



Wallingford BF 0133(18) Project Introduction Meeting

VT Route 155 – Bridge 15 over Mill River

April 3, 2023

Introductions

Laura Stone, P.E.

VTrans Project Manager

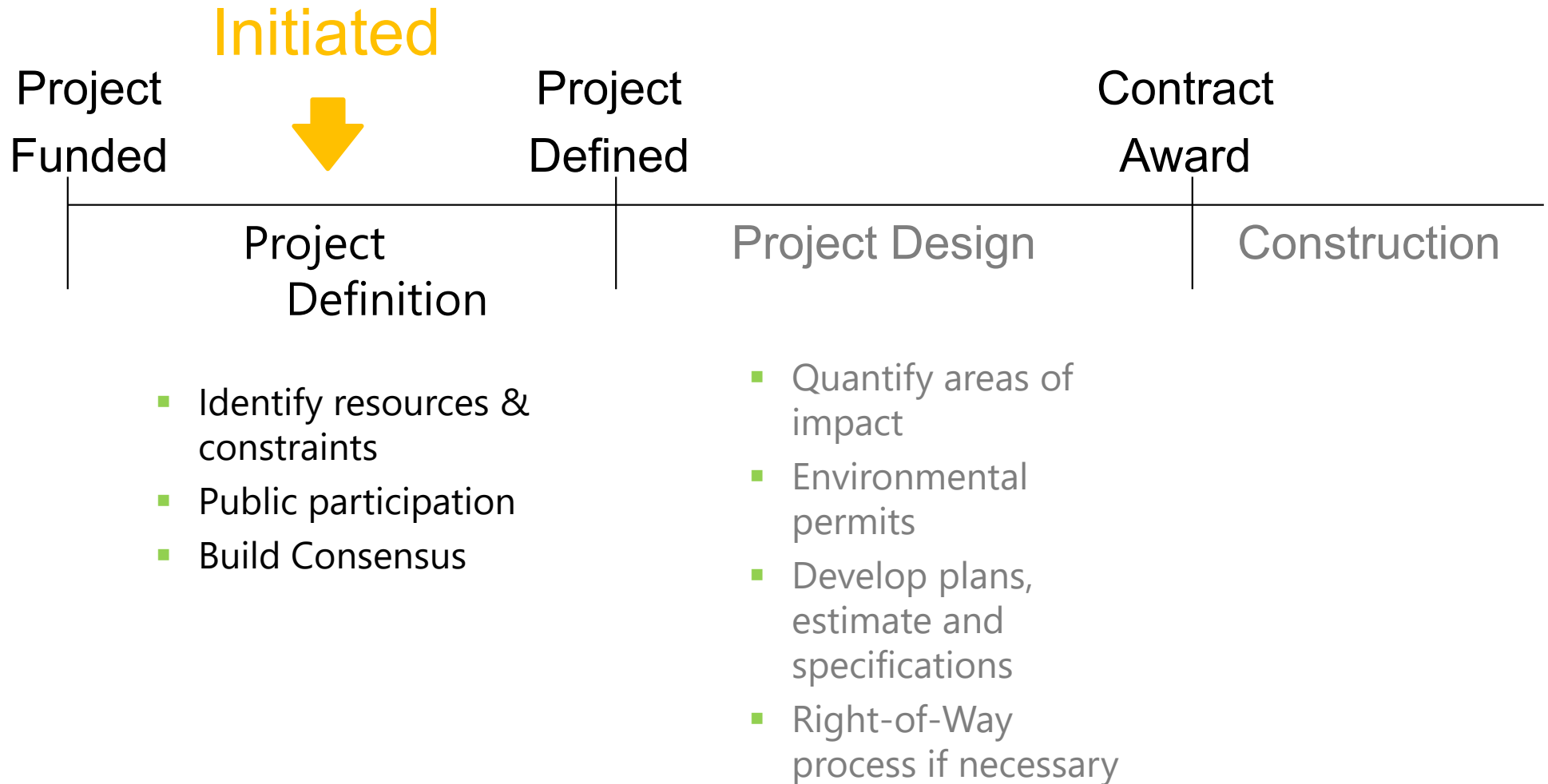
Dave Peterson, P.E.

VTrans Lead Design Engineer

Purpose of Meeting

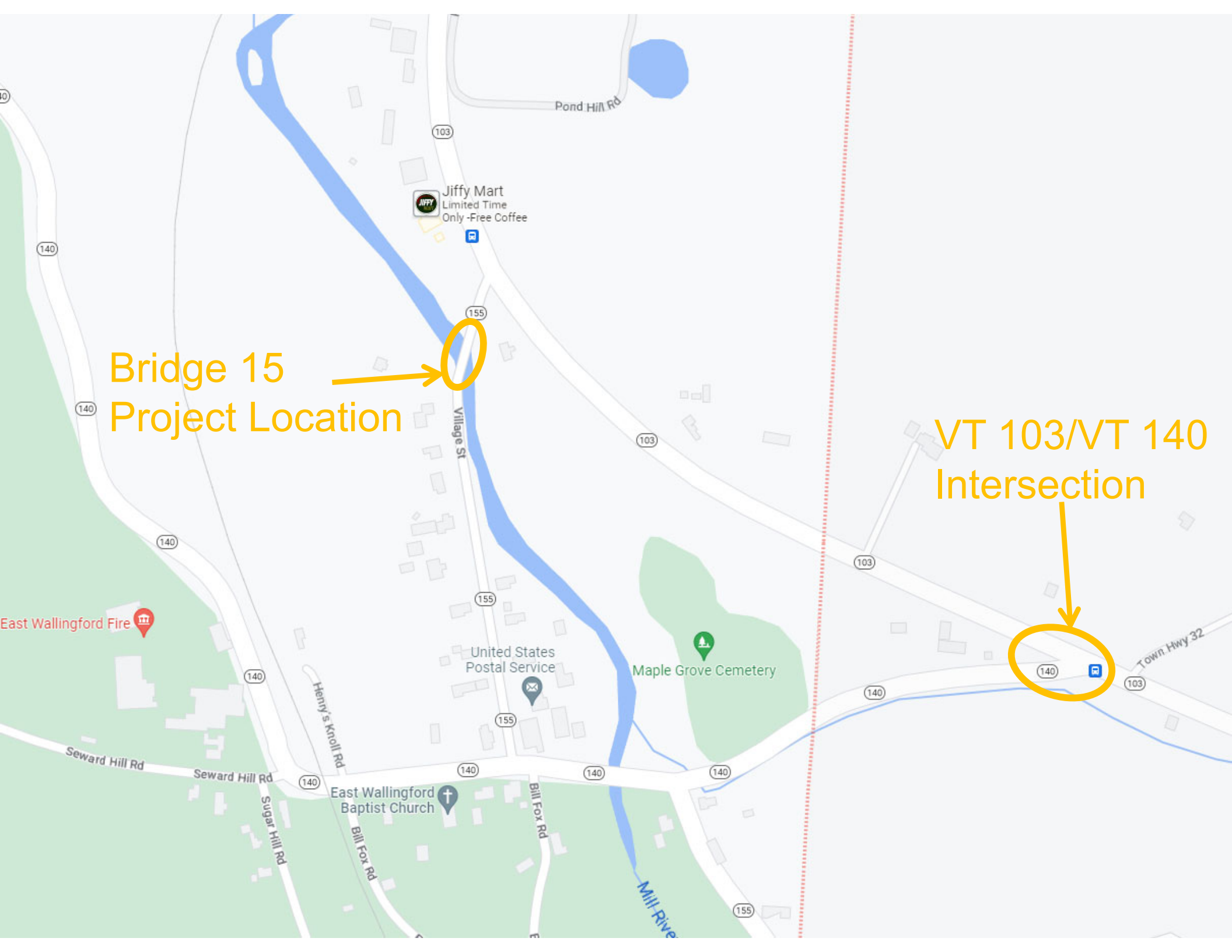
- Provide a background of the project
- Discuss existing bridge condition
- Discuss the intersection of VT Route 103/VT Route 140
- Provide an overview of project constraints
- Discuss our preferred alternative and schedule
- Provide an opportunity to ask questions and voice concerns

VTrans Project Development Process



Bridge 15
Project Location

VT 103/VT 140
Intersection



Looking South



Existing Conditions – Bridge #15

- Roadway Classification – Rural Minor Collector
- 180' long 2-Span Rolled Beam Bridge
- Ownership – State of Vermont
- Constructed in 1940

Looking North



Existing Conditions – Bridge #15

- Public Utilities – Aerial Utilities
- Municipal Utilities?

Project Background – Bridge #15

- Issue: Full depth hole formed in the VT Route 155 south bound lane on 1/7/2023. The bridge was closed until further discussions.
- Background: Our bridge inspection team was notified of a full depth hole that had developed on this structure. Due to safety concerns the structure was closed (1/7/2023) by district forces until further investigation was performed and discussions had. Bridge inspection was on site the morning of Monday, 1/9/2023. This inspection noted advancement in deterioration and the 3.5ft x 2.5ft hole with soft concrete surrounding the area of concern. Deteriorated concrete was noted and appears extensively throughout the deck. Also noted substantial concrete deterioration along the curb line and around the open wind slots. Due to the 1940's design of the structure with wind slots contributing to the advanced deterioration in the fascia it has now extended beyond the exterior bays and is progressing into some interior bay sections. Deck rating dropping from 5 to 4.
- It was noted that local pedestrians use this bridge while walking to the store on VT Route 140, however it is a very short detour for vehicular traffic.

Actions Taken to Date– Bridge #15

Action Item	Date	Comments
Closure of the Bridge	1/7/2023	District closed the bridge with a state route detour until repairs could be made
Bridge Inspection	1/9/2023	Bridge inspection performed an inspection of the closed structure to determine the current condition. Deck rating was moved to a 4.
Emergent Needs Meeting	1/12/2023	AMP scheduled Emergent Needs meeting to discuss the issues, risks, potential options, identify responsibilities... Due to the length of this structure it could cost upwards of \$20_+ million for replacement. Noted the Deck Super and Substructure are rated 5 and less.
Risk & Temp Repair Options	1/12/2023	Due to the poor deck condition, performing a long term concert repairs would not likely last when joined with unsound concrete throughout the existing deck. It was decided to install a temporary steel plate and reopen the bridge. We discussed and weighed the steel plate risk against the safety risk posed at the intersection of VT103 & 140, which has alignment and sight distance concerns. By installing this steel plate now it will afford us the time develop contingency plans and investigate long term solutions.
Programed for Scoping	1/20/2023	AMB programed for scoping to investigate options
Contingency plan cont.	1/26/2023	Consulted with OSB and received input on the VT 103/VT 140 intersection. Noted that there are challenges related to geometry for large tractor trailer trucks. A signed detour would be needed for long term closure. Info and recommendations received.
Install temp repairs	2/10/2023	Bridge Maintenance Crew w/ District Forces installed steel plates and opened the bridge. Original estimate was 3-4 days to perform this work. Due to weather conditions this deadline was extended to the second week of February

Next Steps – Bridge #15

Action Item	Deadline	Comments
Monitoring	ongoing	Now that the steel plate is installed, District forces will keep an eye out for issues while on patrol and notify in the event issues arise.
Bridge Inspection	ongoing	Due to its condition it will be inspected annually, next official bridge inspection scheduled for April 2023.
Scoping	4/28/2023	Structures team taking the lead with support from others in highway design starting off with scoping to understand community needs and desires. Investigate safety needs, turning movements and more while investigating options.
Emergent Needs Meeting follow up	4/28/2023	Follow up check in

Bridge Inspection Report Ratings



Existing Conditions - Bridge #15

- Deck Rating 4 (Poor)
- Superstructure Rating 5 (Fair)
- Substructure Rating 5 (Fair)
- Channel Rating 6 (Satisfactory)

Full Depth Pop Out



Existing Conditions - Bridge #15

Failed Bridge Joint



Existing Conditions - Bridge #15

Deck Deterioration



Existing Conditions - Bridge #15

Bridge Fascia



Existing Conditions - Bridge #15

Abutment 1



Existing Conditions - Bridge #15

Abutment



Existing Conditions - Bridge #15

Abutment 2



Existing Conditions - Bridge #15

Abutment



Existing Conditions - Bridge #15

Pier Condition



Existing Conditions - Bridge #15

Pier



Existing Conditions - Bridge #15

Looking Downstream



Existing Conditions - Bridge #15

Looking Upstream



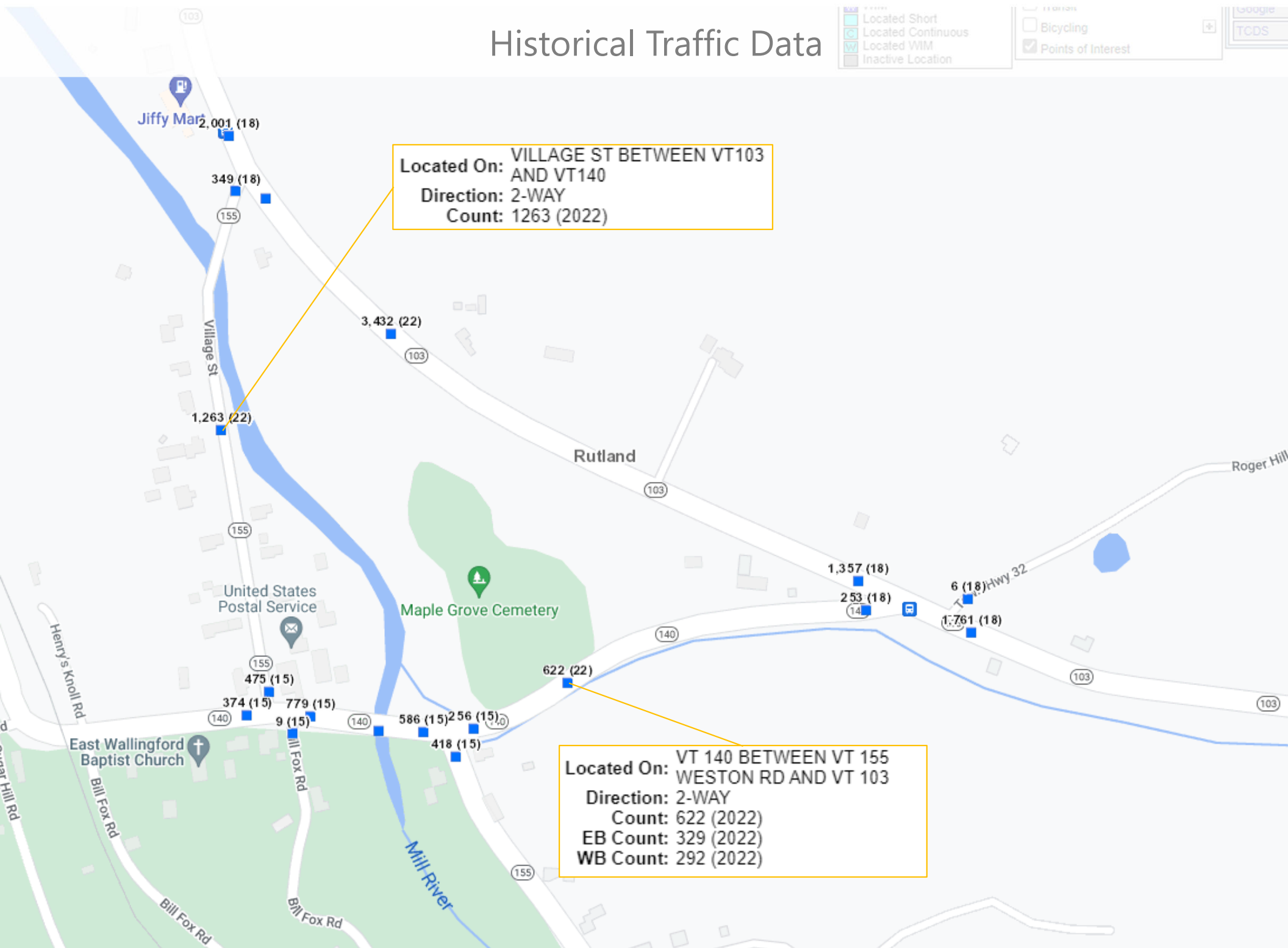
Existing Conditions - Bridge #15

Historical Traffic Data

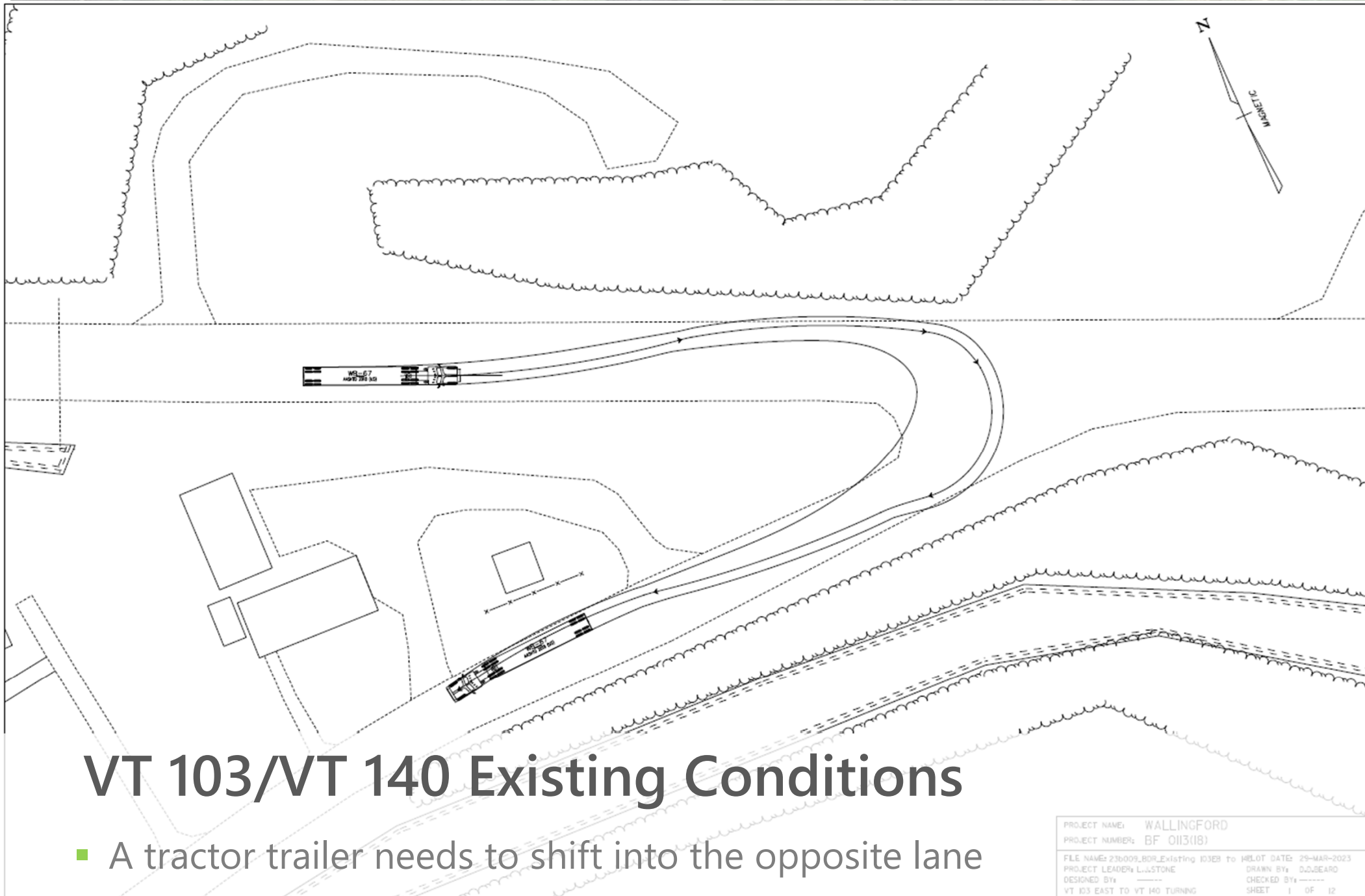
Legend:
Located Short
Located Continuous
Located WIM
Inactive Location

Options:
☐ Bicycling
☒ Points of Interest

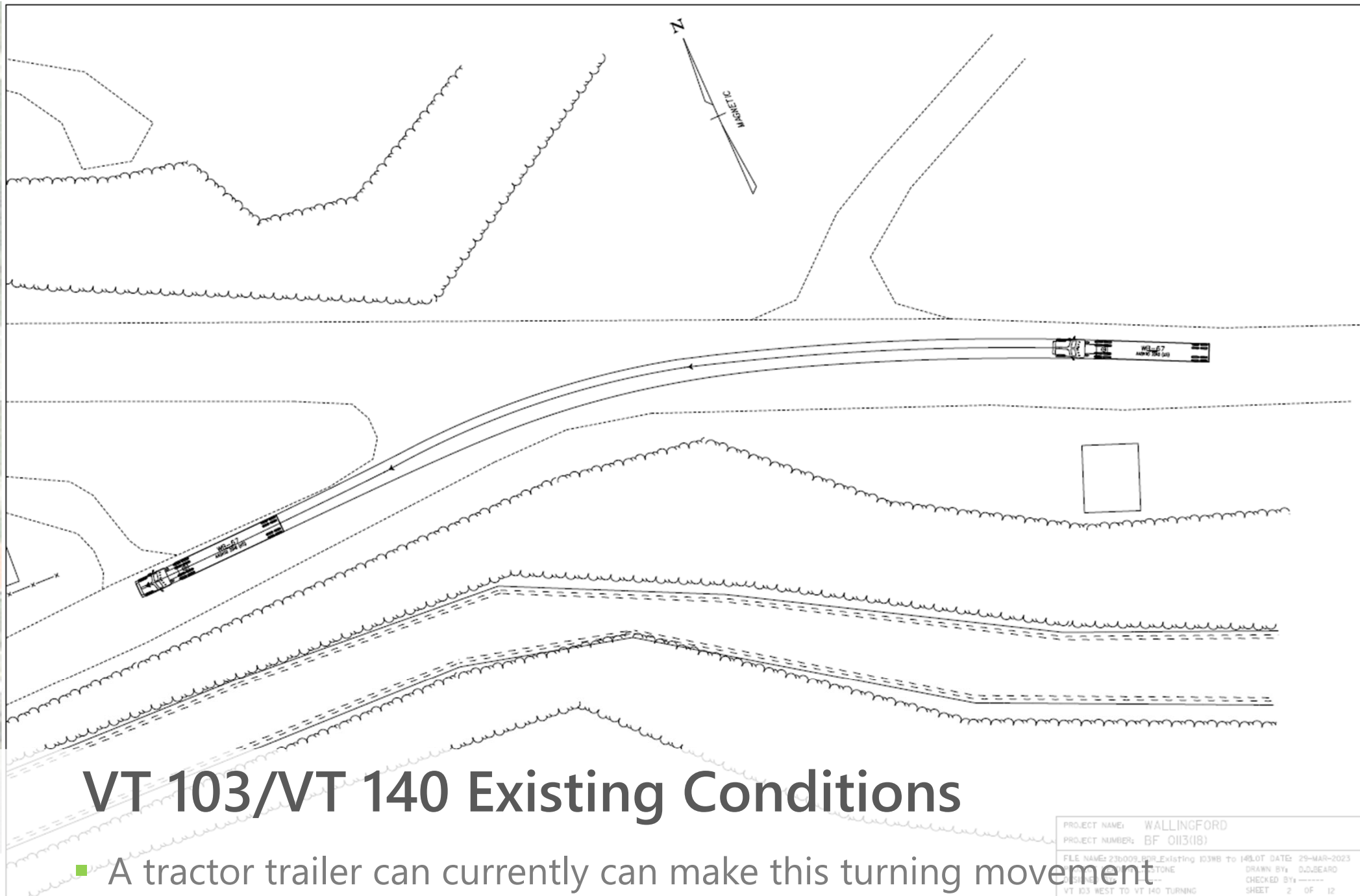
Google
TCDs



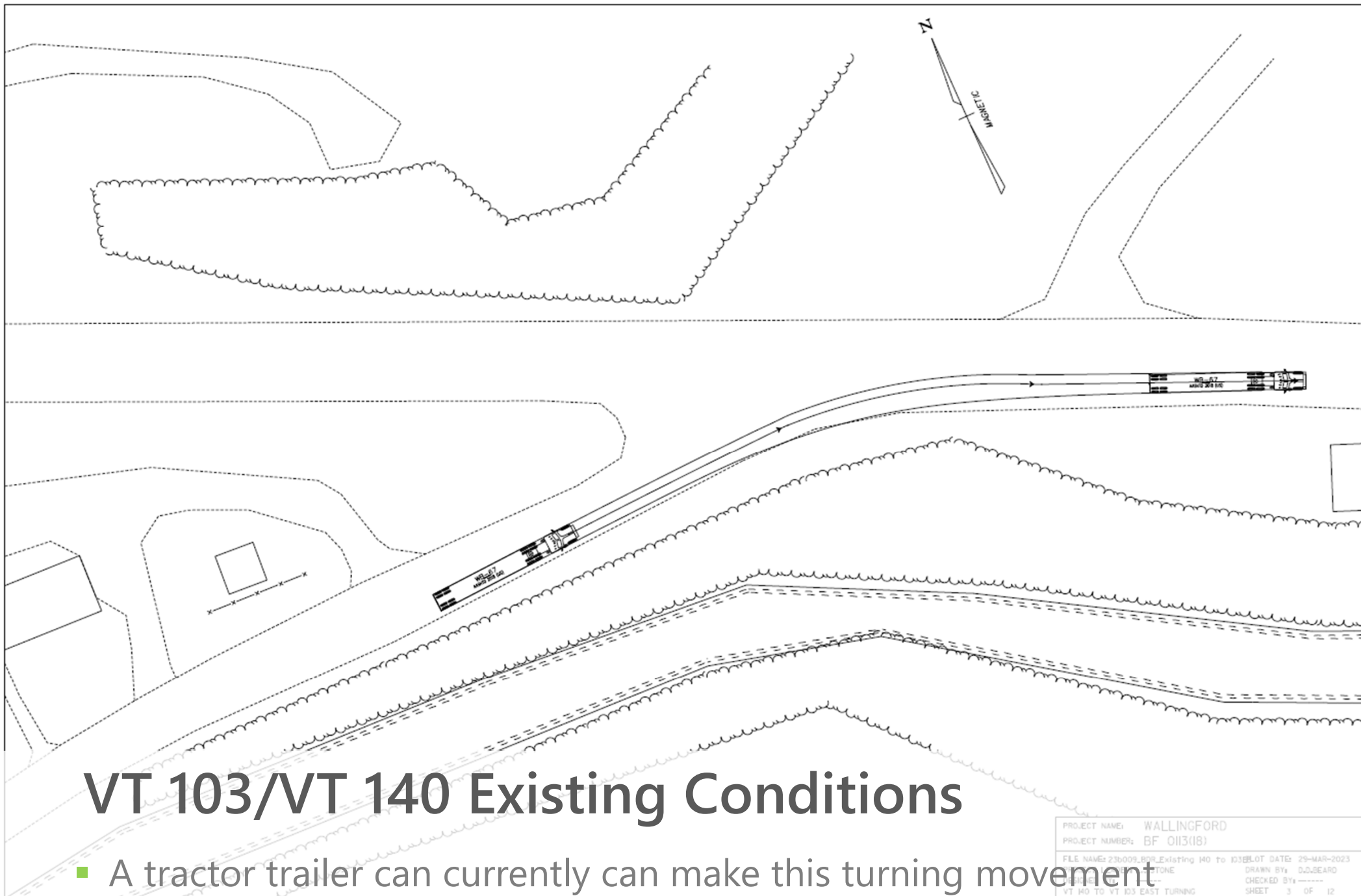
VT 103 East to VT 140 Turning Movement



VT 103 West to VT 140 Turning Movement

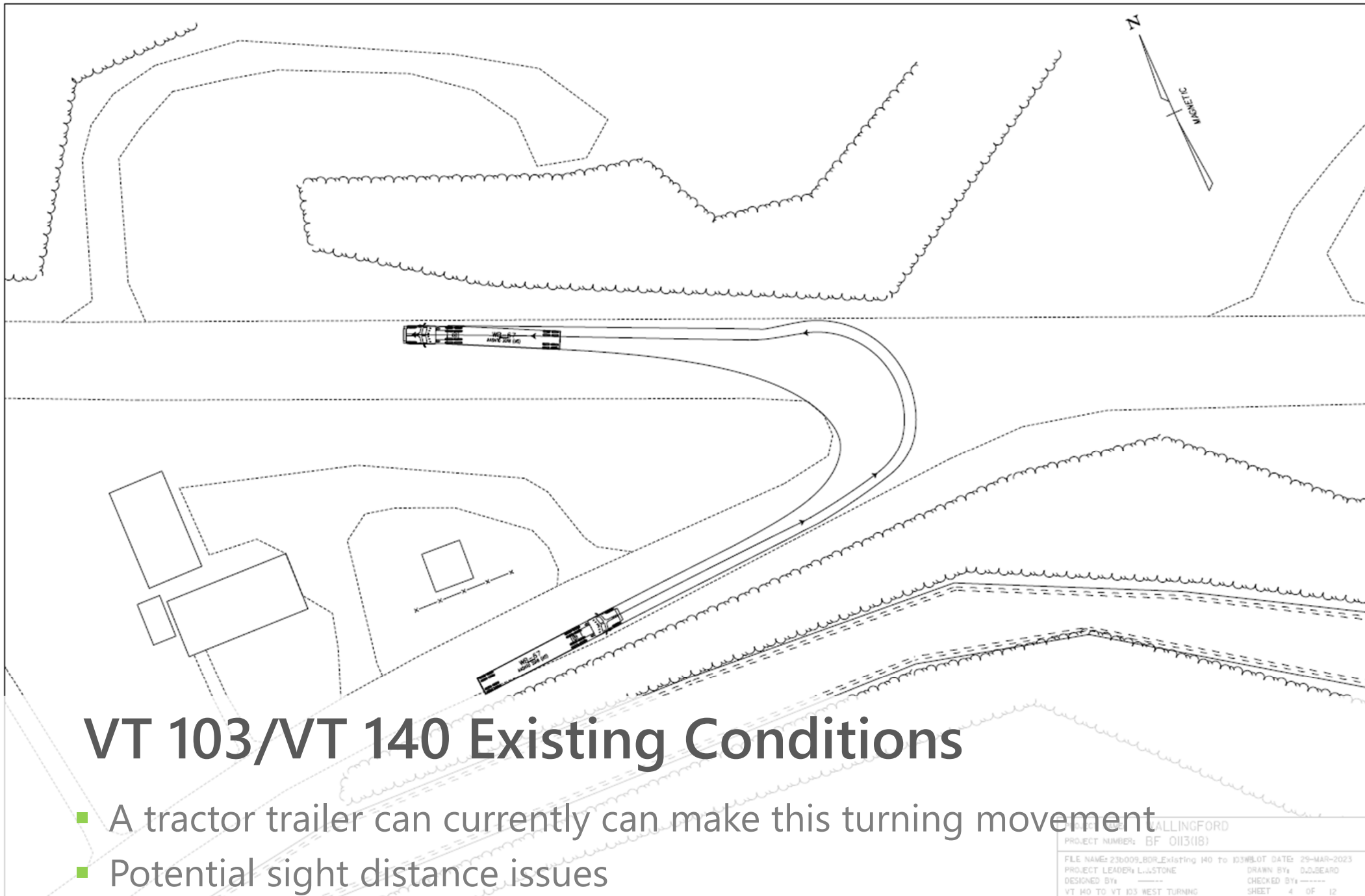


VT 140 to VT 103 East Turning Movement



- A tractor trailer can currently can make this turning movement

VT 140 to VT 103 West Turning Movement



VT 103/VT 140 Existing Conditions

- A tractor trailer can currently make this turning movement
- Potential sight distance issues

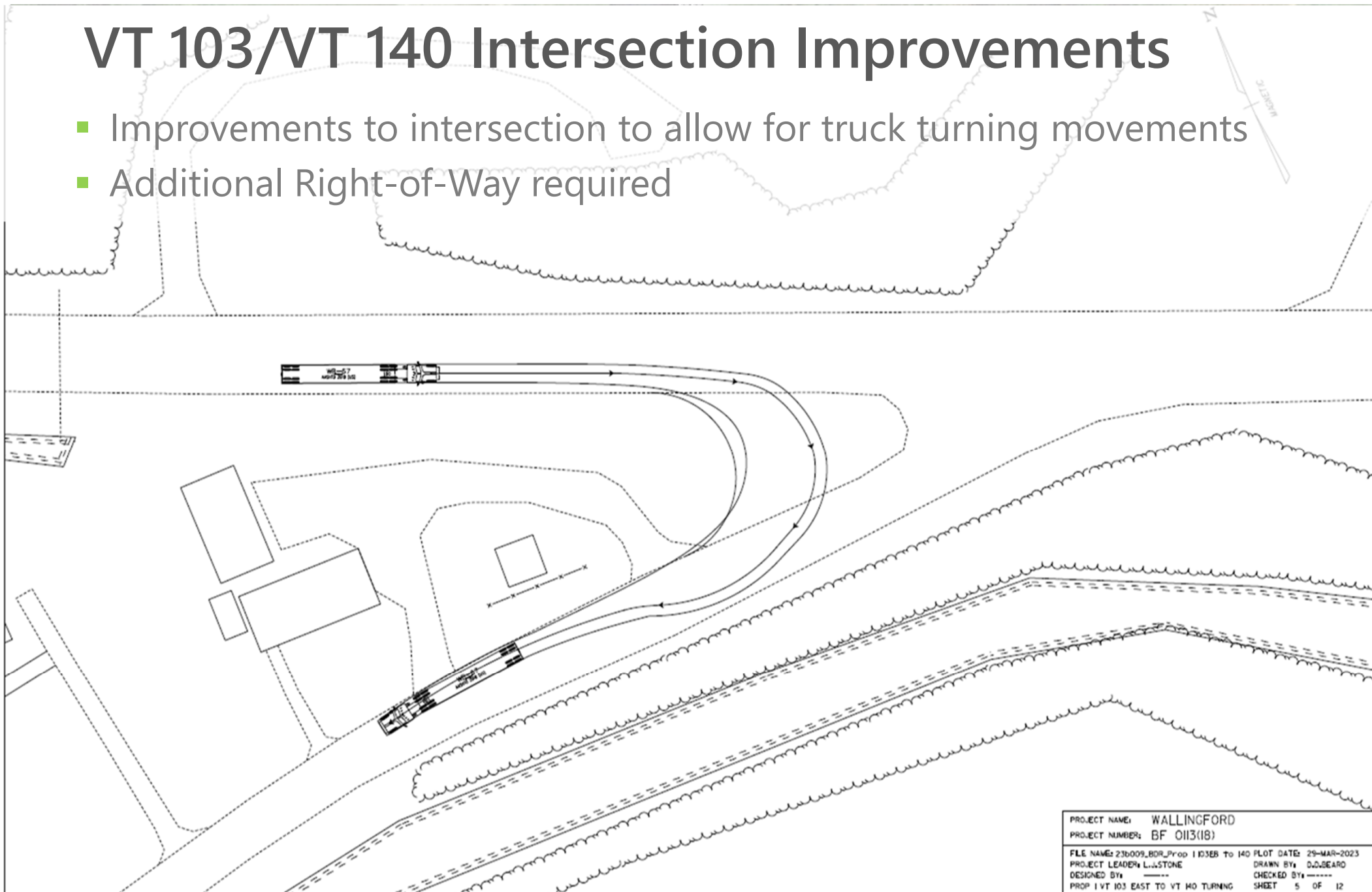
Alternatives Considered – Bridge #15

- No Action
 - Additional maintenance required within 10 years
- Permanent Closure of Bridge 15 and Intersection Improvements to VT 103/VT 140
 - Approximate \$500,000
 - Permanent property acquisition required
- Replace Bridge 15 with a Pedestrian Bridge and Intersection Improvements to VT 103/VT 140
 - Approximate \$2 million
 - Reuse or partial reuse of existing substructures
 - Permanent property acquisition required
- Full Bridge Replacement of Bridge 15 for Vehicular Use
 - Approximate \$20 million+
 - Intersection of VT Route 103 and VT Route 140 to remain unchanged

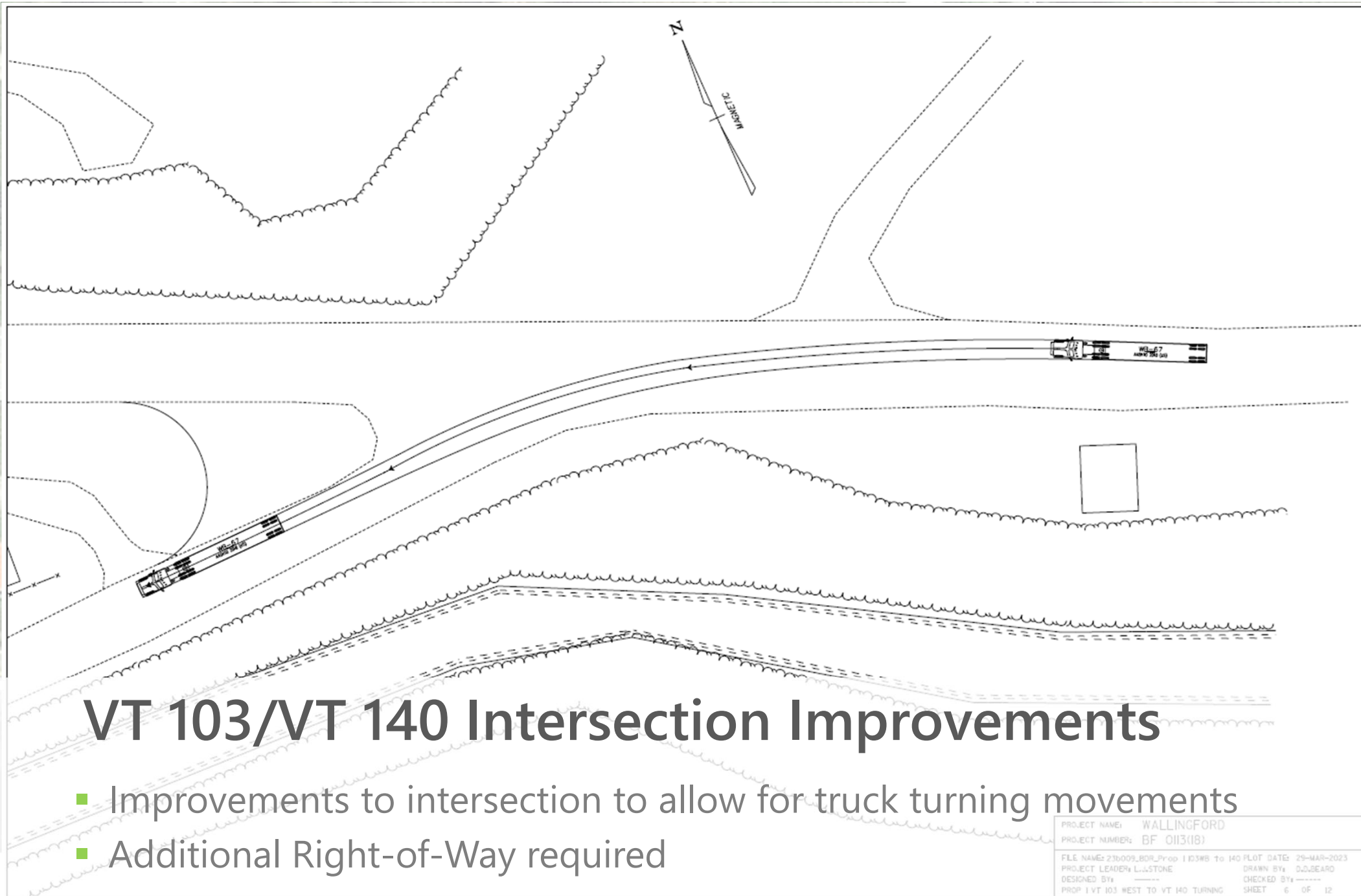
Proposed: VT 103 East to VT 140 Turning Movement

VT 103/VT 140 Intersection Improvements

- Improvements to intersection to allow for truck turning movements
- Additional Right-of-Way required



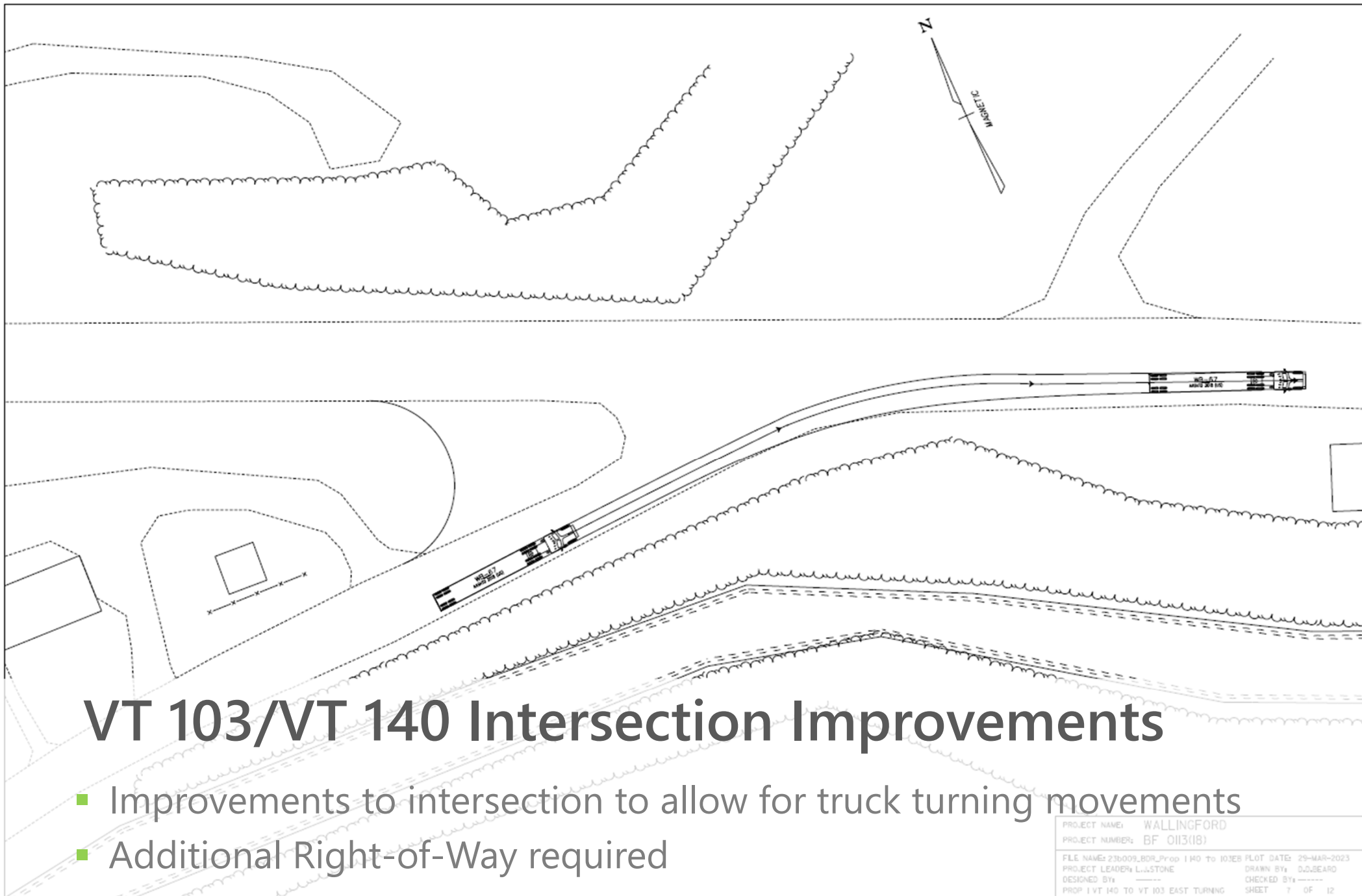
Proposed: VT 103 West to VT 140 Turning Movement



VT 103/VT 140 Intersection Improvements

- Improvements to intersection to allow for truck turning movements
- Additional Right-of-Way required

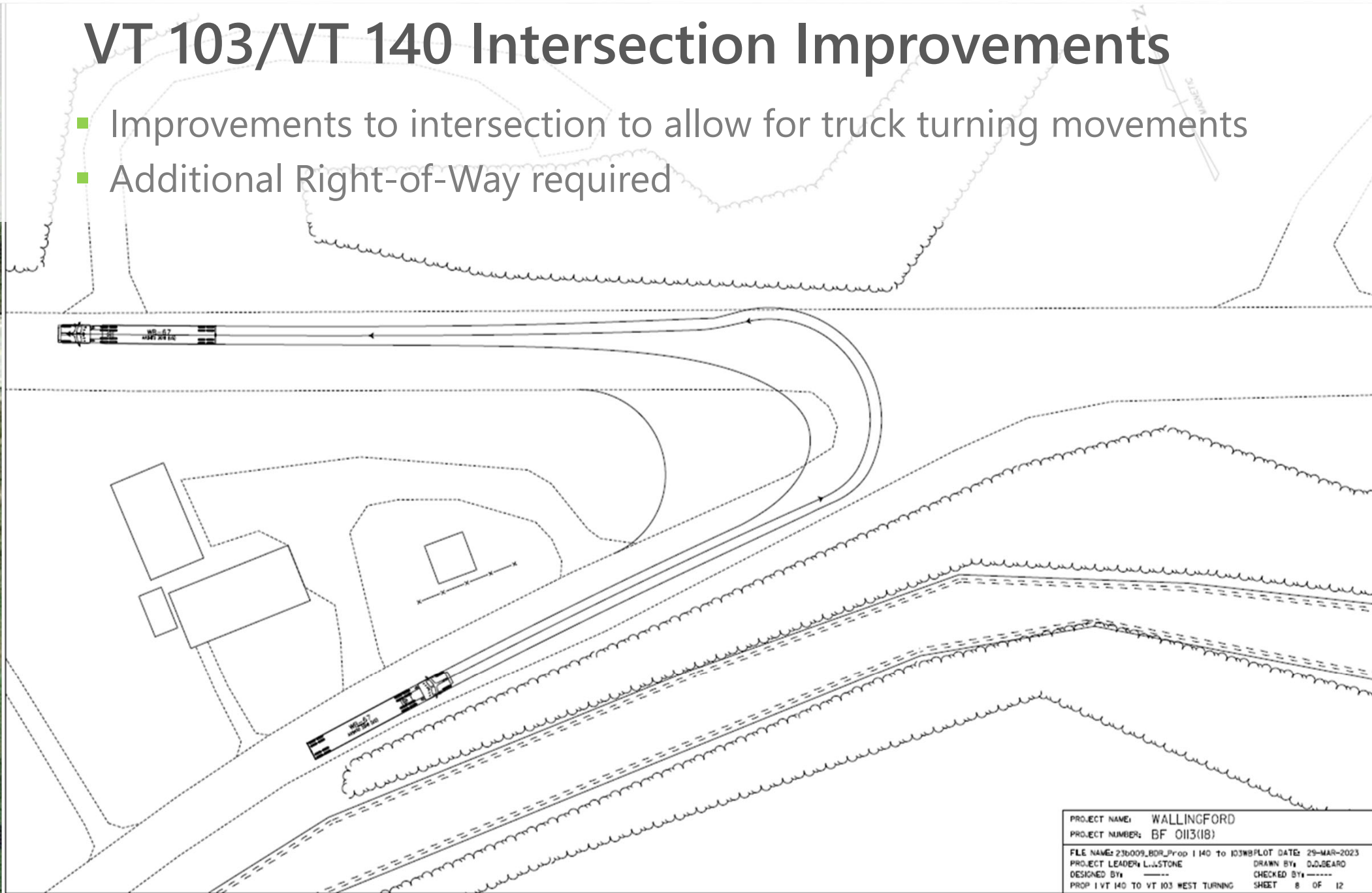
Proposed: VT 140 to VT 103 East Turning Movement



Proposed: VT 140 to VT 103 West Turning Movement

VT 103/VT 140 Intersection Improvements

- Improvements to intersection to allow for truck turning movements
- Additional Right-of-Way required



Preferred Alternative - Bridge #15

- Replace Bridge 15 with a Pedestrian Bridge and Improve the Intersection of VT Route 103 & VT Route 140
 - Most cost-effective solution that meets the needs of the project
 - Challenges related to geometry for large tractor trailer trucks at VT Route 103/VT Route 140 intersection eliminated
 - Meets the needs of high pedestrian volume
 - Short route around for vehicles with an end-to-end distance of 1 mile
 - Would eliminate through traffic on Village Street
 - Approximate \$2 million
 - Reuse or partial reuse of existing substructures for new pedestrian superstructure
 - Permanent right-of-way acquisition required for intersection improvements

Preliminary Project Schedule

- Construction Start – Spring/Summer 2025
 - Total Cost Estimate: \$1,900,000

For more information:

- <https://outside.vermont.gov/agency/vtrans/external/Projects/Structures/23B009>



Wallingford BF 0133(18) Questions and Comments **VT Route 155 – Bridge 15 over Mill River**

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