

Downeast Thunder Railroad Train Shed

By: Paul J. Bennett © 2013 Milbridge, Maine

This document contains several pages of text and drawings for the Downeast Thunder Railroad Train Storage Shed. You'll not 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.

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 Shed was designed for our use on Downeast Thunder Farm, and I know how to build 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. 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 shed was designed for us, to store our locomotives and rolling stock 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 shed. This specification reflects the type of soil and climate of our location.

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 (Samson 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.

Large end doors – build out of 1" x 8" shiplap pine.

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 – 10 cubic yards of concrete

Frost Wall – 13 cubic yards of concrete

6" floor pad – 13 yards of concrete

Sill Plate – about 120' of 2 x 6 Pressure Treated

Framing Lumber 2" x 6" KD Studs 150 pieces, 12' long each. (6) 2" x 8" x 10' KD Studs

Exterior Wall Sheathing – (50) 4' x 8' x ½" CDX Plywood

Roof Trusses – 21

Steel Roof Panels – (28) 11' 9" long (consult roofing supplier for ventilated steel roof cap and trim.

Electrical – Not really necessary as an outbuilding for storage, otherwise as per drawing.

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.

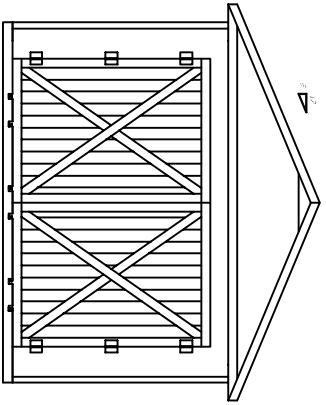
If you are considering building such a structure using these documents as a guideline, most lumberyards will take off a materials list directly from your drawings for free if you purchase the materials from them.

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.

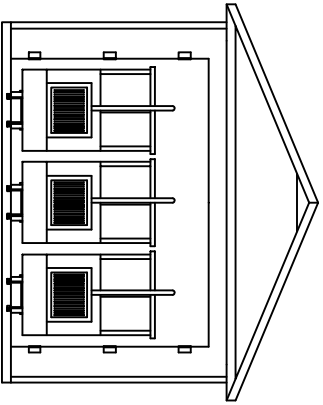
Paul Bennett, Downeast Thunder Farm, Downeast Thunder Railroad – Milbridge, ME

Train Shed Footprint = 20' x 40'

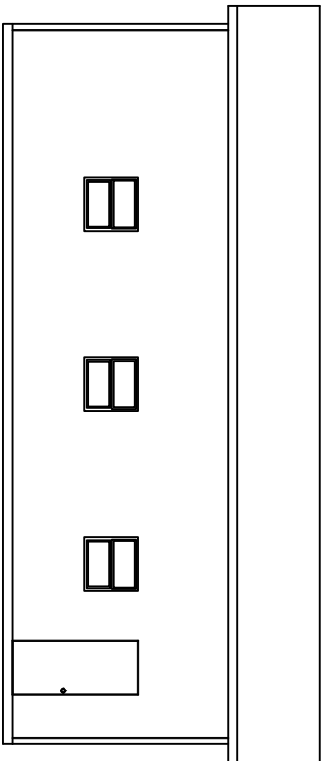
Roof Pitch 5/12



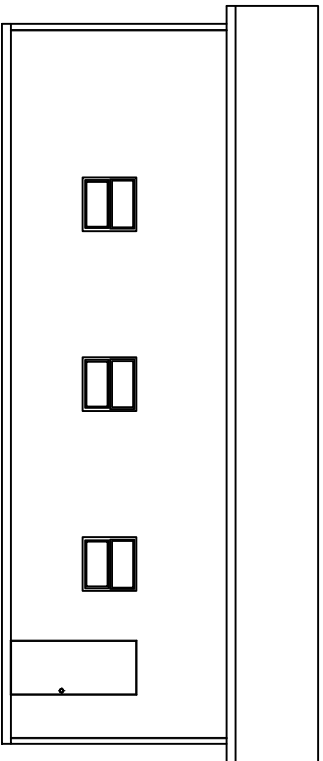
Front Elevation



Rear Elevation (Doors Removed)



Right Side Elevation



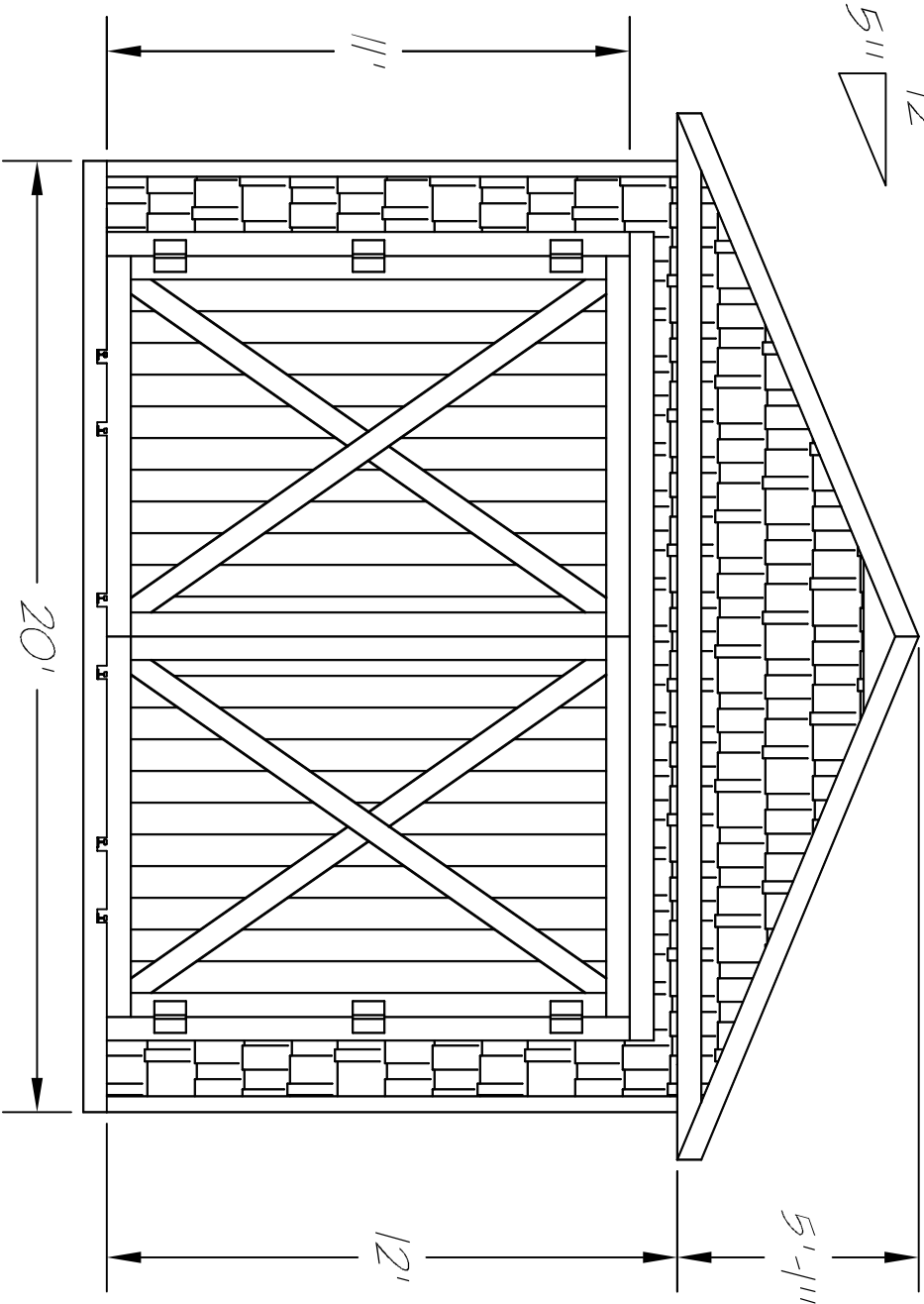
Left Side Elevation

Drawn by Paul
J. Bennett
Milbridge, ME

Train Shed Concept Elevations REV A
Downeast Thunder Railroad

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SIZE A	FSCM NO.	DWG NO. TS-001	REV A
SCALE 3/32"=1'	12 JAN 2013	SHEET 1 of 1	



Front Elevation

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J. Bennett

Milbridge, ME

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Train Shed Front Elevation

Downeast Thunder Railroad

SIZE

A

FSCM NO.

DWG NO.

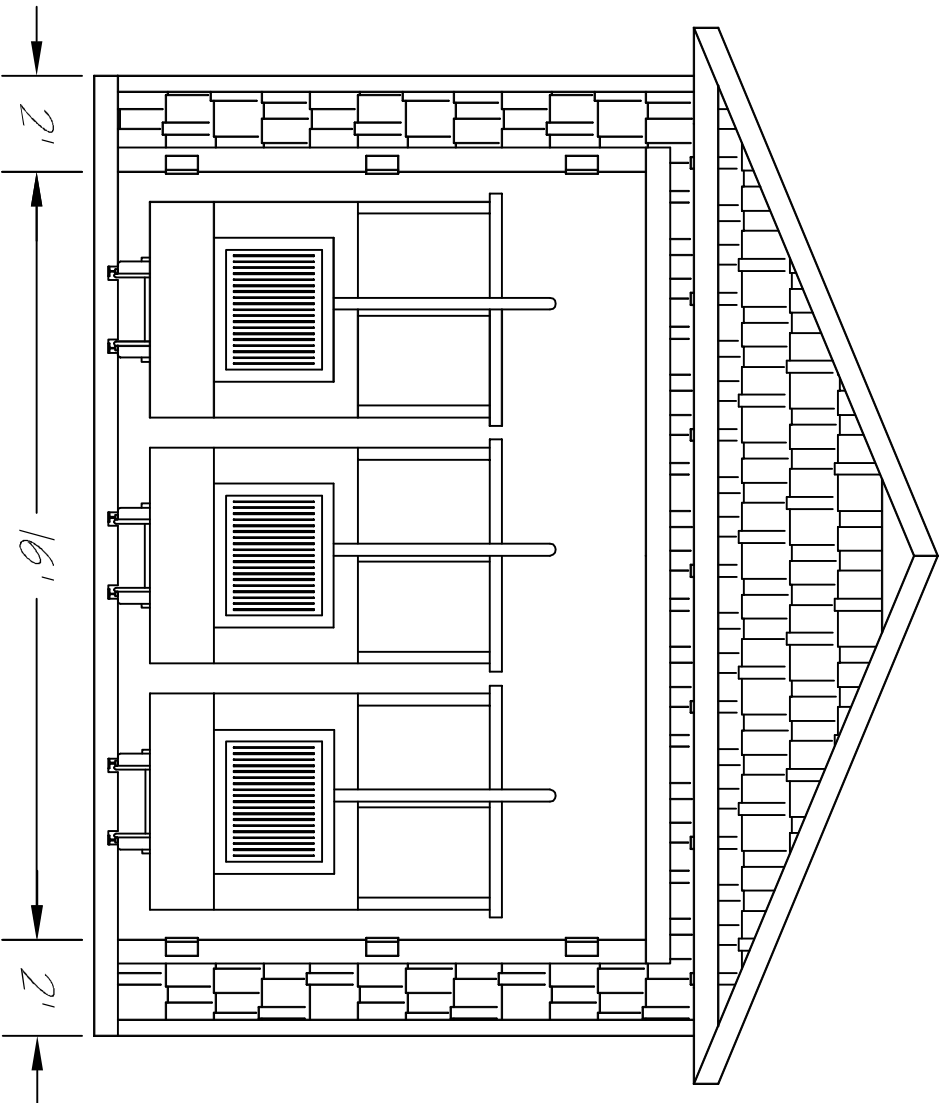
75-002

REV

SCALE 1/4"=1'

12 JAN 2013

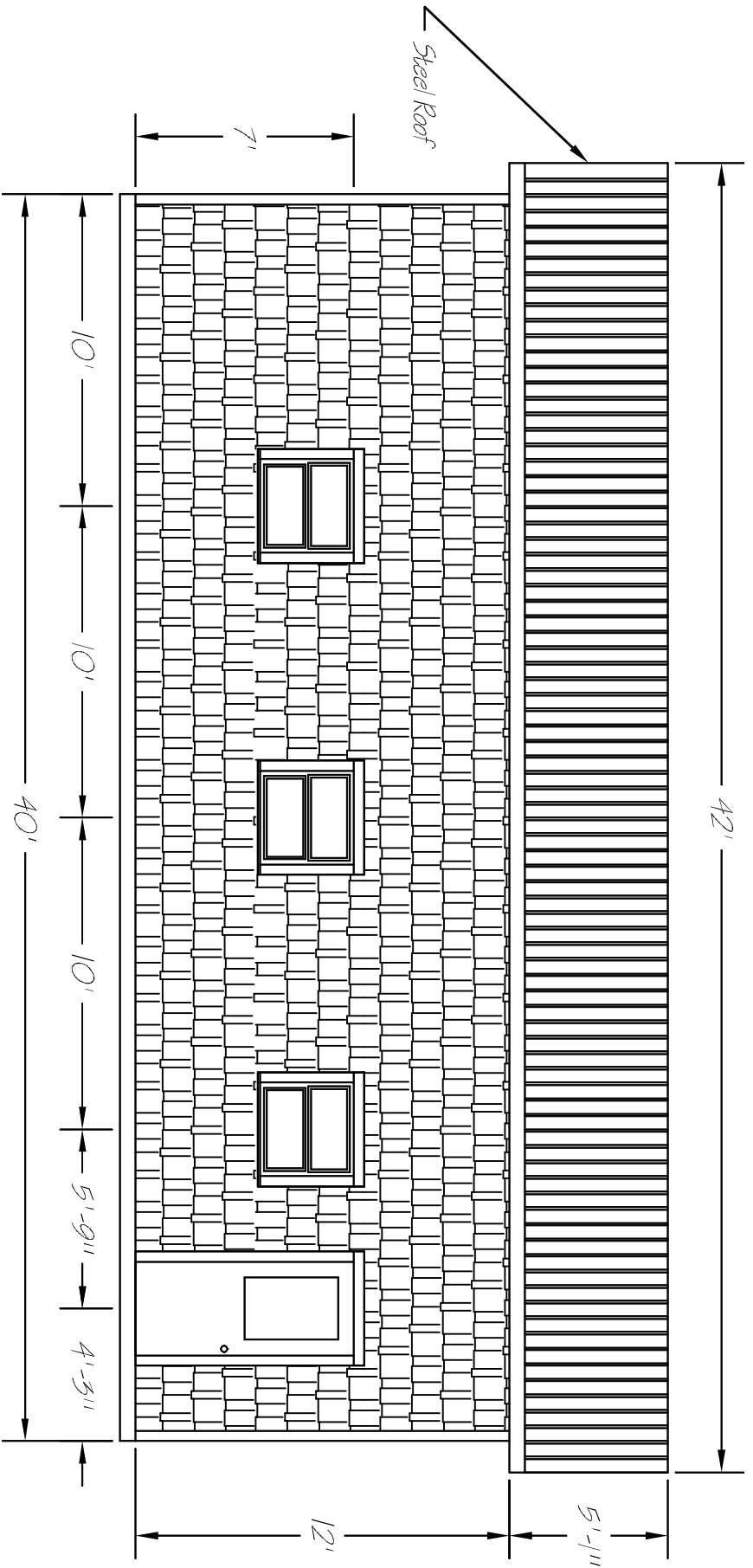
SHEET 1 of 1



Rear Elevation
 (End Doors Removed)

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Train Shed Rear Elevation		REV	
Downeast Thunder Railroad			
SIZE	FSCM NO.	DWG NO.	
A		TS-003	
SCALE	12 JAN 2013	SHEET 1 of 1	
1/4"=1'			



Right Side Elevation

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Train Shed Right Side Elevation

Downeast Thunder Railroad

SIZE

A

FSCM NO.

DWG NO.

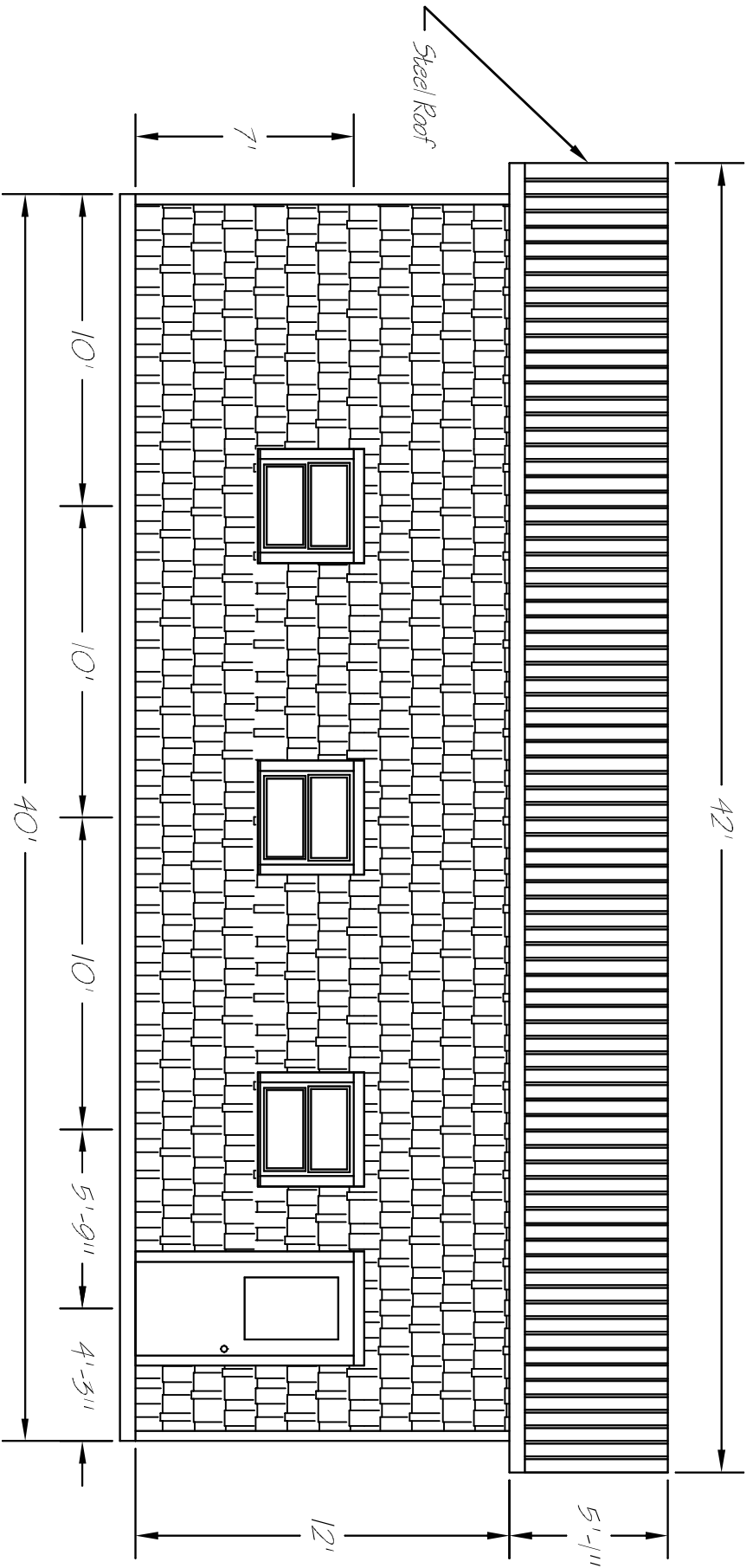
75-004

REV

SCALE 3/16" = 1'

12 JAN 2013

SHEET 1 of 1



Left Side Elevation

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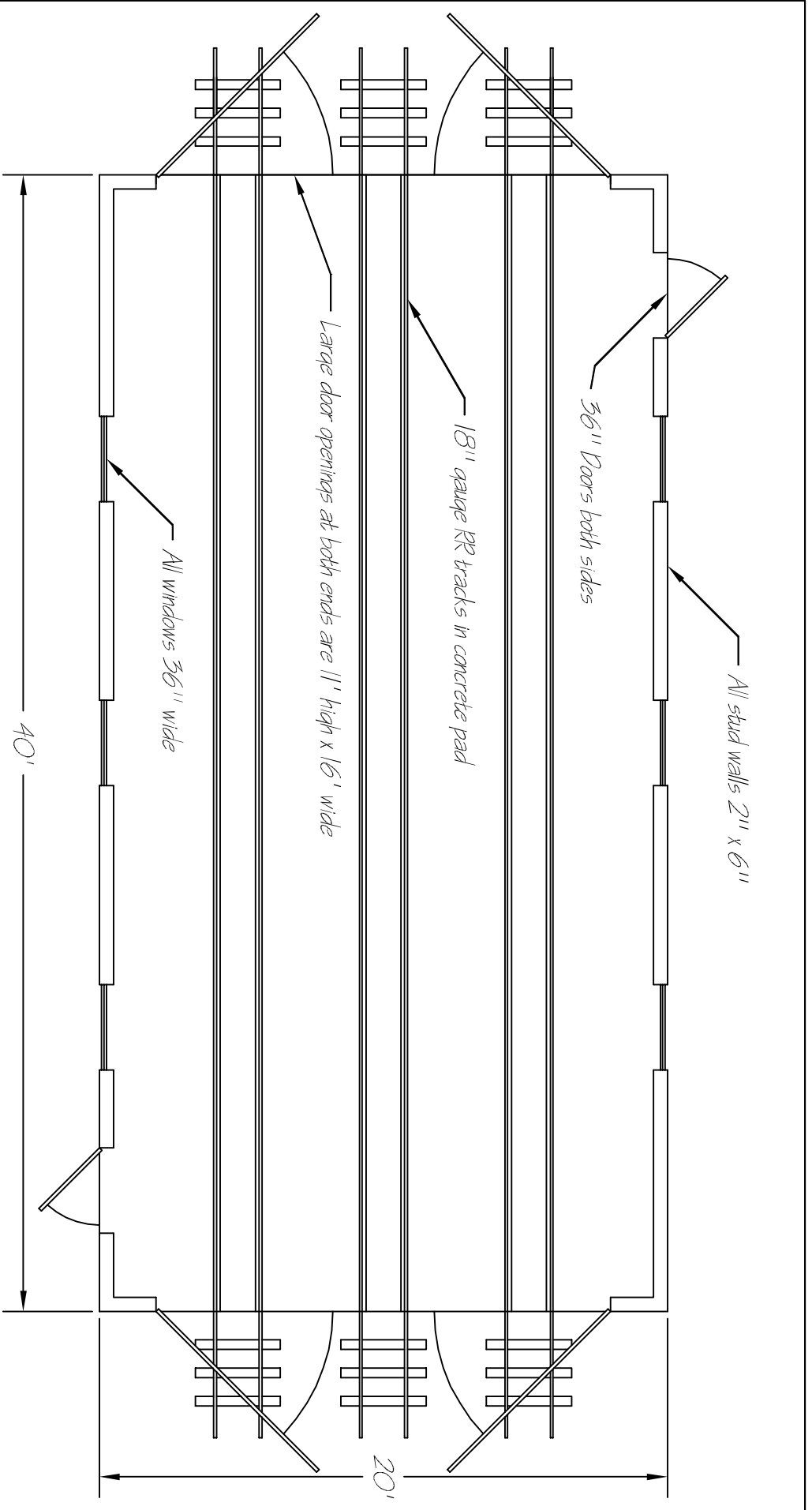
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Train Shed Left Side Elevation

Downeast Thunder Railroad

SIZE	FSCM NO.	DWG NO.	REV
A		TS-005	

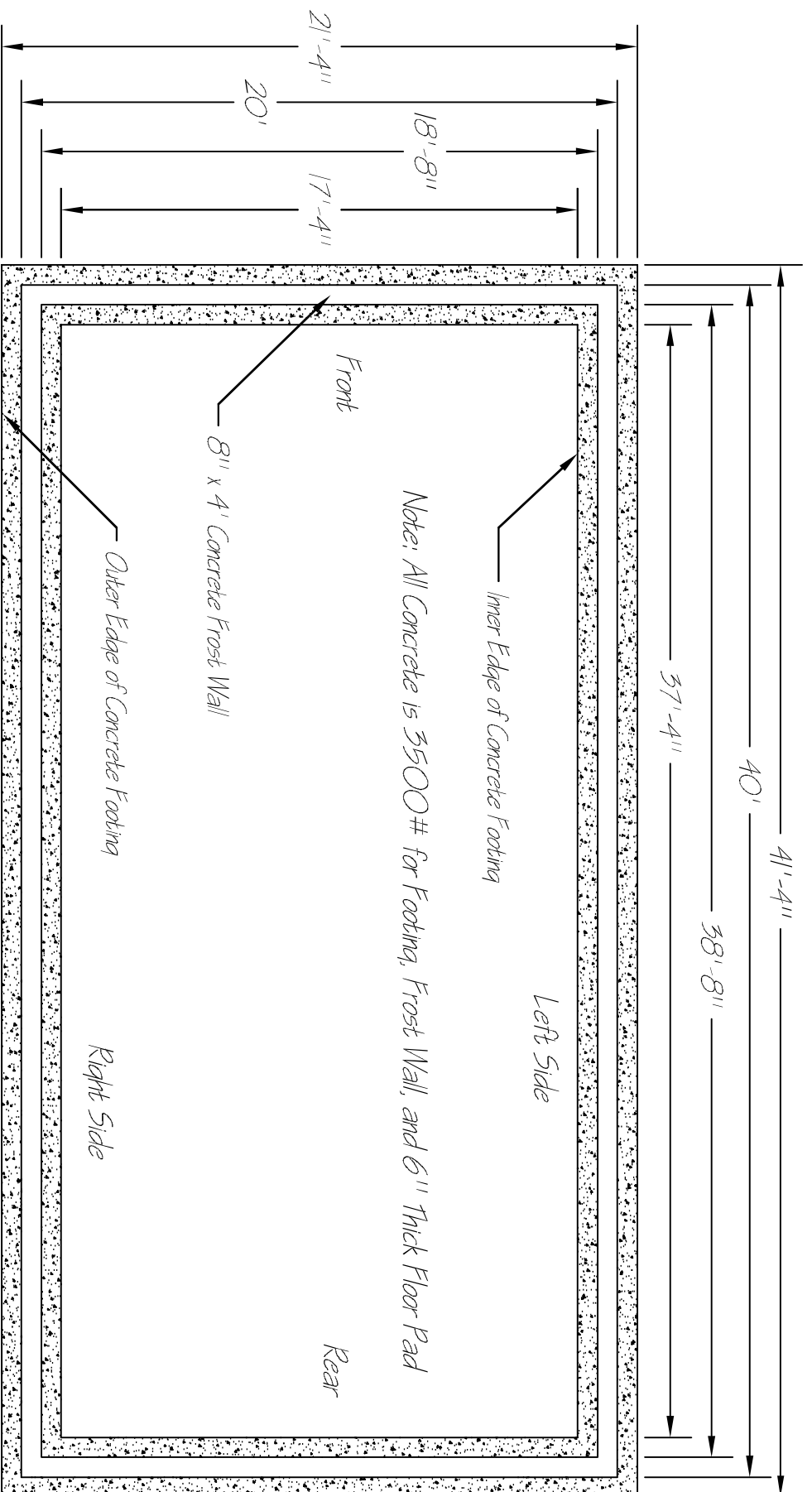
SCALE 3/16"=1'	12 JAN 2013	SHEET 1 of 1
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Note: All shed doors open to outside as per commercial building practice.

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Train Shed Floor Plan		REV	
Downeast Thunder Railroad		1 of 1	
SIZE	FSCM NO.	DWG NO.	
A		TS-006	
SCALE			
3/16"=1'	14 JAN 2013		



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Train Shed Foundation Plan

Downeast Thunder Railroad

SIZE

A

FSCM NO.

DWG NO.

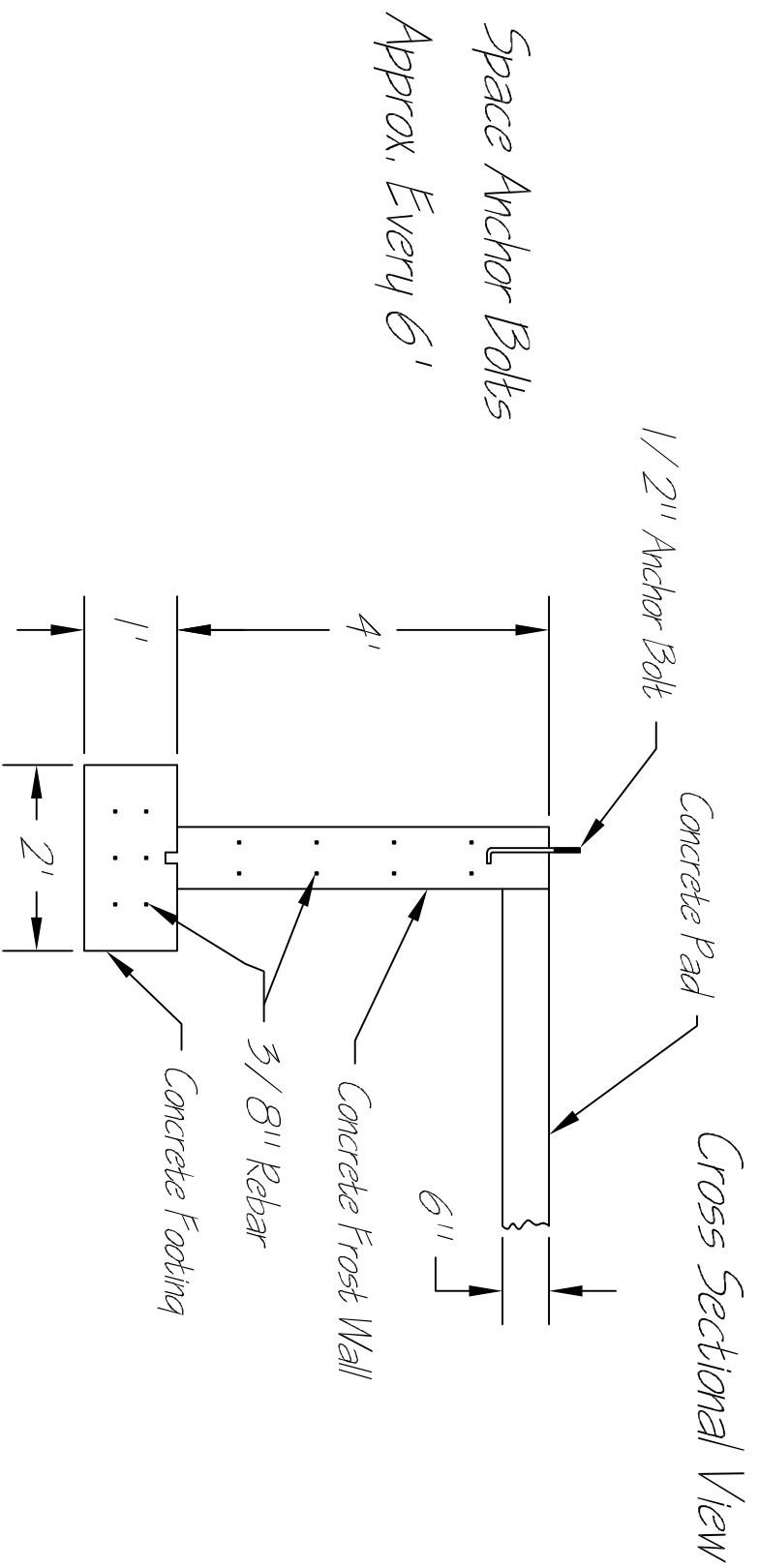
75-007

REV

SCALE 3/16"=1'

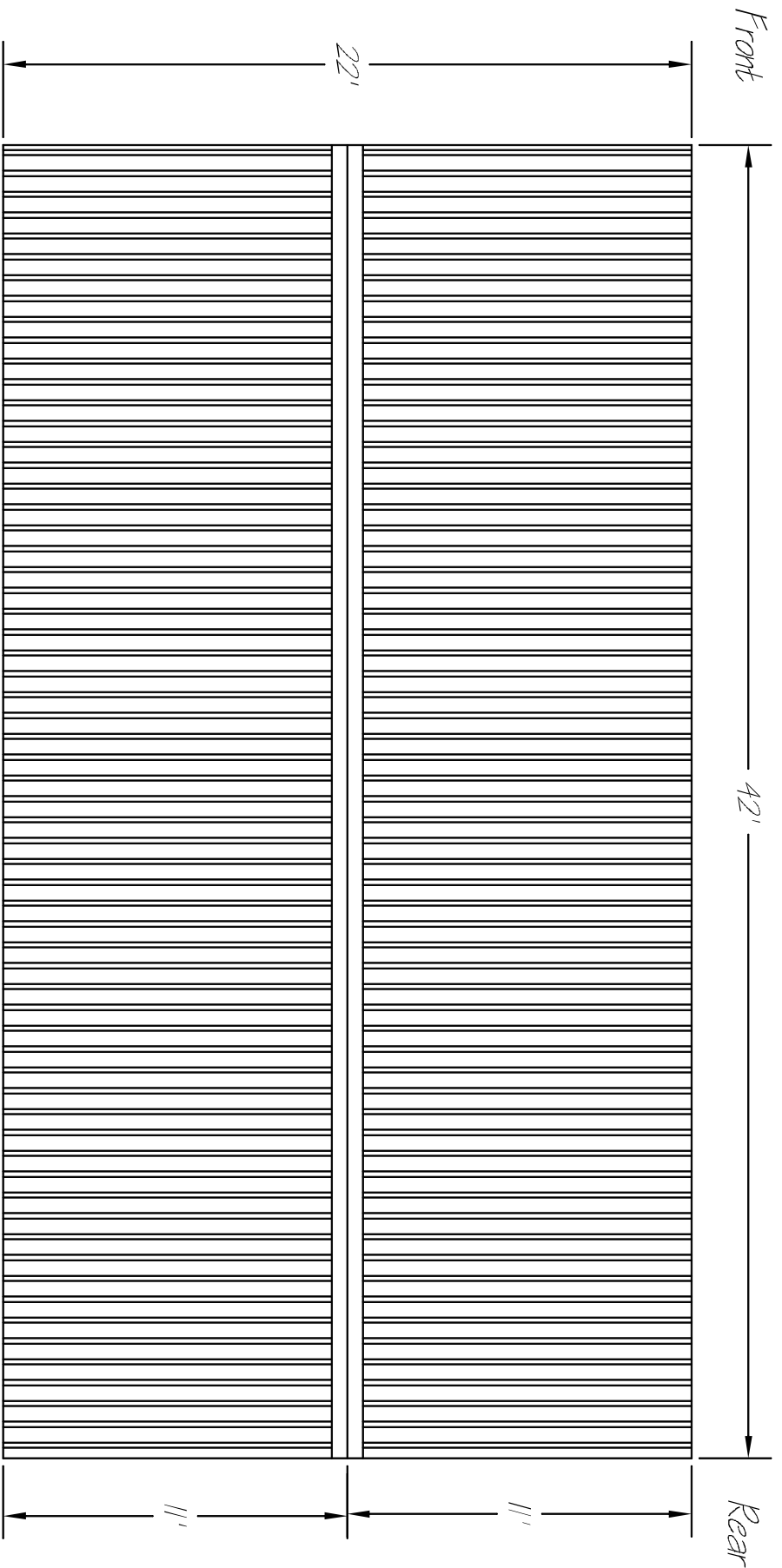
16 JAN 2013

SHEET 1 of 1



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

Drawn by Paul J. Bennett Milbridge, ME		Train Shed Foundation Details Downeast Thunder Railroad	
(C) 2013, All Rights Reserved	SIZE A	FSCM NO.	DWG NO. 75-008
	SCALE 1/2"=1'	18 JAN 2013	SHEET 1 of 1
			REV



Right Side

Roofing Material is Corrugated Steel
 Panels with Steel Trim and Steel
 Ridge Vent/ Cap

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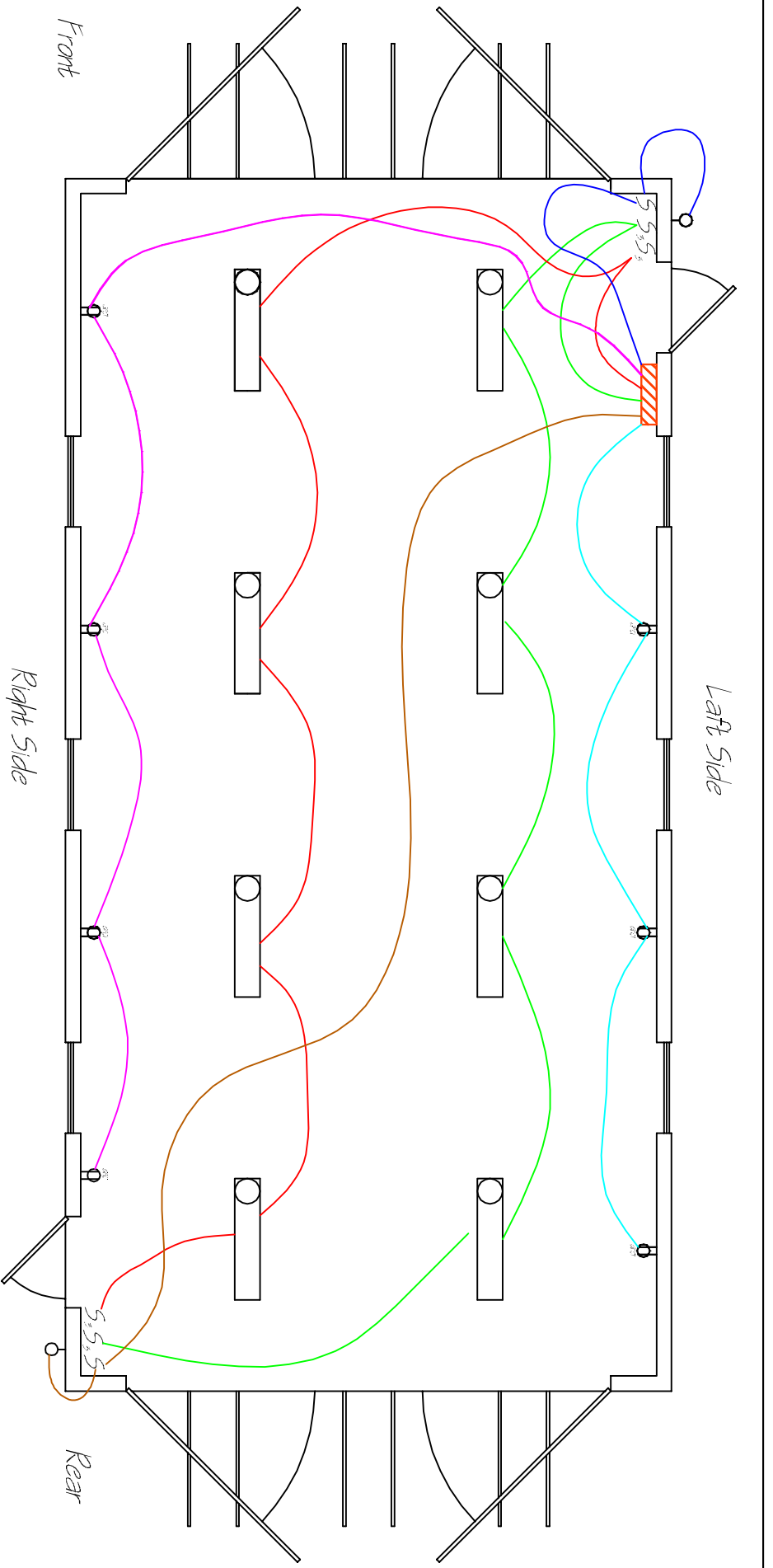
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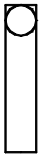





Train Shed Roof Plan
 Downeast Thunder Railroad

SIZE	FSCM NO.	DWG NO.	SHEET	REV
A		75-009	1 of 1	

SCALE 3/16" = 1'

18 JAN 2013



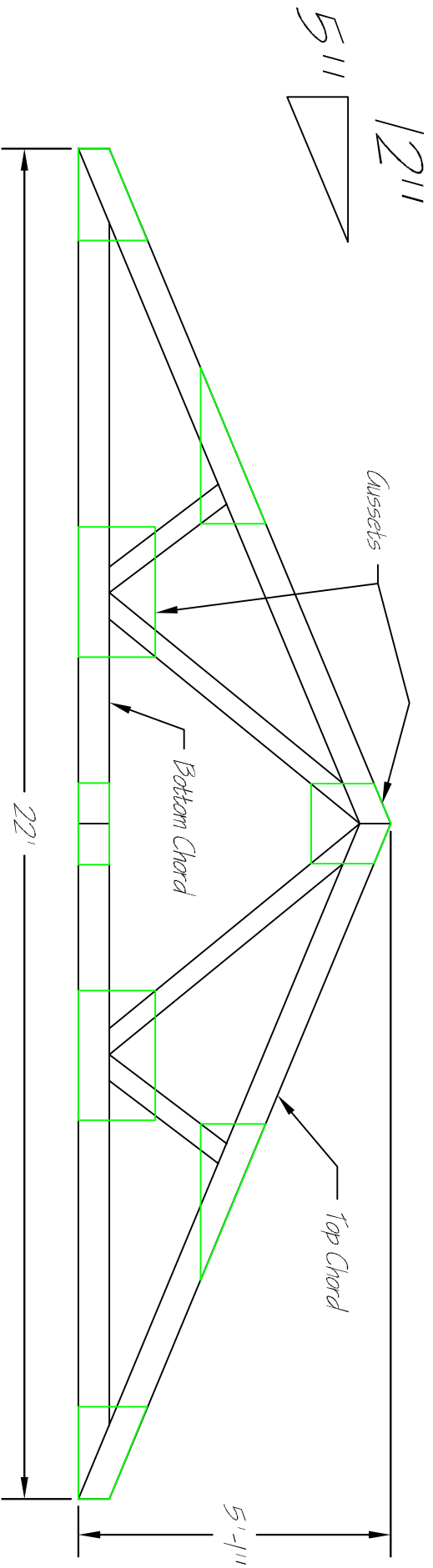
-  Fluorescent Light Fixture
-  GFCI Duplex Receptacle
-  Wall Light
-  Single Pole Switch
-  3-Way Switch
-  Service Panel

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 Milbridge, ME

Train Shed Electrical Plan
 Downeast Thunder Railroad

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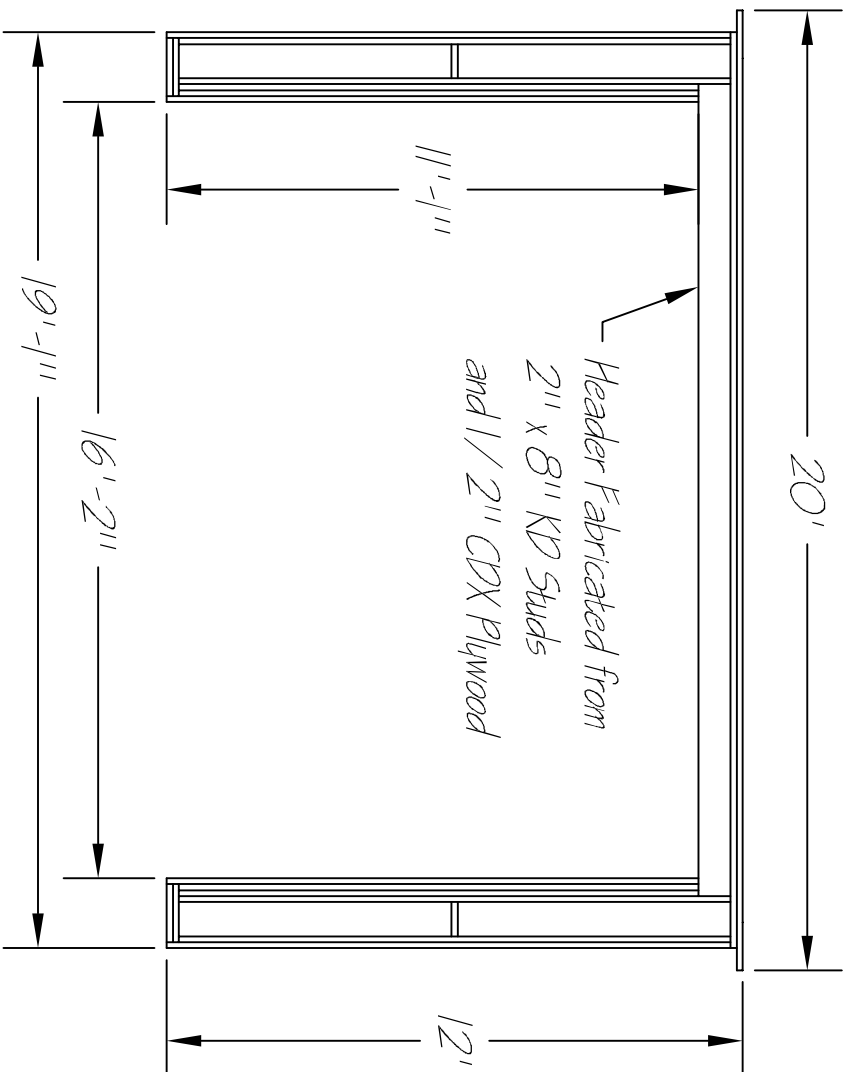
SIZE	FSCM NO.	DWG NO.	REV
A		TS-010	
SCALE	Name		SHEET
	18 JAN 2013		1 of 1



Typical Roof Truss - self built with 2" x 6" top and bottom chords, and 2" x 4" webs. Gussets are 3/4" Ext. Plywood. Recommend use of factory, pre-fab trusses.

21 Trusses Required
Spaced 24" O.C.

Drawn by Paul J. Bennett Milbridge, ME		Train Shed Roof Truss Downeast Thunder Railroad		REV
(C) 2013, All Rights Reserved	SIZE A	FSCM NO.	DWG NO. 75-011	
SCALE Name	18 JAN 2013	SHEET 1 of 1		



Note: Stud Wall Built
With 2" x 6" KD Studs

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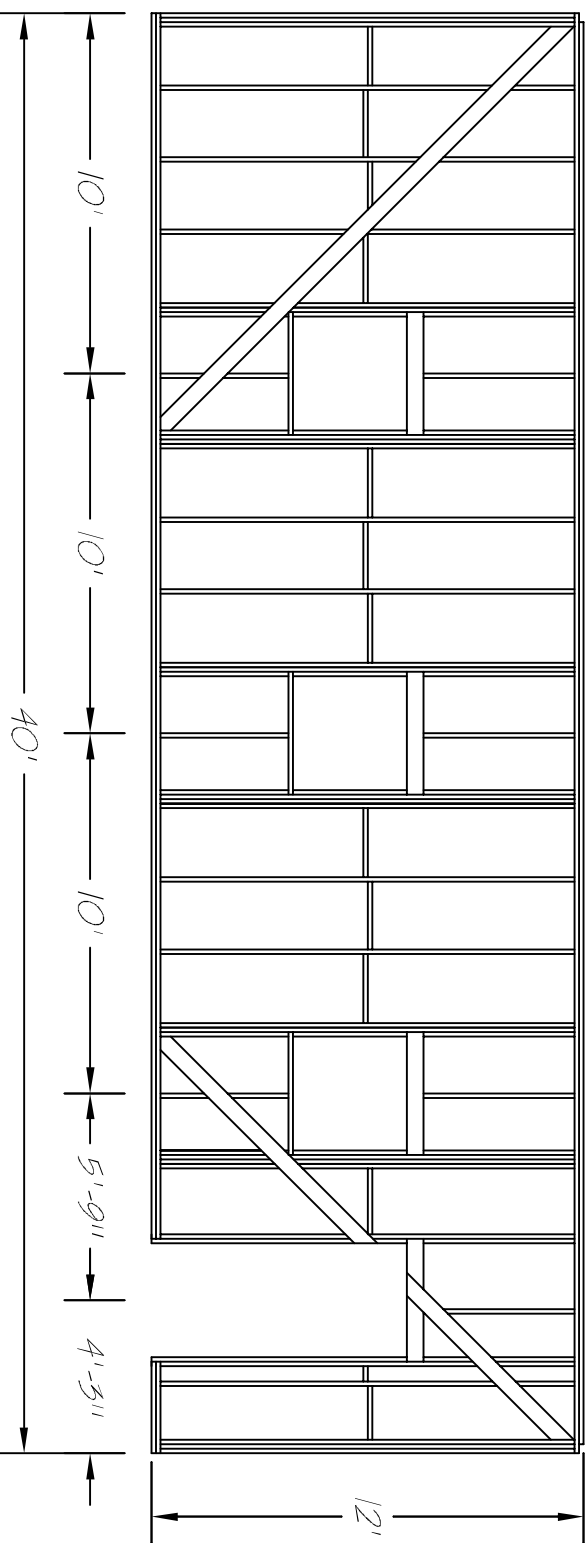
Train Shed Front / Rear Typical Wall Framing Details

Downeast Thunder Railroad

SIZE	FSCM NO.	DWG NO.	REV
A		TS-012	

SCALE 1/4"=1'	18 JAN 2013	SHEET 1 of 1
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Stud Walls Fabricated from 2" x 6" KD Studs 24" O.C.
 All Headers Fabricated from 2" x 6" KD Studs and 1/2" CDX Plywood
 Locate Windows and Doors as Shown, RO's as per Window & Door Manufacturer specs,



Drawn by Paul J. Bennett Milbridge, ME		Train Shed Right/ Left Side Typical Framing Details Downeast Thunder Railroad	
SIZE A	FSCM NO.	DWG NO. 75-013	REV
SCALE 3/16" = 1'		18 JAN 2015	SHEET 1 of 1
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