

**TRANSPORTATION FACILITY  
9460 MITCH OWENS ROAD  
OTTAWA, ONTARIO**

**TRANSPORTATION IMPACT ASSESSMENT**

Prepared for:

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**TRANSPORTATION IMPACT ASSESSMENT**

**STEP 1 - SCREENING**

A Screening Form has been prepared which is included as Exhibit 1 in the Appendix. The Safety Trigger has been triggered in the Screening Form with the speed limit on the boundary road posted at 80 km/h. It is recommended that the assessment study proceed to the Scoping Document. The following will address the requirements of the Scoping Document.

**STEP 2 - SCOPING**

**MODULE 2.1 – Existing and Planned Conditions**

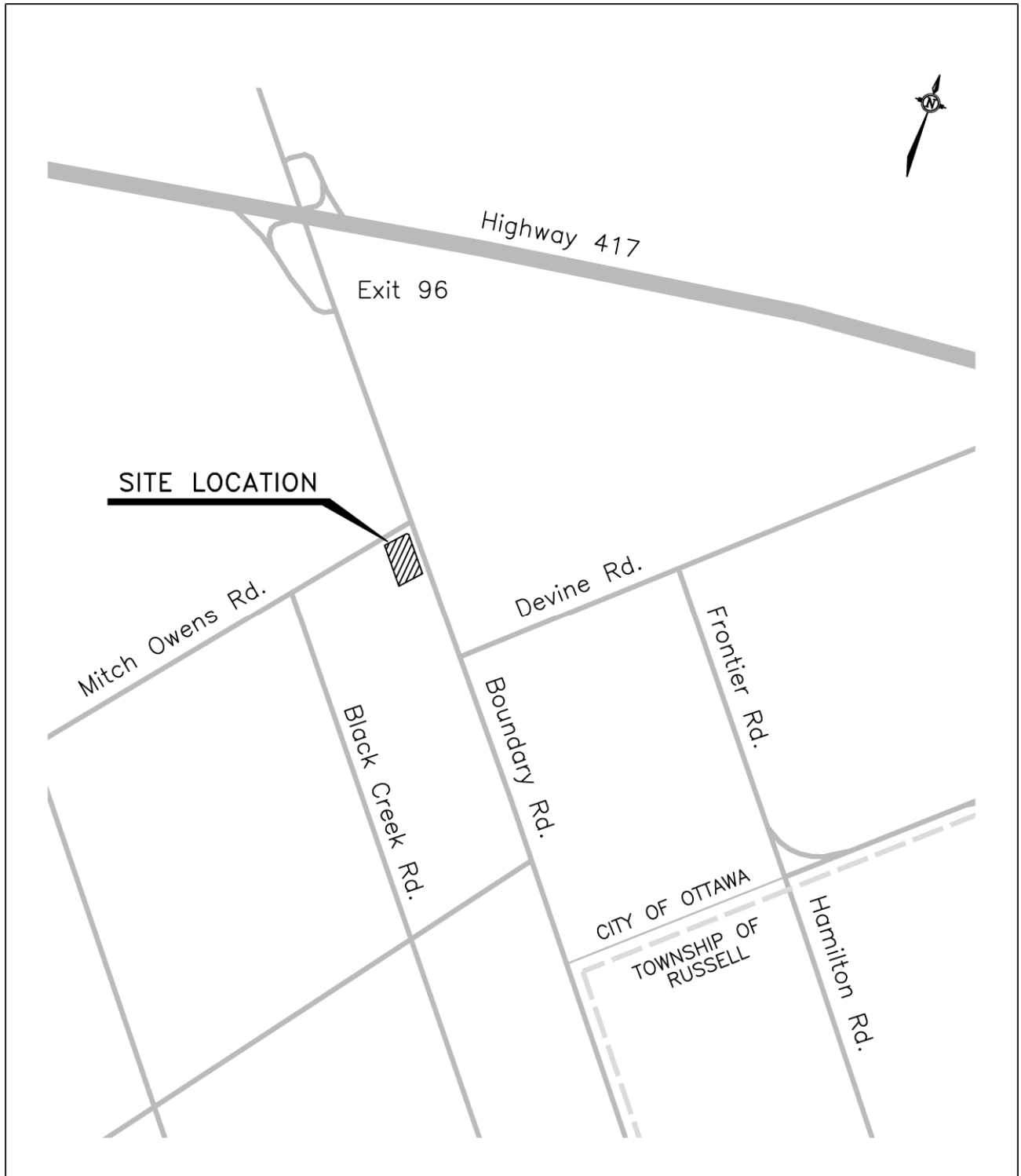
**Element 2.1.1 – Proposed Development**

The proposed development will consist of a truck transfer facility where goods are transferred from trucks arriving to trucks departing depending on their destination. The facility would be a single building with a gross floor area of 4,991.5 m<sup>2</sup> (53,728 ft<sup>2</sup>). Figure 2.1 shows the location of the transportation facility which is expected to be completed and operational by 2019.

The truck facility will have two accesses. The first is located onto Mitch Owens Road approximately 160 m (centreline to centreline) west of the Mitch Owens/Boundary intersection. The Mitch Owens Road access would have a width of 18 m. The second access is on Boundary Road approximately 265 m (centreline to centreline) south of the Mitch Owens/Boundary intersection. The Boundary Road access would have a width of 10.1 m. Figure 2.2 provides a conceptual site plan of the facility.

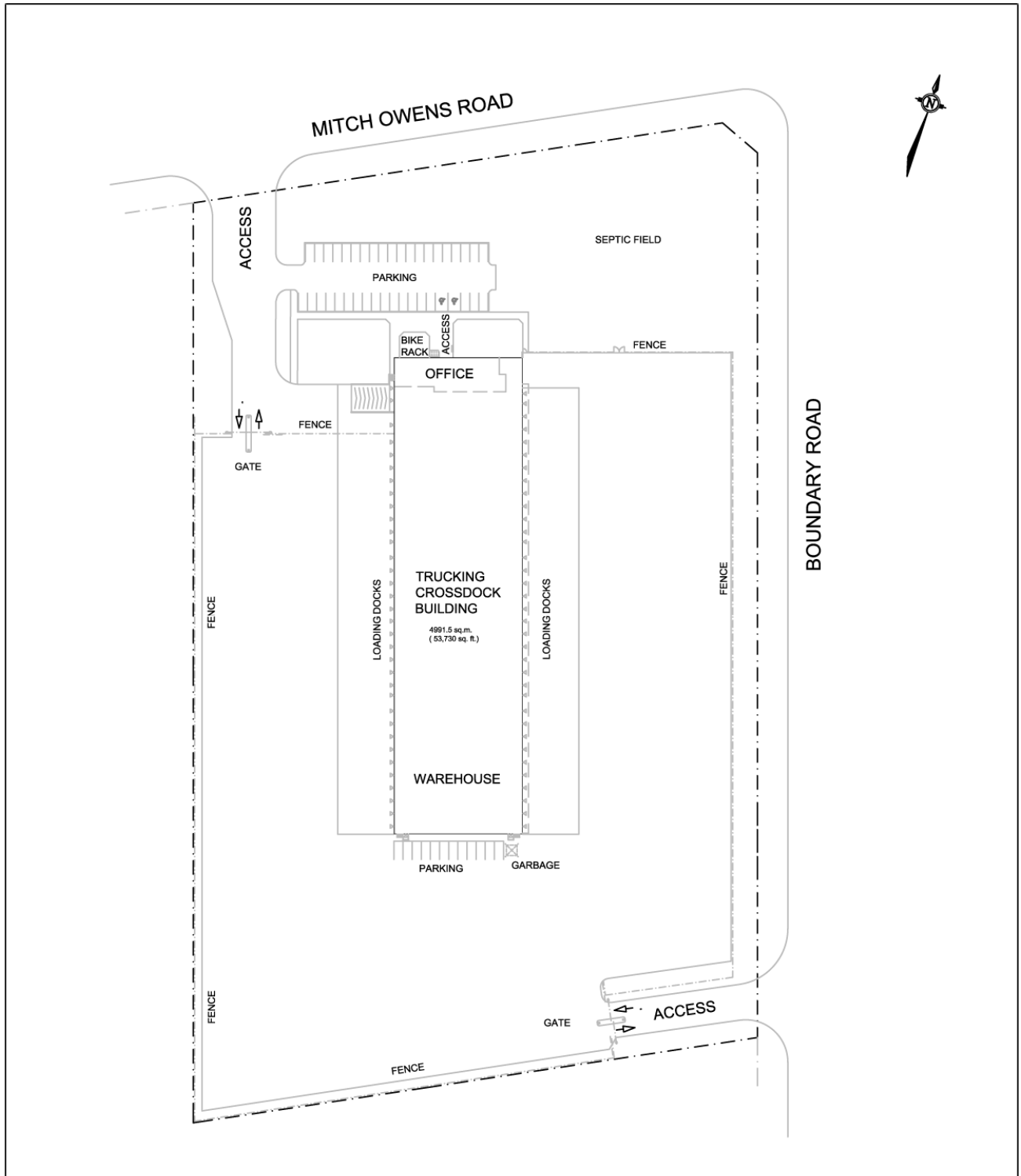
The site is a 42,066 m<sup>2</sup> vacant parcel of land at the southwest corner of the intersection of Mitch Owens Road and Boundary Road. The property is currently zoned “RG[784r]” Rural General Industrial which will support the proposed development. Lands in the surrounding area comprise of industrial and agricultural uses. The proposed Capital Region Resource Recovery Centre (CRRRC) will be located on the east side of Boundary Road across from the site. The site will provide 52 parking spaces including 2 barrier free spaces for employees and customers of the facility. The facility would provide truck loading docks on both the east and west sides of the building.

**FIGURE 2.1  
SITE LOCATION PLAN**



NOT TO SCALE

**FIGURE 2.2  
CONCEPTUAL SITE PLAN**



NOT TO SCALE

### **Element 2.1.2 – Existing Conditions**

The truck facility would be located at the southwest corner of the intersection of Mitch Owens Road and Boundary Road. Mitch Owens Road (Ottawa Road 8) is an east-west two lane rural arterial road under the jurisdiction of the City of Ottawa. The road has an asphalt surface with a width of approximately 7.0 m plus gravel shoulders. There are no pedestrian sidewalks along the road. Mitch Owens Road is designated as a Spine Route in the City of Ottawa *Transportation Master Plan* (TMP). There are no cycling facilities along the road. The posted speed limit along the road in the vicinity of the site is 80 km./h.

Boundary Road (Ottawa Road 41) is a north-south two lane rural arterial road under the jurisdiction of the City of Ottawa. The road has an asphalt surface with a width of approximately 7.0 m plus gravel shoulders. There are no pedestrian sidewalks along the road. Boundary Road adjacent to the site (between Mitch Owens Road and Devine Road) is designated as a Spine Route in the City of Ottawa *Transportation Master Plan* (TMP). There are no cycling facilities along the road. The posted speed limit along the road in the vicinity of the site is 80 km./h.

The Mitch Owens/Boundary intersection is a “T” intersection which is controlled by a stop sign at the eastbound Mitch Owens Road approach. The intersection has the following lane configuration:

- Northbound Boundary - 1 shared left/through lane
- Southbound Boundary - 1 through lane
- 1 exclusive right turn lane
- Eastbound Mitch Owens - 1 exclusive left turn lane (30 m storage + 45 m taper)
- 1 exclusive right turn lane

Table 2.1 summarizes the collisions at the Mitch Owens/Boundary intersection by year and type for the four year period between January 1, 2014 and December 31, 2017.

**TABLE 2.1  
 COLLISION SUMMARY**

YEAR	COLLISION TYPE				OTHER (SMV)	TOTAL
	REAR END	ANGULAR	TURNING	SIDESWIPE		
<b>Mitch Owens Road and Boundary Road</b>						
2014					3	3
2015	1	2			1	4
2016	1	4			1	6
2017		1			1	2
<b>TOTAL</b>	2	7	0	0	6	15

### **Element 2.1.3 – Planned Conditions**

The *Transportation Master Plan 2013* does not identify any roadway modifications planned along Mitch Owens Road or Boundary Road in the vicinity of the site. The Mitch Owens/Boundary intersection will be modified to include traffic signals and the associated intersection improvements when warranted.

## **MODULE 2.2 – Study Area and Time Periods**

### **Element 2.2.1 – Study Area**

The study area of the Transportation Impact Assessment (TIA) was discussed with staff of the City of Ottawa and was determined to be confined to the truck facility and the two accesses onto Mitch Owens Road and Boundary Road. The study will examine the location of the accesses, number of site generated trips, and turning movements to/from the site. The study will not be conducting an operational analysis at the site accesses or adjacent intersections.

### **Element 2.2.2 – Time Periods**

The peak hour time periods for the number of site generated trips were determined to be during the weekday peak AM and PM hours of the adjacent roads.

### **Element 2.2.3 – Horizon Years**

The truck facility is expected to be completed and operational by the year 2019.

## **MODULE 2.3 – Exemptions Review**

The exemptions, which provide possible reductions to the scope of work of the TIA Study, were examined using Table 4: Possible Exemptions which is provided in the City's *Transportation Impact Assessment Guidelines (2017)*. Utilizing the table, the following lists the possible exemptions proposed for the TIA Study report:

<b>MODULE</b>	<b>ELEMENT</b>	<b>EXEMPTION CONSIDERATIONS</b>
<b>Design Review Component</b>		
4.1 Development Design	4.1.2 Circulation and Access	No - Access to the development and site circulation will be examined.
	4.1.3 New Street Networks	Yes - Only required for subdivisions.
4.2 Parking	4.2.1 Parking Supply	No - the supply of parking will be discussed.



	4.2.2 Spillover Parking	Yes - Parking will meet the City of Ottawa By-laws. Spillover parking is not expected to be a problem.
<b>Network Impact Component</b>		
4.5 Transportation Demand Management	All Elements	Yes – The truck facility has few employees and would not benefit from TDM.
4.6 Neighbourhood Traffic Management	4.6.1 Adjacent Neighbourhoods	Yes – The site will have direct access onto an arterial road.
4.8 Network Concept		Yes - The site would not generate more than 200 person-trips per peak hour in excess of the volume permitted by established zoning.

### STEP 3 - FORECASTING

#### MODULE 3.1 - Development-Generated Traffic Demand

##### Element 3.1.1 – Trip Generation and Mode Shares

The number of expected site generated trips was obtained from the trucking company which will be operating the facility. The transportation facility will operate 24 hours per day 5 days a week and will be closed on Saturday and Sunday until midnight. The trucks will be arriving and departing at a relatively constant rate throughout the day. The facility will be operating on three 8 hour shifts. The owner anticipates that there may be 10 employees per shift which will include truck drivers. All employees will be arriving and departing outside the peak hours of the adjacent roads.

Table 3.1 provides the expected number of truck trips arriving and departing the truck facility for the various time periods throughout the day.

**TABLE 3.1  
 SITE GENERATED TRUCK TRIPS**

TIME PERIOD	ARRIVE	DEPART	TOTAL
6:00 AM to 12:00 PM (noon) <sup>1</sup>	3	10	13
12:00 PM (noon) to 6:00 PM <sup>2</sup>	10	2	12
6:00 PM to 12:00 AM (midnight)	5	8	13
12:00 AM (midnight) to 6:00 AM	12	6	18

<sup>1</sup> Peak 6 hour AM time period

<sup>2</sup> Peak 6 hour PM time period

Using the arrival and departure traffic of Table 3.1, the study has assumed that during the peak AM hour there would be 1 truck entering and 2 trucks exiting, and during the peak PM hour there would be 2 trucks arriving and 1 truck exiting. Applying a peaking factor of 2 to account for random arrivals, the site is expected to generate the peak AM and PM hour site trips shown in Table 3.2.

**TABLE 3.2  
 TOTAL PEAK HOUR SITE GENERATED TRIPS**

Trips	PEAK AM HOUR		PEAK PM HOUR	
	ARRIVING	DEPARTING	ARRIVING	DEPARTING
Truck Trips	2	4	4	2

All trips arriving and departing the truck facility during the peak hours would be by truck. Each truck would have a single driver which would mean that each truck trip would equal one person-trip. Table 3.3 shows the expected mode share of the trips generated by the facility.

**TABLE 3.3  
 MODE SHARE SUMMARY (Person-Trips)**

Travel Mode	Future Mode Share Targets for the Development		
	Mode Share Target		Rationale
	Primary	Pass-by Trips	
Transit	0%	0%	No transit service by the site
Walking	0%	0%	No residential areas close by
Cycling	0%	0%	All trips by truck
Auto Passenger	0%	0%	All trips by trucks which would have a single driver
Auto Driver	100%	100%	

The TIA Guidelines allow for three Trip Reduction Factors that may be applied to the expected development trips. Below discusses the three factors:

1. Deduction of Existing Development Trips - The proposed site is located on vacant lands with no existing development. The reduction for existing development trips would not apply.

2. Pass-by Vehicular Trips – All trips arriving and departing the site would be primary trips. The reduction for pass-by trips would not apply.
3. Synergy or Internalization – There would be only one use on the site. The reduction for shared trips within the site would not apply.

### **Element 3.1.2 – Trip Distribution**

The distribution of site generated trips will comprise of truck trips arriving and departing the facility. Although the directional distribution of trips may vary depending of the origin and destination of goods, the owner expects the following average distribution of trips:

To/From the North along Boundary Road to 417	95%
To/From the South along Boundary Road	0%
To/From the West along Mitch Owens Road	5%

### **Element 3.1.3 – Trip Assignment**

The trip patterns discussed in Element 3.1.2 were applied to the peak AM and PM hour trips shown in Table 3.2 which represent both vehicular and person-trips. All trips to/from the site would be primary trips. The expected truck trips during the weekday peak AM and PM hour of the adjacent road are presented in Figure 3.1.

## **MODULE 3.2 - Background Network Traffic Demand**

### **Element 3.2.1 – Transportation Network Plans**

The City of Ottawa *Transportation Master Plan 2013* (TMP) was reviewed to identify transit and roadway projects in the vicinity of the development. The TMP did not identify any rapid transit, transit priority or road projects within the “2031 Affordable RTTP Network Projects” or “2031 Affordable Road Network”.

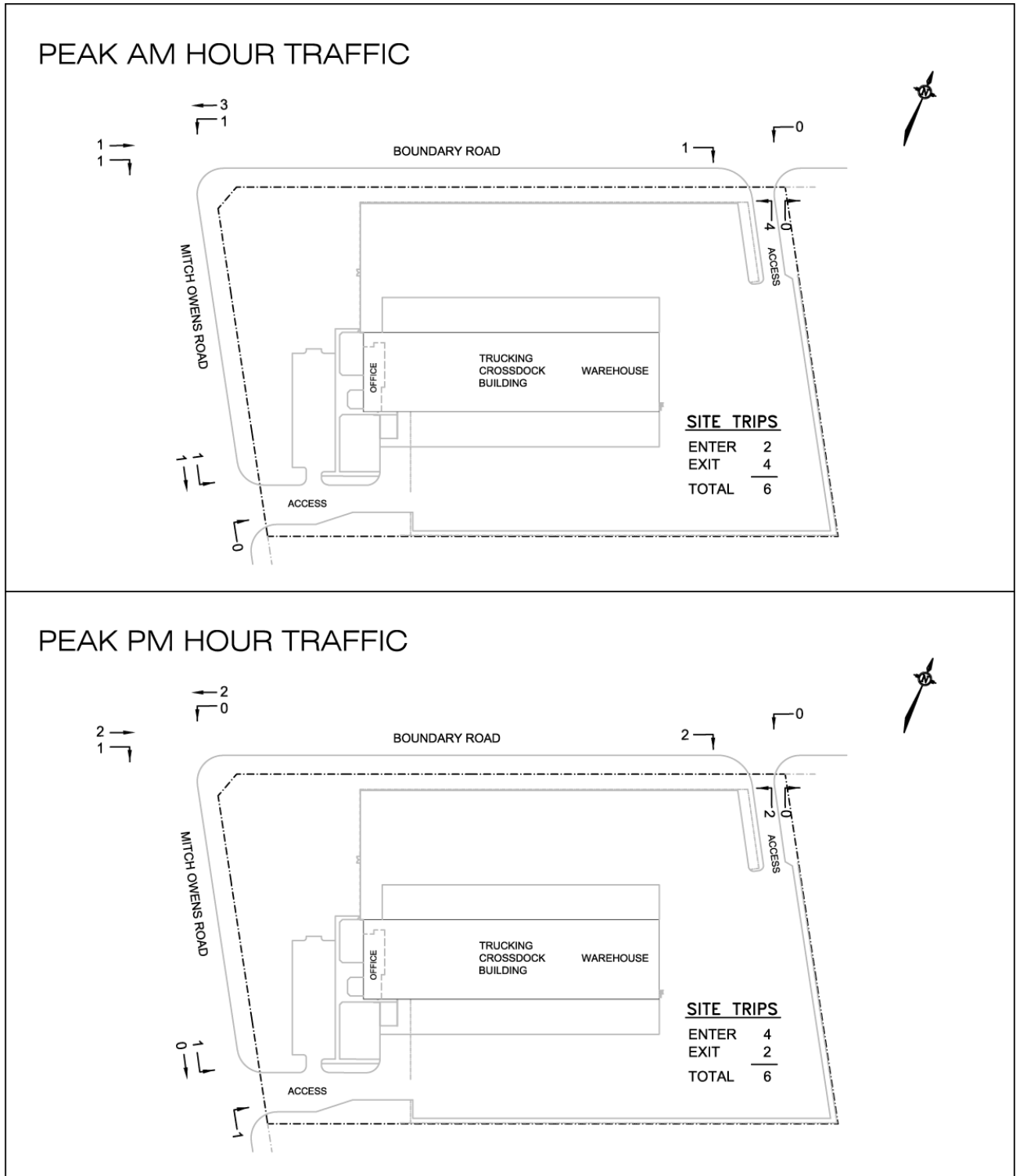
### **Element 3.2.2 – Background Growth**

As per discussions with staff of the City of Ottawa, an operational analysis will not be completed as mentioned in Element 2.2.1 - Study Area. The background traffic growth was not required to be examined.

### **Element 3.2.3 – Other Developments**

A Development Application Search was conducted which determined that the Capital Region Resource Recovery Centre (CRRRC) has been approved along the east side of Boundary Road across from the site, the Amazon distribution centre is beginning construction at the southeast corner of Boundary Road and Highway 417, and some smaller industrial developments along Entrepreneur Crescent which is a small industrial park located off of Boundary Road approximately 230 m north of Mitch Owens Road.

**FIGURE 3.1  
 WEEKDAY PEAK AM AND PM HOUR SITE GENERATED TRIPS**



NOT TO SCALE

All development proposed for construction will contribute to the increase in background traffic.

### **MODULE 3.3 - Demand Rationalization**

The transportation network in the area has the capacity to handle the future travel demands for the area. As future development comes on board, the roads and intersections will be evaluated in order to ensure that they are functioning at an acceptable and safe level. Roadway improvements would comprise of modifications to the Mitch Owens/Boundary intersection which would include the installation of traffic signals and associated lane modifications, and improvements to the intersections of the on/off ramps of highway 417 and Boundary Road. All improvements will be completed when warranted. There would be no requirement to apply measures to reduce travel demand to either background or site related trips.

## **STEP 4 – ANALYSIS**

### **MODULE 4.1 – Development Design**

#### **Element 4.1.1 – Design for Sustainable Modes**

The transportation facility is located in a rural area which does not have any transit service, pedestrian sidewalks, or cycling facilities. Trips by employees and truck drivers are expected to be by car or truck. With Mitch Owens Road and Boundary Road designated as “Spine Routes”, the Site Plan will provide an area for the storage of four bicycles in close proximity to the building entrance.

#### **Element 4.1.2 – Circulation and Access**

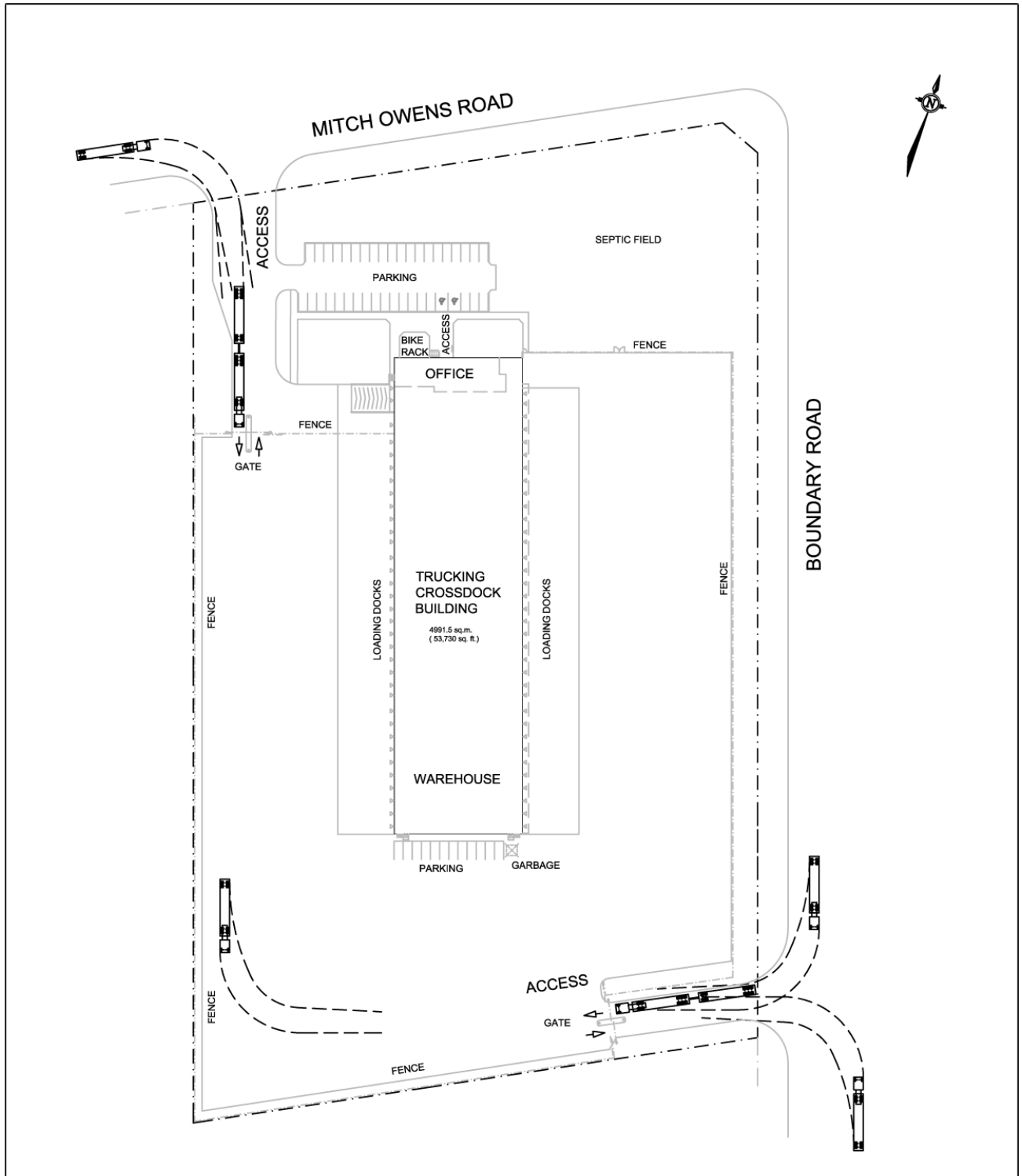
The truck facility will have one 18 m access onto Mitch Owens Road which is located 160 m west of the Mitch Owens/Boundary intersection and outside the influence of the existing eastbound left turn lane. The second access onto Boundary Road has a width of 10.1 m and is located 265 m south of the Mitch Owens/Boundary intersection. All car traffic will enter and exit the facility from the Mitch Owens Road access and will have access to a 40 space parking lot. The trucks will enter and exit at both accesses and park for loading/unloading in a gated secure loading area. In the loading area there are an additional 12 parking spaces. The Mitch Owens Road access will be mainly used for trucks arriving from the west. The Boundary Road access would be mainly used by trucks arriving from the north and south, and departing to the north, south and west.

Figure 4.1 shows the truck turning templates for transport trucks entering and exiting the site.

#### **Element 4.1.3 – New Street Networks**

Exempt as determined in the Scoping Document.

**FIGURE 4.1  
TRUCK TURNING TEMPLATES**



NOT TO SCALE

## **MODULE 4.2 – Parking**

### **Element 4.2.1 – Parking Supply**

The site will provide 40 parking spaces which include 2 barrier free spaces in the front parking lot adjacent to Mitch Owens Road, and 12 additional spaces in the secured loading area for a total of 52 parking spaces. The facility is expecting to have 10 employees for each shift which include personnel for loading and unloading trucks as well as truck drivers. The parking provided would be adequate for the parking demand of the facility.

### **Element 4.2.2 – Spillover Parking**

Exempt as determined in the Scoping Document.

## **MODULE 4.3 – Boundary Street Design**

The facility is located in a rural area. There are no sidewalks, cycling lanes or transit service in the area.

The truck facility will generate a small number of site generated trips which would not trigger the requirement to improve the surrounding road network. The traffic signal warrants for the intersection of Mitch Owens Road and Boundary Road are close to being satisfied. City staff anticipates that the traffic signal warrants would be satisfied and the intersection modified in the next three years. Table 2.1 in Element 2.1.2 of the TIA report shows the collision history over a four year period for the intersection of Mitch Owens Road and Boundary Road. The collision data determined that there was no pattern of collisions at the intersection.

As further development is proposed in the area, the posted speed limit will be further examined to determine if the speed limit should be reduced.

## **MODULE 4.4 – Access Intersection Design**

### **Element 4.4.1 – Location and Design of Access**

Both the Mitch Owens Road access and Boundary Road access are located along roads which have a straight and level alignment. The sight line at the accesses was examined utilizing the guidelines published by the Transportation Association of Canada (TAC) in the *Geometric Design Guide for Canadian Roads*. The first guideline used was the “Turning Sight Distance” guideline in which a vehicle turning left onto a two lane roadway across a passenger vehicle approaching from the left. Figure 2.3.3.4 of the TAC manual was used with a design speed of 90 km./h. (posted speed of 80 km./h.). The guideline determined the required sight distance to be 175 m (B-1 graph line). The second guideline is the “Decision Sight Distance” shown in Figure 2.3.3.6. The minimum stopping sight distance is the minimum distance required to allow drivers to bring their vehicles to a stop. The minimum stopping sight distance was determined

from the graph to be 165 m for a design speed of 90 km./h. The site accesses for the truck facility provide a sight line which exceeds the guidelines documented in the TAC manual.

#### **Element 4.4.2 – Intersection Control**

Both the site access onto Mitch Owens Road and the access onto Boundary Road will be “T” intersections which will be controlled by a stop at the site exit.

Due to the low volume of site generated trips, there would be no requirement for exclusive turn lanes at the site accesses.

Mitch Owens Road and Boundary Road both have gravel shoulders. It is recommended that at the Mitch Owens Road access and Boundary Road access, the gravel shoulders are paved for a distance of 30 m on each side of the access with a width of 2 m. The paved shoulder would reduce gravel spillage onto the road from right turning vehicles and reduce roadway maintenance.

#### **Element 4.4.3 – Intersection Design**

Discussions with City of Ottawa staff determined that trips to/from the site would be low with the majority of trips being by car or truck due to the rural location of the site and lack of a multi-modal infrastructure. A multi-modal trip analysis would not be required.

City staff has also stated that an operational analysis was not required at the site accesses or adjacent roads and intersections.

### **MODULE 4.5 – Transportation Demand Management**

Exempt as determined in the Scoping Document.

### **MODULE 4.6 – Neighbourhood Traffic Management**

#### **Element 4.6.1 – Adjacent Neighbourhoods**

Exempt as determined in the Scoping Document.

### **MODULE 4.7 - Transit**

#### **Element 4.7.1 – Route Capacity**

There currently is no transit service in the area.

#### **Element 4.7.1 – Transit Priority**

There currently is no transit service in the area. Transit priority measures would not be applicable.



## **MODULE 4.8 – Review of Network Concept**

Exempt as determined in the Scoping Document.

## **MODULE 4.9 – Intersection Design**

### **Element 4.9.1 – Intersection Control**

The intersection of Mitch Owens Road and Boundary Road are currently being monitored by City staff to determine when traffic signals are warranted and the approval of intersection modifications.

### **Element 4.9.2 – Intersection Design**

As per discussions with staff of the City of Ottawa, an operational analysis was not completed at the site accesses due to the small number of site generated trips. The site accesses onto Mitch Owens Road and Boundary Road would be constructed as private approaches.

## SUMMARY

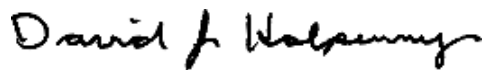
The TIA Screening Form (Exhibit 1) determined that the site generated trips from the proposed transportation facility did not trigger the requirement for the preparation of a Transportation Impact Assessment (TIA) report. The Screening Form showed that the Safety Trigger was satisfied due to the adjacent roads to the site having a posted speed limit of 80 km./h.

The traffic assessment determined that the site would generate 2 trips entering and 4 trips exiting during the peak AM hour, and 4 trips entering and 2 trips exiting during the peak PM hour.

Figure 4.1 presents truck turning templates which show the turning movements of transport trucks within the site and at the site accesses.

It was recommended that the existing gravel shoulders at both the Mitch Owens Road access and Boundary Road access be paved for 30 m on each side of the access with a width of 2 m. The paved shoulder would reduce maintenance and gravel spillage at the accesses due to right turning vehicles.

Prepared by:



David J. Halpenny, M. Eng., P. Eng.



# **APPENDIX**

## **SCREENING FORM**

## EXHIBIT 1 SCREENING FORM

### City of Ottawa 2017 TIA Guidelines Screening Form

#### 1. Description of Proposed Development

Municipal Address	9460 Mitch Owens Road, Ottawa
Description of Location	Transportation Facility
Land Use Classification	“RG[784r]” Zoning – Rural General Industrial Zone
Development Size (units)	
Development Size (m <sup>2</sup> )	One building with a gross floor area of 4,991.5 m <sup>2</sup>
Number of Accesses and Locations	Two Accesses. One onto Boundary Road and a second onto Mitch Owens Road.
Phase of Development	Single phase
Buildout Year	2019

If available, please attach a sketch of the development or site plan to this form.

#### 2. Trip Generation Trigger

Considering the Development’s Land Use type and Size (as filled out in the previous section), please refer to the Trip Generation Trigger checks below.

Land Use Type	Minimum Development Size
Industrial	5,000 m <sup>2</sup>

	Yes	No
4,991.5 m <sup>2</sup> < 5,000 m <sup>2</sup>		X

*\* If the development has a land use type other than what is presented in the table above, estimates of person-trip generation may be made based on average trip generation characteristics represented in the current edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual.*

**If the proposed development size is greater than the sizes identified above, the Trip Generation Trigger is satisfied.**

### 3. Location Triggers

	Yes	No
Does the development propose a new driveway to a boundary street that is designated as part of the City's Transit Priority, Rapid Transit or Spine Bicycle Networks?		X
Is the development in a Design Priority Area (DPA) or Transit-oriented Development (TOD) zone?*		X

*\*DPA and TOD are identified in the City of Ottawa Official Plan (DPA in Section 2.5.1 and Schedules A and B; TOD in Annex 6). See Chapter 4 for a list of City of Ottawa Planning and Engineering documents that support the completion of TIA).*

**If any of the above questions were answered with 'Yes,' the Location Trigger is satisfied.**

### 4. Safety Triggers

	Yes	No
Are posted speed limits on a boundary street are 80 km/hr or greater?	X	
Are there any horizontal/vertical curvatures on a boundary street limits sight lines at a proposed driveway?		X
Is the proposed driveway within the area of influence of an adjacent traffic signal or roundabout (i.e. within 300 m of intersection in rural conditions, or within 150 m of intersection in urban/ suburban conditions)?		X
Is the proposed driveway within auxiliary lanes of an intersection?		X
Does the proposed driveway make use of an existing median break that serves an existing site?		X
Is there is a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development?		X
Does the development include a drive-thru facility?		X

**If any of the above questions were answered with 'Yes,' the Safety Trigger is satisfied.**

### 5. Summary

	Yes	No
Does the development satisfy the Trip Generation Trigger?		X
Does the development satisfy the Location Trigger?		X
Does the development satisfy the Safety Trigger?	X	

**If none of the triggers are satisfied, the TIA Study is complete. If one or more of the triggers is satisfied, the TIA Study must continue into the next stage (Screening and Scoping).**