

Downeast Thunder Railroad Train Depot

By: Paul J. Bennett © 2013 Milbridge, Maine

This document contains several pages of text and drawings for the Downeast Thunder Railroad Train Depot. You'll note there is not a high level of detail, nor are all dimensions given in the drawings. This is because the drawings were all produced on 8-1/2" x 11" standard sized paper. Putting all of the drawings on standard sized paper allows interested parties to easily download and print out all of the drawings without specialized equipment or materials; however the drawings would be too crowded and difficult to read if all of the dimensions and details were included on such small sheets of paper.

The missing dimensions are determined easily, given the main dimensions shown; used as a base from which to make your simple calculations. I did not include lots of details because this is a simple building without any special building requirements beyond standard construction practice. The Train Depot was designed for our use on Downeast Thunder Farm, and I know how to build such a structure, and therefore don't need the extra details.

These documents are provided free of charge to any interested persons for informational and educational use only. They are not provided with the intent that anyone should build from the drawings contained within. If one does decide to build this structure, be aware I am not a licensed architect and that this design may not meet the building codes for your area. You should consult a licensed architect, your local building inspector, and other such professionals to determine what changes or modifications (if any) should be made to meet codes, obtain building permits, and pass local inspections. Furthermore, you agree to hold me blameless and you take all responsibility if you decide to erect the structure presented here, otherwise you must not use my drawings or documents if you refuse to accept, agree, and abide by these stipulations.

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Downeast Thunder Farm <http://www.downeastthunderfarm.com> and Downeast Thunder Railroad <http://www.downeastthunder.com> is located in Milbridge, Maine.

Downeast Thunder Farm & Railroad is located along the seacoast in northeastern Maine, near the US/Canadian border. Our soil is mostly clay, and our climate is very cold during most of the year. As a result, the drawings show a substantial footing and four foot tall frost wall, which is all located underground. The floor pad is 6" thick for the same reasons. This is to say the train depot design reflects our climate and region, soil type, plus snow loads & wind loads. In other parts of the country, a smaller footing and shorter frost wall may suffice, along with a 4" floor pad. In some places, a monolithic pad will work just fine without a separate footing and frost wall. Again – this train depot was designed for us, as a combination depot and farm store in our part of Maine known as the "Downeast" region.

Roof Trusses – I have included a drawing of what the typical truss may look like, and I know how to build my own, but it's beyond the scope of these documents to become a "how-to" book, plus showing you how to design and build a roof truss opens a whole can of worms with respect to liability. If you should build this structure, I highly recommend that you purchase professionally engineered and prefabricated trusses through your local lumberyard.

Concrete – Most people can use 2500# mix for the footing, frost wall, and floor pad, however I have specified 3500# mix for our train depot. This specification reflects the type of soil and climate of our location. I didn't list steel re-bar or re-mesh in the bill of materials list. Consult your local building codes for what is required and then you can calculate the amount needed from the dimensions given in the drawings.

Roof – I am using corrugated steel roof panels commonly available in many parts of the country. I don't need plywood sheathing on the roof. Instead I use steel (Sampson Strong Tie™) combination roof truss spacers/braces between trusses, and use 1" x 4" purlins running lengthwise along the roof, spaced every 16" on center from the roof edge up to the peak. The steel roof panels are screwed down onto the purlins using special self tapping screws with O-ring seals. Others may opt to use traditional plywood or OSB sheathing with roofing felt and asphalt roofing shingles.

Siding – 7/16" OSB or 1/2" CDX is traditionally used to sheath the walls. Siding material can be whatever you want such as shingles, vinyl siding, etc.

Trim – 1" x 4" and 1" x 6" pine

Doors and windows: – your choice. Follow the manufacturer's instructions and rough opening dimensions.

Fasteners – I use pneumatic nail guns and purchase fasteners by the case, usually several cases at a time. If you bang nails by hand, consult a book on framing (available at outlets such as Home Depot™) and/or local building codes to determine types and sizes to purchase.

Basic Bill of Materials (Incomplete):

Footing – 8 cubic yards of 3500# premix concrete

Frost Wall – 11 cubic yards of 3500# premix concrete

6" main floor slab – 9 cubic yards of 3500# concrete

6" rear train platform slab – 8 cubic yards of 3500# premix concrete

6" front entry slab – 1.5 cubic yards of 3500# premix concrete

Sill Plate – about 100' of 2 x 6 Pressure Treated

Overhang Support Posts – (4) 6" x 6" x 14' PT for rear overhang, (2) 4" x 4" PT for front entry overhang.

Framing Lumber 2" x 6" KD Studs 128 pieces, 12' long each. (14) 2" x 8" x 12' KD Studs

Micro-Lams (1-3/4" x 9-1/2" each): (10) 30' for main structure, (1) 32' for entryway overhang.

Exterior Wall Sheathing – (26) 4' x 8' x 1/2" CDX Plywood

Roof Trusses – 16 Large Trusses, 4 Small Trusses (see drawing # Depot-014)

Steel Roof Panels – (22) 17' 2" long for main roof, and (5) 5' 2" long for the entryway roof. (Consult roofing supplier for ventilated steel roof cap and trim.

Electrical: As per drawing or your own variation.

Notes:

I don't have a need to count out each and every piece when building such a structure for my needs here on the farm. I usually purchase cases or jobber lots of items such as electrical boxes, receptacles, switches, hardware, fixtures, and so forth. The reason I do this is because it is much less expensive than buying individual items as needed. Of course I always have lots of materials left over, but I do eventually use them on other projects and if I run low on something, I simply purchase another case. Because of this, the bill of materials is not exact or complete.

I do purchase sheet materials such as plywood and OSB, but for dimensional lumber, I mill what I need using my saw mill (from trees cut in our farm woodlot). I only purchase dimensional lumber when I'm in a hurry and don't have what I need on hand at the time.

If you are considering building such a structure using these documents as a guideline, most lumberyards will take off a materials list directly from your drawings for free if you purchase the materials from them.

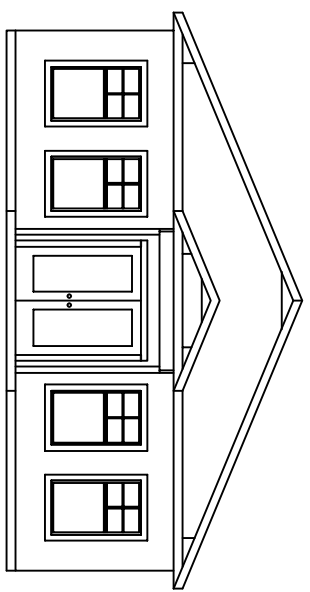
If you can't figure out various dimensions and a cutting list from the information given, you probably should not attempt to build such a structure yourself. In such a case, I would recommend getting a quote from a local contractor to construct the building for you.

Note: I didn't bother calculating the number of drywall sheets or the quantity of insulation required for the interior. That is something you can easily do yourself, given the dimensions in the drawings. If this building is constructed for private use or as an outbuilding, regular ½" sheetrock can be used, but for commercial applications, only 5/8" (fire code) sheetrock will suffice.

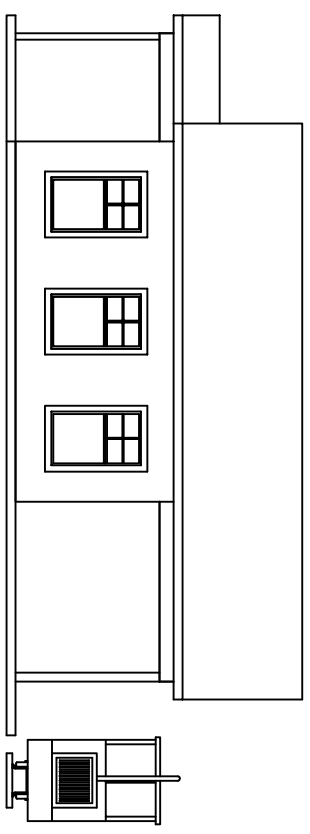
Paul Bennett, Downeast Thunder Farm, Downeast Thunder Railroad – Milbridge, ME

Depot Footprint = 20' x 30' inside building.

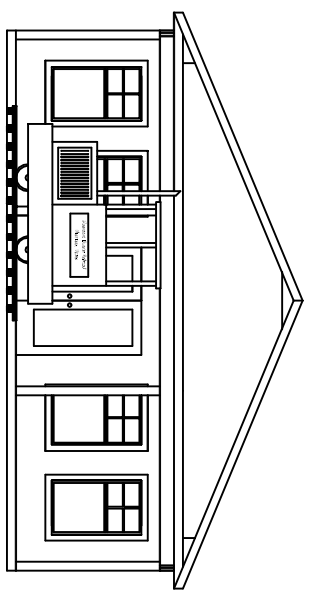
Train Platform = 13' x 30'



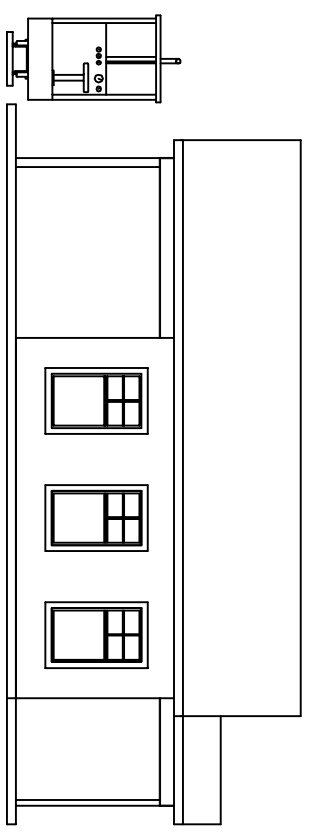
Front Elevation



Right Side Elevation



Rear Elevation



Left Side Elevation

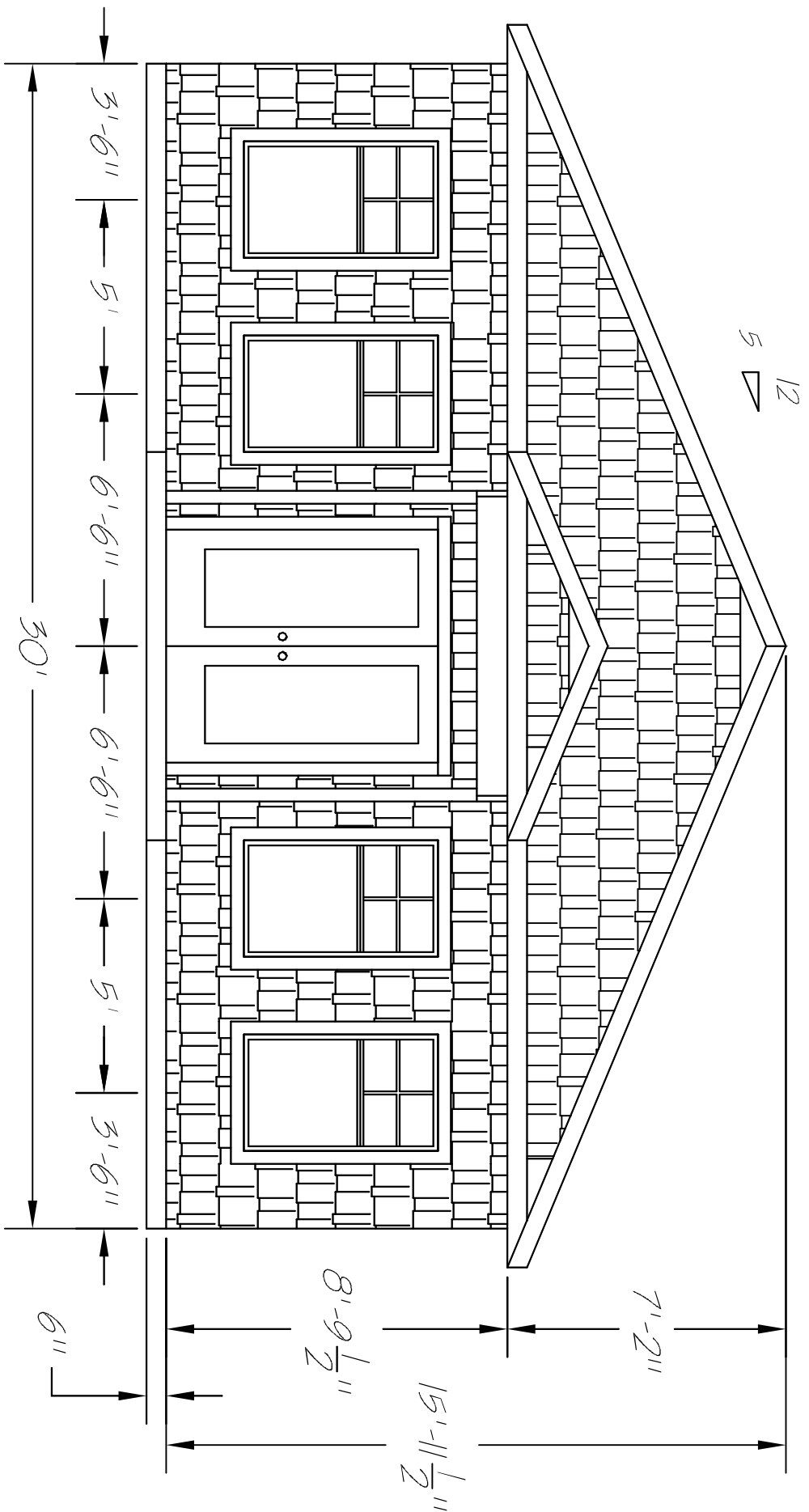
Front Entry = 7' x 10'

Drawn by Paul
J. Bennett
Milbridge, ME

DTRR Train Depot Elevations
Downeast Thunder Railroad

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SIZE	FSCM NO.	DWG NO.	REV
A		Depot 001	
SCALE	21 JAN 2013		SHEET 1 of 1
3/32"=1'			



Front Elevation

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Train Depot Front Elevation

Downeast Thunder Railroad

SIZE
A

DWG. NO.

Depot 002

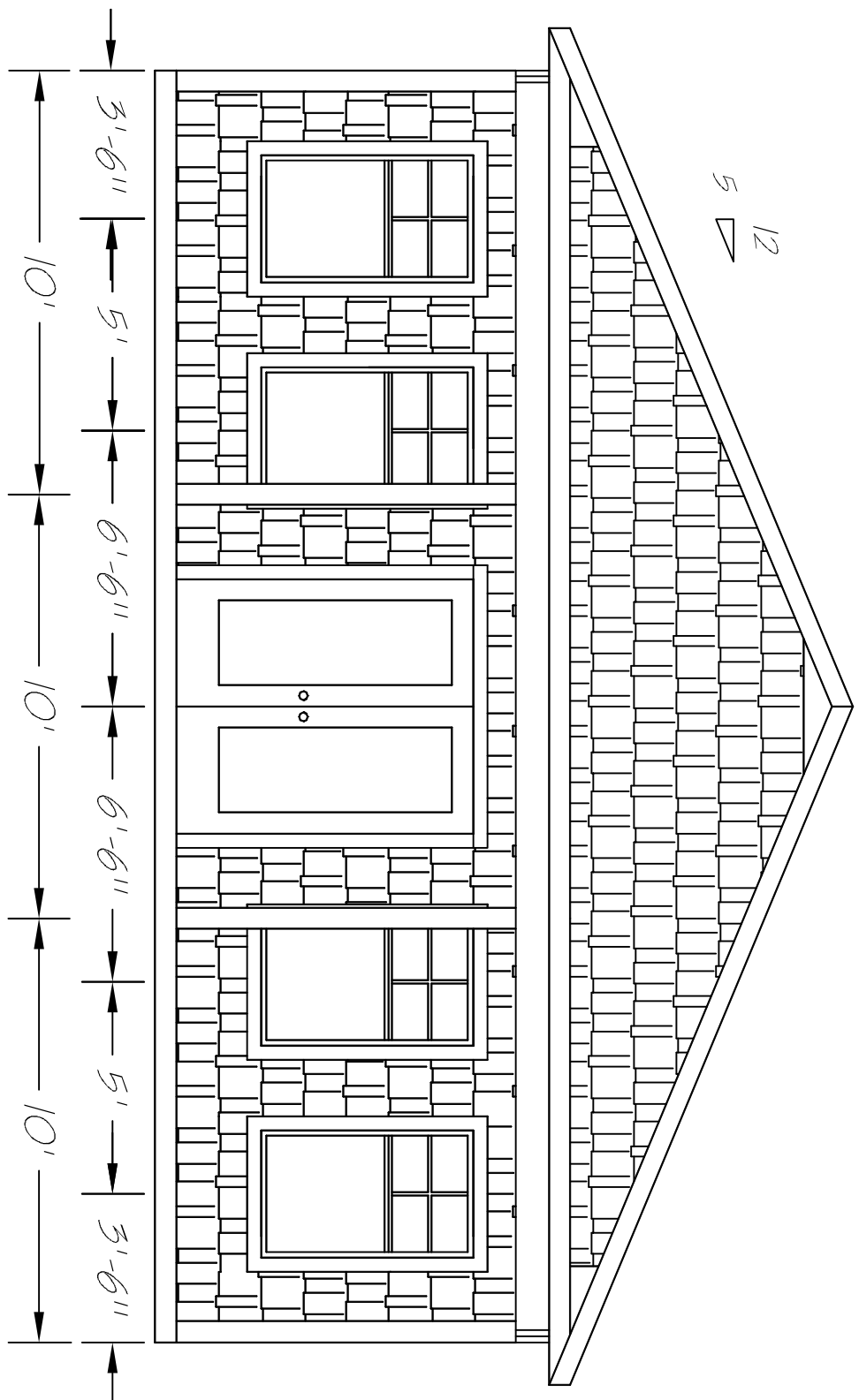
REV

SCALE *1/4" = 1'*

21 JAN 2013

SHEET *1 of 1*

Rear Elevation

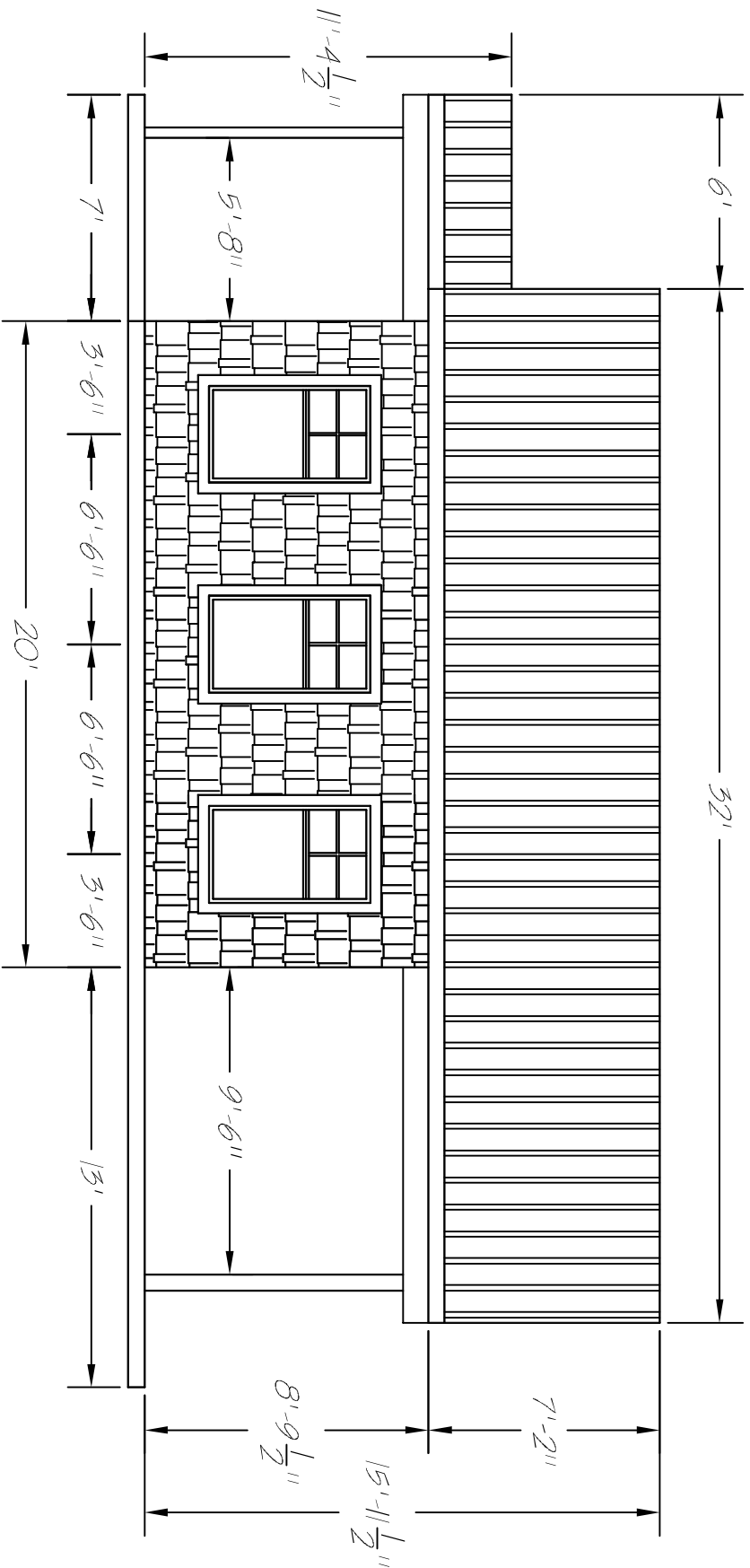


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Train Depot Rear Elevation
 Downeast Thunder Railroad

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SIZE A	FSCM NO.	DWG NO.	REV
SCALE 1/4" = 1'	21 JAN 2013	Depot 003	
SHEET 1 of 1			



Right Side Elevation

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Train Depot Right Side Elevation

Downeast Thunder Railroad

SIZE

A

FSCM NO.

DWG NO.

Depot 004

REV

SCALE 3/16"=1'

21 JAN 2013

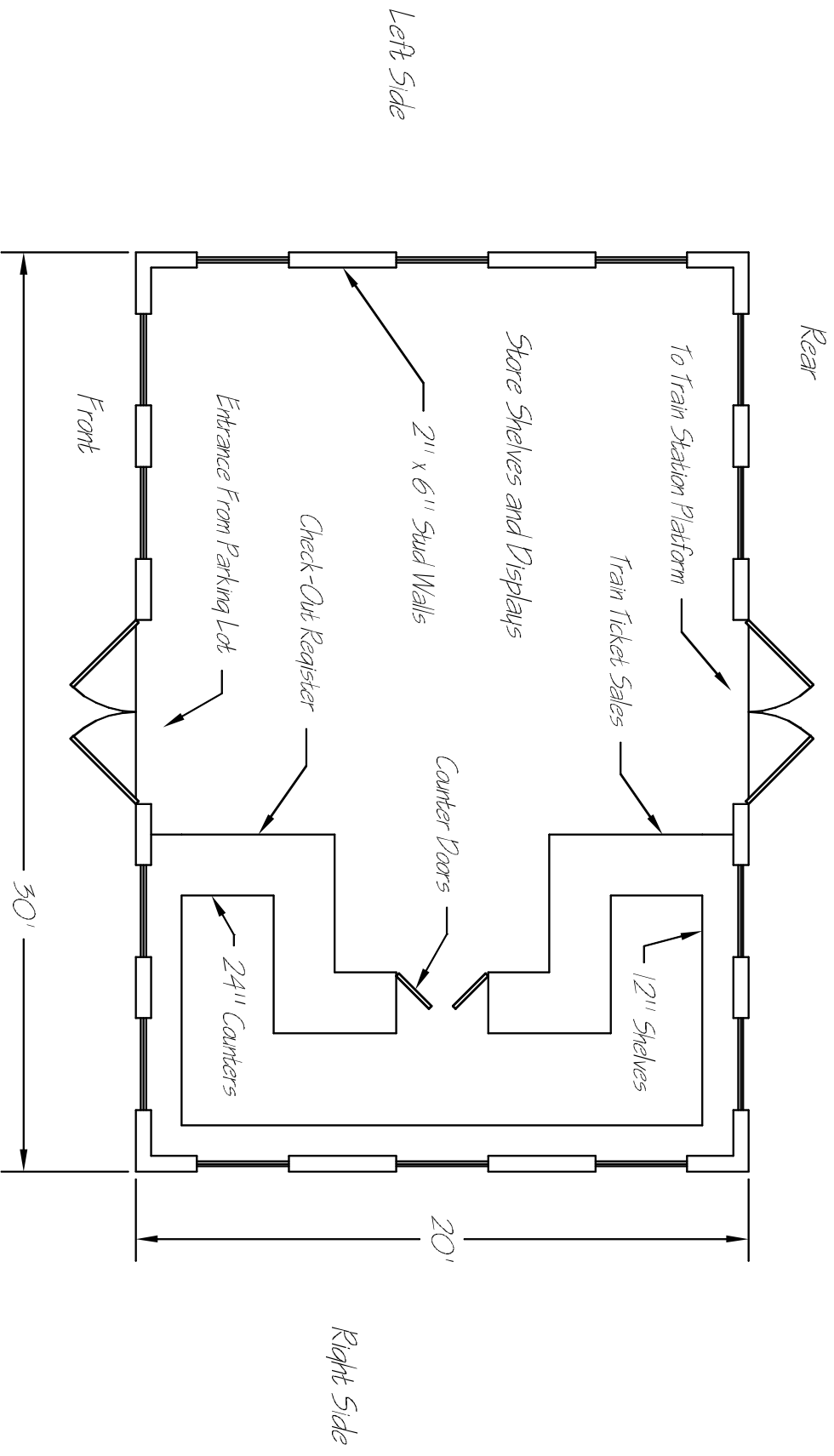
SHEET 1 of 1



Left Side Elevation

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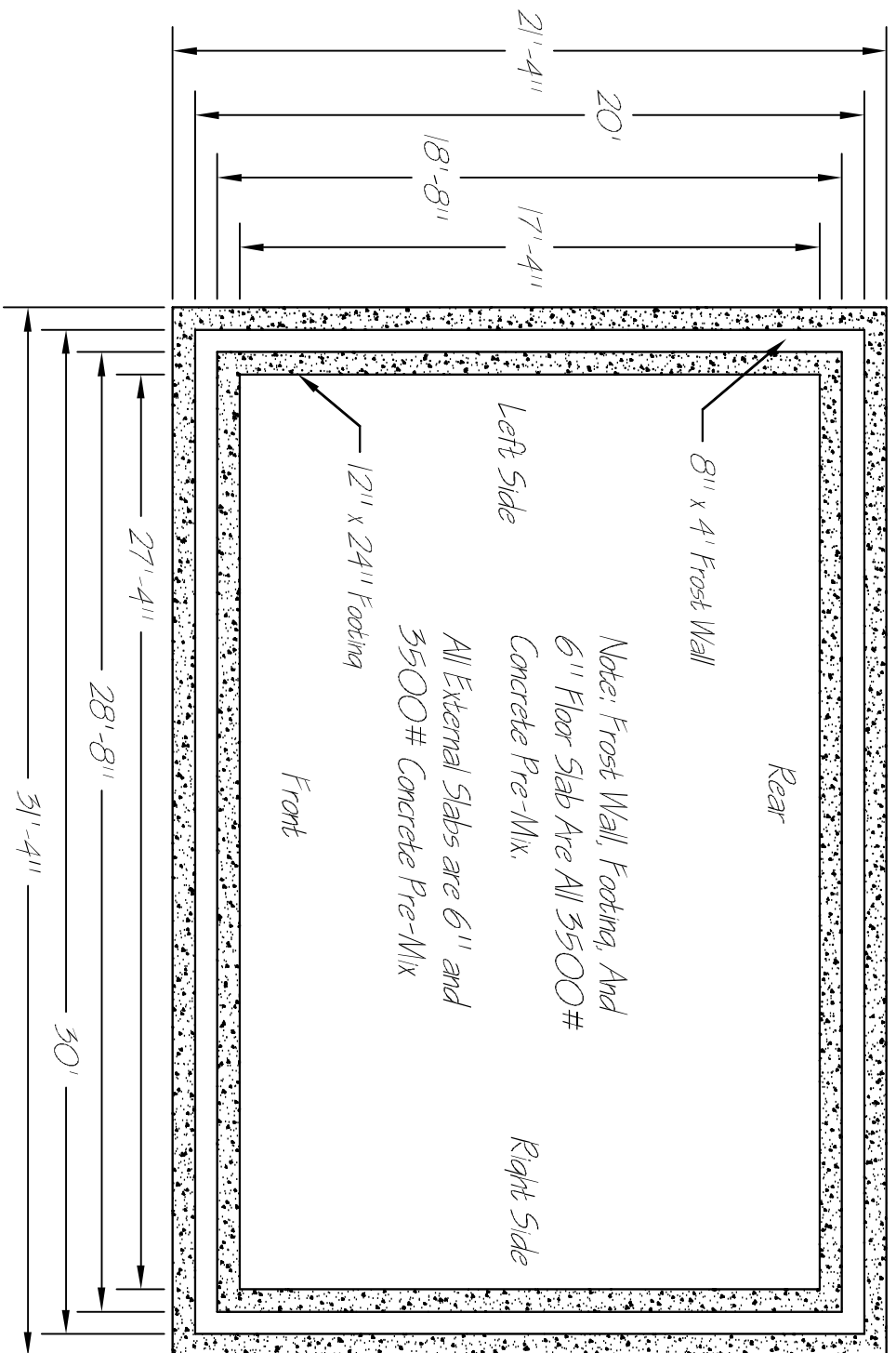
Train Depot Left Side Elevation		REV	
Downeast Thunder Railroad		DWG NO. Depot 005	
SIZE A	SCALE 3/16" = 1'	21 JAN 2013	SHEET 1 of 1



Tentative Floor Plan

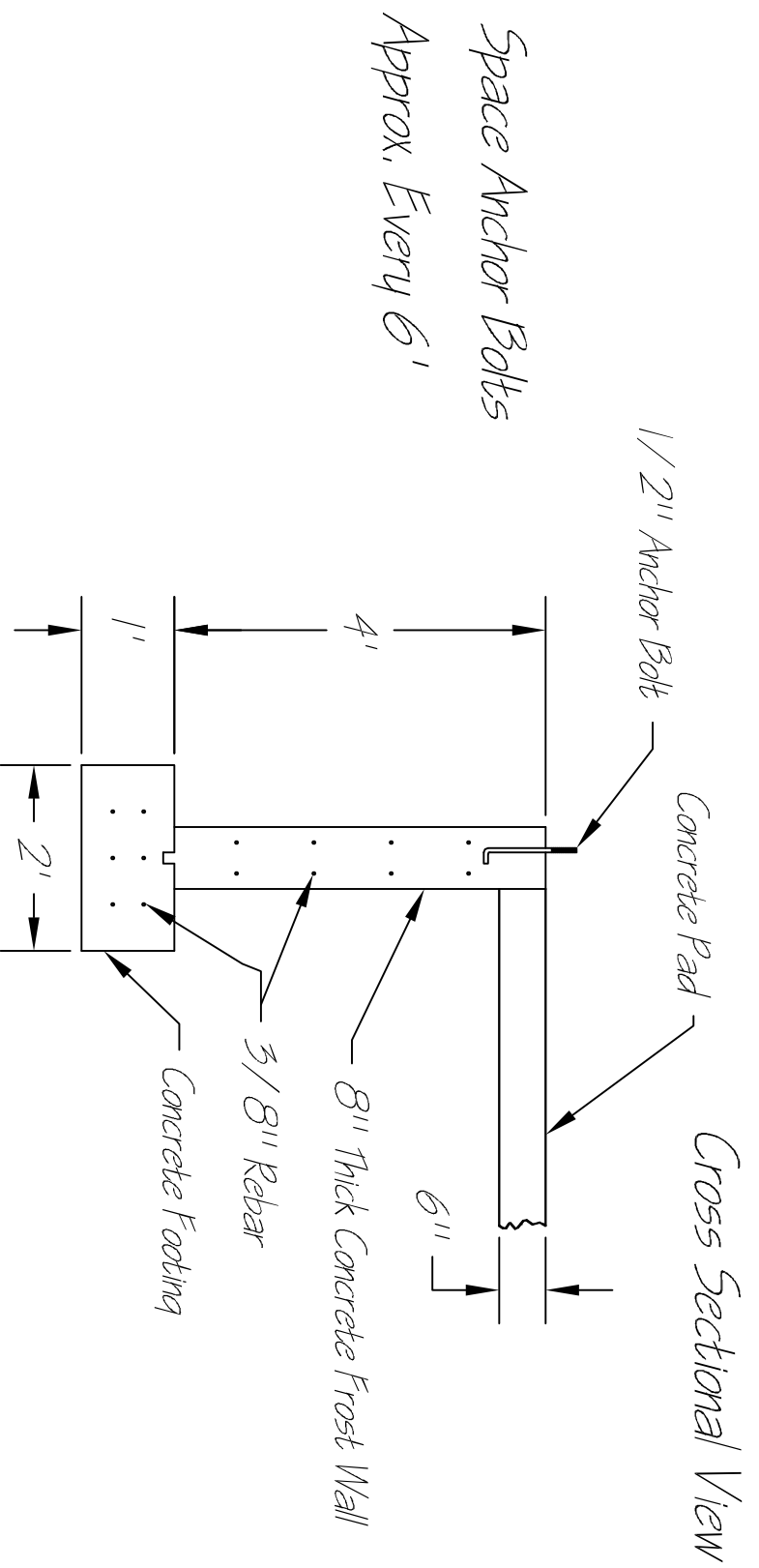
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Train Depot Floor Plan		Dwg. No.		REV
Downeast Thunder Railroad		Depot 006		
SIZE	A	SCALE	3/16" = 1'	SHEET
			21 JAN 2013	1 of 1



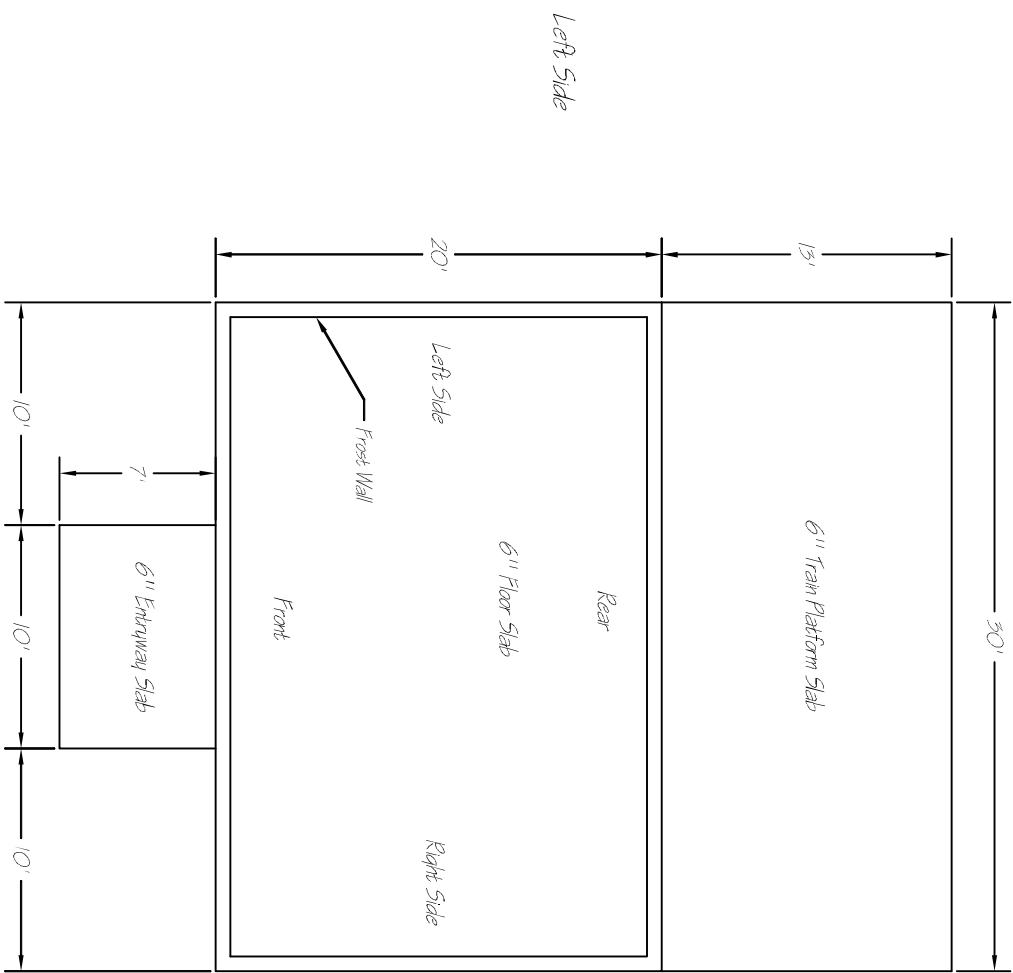
Foundation Plan

Drawn by Paul J. Bennett Milbridge, ME		Train Depot Foundation Plan Downeast Thunder Railroad	
(C) 2013, All Rights Reserved	SIZE A	DWG. NO. Depot 007	REV
SCALE 3/16"=1'	21 JAN 2013	SHEET 1 of 1	



Note: Use Rebar or Steel Re-mesh to strengthen 6" Concrete Pad

Drawn by Paul J. Bennett Milbridge, ME		Train Depot Foundation Details Downeast Thunder Railroad	
(C) 2013, All Rights Reserved	SIZE A	DWG NO. Depot 008	REV
SCALE 1/2"=1'	21 JAN 2013	SHEET 1 of 1	



Front

Rear

Left Side

Right Side

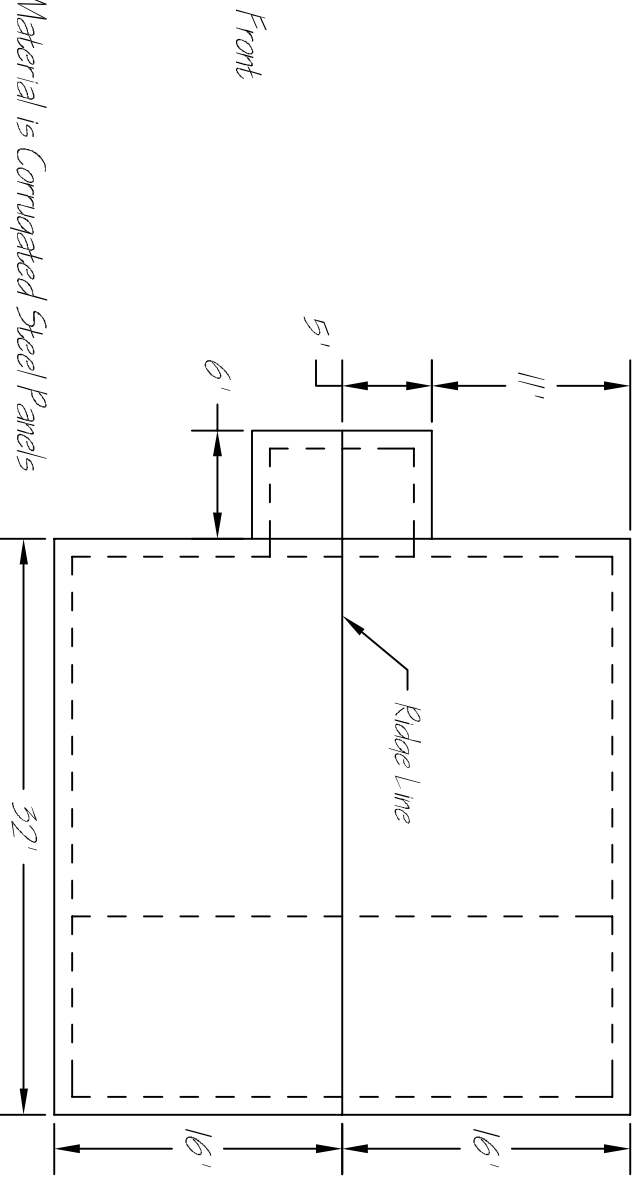
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Train Depot Concrete Slab Arrangement
 Downeast Thunder Railroad

SIZE	DWG. NO.	REV
A	Depot 009	
SCALE 3/32"=1'	21 JAN 2013	SHEET 1 of 1

Roof Material is Corrugated Steel Panels

Right Side



Left Side

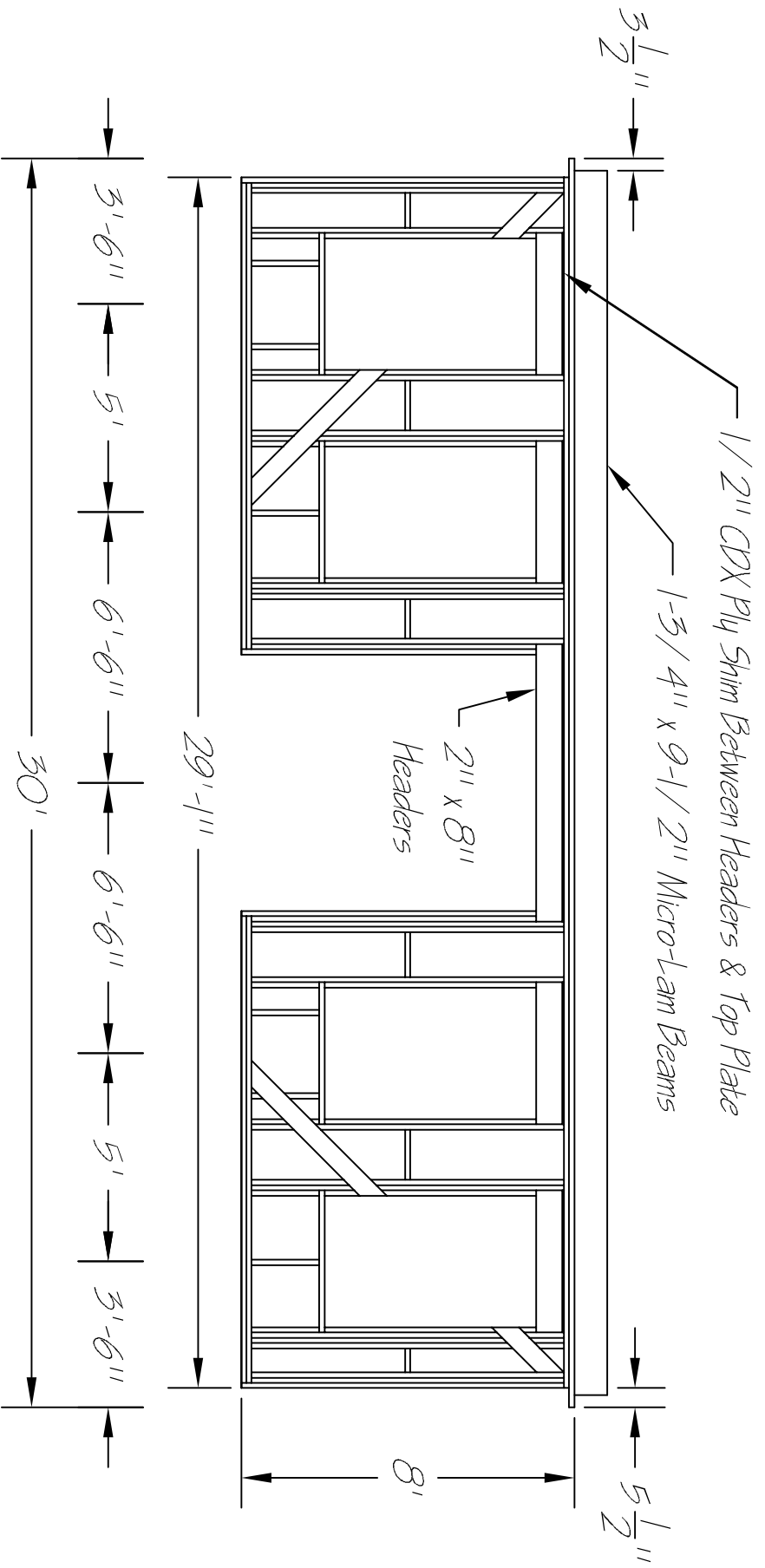
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Train Depot Roof Plan
Downeast Thunder Railroad

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SIZE	DWG NO.	REV
A	Depot 010	
SCALE 3/32"=1'	21 JAN 2013	SHEET 1 of 1

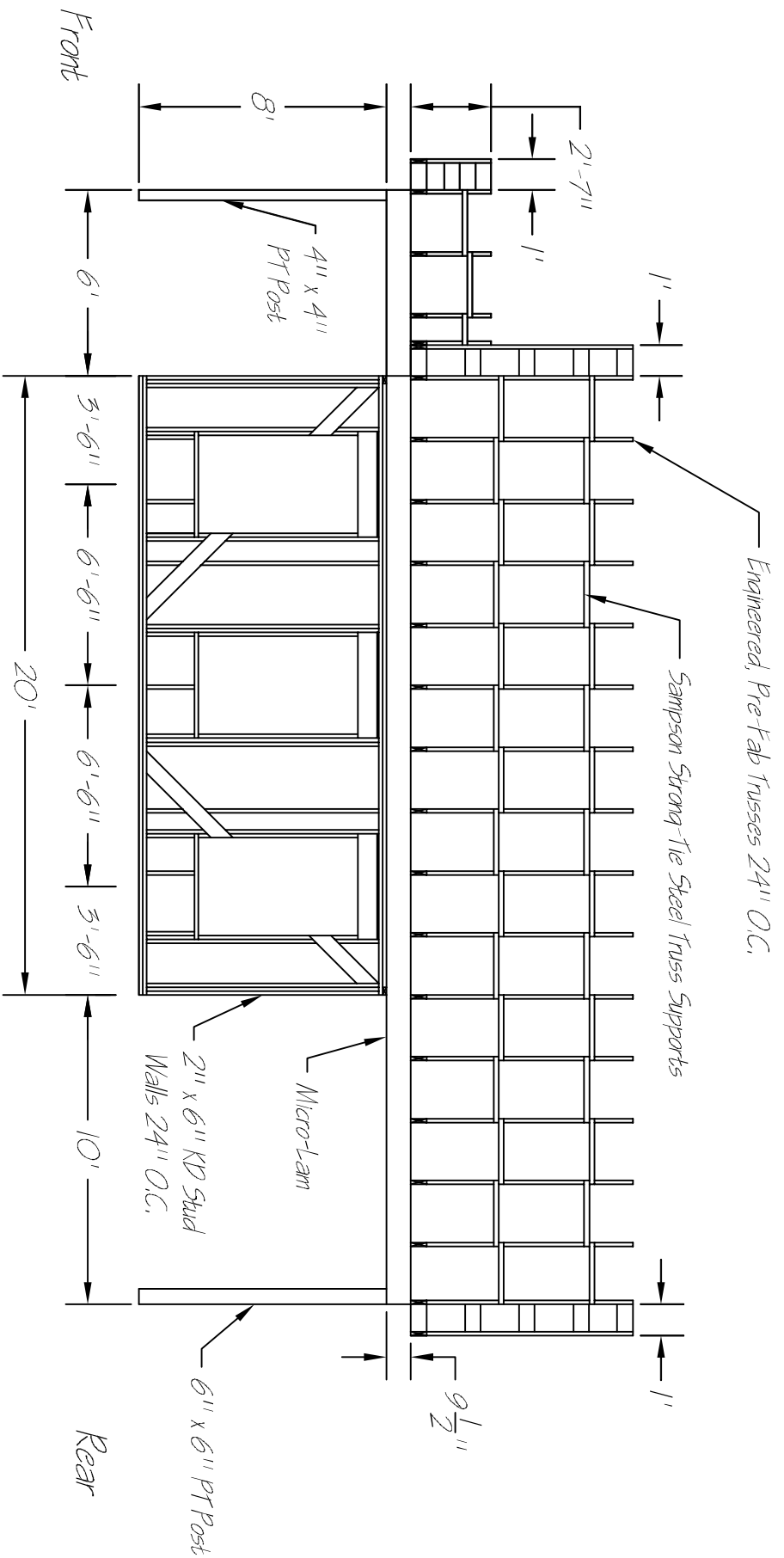
Note: Framing is 2" x 6" KD Stud Walls 24" O.C. with 2" x 8" Headers



Note: Windows Shown are 3' x 5' and Doors are 6' x 7' Commercial Double, RO's as per Manufacturer's Specs.

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Train Depot Front/Rear Framing Details		Downeast Thunder Railroad	
SIZE A	DWG. NO. Depot 011	REV	
SCALE 1/4" = 1'	22 JAN 2013	SHEET 1 of 1	



Note: Windows Shown are 3' x 5'
 R.O.s as per Manufacturer's
 Headers are 2" x 8" and
 1/2" CDX Ply Shims

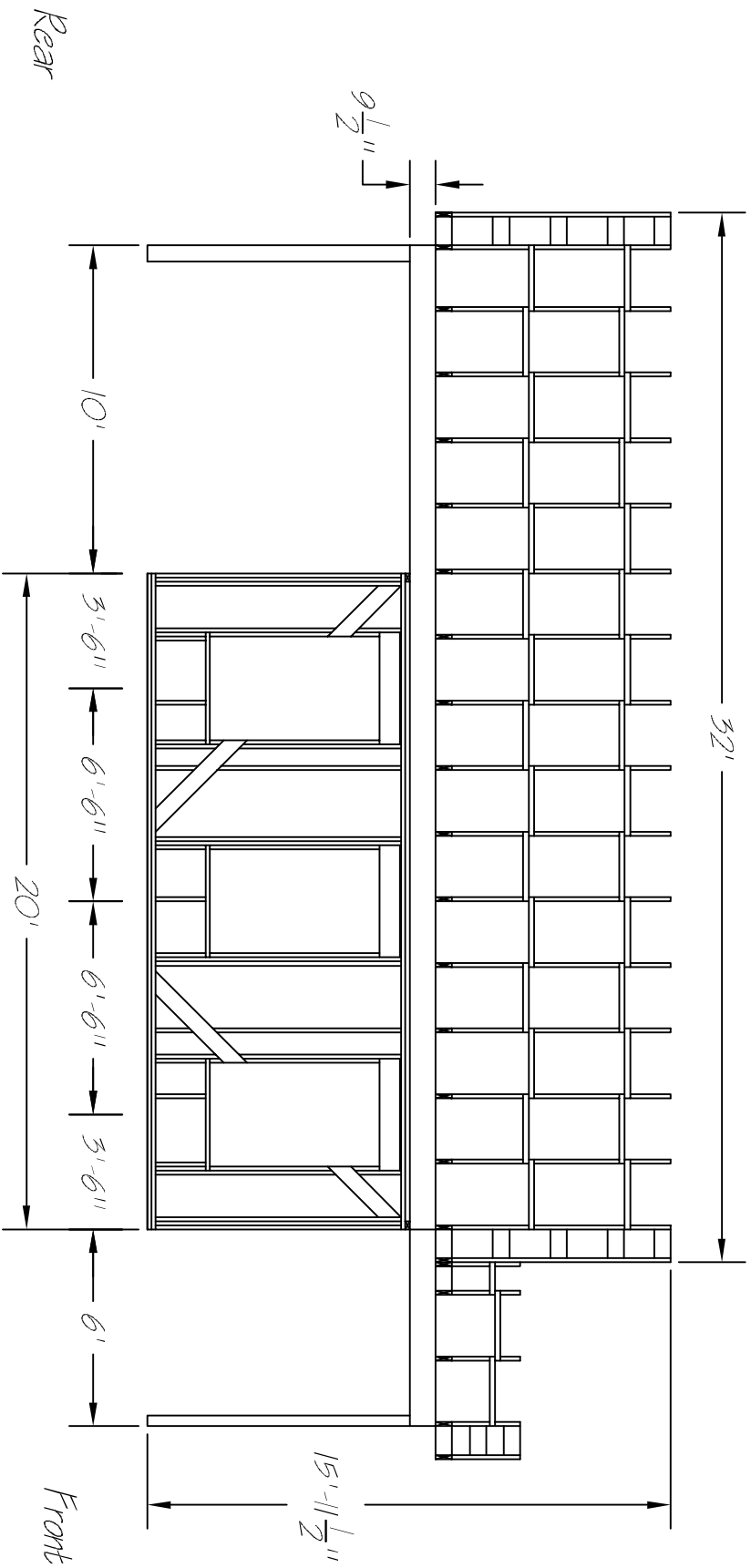
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Train Depot Right Side Framing Details
 Downeast Thunder Railroad

SIZE	FSCM NO.	DWG NO.	REV
A		Depot 012	

SCALE 3/16" = 1'
 25 JAN 2013
 SHEET 1 of 1



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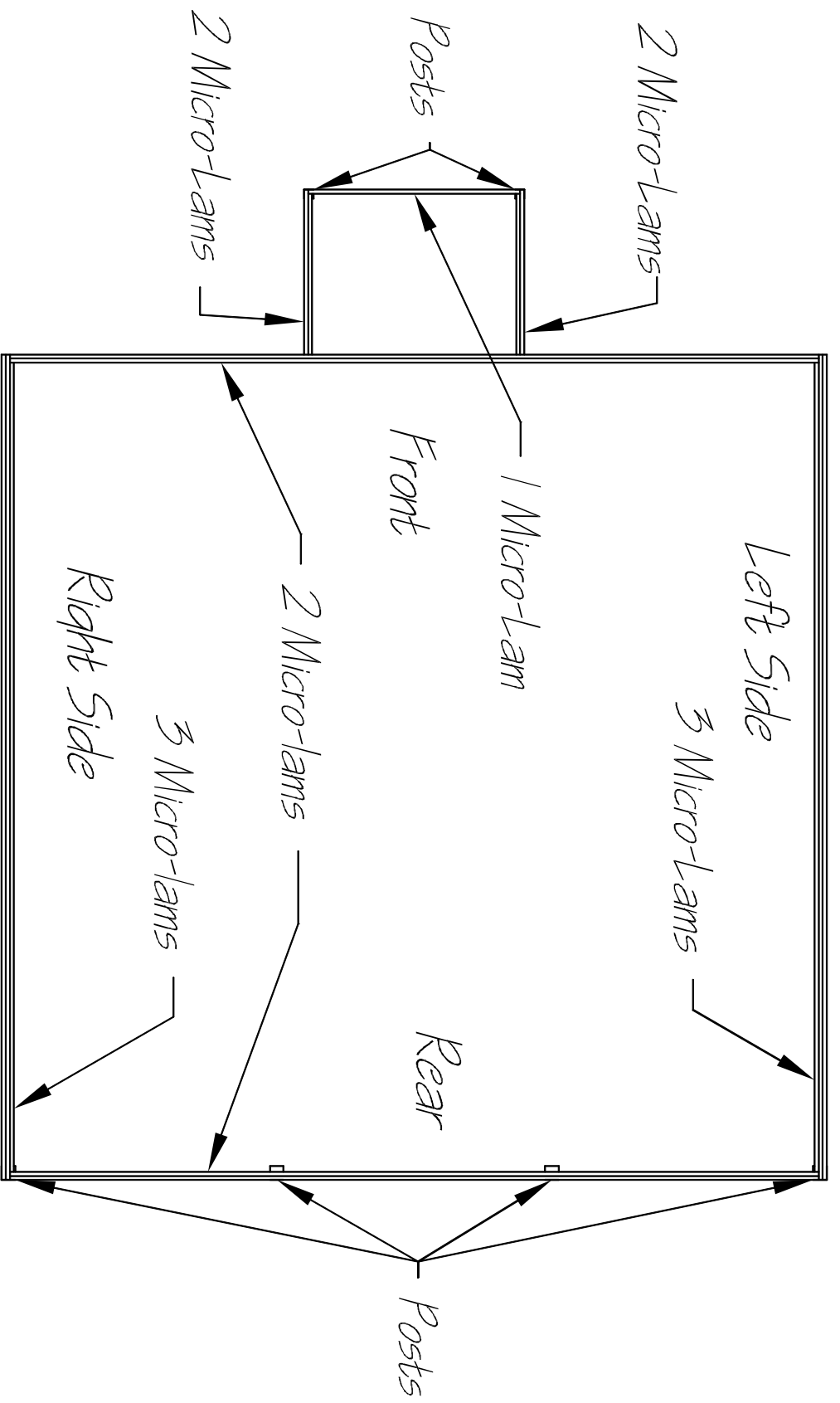
Train Depot Left Side Framing Details
 Downeast Thunder Railroad

SIZE	FSCM NO.	DWG NO.	REV
A		Depot 013	

SCALE 3/16"=1'

25 JAN 2013

SHEET 1 of 1



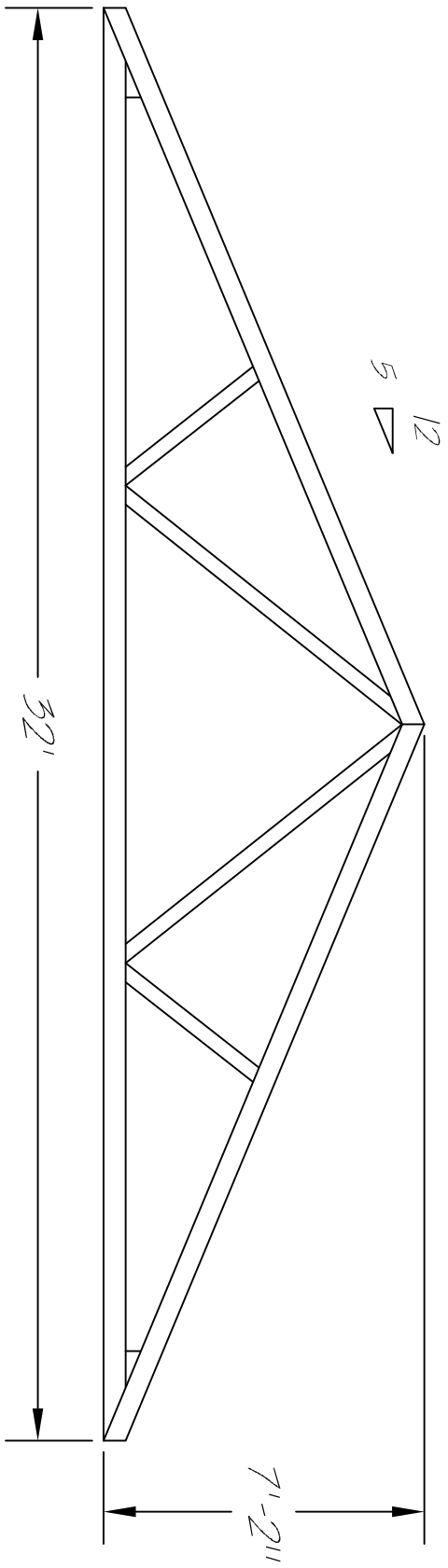
Top View

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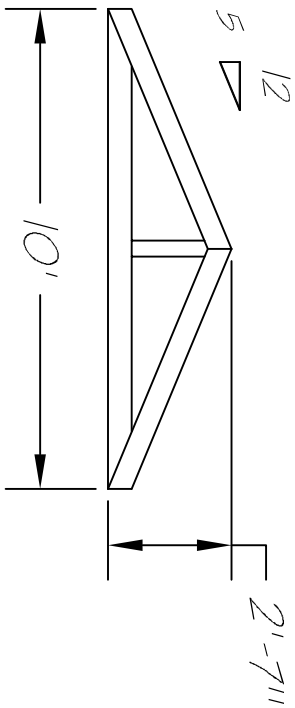
Train Depot Micro-Lam Details
 Downeast Thunder Railroad

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SIZE	DWG. NO.	REV
A	Depot 014	
SCALE Name	25 JAN 2013	SHEET 1 of 1

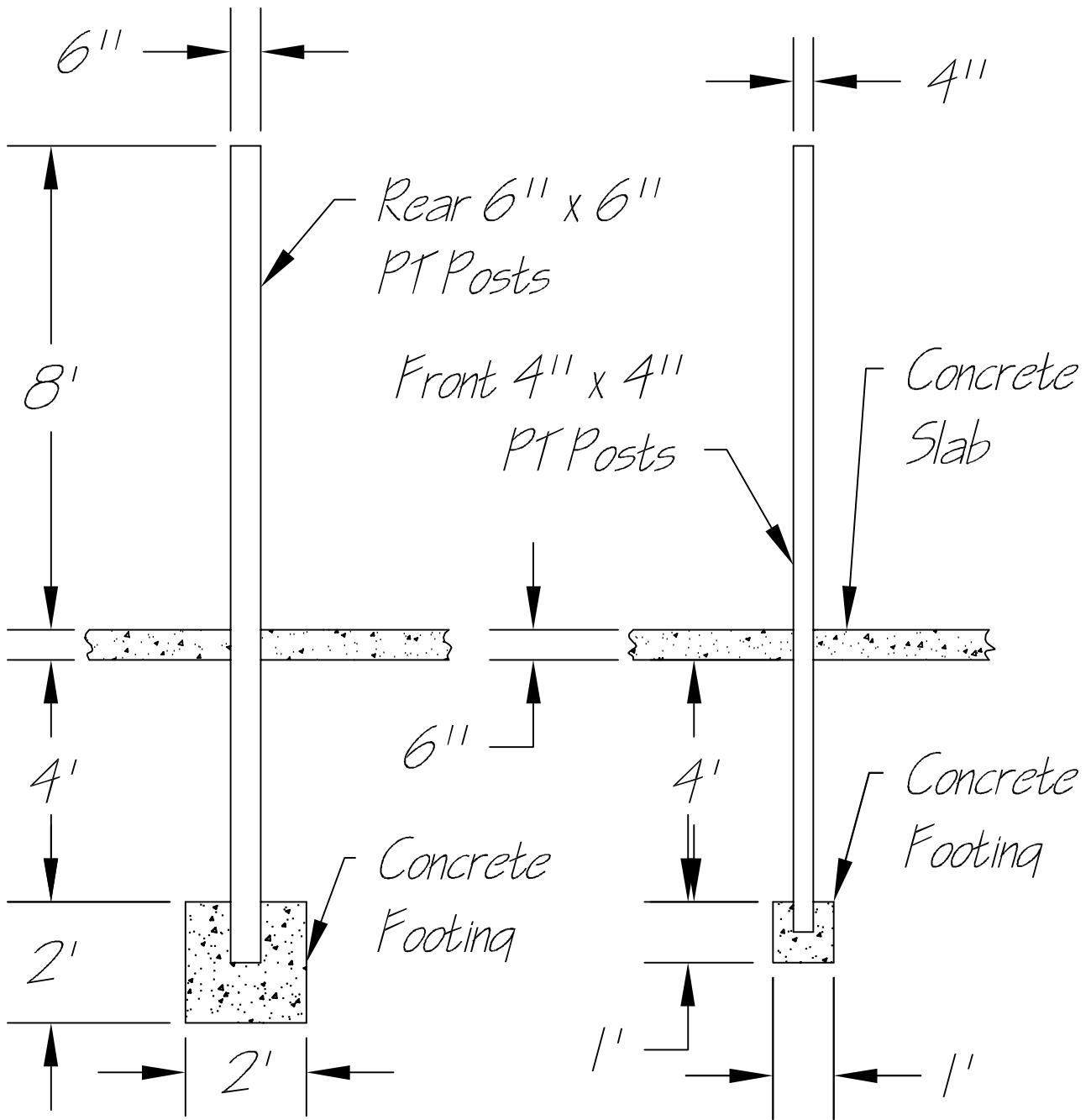


Large Trusses = 16 Required
 Small Trusses = 4 Required

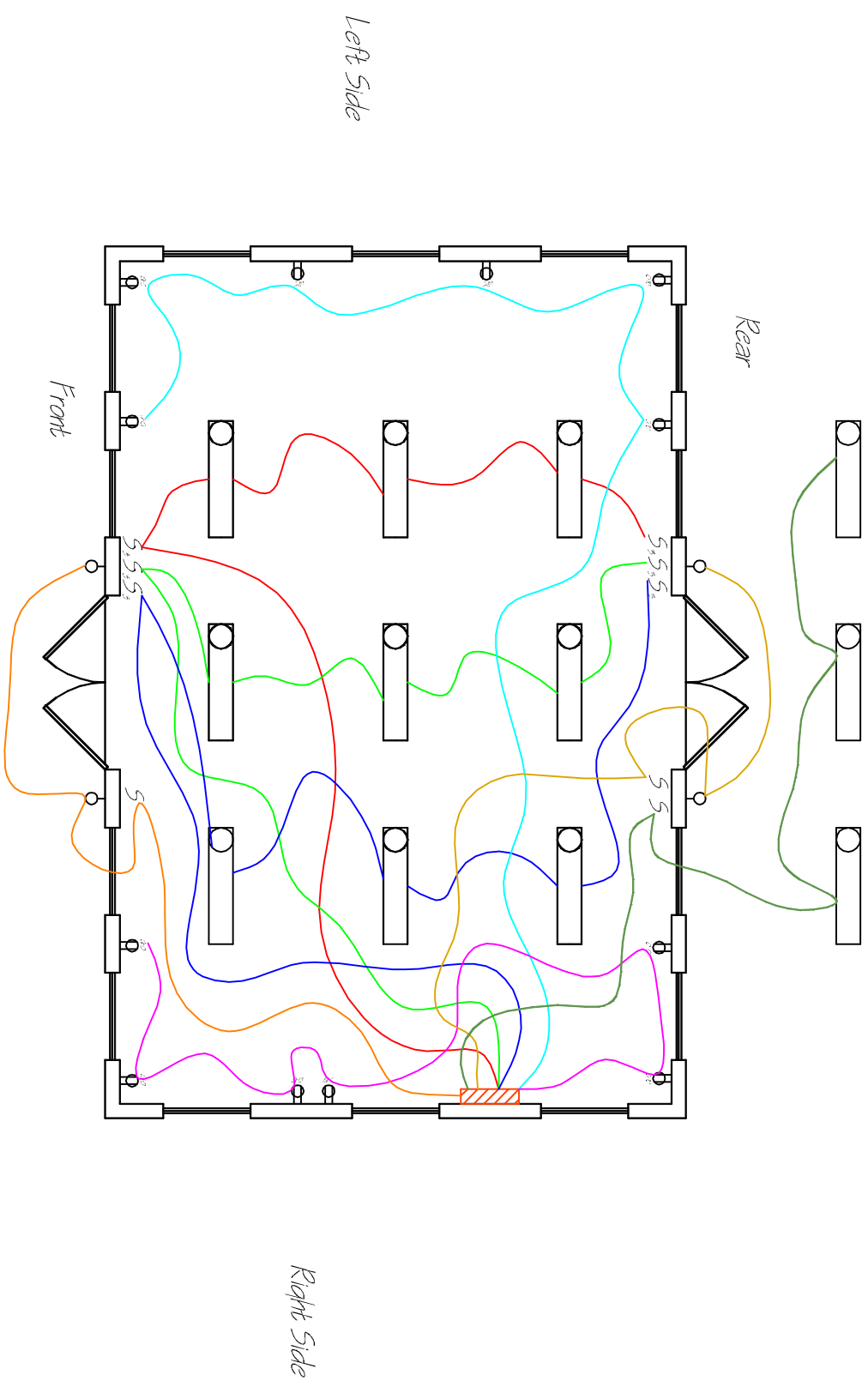


Recommend use of Factory, Pre-fab Trusses, All Roof Trusses spaced 24" O.C.

Drawn by Paul J. Bennett Milbridge, ME		Train Depot Main Roof Truss Downeast Thunder Railroad	
SIZE A	DWG. NO. Depot 015	SCALE 1/4" = 1'	SHEET 1 of 1
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Drawn by Paul J. Bennett Milbridge, ME	Train Depot Overhang Support Post Details		
	Downeast Thunder Railroad		
SIZE A	DWG NO. Depot 016	REV	
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○ Fluorescent Light Fixture

□ GFCI Duplex Receptacle

○ Wall Light

□ Single Pole Switch

□ 3-Way Switch

▨ Service Panel

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Train Depot Electrical Plan		Downeast Thunder Railroad	
SIZE	DWG. NO.	SCALE	DATE
A	Depot 017	None	26 JAN 2013
REV	SHEET 1 of 1		

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