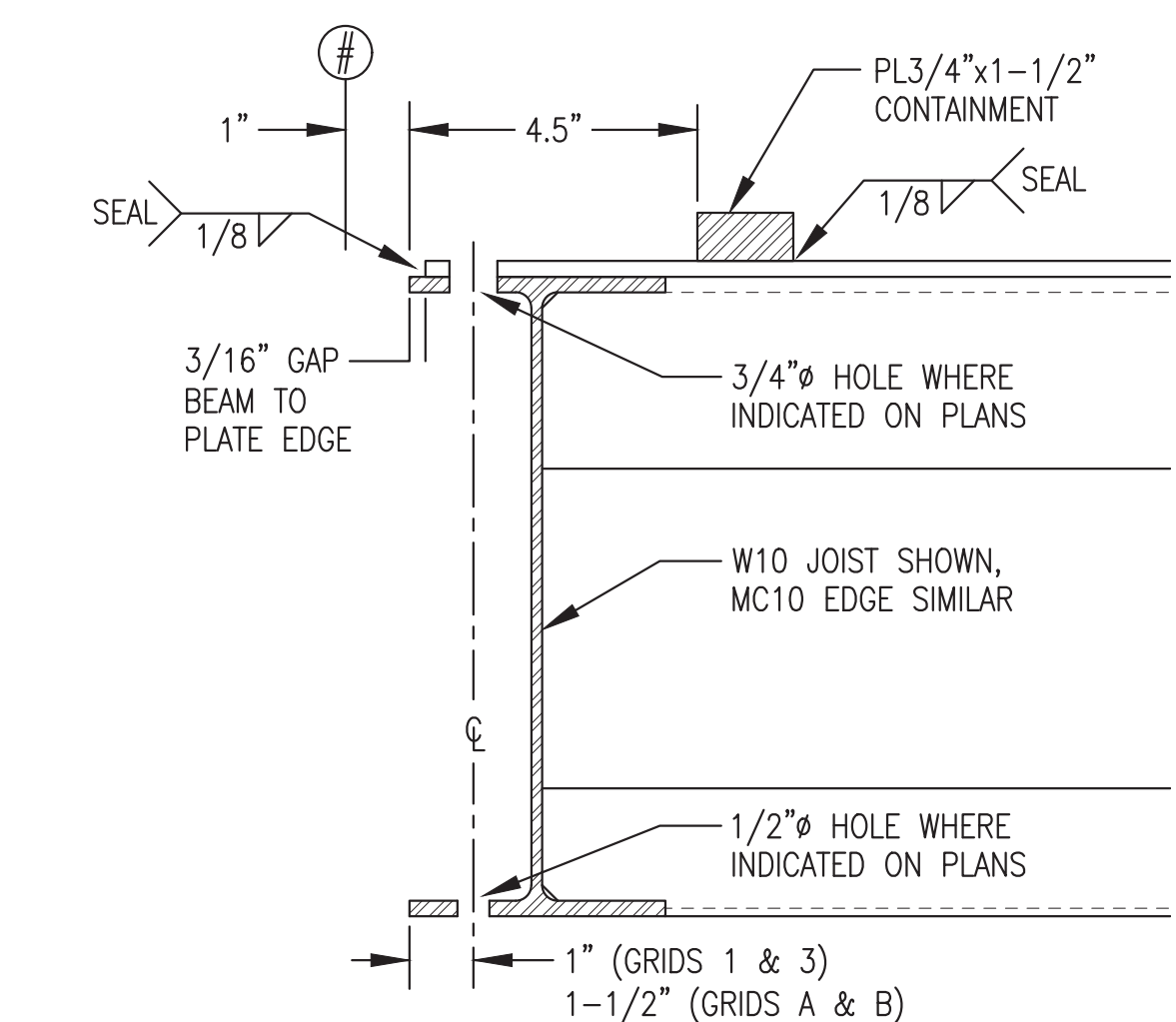
**2** MID PANEL WITH TOP PURLIN LAYOUT (THREE IDENTICAL)  
 S4.1 3/4"=1'-0"



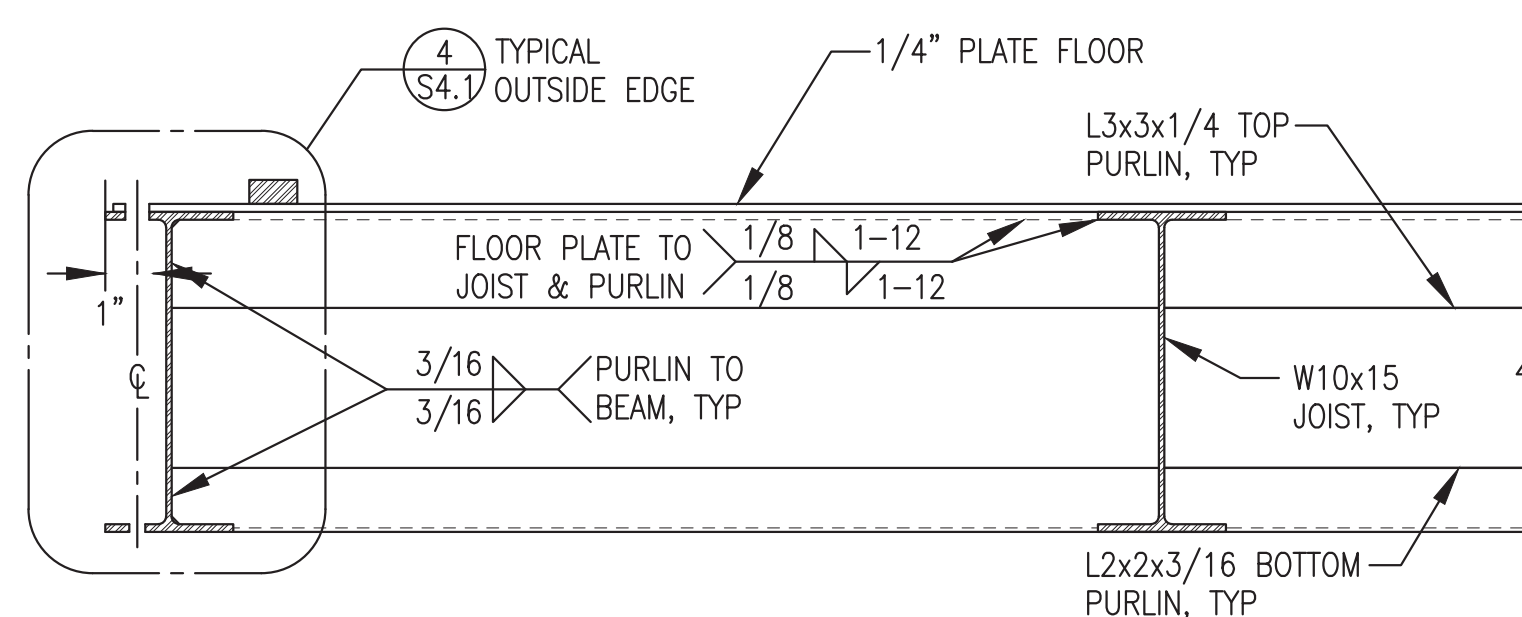
**3** TYPICAL PANEL BOTTOM PURLIN LAYOUT (FIVE TOTAL)  
 S4.1 3/4"=1'-0"

**STEEL FLOOR FABRICATION NOTES:**

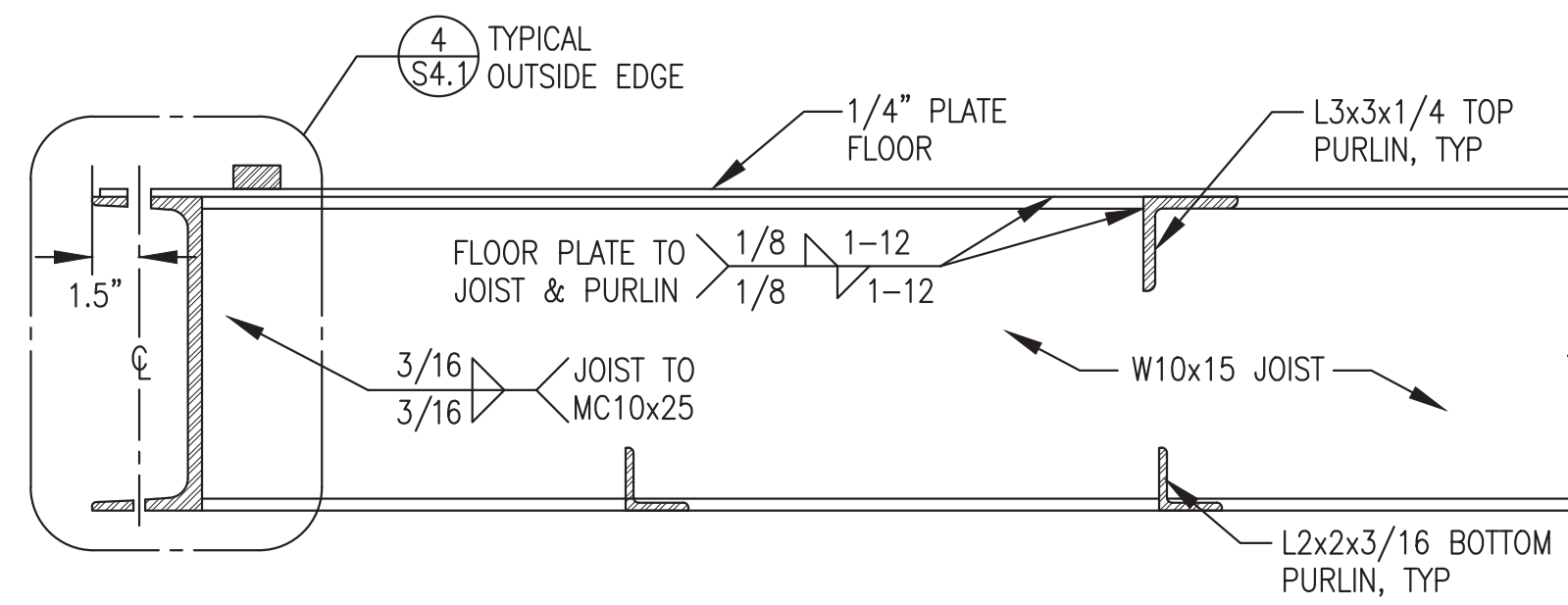
- 1) FABRICATE FIVE FLOOR PANELS AS INDICATED - TWO MIRROR IMAGE END PANELS AND THREE IDENTICAL MID PANELS.
- 2) FABRICATE FROM ASTM A-36 STEEL SHAPES AND PLATE.
- 3) MAKE ALL JOINTS AND CONNECTIONS WITH CONTINUOUS OR STITCHED GROOVE OR FILLET WELDS AS INDICATED.
- 4) UPON COMPLETION OF FABRICATION ROUND ALL OUTSIDE CORNERS AND GRIND ALL EDGES SMOOTH.
- 5) ALL SURFACES TO REMAIN UNPAINTED EXCEPT TOP SURFACE OF FLOOR PLATE AND PERIMETER CONTAINMENT PLATE. SAND BLAST TOP SURFACE OF FLOOR PLATE TO SSPC-SP-6. MASK 1" WIDE STRIP ON ALL FIELD ASSEMBLY EDGES AFTER SAND BLASTING. PRIME FLOOR PLATE SURFACES WITH ONE COAT OF EPOXY, PPG AMERLOC 2 VOC OR APPROVED EQUAL, COLOR ANSI 61 GRAY, MINIMUM 4 MILS DRY FILM THICKNESS.



**4** TYPICAL PANEL OUTSIDE EDGE  
 S4.1 NO SCALE

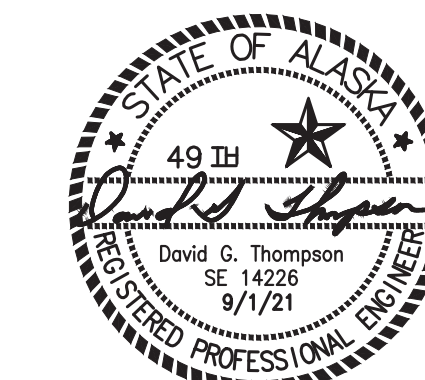


**5** TYPICAL PARTIAL CROSS SECTION  
 S4.1 NO SCALE

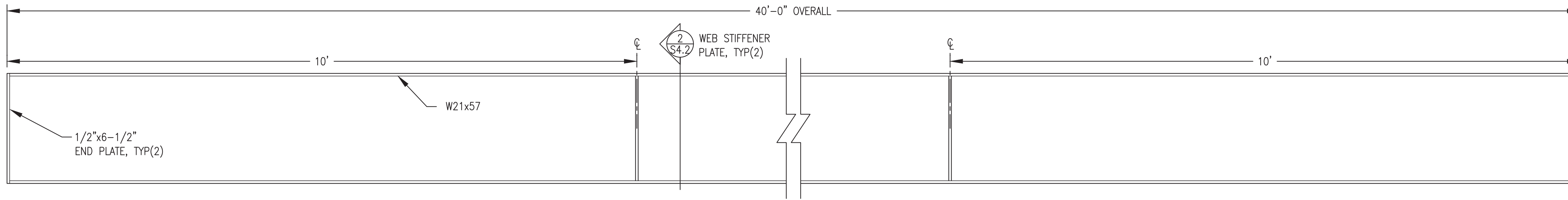


**6** TYPICAL PARTIAL LONG SECTION  
 S4.1 NO SCALE

ISSUED FOR  
 CONSTRUCTION  
 SEPTEMBER  
 2021



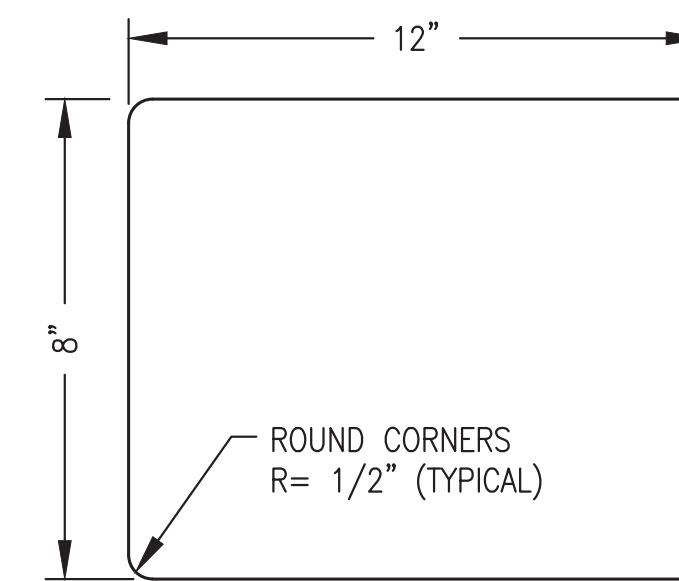
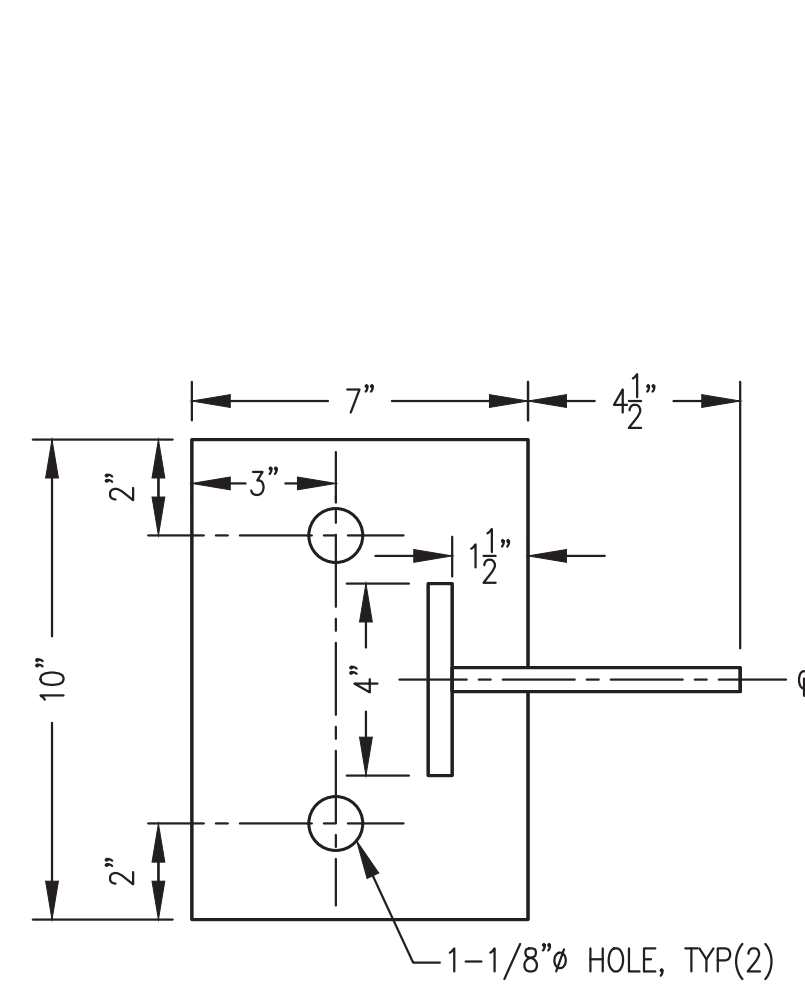
ALASKA ENERGY AUTHORITY		
PROJECT:	NIKOLAI POWER SYSTEM UPGRADE	
TITLE:	STEEL FLOOR SHOP FABRICATION	
DRAWN BY: JTD	DESIGNED BY: DGT/BCG	SCALE: AS NOTED
FILE NAME: NIKORPSU A&S	PROJECT NUMBER:	DATE: 9/1/21
P.O. 111405, Anchorage, AK 99511 (907)349-0100	Gray Stassel Engineering, Inc.	SHEET: S4.1 OF 4



**MAIN SUPPORT BEAM FABRICATION & PAINTING NOTES:**

- 1) FABRICATE TWO IDENTICAL MAIN SUPPORT BEAM ASSEMBLIES.
- 2) FABRICATE FROM ASTM A-36 STEEL SHAPES AND PLATE.
- 3) MAKE ALL JOINTS AND CONNECTIONS WITH CONTINUOUS GROOVE OR FILLET WELDS.
- 4) UPON COMPLETION OF FABRICATION ROUND ALL OUTSIDE CORNERS AND GRIND ALL EDGES SMOOTH.
- 5) DO NOT SAND BLAST OR PAINT TOP FLANGE OF BEAM. SAND BLAST ALL OTHER SURFACES TO SSPC-SP-6. COAT SANDBLASTED SURFACES WITH 2 COATS OF COLD GALVANIZING COMPOUND, ZRC OR APPROVED EQUAL TO 4 MILS MINIMUM DRY FILM THICKNESS.

**1 MAIN SUPPORT BEAM FABRICATION, TYP(2 MIRROR IMAGE)**  
S4.2 3/4"=1'-0"

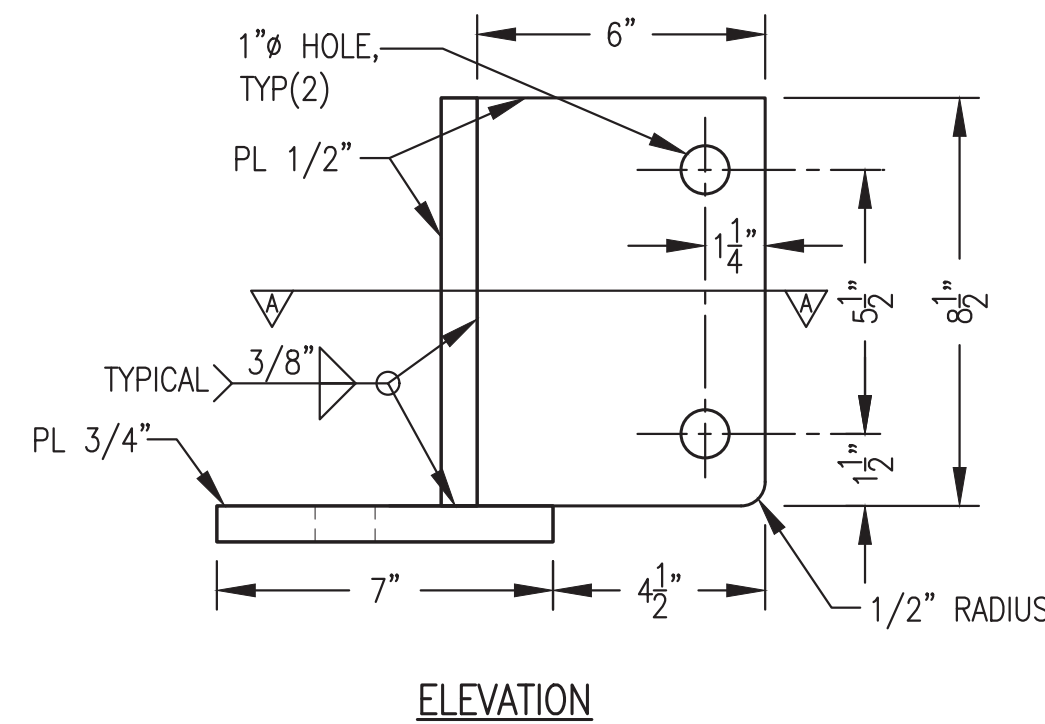


**SHIM FABRICATION TABLE**

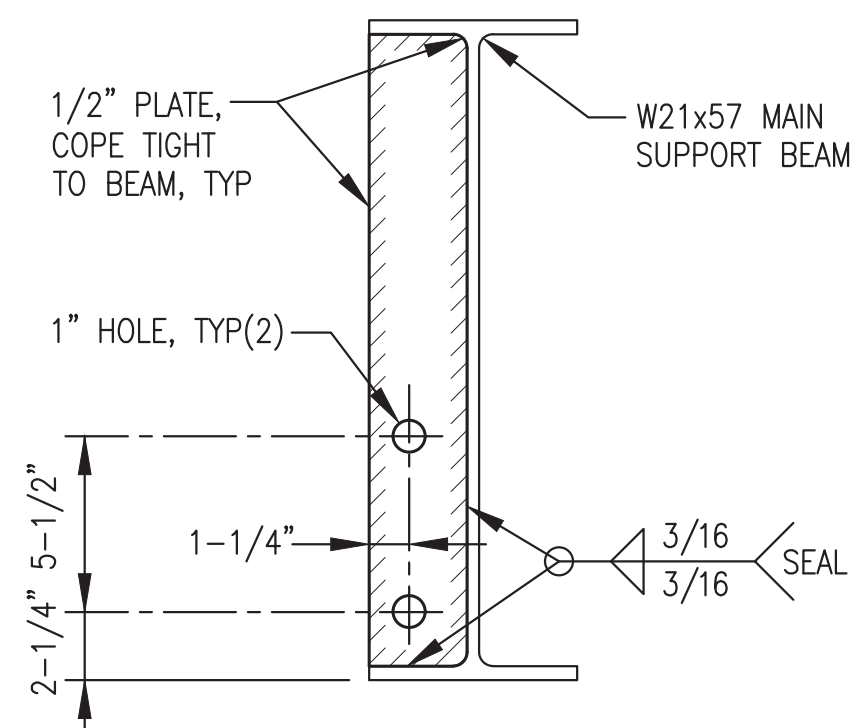
THICKNESS	QUANTITY	MATERIAL
1/4"	12	GALV STEEL
1/2"	8	GALV STEEL
1"	4	GALV STEEL

**ANCHOR & SHIM FABRICATION NOTES:**

- 1) FABRICATE FOUR IDENTICAL ANCHOR ASSEMBLIES. DO NOT SHEAR ANCHOR PLATES. CUT WITH WATER JET, TORCH, OR SAW.
- 2) FABRICATE FROM ASTM A-36 STEEL SHAPES AND PLATE.
- 3) MAKE ALL JOINTS AND CONNECTIONS WITH CONTINUOUS GROOVE OR FILLET WELDS.
- 4) FABRICATE SHIMS OF QUANTITY AND THICKNESS AS DESCRIBED IN SHIM FABRICATION TABLE.
- 5) UPON COMPLETION OF FABRICATION ROUND ALL OUTSIDE CORNERS AND GRIND ALL EDGES SMOOTH.
- 6) SAND BLAST ALL PIECES TO SSPC-SP-6. COAT WITH 2 COATS OF COLD GALVANIZING COMPOUND, ZRC OR APPROVED EQUAL TO 4 MILS MINIMUM DRY FILM THICKNESS.



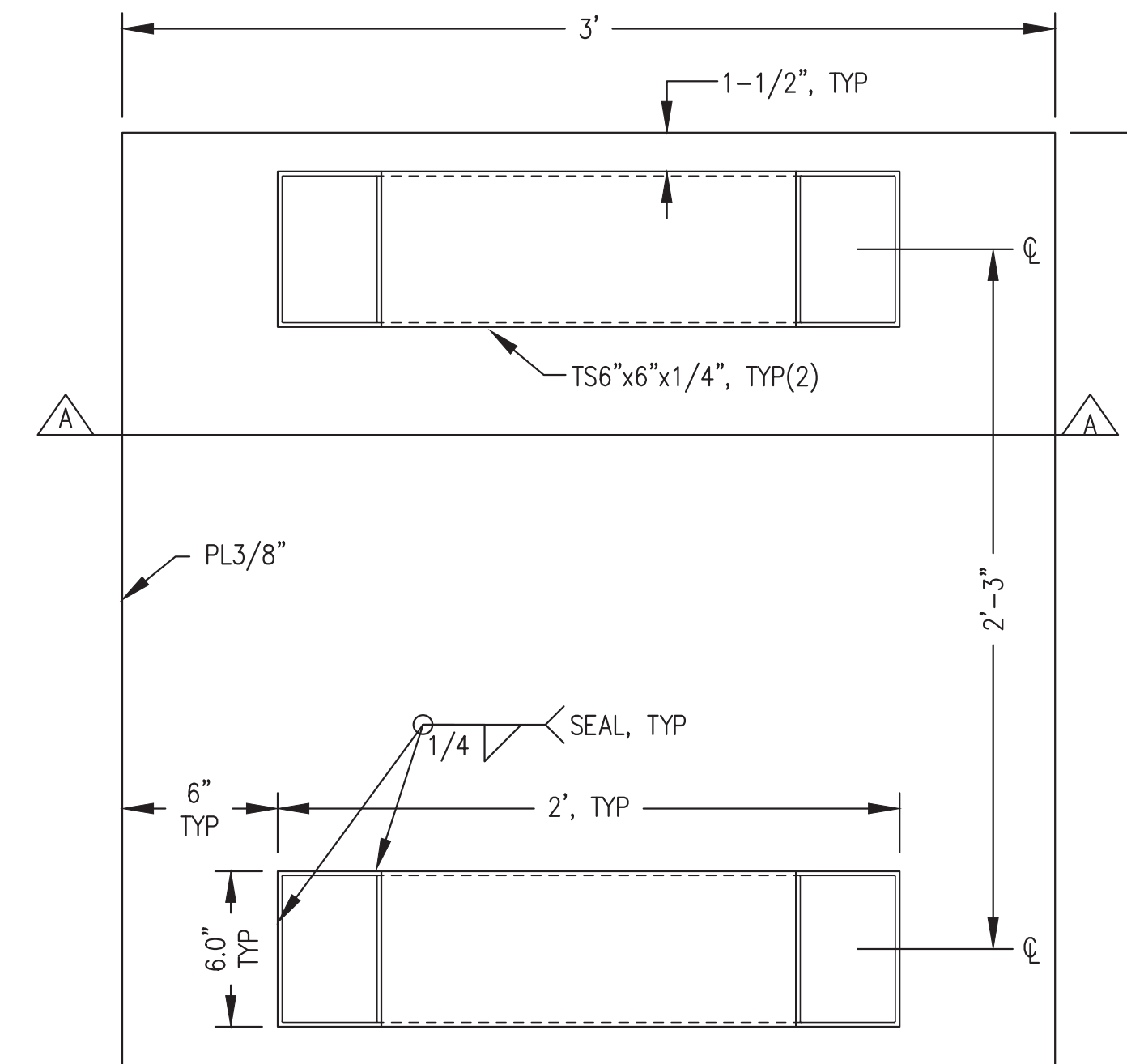
**3 TYPICAL FOUNDATION ANCHOR & SHIM FABRICATION**  
S4.2 3"=1'-0"



**STIFFENER PLATE FABRICATION NOTES:**

- 1) INSTALL TWO WEB STIFFENER PLATES ON EACH MAIN SUPPORT BEAM.
- 2) DO NOT SHEAR STIFFENER PLATE. CUT WITH WATER JET, TORCH, OR SAW.

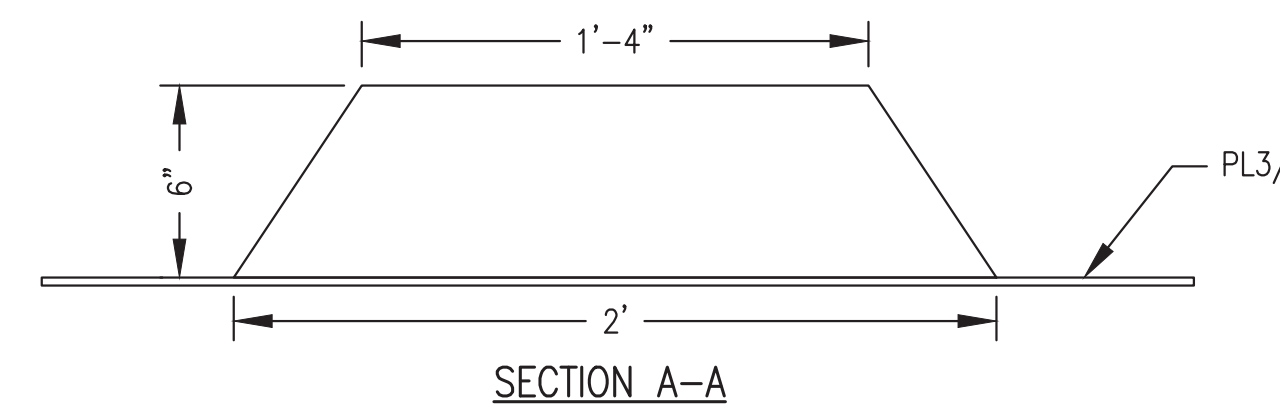
**2 MAIN SUPPORT BEAM WEB STIFFENER PLATE**  
S4.2 2"=1'-0"



**GENERATOR SUPPORTS FABRICATION NOTES:**

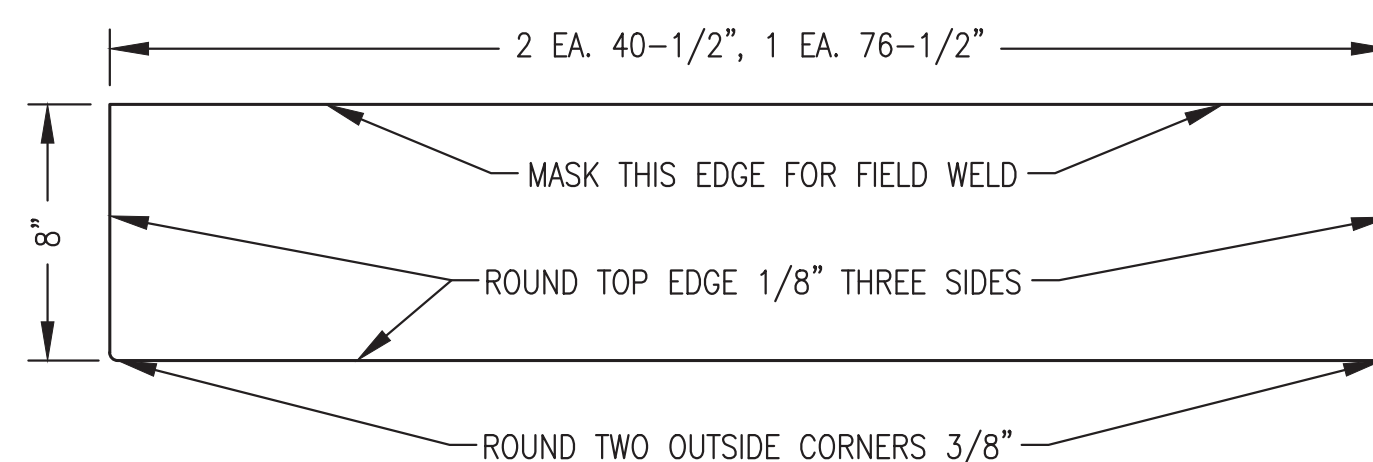
- 1) FABRICATE SIX IDENTICAL GENERATOR SUPPORT PEDESTAL ASSEMBLIES.
- 2) FABRICATE FROM ASTM A-36 STEEL SHAPES AND PLATE AS INDICATED.
- 3) MAKE ALL JOINTS AND CONNECTIONS WITH CONTINUOUS GROOVE OR FILLET WELDS.
- 4) UPON COMPLETION OF FABRICATION ROUND ALL OUTSIDE CORNERS AND GRIND ALL EDGES SMOOTH.
- 5) SAND BLAST SUPPORTS TO SSPC-SP-6. MASK 1" WIDE STRIP ALL AROUND TOP/EDGE OF PLATE AFTER SAND BLASTING. FINISH WITH TWO COATS OF EPOXY, PPG AMERLOC 2 VOC OR APPROVED EQUAL, COLOR ANSI 61 GRAY, MINIMUM 8 MILS DRY FILM THICKNESS.

**4 GENERATOR SUPPORT PEDESTAL FABRICATION**  
S4.2 2"=1'-0"



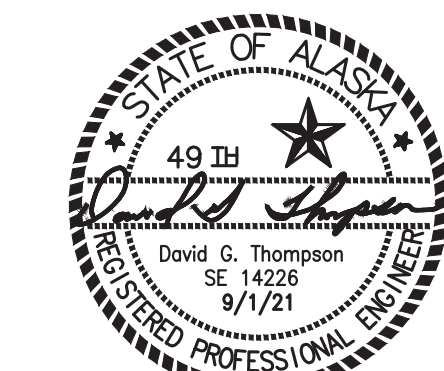
**GENERATOR SUPPORTS FABRICATION NOTES:**

- 1) FABRICATE THREE DOOR THRESHOLD PLATES OF DIMENSIONS INDICATED FROM 3/4" THICK ASTM A-36 STEEL PLATE.
- 2) UPON COMPLETION OF FABRICATION ROUND OUTSIDE CORNERS AS INDICATED AND GRIND ALL EDGES SMOOTH.
- 3) SAND BLAST TOP AND OUTSIDE EDGE TO SSPC-SP-6. MASK 1" WIDE STRIP ONE SIDE AS INDICATED AFTER SAND BLASTING. FINISH SANDBLASTED SURFACES WITH TWO COATS OF HIGH SOLIDS EPOXY COATING, PPG AMERLOC 2 VOC OR APPROVED EQUAL, COLOR ANSI 61 GRAY, MINIMUM 8 MILS DRY FILM THICKNESS.



**5 DOOR THRESHOLD PLATE FABRICATION**  
S4.2 NO SCALE

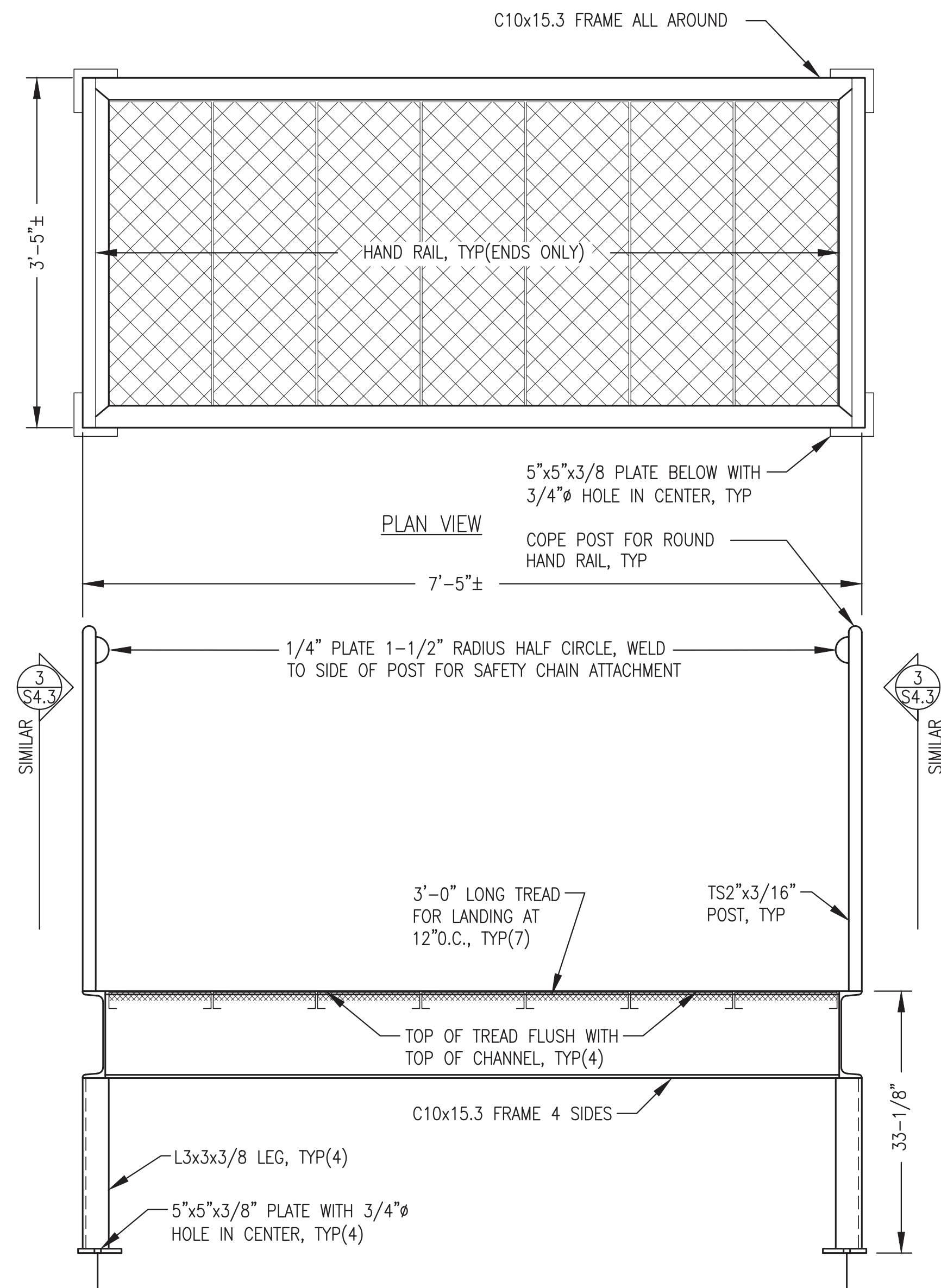
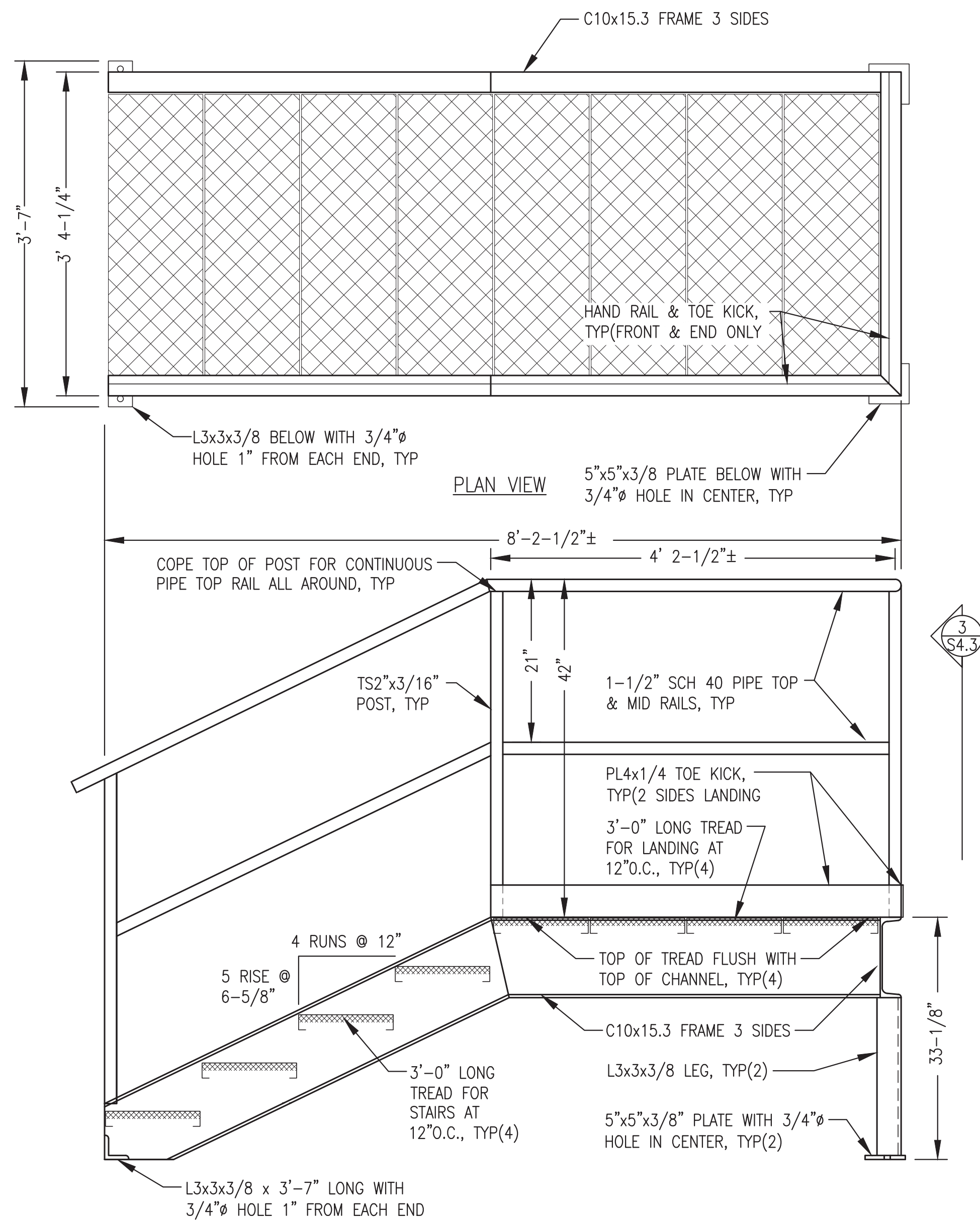
ISSUED FOR CONSTRUCTION  
SEPTEMBER 2021



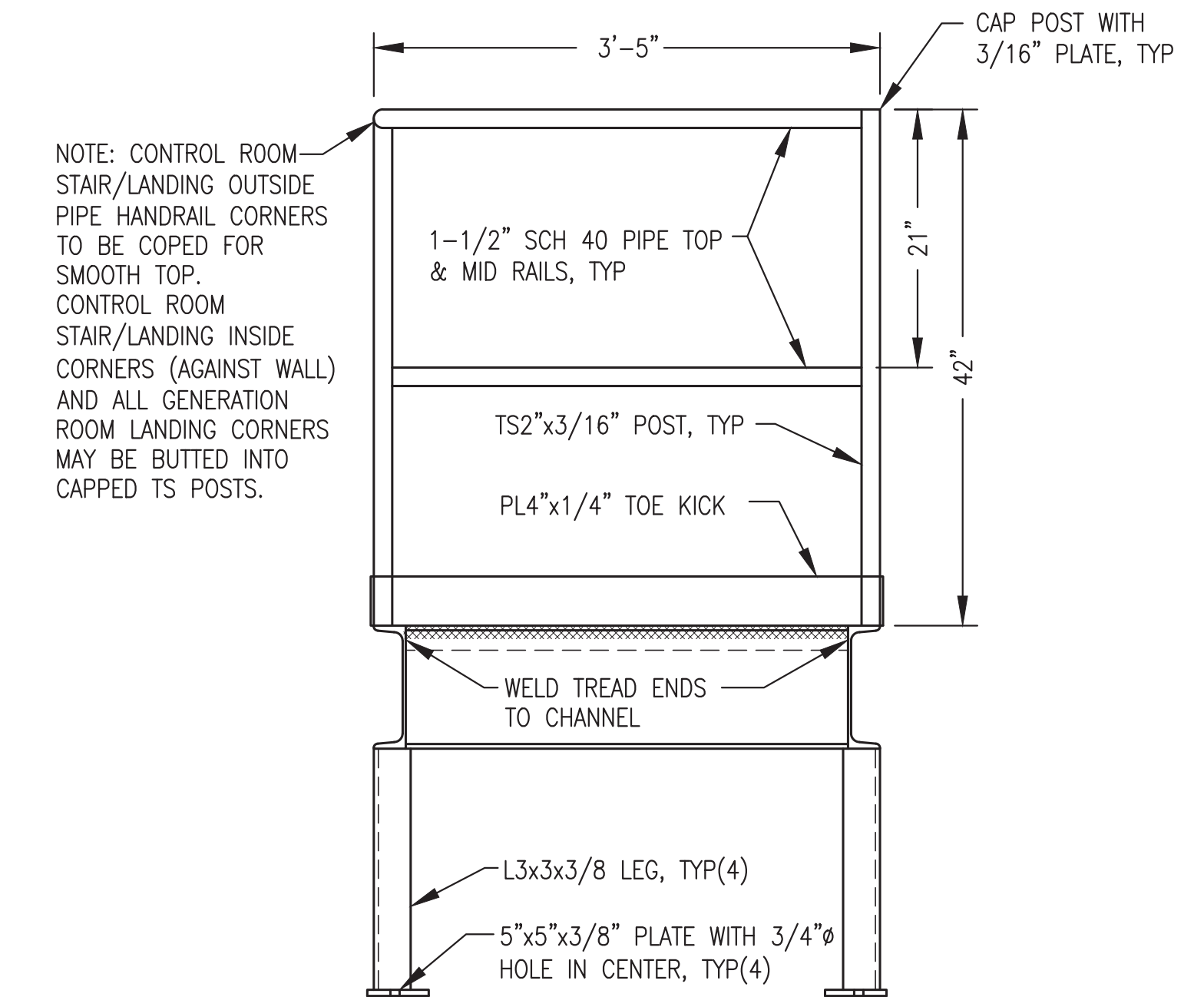
PROJECT: NIKOLAI POWER SYSTEM UPGRADE		
TITLE: MISCELLANEOUS STEEL SHOP FABRICATION DETAILS		
DRAWN BY: JTD	SCALE: AS NOTED	
DESIGNED BY: DGT/BCG	DATE: 9/1/21	
FILE NAME: NIKORPSU A&S	SHEET: S4.2	OF 4
PROJECT NUMBER:		







- STAIR & LANDING FABRICATION NOTES:**
- 1) FABRICATE TWO MIRROR IMAGE CONTROL ROOM STAIR/LANDING ASSEMBLIES AND ONE GENERATOR ROOM LANDING ASSEMBLY.
  - 2) FABRICATE FROM ASTM A-36 STEEL SHAPES AND PLATE. STAIR AND PLATFORM TREADS TO BE PRE-GALVANIZED 2"x11-3/4"x12 GA. GRIP STRUT.
  - 3) MAKE ALL JOINTS AND CONNECTIONS WITH CONTINUOUS GROOVE OR FILLET WELDS.
  - 4) UPON COMPLETION OF FABRICATION ROUND ALL OUTSIDE CORNERS AND GRIND ALL EDGES SMOOTH.
  - 5) DO NOT SANDBLAST OR COAT PRE-GALVANIZED GRIP STRUT EXCEPT FOR WELD AREAS AS REQUIRED. SAND BLAST ALL OTHER STAIR/LANDING SURFACES TO SSPC-SP-6. COAT SANDBLASTED SURFACES WITH 2 COATS OF COLD GALVANIZING COMPOUND, ZRC OR APPROVED EQUAL TO 4 MILS MINIMUM DRY FILM THICKNESS.

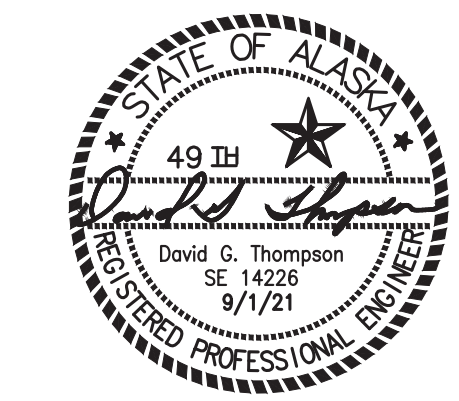


1 CONTROL ROOM STAIR/LANDING FABRICATION FRONT ELEVATION, TYP(2 MIRROR IMAGE)  
S4.3 1"=1'-0"

2 GENERATOR ROOM LANDING FABRICATION FRONT ELEVATION  
S4.3 1"=1'-0"

3 TYPICAL STAIR & LANDING INSTALLATION END ELEVATION  
S4.3 3/4"=1'-0"

ISSUED FOR  
CONSTRUCTION  
SEPTEMBER  
2021



ALASKA ENERGY AUTHORITY		
PROJECT: NIKOLAI POWER SYSTEM UPGRADE		
TITLE: STAIR & LANDING SHOP FABRICATION DETAILS		
	DRAWN BY: JTD	SCALE: AS NOTED
	DESIGNED BY: DGT/BCG	DATE: 9/1/21
	FILE NAME: NIKORPSU A&S	SHEET: S4.3 OF 4
	PROJECT NUMBER:	