

2. CLOSE 17 SIDEROAD FOR CROSSING SURFACE RE-INSTATEMENT (2 DAYS)

1. INSTALL TRACK DIVERSION

RAIL DETOUR EASEMENT

TRAFALGAR ROAD

4. CONSTRUCT SUBWAY STRUCTURE (ROADWAY UNDER RAILWAY)

3. INSTALL TEMPORARY SHORING

CONCEPTUAL STAGING PLAN DESCRIPTIONS
CN Rail Crossing

- Stage 1:**
- 1.1 Install track diversion
 - 1.2 Close 17 Side Road for crossing surface reinstatement (2 days); detour via 15 Side Road
 - 1.3 Install temporary shoring at rail crossing
 - 1.4 Construct subway structure (roadway under railway)

LEGEND

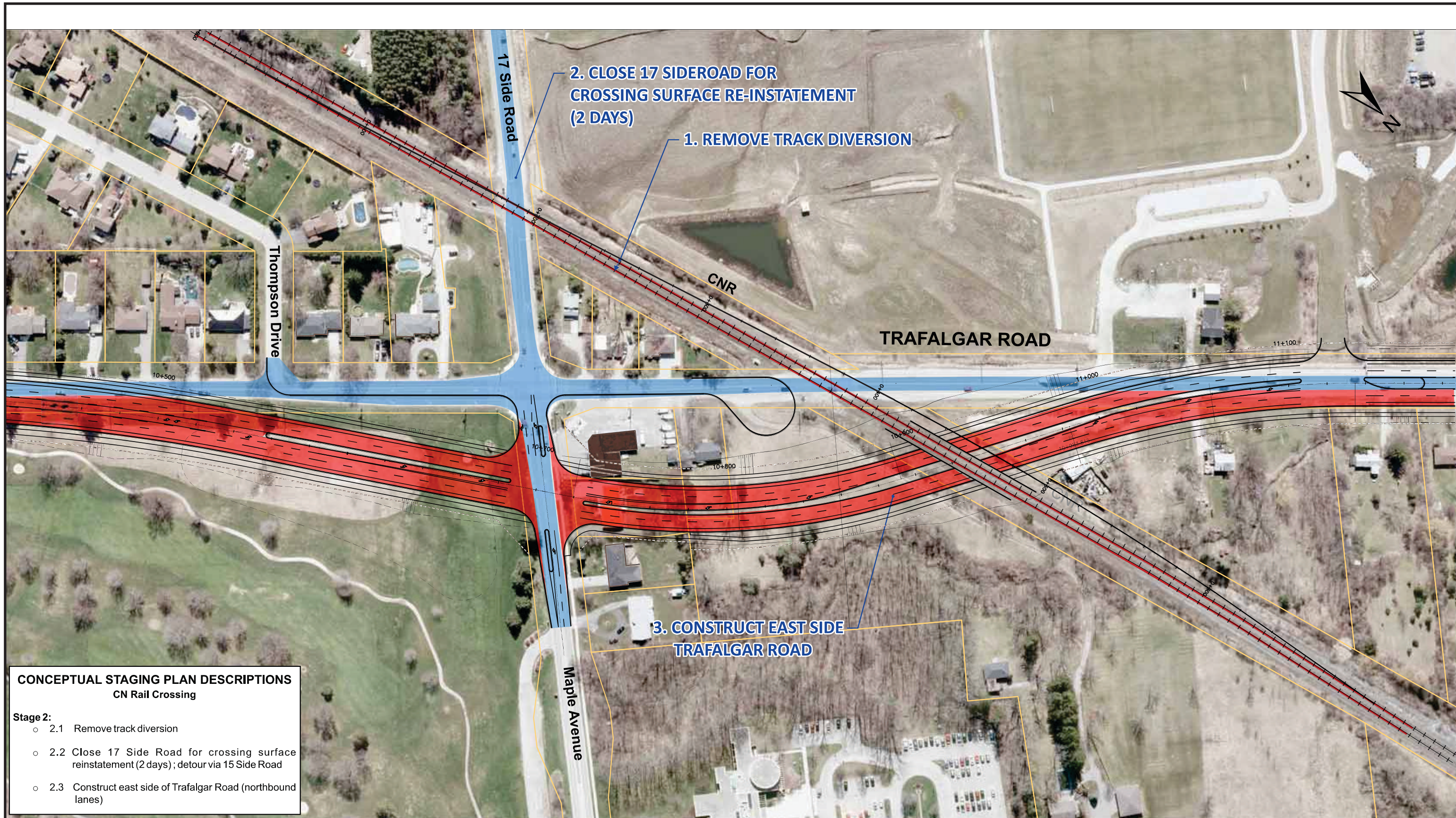
- Existing Traffic
- Under Construction
- Rail Traffic



TRAFALGAR ROAD CLASS EA STUDY (Section 2)
North of 10 Side Road to Highway 7

Conceptual Staging Plan
CNR Crossing
Stage 1

Exhibit
7-8a



CONCEPTUAL STAGING PLAN DESCRIPTIONS
CN Rail Crossing

- Stage 2:**
- 2.1 Remove track diversion
 - 2.2 Close 17 Side Road for crossing surface reinstatement (2 days); detour via 15 Side Road
 - 2.3 Construct east side of Trafalgar Road (northbound lanes)

LEGEND

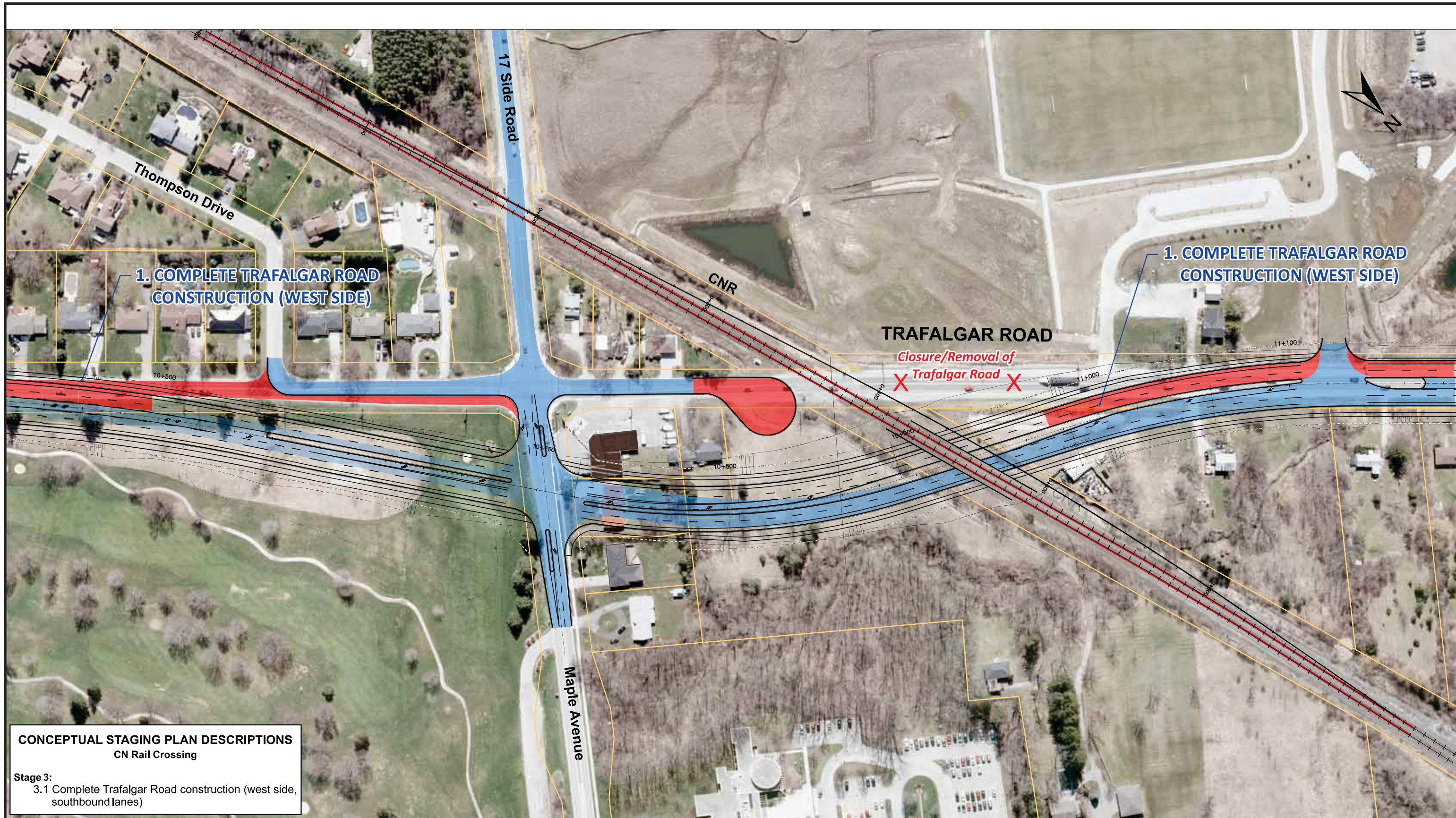
- Existing Traffic
- Under Construction
- Rail Traffic



TRAFALGAR ROAD CLASS EA STUDY (Section 2)
North of 10 Side Road to Highway 7

Conceptual Staging Plan
CNR Crossing
Stage 2

Exhibit
7-8b



CONCEPTUAL STAGING PLAN DESCRIPTIONS
CN Rail Crossing

Stage 3:
 3.1 Complete Trafalgar Road construction (west side, southbound lanes)

LEGEND

- Existing Traffic
- Under Construction
- Rail Traffic

7.1.7.3 Metrolinx Crossing/Lindsay Court

See **Exhibits 7-9a to 7-9c** for Metrolinx rail underpass conceptual construction staging plans.

Stage 1:

- 1.1. Install Metrolinx track diversion through the crossing area
- 1.2. Install temporary shoring at rail crossing
- 1.3. Construct subway structure (road under railway)

Stage 2:

- 2.1. Remove Metrolinx track diversion through the crossing area
- 2.2. Construct the west side of Trafalgar Road (southbound lanes)
- 2.3. Construct cul-de-sac and temporary Lindsay Court / Halton Hills Long Term Care Centre access to Highway 7
- 2.4. Close 20 Side Road at Trafalgar Road and complete connection and intersection construction; detour via 17 Side Road

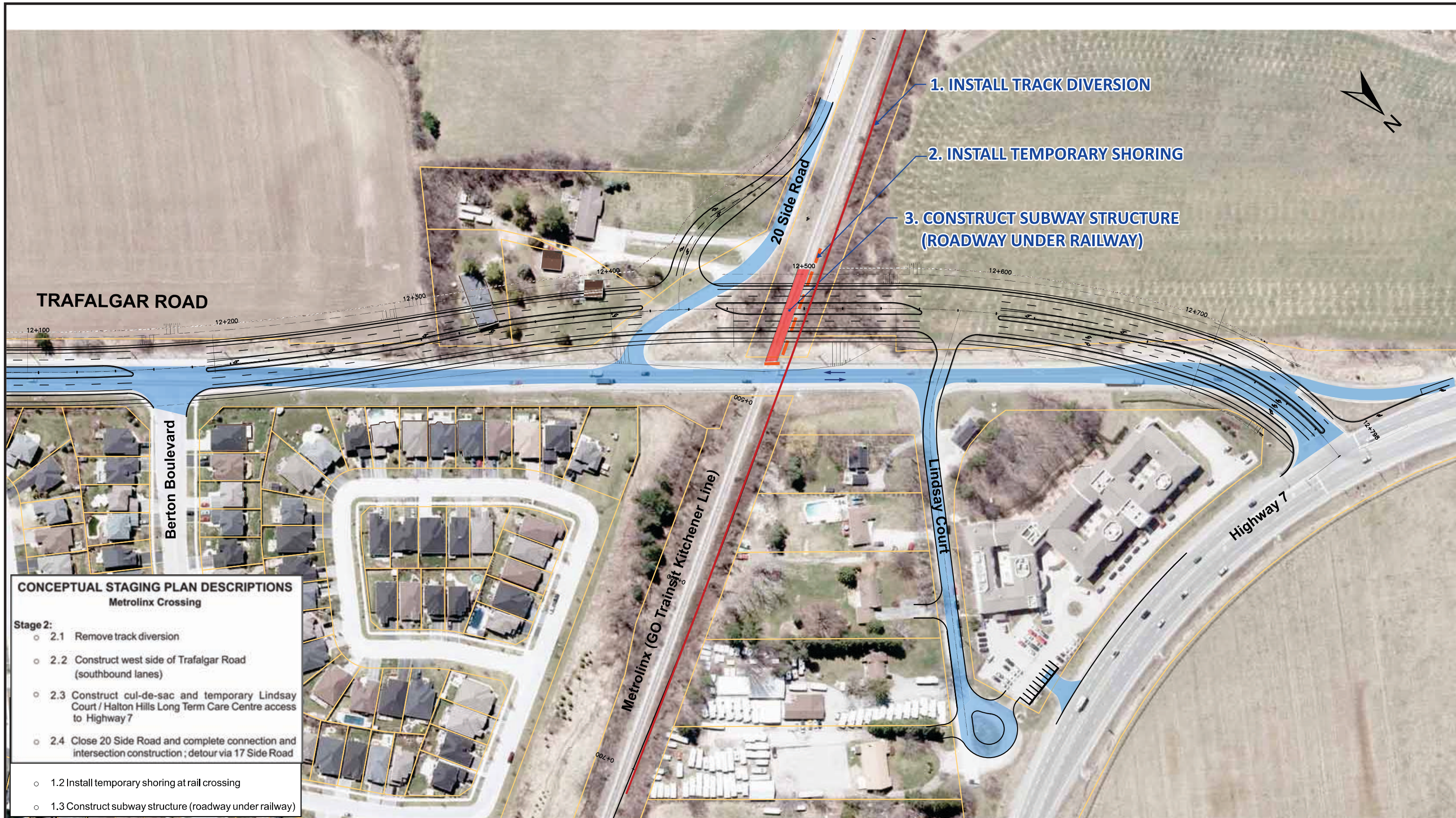
Stage 3:

- 3.1. Remove existing driveway to Halton Hills Long Term Care Centre and modify parking lot
- 3.2. Construct Lindsay Court connection to Trafalgar Road
- 3.3. Remove temporary Lindsay Court connection to Highway 7 (i.e. close off access to Highway 7 from Lindsay Court / Halton Hills Long Term Care Centre)
- 3.4. Complete Trafalgar Road construction (east side, northbound lanes)

It is recommended to undertake a survey of the existing railway tracks along with detailed geotechnical investigations of the founding soils north of the existing structure during detailed design. Detailed information such as characteristics of the soils, groundwater, geology, and slope stability is required for design and construction.

Construction will require access to the railway lands, and co-operation and flagging services from Metrolinx. Construction of the new structure will require working within Metrolinx's right-of-way and may impact their operations.

In addition, there are several railway electrical/maintenance units in close proximity to the existing crossing that may have to be relocated during the proposed realignment.



TRAFALGAR ROAD

1. INSTALL TRACK DIVERSION

2. INSTALL TEMPORARY SHORING

3. CONSTRUCT SUBWAY STRUCTURE (ROADWAY UNDER RAILWAY)

20 Side Road

Berton Boulevard

Metrolinx (GO Transit Kitchener Line)

Lindsay Court

Highway 7

CONCEPTUAL STAGING PLAN DESCRIPTIONS
Metrolinx Crossing

- Stage 2:**
- 2.1 Remove track diversion
 - 2.2 Construct west side of Trafalgar Road (southbound lanes)
 - 2.3 Construct cul-de-sac and temporary Lindsay Court / Halton Hills Long Term Care Centre access to Highway 7
 - 2.4 Close 20 Side Road and complete connection and intersection construction ; detour via 17 Side Road
- 1.2 Install temporary shoring at rail crossing
 - 1.3 Construct subway structure (roadway under railway)

LEGEND

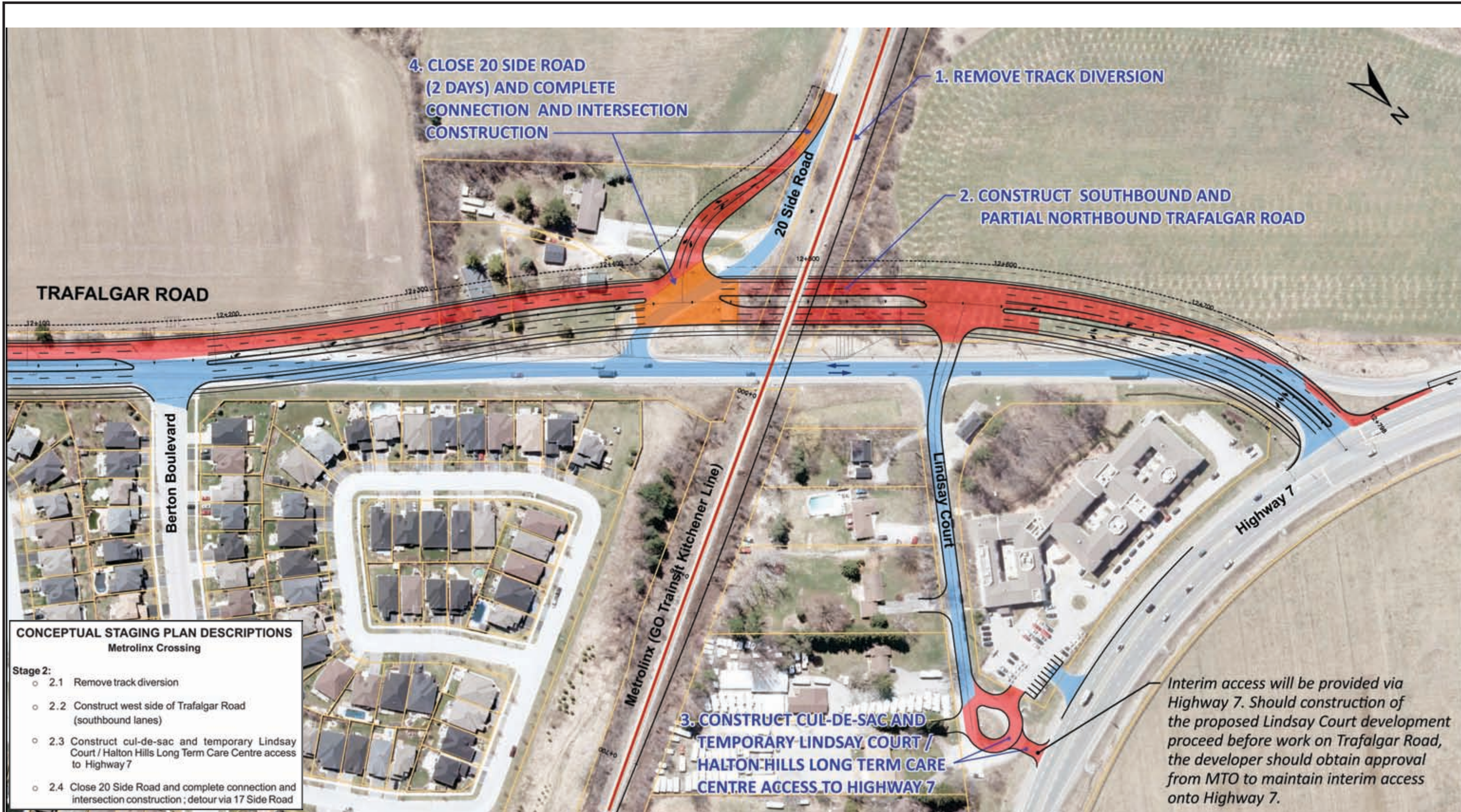
- Existing Traffic
- Under Construction
- Rail Traffic



TRAFALGAR ROAD CLASS EA STUDY (Section 2)
North of 10 Side Road to Highway 7

Conceptual Staging Plan
Metrolinx Crossing
Stage 1

Exhibit
7-9a

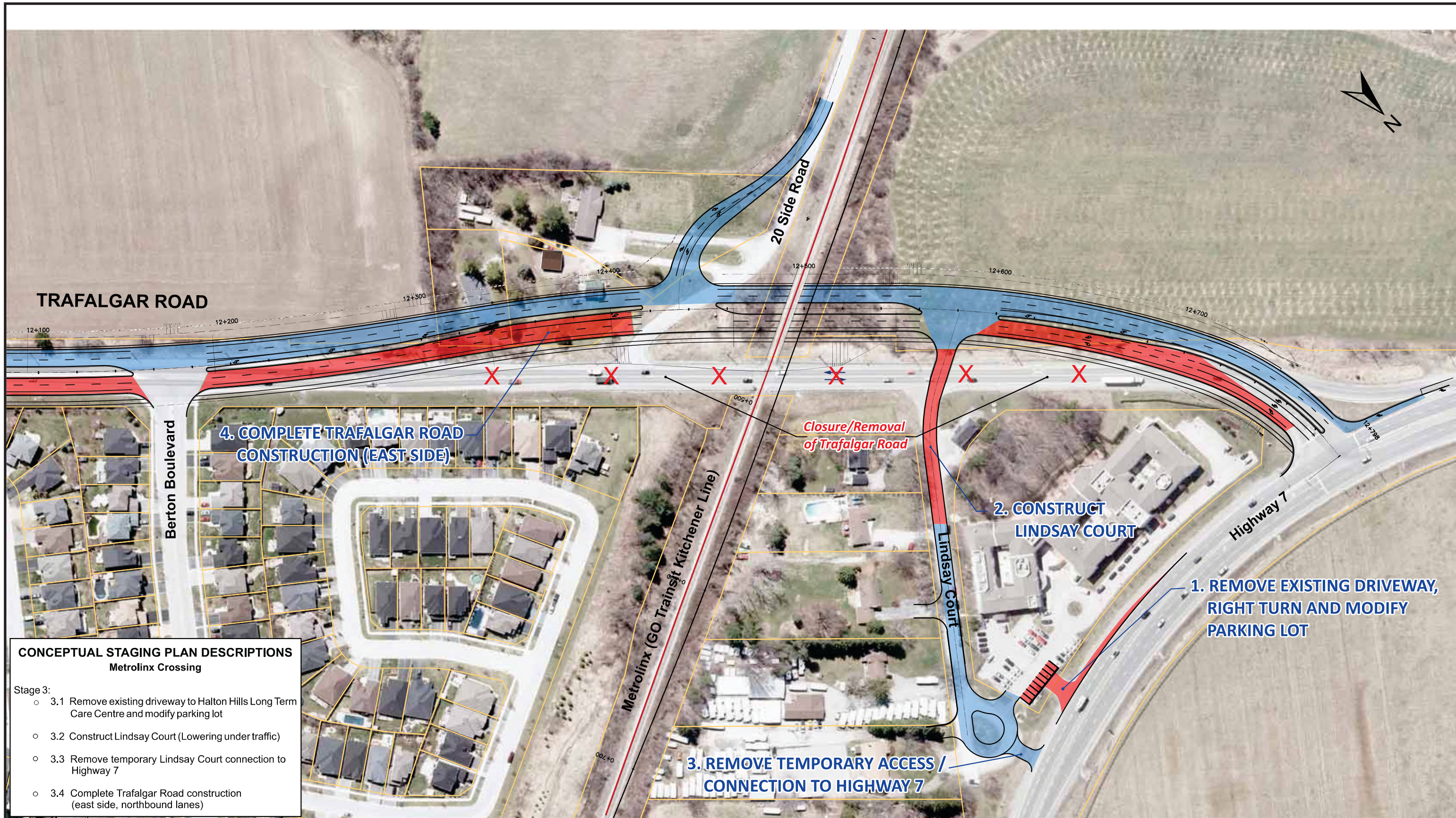


CONCEPTUAL STAGING PLAN DESCRIPTIONS
Metrolinx Crossing

- Stage 2:**
- 2.1 Remove track diversion
 - 2.2 Construct west side of Trafalgar Road (southbound lanes)
 - 2.3 Construct cul-de-sac and temporary Lindsay Court / Halton Hills Long Term Care Centre access to Highway 7
 - 2.4 Close 20 Side Road and complete connection and intersection construction; detour via 17 Side Road

3. CONSTRUCT CUL-DE-SAC AND TEMPORARY LINDSAY COURT / HALTON HILLS LONG TERM CARE CENTRE ACCESS TO HIGHWAY 7

Interim access will be provided via Highway 7. Should construction of the proposed Lindsay Court development proceed before work on Trafalgar Road, the developer should obtain approval from MTO to maintain interim access onto Highway 7.



CONCEPTUAL STAGING PLAN DESCRIPTIONS
Metrolinx Crossing

- Stage 3:
- 3.1 Remove existing driveway to Halton Hills Long Term Care Centre and modify parking lot
 - 3.2 Construct Lindsay Court (Lowering under traffic)
 - 3.3 Remove temporary Lindsay Court connection to Highway 7
 - 3.4 Complete Trafalgar Road construction (east side, northbound lanes)

LEGEND

- Existing Traffic
- Under Construction



TRAFALGAR ROAD CLASS EA STUDY (Section 2)
North of 10 Side Road to Highway 7

Conceptual Staging Plan
Metrolinx Crossing
Stage 3

Exhibit
7-9c

7.1.8 Intersections and Access

As a major arterial road, Trafalgar Road will include left and right turn lanes at most signalized intersections. Within the study limits, the following intersections (from south to north) are or will become signalized.

Existing Signalized Intersections	Future Signalized Intersections
15 Side Road	Stewarttown Road North
17 Side Road / Maple Avenue	Trafalgar Sports Park entrance
Princess Anne Drive	
Highway 7	

As Trafalgar Road is widened from 2 to 4 lanes, a raised median will be provided to separate northbound and southbound traffic for operational and safety purposes. Median cuts and centre turn lanes will be provided for the majority of the existing commercial and residential properties along Trafalgar Road that currently have full move access (i.e. can turn left and right). There will be exceptions along the corridor where access will be restricted to right-in/right-out only. These include properties on the east side of Trafalgar Road between 10 Side Road and 15 Side Road which are expected to be redeveloped as part of Vision Georgetown, and three properties on the west side of Trafalgar Road north of 15 Side Road. (See **Plates 1 to 38**).

Due to the raise in profile of Trafalgar Road through the Black Creek valley, it will not be possible to maintain the existing Trafalgar Road / Stewarttown Road South intersection. As a result, this intersection will be converted to a cul-de-sac (as shown on **Plate 19**) and access to Stewarttown Road from Trafalgar Road will be via a newly signalized intersection at Stewarttown Road North (as shown on **Plate 21**). Stewarttown Road South will however be available as an emergency access.

As a result of the shift in the Trafalgar Road alignment at the CN crossing, the 17 Side Road (Maple Avenue) / Trafalgar Road intersection will be shifted approximately 60 m to the east of its existing location (as shown in **Plate 23**); it will continue to be a signalized intersection. Approximately 120 m of the existing Trafalgar Road immediately south of 17 Side Road will connect to Thompson Drive and the existing Trafalgar Road / 17 Side Road intersection will become a stop control intersection. While the access of the three properties immediately south of 17 Side Road on the west side of existing Trafalgar Road will remain the same, the access will now be onto the extension of Thompson Drive rather than onto the future Trafalgar Road.

To accommodate the grade separation at the Metrolinx crossing and the widening of Trafalgar Road, the 20 Side Road / Trafalgar Road intersection will be shifted to the west by approximately 35 m and Lindsay Court will be extended to the west by approximately 30 m to connect to the realigned Trafalgar Road (as shown on **Plate 33**).

There is a long term care facility on Lindsay Court and the existing access is on Highway 7; however, this was agreed upon with the Ministry of Transportation to be a temporary access until such time when the Trafalgar Road / Lindsay Court intersection is reconstructed to address existing sight line issue. MTO has reiterated this intent and required the entrance to be closed following completion of Trafalgar Road construction (see **Section 6.2.9**). As a result, access to Lindsay Court will be exclusively via Trafalgar Road (see **Plate 37**).

Some residential driveways will be reconfigured to better integrate with the proposed roadworks.

Future access to Trafalgar Road will be subject to review and approval should any properties or currently vacant properties with no direct access to Trafalgar Road make any applications for development / redevelopment.

7.1.9 Provisions for Active Transportation

Halton Region Council has approved ‘in principal’ the Active Transportation Master Plan (ATMP) which recommends Regional Walking and Cycling Networks to support and encourage people to walk and bike around Halton (as discussed in **Section 2.1.7**). The Halton Region ATMP was developed in consultation with the four local municipalities, including the Town of Halton Hills within the subject area. Consistent with the Active Transportation Master Plan, active transportation facilities within the Study Area are proposed as follows:

- From north of 10 Side Road to 15 Side Road: 3.0 m bi-directional multi-use path on the east side, 1.8 m exclusive bike lane on the east side, 1.5 m paved shoulder on the west side available for use by cyclists
- From 15 Side Road to Trafalgar Sports Park Entrance: 3.0 m bi-directional multi-use path on the east side, 2.0 m sidewalk on the west side, 1.8 m exclusive bike lane in each direction
- From Trafalgar Sports Park Entrance to Highway 7: 3.0 m bi-directional multi-use path on the east side, 1.8 m exclusive bike lane on east side, 1.5 m paved shoulder on west side available for use by cyclists

For details regarding the Halton Region ATMP, please go to the website at: <http://www.halton.ca/activetransportation>.

It should also be noted that between the completion of the EA Study and construction of improvements to the Trafalgar Road corridor between north of 10 Side Road and Highway 7, there may be new trends in active transportation and the facilities being implemented may be updated at that time. The right-of-way protected through the EA Study (nominally 42 m right-of-way) will accommodate variations of active transportation facilities, as well as intersection treatments.

7.1.10 Drainage and Stormwater Management

7.1.10.1 Proposed Drainage Conditions

The overall drainage and stormwater management strategy is to improve upon the existing drainage conditions (i.e. no overtopping on Trafalgar Road under Regional storm events and all crossings meet freeboard requirements). Both quality and quantity control are to be provided. However, it is recognized that adjacent land uses may be constrained through some sections of Trafalgar Road; therefore, one drainage area may be “over controlled” to compensate for the limited ability to control within the immediate drainage area of another section of Trafalgar Road.

The study area between 10 Side Road and Highway 7 falls under the jurisdiction of Conservation Halton and Credit Valley Conservation. Areas between 10 Side Road and

15 Side Road are under jurisdiction of Conservation Halton and areas between 15 Side Road and Highway 7 are under jurisdiction of Credit Valley Conservation.

Trafalgar Road is proposed to be widened to four lanes from north of 10 Side Road to Highway 7. The road configuration will be as follows:

- From Station 6+240 to 9+460 (approximately 10 Side Road to 15 Side Road), the roadway includes an urban section on the east side and rural section on the west side with raised median where feasible.
- From Station 9+460 to 11+140 (approximately 15 Side Road to Trafalgar Sports Park entrance), Trafalgar Road is an urban section on both the east and west sides with raised median where feasible.
- From Station 11+140 northerly to 12+780 (approximately Trafalgar Sports Park entrance to Highway 7), the roadway includes an urban section on the east side and rural section on the west side with raised median where feasible.

Except for one culvert (Culvert C13), all the culvert locations between north of 10 Side Road and Highway 7 remain unchanged and there is no change in the drainage patterns.

Culvert C13 drains a small roadway area. Based on the preferred alignment of Trafalgar Road at the CN Rail crossing, this culvert will be abandoned and runoff from the catchment will be directed to the storm sewer proposed for the underpass area of Catchment 225.

The proposed condition drainage mosaics are provided in **Exhibit 7-10** to **Exhibit 7-17**. It should be noted that **Exhibit 7-13** and **Exhibit 7-17** are shown on a larger scale to illustrate the entire boundary of the respective drainage areas.

Within the roadway corridor, SWM facilities are provided in different locations, as required, to control the runoff from post-development to pre-development conditions. Enhanced grassed swales, bio-swales and oil-grit separators (OGSs) provided in different locations will facilitate the quality treatment of runoff.

Bio-swale is a bio-retention facility which stores, treats and infiltrates runoff. Bio-swale includes a filter bed which is a mixture of sands, fines and organic materials. It includes a mulch ground cover and plants adapted to the conditions of stormwater practice. These are also called bio-retention cells.

Enhanced grassed swale is the vegetated open channel with bottom width approximately 1.0 m or more and the channel velocity usually 0.50 m/s or less. It also treats and attenuates stormwater. Infiltration into the ground depends on the percolation rate of native soil since it does not include filter bed. Check dams are sometime used to lower the flow velocity.

Grassed swales include regular grassed channel with smaller bottom width or even V-shape channel. There is no restriction in flow velocity. However, if channel velocity is significantly higher, riprap may be required to protect from channel erosion.

These SWM practices are described in **Section 7.1.10.7**.

From 10 Side Road to 15 Side Road – Conservation Halton Jurisdiction:

Catchment areas from north of 10 Side Road to 15 Side Road are located within the jurisdiction of Conservation Halton (CH); part of the Sixteen Mile Creek Subwatershed.

Catchment 140 was further separated into three (3) sub-catchments. Flows from Catchment 140-1 drain via storm sewers to an oil-grit separator (OGS) to provide quality treatment. The outflows drain to a linear facility, Pond 9S, to provide quantity control and additional quality treatment. Flows from Catchment 140-2 are directed to Enhanced grassed swales and bio-swales on the west side via storm laterals to provide quality treatment. Pavement runoff in Catchment 140-0 is also directed to Enhanced grassed swales to provide quality treatment. The combined flows drain to Culvert C9. Pond 9S is proposed for the interim conditions until such time when SWM facilities have been identified and built as part of Vision Georgetown development. The interim facility Pond 9S can be incorporated into or be replaced with a larger SWM facility designed for the future development of “Vision Georgetown” to the east of Trafalgar Road.

Catchment 145 was further separated into two (2) sub-catchments. Flows from Catchment 145-1 drain via storm sewers to an OGS to provide quality treatment. The outflows drain to a linear facility, Pond 10N, to provide quantity control and additional quality treatment. Pavement runoff in Catchment 145-0 is directed to Enhanced grassed swales and bio-swales to provide quality treatment. The combined flows drain to Culvert C10. Pond 10N is proposed for the interim conditions. Similar to Pond 9S, the interim SWM facility Pond 10N can be incorporated into or be replaced with a larger SWM facility designed for the future development of “Vision Georgetown” to the east of Trafalgar Road.

Catchment 150 was further separated into two (2) sub-catchments. Flows from Catchment 150-1 drains via Enhanced grassed swales and bio-swales on the west side of the roadway and directed to an interim linear facility, Pond 11N, through a pipe culvert to provide quantity control and quality treatment. The combined flow from Catchment 150-0 and the outflows from the linear facility drain to Culvert C11. Similar to Pond 9S and Pond 10N, the interim SWM facility Pond 11N can be incorporated into or be replaced with a larger SWM facility designed for the future development of “Vision Georgetown” to the east of Trafalgar Road.

Catchment 155 was further separated into two (2) sub-catchments. Flows from Catchment 155-1 drain via storm sewers to an OGS to provide quality treatment. The outflows drain to a linear facility, Pond 12N, to provide quantity control and additional quality treatment. Pavement runoff in Catchment 155-0 is directed to Enhanced grassed swales to provide quality treatment. The combined flows drain to Culvert C12. Pond 12N is proposed for the interim conditions until such time when SWM facilities have been identified and built as part of Vision Georgetown development. Similar to Pond 9S, Pond 10N and Pond 11N, the interim SWM facility Pond 12N can be incorporated into or be replaced with a larger SWM facility designed for the future development of “Vision Georgetown” to the east of Trafalgar Road.

There will be ongoing consultation with Town of Halton Hills regarding Vision Georgetown development during detailed design.