Dead Railing Donner Summit

Duncan McRee, Tam Valley Depot

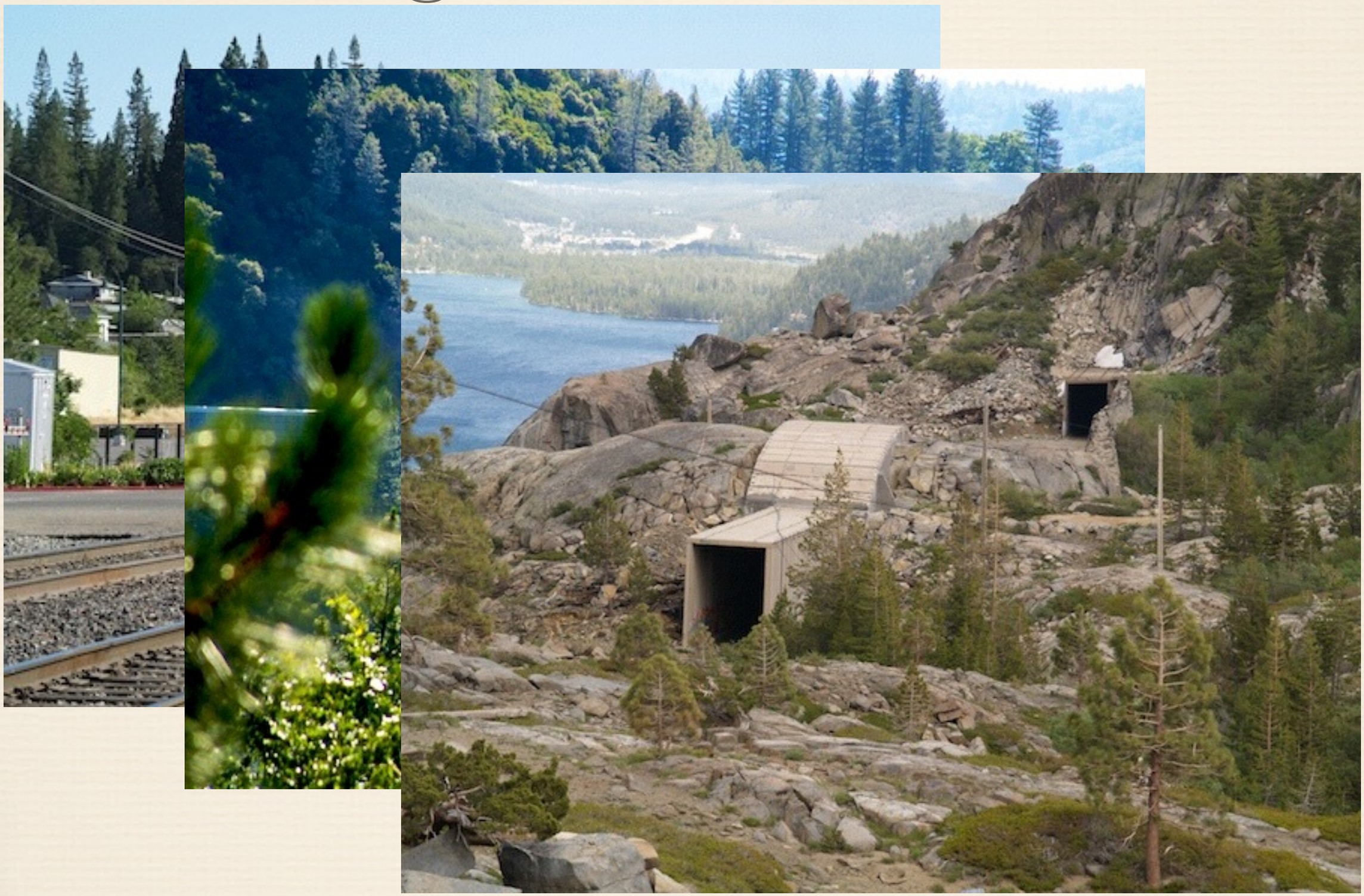
Outline

- My Donner Summit Layout
  - Inspiration
  - Design
  - Construction
- What is Dead Rail and How does it work?
- Implementation on Donner Summit

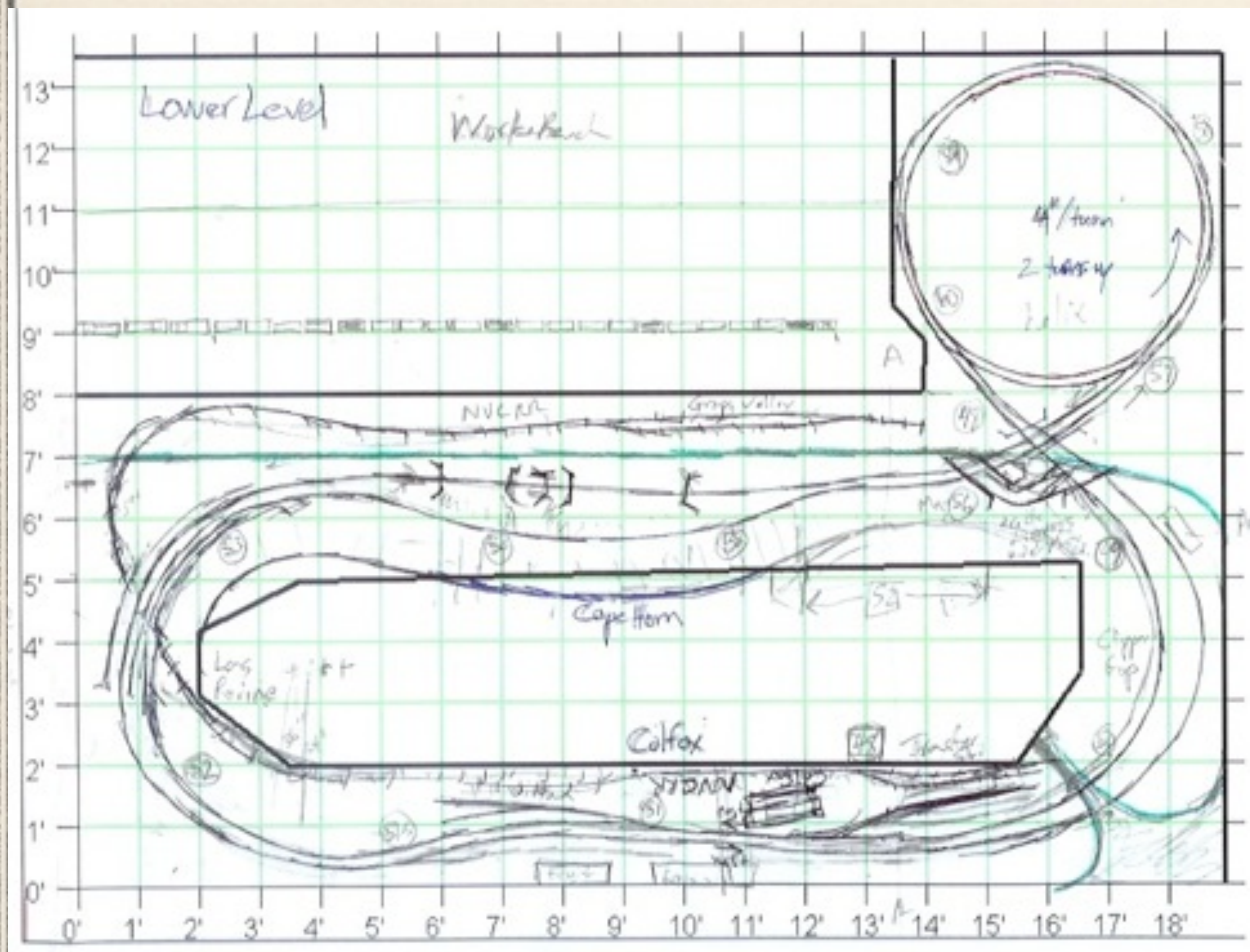
Givens

- Southern Pacific
- Nevada County Narrow Gauge
- HO/HOn3
- Cab Forwards and Black-widow F-units
- 1953
- Space: 13 x 19 foot shed
- Double-deck with Staging “basement”

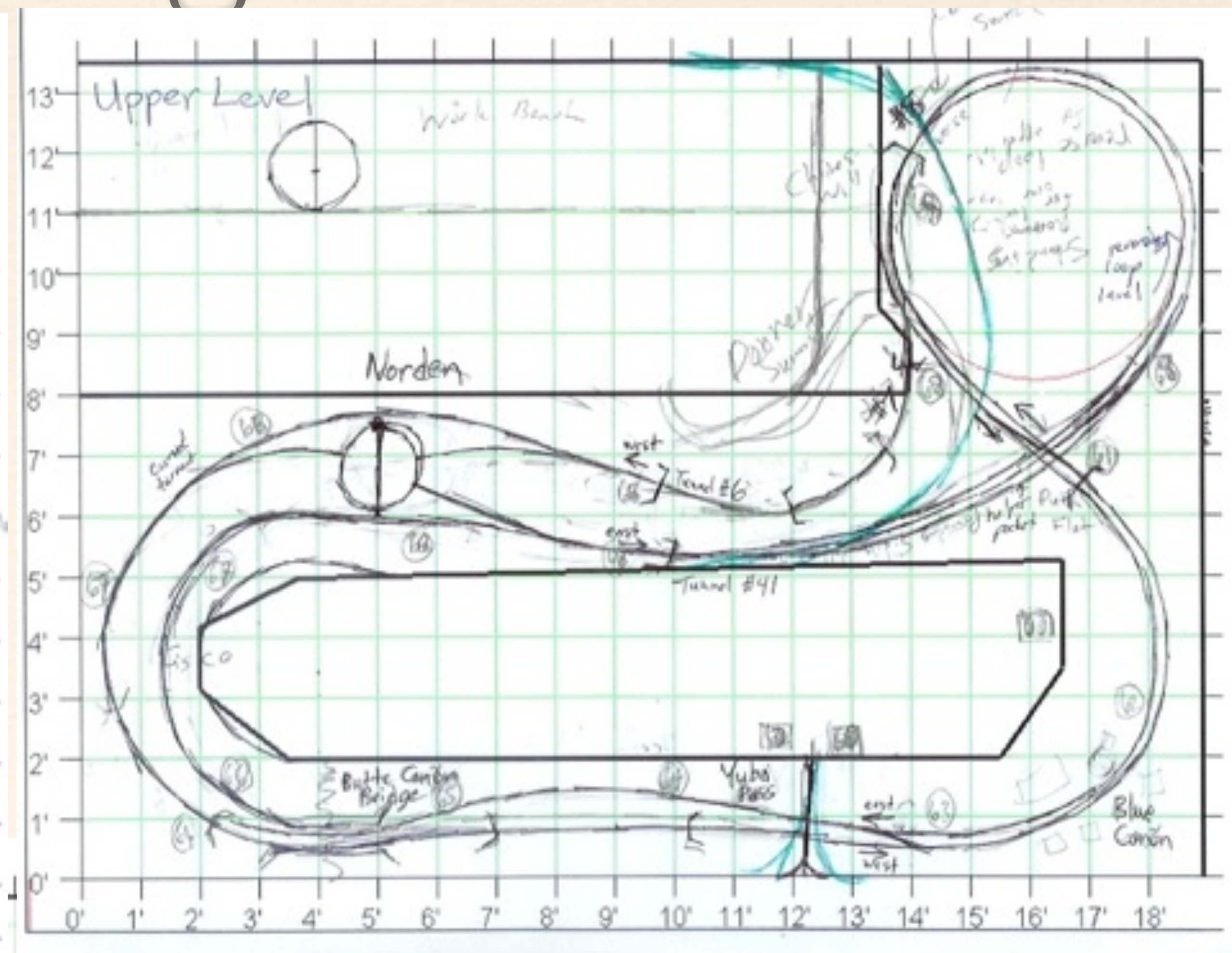
Signature Scenes



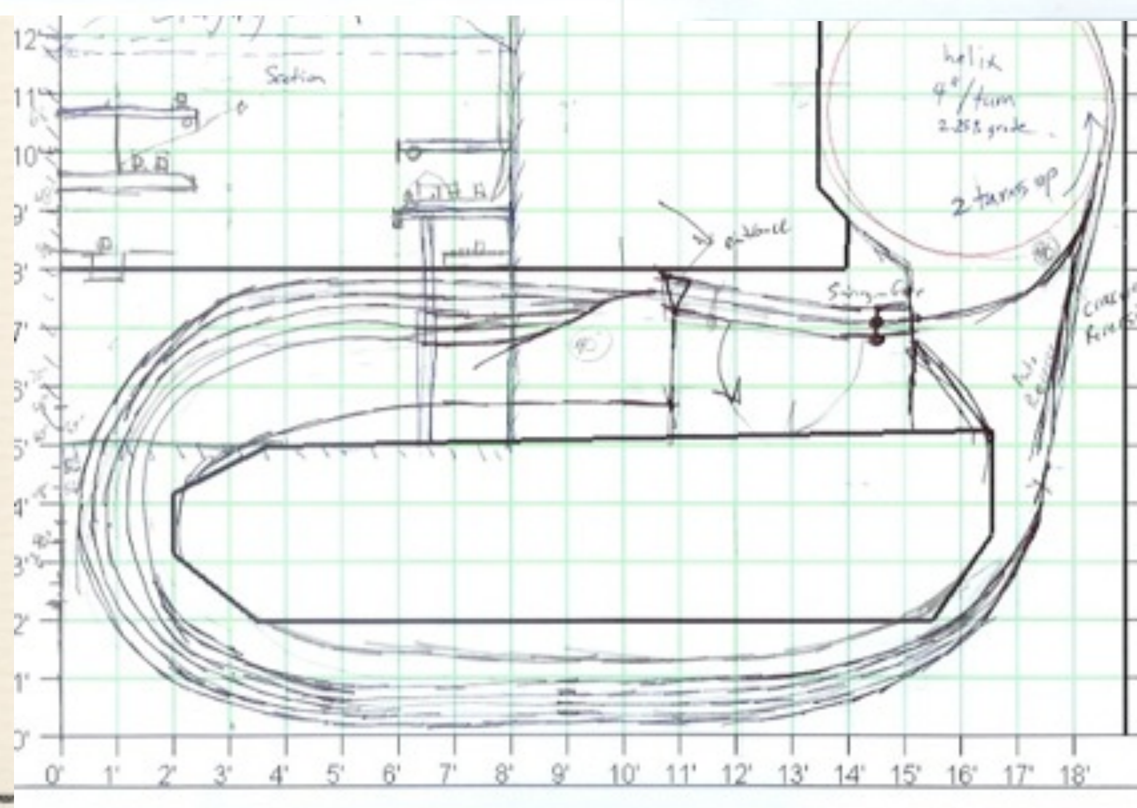
Planning



Lower Level
Cape Horn
Colfax
4"/turn



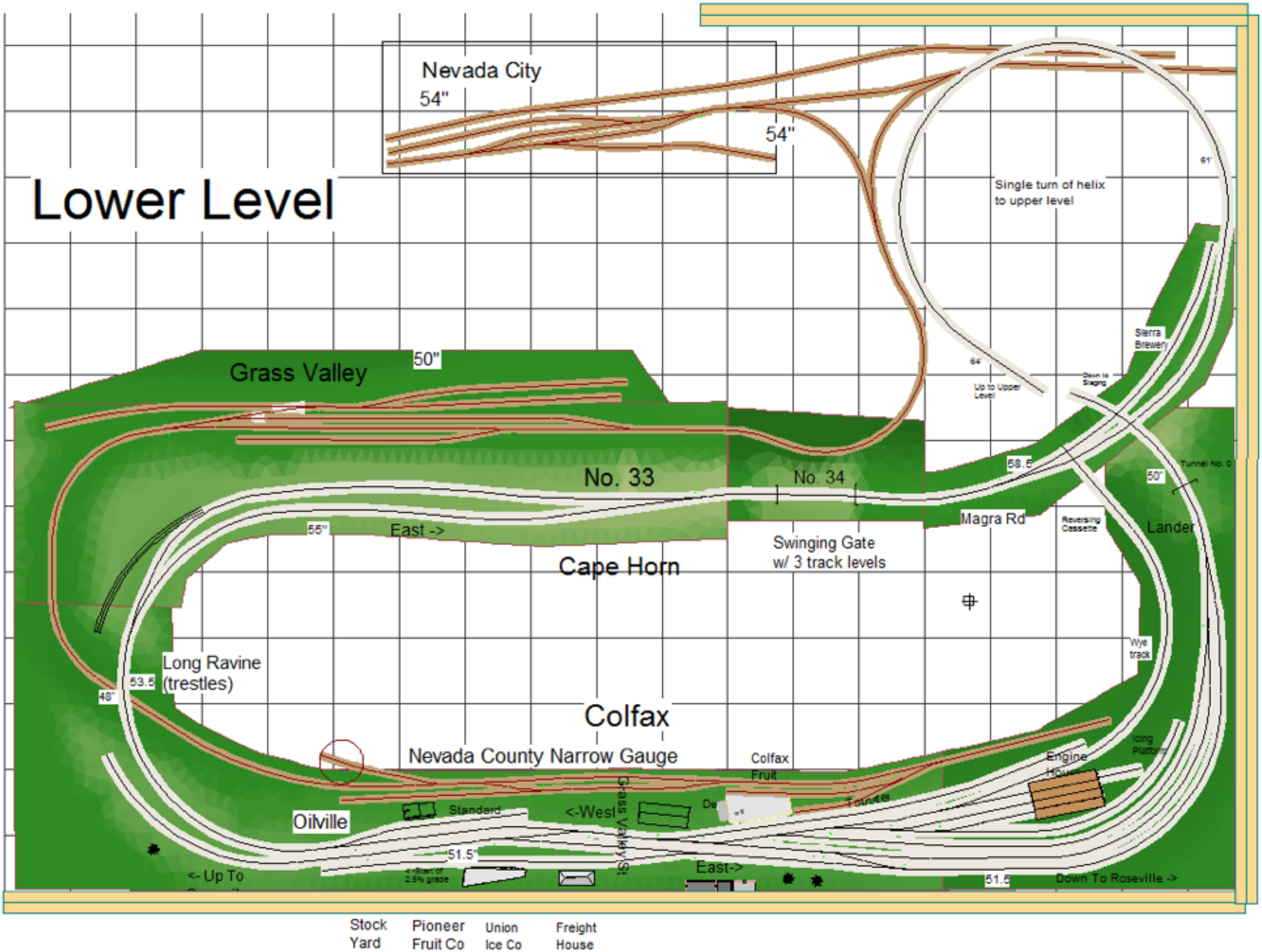
Upper Level
Norden
Tunnel #6
Tunnel #41
Cisco
Butte Canyon Bridge
Yuba Pass
Blue Canon
east
west



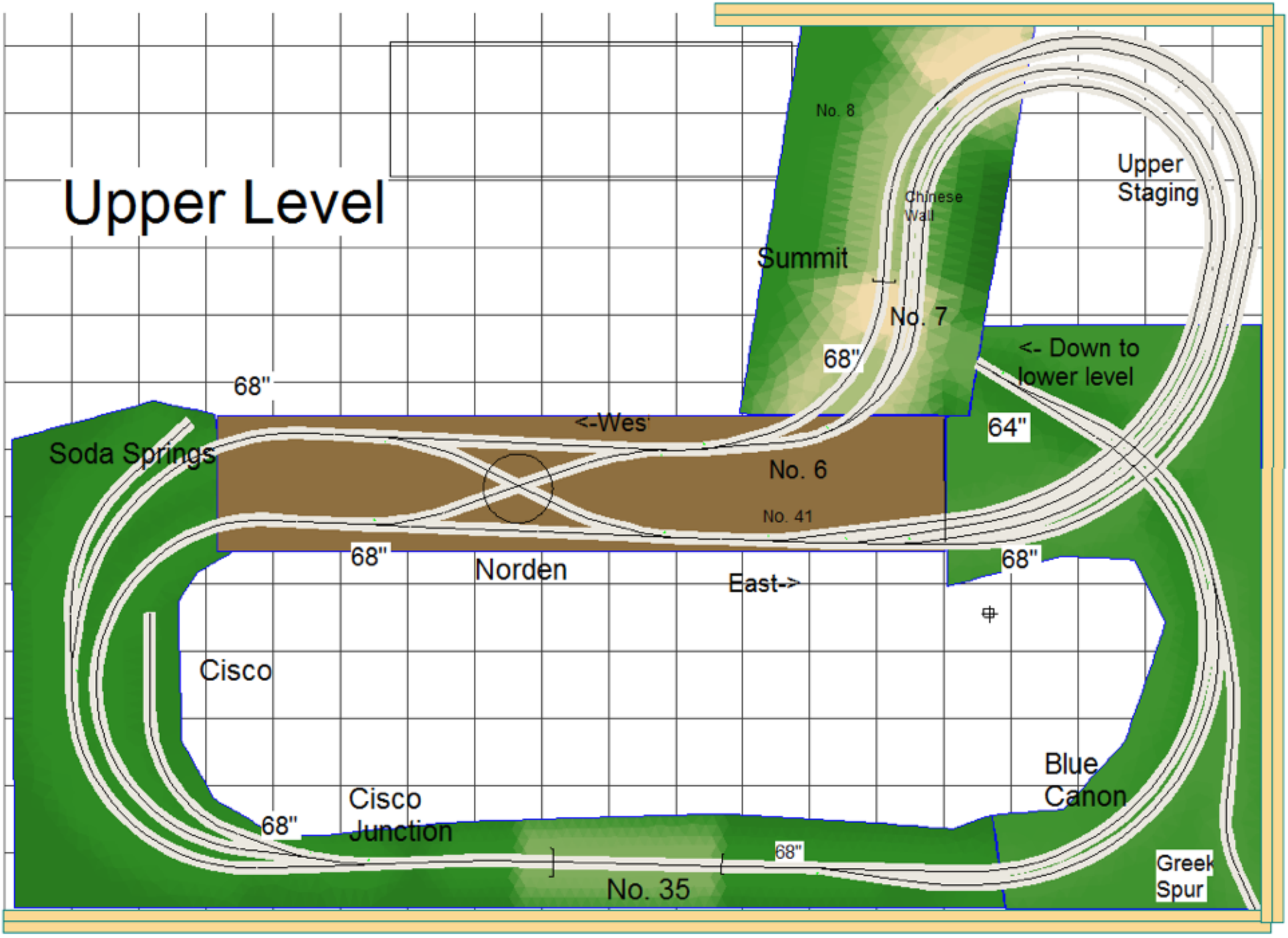
helix
4"/turn
2 turns up
Section

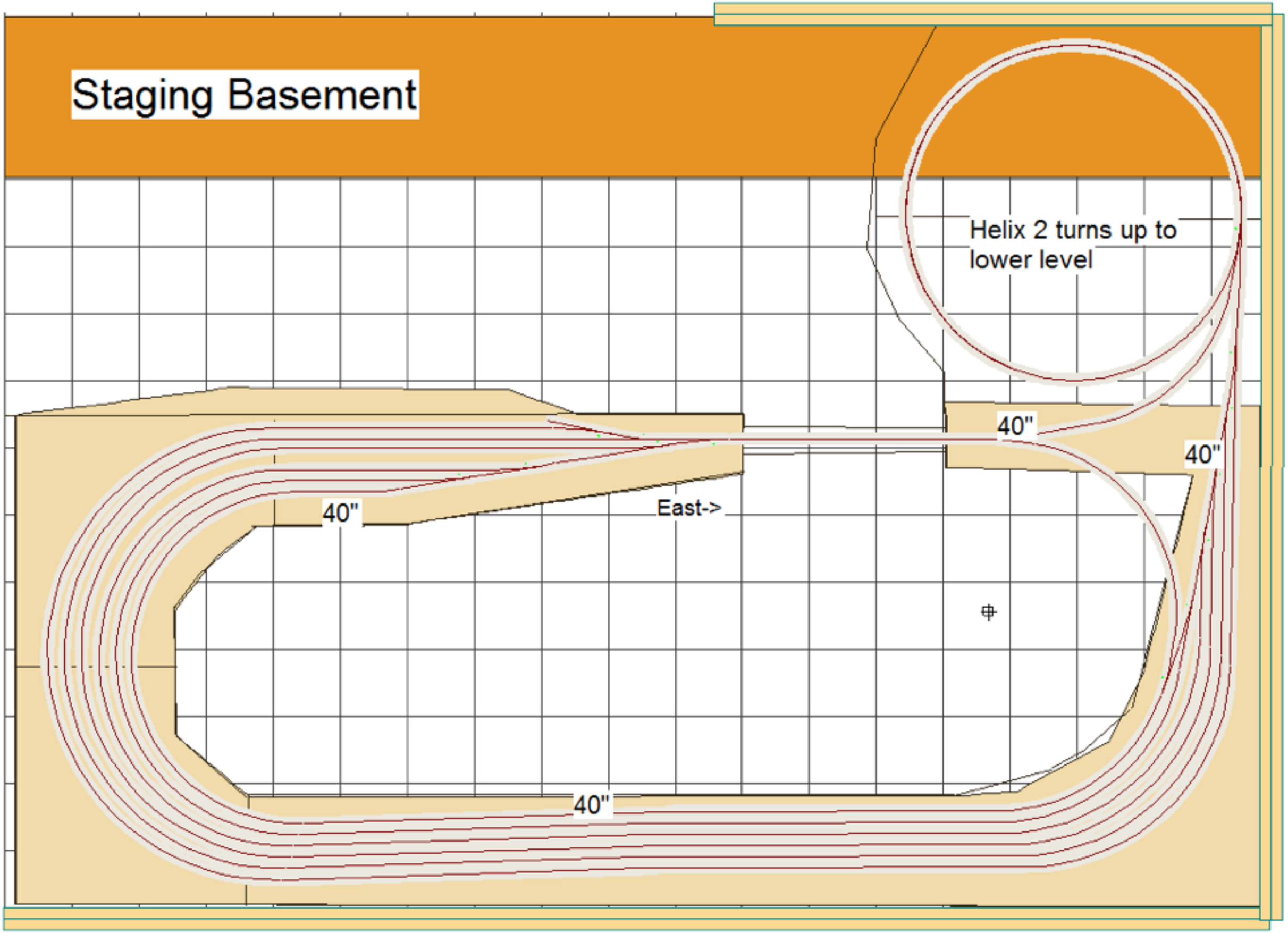
Planning Model of Layout

Lower Level


Nevada City
54"
54"
Single turn of helix
to upper level
61'
64'
Up to Upper Level
Sierra Brewery
Down to Staging
Grass Valley
50"
No. 33
No. 34
58.5
Tunnel No. 0
50"
Magra Rd
Reversing Cassette
Lander
55"
East ->
Swinging Gate
w/ 3 track levels
Cape Horn
Wye track
Long Ravine
(trestles)
53.5
48"
Colfax
Nevada County Narrow Gauge
Colfax
Fruit
Icing Platform
Engine House
Oilville
Standard
<-West
Grass Valley
Tunnel
51.5"
Start of 2.5% grade
East->
<- Up To
51.5
Down To Roseville ->
Stock Yard
Pioneer Fruit Co
Union Ice Co
Freight House

Upper Level


No. 8
Upper Staging
Chinese Wall
Summit
No. 7
68"
<- Down to lower level
64"
68"
<-Wes
Soda Springs
No. 6
No. 41
68"
Norden
East->
68"
Cisco
Blue Canon
Cisco Junction
68"
68"
No. 35
Greek Spur

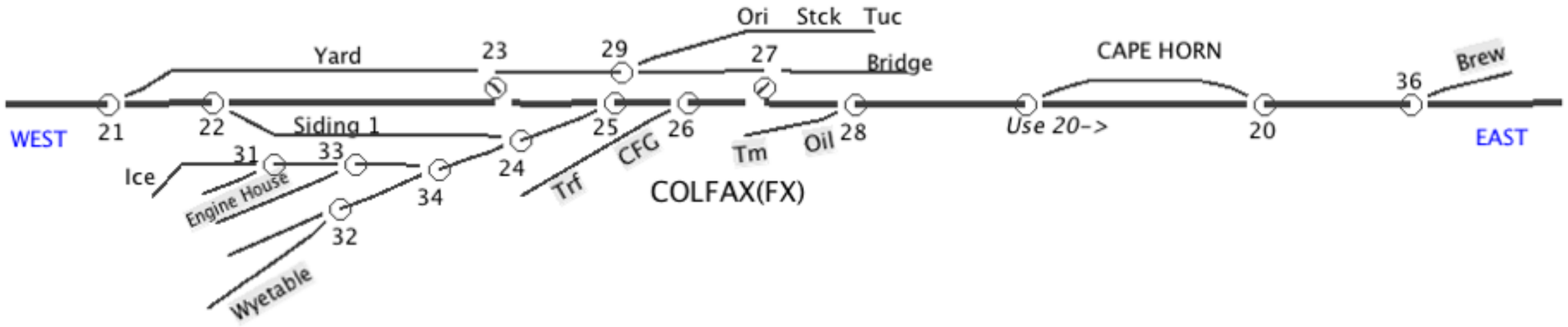

Staging Basement
Helix 2 turns up to lower level
40"
40"
40"
East->
40"

40"

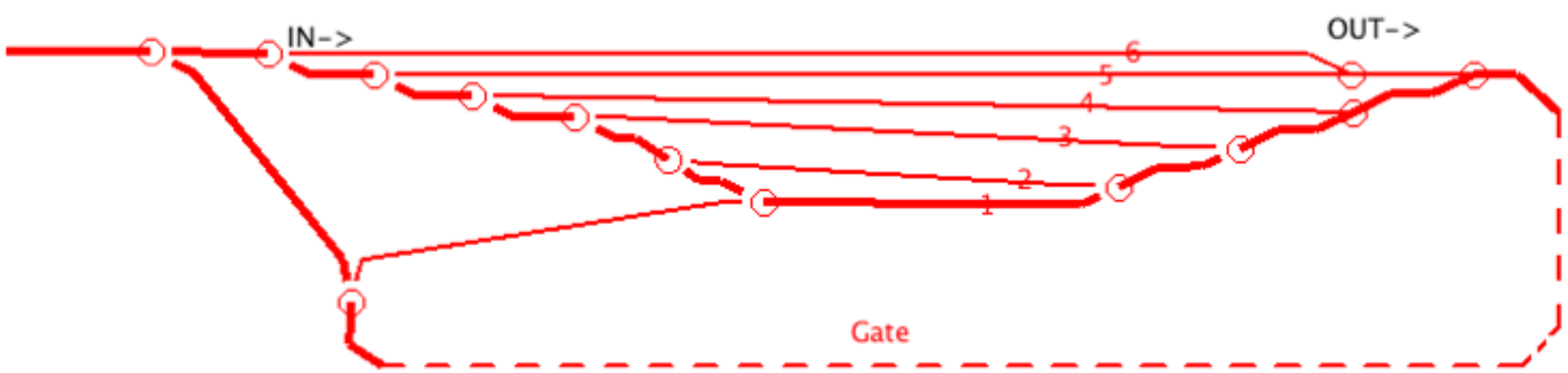
Switch Machines

Donner Summit Norden Level

Donner Summit Colfax Level



Donner Summit Staging Level




Colfax
ACE HARDWARE


Norden

Cisco

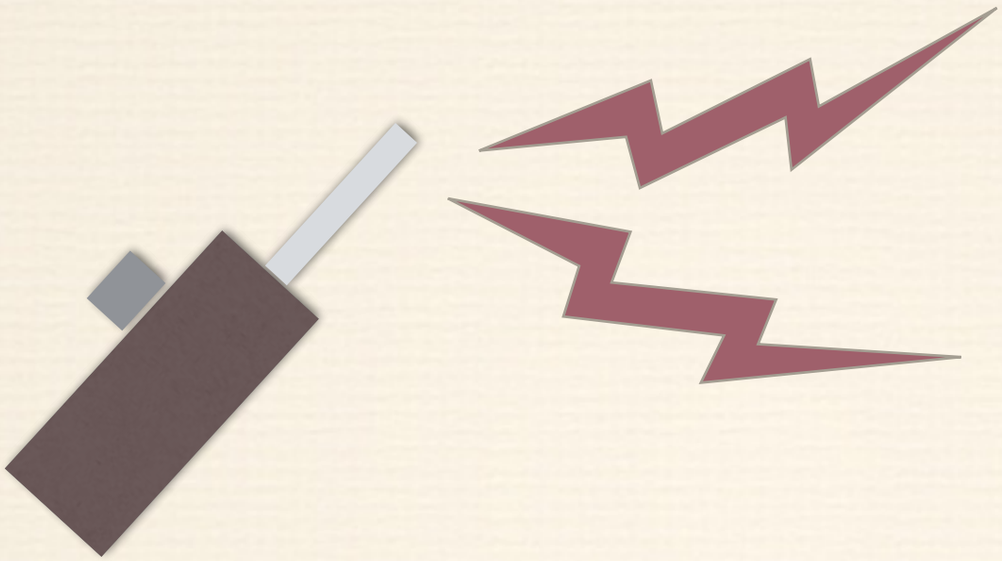
Long Ravine

Yuba Gap

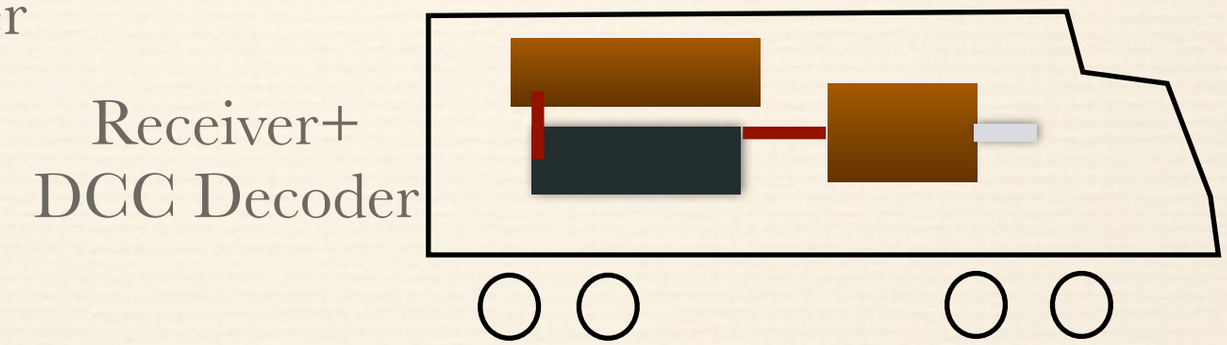
Going Dead-Rail

Seems like I spent more time cleaning track than running trains.

Evolution of Radio Control



Special
Transmitter



Overview of Wireless DCC

In purple is your existing DCC system. In yellow and red are the new components needed

DCC Cab

DCC Cab

DCC Cab

Command Station

DRS1 Transmitter

DCC Bus to other devices

DCC commands are sent over the air by a single transmitter to receivers in each locomotive.

DRS1 Receiver

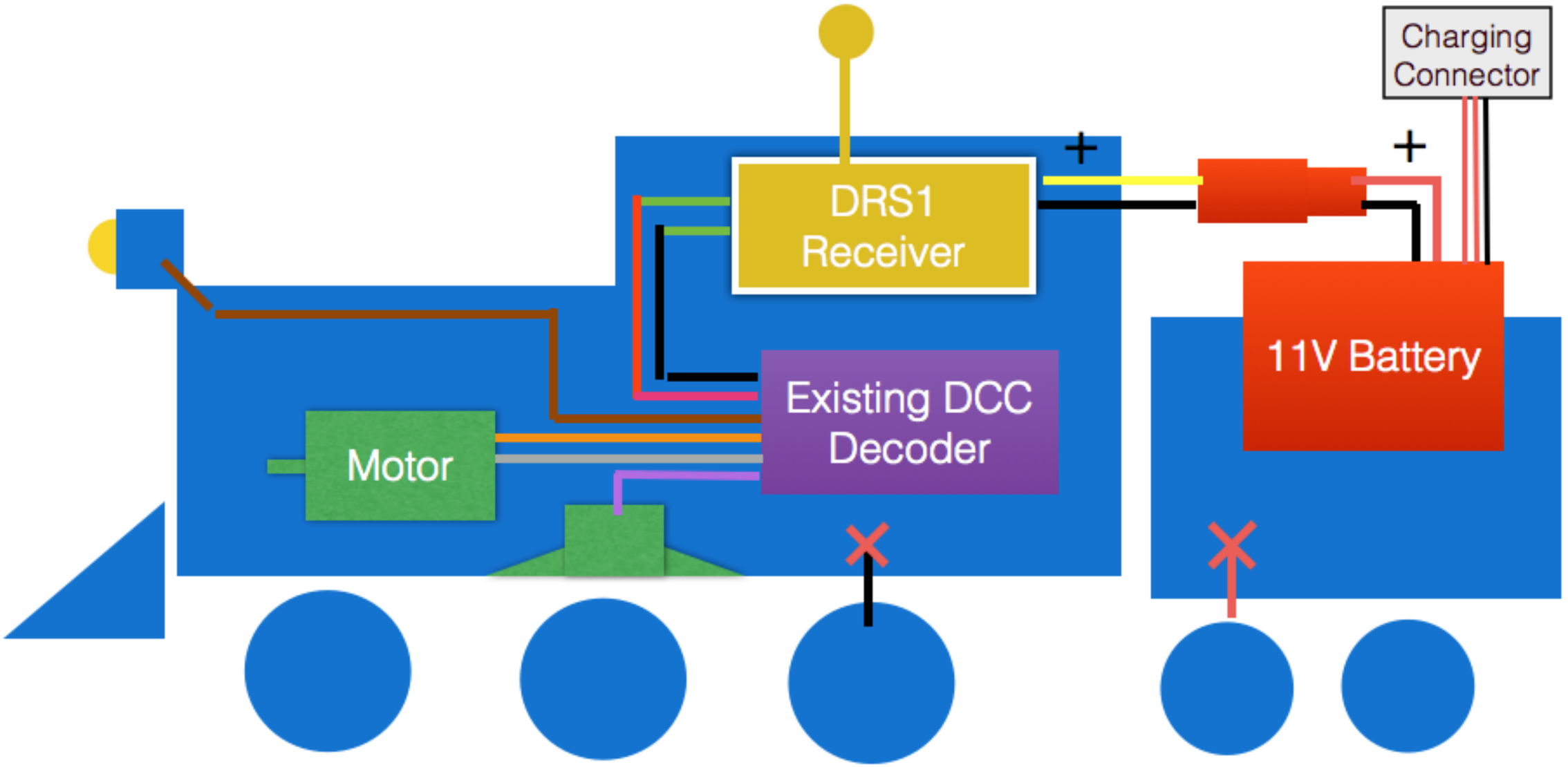
Locomotive power is provided by an onboard battery

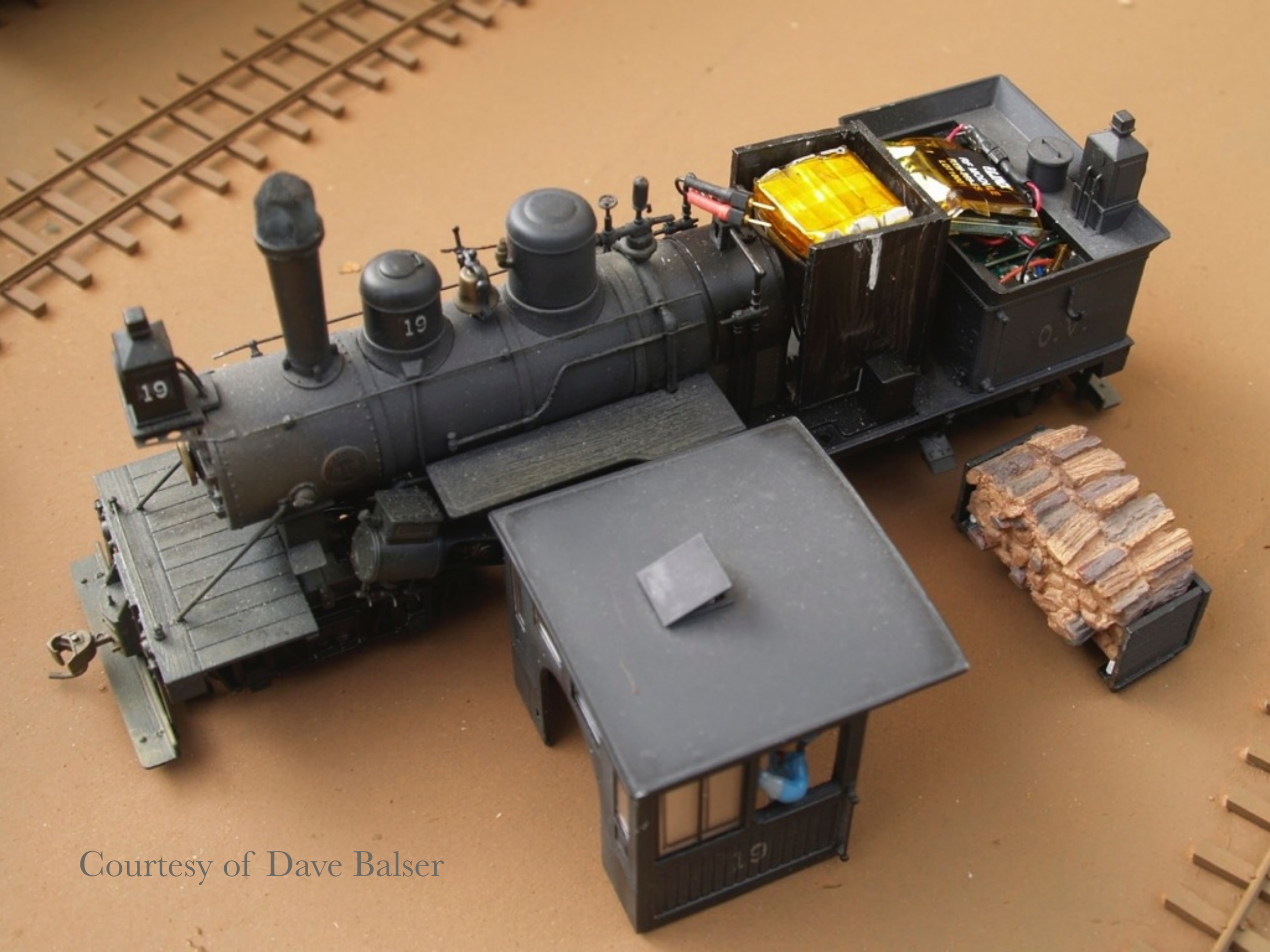
+

Decoder

Battery

What is in the Locomotive?

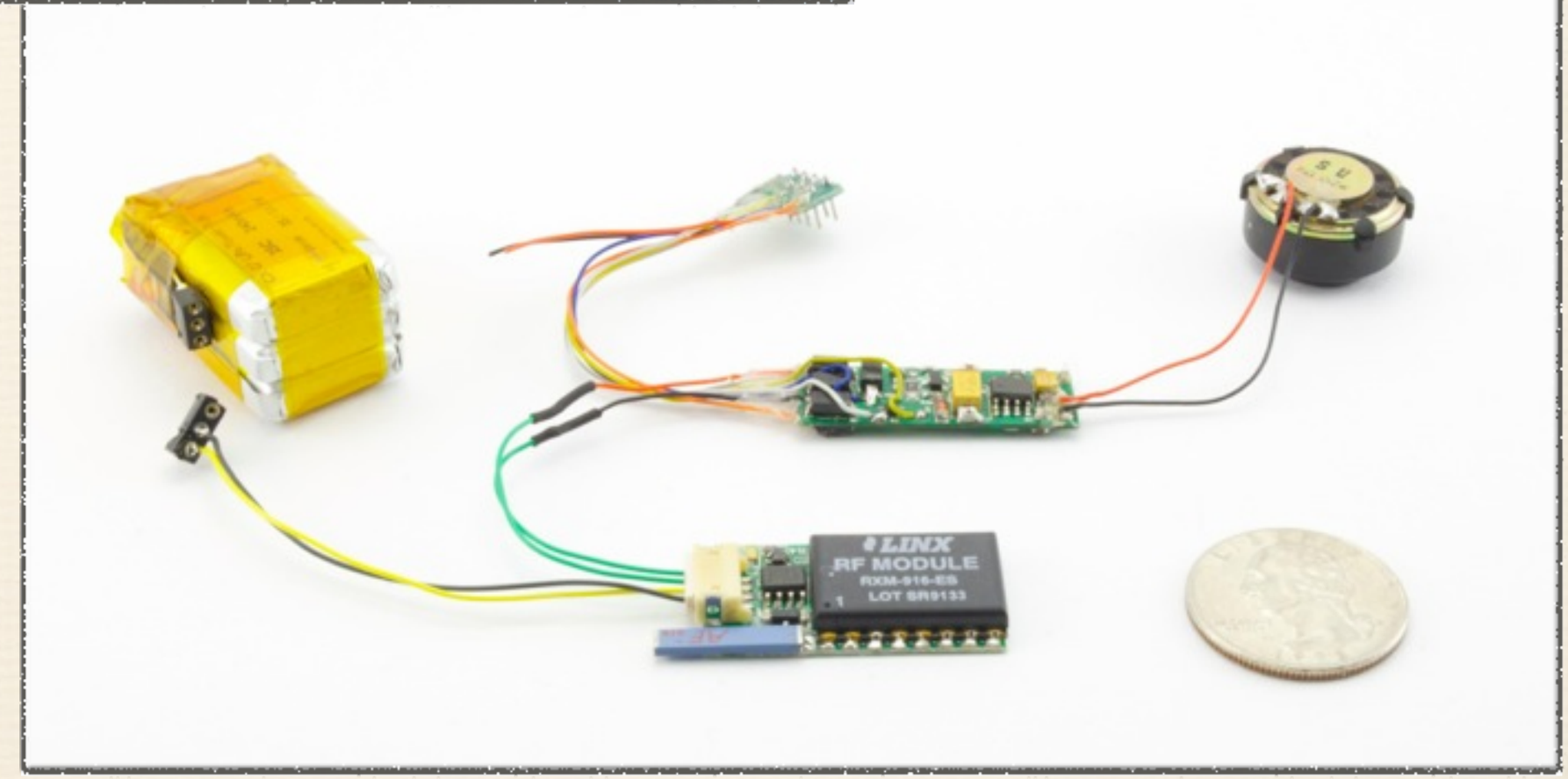




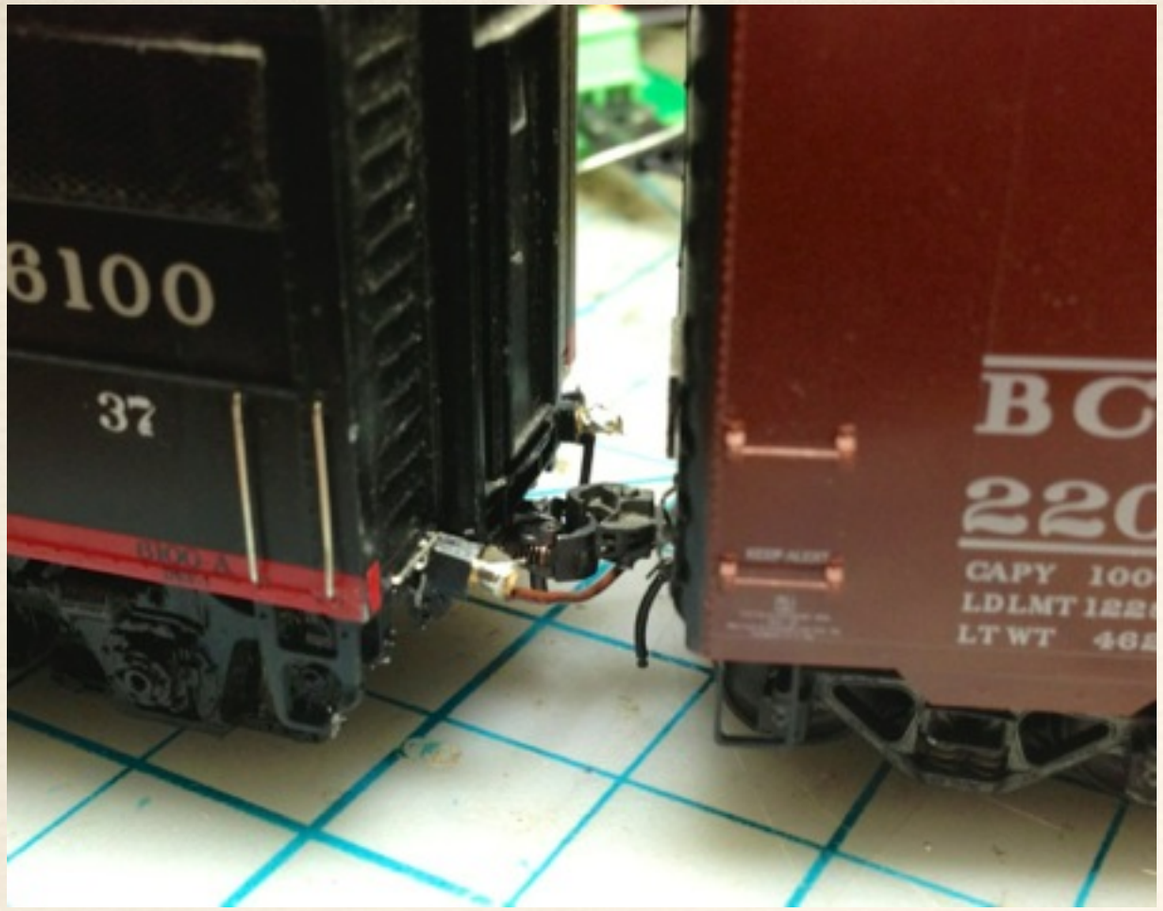
Courtesy of Dave Balser

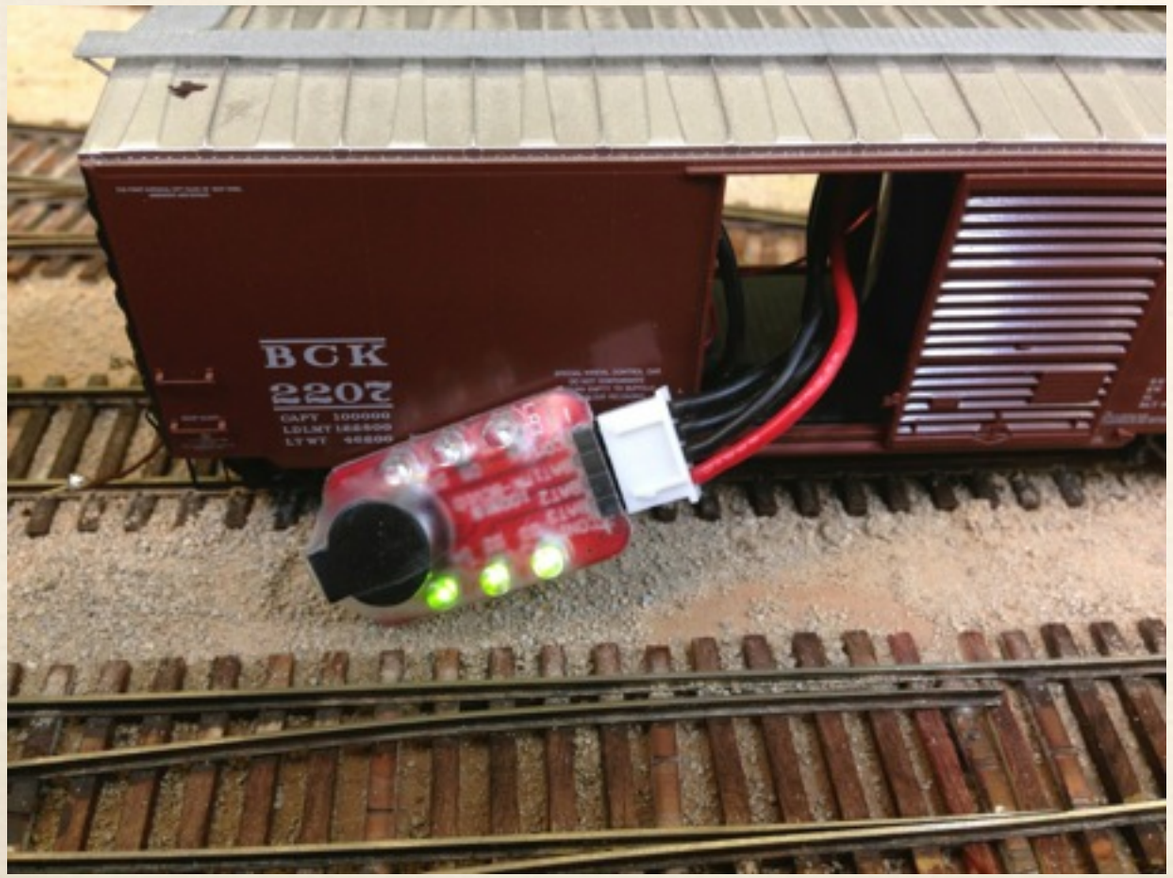
Justin's HOn3 3-truck Shay

Components Used



Trailing Battery Car


8100
37


BCK
2207


4107

Another Solution: Put the Battery in a Dummy

LiPo CHARGE
1.0A 14.8V(4S)
BALANCE SOCKET
OUTPUT
ulti charger X1AC PLUS
STATUS
START ENTER
TRIPLE J REPA
SF-6

Steam Engines with a Tender


SOUTHERN PACIFIC

Battery Powered Switcher (No Sound)

The Fleet of Modified Engines

Pros and Cons

- Engines run much smoother
- No Track Cleaning
- No Wheel Cleaning
- No Short Circuits
- Major Geek Cred
- No Flickering Lights

- Batteries Need Charging
- Radio Signal Range
- Higher Cost Per Engine
- Installation needed
- No Flickering Lights