

Traffic Control Signals - Sheppard Avenue East at Massie Street and at a point 390 metres east of McCowan Road

Date: June 22, 2026

To: Scarborough Community Council

From: Director, Enforcement and Street Management, Transportation Services

Wards: Ward 23, Scarborough North

SUMMARY

As the Toronto Transit Commission (TTC) operates a transit service on Sheppard Avenue East, City Council approval of this report is required.

Transportation Services is requesting approval to remove the pedestrian refuge islands (PRI) and replace with traffic control signals at the following two locations on Sheppard Avenue East:

- At the existing PRI located approximately 10 metres west of Massie Street, to be replaced with traffic control signals at the intersection with Massie Street
- At the existing PRI located approximately 440 metres east of McCowan Road, to be replaced with mid-block traffic control signals approximately 390 metres east of McCowan Road

The two traffic control signals will provide enhanced safety for all road users and are justified based on the assessments undertaken. There are several factors for the proposed recommendations:

- PRIs do not provide right-of-way for pedestrians and are not considered an enhanced form of pedestrian crossing protection.
- The heavy traffic on the five-lane cross-sections of Sheppard Avenue East poses potential safety concerns for pedestrians crossing at the subject PRIs to access the TTC bus shelters located on both sides of Sheppard Avenue East.
- The significant distance between the nearest protected pedestrian crossings on Sheppard Avenue East at both PRI locations.

The above recommendations will provide improved accessibility and a safer and more convenient crossing of Sheppard Avenue East for pedestrians, including TTC passengers.

RECOMMENDATIONS

The Director, Enforcement and Street Management, Transportation Services recommends that:

1. City Council authorize the installation of traffic control signals at the intersection of Sheppard Avenue East and Massie Street.
2. City Council prohibit pedestrian crossings on Sheppard Avenue East, between the west curb line of Massie Street and a point 30.5 metres east of the east curb line of Massie Street, in conjunction with the installation of traffic control signals as set out in Part 1 above.
3. City Council authorize the installation of traffic control signals on Sheppard Avenue East at a point 390 metres east of McCowan Road.
4. Subject to the approval of Recommendation 1 above and in conjunction with the installation of traffic control signals at the intersection of Sheppard Avenue East and Massie Street, City Council authorize the removal of the existing pedestrian refuge island on Sheppard Avenue East, approximately 10 metres west of Massie Street.
5. Subject to the approval of Recommendation 3 above and in conjunction with the installation of traffic control signals on Sheppard Avenue East at a point 390 metres east of McCowan Road, City Council authorize the removal of the existing pedestrian refuge island on Sheppard Avenue East, approximately 440 metres east of McCowan Road.

FINANCIAL IMPACT

The estimated cost to install traffic control signals on Sheppard Avenue East at Massie Street and remove the PRI located approximately 10 metres west of Massie Street, is \$230,000.00.

The estimated cost to install traffic control signals on Sheppard Avenue East at a point 390 metres east of McCowan Road, to remove the PRI located approximately 440 metres east of McCowan Road, and to relocate the TTC bus shelters on both sides of Sheppard Avenue East, is \$230,000.00.

Funding is subject to availability and competing priorities within the Transportation Services 2026 Capital Budget.

DECISION HISTORY

This report addresses a new initiative.

COMMENTS

As part of the City-wide review of pedestrian refuge islands, Transportation Services conducted assessments to evaluate the potential replacement of the two PRIs on Sheppard Avenue East, located approximately 10 metres west of Massie Street and approximately 440 metres east of McCowan Road, with traffic control signals.

The primary function of the existing PRIs on Sheppard Avenue East are to provide protected crossing opportunities for TTC patrons, as TTC bus stops are located in the vicinity of both PRIs. Therefore, with the proposed installation of new traffic control signals in the vicinity of these locations, the existing PRIs would become redundant.

Existing Conditions

Sheppard Avenue East is characterized by the following conditions:

- It is a five-lane, east-west, major arterial roadway
- It operates two-way traffic on a pavement width that varies between approximately 15.5 metres and 17.5 metres
- The daily two-way traffic volume is approximately 21,000 vehicles
- The speed limit is 50 km/h
- Heavy trucks are permitted at all times
- There is TTC service provided by the 85 A, B and C Sheppard East and 385 Sheppard East night bus routes
- There are sidewalks located on both sides of the street

Maps of the area are included in Attachments 1 and 2. The two PRI reviews are summarized below.

A. Sheppard Avenue East and Massie Street

Massie Street is characterized by the following conditions:

- It is a two-lane, north-south, local roadway
- It operates two-way traffic on a pavement width of approximately 8 metres
- The daily two-way traffic volume is approximately 1,200 vehicles
- The speed limit is 30 km/h
- Heavy trucks are prohibited at all times
- There is no TTC service provided
- There are sidewalks located on both sides of the street

The proposed traffic control signal would be at the intersection of Sheppard Avenue East, Massie Street, and a private driveway, which form a four-leg intersection. Massie Street is stop-sign controlled, while Sheppard Avenue East is uncontrolled free-flow. The private access is unsigned but is subject to the statutory regulations requiring motorists to stop and yield to conflicting traffic before entering the roadway.

An existing PRI is located on Sheppard Avenue East approximately 10 metres west of Massie Street.

The closest adjacent traffic controls to the proposed traffic control signals at Massie Street are located approximately 300 metres to the east, at Scunthorpe Road, and approximately 310 metres to the west, at Shorting Road, both in the form of traffic control signals.

The land use on the north side of Sheppard Avenue East is primarily industrial, while the south side is mainly residential, consisting of detached and semi-detached dwellings.

Pedestrian Crossover (PXO)

To determine the need for a PXO on Sheppard Avenue East at Massie Street, staff rely on the justification criteria as outlined in the Ontario Traffic Manual (OTM) Book 12. The OTM justification criteria includes two main factors: the volume of vehicles and pedestrians, and pedestrian delay to cross traffic. Based on the traffic volume on Sheppard Avenue East, the warrants require a minimum of 235 pedestrians crossing over eight hours. Also, based on the pedestrian crossing volume, at least 111 pedestrians must be delayed more than 10 seconds.

Eight-hour pedestrian volume and delay studies were conducted on Sheppard Avenue East at Massie Street on November 5, 2025. The studies recorded pedestrian crossing volumes and delays along Sheppard Avenue East within a segment extending from 50 metres east to 50 metres west of each of the existing PRI, including the adjacent TTC bus stops.

Seniors, unassisted children and people with disabilities that are observed crossing are given a higher weighting by a factor of two. At Massie Street, the adjusted volume of pedestrians observed crossing was 59; of these, 28 experienced a delay greater than 10 seconds.

The compliance level of the study results in relation to the warrant criteria is shown in Table 1 below.

Table 1: Pedestrian Crossover Warrant Criteria and Compliance at Sheppard Avenue East and Massie Street

Justification	Compliance
Pedestrian Volume	25 percent
Pedestrian Delay	25 percent

In order to meet the warrant criteria, 100 percent compliance is required in both categories. Based on the results of the study, a PXO is not technically justified as the compliance levels did not meet the minimum requirements.

In addition to the technical criteria, consideration is given to the surrounding area and the collision history and in some cases engineering judgement may be applied to recommend a PXO even if the number of pedestrians does not meet the threshold of the technical warrants.

Collision statistics provided by the Toronto Police Service for the three-year period ending March 31, 2026, indicate that no collisions involving crossing pedestrians occurred at the subject location.

Environmental safety characteristics were also evaluated to determine if a potential PXO would be appropriate at this location. The details of the evaluation are included in Attachment 3. Based on the evaluation, a PXO would not be a suitable type of pedestrian crossing protection at the subject location.

Traffic Control Signals

To determine the need for traffic control signals at the intersection of Sheppard Avenue East at Massie Street, staff rely on the justification criteria as outlined in the Ontario Traffic Manual (OTM) Book 12. The OTM justification criteria includes factors such as volume of vehicles and pedestrians, delay to cross traffic, and collision history.

In addition to these technical justifications, staff consider an environmental checklist which includes consideration of road width, posted speed limit, operating speeds, adjacent land uses, pedestrian desire lines and demographics, presence of a transit stop, sight lines, and distance between existing crossing opportunities.

As part of the investigation, staff conducted vehicle and pedestrian counts on November 5, 2025, at the Sheppard Avenue East and Massie Street intersection. The results of the counts and collision hazard are summarized in Table 2. The "Collision hazard" criterion is based on the number of collisions potentially preventable by the installation of traffic control signals. Collision history provided by the Toronto Police Service for the three-year period ending March 31, 2026, disclosed two collisions at the subject intersection that were potentially preventable by the installation of traffic control signals.

Table 2: Warrant Compliance - Sheppard Avenue East and Massie Street

Justification	Compliance level
Minimum vehicular volume	29%
Delay to cross traffic (pedestrians and vehicles)	46%
Collision hazard	13%

To meet the justification criteria for the installation of traffic control signals, one of the justifications must be 100 percent satisfied or both the minimum vehicular volume and delay to cross traffic justifications must be at least 80 percent satisfied. Based on the results in Table 1, the installation of traffic control signals is not technically justified.

Notwithstanding the above, Transportation Services further considered installation of traffic control signals and removal of the subject PRI for the following reasons:

- The long spacing between protected pedestrian crossings on this segment of Sheppard Avenue East
- The presence of transit stops on both sides of Sheppard Avenue East that attract pedestrians to cross the street
- PRIs do not provide right-of-way for pedestrians
- PRIs are not considered an enhanced form of pedestrian crossing protection

Based on the above, Transportation Services supports the installation of traffic control signals on Sheppard Avenue East at Massie Street.

Since the warrant for traffic control signals at this location is based primarily on contextual factors related to pedestrian safety, the installation of full traffic signals is not required. In order to address pedestrian crossing needs while minimizing potential operational impacts and delays on Sheppard Avenue East, the implementation of an Intersection Pedestrian Signal (IPS) is recommended.

Intersection Pedestrian Signals (IPS), also known as half signals, are a pedestrian signal configuration at intersections to improve accessibility and enhance the safety for pedestrians crossing busier streets while reducing traffic delays for people driving. IPS configurations can be installed at the intersection of a main street and a side street, where the signalized pedestrian crossing across the main street is activated by the push of a button. One or two pedestrian crossings over the main street may be provided. The side street remains under stop sign control, and motorists crossing and turning onto the main street may do so with a suitable gap in traffic.

B. PRI located 440 metres east of McCowan Road

There are no intersecting roadways in the vicinity of the existing PRI, although there are numerous private driveways. The proposed traffic control signals will be situated on Sheppard Avenue East, approximately 390 metres east of McCowan Road, immediately west of the private driveway to the high-rise residential buildings at 4725 and 4727 Sheppard Avenue East. The existing PRI is located approximately 50 metres east of the proposed traffic control signal location.

The closest adjacent traffic controls to the proposed traffic control signals are located approximately 410 metres to the east, at Shorting Road, and approximately 390 metres to the west, at McCowan Road, both in the form of traffic control signals.

The land use on the north side of Sheppard Avenue East is primarily industrial, while the south side is mainly residential, consisting of detached and semi-detached dwellings. There are high-rise residential buildings at 4725 and 4727 Sheppard Avenue East on the south side, as well as the commercial plaza on the north side of Sheppard Avenue East, which may attract vulnerable road users to cross.

Pedestrian Crossover (PXO)

To determine the need for a PXO on Sheppard Avenue East at a point 390 metres east of McCowan Road, staff rely on the justification criteria as outlined in the Ontario Traffic Manual (OTM) Book 12. The OTM justification criteria includes two main factors: the volume of vehicles and pedestrians, and pedestrian delay to cross traffic. Based on the traffic volume on Sheppard Avenue East, the warrants require a minimum of 235 pedestrians crossing over eight hours. Also, based on the pedestrian crossing volume, at least 111 pedestrians must be delayed more than 10 seconds.

Eight-hour pedestrian volume and delay studies were conducted on Sheppard Avenue at a point 390 metres east of McCowan Road on April 23, 2025. The studies recorded pedestrian crossing volumes and delays along Sheppard Avenue East within a segment extending from 50 metres east to 50 metres west of each of the existing PRIs, including the adjacent TTC bus stops.

Seniors, unassisted children and people with disabilities that are observed crossing are given a higher weighting by a factor of two. At a point 390 metres east of McCowan Road, the adjusted volume of pedestrians observed crossing was 146; of these, 86 experienced a delay greater than 10 seconds.

The compliance level of the study results in relation to the warrant criteria at both locations is shown in Table 3 below.

Table 3: Pedestrian Crossover Warrant Criteria and Compliance at Sheppard Avenue East and a point 390 metres east of McCowan Road

Justification	Compliance
Pedestrian Volume	62 percent
Pedestrian Delay	78 percent

In order to meet the warrant criteria, 100 percent compliance is required in both categories. Based on the results of the study, a PXO is not technically justified at the subject location as the compliance levels did not meet the minimum requirements.

In addition to the technical criteria, consideration is given to the surrounding area and the collision history and in some cases engineering judgement may be applied to recommend a PXO even if the number of pedestrians does not meet the threshold of the technical warrants.

Collision statistics provided by the Toronto Police Service for the three-year period ending March 31, 2026, indicate that no collisions involving crossing pedestrians occurred at the subject location.

Environmental safety characteristics were also evaluated to determine if a potential PXO would be appropriate at this location. The details of the evaluation are included in Attachment 4. Based on the evaluation, a PXO would not be a suitable type of pedestrian crossing protection at the subject location.

Traffic Control Signals

Notwithstanding the above, Transportation Services further considered installation of traffic control signals and removal of the PRI at the subject location for the following reasons:

- The long spacing between protected pedestrian crossings on the subject segment of Sheppard Avenue East
- The presence of transit stops on both sides of Sheppard Avenue East that attract pedestrians to cross the street
- PRIs do not provide right-of-way for pedestrians
- PRIs are not considered an enhanced form of pedestrian crossing protection

As noted, a PXO would not be an appropriate form of control on this section of Sheppard Avenue East. Accordingly, based on the above, Transportation Services supports the installation of mid-block traffic control signals on Sheppard Avenue East at a point 390 metres east of McCowan Road.

Consultation with TTC

The TTC has been consulted and concurs with replacing the pedestrian refuge islands on Sheppard Avenue East at Massie Street and at a point 440 metres east of McCowan Road with traffic control signals.

The TTC also supports the relocation of the existing TTC bus stops in the vicinity of the PRI located approximately 440 metres east of McCowan Road to align with the proposed traffic control signal location. Relocating these TTC bus stops will improve pedestrian and transit customer safety by providing them with an enhanced protected pedestrian crossing.

Other Considerations

It should be noted that the installation of traffic control signals will have the following additional impacts:

- There is potential for increase in delays to transit service and to motorists on Sheppard Avenue East as a result of the traffic control signals installation.
- Potential increase in cut-through traffic on Massie Street.

The Ward Councillor has been advised of the recommendations in this report.

CONTACT

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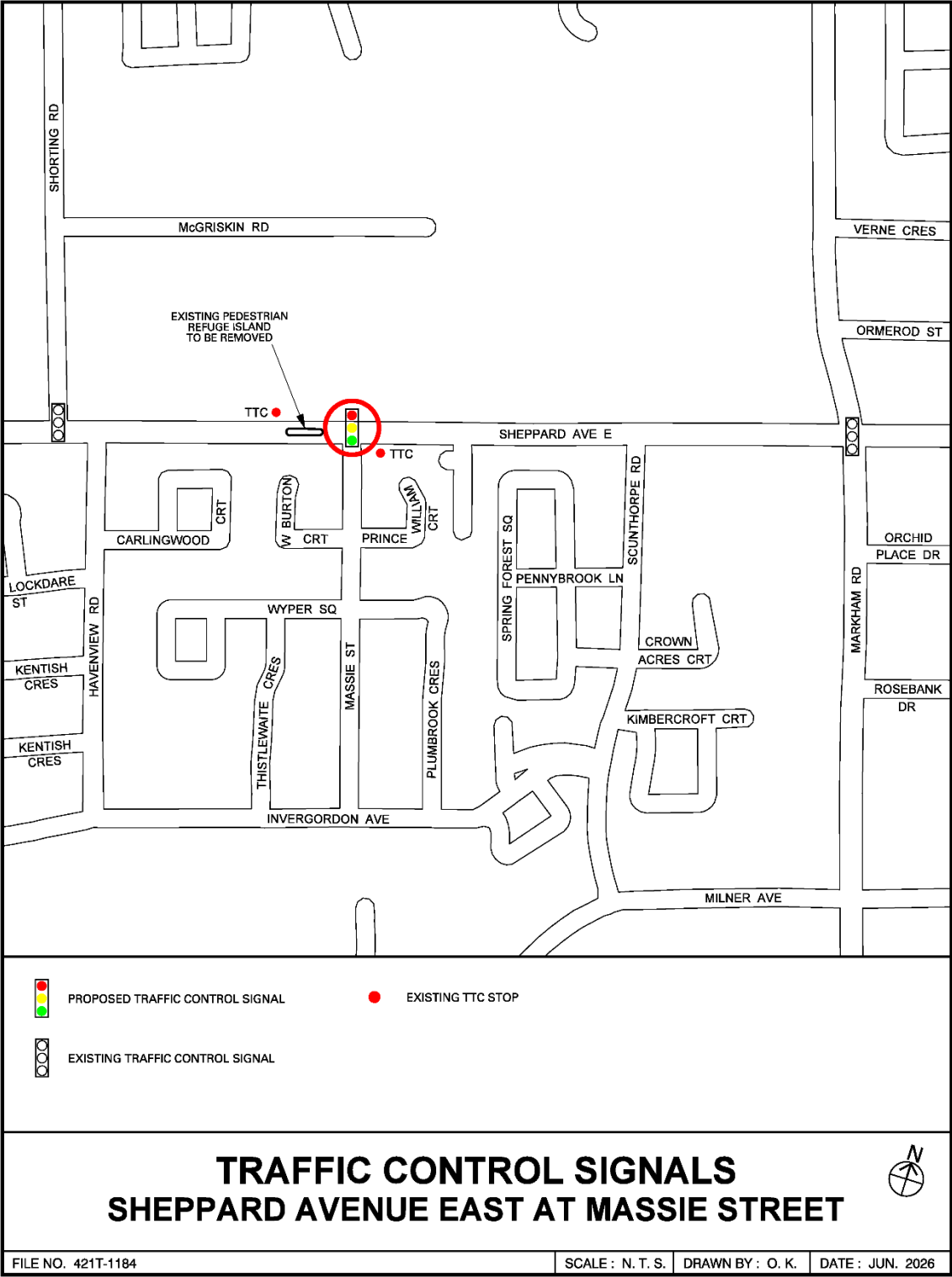
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Mike Barnet, P. Eng.
Director, Enforcement and Street Management, Transportation Services

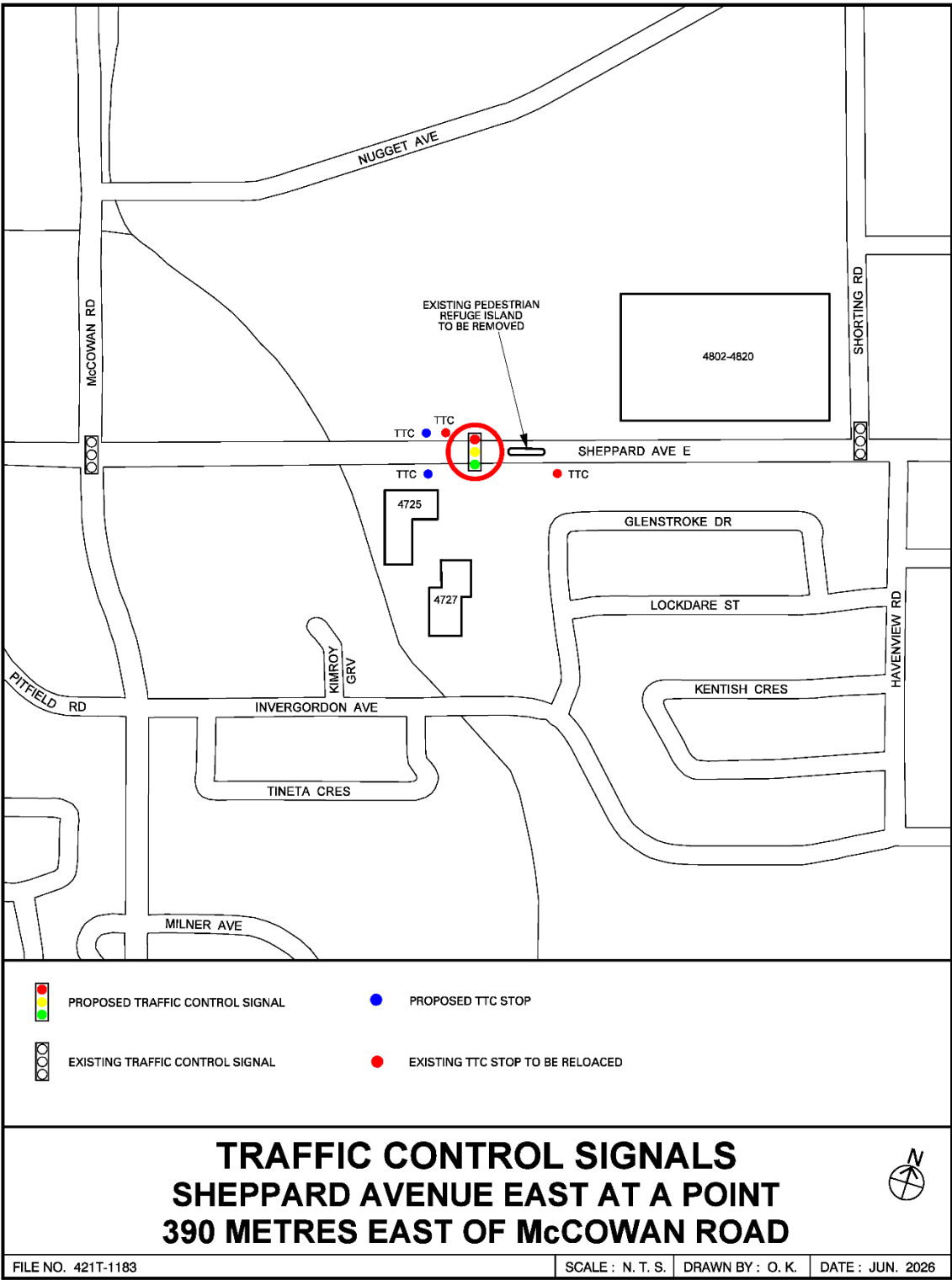
ATTACHMENTS

Attachment 1: Map - Traffic Control Signals - Sheppard Avenue East at Massie Street
Attachment 2: Map - Traffic Control Signals - Sheppard Avenue East at a point 390 metres east of McCowan Road
Attachment 3: Environmental Safety Audit - PXO - Sheppard Avenue East at Massie Street
Attachment 4: Environmental Safety Audit - PXO - Sheppard Avenue East at a Point 390 Metres East of McCowan Road

Attachment 1: Map - Traffic Control Signals - Sheppard Avenue East at Massie Street



Attachment 2: Map - Traffic Control Signals - Sheppard Avenue East at a point 390 metres east of McCowan Road



Attachment 3: Environmental Safety Audit - PXO - Sheppard Avenue East at Massie Street

Standard	Comments	Standard Met/Not Met
Vehicle operating speed less than 60 km/h	The posted speed limit on Sheppard Avenue East is 50 km/h	Met
Not more than four lanes wide on a two-way street or more than three lanes wide on a one-way street	Sheppard Avenue East is five-lanes wide, comprising two lanes in each direction and a two-way left turn lane (TLWL)	Not met
Traffic volume not more than 35,000 vehicles per day	Sheppard Avenue East carries approximately 21,000 vehicles per day	Met
No significant volume of turning movements	Approx. 3 percent turning movements	Met
No visibility problems exist for either pedestrians or motorists	There are no visibility concerns at this intersection	Met
No loading zones (including TTC) in the immediate area	There are TTC stops east and west of the intersection	Not Met
No driveways or entrances nearby	There is a driveway that intersects with Sheppard Avenue East opposite Massie Street	Not met
Spacing is not less than 200 metres to another pedestrian crossover or traffic control signal	Scunthorpe Road (TCS) - 300 metres east Shorting Road (TCS) - 310 metres west	Met

Attachment 4: Environmental Safety Audit - PXO - Sheppard Avenue East at a point 390 metres east of McCowan Road

Standard	Comments	Standard Met/Not Met
Vehicle operating speed less than 60 km/h	The posted speed limit on Sheppard Avenue East is 50 km/h	Met
Not more than four lanes wide on a two-way street or more than three lanes wide on a one-way street	Sheppard Avenue East is five-lanes wide, comprising two lanes in each direction and a two-way left turn lane (TLWL)	Not met
Traffic volume not more than 35,000 vehicles per day	Sheppard Avenue East carries approximately 21,000 vehicles per day	Met
No significant volume of turning movements	This is a mid-block location	Met
No visibility problems exist for either pedestrians or motorists	There are no visibility concerns at this intersection	Met
No loading zones (including TTC) in the immediate area	There are TTC stops east and west of the intersection	Not Met
No driveways or entrances nearby	There are nearby driveway on the north and south sides of Sheppard Avenue East	Not met
Spacing is not less than 200 metres to another pedestrian crossover or traffic control signal	Shorting Road (TCS) - 430 metres east McCowan Road (TCS) - 390 metres west	Met