

**Please Note:** The plans included are intended solely for use within Missoula County. These plans are not authorized for distribution, copying, or construction outside of Missoula County or within the City Limits. Any use of these plans beyond the specified geographic boundaries is strictly prohibited. The information provided and proprietary to Missoula County Building Division, and any unauthorized use, reproduction, or distribution of these plans is prohibited and may be subject to legal action. By receiving these plans, you agree to adhere to these restrictions and acknowledge that any infringement upon these terms may result in legal consequences.

### MCPW BUILDING DIVISION PRE-ENGINEERED ACCESSORY STRUCTURE PLANS

PROJECT ADDRESS: \_\_\_\_\_

USE OF PROPOSED STRUCTURE: \_\_\_\_\_

GROUND SNOW LOAD (for IRC only per report Summary from ASCE 7-22) \_\_\_\_\_ DATE: \_\_\_\_\_

**APPLICANT MUST PROVIDE THE FOLLOWING ITEMS TO INCORPORATE IN THE PLAN SET:**

1. Site Plan (see attached example)
2. Engineer-stamped truss package with site-specific snow load information (due prior to permit issuance)

**SITE & DESIGN CRITERIA:** Plans are for Risk Category II structures for "accessory use" in areas of Missoula County with relatively flat (<10% grade) building sites using the following codes/design criteria.

Adopted Codes with Montana Amendments	Design Criteria
2021 International Building Code	Ground Snow Load up to 120 psf
2021 International Residential Code	Min Soil Bearing Pressure 1500 psf
2020 National Electric Code	Wind 105 mph
2021 International Mechanical Code	Exposure B
2021 Uniform Plumbing Code	Seismic Category D0
	36" frost depth
	Shed is a Type II structure

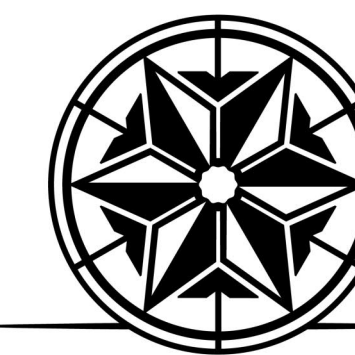
### Layout Page Table

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**These plans are for flatter topography areas and are not meant for digging into a hill side or slopes**

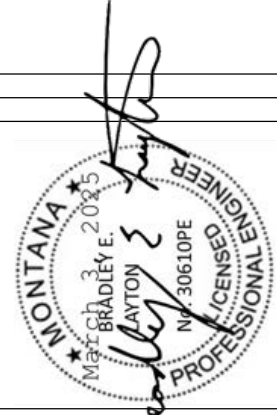
**R104.8 Liability.**

The *building official*, member of the board of appeals or employee charged with the enforcement of this code, while acting for the *jurisdiction* in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered civilly or criminally liable personally and is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties.



**Missoula**  
COUNTY

DEPARTMENT OF PUBLIC WORKS  
BUILDING DIVISION  
6089 TRAINING DRIVE  
MISSOULA, MT 59808  
(406)258-3701



REVISION TABLE	NUMBER	DATE	REVISOR	DESCRIPTION

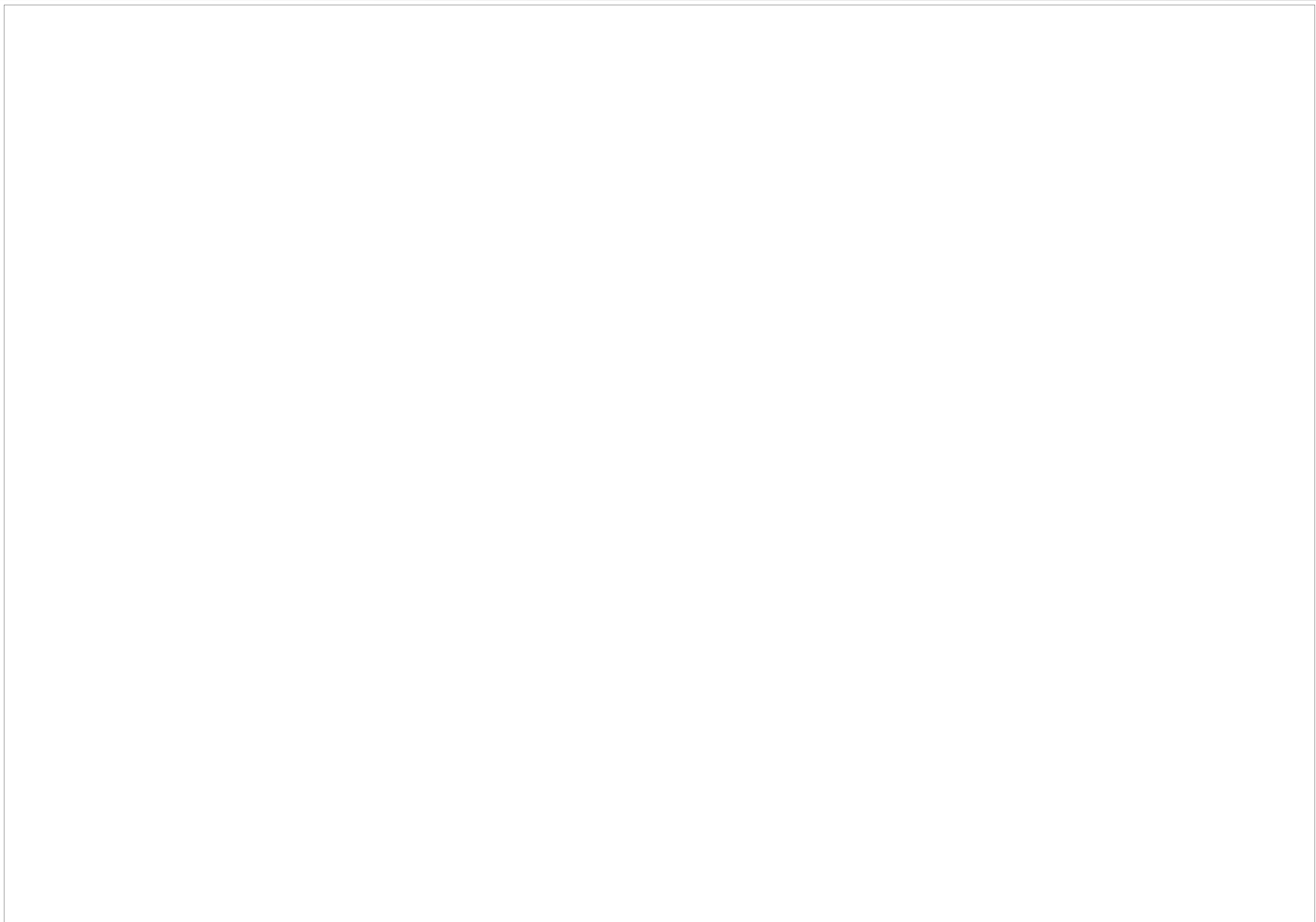
30' X 40' VAULTED CEILING  
CONTAINER SHED

COVER PAGE

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C-1



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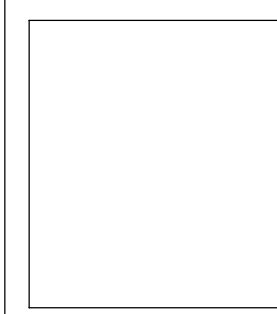
**C-2**

**SITE PLAN**

**30' X 40' VAULTED CEILING  
CONTAINER SHED**

**REVISION TABLE**

NUMBER	DATE	REVISED BY	DESCRIPTION



**GENERAL NOTES:**

THE BUILDER SHALL VERIFY THAT SITE CONDITIONS ARE CONSISTENT WITH THESE PLANS BEFORE STARTING WORK. WORK NOT SPECIFICALLY DETAILED SHALL BE CONSTRUCTED TO THE SAME QUALITY AS SIMILAR WORK THAT IS DETAILED. ALL WORK SHALL BE DONE IN ACCORDANCE WITH INTERNATIONAL RESIDENTIAL BUILDING CODES AND MISSOULA COUNTY. ENGINEERED TRUSS SPECIFICATIONS TO REMAIN ON SITE FOR FRAMING INSPECTION. WRITTEN DIMENSIONS AND SPECIFIC NOTES SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS AND GENERAL NOTES. THE ENGINEER/DESIGNER SHALL BE CONSULTED FOR CLARIFICATION IF SITE CONDITIONS ARE ENCOUNTERED THAT ARE DIFFERENT THAN SHOWN, IF DISCREPANCIES ARE FOUND IN THE PLANS OR NOTES, OR IF A QUESTION ARISES OVER THE INTENT OF THE PLANS OR NOTES. CONTRACTOR SHALL VERIFY AND IS RESPONSIBLE FOR ALL DIMENSIONS (INCLUDING ROUGH OPENINGS). PLEASE SEE ADDITIONAL NOTES CALLED OUT ON OTHER SHEETS.

FOUNDATION

DESIGN LIVE LOADS: **SNOW=120 PSF GROUND, MIN. SOIL BEARING PRESSURE 1500 psf,**

**WIND=105 MPH, EXPOSURE B, SEISMIC ZONE = Do. 36" FROST DP.**

RESPONSIBILITY: THE CONTRACTOR IS RESPONSIBLE FOR CROSS REFERENCING ALL PLANS TO ASSURE THAT NO OMISSIONS OR DISCREPANCIES EXIST THAT WILL ADVERSELY AFFECT CONSTRUCTION OR THE INTEGRITY OF THE FINISHED PRODUCT. JOB SITE AND CONSTRUCTION SAFETY ARE NOT ADDRESSED IN THESE PLANS AND ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ADEQUACY OF ALL BEARING SOILS. ALL CONSTRUCTION PER CURRENT ADOPTED IRC AND LOCAL CODES.

- FOUNDATION DESIGNED ASSUMING NON-EXPANSIVE SOILS WITH AN ALLOWABLE SOIL BEARING PRESSURE OF AT LEAST 1500 PSF. REMOVE TOPSOIL, ORGANIC MATERIAL, AND ANY QUESTIONABLE MATERIAL BELOW SLABS, PADS OR FOOTERS. ANY UNDER SLAB OR UNDER FOOTER FILL MATERIALS TO BE NON-EXPANSIVE, GRANULAR AND COMPACTED IN 8" LIFTS TO AT LEAST 95% STANDARD PROCTOR DENSITY WITHIN 2% OF OPTIMUM MOISTURE PRIOR TO PLACING FILLS. EXTENDED COMPACTED FILLS AT A 1:1 SLOPE BEYOND PAD AND FOOTING EDGES.
- INSPECT SOILS DURING EXCAVATION AND BEFORE CONSTRUCTION OF ANY PART OF THE FOUNDATION TO VERIFY ASSUMED VALUES.
- DRAINAGE AND GRADING DETAILS TO DIVERT SURFACE DRAINAGE AT LEAST 6" IN 10' AWAY FROM THE STRUCTURE. DO NOT BACKFILL FOUNDATION UNTIL SUPPORTING FLOOR SYSTEMS ARE IN PLACE AND SECURELY ANCHORED, OR ADEQUATE WALL SUPPORT IS PROVIDED.
- ALL CONSTRUCTION AND MATERIALS TO CONFORM WITH THE LATEST EDITION OF ACI 318. CONSOLIDATE CONCRETE PER ACI 309.
- CONCRETE REINFORCING BAR TO BE 60,000 PSI (GRADE 40) STEEL. LAP ALL REBAR SPLICES AND CORNERS 20" MIN FOR #4 BAR.
- MINIMUM CONCRETE COVER FOR REBAR: A) FOOTINGS, PADS - 3"; B) WALLS, SLABS - 1 1/2"

8. USE 1/2" DIAMETER X 7" ANCHOR BOLTS @ 6' OC UNO WITH 3" X 3" X 0.229" MIN SQUARE PLATE WASHERS HOT DIPPED TO CONNECT FRAMING TO FOUNDATION WHEN NOT SHOWN OTHERWISE. PROVIDE A MINIMUM OF TWO BOLTS PER SECTION. MINIMUM 7" ANCHOR BOLT EMBED REQUIRED.

9. ALL PADS AND FOOTINGS SUPPORTING WALL OR ROOF STRUCTURES MUST EXTEND BELOW LOCAL FROST DEPTH OF 36".

10. FINISH ALL CONCRETE WALL TOPS TO WITHIN 1/8" OF LEVEL.

11. PROVIDE 1" DEEP TOOLED (OR CUT) CONTROL JOINTS AT APPROXIMATELY 10' OC IN EACH DIRECTION IN ALL SLABS. SLAB SURFACES TO BE LEFT FREE FROM TROWEL MARKS, UNIFORM IN APPEARANCE, AND WITH A SURFACE PLANE TOLERANCE NOT EXCEEDING 1/8" IN 10'-0" WHEN TESTED WITH A 10' STRAIGHT EDGE.

12. RECOMMEND A 6 MIL POLY BARRIER FOR HEATED STRUCTURES ABOVE 4" OF GRAVEL.

13. FOUNDATION INSULATION TO BE SPECIFIED FOR MONO-SLABS FOR HEATED BUILDINGS AND INSTALLED IN ACCORDANCE WITH THE IRC AND LOCAL CODES.

**WOOD FRAMING:**

1. USE DOUGLAS FIR (DF) OR HEM FIR "STUD GRADE" (S4S) 2X FOR ALL WALL STUDS, DF#2 (S4S) OR BETTER FOR ALL DIMENSIONAL HEADERS, AND DF#1 (S4S) OR BETTER FOR ALL DIMENSIONAL POSTS AND BEAMS. SILL PLATES IN DIRECT CONTACT WITH CONCRETE: CALIFORNIA FOUNDATION GRADE REDWOOD OR SPECIES GROUP B PRESSURE TREATED LUMBER.

2. PLYWOOD- MANUFACTURED IN CONFORMANCE WITH APA PS 1-83: ROOF SHEATHING 19"/32" WALL SHEATHING- 15/32" UNO BY STRUCTURAL ENGINEER.

3. TJI FLOOR JOISTS BY TRUS-JOIST INDUSTRIES OR BCI FLOOR JOISTS BY BOISE CASCADE INSTALLED PER LITERATURE PROVIDED BY THE MANUFACTURED. MICROLAM (ML) BY TRUS-JOIST INDUSTRIES OR VERSA-LAM (LVL) BY BOISE CASCADE MEMBERS INSTALLED PER LITERATURE PROVIDED BY THE MANUFACTURER. MANUFACTURE IN ACCORDANCE WITH APA CRITERIA. FB=28OOPSI MIN. GLULAMS(GL)-FB=24OOPSI MANUFACTURED PER AITC117-84.

4. ROOF TRUSSES- PSF SNOW LOAD (PER SITE SPECIFIC LOCATION), CLEAR SPAN, 24"OC SPACING, 14" HEELS. TRUSS DESIGN, CERTIFICATION AND FABRICATION BY OTHERS.

5. FRAMING PLANS SHOW STRUCTURAL REQUIREMENTS ONLY. ADDITIONAL MEMBERS MAY BE REQUIRED FOR BLOCKING NAILERS AND CODE REQUIREMENTS. MAINTAIN A MINIMUM 6" CLEARANCE BETWEEN UNTREATED WOOD AND SOILS AT FINISH GRADE. NAILING, BLOCKING, AND ALL OTHER CONSTRUCTION DETAILS PER IRC AND LOCAL CODES UNLESS NOTED OTHERWISE.

6. BLOCK ALL OUTLOOKERS, TRUSSES, PURLINS, BEAMS AND JOISTS AT ALL BEARING POINTS.

7. CONNECT ROOF PLY TO TRUSSES AND RAFTERS BELOW WITH 8D NAILS RING SHANK AT 6"OC EDGE, 12"OC INTERMEDIATE, DO NOT OVERDRIVE NAILS OR STAPLES, CONNECT TRUSSES, OUTLOOKERS AND RAFTERS TO ALL BEARING POINTS WITH (3) 16D NAILS AND SIMPSON H-SERIES CONNECTORS.

8. 15/32" OSB SHEATH 100% ALL FRAMED EXTERIORS PRIOR TO SIDING UNO. NAIL WITH 8D NAILS @ 6"OC EDGE AND 12"OC FIELD UNLESS NOTES OTHERWISE IN THE PLANS.

9. STRUCTURAL FASCIA (OR SUBFASCIA) TO BE BUILT OF DF#2 2X MATERIAL CONTINUOUS. JOINTS TO SPLIT TRUSS TAILS.

10. CONNECT TO EACH RAFTER, OUTLOOKER TAIL AND AT CORNER WITH A MINIMUM OF (2) 3" DECK SCREWS.

**DOOR AND WINDOW NOTES:**

GARAGE DOORS TO BE SECTIONAL, OVERHEAD DOORS

WINDOWS TO BE FLASHED PER THE IRC CODE

**NOTES:**

- ALL GLULAM MATERIAL SHALL BE 24F-V4, UNLESS OTHERWISE NOTED.
- ALL DIMENSIONAL LUMBER HEADERS AND DOUBLE WALL STUDS SHALL BE DOUGLAS FIR-LARCH NO.2 (OR BETTER).
- ALL HEADERS AND BEAMS LESS THAN 6' SHALL BE DOUBLE 2X6 UNLESS NOTED OTHERWISE BY THE ENGINEER OF RECORD.
- IN AREAS THAT DEVIATE ABOVE THE 120 PSF GROUND SNOW LOAD THESE PLANS ARE NOT APPLICABLE AND WILL NEED TO BE REVISED BY THE ENGINEER OF RECORD AND DRAFTSMAN IN ORDER TO BE USED AT THE EXPENSE OF THE CONTRACTOR OR CUSTOMER.
- WINDOWS AND DOORS DETAILED ON THE PLANS MAY BE REMOVED OR MOVED TO THE OWNER'S PREFERENCE, BUT ADDING ANY EXTRA WINDOWS OR DOORS NOT DETAILED BY THE DRAFTSMAN AND ENGINEER OF RECORD WILL REQUIRE A NEW PLAN SET UPDATED AND STAMPED BY THE ENGINEER OF RECORD.

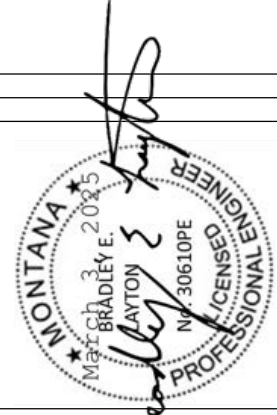
TO THE BEST OF MY KNOWLEDGE THESE PLANS ARE DRAWN TO COMPLY WITH OWNER'S AND/ OR BUILDER'S SPECIFICATIONS AND ANY CHANGES MADE ON THEM AFTER PRINTS ARE MADE WILL BE DONE AT THE OWNER'S AND / OR BUILDER'S EXPENSE AND RESPONSIBILITY. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ENCLOSED DRAWING. CREATIVE DRAFTING IS NOT LIABLE FOR ERRORS ONCE CONSTRUCTION HAS BEGUN. WHILE EVERY EFFORT HAS BEEN MADE IN THE PREPARATION OF THIS PLAN TO AVOID MISTAKES, THE MAKER CAN NOT GUARANTEE AGAINST HUMAN ERROR. THE CONTRACTOR OF THE JOB MUST CHECK ALL DIMENSIONS AND OTHER DETAILS PRIOR TO CONSTRUCTION AND BE SOLELY RESPONSIBLE THEREAFTER.

THIS DRAWING SET HAS BEEN PREPARED AND SEALED BY HUMAN POWERED FUTURE PLLC, A MONTANA-LICENSED PROFESSIONAL ENGINEERING FIRM IN GOOD STANDING WITH EMPLOYER IDENTIFICATION NUMBER (EIN): 45-2199701 AND MONTANA PROFESSIONAL ENGINEER LICENSE NUMBER: PEL-PE-LIC-30610. THE SEAL AFFIXED TO THIS DRAWING SET INDICATES THAT IT HAS BEEN PREPARED UNDER THE RESPONSIBLE CHARGE OF A LICENSED PROFESSIONAL ENGINEER AND COMPLIES WITH THE FOLLOWING CODES:  
- 2021 INTERNATIONAL BUILDING CODE (IBC)  
- 2021 INTERNATIONAL RESIDENTIAL CODE (IRC)  
- 2020 NATIONAL ELECTRIC CODE (NEC)

**HUMAN POWERED FUTURE PLLC**

7151 KESTREL DR, MISSOULA, MT 59808  
(406) 203-2365

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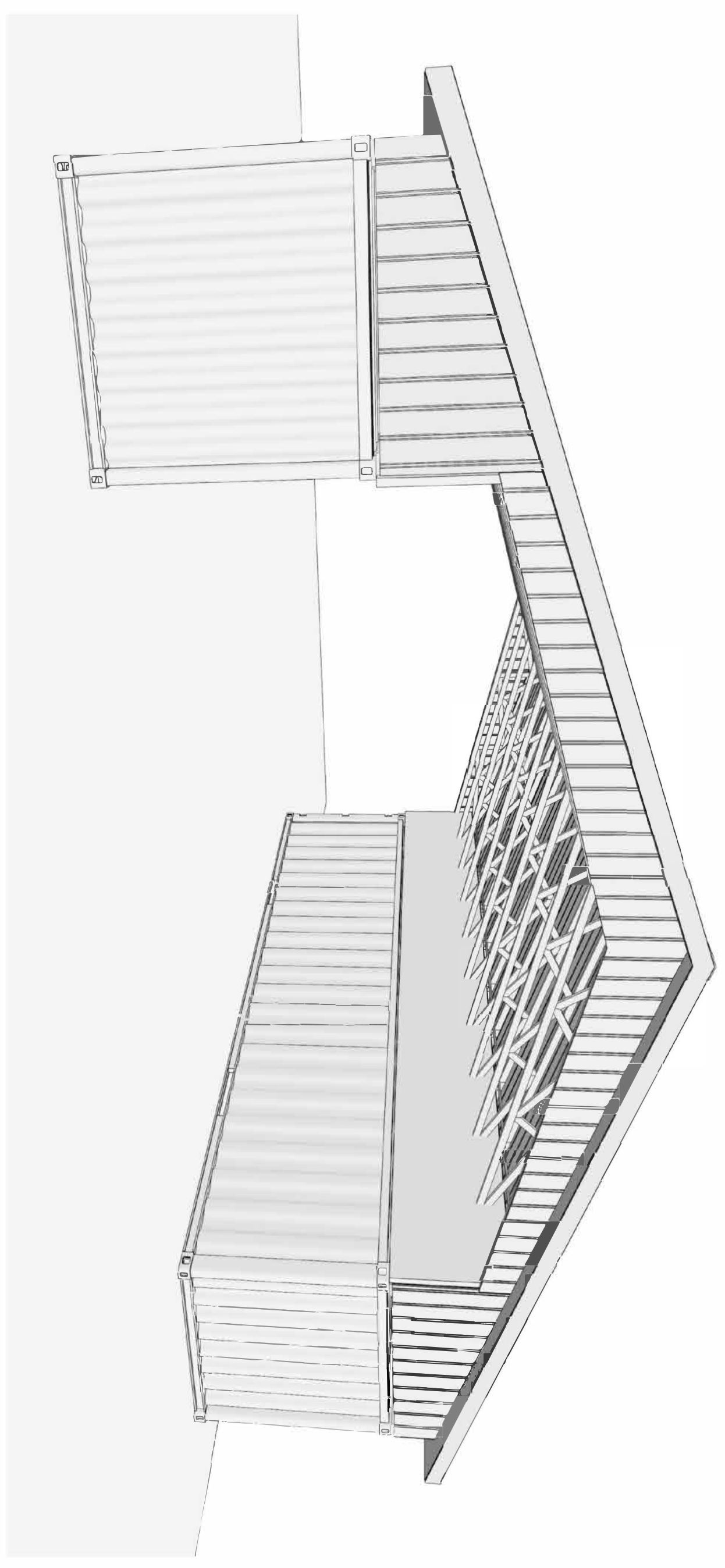
30' X 40' VAULTED CEILING CONTAINER SHED

GENERAL NOTES

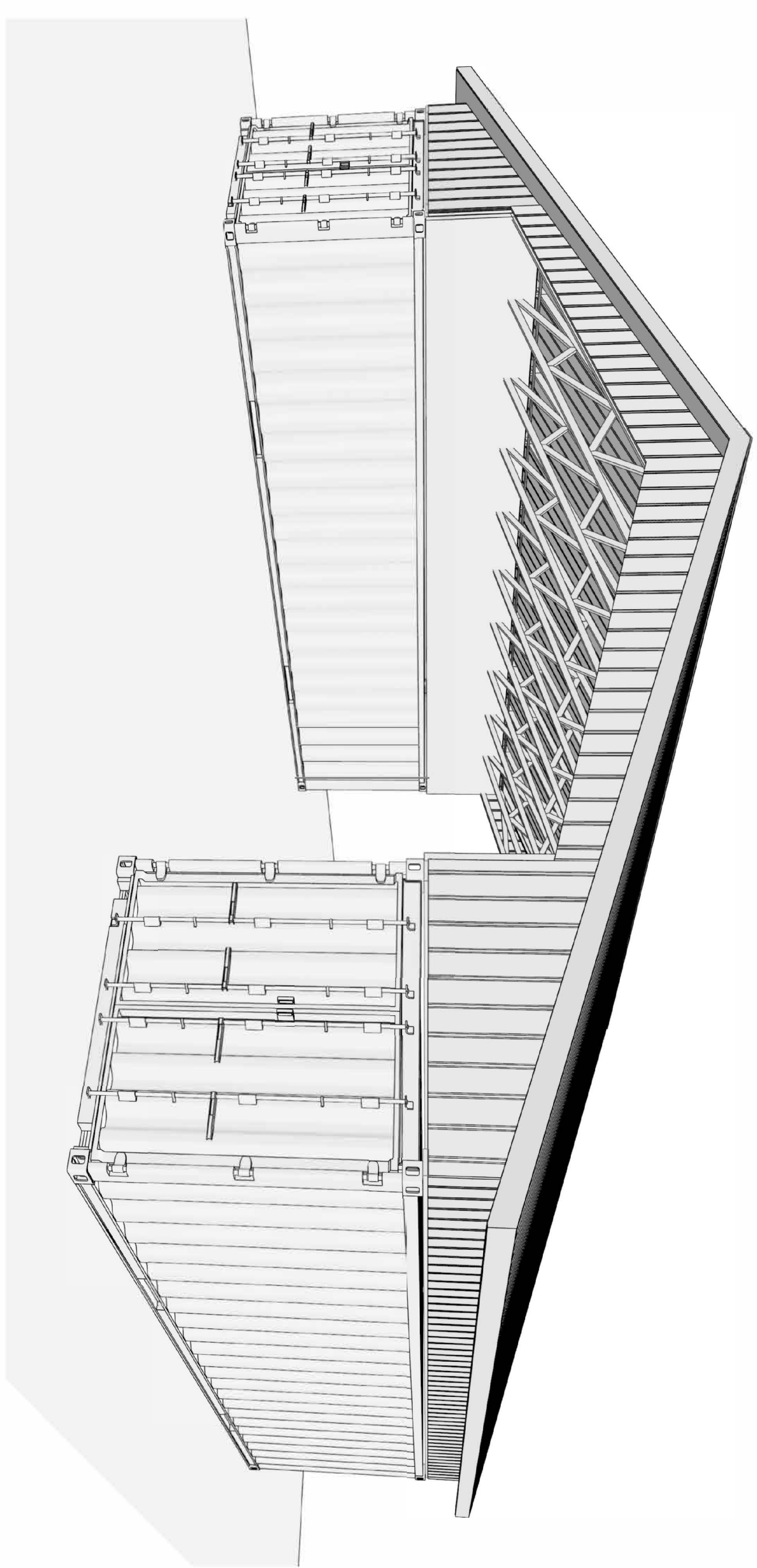
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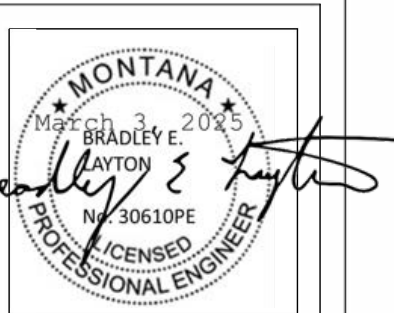


REAR PERSPECTIVE VIEWS



FRONT PERSPECTIVE VIEW

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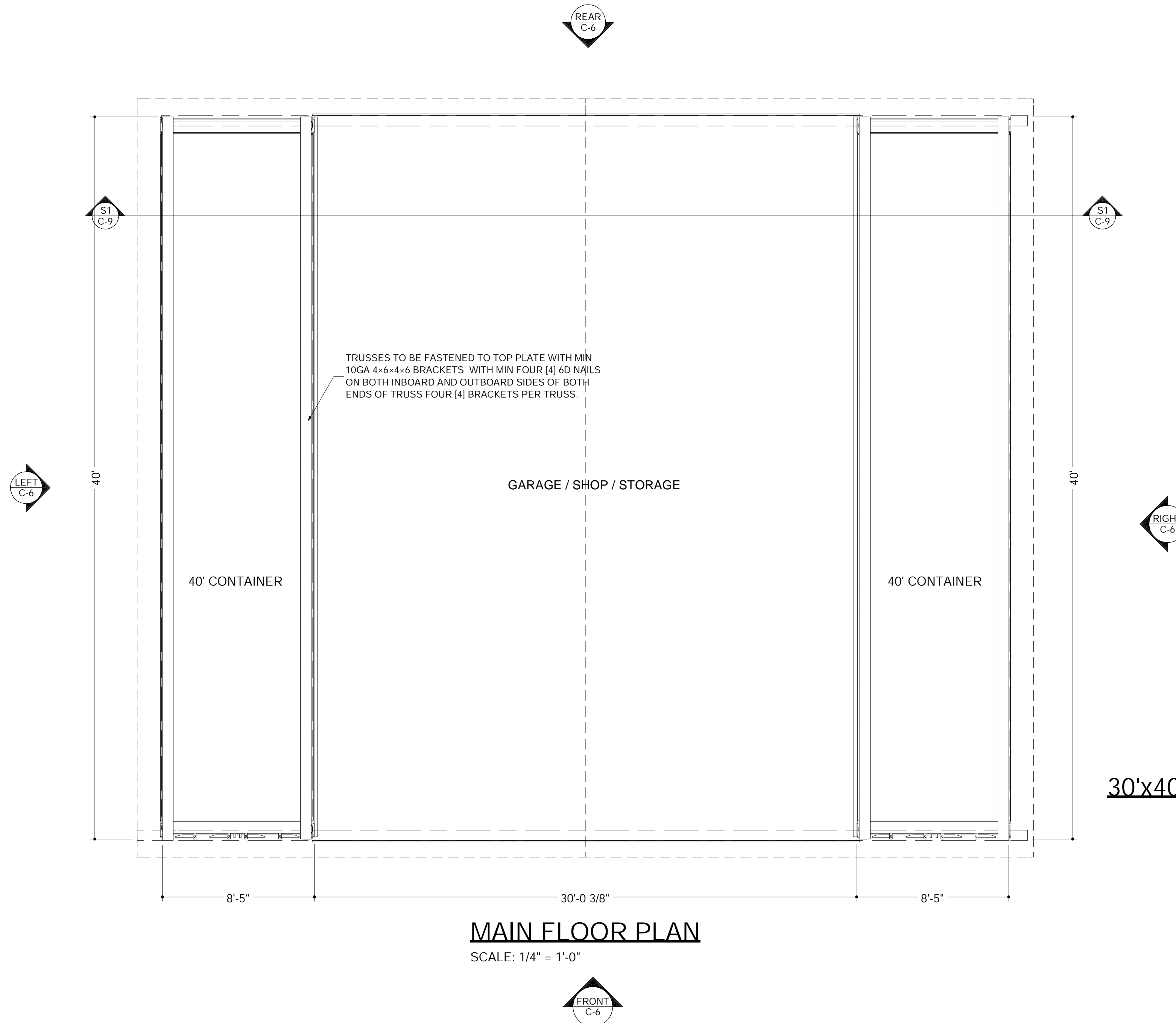
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3D VIEWS

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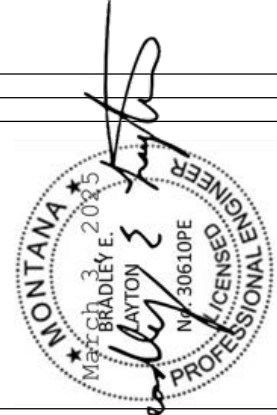
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**30'x40' CONTAINER GARAGE**  
SCALE: 1/4" = 1'-0"

**MAIN FLOOR PLAN**  
SCALE: 1/4" = 1'-0"



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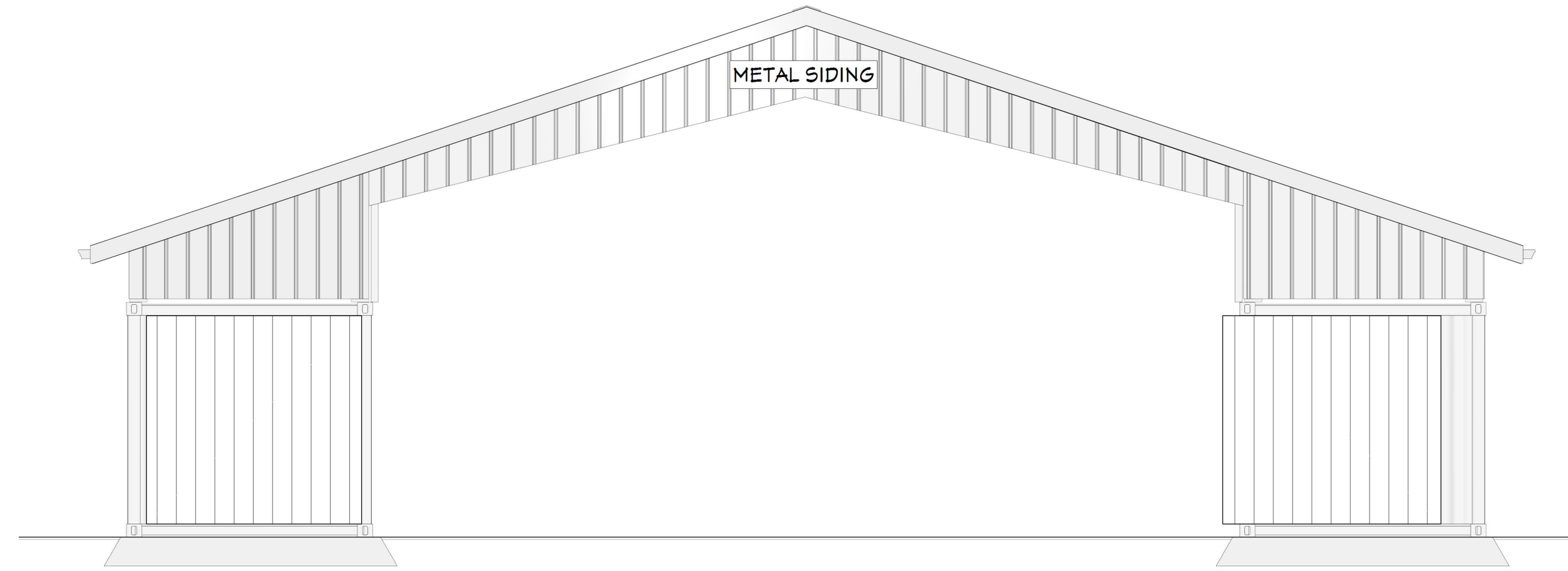
**30' X 40' VAULTED CEILING  
CONTAINER SHED**

**MAIN FLOOR PLAN**

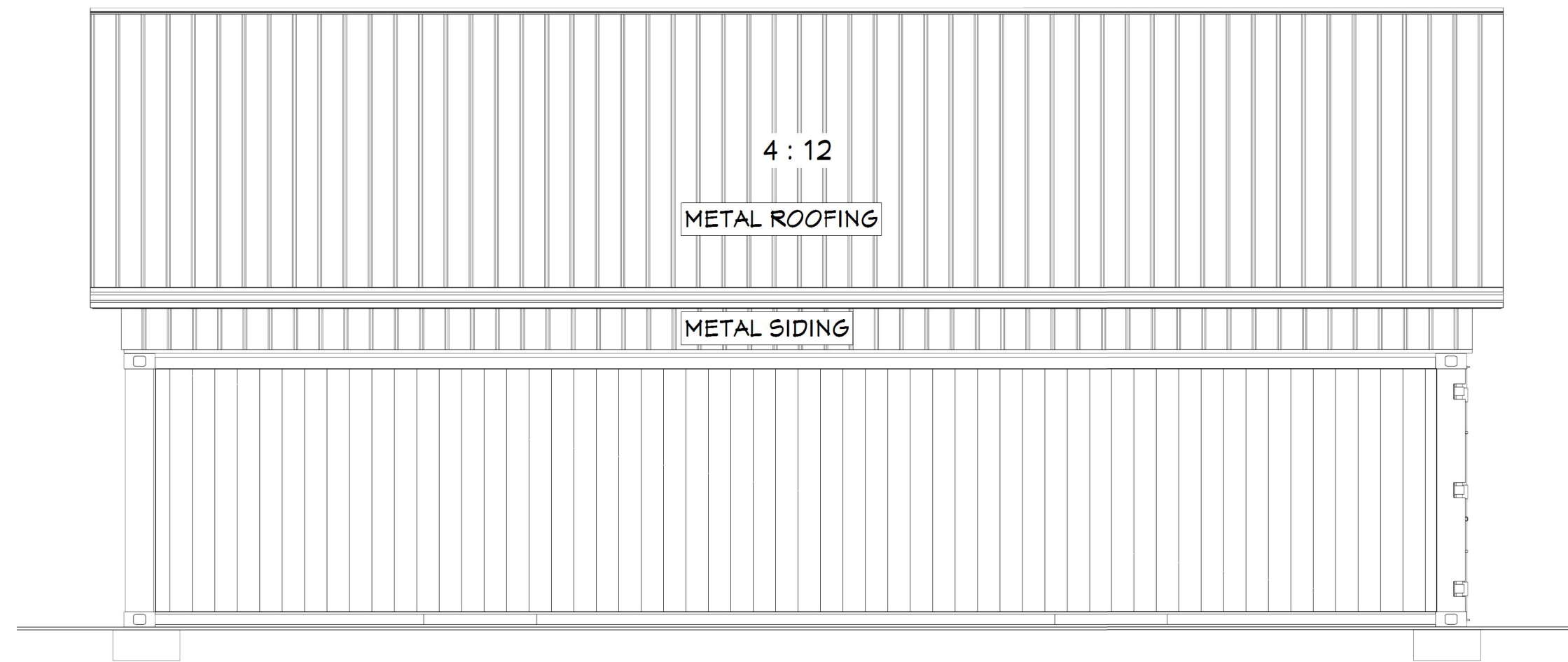
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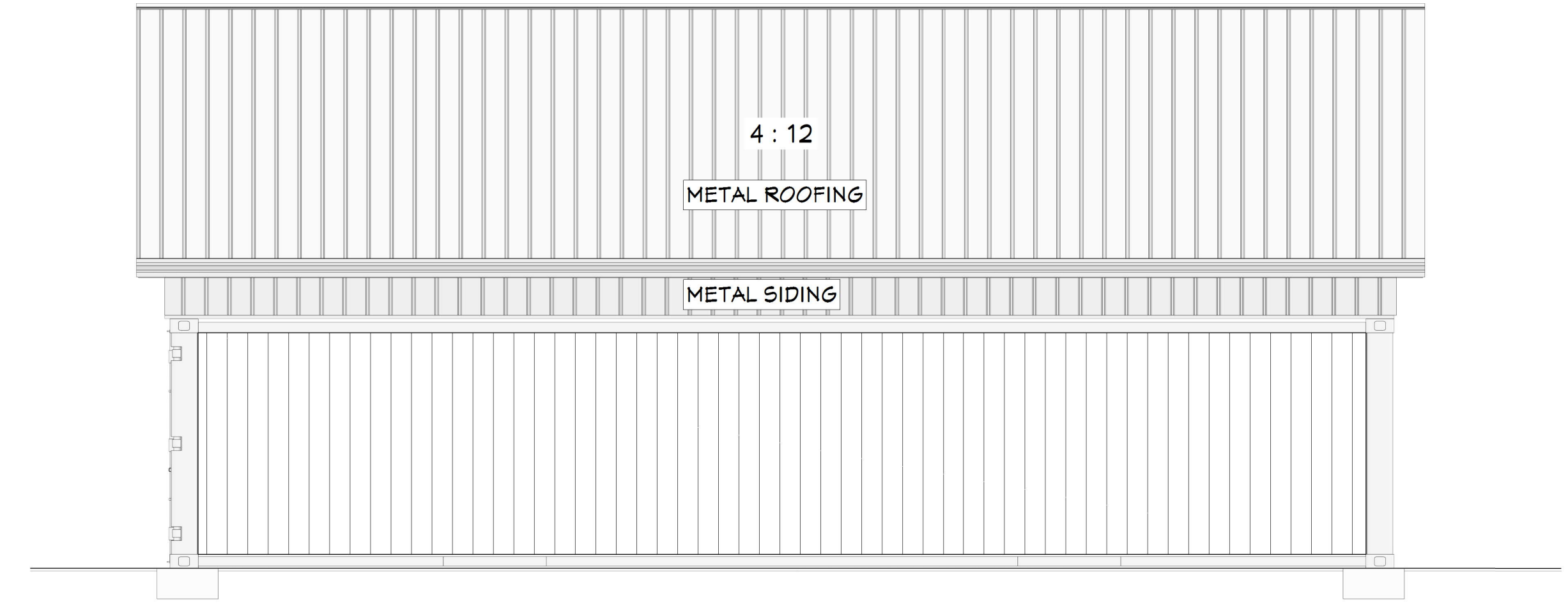
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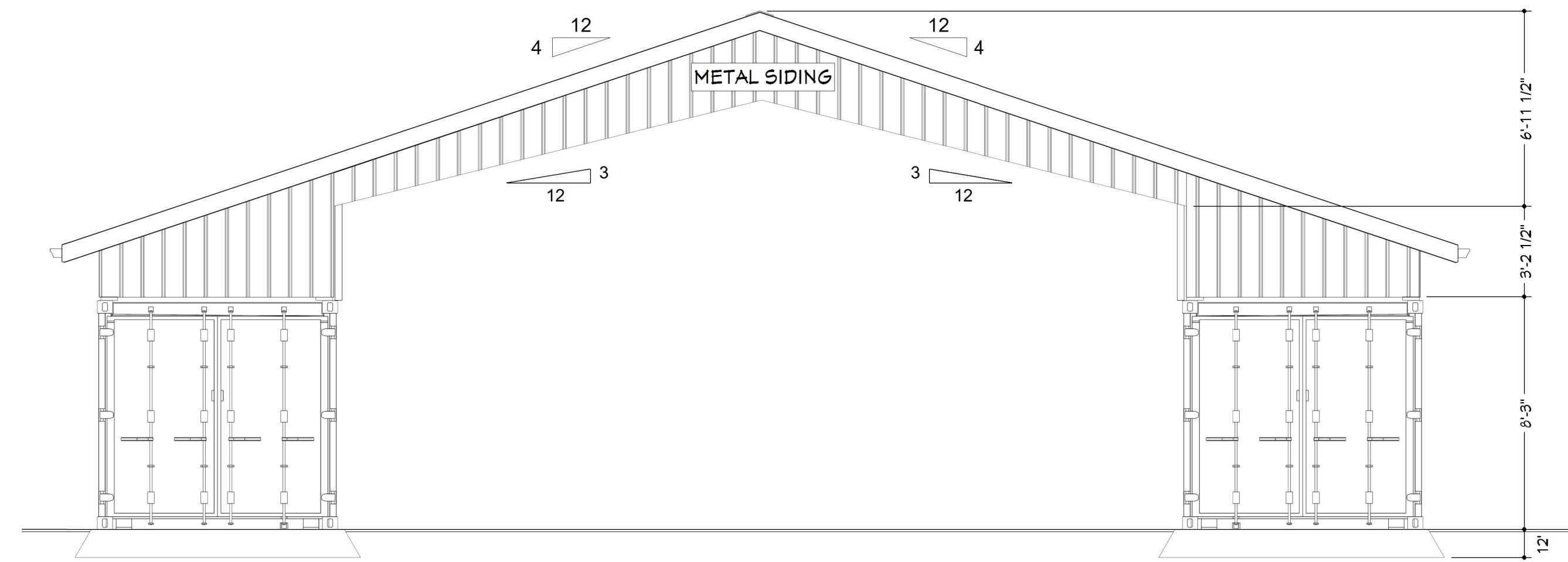
**REAR ELEVATION**  
SCALE: 1/4" = 1'-0"



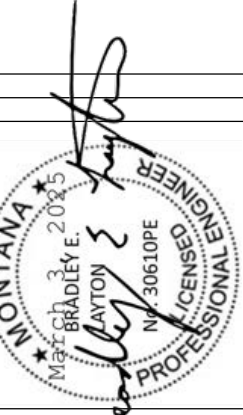
**LEFT ELEVATION**  
SCALE: 1/4" = 1'-0"



**RIGHT ELEVATION**  
SCALE: 1/4" = 1'-0"



**FRONT ELEVATION**  
SCALE: 1/4" = 1'-0"



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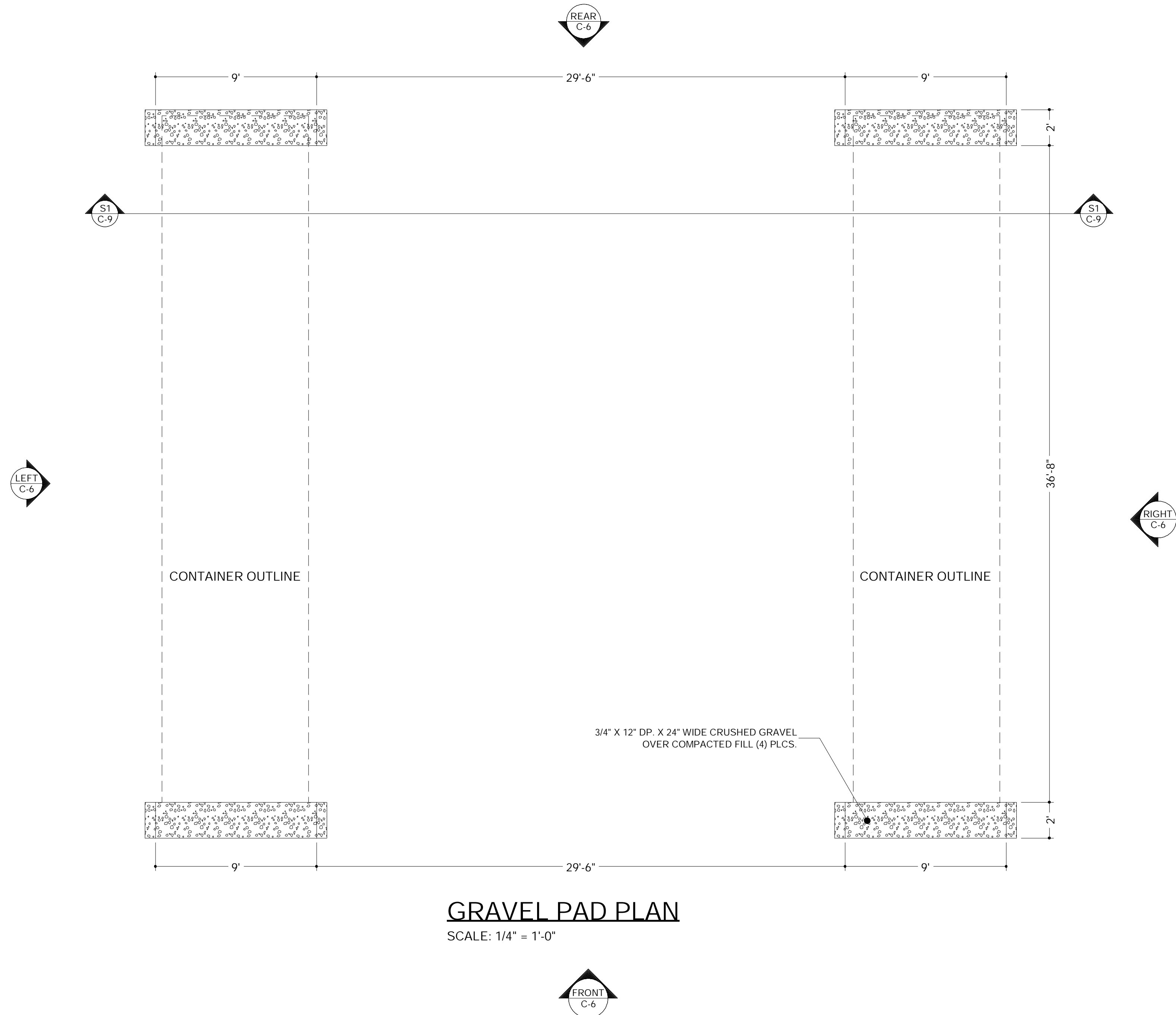
**ELEVATION PLAN**  
30' X 40' VAULTED CEILING  
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**ELEVATION PLAN**

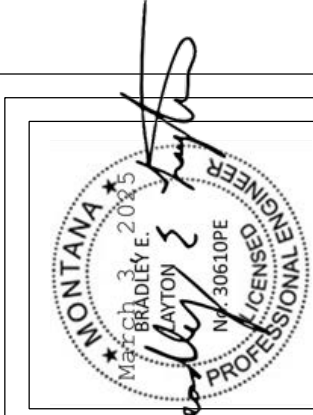
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**GRAVEL PAD PLAN**  
SCALE: 1/4" = 1'-0"



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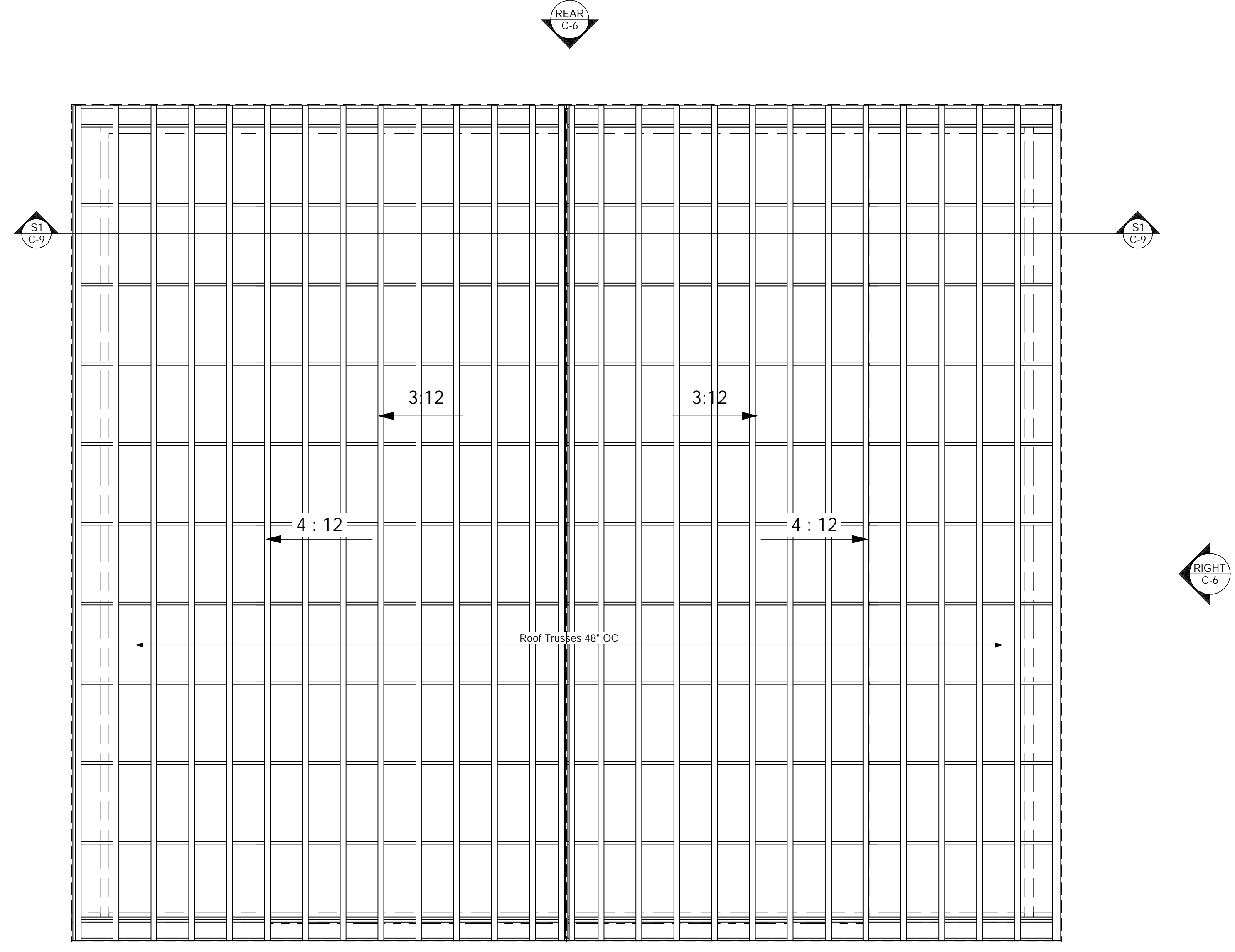
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**GRAVEL PAD PLAN**

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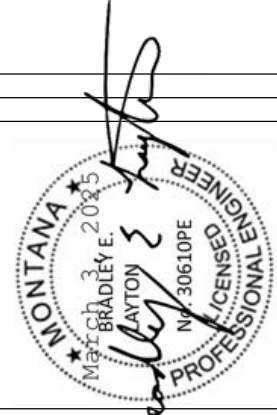
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**ROOF FRAMING PLAN**

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



NUMBER	DATE	REVISED BY	DESCRIPTION

**30' X 40' VAULTED CEILING  
CONTAINER SHED**

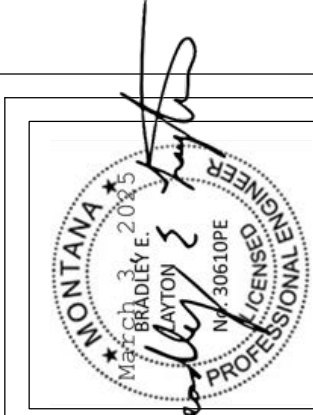
**ROOF FRAMING  
PLAN**

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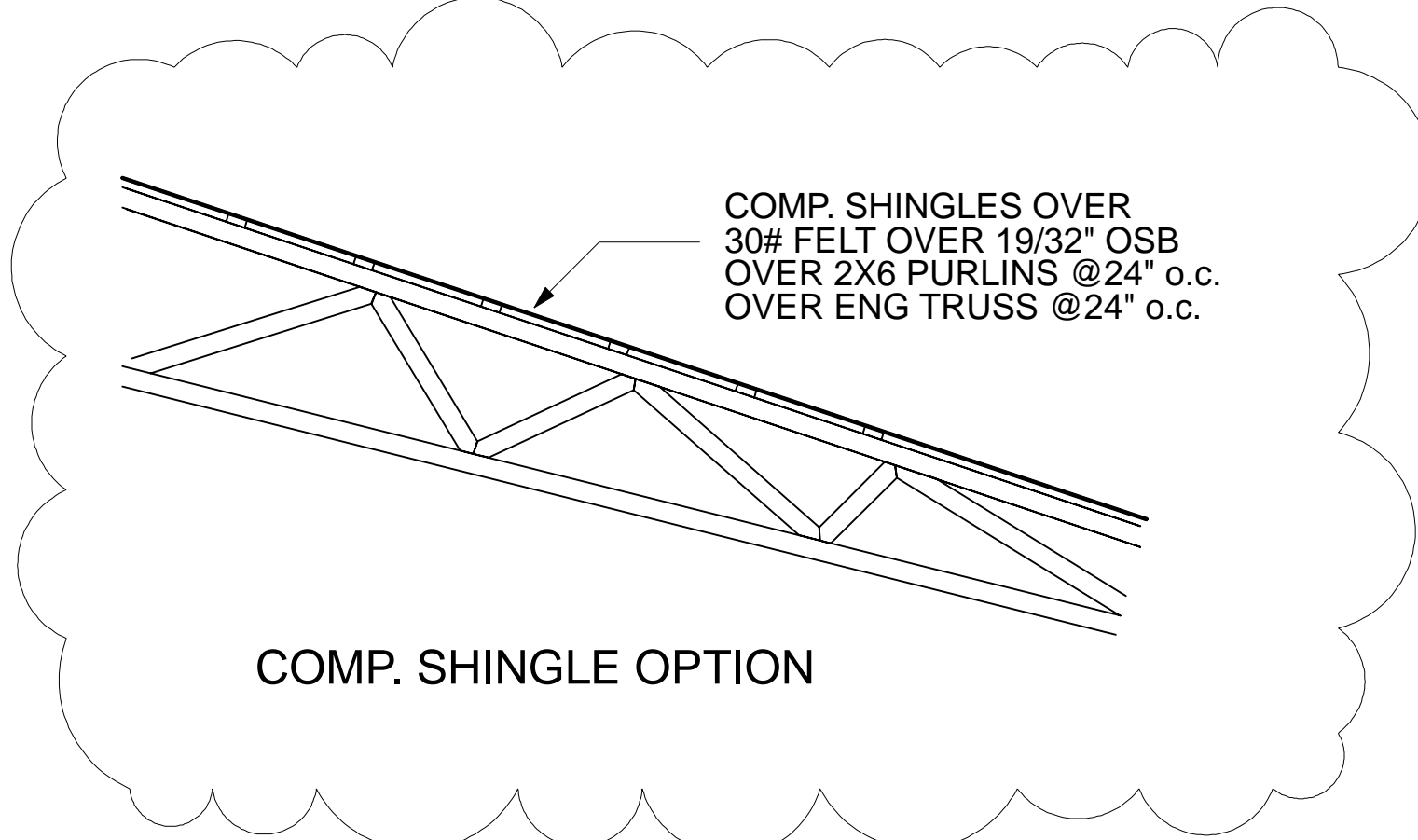
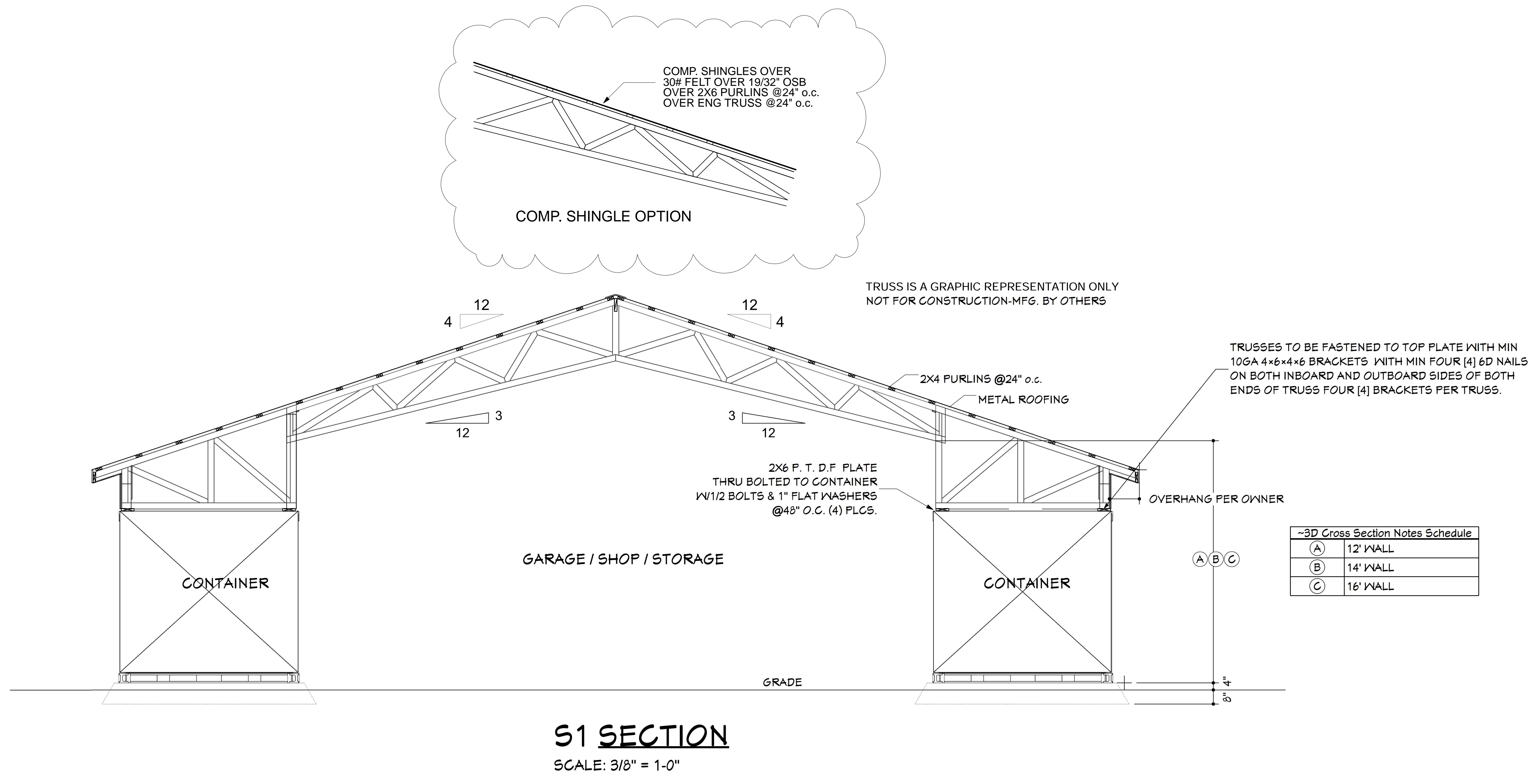
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S1-WALL SECTION

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TRUSS IS A GRAPHIC REPRESENTATION ONLY  
NOT FOR CONSTRUCTION-MFG. BY OTHERS

TRUSSES TO BE FASTENED TO TOP PLATE WITH MIN  
10GA 4x6x4x6 BRACKETS WITH MIN FOUR (4) 6D NAILS  
ON BOTH INBOARD AND OUTBOARD SIDES OF BOTH  
ENDS OF TRUSS FOUR (4) BRACKETS PER TRUSS.

~3D Cross Section Notes Schedule

(A)	12' WALL
(B)	14' WALL
(C)	16' WALL