

**Highway 401 and 4 (Colonel Talbot Road)  
Interchange Improvements  
Preliminary Design and Class Environmental  
Assessment**

**May 5, 2015**

**City of London  
Civic Works Committee**

**Dan Barber, P. Eng., Ministry of Transportation  
Jeff Matthews, P. Eng., Dillon Consulting Ltd.**



# Introduction

## 2004

Highway 401 Improvements Planning and Preliminary Design Study from 1.0 km west of Highway 4 (Col. Talbot Road) easterly to 1.0 km east of Highbury Avenue

- Documented in Transportation Environmental Study Report (TESR)
  - Replacement of the Colonel Talbot Road and Glanworth Drive underpass bridges and other Highway 401 improvements
- Environmental Clearance was received in February 2004

## 2012

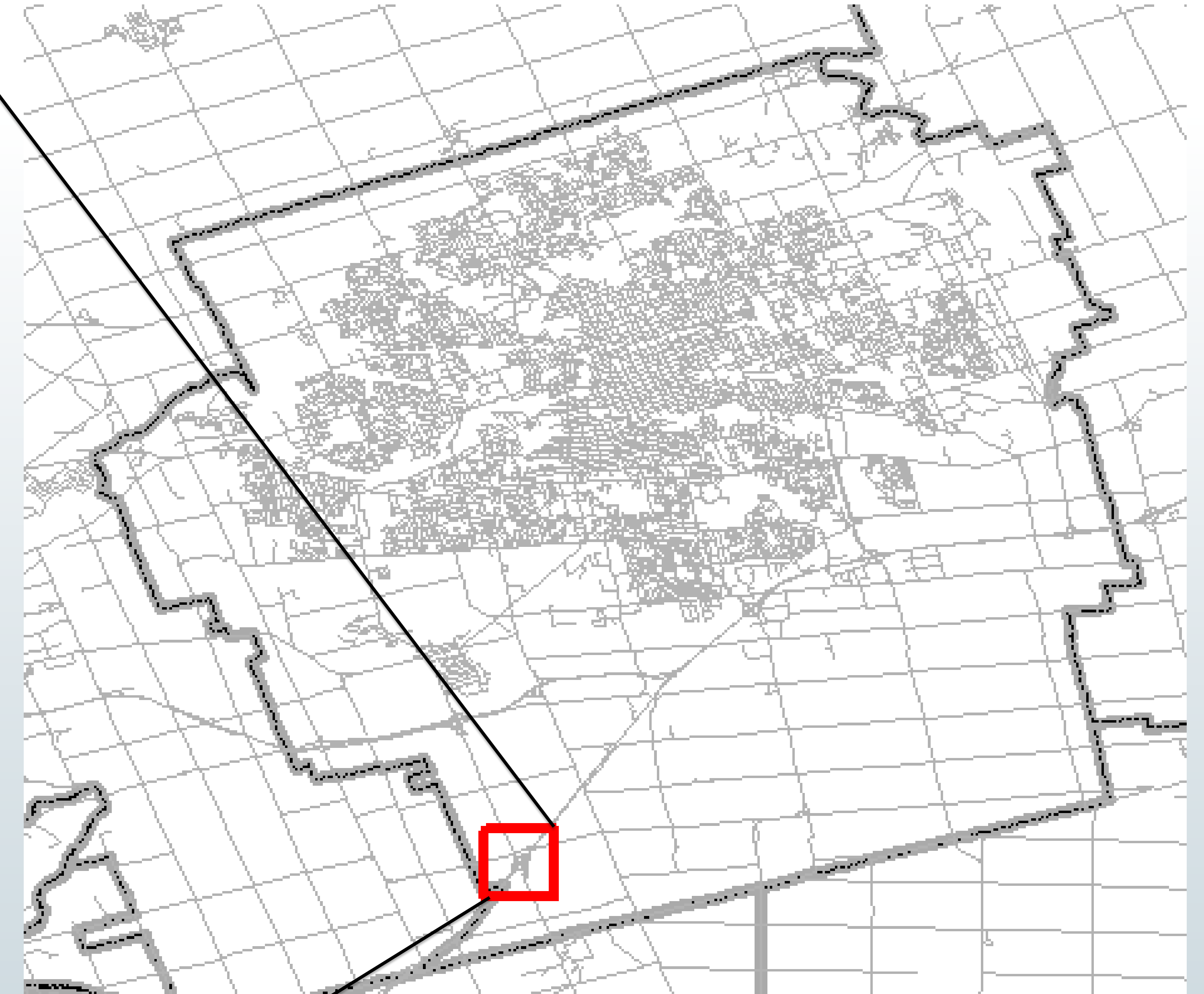
MTO retained Dillon Consulting Limited to review and update the 2004 approved plan for the Highway 401/4 (Col. Talbot Road) interchange and Glanworth Drive Bridge based on:

- Changes in the Study Area since the 2004 TESR was completed (Ford Talbotville, Wonderland Road interchange, etc.)
- MTO's new Highway Access Management Guidelines (December 2013)

The purpose of the current Preliminary Design and Class Environmental Assessment Study is to develop a preferred alternative to improve the function and operation of the Interchange and Highway 4 (Col. Talbot Road)



# Project Study Area

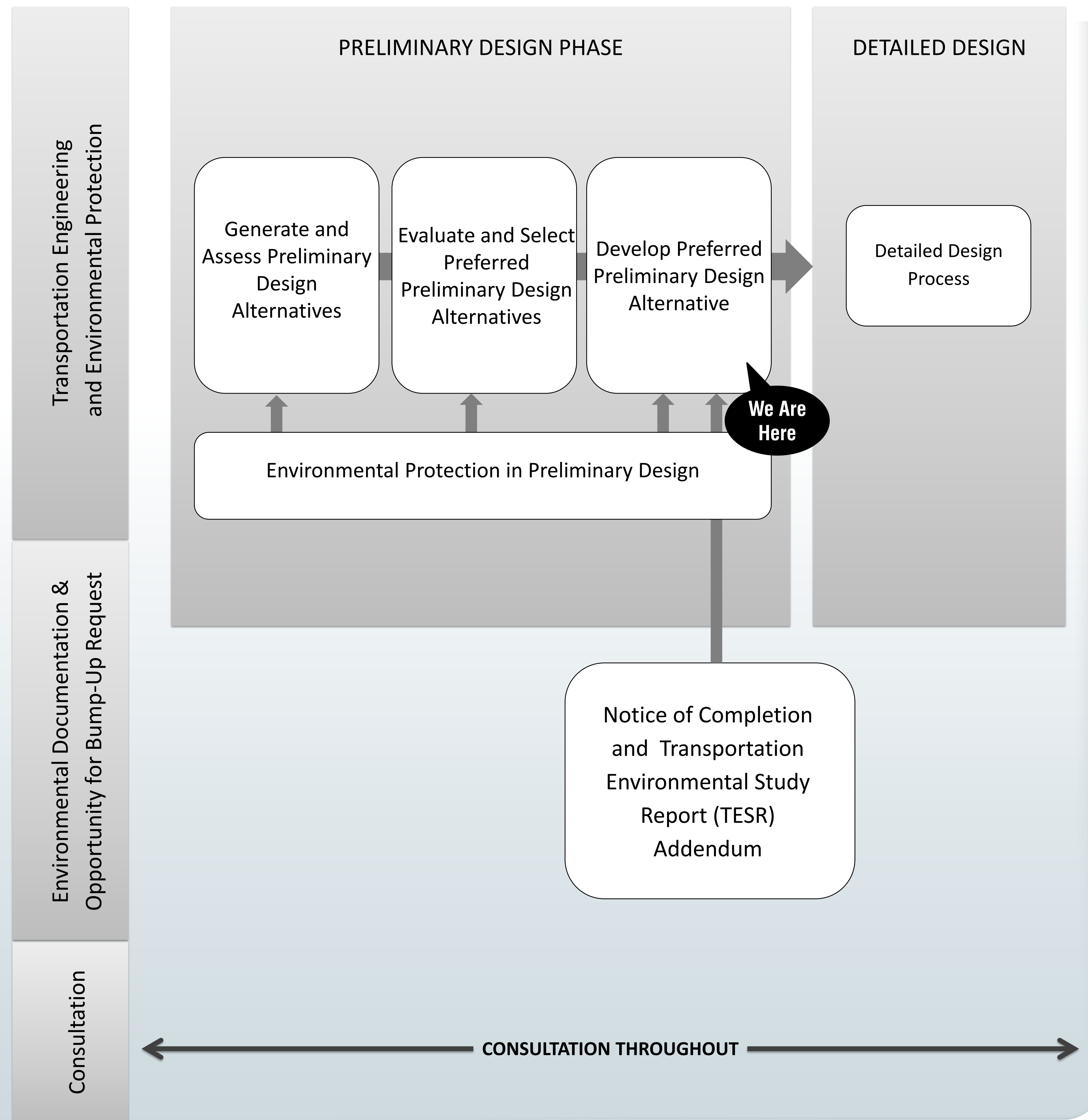




# MTO Class Environmental Assessment Process

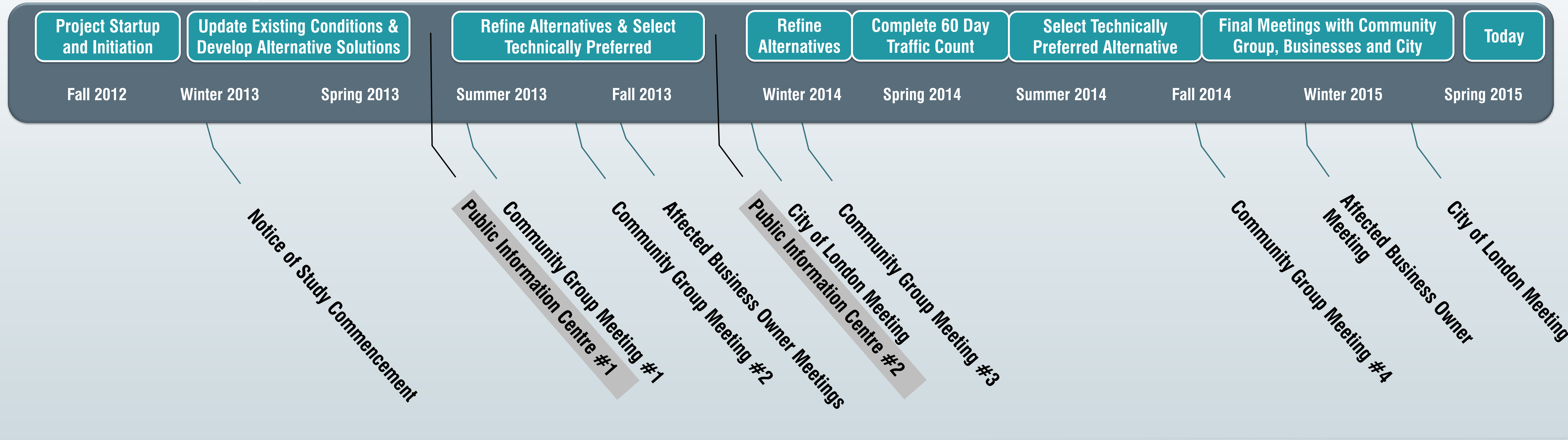
This project is subject to Ontario's Environmental Assessment Act and is being carried out in accordance with the requirements of the Class EA for Provincial Transportation Facilities (2000) as a Group "B" project.

Generally, Group "B" projects are considered major improvements to existing transportation facilities and require the preparation of a Transportation Environmental Study Report (TESR). The TESR Addendum will be available for a 30-day public review period.





# Project Timeline





# Consultation To Date

- Notice of Study Commencement – February 6, 2013
- Public Information Centre #1 – June 19, 2013
- Community Group Meeting – July 9, 2013
- Community Group Meeting – September 19, 2013
- Business Owner Meeting: Gentek – October 7, 2013
- Business Owner Meeting: Advanced Border Processing Centre – October 7, 2013
- Public Information Centre #2 – November 13, 2013
- Meeting with City of London – November 25, 2013
- Business Owner Meeting: Best Western Stoneridge Inn – December 10, 2013
- Community Group Meeting – January 9, 2014
- Community Group Meeting – October 20, 2014
- Business Owner Meeting: Gentek – January 15, 2015
- Meeting with City of London – March 26, 2015

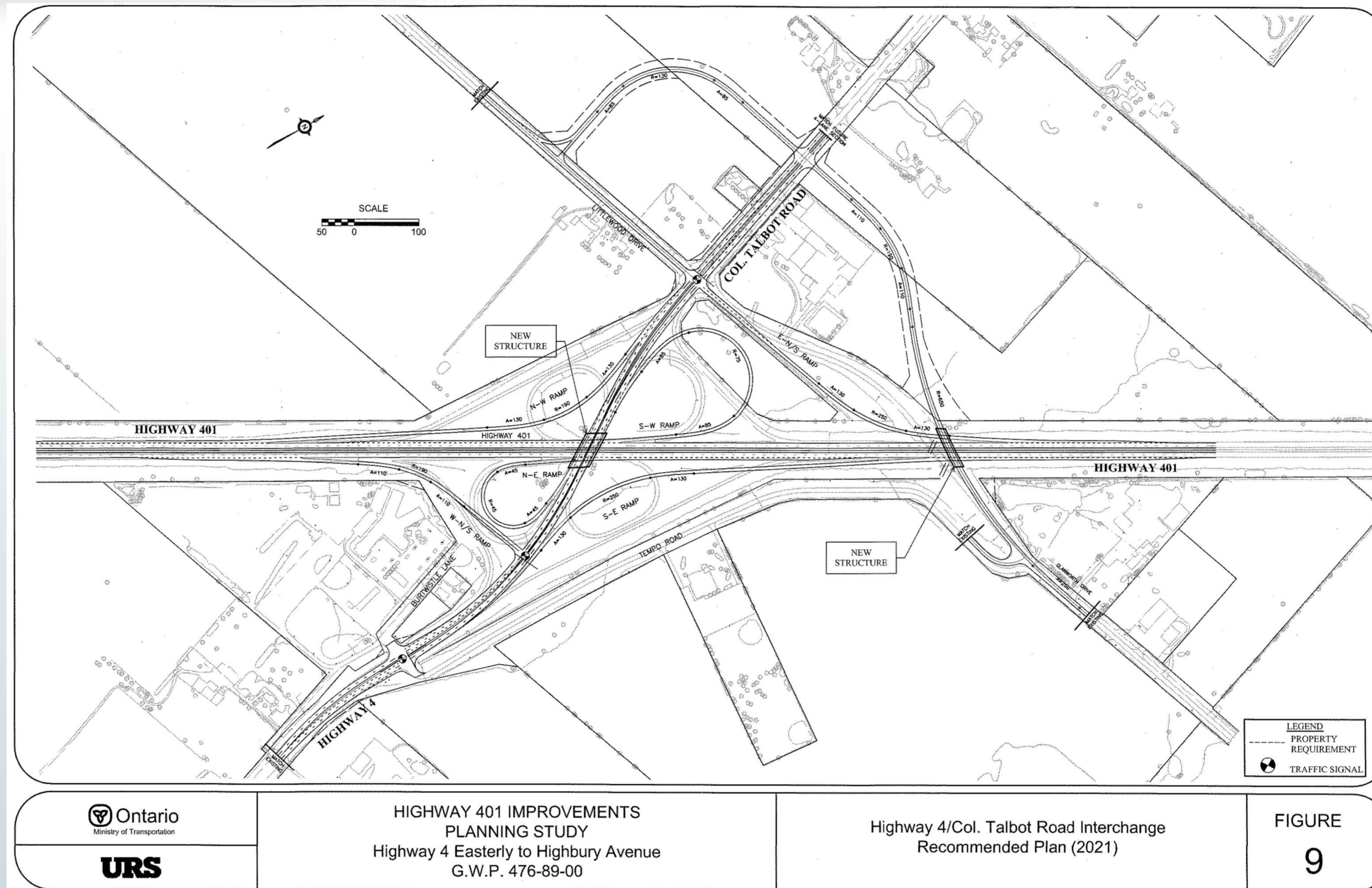


# Concerns We Heard

- Glanworth Drive acts as “Highway 401” for agriculture. Closure of Glanworth Drive bridge causes unnecessary out of the way travel for agricultural equipment
- Traffic signals are essential at the Highway 4/Glanworth Drive intersection to help large vehicles cross Highway 4
- Unsafe for agricultural equipment to drive on existing Highway 4
- Preferred alternative needs to accommodate potential future expansion of Gentek Building Products Limited
- Safety needs to be a key consideration



# Approved Plan from 2004 TESR Littlewood Drive/Westbound Exit Ramp Aligned & Glanworth Drive/ Littlewood Drive Realignment



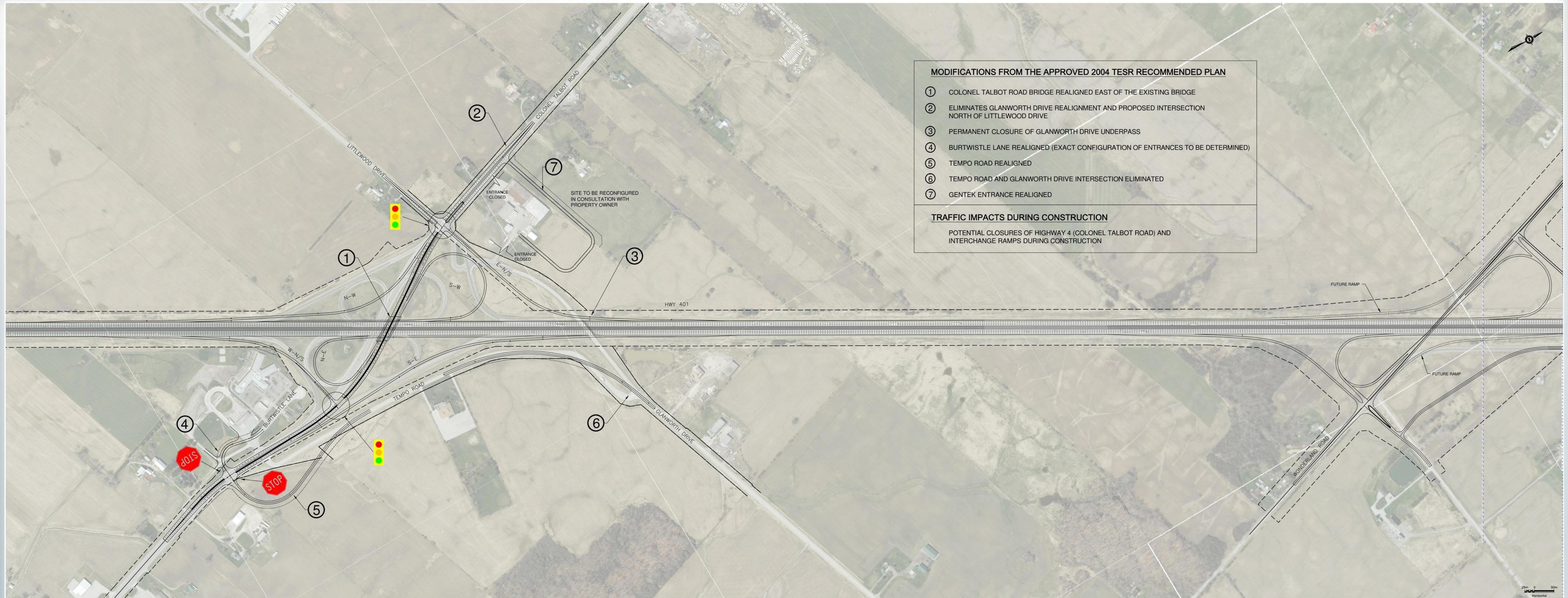


# Alternative 1 Glanworth Drive/Littlewood Drive Realignment





# Alternative 2 Permanent Closure of Glanworth Drive Bridge





# Alternative 3 Permanent Closure of Glanworth Drive Bridge & Littlewood Drive Realignment



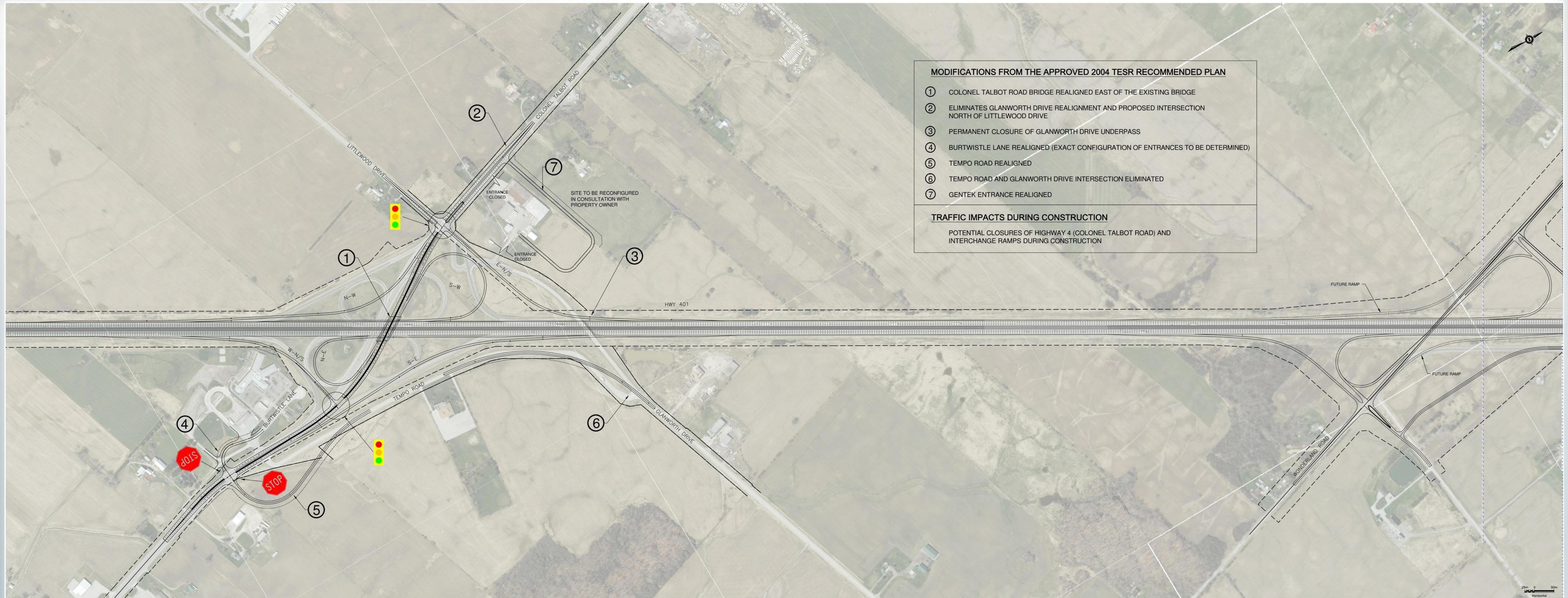


# Alternative 4 Glanworth Drive/Littlewood Drive Aligned & Northerly Realignment of Westbound Exit (E- N/S) Ramp





# Alternative 2 Technical Preferred Option (Nov 2013) Permanent Closure of Glanworth Drive Bridge



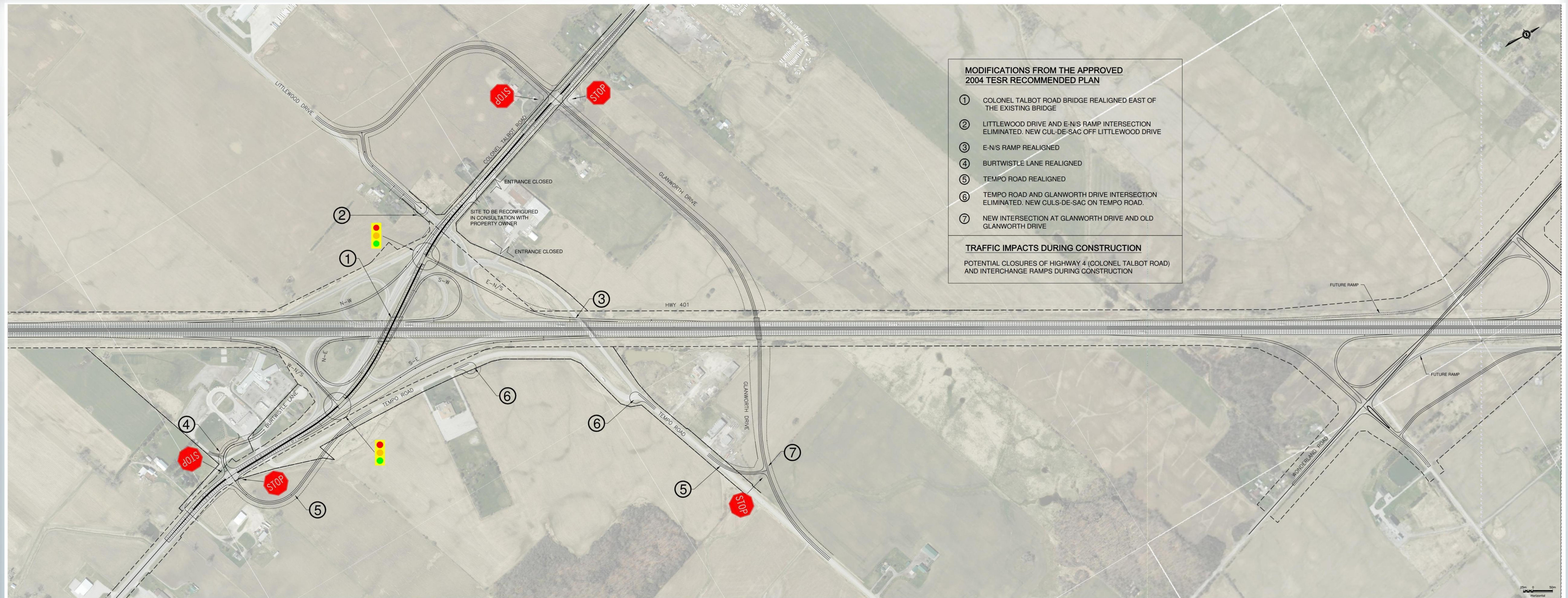


# Alternative 5 Glanworth Drive/Littlewood Drive Aligned & More Northerly Realignment of Westbound Exit (E- N/S) Ramp



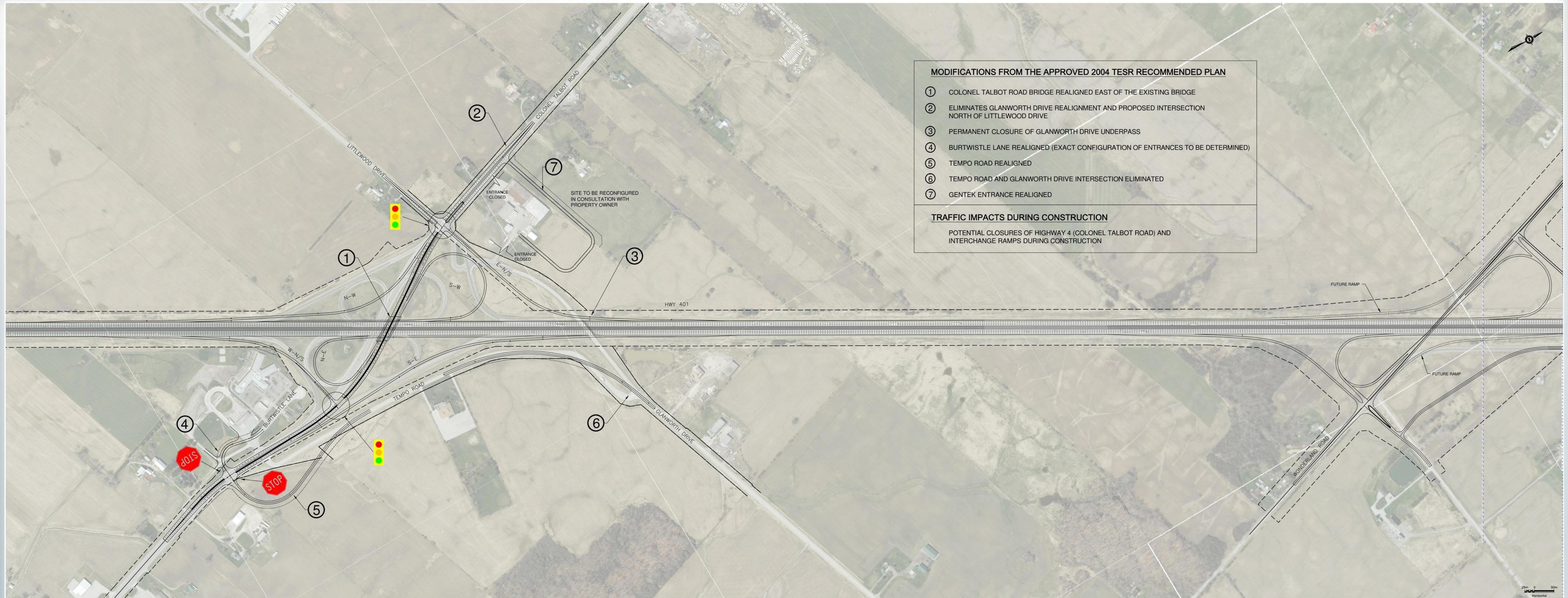


# Alternative 6 More Northerly Glanworth Drive/Littlewood Drive Realignment



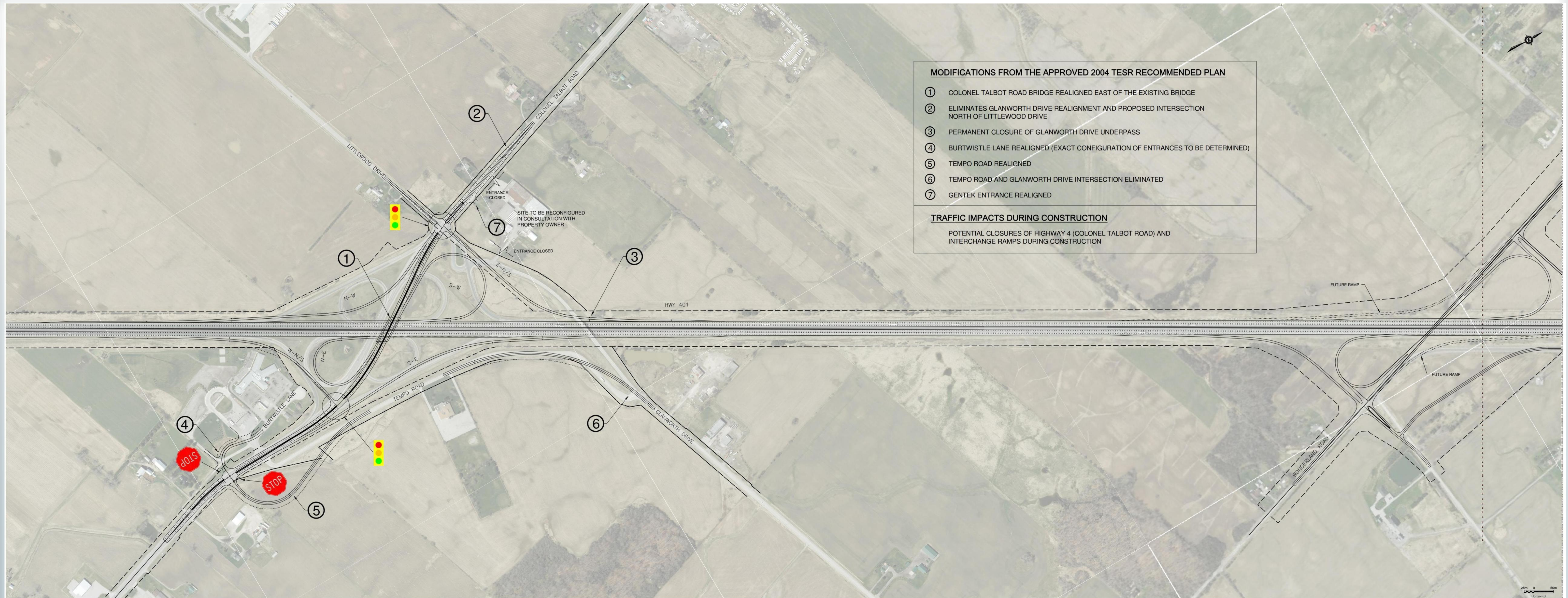


# Alternative 2 Permanent Closure of Glanworth Drive Bridge





# Alternative 2 Revised – Technically Preferred Alternative Permanent Closure of Glanworth Drive Bridge





# Comparative Evaluation – Factor Summary



Ministry of Transportation, Ontario  
 Highway 401 and 4 (Colonel Talbot Road) Interchange Improvements Class Environmental Assessment  
 Comparative Evaluation of Alternatives

Factors & Evaluation Criteria	2004 Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
	Littlewood Drive/Westbound Exit Ramp Aligned & Glanworth Drive/Littlewood Drive Realignment With Glanworth Drive Bridge	Glanworth Drive/Littlewood Drive Realignment With Glanworth Drive Bridge	Permanent Closure of Glanworth Drive Bridge Without Glanworth Drive Bridge	Permanent Closure of Glanworth Drive Bridge and Littlewood Drive Realignment Without Glanworth Drive Bridge	Glanworth Drive/Littlewood Drive Aligned & Northerly Realignment of Westbound Exit (E-N/S) Ramp With Glanworth Drive Bridge	Glanworth Drive/Littlewood Drive Aligned & more Northerly Realignment of Westbound Exit (E-N/S) Ramp With Glanworth Drive Bridge	More Northerly Glanworth Drive/Littlewood Drive Realignment With Glanworth Drive Bridge
Factor 1. Traffic Operations & Safety	⚠️	⚠️	✅	✅	❌	❌	⚠️
Factor 2. Engineering	❌	⚠️	✅	✅	⚠️	⚠️	⚠️
Factor 3. Drainage and Stormwater Management	✅	✅	✅	✅	✅	✅	✅
Factor 4. Natural Environment	⚠️	⚠️	✅	✅	⚠️	❌	❌
Factor 5. Socio-Economic Environment	⚠️	❌	✅	⚠️	❌	❌	❌
Factor 6. Cultural Heritage Resources	⚠️	⚠️	✅	⚠️	⚠️	⚠️	❌
Factor 7. Cost	❌	⚠️	✅	⚠️	❌	❌	⚠️

### Summary of Comparative Evaluation

Overall Conclusion	<p>Alternative 2 is preferred. Although the removal of the Glanworth Drive Bridge results in minor out-of-the-way travel for local road users, Alternative 2 maintains the local road network, meets provincial travel demands and best serves current and future municipal travel demands. Compared to the other alternatives, Alternative 2:</p> <ul style="list-style-type: none"> <li>- best meets MTO and City Access Management Guidelines</li> <li>- requires the least new infrastructure, has the least impact on utilities and is the least complex to construct</li> <li>- has the least impacts on terrestrial resources</li> <li>- requires the least amount of farmland, severs no farm holdings and best conforms to the City's Official Plan "Agricultural" policies</li> <li>- has the least impact on residential uses and Gentek, does not impact potentially contaminated property and affects the least amount of land with archaeological potential</li> <li>- has the lowest capital, operations and maintenance costs and requires the least property.</li> </ul>
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# Comparative Evaluation – Factor Summary

Factors & Evaluation Criteria	Alternative 2
	Permanent Closure of Glanworth Drive Bridge Without Glanworth Drive Bridge
Factor 1. Traffic Operations & Safety	✓
Factor 2. Engineering	✓
Factor 3. Drainage and Stormwater Management	✓
Factor 4. Natural Environment	✓
Factor 5. Socio-Economic Environment	✓
Factor 6. Cultural Heritage Resources	✓
Factor 7. Cost	✓



# Additional Design Features

- Traffic signals at Highway 4/Tempo Road/Burtwistle Lane intersection
- Wider turning radius at Tempo Road heading northbound and at Littlewood Road heading southbound
- Wider left turn lanes to accommodate agricultural equipment for the northbound left-turn onto Littlewood Drive and the southbound left turn onto Tempo Road
- Fully pave shoulders on Highway 4 between Tempo Road/Burtwistle Lane intersection and westbound off-ramp/Littlewood Drive intersection
- Full width shoulders across the Highway 4 bridge



# Next Steps

- Notice of Study Completion and Publish Transportation Environmental Study Report (TESR) Addendum on the public record for 30-day public review
- Finalize Preliminary Design
- Design and Construction



# Thank-You





# Additional Information



# Comparative Evaluation – Criteria Summary

Ministry of Transportation, Ontario  
Highway 401 and 4 (Colonel Talbot Road) Interchange Improvements Class Environmental Assessment  
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Factors & Evaluation Criteria	2004 Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
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Criteria 1.1 Accommodation of Current and Future Provincial Travel Demands	✓	✓	✓	✓	✓	✓	✓
Criteria 1.2 Accommodation of Current and Future Municipal Travel Demands	⚠	⚠	✓	✓	✗	✗	⚠
Criteria 1.3 Road Safety	✗	⚠	⚠	✓	✗	✗	⚠
Criteria 1.4 Movement of Farm Machinery	⚠	⚠	✗	✗	⚠	⚠	⚠
Criteria 1.5 Consistency with MTO and City of London Access Management Guidelines	⚠	⚠	✓	⚠	✗	✗	✓
Criteria 1.6 Emergency Services Access	✓	✓	✓	✓	✓	✓	✓
Criteria 2.1 New Infrastructure Requirements	⚠	⚠	✓	✓	✗	✗	⚠
Criteria 2.2 Impacts on Utilities	✗	✗	✓	✓	✓	✓	⚠
Criteria 2.3 Traffic Staging During Construction	✗	⚠	✓	✓	✗	✗	⚠
Criteria 2.4 Construction Complexity/Duration	✗	⚠	✓	✓	⚠	✓	⚠
Criteria 3.1 Municipal Drain and Drainage Modifications	✓	✓	✓	✓	✓	✓	✓
Criteria 3.2 Ability to meet MOECC Stormwater Management Requirements	✓	✓	✓	✓	✓	✓	✓
Criteria 4.1 Impacts on Fish and Fish Habitat	⚠	⚠	✓	✓	⚠	⚠	⚠
Criteria 4.2 Impacts on Terrestrial Resources	✓	✓	✓	✓	✓	✓	✓
Criteria 4.3 Impacts on Species at Risk	✓	✓	✓	✓	✓	✓	✓
Criteria 5.1 Impacts on Agricultural Uses	⚠	⚠	✓	⚠	⚠	⚠	✗
Criteria 5.2 Impacts on Residential Uses	✗	✗	✓	✗	⚠	✗	⚠
Criteria 5.3 Impacts on Electrical Workers Union Hall	✓	✗	⚠	⚠	✗	✗	✗
Criteria 5.4 Impacts on Commercial Uses	✓	✗	⚠	⚠	✗	✗	✗
Criteria 5.5 Impacts on Industrial Uses	⚠	✓	✓	✓	✗	⚠	✓
Criteria 5.6 Impacts on Potentially Contaminated Property	✓	✓	✓	✓	✗	✗	✓
Criteria 5.7 Conformity to City of London Official Plan	✓	✓	✓	✓	✓	✗	✗
Criteria 6.1 Impacts on Lands with Archaeological Potential	⚠	⚠	✓	⚠	⚠	⚠	✗
Criteria 6.2 Impacts on Bridges with Cultural Heritage Significance	✓	✓	✓	✓	✓	✓	✓
Criteria 7.1 Capital Infrastructure Cost	✗	⚠	✓	✓	✗	✗	⚠
Criteria 7.2 Property Requirements	⚠	⚠	✓	⚠	⚠	⚠	✗
Criteria 7.3 Operations and Maintenance Costs	✗	⚠	✓	✓	✗	✗	⚠

**Summary of Comparative Evaluation**

<b>Overall Conclusion</b>	<p>Alternative 2 is preferred. Although the removal of the Glanworth Drive Bridge results in minor out-of-the-way travel for local road users, Alternative 2 maintains the local road network, meets provincial travel demands and best serves current and future municipal travel demands. Compared to the other alternatives, Alternative 2:</p> <ul style="list-style-type: none"> <li>- best meets MTO and City Access Management Guidelines</li> <li>- requires the least new infrastructure, has the least impact on utilities and is the least complex to construct</li> <li>- has the least impacts on terrestrial resources</li> <li>- requires the least amount of farmland, severs no farm holdings and best conforms to the City's Official Plan "Agricultural" policies</li> <li>- has the least impact on residential uses and Gentek, does not impact potentially contaminated property and affects the least amount of land with archaeological potential</li> <li>- has the lowest capital, operations and maintenance costs and requires the least property.</li> </ul>
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# Additional Information