

A DEEP DIVE INTO FREIGHT YARDS



A presentation for the NMRA Front Range Division

March 17, 2025

By Scott Ogle

THE SNOQUALMIE BRANCH

Phase 1 – town of Snoqualmie
switching layout

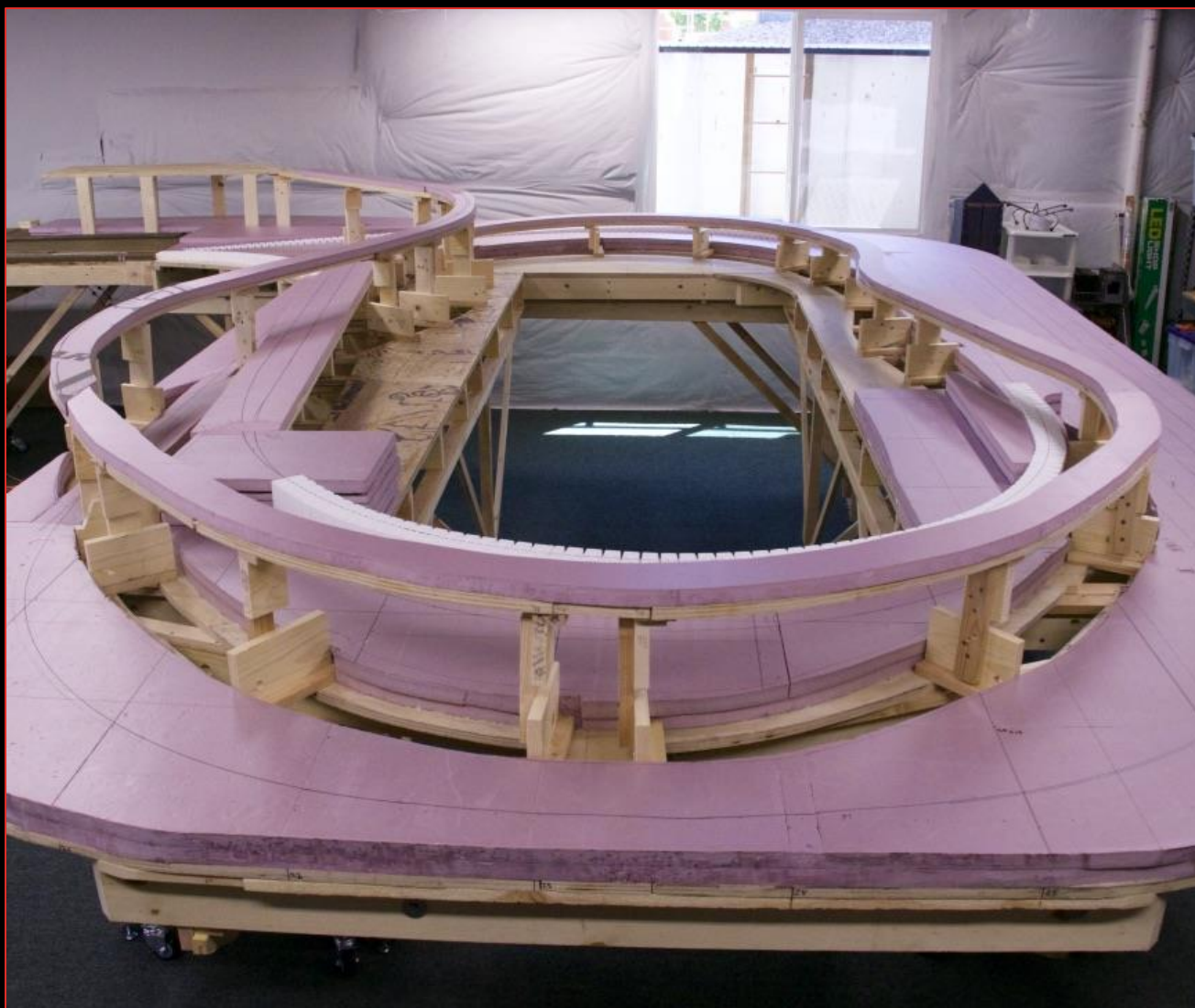
- Transition era, circa 1955
- Originally 32" x 12'
- Immediately expanded to 15'



THE SNOQUALMIE BRANCH

Phase 2 – the Mountain
Division:

- 36" minimum radius
- 2.2% ruling grade
- 150' mainline
- 12" climb to summit
- 3 lap spiral to reach
Cascade Tunnel



CLIMBING STEVENS PASS

Great Northern
Northern
Transcon
Scenic
subdivision



SNOHOMISH / SKYKOMISH

Great Northern/
Northern Pacific
Interchange





PLAN?

I DON'T NEED NO STINKING PLAN

It's MY Railroad!

WHAT IS A FREIGHT YARD?

“A yard is a group of three or more parallel tracks in series within prescribed limits used for making up of trains, storage of cars, etc.”

- John Armstrong

“A railroad yard (or simply yard), is a series of tracks in a rail network for storing, sorting, or loading and unloading rail vehicles and locomotives. ”

- Wikipedia

“A freight yard is a machine for organizing cars into trains ... getting cars going to similar destinations into blocks, arranging blocks into order for delivery, and sending them on to their destinations”

- Andy Sperandeo



WHAT IS A FREIGHT YARD?

A freight yard is a coherent collection of tracks and facilities where

- Trains originate, terminate, add, drop off, organize, and store blocks of cars
- Crews are assigned, locomotives and rolling stock serviced, and if necessary repaired
- Freight traffic is expedited in the most economical way possible



TYPES OF YARDS

Type	# of tracks	runaround track	yard crew	loco service	drill track
• Interchange & Junction	1 – 4	varies	no	no	no
• Industry offspot & storage	2 – 4	yes	no*	no	no
• Division Point	unlimited	yes	yes	yes	yes
• Terminal	unlimited	yes	yes	yes	yes



THE WEST'S
**LARGEST
BRAKE
PROVIDER**
JUST AHEAD AT 711 AVE D



4011

4011



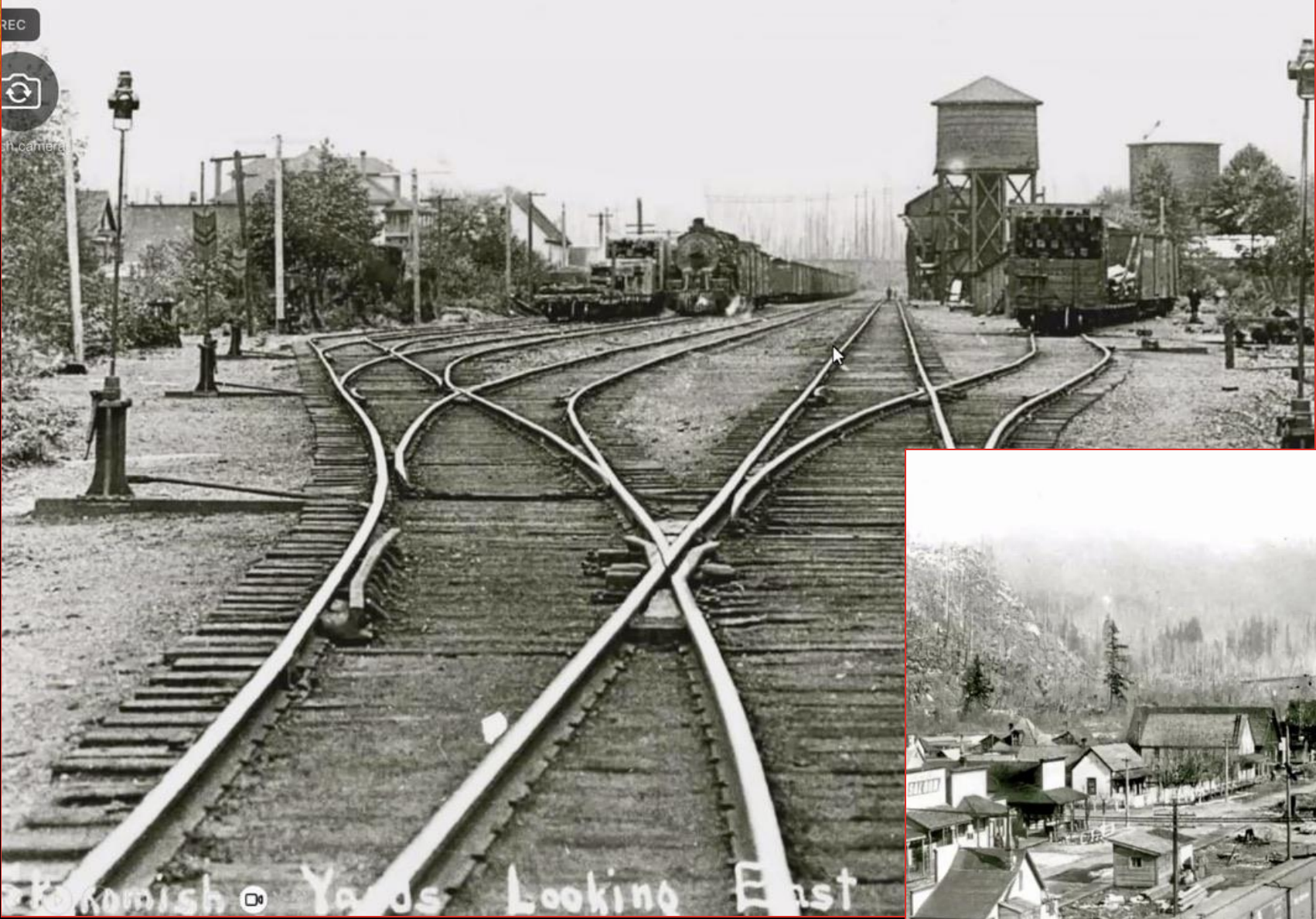
HYDROPOWER OWN SAFETY TODAY

X 356

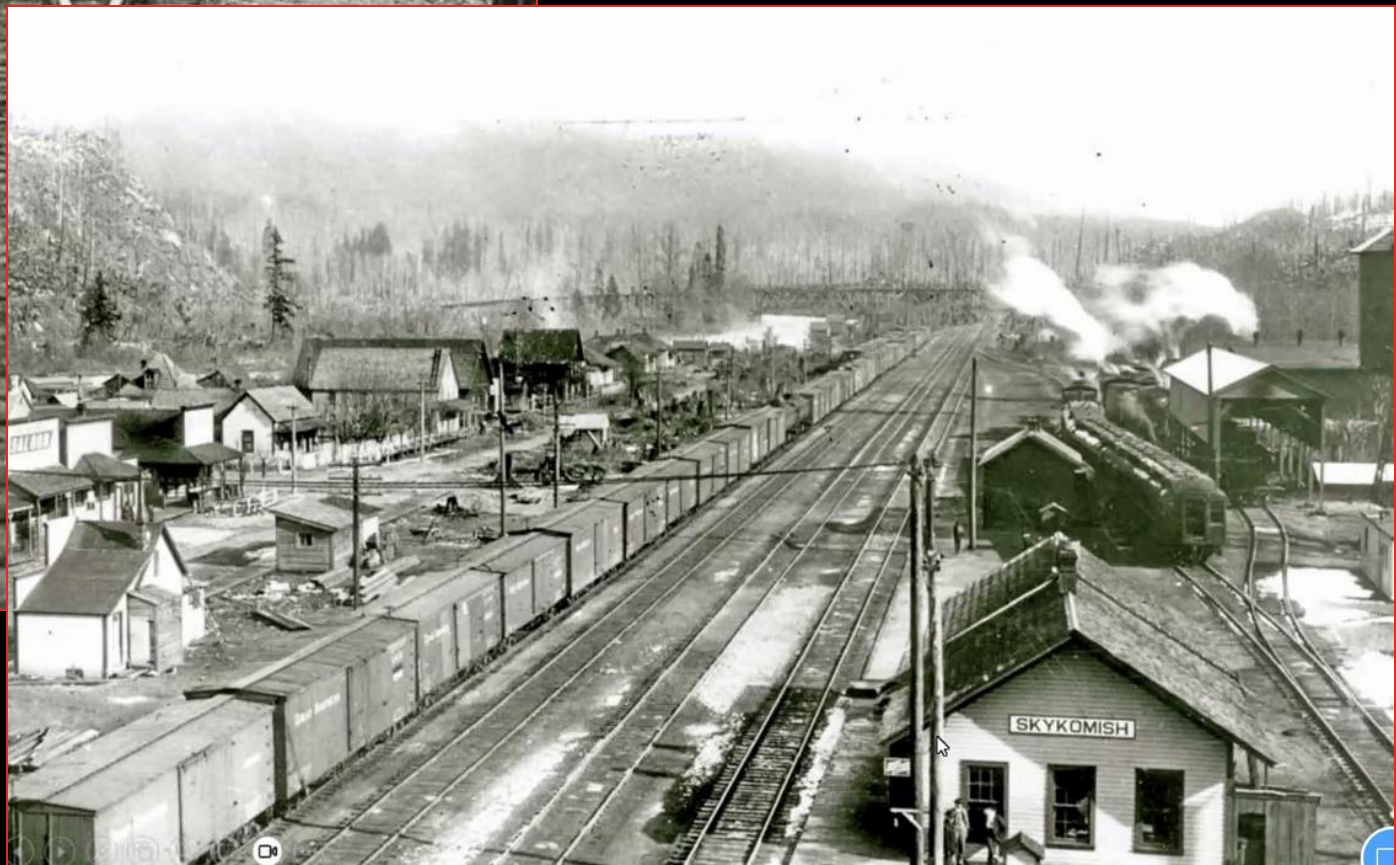
SPEED
LIMIT
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CGGX
3084





Skokomish Yards Looking East



BNSF Delta Yard

Everett, Washington



To Seattle

Delta Junction

To Vancouver BC

Delta Yard

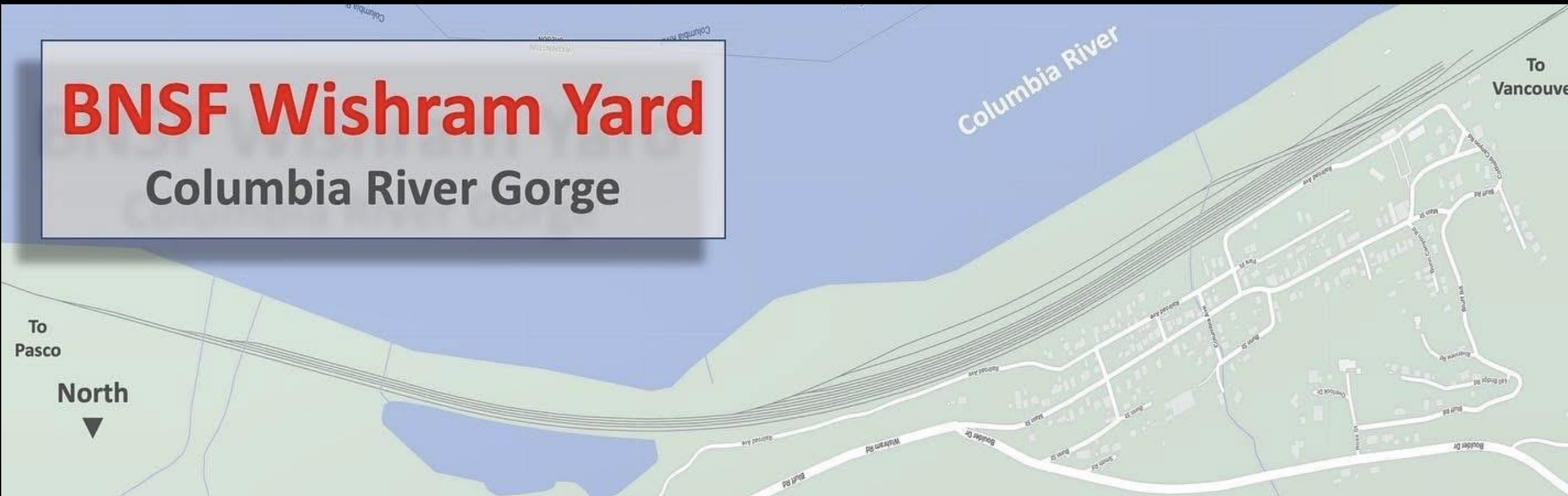
Rogers Main to PA Jct.
Former Northern Pacific

Everett

Regional Disposal Company (RDC)
Rail Loading Facility

BNSF Wishram Yard

Columbia River Gorge



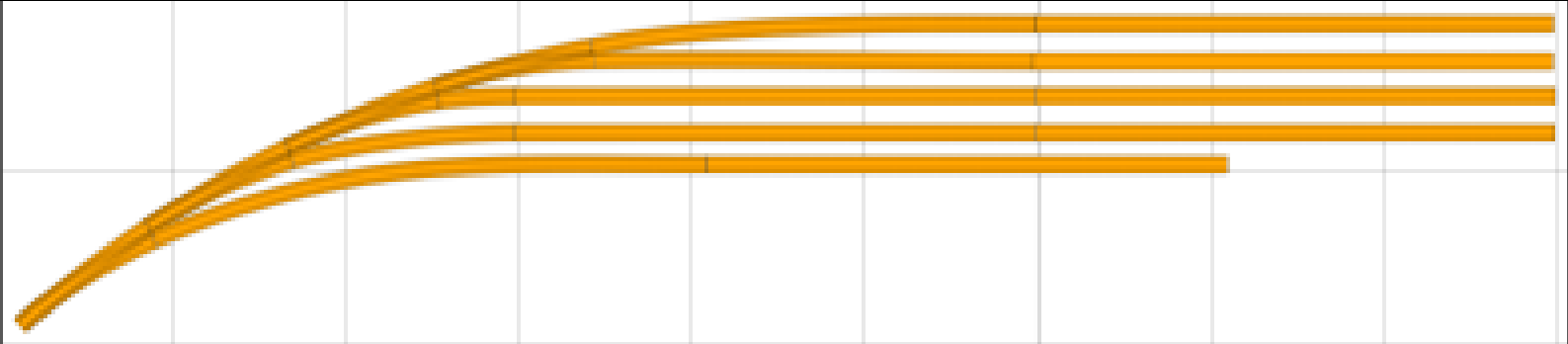
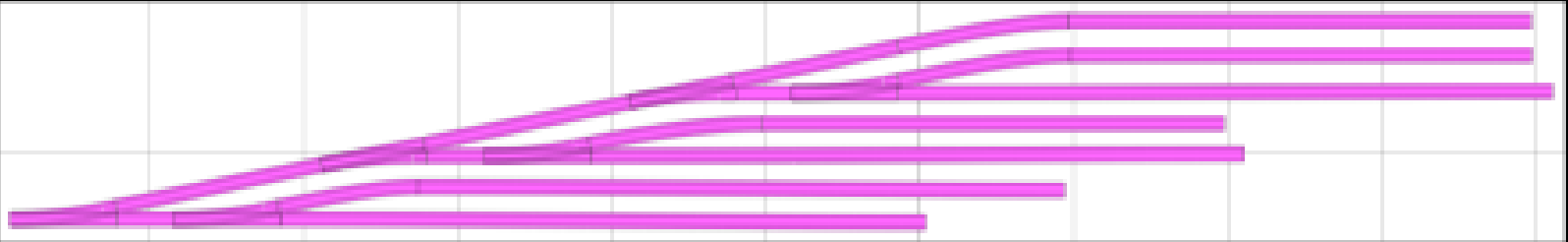
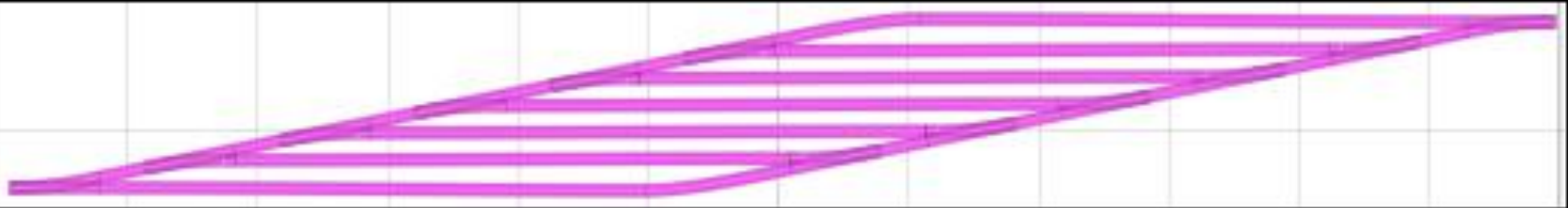
To Pasco

North

To Vancouver



TYPES OF YARD LADDERS



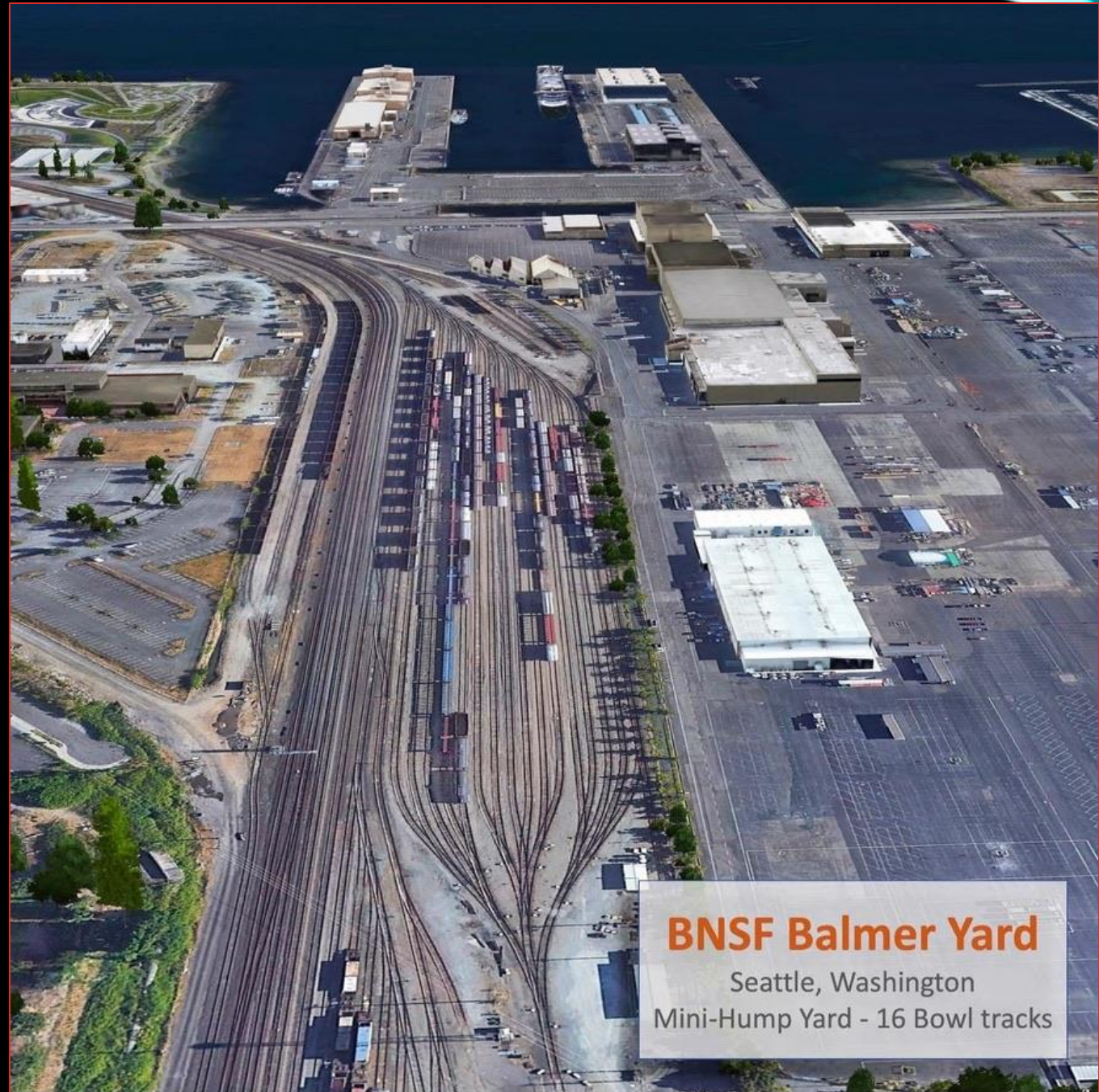
SEATTLE

TERMINUS for 2 railroads

Traffic from all 4 compass points means a majority of traffic originates or terminates in Seattle, requiring lots of classification

Less ability to forecast future traffic requires empty car storage

Extras really are extras. Lanes may run daily or infrequently



BNSF Balmer Yard
Seattle, Washington
Mini-Hump Yard - 16 Bowl tracks

SEATTLE FREIGHT TRAFFIC

- INBOUND & THROUGH TRAFFIC
 - Westbound - manufactured goods & agricultural products
 - Terminate in Seattle for local consumption
 - Through to Oregon, California, Canada
 - Barge service to Alaska & Olympic Peninsula
 - Continue on to Asia & Pacific Rim via ship
 - Northbound - manufactured goods & agricultural products
 - Southbound - Canadian timber, coal, other mining, & agricultural products
 - Eastbound - Imports arriving at Seattle waterfront by ship & barge

OUTBOUND

- Local manufactured goods & agricultural products
- Imports arriving at Seattle waterfront by ship & barge





NOKL

CAUTION
NO SIDE LADDERS

FREIGHT YARD DESIGN BEST PRACTICES

- Total Separation of Church & State
 - Mainline can pass yard without entering
 - Yard activities don't cross mainline

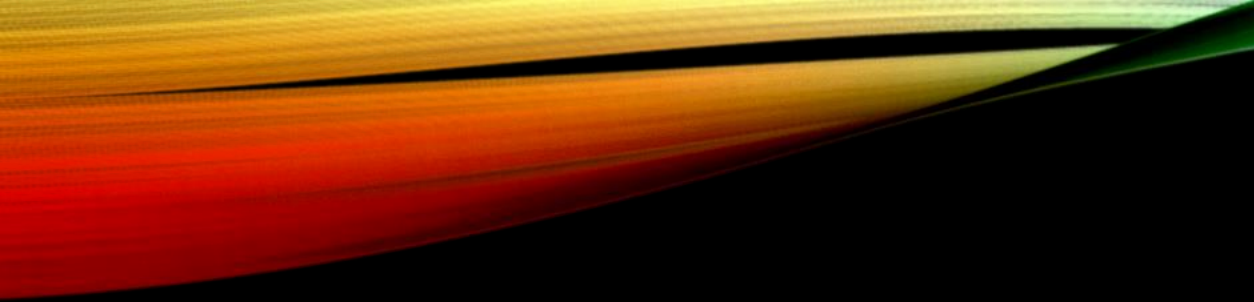


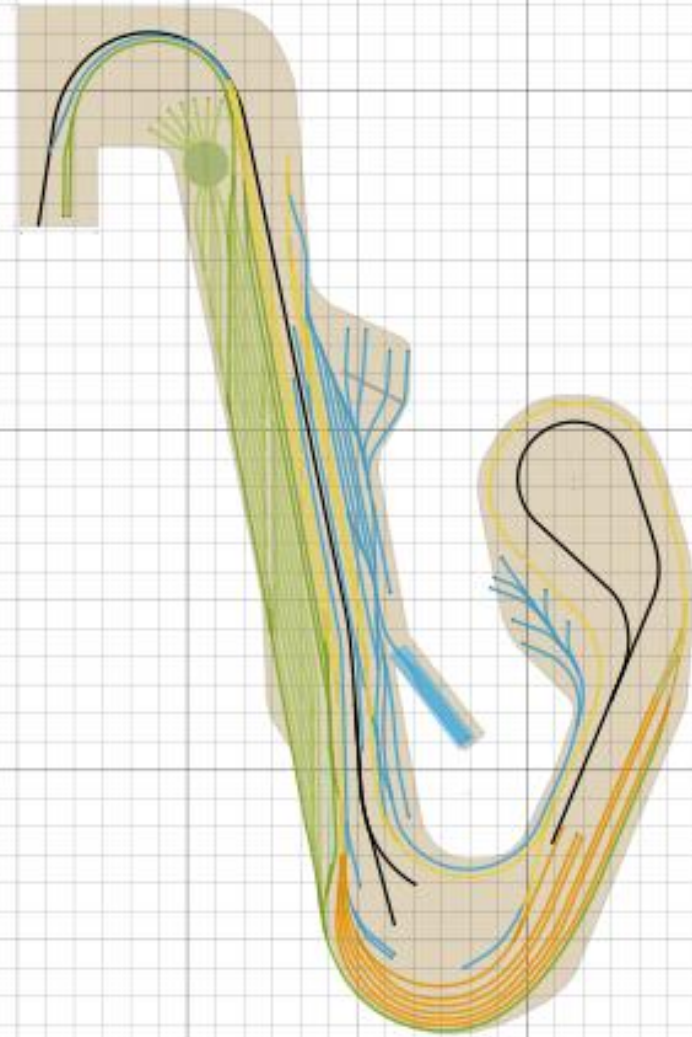
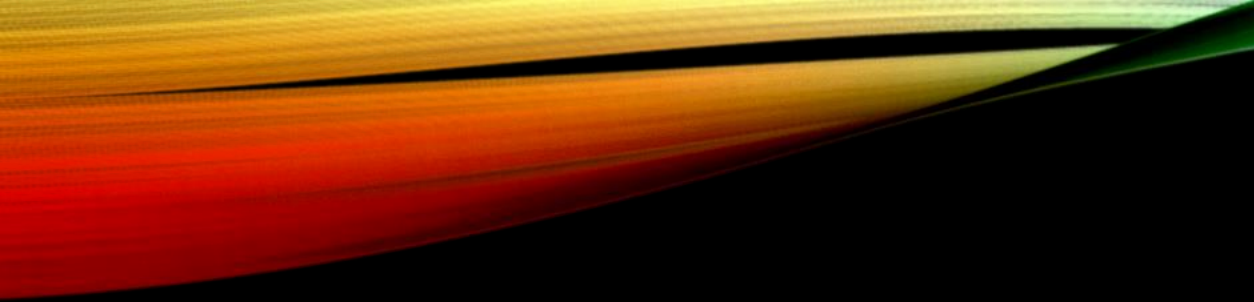
GIVENS & DRUTHERS

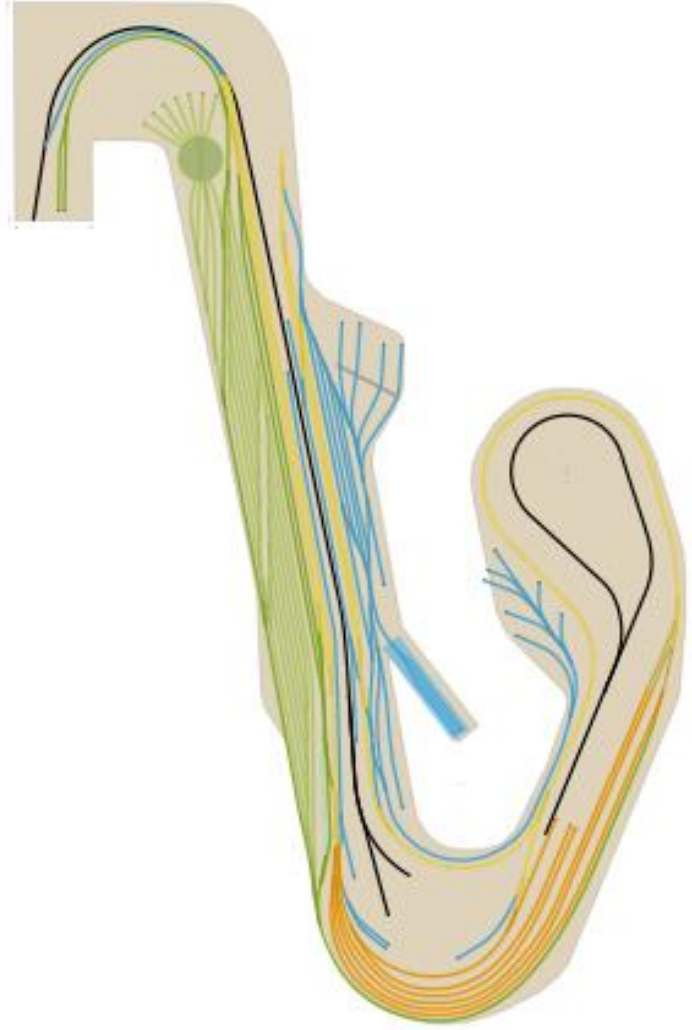
Yards work slower than fast clock mainline – design for efficiency

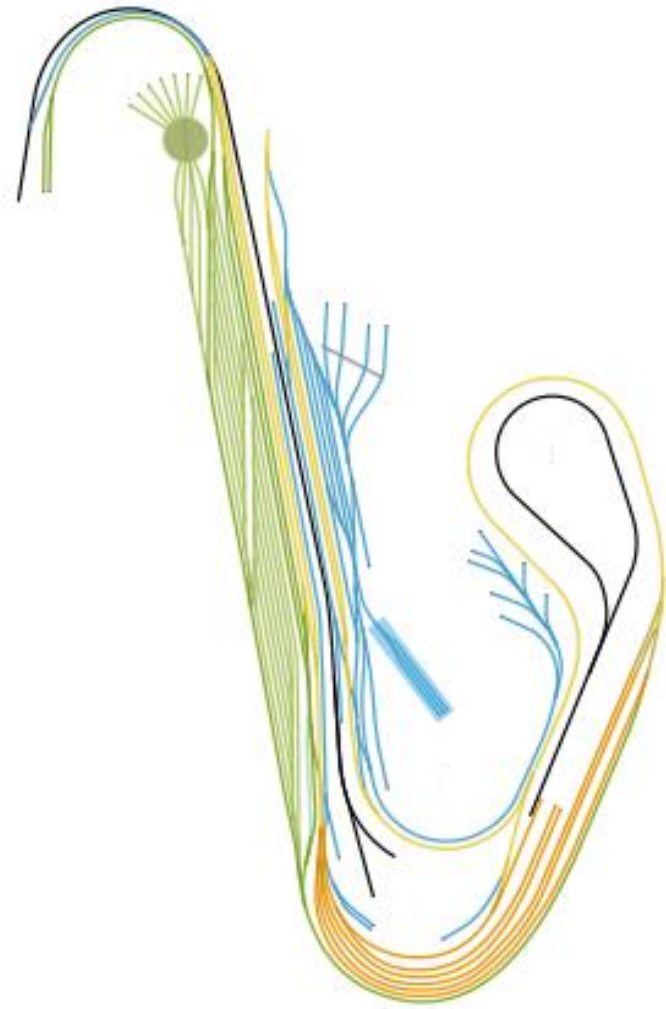
- Design for high volume
- Double ended
- 2 1/3" track spacing
- Diamond design with #6 turnouts
- Simple ladders, no compound branching
- Drill tracks long enough to handle full consists
- No mainline crossing to reach yard
- Restricted access to drill tracks
- Accommodate 2 or 3 person yard crew
- Easy access runaround track



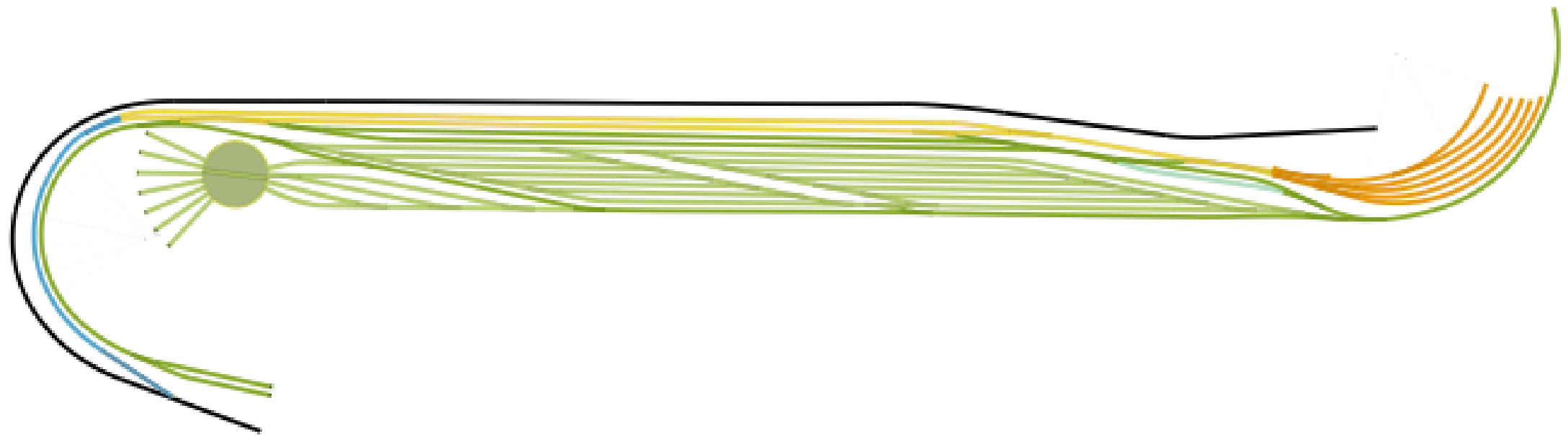


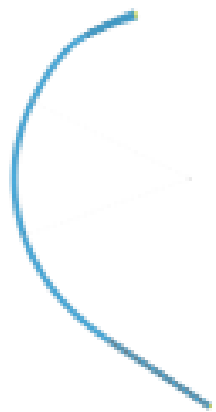


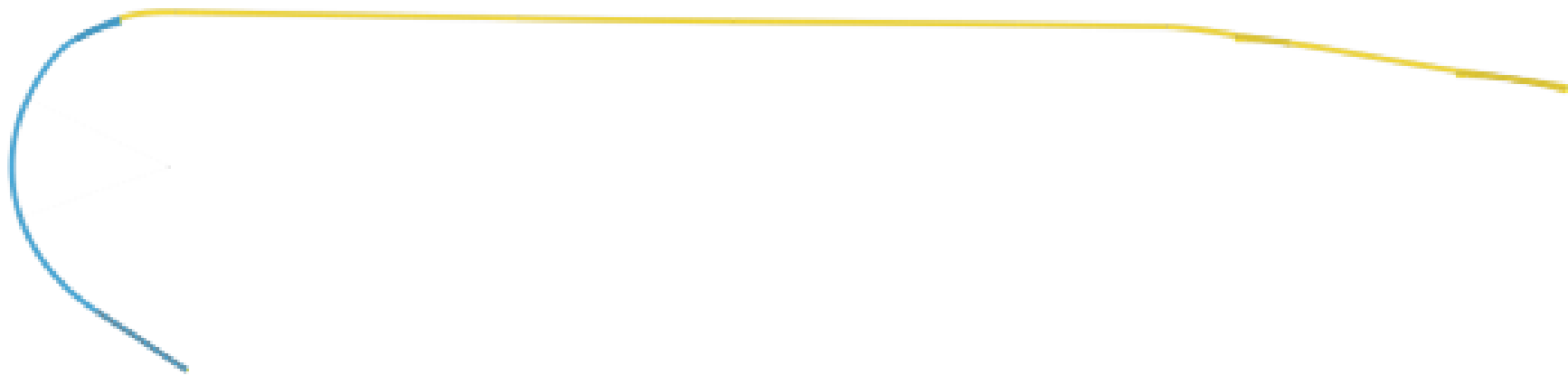








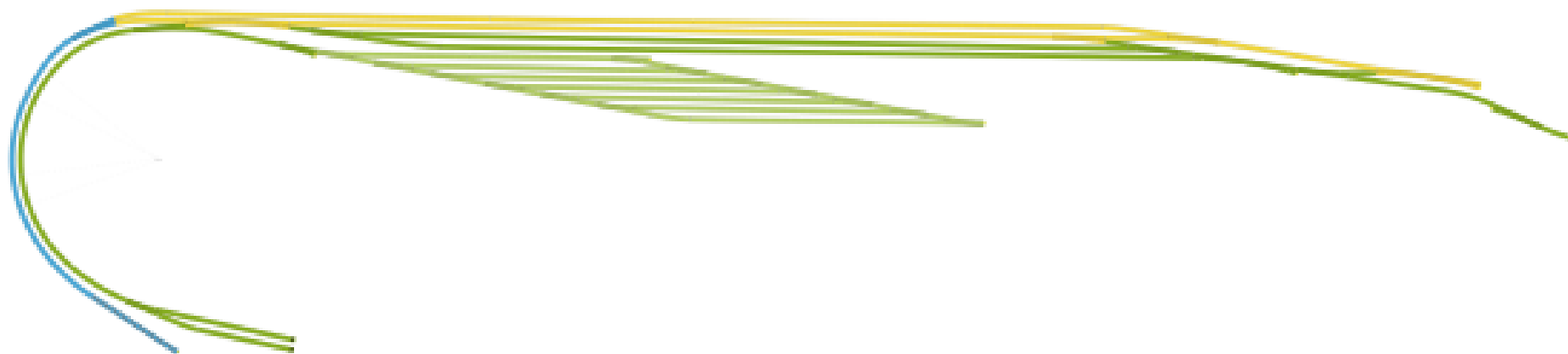


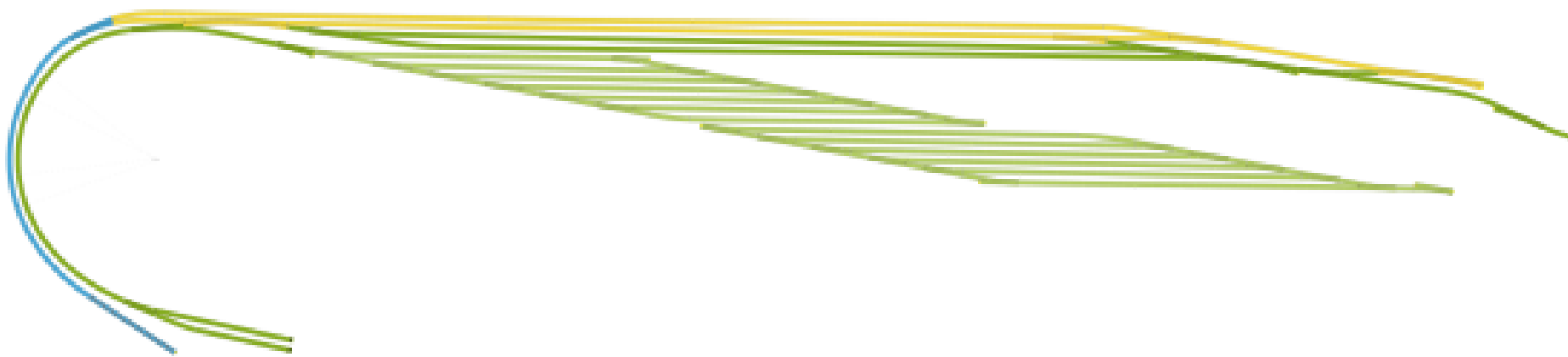


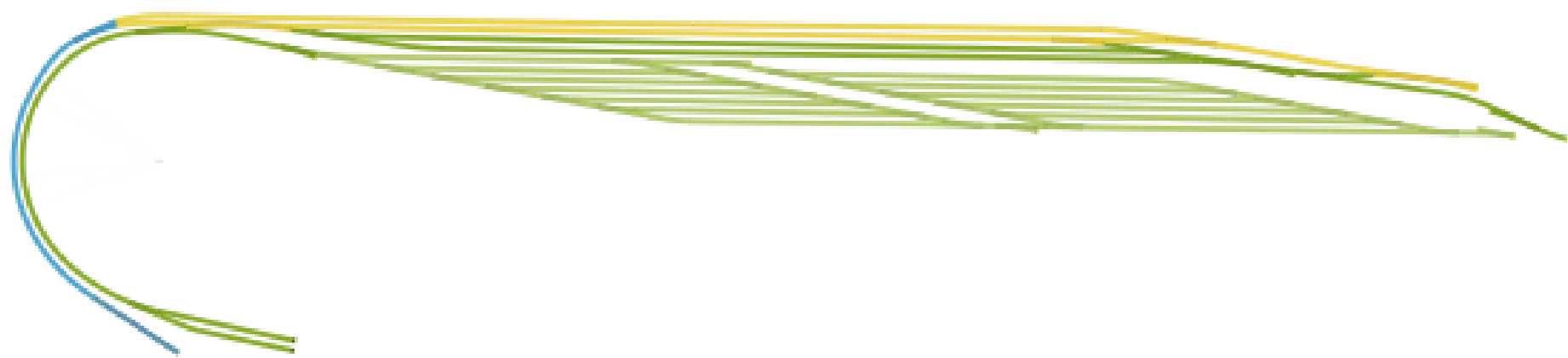


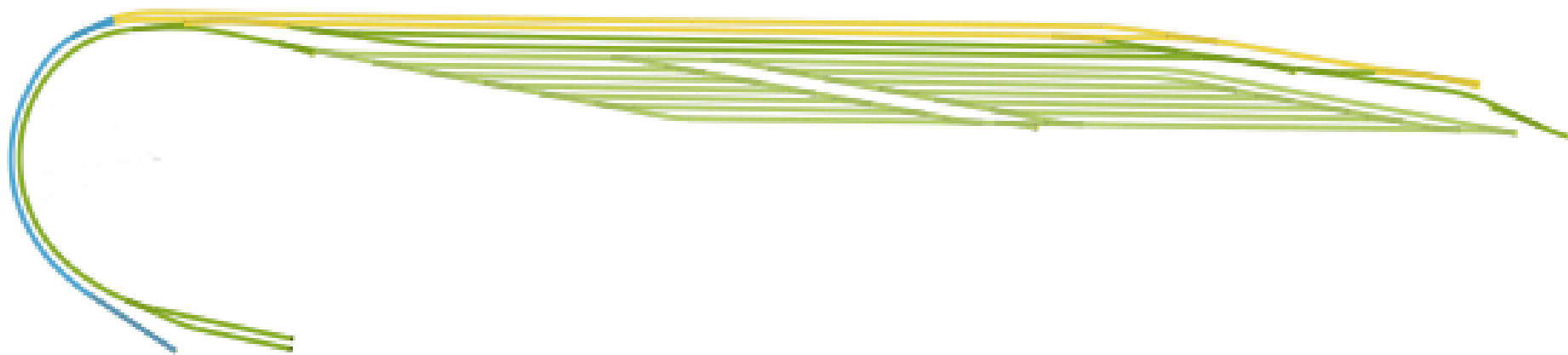


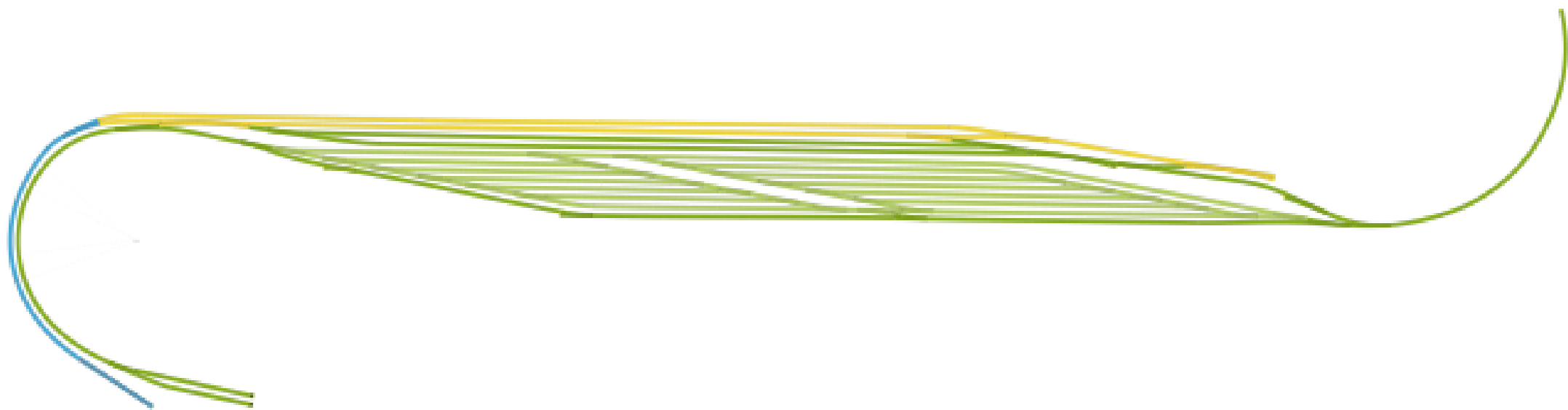


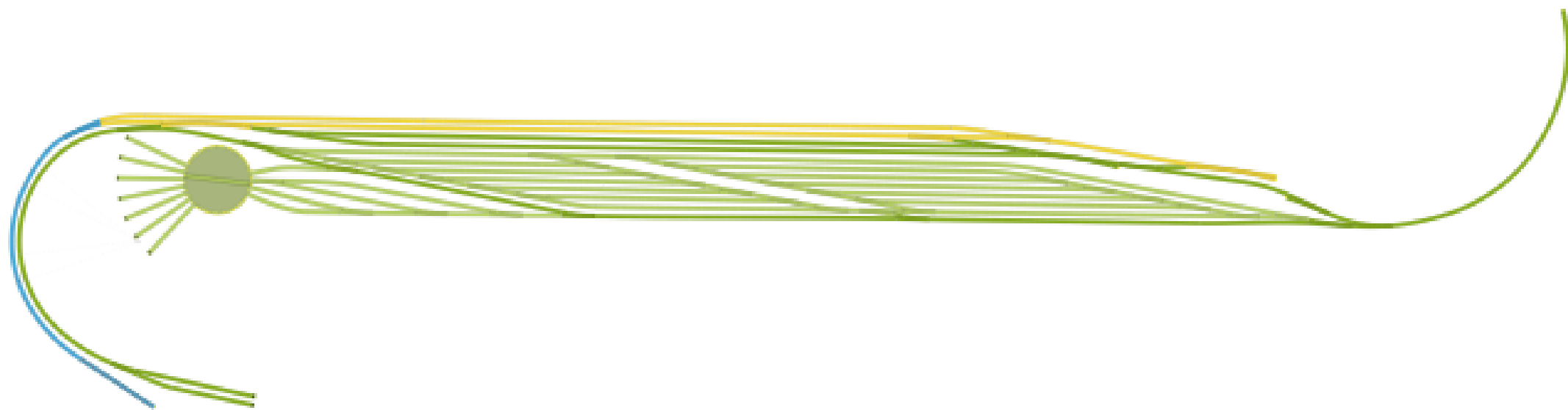


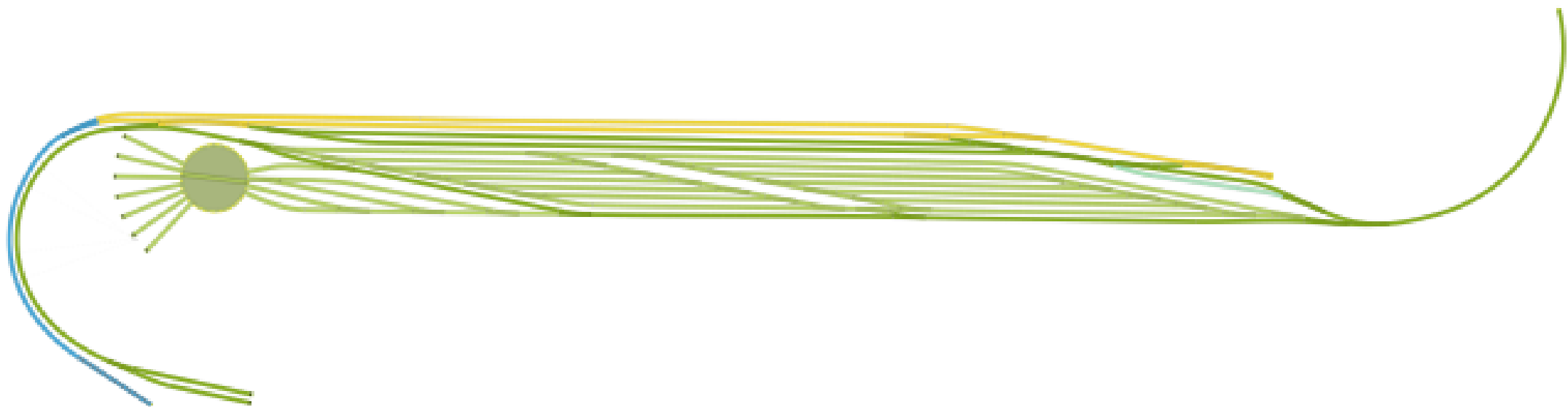
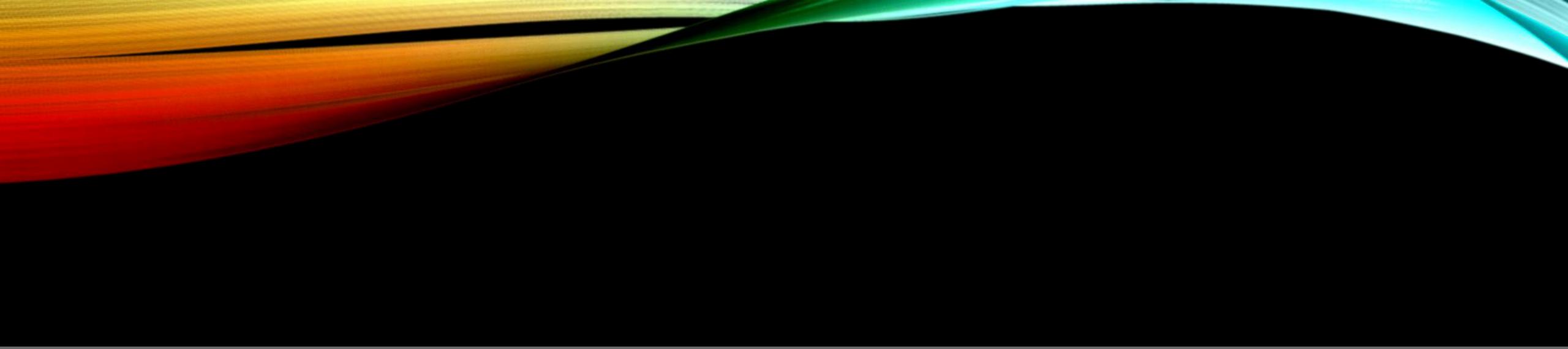


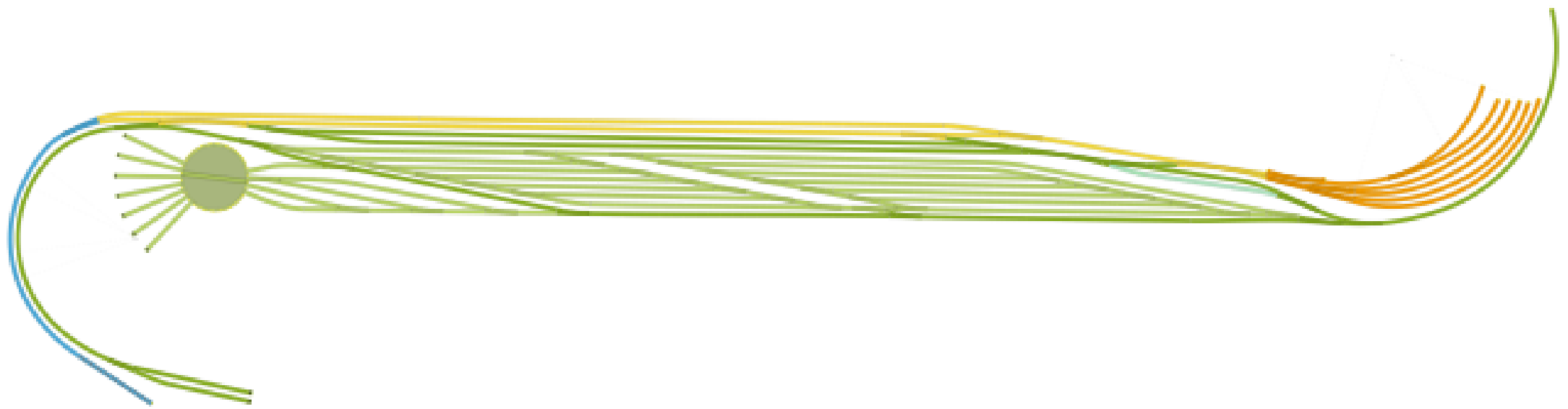


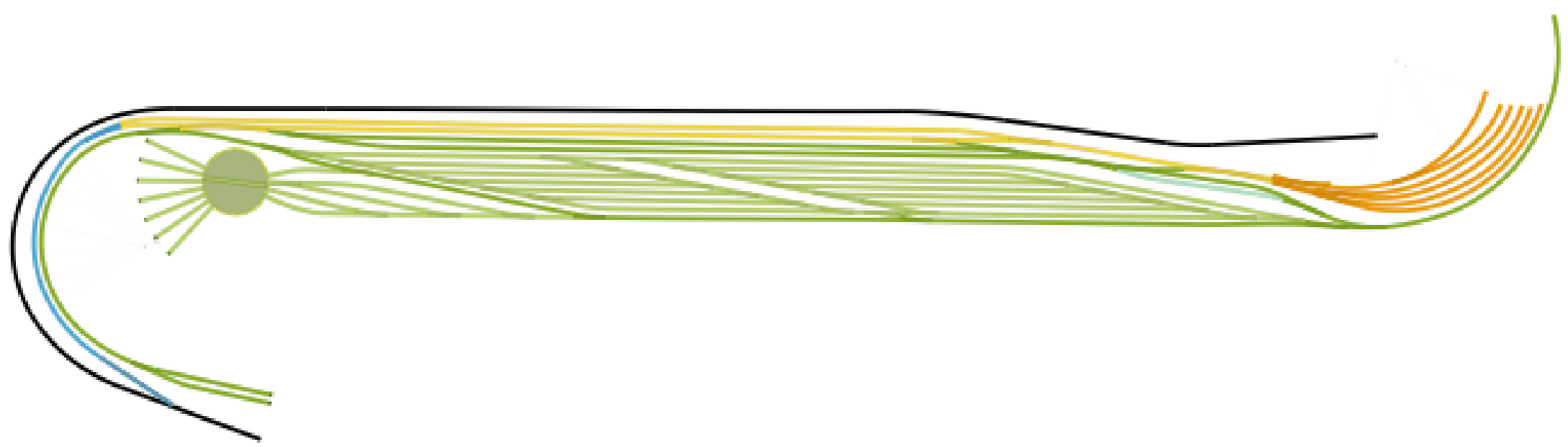














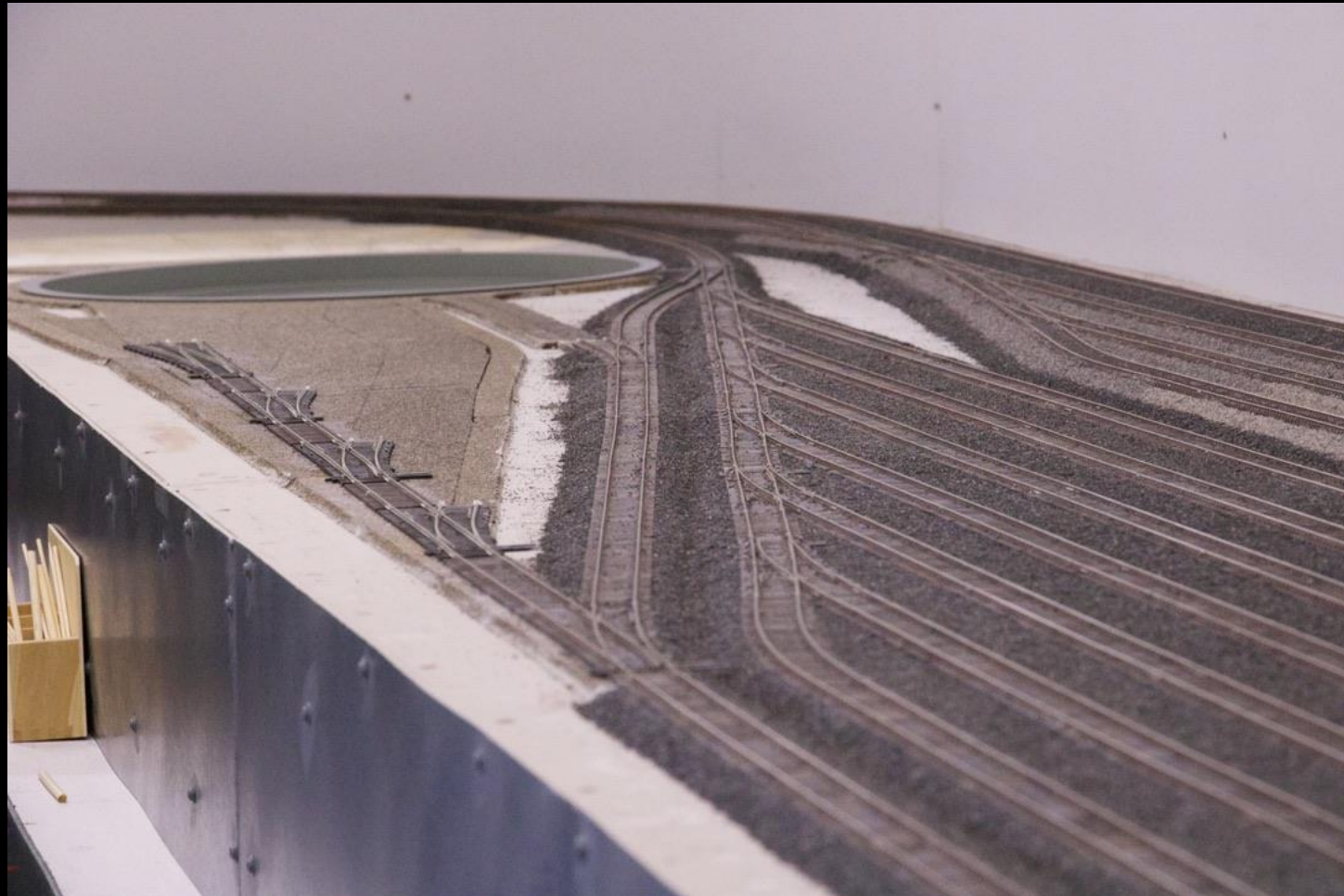
SEATTLE INTERBAY YARD

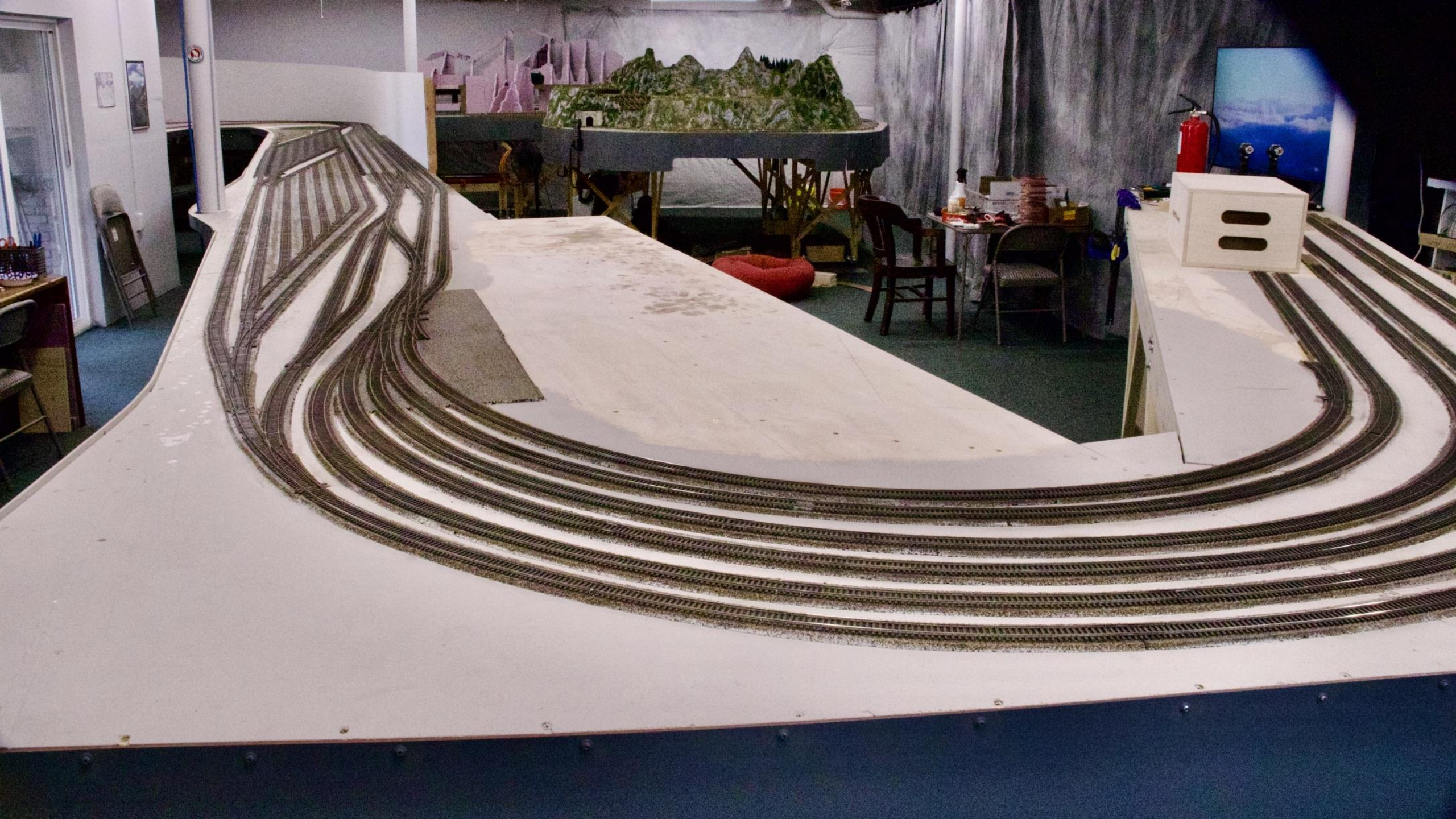
- 3 Arrival/Departure tracks – capacity 24 (40' cars)
- 6 classification tracks – capacity 9
- 7 classification tracks – capacity 14
- 1 classification track – capacity 27
- 1 runaround track
- 1 caboose track
- 1 yard lead – capacity 28
- 1 yard lead – capacity 19
- 130' turntable



SEATTLE INTERBAY YARD

- 52 turnouts
- Mainline & A/D tracks: Peco #8 turnouts
- Yard tracks: Peco #6 turnouts
- Peco code 83 flex track
- Yard tracks planned to remain manual throw
- Mainline & A/D tracks will eventually have switch machine control

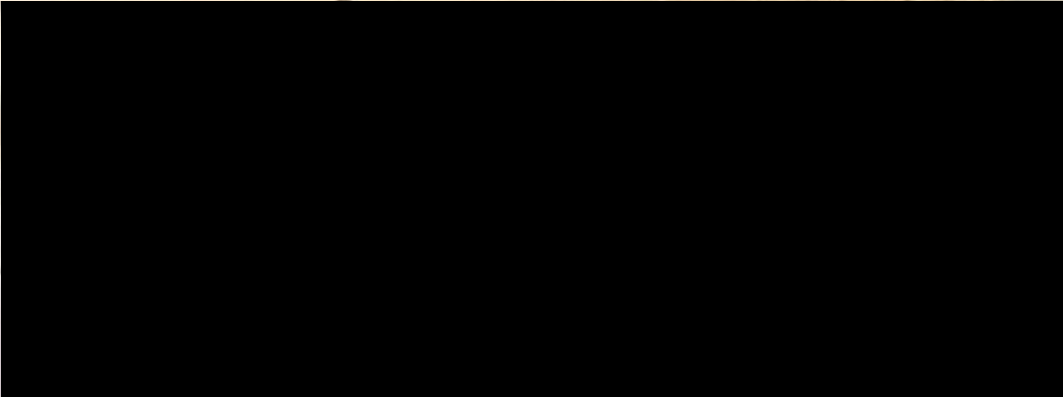
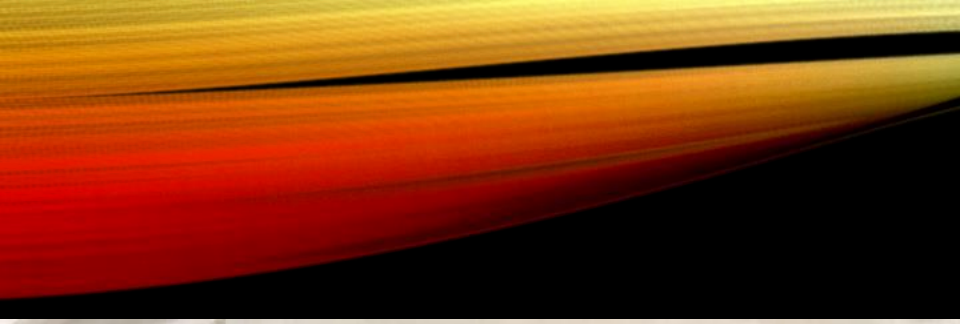
















BIBLIOGRAPHY & CREDITS

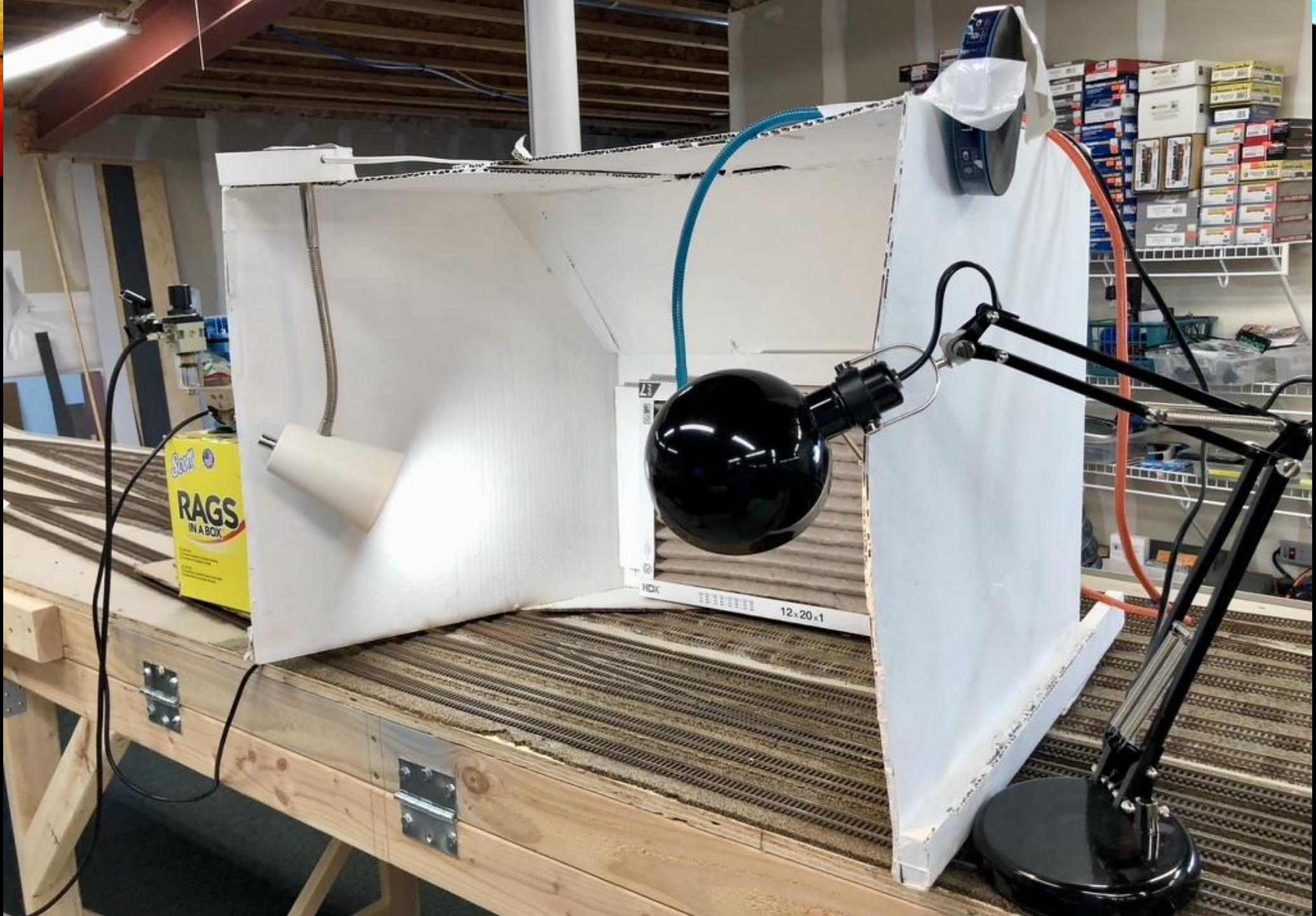
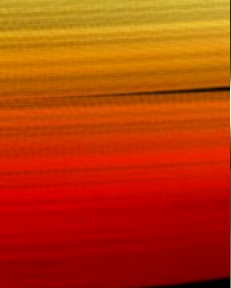
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MAR	JUNE	JUNE	SEPT	SEPT	DEC	DEC	MAR

12 x 20



*That's All,
Folks!*