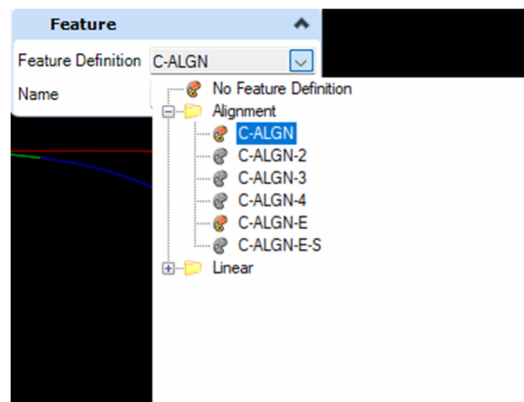


Alignments, Features, and Item Types

Alignment Files

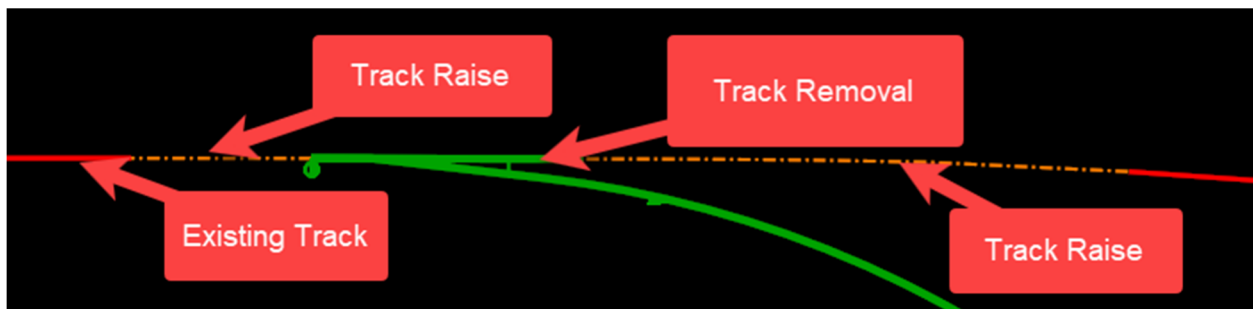
InRoads SS2 handles alignment geometry and other project data with an .alg extension. This file is managed and accessed through the application interface and dialog boxes. The software could write this geometry to static graphics within .dgn files using the “View Geometry” commands where the graphics could be manipulated without affecting the geometry. OpenRail Designer manages all civil data directly within .dgn files so it is good practice to parse out civil data previously held in InRoads external files to separate .dgn files (e.g ***_ALG.dgn = ***.alg or ***_TER.dgn = ***.dtm)

Separate alignment feature definitions and levels have been developed for the workspace, to create end to end alignment geometry. Alignment files should be used to contain horizontal linework, basis of stationing, and vertical information only. The alignment .dgn files should be referenced throughout the design process.

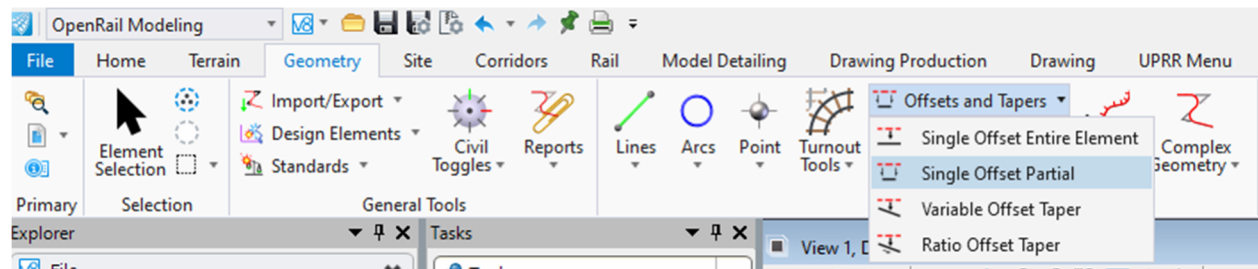


Trackwork Feature Files

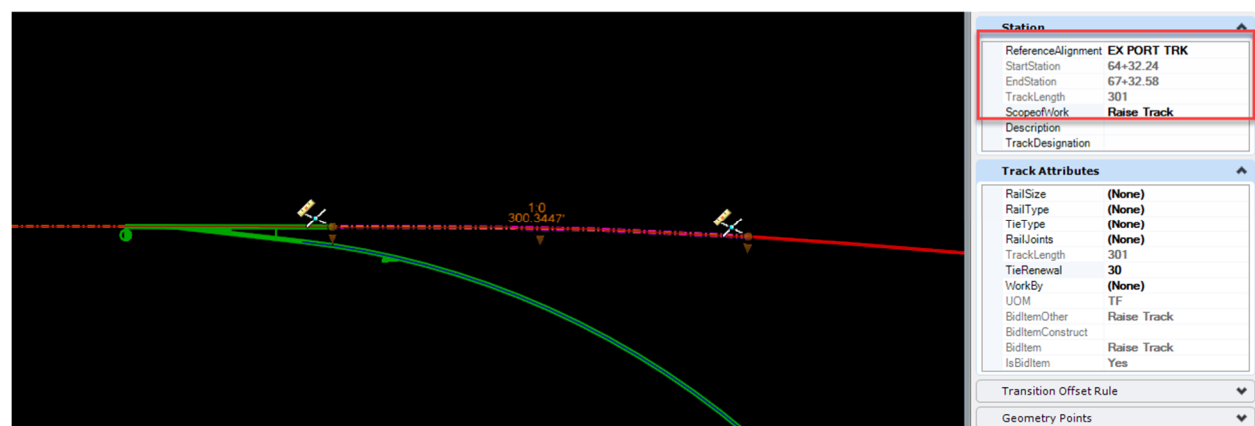
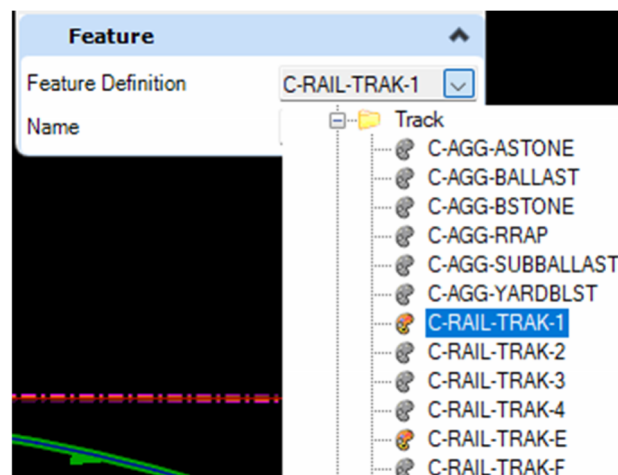
Especially in the case of existing geometry, there could be multiple track scope of work items over the length of a single horizontal alignment (e.g track removal, shift/raise, rail relay, surfacing, etc.)



While it is possible to copy the geometry from the alignment file, drop civil information, and break the graphics, an alternate workflow is to constrain track scope of work items to the alignment file using offset lines with the offset value set to 0'. Designers could maintain separate files with alignment centerlines and trackwork trace features used for material take-offs.



This method constrains these separate scope of work items to baseline alignment by station ranges using separate feature definitions with the same naming convention as the legacy UPRR track level library.

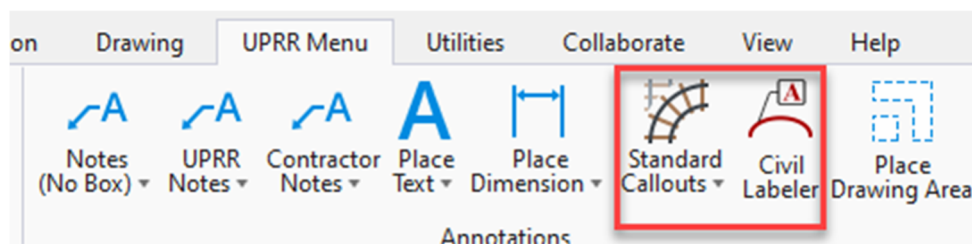


OpenRail will recall these station limits through the use of rules and update relative position if the alignment were to change. Additionally, item types are delivered with the

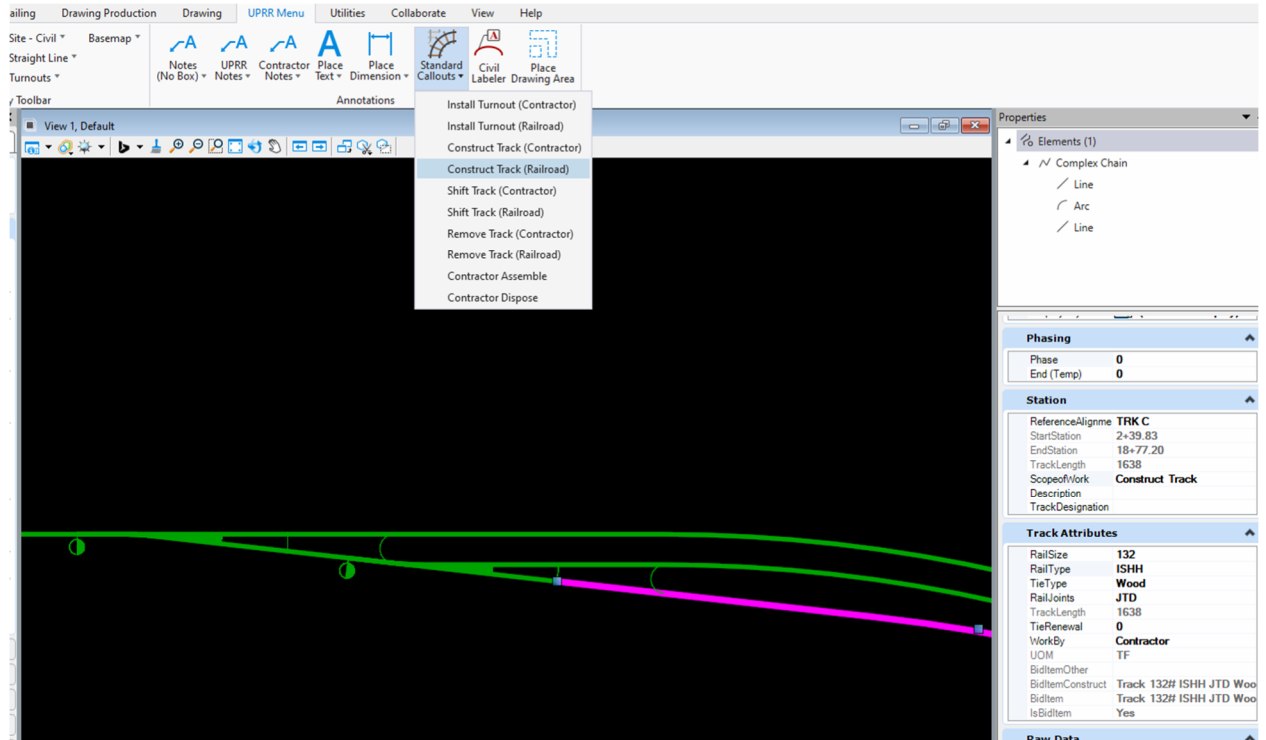
UPRR workspace for options to leverage these separate scope of work items through dynamic callouts, scope of work reports, or phasing display styles for example. Item types may be updated under each element's properties dialogue. Black text represents input fields and gray text represents calculated fields.

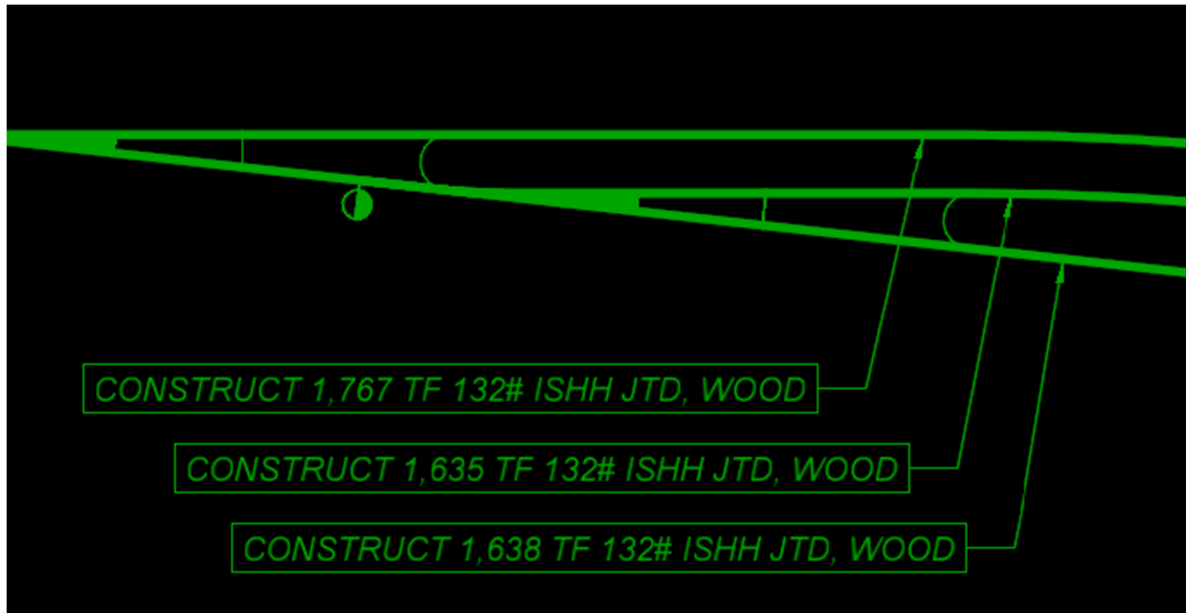
Track Callouts

A combination of the Standard Callouts button and Civil Labeler can be used to automate common callouts within the UPRR Menu. "Standard Callouts" is used for scope of work callouts (e.g boxed callouts) while Civil Labeler is used for informational callouts (e.g station callouts). These callouts work in tandem with Item Types.



Track Construction Callout (Derives Length and Track Attributes Information)





Turnout Construction Callout (Derives TO Attributes Information)

UPRR Menu

- Notes (No Box)
- UPRR Notes
- Contractor Notes
- Place Text
- Place Dimension
- Standard Callouts
- Civil Labeler Drawing Area

Install Turnout (Contractor)

- Install Turnout (Railroad)
- Construct Track (Contractor)
- Construct Track (Railroad)
- Shift Track (Contractor)
- Shift Track (Railroad)
- Remove Track (Contractor)
- Remove Track (Railroad)
- Contractor Assemble
- Contractor Dispose

Properties

Elements (1)

- Cell: 9LHSOSA
- Shape
- Line
- Circle
- Line
- Shape
- Line

Origin 1044009.3408, 145130.026

Angle 40°04'27"

Scale X 1.00000

Scale Y 1.00000

Extended

Model: Default

Last Modified: 6/19/2025 3:44:30 AM

Modified: Modified

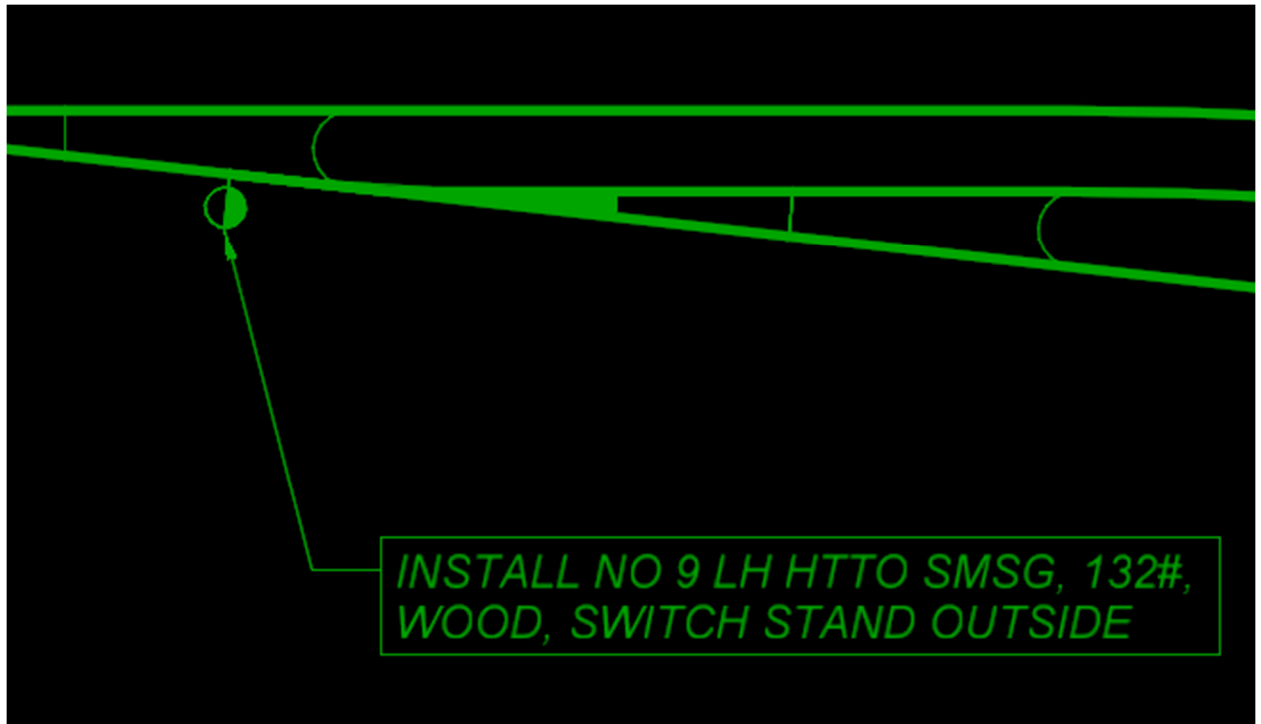
New: New

Locked: Unlocked

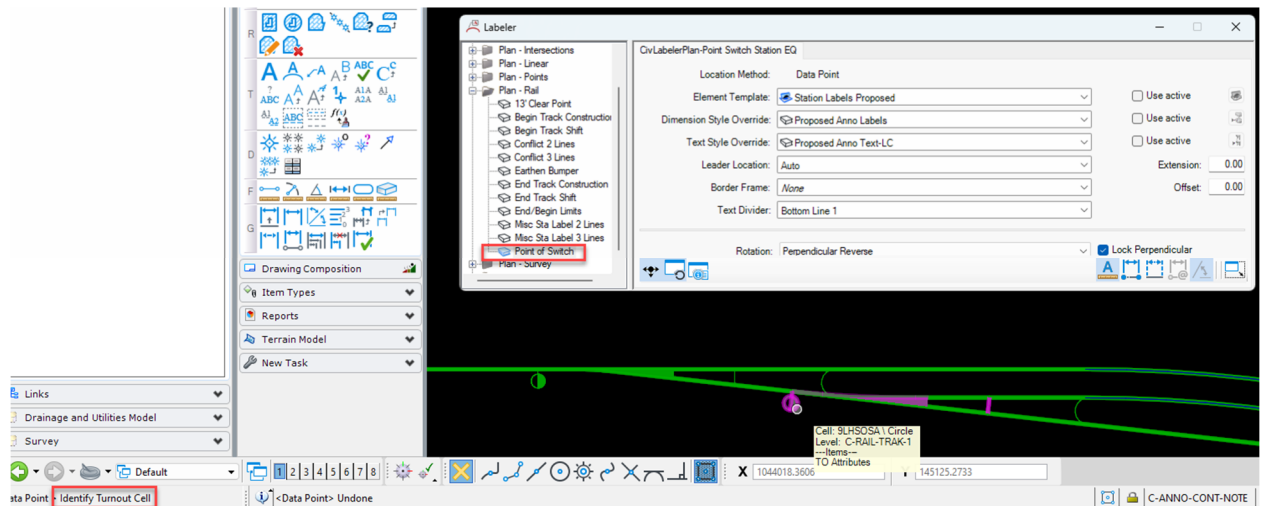
Display Style: (From View Display)

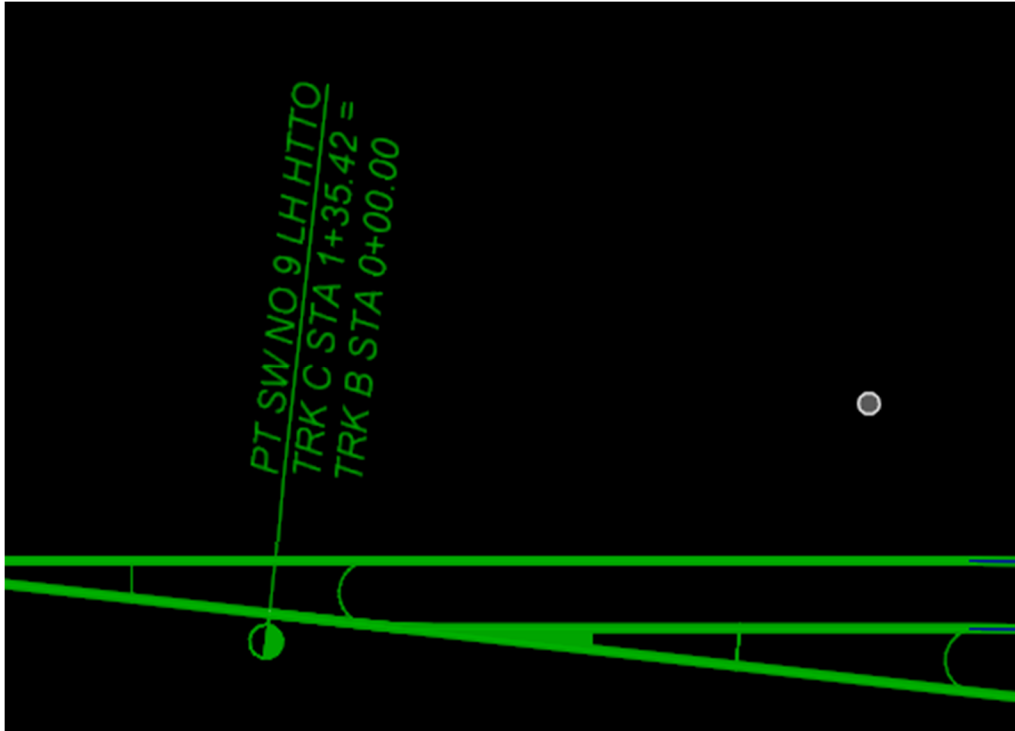
TO Attributes

TO-ID	TO-B
Number	9
Hand	Left
Type	Hand-Throw
Operator	Outside
Switch/Rails	Straight
Reference/Alignme	TRK A
Switch Station	10+81.19
Frog Type	SMG
Rail Size	132
Rail Joints	JTD
Tie Type	Wood
Scope of Work	Install
Shorthand	NO 9 LH HTTO
Work By	Contractor
UOM	EA
Count	1
Type Override	
Bid Item	Turnout No. 9 Hand-Throw



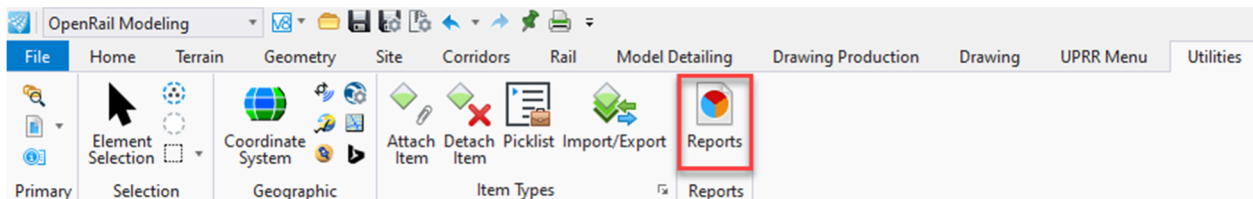
Point of Switch Civil Labeler (Follow Prompts for Cells and Station Equation)





Reports

The workspace has also been delivered with custom reports to validate track lengths or turnout inventories using these same data fields.



Station Report

Station Report					
ReferenceAlignment	StartStation	EndStation	TrackLength	TrackType	Description
EX PORT TRK	64+32.24	67+32.58	301	Raise Track	
EX PORT TRK	67+32.58	67+73.43	41	Construct Track	
EX PORT TRK	67+73.43	68+81.96	109	Turnout	
EX PORT TRK	68+81.96	69+81.96	100	Raise Track	
TRK A	0+00.00	1+09.01	110	Turnout	
TRK A	1+09.01	9+46.42	839	Construct Track	
TRK A	9+46.42	10+50.84	105	Turnout	
TRK A	10+50.84	28+17.70	1767	Construct Track	
TRK B	0+00.00	1+04.88	105	Turnout	
TRK B	1+04.88	17+38.96	1635	Construct Track	
TRK C	0+00.00	1+04.88	105	Turnout	
TRK C	1+04.88	1+35.42	31	Construct Track	
TRK C	1+35.42	2+39.83	105	Turnout	
TRK C	2+39.83	18+77.20	1638	Construct Track	

Turnout Report

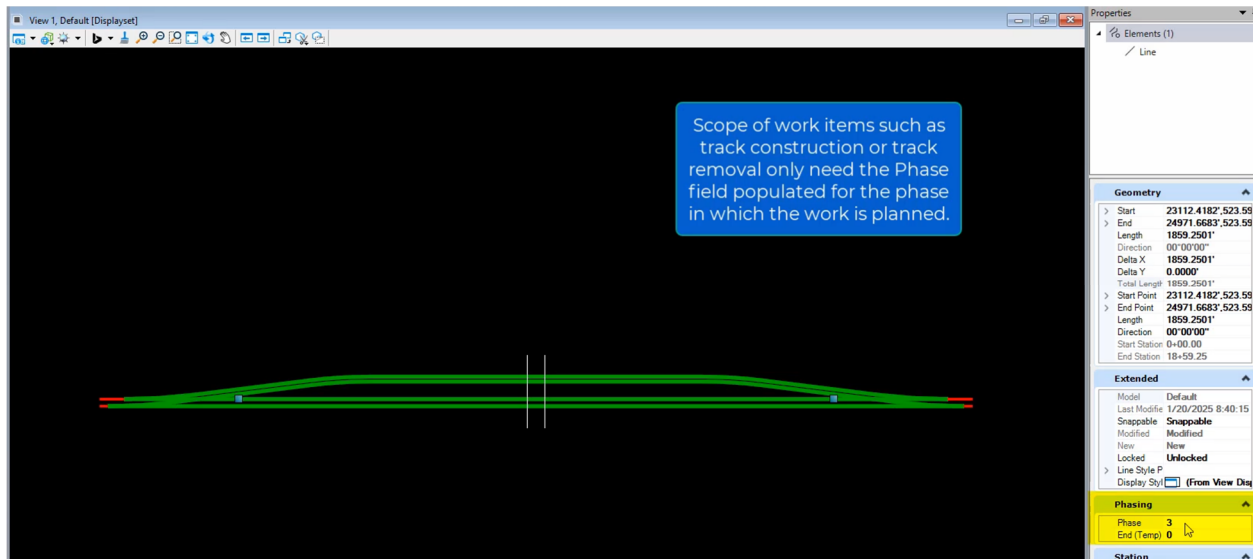
Turnouts										
TO-ID	Type	Number	Hand	Operator	Reference Alignment	Switch Station	Frog Type	Rail Size	Rail Joints	Tie Type
TO-A	Hand-Throw	10	Left	Inside	EXPORT TRK	88+27.88	SMSG	132	JTD	Wood
TO-C	Hand-Throw	9	Right	Inside	TRK A	9+46.42	SMSG	132	JTD	Wood
TO-B	Hand-Throw	9	Left	Outside	TRK A	10+81.19	SMSG	132	JTD	Wood

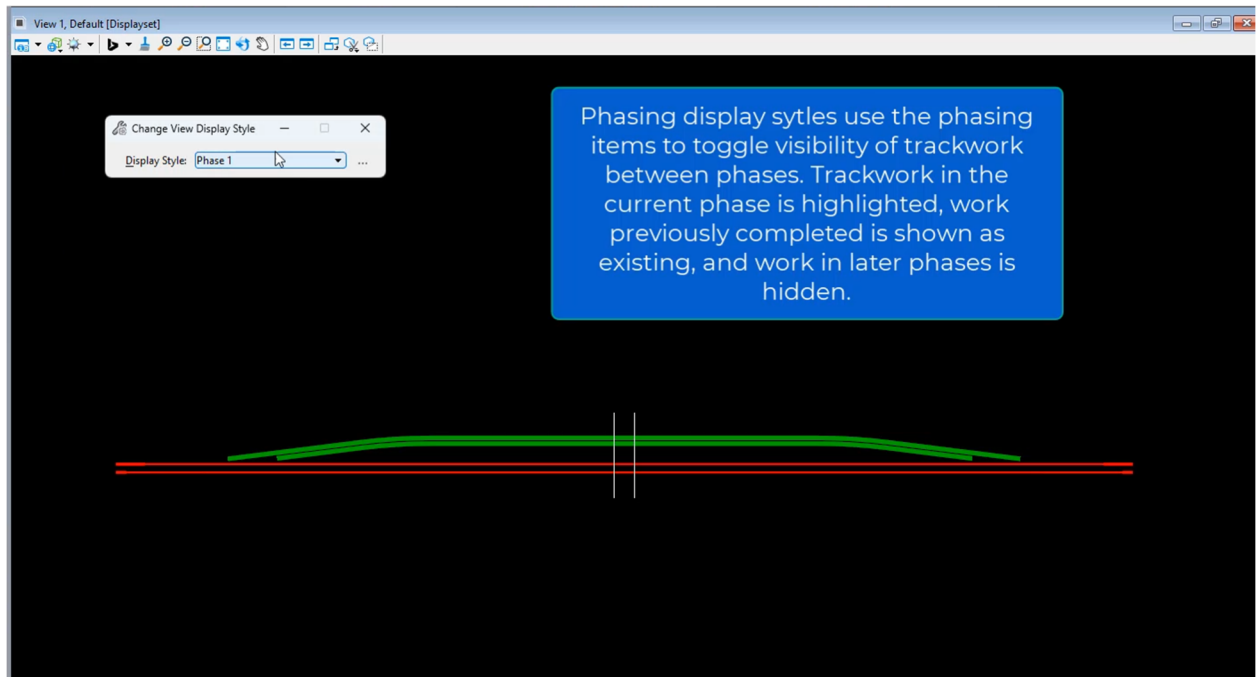
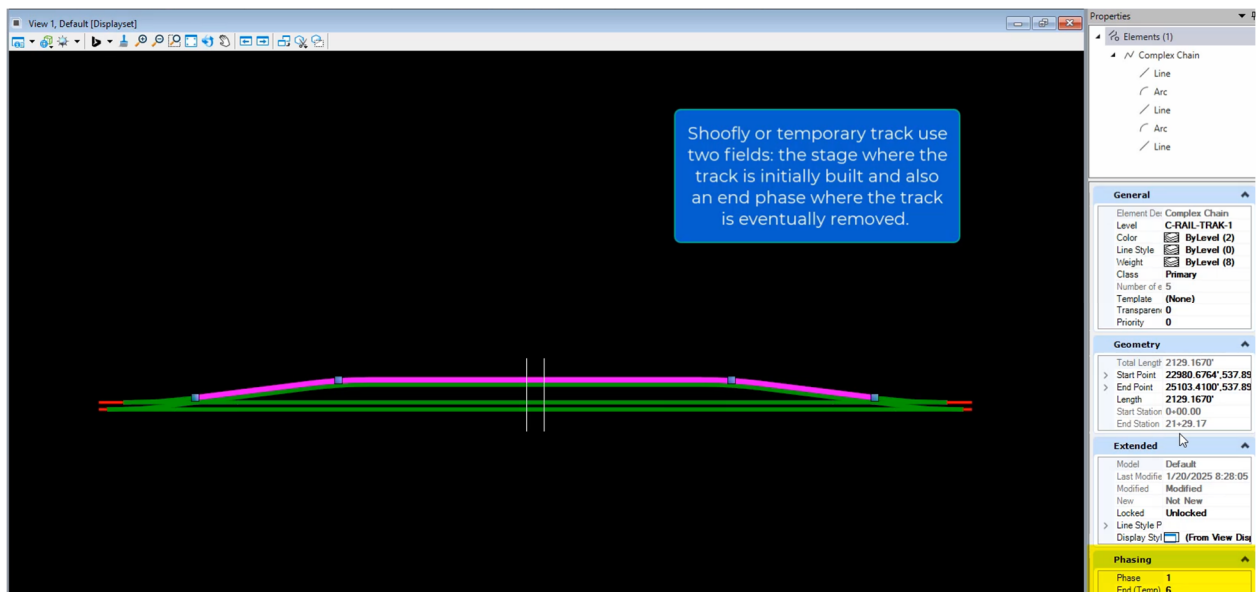
Trackwork Summary

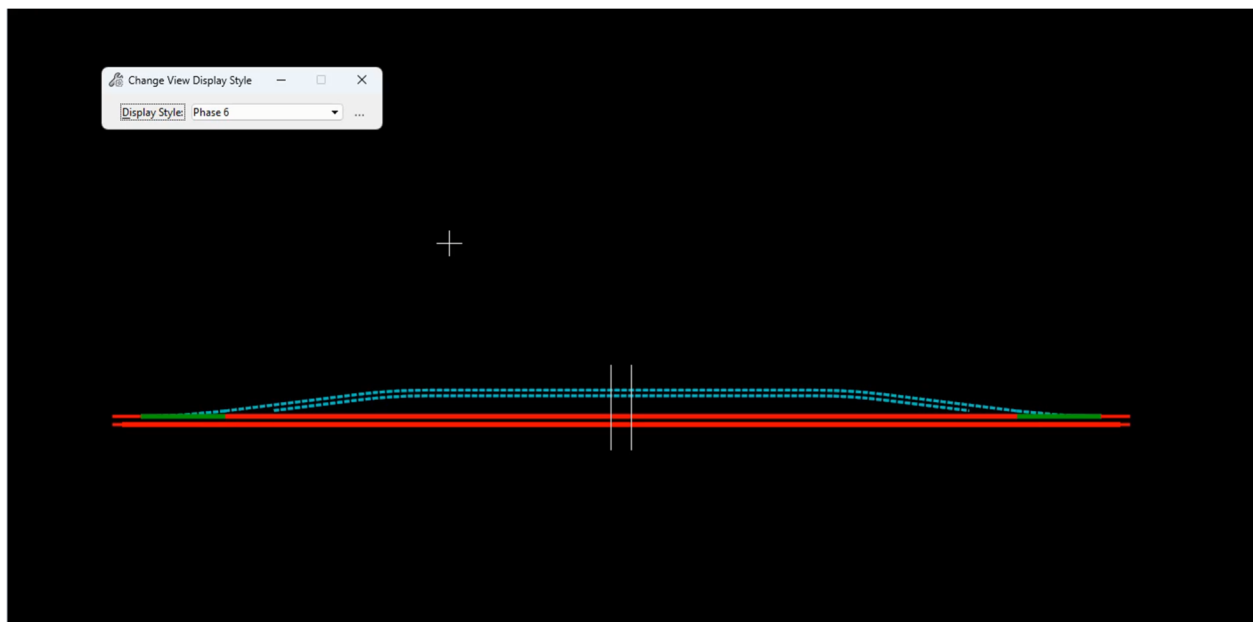
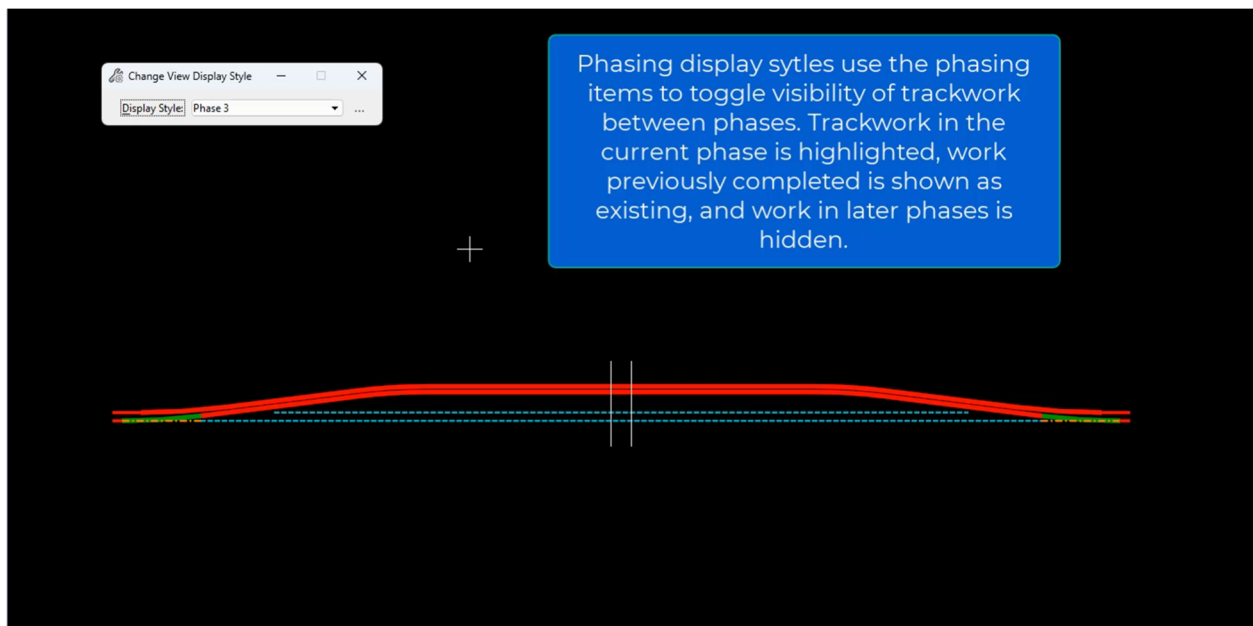
Trackwork Summary		
Bid Items	Units of Measure	Quantity
Remove Track	TF	150
Raise Track	TF	702
Track 132# ISHH JTD Wood	TF	5951
Turnout No. 10 Hand-Throw SMSG 132# JTD Wood	EA	1
Turnout No. 9 Hand-Throw SMSG 132# JTD Wood	EA	2

Phasing

The example below highlights how use of phasing information embedded into linework or features can reduce need for copied linework between phase models.







A phase report can similarly be generated to quantify major scope of work items by phase.

Phase Reports			
Phase	Scope of Work	Units of Measure	Quantity
1	Construct Track	TF	3995
2	Shift Track	TF	452
2	Remove Track	TF	264
2	Construct Track	TF	398
3	Shift Track	TF	420
3	Remove Track	TF	4113
4	Construct Track	TF	4113
5	Shift Track	TF	420
5	Construct Track	TF	264