1 Heron's Hill Way
Urban Transportation Considerations

Official Plan Amendment & Zoning By-law Amendment Application
City of Toronto

Prepared For: Paradise Developments Heron's Hill Inc.

April 2020

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1.0 INTRODUCTION

BA Group has been retained by Paradise Developments Heron's Hill Inc. to provide urban transportation consulting services in relation to a proposed mixed-use development to be located at the property with a municipal address of 1 Heron's Hill Way in the City of Toronto (herein referred to as the "site"). The site is located in the southeast quadrant of the Yorkland Road / Heron's Hill Way intersection and is southeast of the Sheppard Avenue East / Heron's Hill Way intersection.

This report forms a part of Official Plan Amendment and Zoning By-law Amendment applications being made to the City of Toronto. The proposed development project will retain the existing office building located on-site. A mixed-use building is proposed in the approximate location of the existing surface parking lot and the vacant land to the east. The building is proposed to include residential (purpose-built rental) and office components; the office component is proposed to be located at-grade.

1.1 THE SITE

Today, the site is occupied by an office building (2,227 m^2 GFA) at its west end, an ancillary surface parking lot, and vacant space at the eastern portion of the lands. Site location is illustrated in **Figure 1** and site context is located in **Figure 2**.

1.2 SITE SPECIFIC ZONING BY-LAWS

By-law 295-2010 (OMB) was passed in 2010 to permit the development of the municipal addresses at the time known as 2025, 2035, 2045 Sheppard Avenue East; generally, these are the lands bounded by Sheppard Avenue East to the north, Heron's Hill Way to the east and south, and Yorkland Boulevard to the west. In By-law 295-2010 (included in **Appendix A**), these lands are referred to as "Parcel 1". These lands have been developed and several mixed-use buildings are now located within this block.

The lands that are the focus of this report are included in By-law 295-2010 as "Parcel 2". There are general provisions that are dually applicable to "Parcel 1" and "Parcel 2" (some of which are transportation-related, including parking) and there are provisions specifically applicable to "Parcel 2". Official Plan Amendment and Zoning By-law Amendment applications are being made at this time to permit the residential component of the project which is not a permitted use in "Parcel 2" of By-law 295-2010.

It should be noted that Site-Specific By-laws 417-2014 and 418-2014 are also applicable to the site; both were passed to permit the construction of the office building that exists on the site. However, the permissions are generally associated with Section 37 financial matters (from By-law 295-2010) and are not discussed further in this report. Site-specific By-laws 406-2019 and 408-2019 pertain to recent alterations to speed limits and on-street parking/loading on Heron's Hill Way, and are reflected in this report.

1.3 PROPOSED DEVELOPMENT

The proposed development programme includes 350 residential dwelling units and 292 m^2 GFA in a 39-storey building. The existing office building (2,227 m^2 GFA) will be maintained. A summary of the proposed development programme is included in **Table 1**. Reduced scale architecture plans of the proposed development are attached in **Appendix B**.

TABLE 1 1 HERON'S HILL WAY DEVELOPMENT PROGRAMME

Use/Aspect	Type	Units / GFA / Description	
Existing Building to be Maintained			
Office	Space	2,227 m^2 GFA	
Proposed New Building			
Residential (350 residential dwelling units)	1-bedroom	210 units	
	2-bedroom	105 units	
	3-bedroom	35 units	
	Total	**350 units**	
Office	Space	292 m^2 GFA	
Site Plan / Facilities			
Vehicular Parking	Resident Parking	276 parking spaces	
	Non-Residential Parking	51 parking spaces *(shared residential visitor and office parking; this supply replaces the existing office surface parking that is proposed to be removed.)*	
	Total	**327 parking spaces**	
	Parking Locations	Resident Parking: Above Grade 2nd – 4th floors Residential Visitor Parking: Surface and Below Grade (P1) Office Parking: Below Grade (P1)	
Bicycle Parking	Existing Office Building	13 bicycle parking spaces	
	Proposed Building	Short-Term	57 bicycle parking spaces
	Proposed Building	Long-Term	211 bicycle parking spaces
	Total	**281 bicycle parking spaces**	
Loading	1 Type 'G' loading space & 2 spaces allocated to contractor/courier		
Proposed New Road	A proposed new public road is proposed at the east end of the site in conformance with the ConsumersNext Secondary Plan		
Site Vehicle Access	Parking Garage / Loading	One driveway accessed via proposed new public local road at east end of site	
	Pick-Up / Drop-Off	Vehicle layby provided on Heron's Hill Way with capacity for 2 vehicles	
Site Pedestrian Access	Residential Lobby: Access via Heron's Hill Way Office Spaces: Access via Heron's Hill Way		

Notes:
1. Site plan statistics provided by Graziani + Corazza Architects Incorporated, dated March 17, 2020.

1.4 REPORT SCOPE

This report provides an assessment of the transportation related aspects of the proposed development and the site. It includes:

- An examination of relevant policy that has informed the proposed development including the ConsumersNext Secondary Plan;
- A review of the area transportation context with respect to multi-modal infrastructure;
- A summary of the existing site land uses and proposed development programme;
- An overview of the key transportation related design elements of the development site plan;
- Detailed description of the proposed transportation demand management strategy; and
- Multi-modal site travel demand forecasting and assessment.

The study scope for this transportation impact study was prepared in consultation with Transportation Planning and Services staff at the City of Toronto. The following sections provide a summary of key parameters adopted for the study.

1.4.1 Study Area

The study will include analysis of the following intersections:

Signalized:

- Sheppard Avenue East / Yorkland Road / Highway 404 Ramps
- Sheppard Avenue East / Heron's Hill Way
- Yorkland Road / Heron's Hill Way / Private Driveway

Unsignalized:

- Yorkland Road / Yorkland Boulevard
- Heron's Hill Way / Private Driveway
- Proposed New Local Road / Future Site Access
- Proposed New Local Road / Heron's Hill Way
- Existing Site Access / Private Driveway / Heron's Hill Way

1.4.2 Horizon Year and Time Period

The area intersections will be analyzed under existing and 5-year (2025) future traffic conditions during the weekday morning and afternoon peak hour periods.

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FIGURE 1 SITE LOCATION

1 Heron's Hill Way

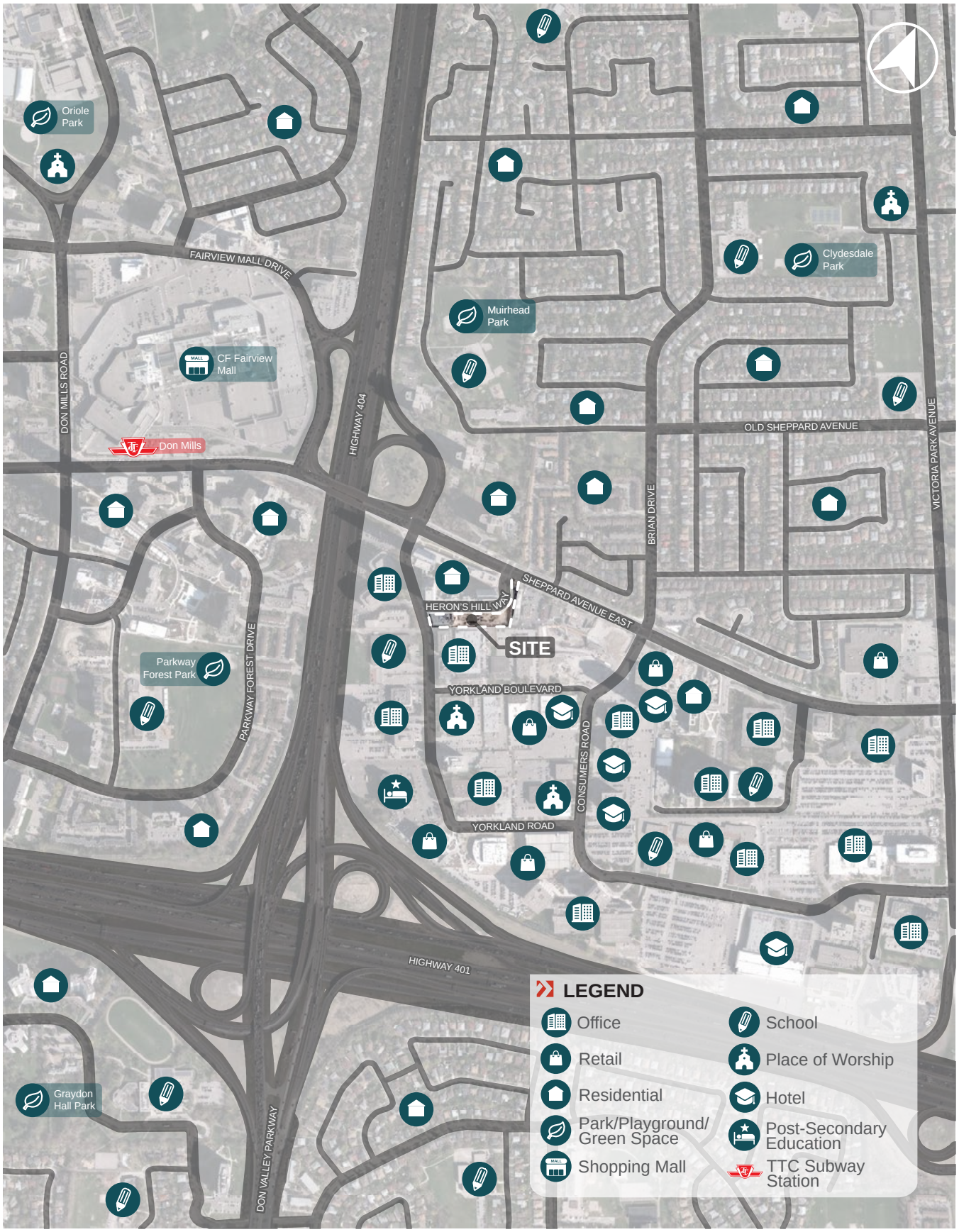

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FIGURE 2 SITE CONTEXT
1 Heron's Hill Way

2.0 TRANSPORTATION POLICY & PLANNING CONTEXT

2.1 CONSUMERSNEXT SECONDARY PLAN

In 2018, City of Toronto City Council approved the **ConsumersNext Secondary Plan** (referred to herein as the "Secondary Plan") or Amendment 393 to the Official Plan ("OPA 393") of the City of Toronto. Generally, the area is bounded by Sheppard Avenue East to the north, Victoria Park Avenue to the east, Highway 401 to the south, and the Highway 404 to the west. The area is currently known as one of the largest concentrations of office employment in the City of Toronto (outside of the downtown); the Secondary Plan serves as the blueprint for the future growth of the area focussed on the future construction of higher order transit and the addition of mixed use development. The Secondary Plan has been appealed to the Local Planning Appeal Tribunal (LPAT) and is not in force (Case No. PL180544).

The Secondary Plan emphasizes multi-modal transportation as part of its "Vision and Guiding Principles" partially due to the future construction of higher order transit; this is referred to as "the new identity for the area."

2.2 CONSUMERSNEXT TRANSPORTATION MASTER PLAN

In support of the Secondary Plan, the **ConsumersNext Transportation Master Plan** (referred to herein as the "TMP"), dated May 2017, was published. The TMP encourages the implementation of multi-modal travel options to benefit residents, employees, and visitors of all ages and social class in the community. Highlighting the lack of connectivity within the Consumers Road Business Parks' internal street network, the TMP proposes new public streets and mid-block connections to increase area connectivity and generate a pedestrian friendly environment. Placing all parking behind the building, underground and / or incorporated as part of the building structure, facing building facades to the street, and implementing other streetscaping elements (e.g. street trees and furniture) will create a pedestrian-oriented environment that minimizes the need for pedestrians to traverse parking lots and other private lands to shorten the walking distance to major destinations.

Open space / park space is also encouraged in the TMP as a way to minimize the existing car dominated street environment and to offer amenity space and interest to passing pedestrians and cyclists. Furthermore, through the promotion of mixed-use developments, the TMP encourages the implementation of various types of amenities within walking distance from the home / workplace – promoting shorter trips and encouraging active transportation.

Recognizing the high availability of parking throughout the Business Park and most retail uses along Sheppard Avenue East and Victoria Park Avenue, the ConsumersNext Secondary Plan encourages new construction and development to consist of higher densities and a mix of uses that parking (located below grade, above-grade if there are employment uses, or behind the stand alone building) containing the complementary use – creating a more pedestrian-oriented environment. Additionally, the Secondary Plan states that, at the City's discretion, parking requirements may be reduced on a site-by-site basis after a review of how parking space reductions may contribute to the implementation of Transportation Demand Management (TDM) strategies identified in the TMP.

2.2.1 Public Road

Currently, within the Consumers Road Business Park, the internal street network lacks connectivity – limiting midblock crossings, and creating poor connectivity from buildings to the arterial roads and most transit stops. As a result, the TMP and the Secondary Plan have proposed several new public streets in order to increase the accessibility of the Consumers Road Business Park to the external road, transit, pedestrian, and cycling networks.

These connections have been accommodated within the Site Plan (refer to **Appendix B**) and are included within the traffic analysis contained within this report (see **Section 10.0**).

2.2.2 Parking

Within the TMP, it is acknowledged that oversupplying parking can encourage higher vehicle use. Under the City of Toronto comprehensive Zoning By-law 569-2013, the entire Consumers Road Business Park is located within the "all other areas of the City" policy area, which includes a prescribed set of minimum parking requirements.

The TMP states the following regarding parking in Section 11.1.4:

> *At a minimum it is recommended that the Mixed Use Areas as defined in OPA 231 be amended to fall under Policy Area 4. Furthermore, site specific reductions in parking space rates may also require a Zoning By-law Amendment (ZBA) to reduce the amount of parking on-site, but it is recommended that these site specific reductions be accompanied with TDM and innovative mobility checklist than can support the preferred TMP Solution.*

Within **Section 7.1**, the proposed vehicular parking supply for the site is discussed in detail.

2.2.3 Cycling Network Plan Amendment

It is recommended in Section 11.1.3 of the TMP that refinements be made to the City of Toronto Cycling Network Plan to add new on-street and off-street cycling infrastructure to the Consumers Road Business Park. A map of these routes in included in **Section 3.3.2** of this report.

2.3 SHEPPARD AVENUE RAPID TRANSIT

Sheppard Avenue East (east of Don Mills Station) has been earmarked for rapid transit expansion for some time although no current plans exist and no funding is tied to the project.

The **2019 Ontario Budget** highlights the Province's commitment to the Sheppard Subway Extension, connecting the existing Don Mills Station with the future terminus of the Scarborough Subway Extension at McCowan Station via subway. Conversely, the **Big Move** (2008) identifies a 25 year plan for the Regional Rapid Transit and Highway Network. Within this plan, the Don Mills Road and Sheppard Avenue East area adjacent to Consumers Road is a Major Transit Station Area / Gateway Hub to be intensified while Sheppard Avenue East is an intensification corridor with future light rail transit (LRT) service. Similarly, in a recent **Toronto-Ontario Transit Update** dated October 15, 2019, the City of Toronto referred to the expansion of rapid transit east of Don Mills Station as "the future Sheppard East LRT". However, the Transit Update also stated the need to assess the implications of a potential extension of Line 4 (i.e. as a subway) as outlined in the 2019 Ontario Budget.

Although no dates or particular technology (subway or LRT) have been confirmed for the Sheppard Avenue East rapid transit at this time, the Province states that it will follow the completion of the Scarborough Subway Extension.

As a result, the effects of the Sheppard East LRT/Subway Extension are not comprehensively analyzed in this report.

3.0 TRANSPORTATION INFRASTRUCTURE CONTEXT

3.1 AREA STREET NETWORK

3.1.1 Existing Street Network

The existing area street network is described in **Table 2** and illustrated in **Figure 3**.

TABLE 2 EXISTING AREA STREET NETWORK

	Road Name	Description
Provincial / Municipal Expressway	Highway 401	Highway 401 is an expressway under the jurisdiction of the Province of Ontario that generally runs in the east-west direction and extends from Windsor in the west to the Ontario-Quebec border in the east. In the vicinity of the site, Highway 401 is a 14-lane cross section with 3 collector lanes in each direction and 4 express lanes in each direction. No parking is permitted at any time. The posted speed limit is 100 km/h.
	Highway 404	Highway 404 is an expressway under the jurisdiction of the Province of Ontario the generally runs in the north-south direction and extends from Highway 401 in the south, where it turns into the Don Valley Parkway, to East Gwillimbury in the north. Within the vicinity of the site, Highway 404 is a 10-lane cross section with 4-lanes in each direction and one additional lane in each direction acting as a designated high occupancy vehicle (HOV) lane. No parking is permitted at any time. The posted speed limit is 100 km/h.
	Don Valley Parkway	The Don Valley Parkway is an expressway under the jurisdiction of the City of Toronto the generally runs in the north-south directions and extends from Highway 401 in the north, where it turns into Highway 404, to Commissioners Street in the south. In the vicinity of the site, the Don Valley Parkway is an 8-lane cross section with 3-lanes in each direction and one additional lane in each direction acting as a designated transit vehicles only lane. No parking is permitted at any time. The posted speed limit is 90 km/h.
Major Arterial	Sheppard Avenue East	Sheppard Avenue East is a Major Arterial roadway that generally runs in an east-west direction and extends from Yonge Street in the west, where it continues as Sheppard Avenue West, to Kingston Road in the west, where it continues as Port Union Road. In the vicinity of the site, Shepard Avenue East is a 6-lane cross section with 3-lanes in each direction, an auxiliary centre left-turn lane, and left- and right-turn lanes at major intersections. No parking is permitted at any time on either side of Sheppard Avenue East within the vicinity of the site. The posted speed limit is 60 km/h.
Minor Arterial	Yorkland Road	Yorkland Road is a Minor Arterial roadway that generally runs in a north-south direction and extends from Sheppard Avenue East in the north, where it continues as the Highway 404 northbound on-ramp, to Consumers Road in the south. In the vicinity of the site, Yorkland Road is a 4-lane cross section with 2-lanes in each direction and left- and right-turn lanes at major intersections. No parking is permitted at any time on the east side of Yorkland Road, however, parking is permitted on the west side of Yorkland Road for a maximum of 3 hours unless otherwise signed. The speed limit is 50 km/h.
Local	Yorkland Boulevard	Yorkland Boulevard is a Local roadway that generally runs in an east-west direction and extends from Yorkland Avenue in the west to Consumers Road in the east. In the vicinity of the site, Yorkland Boulevard is a 2-lane cross section with 1-lane in each direction. No parking is permitted on the north side of Yorkland Boulevard. Parking is permitted on the south side of Yorkland Boulevard unless signed otherwise, and in one section no parking is permitted Monday to Friday between 7:00AM to 9:00AM and 4:00PM to 6:00PM. The speed limit is 50 km/h.
Pending	Heron's Hill Way	Heron's Hill Way generally runs in the east-west direction between Sheppard Avenue East in the north-east and Yorkland Road in the west and is pending classification by the City of Toronto. In the vicinity of the site, Heron's Hill way is a 2-lane cross section with 1-lane in each direction and left-turn lanes at major intersections. No parking is permitted on either side of Heron's Hill Way. The speed limit is 50 km/h. It should be noted that Heron's Hill Way will likely be classified as a local road given that typical daily motor vehicle traffic volumes are unlikely to exceed 2,500 cars.

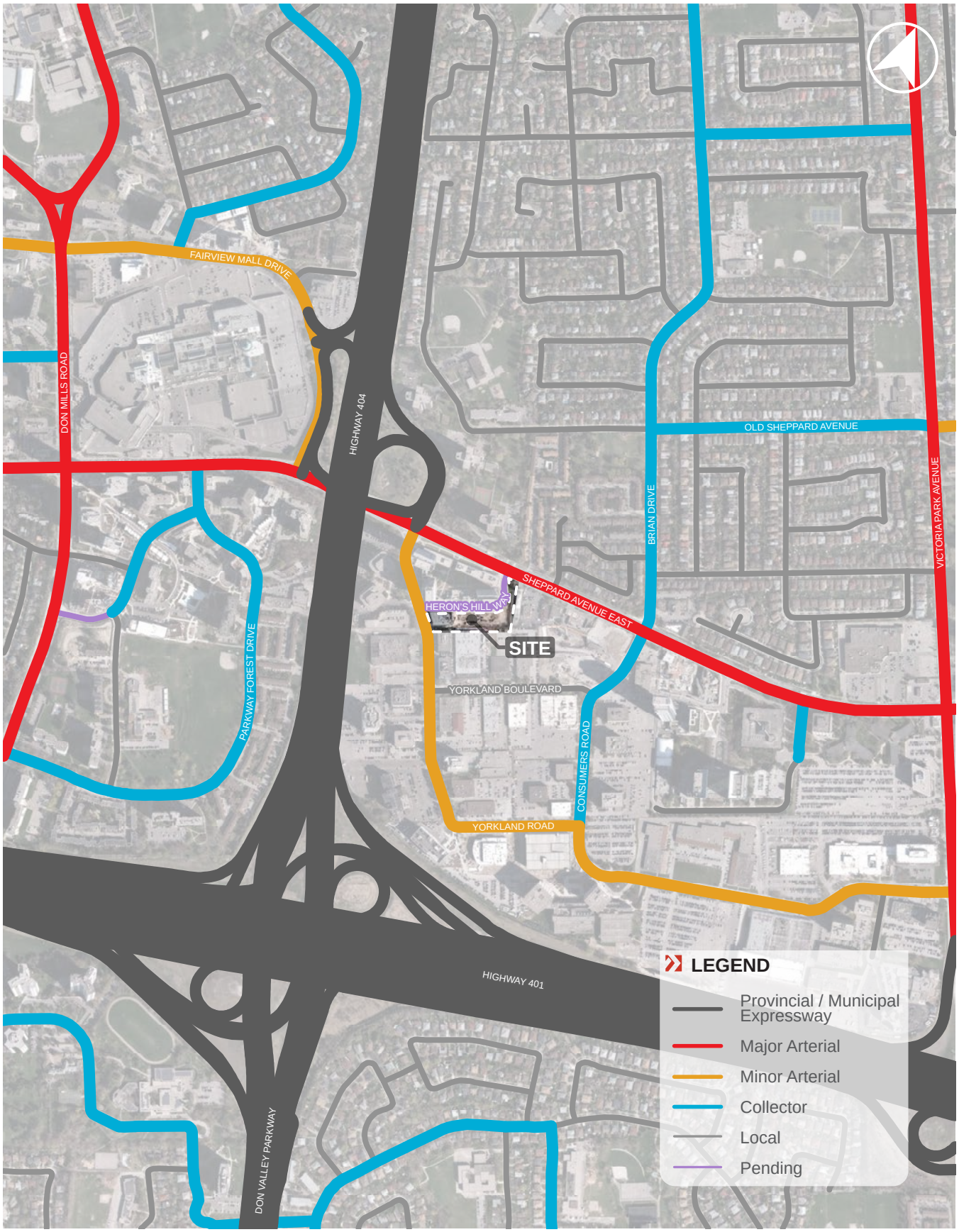

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FIGURE 3 - AREA STREET NETWORK

1 Heron's Hill Way

3.1.2 Planned Street Network

As highlighted above in **Section 2.1** and illustrated in **Figure 4**, the TMP proposes an enhanced street network within the Consumers Road Business Park to improve the connectivity between buildings and the surrounding road network. Notably, planned street connections are illustrated directly adjacent to the site, to its east.

The proposed TMP and Secondary Plan public street network is illustrated in **Figure 4**.

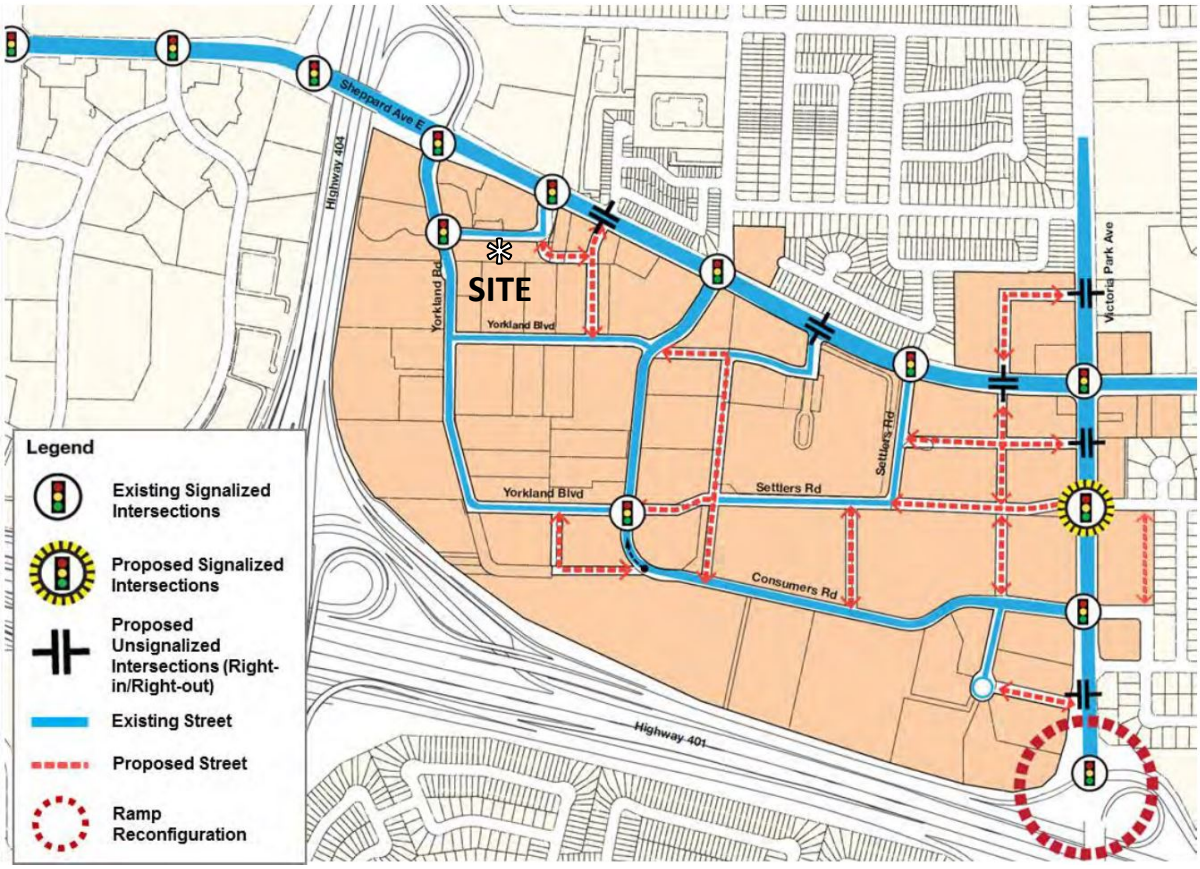

FIGURE 4: CONSUMERS ROAD BUSINESS PARK PROPOSED PUBLIC STREET NETWORK

3.2 AREA TRANSIT NETWORK

3.2.1 Existing Transit

The site is located within North York and is in close proximity (approximately 140 metres) to several bus routes that run along Sheppard Avenue East, Yorkland Boulevard, Consumers Road, Victoria Park Avenue, Pharmacy Avenue, and Huntingwood Drive – connecting the site to higher order transit (e.g. Subway Lines 1, 3, and 4). In total, the Site is accessible to five (5) bus routes.

It is also notable that the site is located approximately 700 metres from Don Mills Station, the eastern terminus of TTC Subway Line 4 (Sheppard). While numerous bus connections provide convenient access to Don Mills Station, it is located within walking distance for many.

As a result, the subject Site is well serviced by public transit options that provide frequent and convenient access to local destinations and seamless flow between modes of travel. Detail regarding existing transit options is included in **Table 3** and illustrated in **Figure 5**.

3.2.2 Planned Transit Improvements

Sheppard Avenue East Rapid Transit Extension
Rapid transit is proposed along Sheppard Avenue East, as is referenced in **Section 2.3**, connecting with the existing TTC Subway Line 4 (Sheppard) and continuing east of Don Mills Station. The 2019 Ontario Budget highlights the Province's commitment to the Sheppard Subway Extension, connecting the existing Don Mills Station with the future terminus of the Scarborough Subway Extension at McCowan Station via subway. Although no dates have been set yet for the Sheppard East Subway Extension, the Province states that it will follow the completion of the Scarborough Subway Extension.

In a recent *Toronto-Ontario Transit Update* dated October 15, 2019, the City of Toronto referred to the expansion of rapid transit east of Don Mills Station as "the future Sheppard East LRT". The Transit Update also stated the need to assess the implications of a potential extension of Line 4 as outlined in the 2019 Ontario Budget (i.e. assess the extension of the existing Line 4 along Sheppard Avenue East via subway instead of LRT).

TABLE 3 AREA TRANSIT SERVICES

	Number / Name of Service Line	Peak Period Headways	Closest Stop Location	Description
TTC Bus Routes	24 – Victoria Park	15 – 25 min.	Sheppard Avenue East and Heron's Hill Way (approx. 140m from the site, 2 min walk)	The 24 Victoria Park bus route operates between Victoria Park Station on Line 2 (Bloor-Danforth) and the area of Victoria Park Avenue and Steeles Avenue East, and Don Mills Station on Line 4 (Sheppard), generally in a north-south direction. Two services are operated, the 24A and 24B (only the 24B goes to Don Mills Station). The 24B (Victoria Park Station to Don Mills Station via Consumers Road) short-turn branch operates during peak periods and midday, from Monday to Friday only. The 24A (Victoria Park Station-Steeles) branch is part of the 10 Minute Network, and operates 10 minutes or better, all day, every day.
	85 – Sheppard East	10 – 27 min.		The 85 Sheppard East bus route operated between Sheppard-Yonge Station on Line 1, Don Mills Station on Line 4, and Rouge Hill GO Station, generally in an east-west direction. Two basic services are operated, with some additional variations. Service is provided between Sheppard-Yonge Station and Don Mills Station at all times, seven days a week. Service is provided between Don Mills Station and Rouge Hill GO Station at all times, seven days a week. At most times of the week buses do not operate through Don Mills Station, and a change of buses is required. Additional short-turn service is provided at busy times between Don Mills Station and Meadowvale. Service between Don Mills Station and Meadowvale Road is part of the 10 Minute Network, and operates 10 minutes or better, all day, every day.
	167 – Pharmacy North	30 min.		The 167 Pharmacy North bus route operates between Don Mills Station on Line 4 and the area of Pharmacy Avenue and Steeles Avenue East. Evening and weekend service is provided to the Consumers Road area. Two services are operated. The 167A (Don Mills Stn-Steeles via Consumers) branch operates during the evening from Monday to Friday and the daytime and early evening on Saturdays. The 167B (Don Mills Stn-Steeles) branch operates until approximately 6:30 p.m. from Monday to Friday.
	169 – Huntingwood	20 – 30 min.		The 169 Huntingwood bus route operates between Don Mills Station on Line 4 and Scarborough Centre Station on Line 3, generally in an east-west direction. At off-peak times the route also serves the Van Horne Avenue area. Two services are operated. The 169A (Don Mills Stn-Scarborough Centre Stn via Van Horne) branch operates during the midday and evenings from Monday to Friday, and all day on Saturdays, Sundays and holidays. The 169B (Don Mills Stn-Scarborough Centre Stn) branch operates during the peak periods, from Monday to Friday only.
YRT Bus Routes	24 - Woodbine	10 – 19 min.		The 24 Woodbine bus route operates between Don Mills Station on Line 4 in the south and Honda Canada Incorporated in the north, generally in a north-south direction. Six services are operated: the 24A, 24B, 24C, 24D, 24E, and 24F. Only the 24A route travels in the east-west direction along Sheppard Avenue East to Don Mills Station. The route is operational all day, seven days a week.

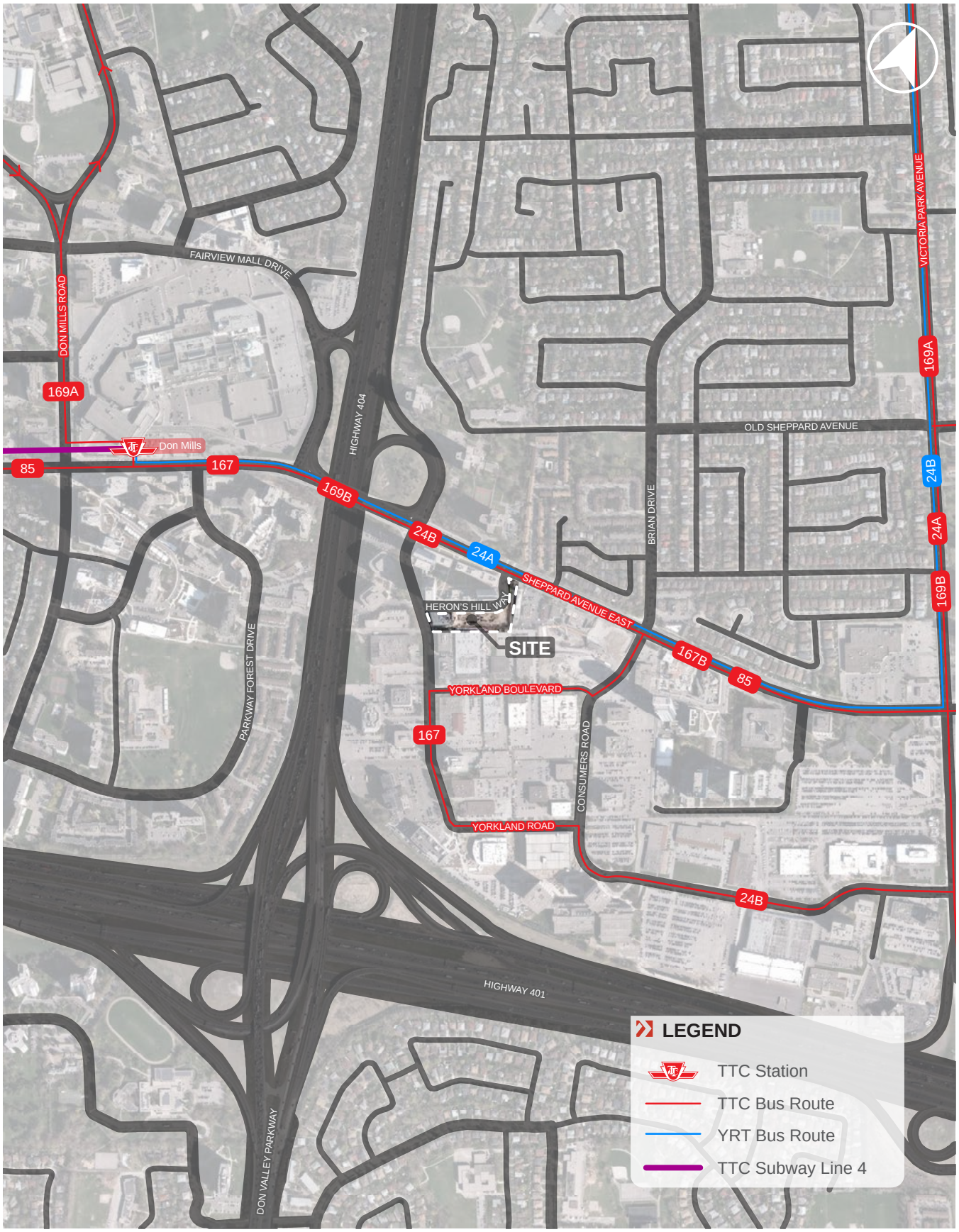

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FIGURE 5 - AREA TRANSIT NETWORK

1 Heron's Hill Way

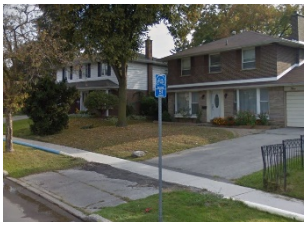
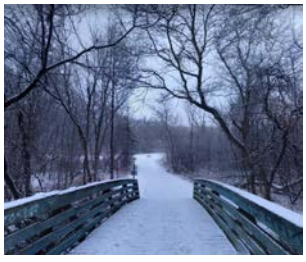
3.3 AREA CYCLING NETWORK

3.3.1 Existing Cycling Infrastructure

The site is located in proximity to a variety of cycling routing facilities that provide far reach within the City of Toronto. Included among these facilities are Middle and Upper Don Trail, and the Shaughnessy Boulevard bike lanes. These cycling connections provide far reach to the north, east, south, and west of the site and create opportunities for residents, employees, and visitors of the site and surrounding area to travel using active modes of transportation.

The existing cycling infrastructure network is illustrated in **Figure 6**. Further detail relating to existing routes is provided in **Table 4**.

TABLE 4 EXISTING LOCAL AREA CYCLING INFRASTRUCTURE NETWORK

→	Route	Type of Cycling Infrastructure	Description	Image
North-South Connections	Shaughnessy Boulevard	Bike Lanes	Route travels from Sheppard Avenue East in the south to Glentwoth Road / Delverton Place in the north. Bike lanes are located on the street.	
	Shaughnessy Boulevard	Signed Route	Route travels from Havenbrook Boulevard in the south to Van Horne Avenue in the north. Signage is used along Shaughnessy Boulevard to indicate the transition from bike lanes to the designated bike route.	
	Middle Don / Betty Sutherland Trail	Major Multi-Use Trail	Route generally travels from Duncan Mill Road in the south, where it connects to the Duncan Mill Road Signed Bike Route, to the intersection of Sheppard Avenue East and Leslie Street in the north. Route is physically separated from vehicular traffic.	
	Upper Don	Major Multi-Use Trail	Route generally travels from the intersection of Sheppard Avenue East and Leslie Street in the south to the area of Don Mills Road and McNicoll Avenue in the north-east. The route also connects with the Finch East Trail. Route is physically separated from vehicular traffic.	
East-West Connections	Van Horne Avenue	Signed Route	Route travels from Shaughnessy Boulevard in the west to Victoria Park Avenue in the east, where it continues generally in an east-west direction to McCowan Road. Signage is used along Van Horne Avenue to indicate the designated bike route.	

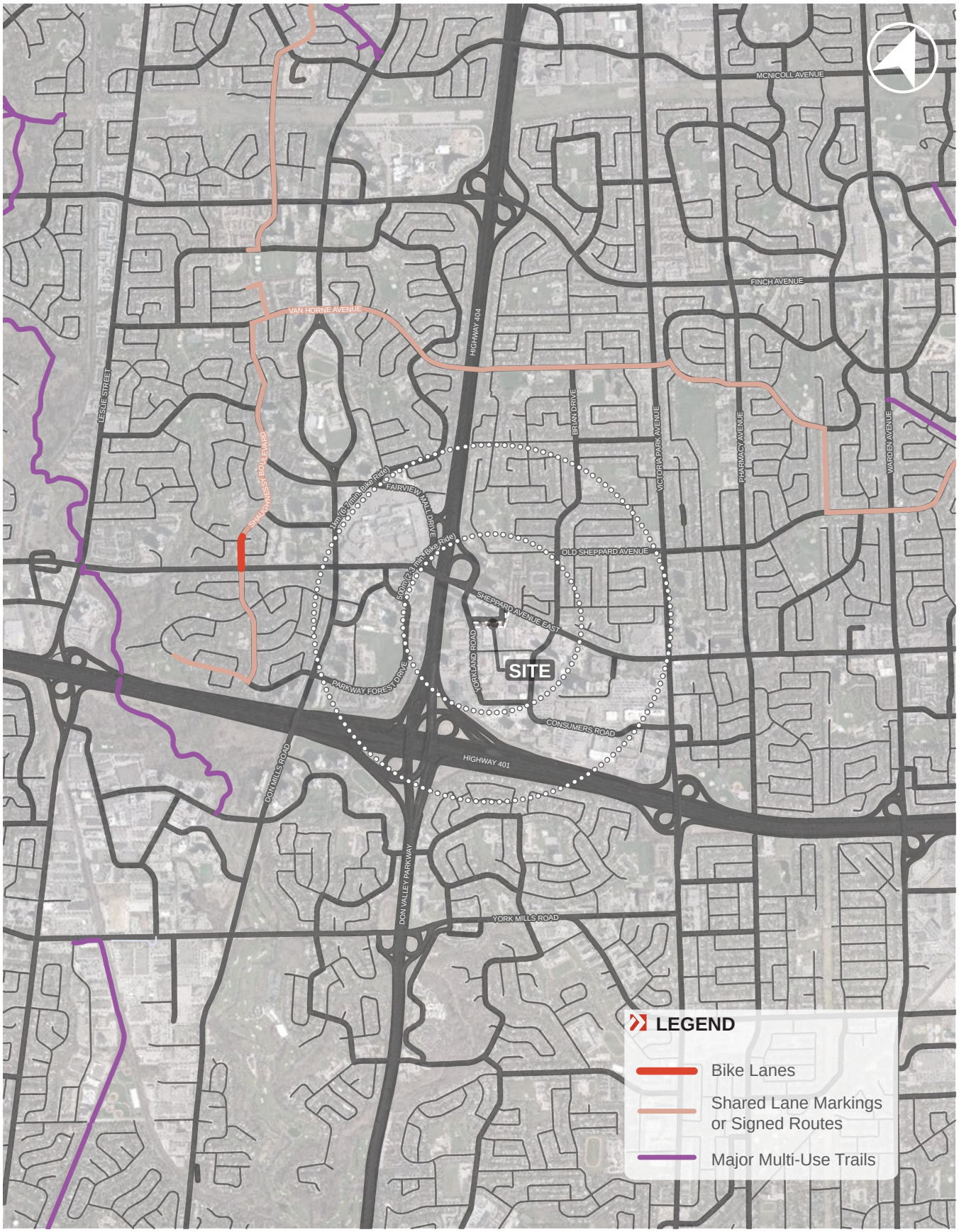


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FIGURE 6 - AREA CYCLING NETWORK

1 Heron's Hill Way

3.3.2 Planned Cycling Network Improvements

3.3.2.1 City of Toronto Cycling Network Plan

A series of planned infrastructure investments (included as part of the City of Toronto plans) will benefit the "reach" of the cycling network connected to the site.

Planned connections and improvements have been identified by the City of Toronto and have been addressed through the Cycling Network Ten Year Plan (2016), a policy document that outlines proposed cycling infrastructure improvements in Toronto over a ten-year period (2016-2025). The Ten Year Plan aims to connect gaps in the City, and to renew existing cycling routes by improving their quality.

Notably, in July 2019, Toronto City Council approved an update to the Cycling Network Plan. The Cycling Network Plan now consists of a longer-term overall proposed network, as well as a detailed three year rolling implementation program (currently 2019 to 2021). Cycling infrastructure improvements included as part of the near term implementation program generally coincide with planned road improvements.

Planned new cycling infrastructure includes the following:

- Brian Drive: from Sheppard Avenue East in the south to Van Horne Avenue in the north, this route is labelled as "Study".
- Old Sheppard Avenue: from Brian Drive in the west to Victoria Park Avenue in the east, this route is labelled as "Study".
- Huntingwood Drive: from Victoria Park Avenue in the west to Brimley Road in the east, this route is labelled as "New", indicating that it will likely be upgraded to include bike lanes or cycle tracks.

The 2019-2021 Cycling Network Plan Implementation Program (North York and Scarborough) is included below as **Figure 7**.

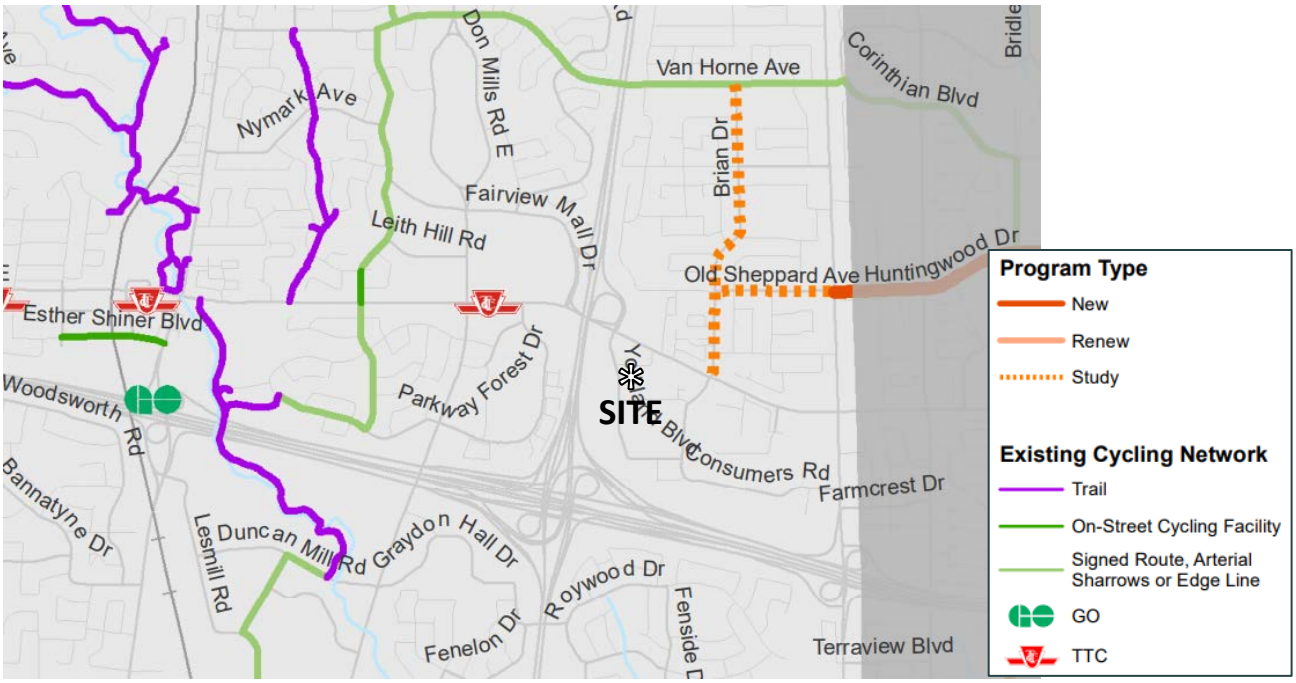


FIGURE 7: 2019-2021 NEAR TERM IMPLEMENTATION PROGRAM

3.3.2.2 ConsumersNext Secondary Plan & TMP

It is recommended in Section 11.1.3 of the TMP that refinements be made to the City of Toronto Cycling Network Plan to add new on-street and off-street cycling infrastructure to the Consumers Road Business Park. A map of the proposed refinements, taken from the TMP, is illustrated in **Figure 8**.

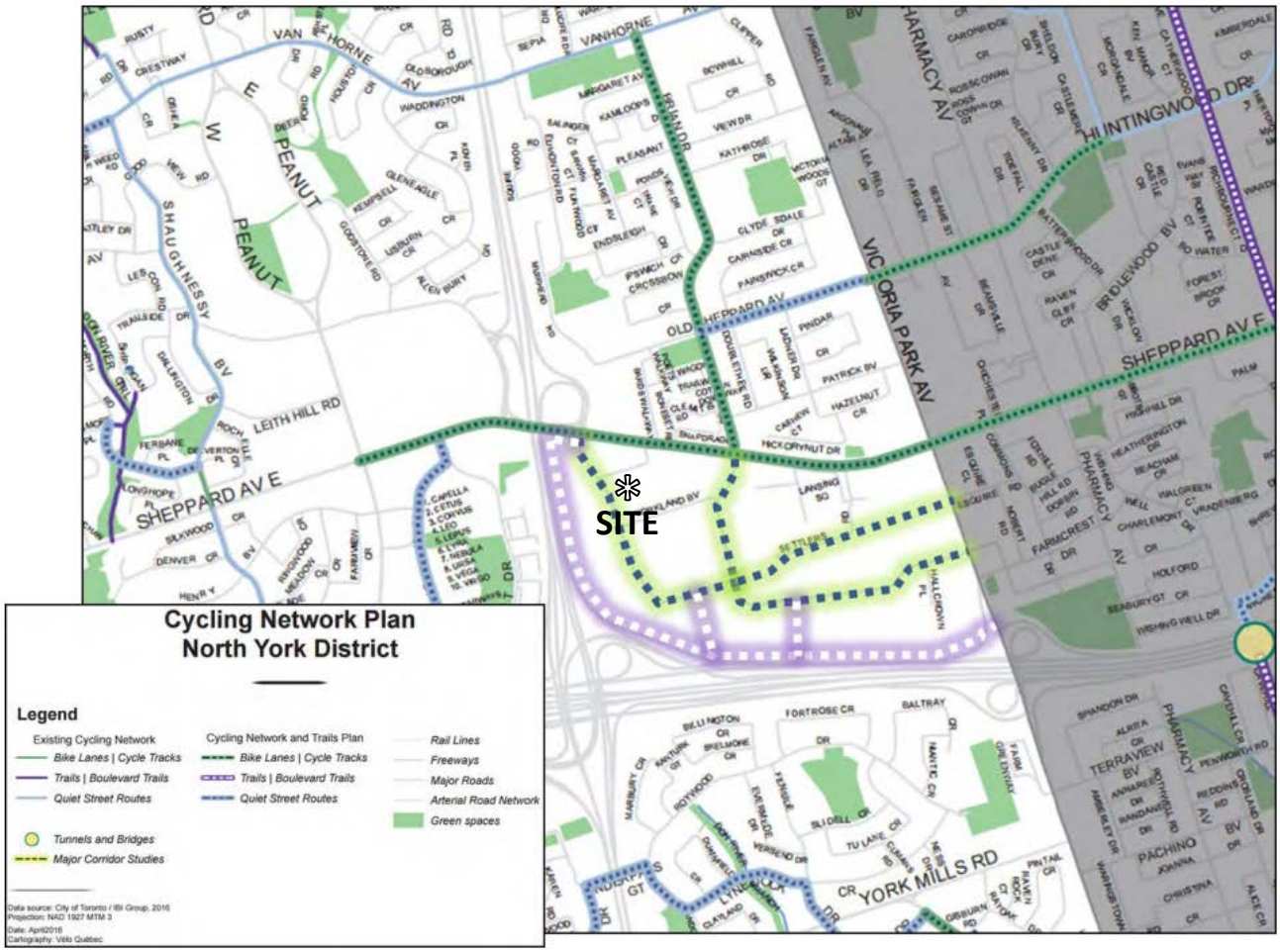


FIGURE 8: CONSUMERSNEXT TMP PROPOSED CYCLING NETWORK PLAN REFINEMENTS

Notably, there are “bike lanes / cycle tracks” highlighted on Yorkland Boulevard, adjacent to the site to its west.

3.4 AREA PEDESTRIAN NETWORK

3.4.1 Existing Pedestrian Network

The site is well served by an existing network of pedestrian facilities surrounding the site. At key locations bordering the site, there exist many opportunities for pedestrians to safely cross at traffic signals and navigate within the boarder network. The existing crossings are generally in acceptable conditions and many intersections feature tactile paving and depressed curbs.

The site is in walking distance to a number of parks / recreational spaces, schools, places of worship, and many restaurants and retail spaces. These amenities provide a variety of accessible opportunities to residents, employees, and visitors of the site and encourage walking as a viable mode of travel.

3.4.2 Planned Pedestrian Network

The ConsumersNext Secondary Plan contains a pedestrian connections map which is illustrated below in **Figure 9**, taken from the Secondary Plan.

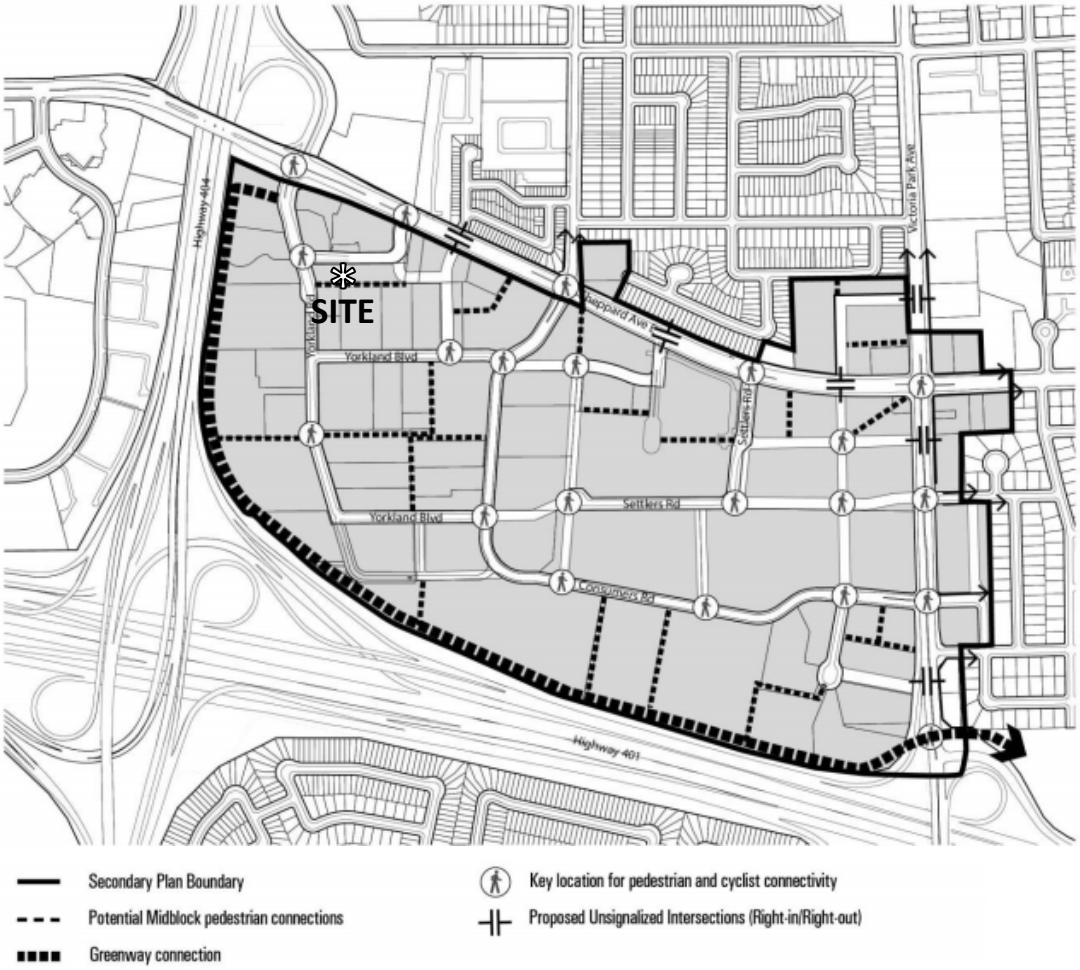


FIGURE 9: CONSUMERSNEXT SECONDARY PLAN PEDESTRIAN CONNECTIONS MAP

3.5 AREA SHARED MOBILITY SERVICES

3.5.1 Local Car-Share Vehicles

Car sharing across Toronto provides a low-commitment transportation alternative for automobile use, which has become common practice. The success and influence of car-share programs, which were only in their infancy a decade ago, now provide convenient, non-private automobile travel opportunities for thousands of residents, employees, and visitors of the City of Toronto.

There are three primary car sharing companies operating in Toronto – ZipCar, Enterprise CarShare, and Maven – and each offers their members access to vehicles conveniently located around the City. Zipcar is the world's largest car sharing program and entered into the Toronto market in 2006 with approximately 100 vehicles; it has since grown the fleet to approximately 700 vehicles. Enterprise CarShare (formerly AutoShare) was founded in 1998 and currently has over 12,000 members and 400 vehicles at over 150 locations across the City. Maven was founded by General Motors in 2016 and entered the Toronto market in 2018; it currently has 40 vehicles. Vehicles rented from any of these programs must be picked up and returned from the same parking space.

In April 2018, City Council approved a Free-Floating Car-Share Pilot. Unlike the other car-share programs, a free-floating car-sharing program allows its users to undertake one-way trips that begin in one location and terminates in another location. Users park the vehicles on the street near their final destination and the vehicles do not have a designated space where they need to be returned to at the end of the trip.
The Quebec-based car-sharing platform, Communauto, was the first participating company to receive a car-sharing pilot permit and it began its Toronto operations in November 2018. Communauto FLEX entered the Toronto market with 200 cars serving an approximate 50 kilometres area. If the pilot project is approved after the initial 18 months of operation, Communauto has plans to expand to 500 vehicles covering 100 kilometres.

Within a 500-metre radius of the site, there are 2 car-share vehicles (1 ZipCar and 1 Enterprise CarShare) located within walking distance to the site that are available to be used on demand by site residents, employees, and visitors.

3.5.2 Bike Share Toronto

The Bike Share Toronto program provides flexible cycling options within the City of Toronto with bicycles that can be used on a short term basis and picked up/dropped off at different stations across the City. The system underwent an expansion in 2016 which expanded the network to include 1,000 bicycles and 120 stations included new stations along the Yonge and Bloor/Danforth transit corridors and as far north as St. Clair Avenue West. There is a continued effort to expand the network further north and locate new stations along major corridors in conjunction with other investments in cycling infrastructure.

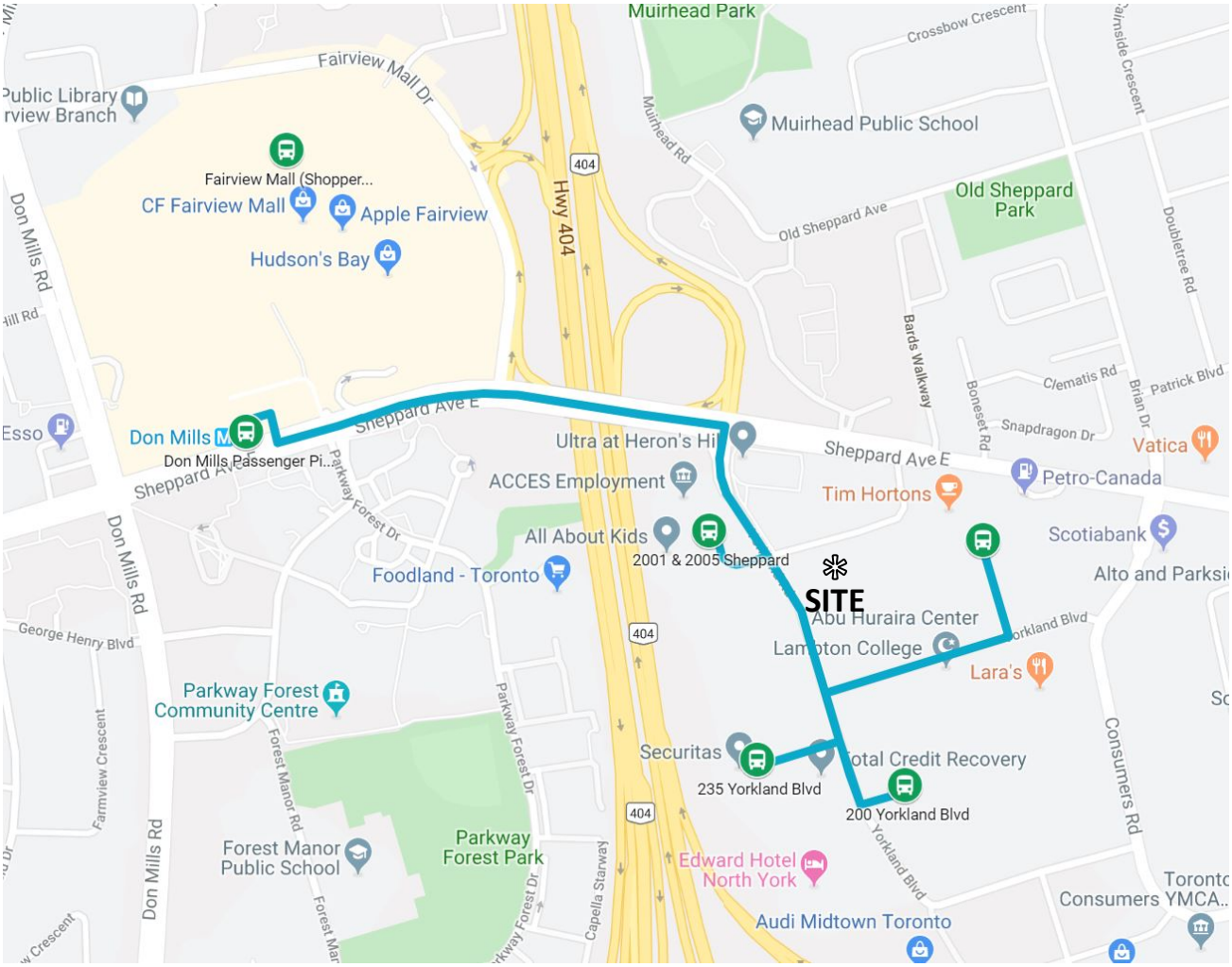
Currently, there are no Bike Share Toronto stations located within walking distance of the site. However, the CN TMP highlights the need for the implementation of Bike Share Toronto stations within the Consumers Road Business Park as they will create the opportunity to divert trips from other modes and generate new trips. Additionally, the CN TMP advocates that Bike Share Toronto stations (in addition to car-sharing and ride-sharing) have the potential to address the "first and last mile" problem via a one-stop service point for multimodal systems called "EcoMobility hubs".

3.5.3 Consumers Road Shuttle

A free shuttle bus runs between Don Mills Subway Station, 200 Yorkland Boulevard, 235 Yorkland Boulevard, and 2001 and 2005 Sheppard Avenue East. Known as the Consumers Road Corporate Shuttle, the service provides commuters to and from the Consumers Road Business Park with convenient access to higher order transit (i.e. Subway Line 4). The shuttle runs during the morning, midday, and evening peaks with a headway of approximately 10 minutes and it is located within 250 metres of the subject site. There is also a “Shuttle app” that enables riders to track the shuttle in real-time on their cell phones.

Figure 10 illustrates the Consumers Road Corporate Shuttle’s route.

FIGURE 10: CONSUMERS ROAD CORPORATE SHUTTLE MAP



4.0 EXISTING SITE

Today, the development site is occupied by a single, standalone office building located on the west side of the site. The existing building is two storeys in height and has a gross floor area (GFA) of 2,227 m^2. Additionally, a surface parking lot and greenspace encompasses the remainder of the space within the boundaries of the site. The existing surface parking lot contains 48 parking spaces that support the aforementioned office building.

In summary, the condition of the existing site reflects a suburban-style built form that is predominantly automobile-oriented. The most notable element is surface parking which is supportive of the office building.

4.1 VEHICULAR CONDITIONS

4.1.1 Vehicular Access

There is currently one point of vehicular access to the existing surface parking lot that connects with the existing building. The surface parking lot is accessible via Heron's Hill Way and is a driveway permitting all traffic movements.

4.1.2 Vehicular Parking & Pick-up / Drop-off Facilities

A total of 48 parking stalls are located within the existing surface parking lot that services the existing office building. Included in the 48 existing parking stalls is one (1) accessible parking stall. Additionally, two (2) electric vehicle charging stations / parking stalls are provided as part of the supply. Generally, pick-up and drop-off activity occurs within this parking lot.

4.2 LOADING CONDITIONS

The loading facility for the existing building is located in the south-west corner of the surface parking lot. The facility accommodates garbage pick-up and other delivery vehicles.

4.3 WALKING/CYCLING CONDITIONS

4.3.1 Pedestrian Sidewalks

Presently, the site driveway is crossed by a pedestrian sidewalk along the south side of Heron's Hill Way. The existing building is located adjacent to sidewalks along Heron's Hill Way and Yorkland Road, providing direct pedestrian connections to the existing building.

4.3.2 Primary Pedestrian Entrances

There are two direct pedestrian entrances from Heron's Hill Way and Yorkland Road to the existing building:

- The main entrance is adjacent to the existing surface parking lot and is accessible via Heron's Hill Way; and
- The secondary entrance is adjacent to the intersection of Heron's Hill Way and Yorkland Road.

4.3.3 Existing Bicycle Parking Facilities

In total, there are two (2) outdoor bicycle racks that can accommodate parking for 13 bicycles serving the existing office building, all located adjacent to the main entrance of the building along Heron's Hill Way.

5.0 DEVELOPMENT PLAN

5.1 DEVELOPMENT PROGRAMME

The concept development plan for the site envisions a mixed-use development that includes office and residential uses, as well as the provision for a privately-operated public space (POPS), all of which will be integrated with the existing office building on the west side of the site. The new uses will replace the existing surface parking lot in the centre of the site and the vacant greenspace on the east side of the site.

The proposed building is to consist of a 39-storey mixed-use building with a 4-story podium element (consisting of above-grade parking), office space located at-grade, and a 35 storey residential element. The proposed building includes 350 residential dwelling units and 292 m^2 of office uses at grade, as well as 327 parking spaces with 1-storey below grade parking. The existing office development is to remain in situ.

Reduced-scale architectural site plans are included in **Appendix A**.

5.1.1 Residential Uses

Residential uses are proposed in the new development providing a total of 350 dwelling units. A breakdown of the proposed units is provided in **Table 5**.

TABLE 5: PROPOSED RESIDENTIAL DWELLING UNIT BREAKDOWN

Use	Number of Dwelling Units		
	1-Bed	2-bed	3-Bed
Residential	210	105	35
Total:	**350**		

Notes:
1. Site plan statistics provided by Graziani + Corazza Architects Incorporated, dated March 17, 2020.

5.1.2 Office Uses

The base of the proposed building is to consist of at-grade parking and 370m^2 of office GFA. The office use will face onto Heron's Hill Way and the POPS, enabling easy pedestrian access. A summary of the proposed changes is provided below, resulting in a total GFA of 2,519 m^2 office space on site:

= existing office space provided on-site: 2,227 m^2 GFA
+ new office space in proposed building: 292 m^2 GFA
= total office GFA of: 2,519 m^2

5.2 SITE PLAN TRANSPORTATION ELEMENTS

5.2.1 New Road

Land within the development site is proposed to be provided for the provision of a new road, in accordance with the planned road network advanced in the Consumers Next Secondary Plan supported by the ConsumersNext Transportation Master Plan (see **Section 2.2.1**). The road will be located where it is advised within the aforementioned policy documents – at the east end of the site.

This road has been included within the architectural plans (**Appendix B**) and it is included in the traffic analysis contained within this report, pertaining to site generated traffic and future total traffic conditions (see **Section 10.0**).

5.2.2 Site Vehicular Access

There will be one all-moves vehicular access point to the site. A site driveway that leads into the building at-grade will be accessed from the aforementioned new road, located at the east end of the site. Vehicular parking and loading are proposed internal to the building and therefore, will utilize this access.

5.2.3 Vehicular Parking

A parking garage will be provided within the proposed building, with parking provided underground in the P1 level, at-grade, and in three levels above grade.

5.2.3.1 Vehicular Parking Supply

The 48 surface parking spaces that currently exist on the site, in support of the existing office building, will be removed. This parking supply will be replaced within the parking garage, in addition to the provision of residential parking. A summary of the proposed parking supply is provided below.

- 48 office (surface) parking spaces will be removed
+ 276 resident parking spaces to be added
+ 51 shared residential visitor & office parking spaces to be added
= 327 total parking spaces (279 net new parking spaces)

5.2.3.2 Vehicle Parking Garage Arrangement

Parking will provided as follows:

- The above-grade parking levels will be dedicated to resident parking. A dedicated ramp will provide access to the above grade levels; this ramp is located at the west end of the building. The resident parking breakdown for these levels will include 83 parking spaces at Level 4, 84 parking spaces at Level 3, and 72 parking spaces at Level 2.
- At the surface level, 4 parking spaces will be provided, dedicated to the shared use of residential visitor and office uses.
- In the underground P1 level, a total of 84 parking spaces will be provided, separated for resident parking (37 parking spaces) and for the shared use of residential visitor and office uses (47 parking spaces). A ramp to the underground parking level is accessed internally.

5.2.4 Pick-Up & Drop-Off

It is proposed to provide to accommodate pick-up and drop-off facilities within a lay-by area on Heron's Hill Way. As noted within the Site Plan (see **Appendix B**), two lay-by parking spaces will be provided within a layby within the existing boulevard area located approximately adjacent to the proposed POPS space.

5.2.5 Loading

An internalized loading facility will be provided, accessed by the site driveway (itself accessed from the new public road). A formal Type 'G' loading space will be provided, to meet the residential requirement associated with City of Toronto Zoning By-law 569-2013. Vehicle manoeuvring will occur internal to the building; this has been functionally tested.

Adjacent to the Type 'G' loading space, two parking spaces will be dedicated to small vehicle loading activity, primarily in support of the existing and proposed office uses.

5.2.6 Active Transportation Considerations

5.2.6.1 Bicycle Parking

As is noted in **Section 4.3.3**, there are two (2) outdoor bicycle racks that can accommodate parking for 13 bicycles serving the existing office building. These will be retained to contain to support the office building.

Within the new building, a total of 281 bicycle parking spaces will be provided, consisting of 238 long-term residential bicycle parking spaces and 25 short-term residential bicycle parking spaces, and the maintenance of the existing 13 office bicycle parking spaces. The proposed supply meets the requirements of Zoning By-law 569-2013 and the Toronto Green Standard, Version 3, Zone 2, Tier 1.

5.2.6.2 Sidewalk and Pedestrian Connectivity Provisions

The building has been designed to be oriented to Heron's Hill Way and the POPS located adjacent to the building to its west. The residential lobby is located facing Heron's Hill Way, which will have a continuous sidewalk through the extent of the north side of the building.

The new office area will be oriented to both Heron's Hill Way and the POPS; the latter is located adjacent to the existing office building. This design feature will create a continuous link between the office facilities. A door access to an elevator that leads to the P1 level is located at the west side of the building.

6.0 TRANSPORTATION DEMAND MANAGEMENT PLAN

Transportation demand management (TDM) measures are incorporated into the development plan to minimize the need for vehicle travel to and from the site and encourage and facilitate use of transit and active transportation modes. TDM reduces auto use and encourages alternative modes to better balance mobility.

The City of Toronto Official Plan embraces a range of TDM measures and the following sections outline TDM strategies that have been incorporated into the development plan to align with the operational and functional needs of the development including consideration for broader area infrastructure requirements.

TDM strategies include the application of various site design elements, property management / operational policies and protocols that have the goal of redistributing and reducing the travel demands of the development, to reduce the number of private automobile-based trips made to and from the site, to promote the use of more active and sustainable modes of transportation, and to play a role in responding to the mobility needs of residents and to the broader area neighbourhood over time. Primary objectives include:

- reducing demand on road infrastructure, thereby minimizing road and parking capital expenditures;
- increasing travel efficiency;
- reducing emissions that cause climate change;
- improving air quality; and
- improving overall health.

6.1 ORGANIZATION

The TDM plan is organized around several key strategy categories that offer a series of measures that are focussed upon promoting sustainable means of personal transportation to and from the proposed development plan.

1. Vehicular Parking Supply and Management
2. Vehicular Ownership and Usage Management
3. Transit Strategy
4. Pedestrian Strategy
5. Cycling Strategy
6. Coordination, Communication, and Promotion

These six facets of the TDM Plan form the overall strategy for the development to ensure that a proactive approach to managing automobile dependency is integrated into the development for residents and visitors. TDM strategies have been designed for each category to align with the operational and functional needs of the development including consideration for the broader area infrastructure provisions and requirements.

The following sections outline the key elements of the TDM Plan.

6.2 TDM PLAN STRATEGIES AND INITIATIVES

The future site context provides for good transit service as well as pedestrian and cycling connectivity. Additional strategies have been developed to further support the use of non-auto modes of travel and to encourage a chance in travel behaviour that reduces automobile travel.

Based upon the site context and proposed land uses, the following TDM strategies will be explored (as summarized in **Table 6**). The following sections provide additional details regarding each proposed TDM strategy.

TABLE 6 RECOMMENDED SITE TDM MEASURES

Measures	Target Land Use	Description	Travel Plan Objective
Vehicular Parking Supply and Management			
1. Reduced vehicular parking supply	Residential / Office	The vehicle parking supply is supplied at reduced rate for the proposed development. Parking space leasing strategies can be explored to manage parking demand.	Reduce parking demand
2. Unbundled vehicular parking	Residential		
Vehicular Ownership and Usage Management			
3. One on-site car-share vehicle	Residential / Office	Vehicular parking demand can be reduced by providing vehicular alternatives to car ownership and single occupant commuting.	Reduce vehicular kilometres travelled Increase vehicle occupancy
4. Carpool Parking	Office		
Transit Strategy			
5. Pre-loaded PRESTO cards ($50)	Residential	The proposed development is within walking distance of Don Mills Station (TTC Subway Line 4) and is adjacent to several TTC bus routes; the location is leveraging the existing Consumers Road Corporate Shuttle.	Encourage transit use Reduce vehicular kilometres travelled
6. Consumers Road Corporate Shuttle	Residential / Office		
Pedestrian Strategy			
7. New Public Road	Residential / Office	Pedestrian improvements are included as part of the physical design elements of the Site Plan and the site will improve mid-block connections buy allocating space to public road on east side.	Encourage alternative travel modes Improving air quality and overall health
Cycling Strategy			
8. Bicycle parking	Residential / Office	The proposed development will include bicycle parking to promote cycling to the residents and visitors of the development.	Encourage alternative travel modes Improving air quality and overall health
Coordination, Communication, and Promotion			
9. Community outreach	Residential / Office	All TDM measures proposed as part of this Plan must be continually promoted to ensure that they are used and thus, that demand for driving and parking remains low.	Increase awareness of alternative travel modes
10. Travel mode information packages			

6.2.1 Vehicle Parking Supply and Management

6.2.1.1 Reduced Vehicular Parking Supply

An effective TDM measure that can be applied to the proposed development is the constraint of on-site vehicular parking supply.

Sensible vehicular parking management and the provision of an extensive suite of TDM measures are mutually supportive. If vehicular parking is oversupplied on the site, residents and visitors would have less incentive to utilize the alternative, non-auto options that are available to them due to the site's favourable location and that are enhanced as part of this project. Likewise, a modest parking supply without appropriate TDM measures would negatively affect local traffic and place undue parking demand on the surrounding area.

Parking supply ratios reflective of Zoning By-law 569-2013, Policy Area 3 minimum parking requirements is proposed which will adequately support the parking needs of future residents of the building while also remaining modest enough to constrain parking demand.

6.2.1.2 Unbundled Vehicular Parking

Provide unbundled parking for all residential development on the site, allowing renters to only pay for the amount of parking they require. Prospective residents should not be forced to lease a parking space because if they are and are not inclined to use it, they can be expected to sell it. This can add traffic to the site and can be avoided if they are not required to lease parking along with their unit.

By nature of not providing parking to every resident (i.e. the proposed resident parking supply is less than 1 space per residential unit; it is 0.79 parking spaces per unit), the provision of a parking space is inherently "unbundled" from the unit. The "unbundling" of parking space leasing from apartment leasing has proven to be an effective method for reducing parking demand.

6.2.2 Vehicular Ownership and Usage Management

6.2.2.1 Car-Share Program

It is proposed to provide a car-share vehicle on-site, intended for the shared use of residents, office employees, and the general public. It should be noted that the provision of a car-share program on-site is contingent on a service provider agreeing to locate car-share vehicles on the site. There are three primary car sharing companies operating in Toronto – ZipCar, Enterprise CarShare, and Maven – and each offers their members access to vehicles conveniently located around the City.

Car-sharing programs are an important TDM measure because they allows residents to use automobiles as needed without requiring them to own a vehicle. By nature, this means that they make less vehicular trips, directly reducing the amount of vehicular travel emanating from the site.

6.2.2.2 Carpool Parking Spaces

The act of carpooling as a commute method directly reduces single occupant vehicle travel by combining two vehicular trips (or more, if more employees are in a car) into one. Similarly, it reduces parking demand. Within the site plan, two parking spaces among the non-residential parking supply will be allocated as priority carpool parking and will be conveniently located near garage exits (alongside accessible parking). During evenings and weekends, the spaces will be a part of the general parking supply.

The precise location of the carpool parking spaces will be formalized during the Site Plan Application process.

6.2.3 Transit Strategy

6.2.3.1 Preloaded PRESTO Cards

Considering the site's location relative to both existing local transit service, it is recommended that pre-loaded PRESTO fare cards be provided to all first-time residents of the building to encourage the use of transit to travel to and from the site. A fare card value of $50 per unit is recommended, which equates to approximately 16 TTC adult fares.

6.2.3.2 Consumers Road Corporate Shuttle

point A (formerly *Smart Commute North Toronto, Vaughan*) operates a free Shuttle that travels the loop of Sheppard Avenue East, Consumers Road, and Yorkland Boulevard during morning and afternoon peak periods on weekdays, as well as during the lunch hour. The shuttle is oriented towards bringing commuters to and from the Don Mills subway station. The route of the shuttle was illustrated in **Figure 10**.

Currently, the shuttle has a scheduled stop at 2001 & 2005 Yorkland Boulevard, which is adjacent to the subject site (i.e. located within 250 metres), to its west. It is proposed to advertise the shuttle to residents and employees of the proposed building (and the existing office building) given the proximity of the stop.

If formalized agreements are required to engage usage of the shuttle from 1 Heron's Hill Way, these agreements will be sought during the Site Plan Application process.

6.2.4 Pedestrian Strategy

6.2.4.1 New Public Road

The ConsumersNext Secondary Plan and TMP includes a series of new public roads that are intended to create better mid-block connections and thus, more pedestrian access and crossing opportunities throughout the area. One of the allocated public roads is partially located within the subject site; it is proposed as part of the development plan to give the appropriate portion of this road to the City of Toronto to facilitate the construction of the new road. This new road will facilitate better pedestrian connectivity throughout the area.

6.2.5 Cycling Strategy

Secure long-term bicycle parking is proposed to be provided in conveniently-located and accessible facilities on the site. Short-term bicycle parking is located in readily accessible locations relative to key building entrances, open spaces, and destinations. The bicycle parking supply proposed as part of the project exceeds the requirements of the Toronto Green Standard, Version 3, Tier 1.

6.2.6 Coordination, Communication, and Promotion

6.2.6.1 Community Outreach

Local events can be launched for residents of each building once substantial occupancy has been achieved. Residents would be invited to receive information about their transportation options including information on pedestrian, cycling and transit routes.

6.2.6.2 Travel Mode Information Packages

Marketing programs aimed at new residential unit purchasers should be implemented to ensure that new residents have comprehensive information on modal choices in the area now and in the future. These programs should be made available to residents of the building once it is occupied. Residents should have the option to opt-in to emailing lists dedicated to updates regarding their travel options and printed materials should also be available.

7.0 SITE PLAN REVIEW

7.1 VEHICULAR PARKING CONSIDERATIONS

7.1.1 Zoning By-law Minimum Parking Requirements

7.1.1.1 Site Specific By-law 295-2010

The site is located within a “grey hole” of the current comprehensive City of Toronto Zoning By-law 569-2013. As a result, former City of North York Zoning By-law 7625 was previously applicable to the site. Site-specific By-law 295-2010 (OMB) was passed, making changes to the requirements of its root Zoning By-law. By-law 295-2010 contains minimum parking requirements; the application of these requirements to the development programme is outlined in **Table 7**.

TABLE 7 SITE-SPECIFIC BY-LAW 295-2010 MINIMUM PARKING REQUIREMENTS

Use / Type	# of Units / GFA	Minimum Parking Requirement (Ratio)	Minimum Parking Requirement (Spaces)
Dwelling Units (Residents)	350	1.20 spaces per unit	420 sps
Dwelling Units (Visitors)	350	0.20 spaces per unit	70 sps
Office (Existing)	2,227 m^2	1 space per 48 m^2 GFA	46 sps
Office (New)	292 m^2		6 sps
TOTAL	**-**	**-**	**542 sps**

As per the requirements of By-law 295-2010, a total of 542 parking spaces are required for the project, consisting of 420 resident parking spaces, 70 residential visitor parking spaces, and 52 office parking spaces. Of the latter office parking spaces, the supply must support the existing office building and the new office area in the proposed new building.

It should be noted that the existing office building and its surface parking lot has been constructed to meet the minimum parking requirements associated with By-law 295-2010. A minimum of 46 parking spaces were required.

7.1.1.2 Zoning By-law 569-2013 – Policy Area 4

As is noted in **Section 2.2.2**, the ConsumersNext TMP recommended that Mixed Use Areas (as defined by OPA 231) fall under Policy Area 4, with regards to the application of Zoning By-law 569-2013 minimum parking requirements. The site is partially located within a "Mixed Use Area" (i.e. it is adjacent to Sheppard Avenue East) and the development proposal includes a mix of supportive land uses.

As such, within **Table 8**, the minimum parking requirements of Policy Area 4 are applied to the development programme. The existing parking supply is completely replaced within the table.

Through the application of Zoning By-law 569-2013 sharing provisions, the application of Policy Area 4 results in a minimum parking requirement of 353 parking spaces. 300 parking spaces are required for residents and 53 parking spaces are required for the shared use of residential visitors and office employees/visitors.

TABLE 8 ZONING BY-LAW 569-2013 POLICY AREA 4 MINIMUM PARKING REQUIREMENTS

Use / Type	# of Units / GFA	Minimum Parking Requirement (Ratio)	Minimum Parking Requirement (Spaces)	Shared Parking		
				AM	PM	Evening
1-bedroom	210 units	0.8 sps/unit	168 sps	100%	100%	100%
2-bedroom	105 units	0.9 sps/unit	94 sps			
3-bedroom	35 units	1.1 sps/unit	38 sps			
Resident Sub-total	**350 units**	**0.86 sps/unit *(blended)***	**300 sps**	**300 sps**	**300 sps**	**300 sps**
Residential Visitors	350 units	0.15 sps/unit	52 sps	5 sps *(10%)*	18 sps *(35%)*	52 sps *(100%)*
Office (New)	292 m^2	1 sps / 100 m^2 GFA	2 sps	2 sps *(100%)*	1 sps *(60%)*	0 sps *(0%)*
Office (Existing)	2,227 m^2	Replace Existing Office Parking (based on minimum requirement)	46 sps	46 sps *(100%)*	28 sps *(60%)*	0 sps *(0%)*
Non-Resident Sub-total			**100 sps**	**53 sps**	**47 sps**	**52 sps**
TOTAL			**400 sps**	**353 sps**	**347 sps**	**352 sps**

Notes:
1. As is noted in Section 200.5.1.10(9) of Zoning By-law 569-2013, "if the calculation of the number of required parking spaces results in a number with a fraction, the number is rounded down to the nearest whole number, but there may not be less than one parking space."

7.1.2 Proposed Parking Supply

It is proposed to supply parking on-site to replace the existing office parking supply and to otherwise meet the minimum parking requirements of Zoning By-law 569-2013, Policy Area 3. The application of these requirements is provided in **Table 9**.

TABLE 9 PROPOSED PARKING SUPPLY (POLICY AREA 3)

Use / Type	# of Units / GFA	Minimum Parking Requirement (Ratio)	Minimum Parking Requirement (Spaces)	Shared Parking		
				AM	PM	Evening
1-bedroom	210 units	0.7 sps/unit	147 sps	100%	100%	100%
2-bedroom	105 units	0.9 sps/unit	94 sps			
3-bedroom	35 units	1.0 sps/unit	35 sps			
Resident Sub-total	**350 units**	**0.79 sps/unit *(blended)***	**276 sps**	**276 sps**	**276 sps**	**276 sps**
Residential Visitors	350 units	0.1 sps/unit	35 sps	3 sps *(10%)*	12 sps *(35%)*	35 sps *(100%)*
Office (New)	292 m^2	1 sps / 100 m^2 GFA	2 sps	2 sps *(100%)*	1 sps *(60%)*	0 sps *(0%)*
Office (Existing)	2,227 m^2	Replace Existing Office Parking (based on minimum requirement)	46 sps	46 sps *(100%)*	28 sps *(60%)*	0 sps *(0%)*
Non-Resident Sub-total			**83 sps**	**51 sps**	**41 sps**	**35 sps**
TOTAL			**359 sps**	**327 sps**	**317 sps**	**311 sps**

Notes:
1. As is noted in Section 200.5.1.10(9) of Zoning By-law 569-2013, "if the calculation of the number of required parking spaces results in a number with a fraction, the number is rounded down to the nearest whole number, but there may not be less than one parking space."

Through the application of Zoning By-law 569-2013 sharing provisions, the application of Policy Area 3 results in a minimum parking requirement of 327 parking spaces. 276 parking spaces are required for residents and 51 parking spaces are required for the shared use of residential visitors and office employees/visitors.

7.1.3 Appropriateness of the Proposed Parking Supply

7.1.3.1 Resident Parking Supply

The following section outlines the adequacy of the proposed resident parking supply for the Project. Residential parking standards outlined in Site-specific By-law 295-2010 are considered to overstate the parking needs of a residential building within the city. This has been recognized by a number of City Council, Minor Variance approvals and Ontario Municipal Board decisions which have adopted lower standards.

The approval of a reduced parking standard is considered appropriate based upon the following considerations:

- Ontario's Five-Year Climate Change Action Plan;
- The area transportation infrastructure and transportation planning context;
- Existing area transportation behaviour;
- The comprehensive transportation demand management plan proposed for the site;
- Observed parking demand at a proxy site being lower than what is proposed at the site;
- Observed decline in residential parking demand over time; and
- Recently approved resident parking supply ratio reductions for buildings in similar context.

The following section provides an overview of the contextual factors influencing parking demands at residential buildings in Toronto and the adequacy of the proposed reduced parking supply.

Ontario's Five-Year Climate Change Action Plan

Trends in urban transportation policy are leaning heavily towards reductions in mandatory minimum parking requirements. A reduced minimum parking supply requirement for the project would be in conformance with Ontario's current vision for transit corridors.

Ontario's Five-Year Climate Change Action Plan was announced in June 2016. Some of the key transportation / land-use planning actions outlined in the Plan are as follows:

- ***Support cycling and walking***: Commuter cycling networks will be established across Ontario, targeting routes with high-commuting volume such as between residential communities, major transit stations and employment areas. There will be more cycling facilities in urban areas, including grade separated routes and cycling signals. There will be more bike parking at transit stations and provincially owned, publicly accessible facilities. Ontario will revise provincial road and highway standards to require commuter cycling infrastructure be considered for all road and highway construction projects where it is safe and feasible. Ontario will do the same for major transit corridors.
- ***Reduce single-passenger vehicle trips***: Ontario would provide grants to municipalities and large private employers to implement Transportation Demand Management Plans. The plans will be designed to help increase walking, cycling, carpooling, telecommuting, and flex-work schedules, thereby reducing overall fossil fuel consumption, traffic congestion, and transportation emissions.
- ***Eliminate minimum parking requirements***: ***Minimum parking requirements would be eliminated over the next five years for municipal zoning bylaws, especially in transit corridors and other high density, highly walkable communities. Minimum parking requirements are a barrier to creating complete, compact and mixed-use communities. Instead, bylaws will encourage bike lanes, larger sidewalks, and enhanced tree canopies.***

It is worth mentioning that, as of the submission date of this report, the website for the Action Plan has the following disclaimer at the top of the page: *"This page was published under a previous government and is available for archival and research purposes."*

The idea to eliminate minimum parking requirements in transit accessible areas is not new in North America. Residential developments proposing zero resident parking are being promoted, approved, and developed across North America including Toronto, Calgary, Vancouver, Portland, and Boston. Some cities are even going as far as to eliminate minimum residential parking requirements in downtown/core areas, including the London, Guelph, and Ottawa, in Canada, and San Francisco, Oakland, Sacramento, Santa Monica, Portland, Seattle, and Minneapolis, in the United States.

Although zero parking has not been requested for the project, this shift away from providing excess residential parking highlights a changing perspective toward automobile ownership, travel, and the cost of living.

Travel Options for Residents
A future resident of the Site will have options that allow them to live and travel without a car.

As is outlined in **Section 3.0**, the transportation infrastructure context for the site facilitates the ability to utilize a variety of transportation options and in turn, to not require the use of a private automobile.

A number of TTC and YRT bus routes are located approximately 140 metres from the site and Don Mills Station of TTC Subway Line 4 (Sheppard) is located approximately 700 metres from the site. Many of the bus routes provide access to Don Mills Station, thus making the site well connected by foot or bus to the City's rapid transit network.

The Consumers Road Shuttle further enhances the site's location relevant to Don Mills Station by providing a private transit option that transports commuters to and from the Station.

In addition, a number of transportation infrastructure improvements are planned for the area that will increase the availability of alternatives to owning a car and requiring residential parking. These include the potential extension of the TTC Subway Line 4 (or the provision of an LRT along Sheppard Avenue East in the vicinity of the site), and a number of on-street and off-street cycling infrastructure improvements.

Existing Area Travel Characteristics
TTS Data is suggestive of a transportation environment whereby nearly half of residents do not drive during peak periods.

A review of travel characteristics provided by the 2016 Transportation Tomorrow Survey (TTS) for residents living in the area confirm that a high proportion of travel is undertaken by public transit. The 2016 TTS data has been reviewed for the general site area (TTS 2006 traffic zone 484). Mode share characteristics for resident (home-based) travel during the weekday morning and afternoon peak periods are summarized in **Table 10**.

TABLE 10 RESIDENTIAL MODAL SPLIT (TTS ZONE 484)

	AM Outbound [1]	PM Inbound [1]
Auto Driver	52%	52%
Auto Passenger [2]	0%	5%
Transit	36%	33%
Active Transportation	12%	10%

Notes:
1. Peak travel times assumed for resident related trips: 6:00 a.m. to 9:00 a.m., 4:00 p.m. to 7:00 p.m. Peak direction was used for both the AM and PM peak periods.
2. Includes auto passengers, taxi passengers, paid rideshare, and school bus passengers.

In the site vicinity, in the order of 52% of area residents use personal automobiles as their primary mode of travel during the peak travel periods. In reviewing the data, 43-48% of trips are undertaken using non-automobile means (i.e. transit, cycle, or walk trips); of this total, 33-36% are transit-based trips.

The area travel patterns are discussed in more detail in **Section 8.0**.

Transportation Planning Principles

Providing additional parking encourages automobile ownership, which encourages single occupant automobile commuting.

Taking a holistic perspective of the overall transportation network, the simplest way to effect change in travel behaviour is to reduce the amount of available vehicular parking. While the consideration and implementation of various TDM initiatives and Projects is advised, these are always more effective implemented in tandem with limited vehicular parking (or none). Providing a limited amount of parking is a direct incentive for residents to use sustainable transportation. As an alternative, the provision of ample parking encourages automobile ownership, a key enabler of automobile commuting particularly as a single occupant.

No Risk to the City of Toronto

The oft-cited rationale for providing higher resident parking supplies is to avoid resident parking spilling into surrounding neighbourhoods. The City of Toronto controls the ability for residents of any given property to be given permission to park on street. There is no risk of uncontrolled use of area public streets for parking by residents of the Project.

Future residents of the Project will not have the right to park on City of Toronto streets for extended periods under the City of Toronto's residential permit parking program. To further reinforce this, we recommend residents of the building be warned in writing, prior to occupying a unit on the Site, about their rights with respect to lease on-site parking (if any) and that they will not be eligible to park on area public streets.

Transportation Demand Management Plan

A comprehensive Transportation Demand Management (TDM) Plan is proposed for the site (as outlined in **Section 6.0**) that has been conceptualized to leverage the area transportation context to reduce vehicular trips made to and from the Site, and to reduce vehicular parking demand. It is our opinion that the proposed TDM Plan is an important supporting element to the proposed residential parking supply.

TDM Measures that are proposed as part of the TDM Plan are summarized below:

- A reduced parking supply will result in the unbundling of parking space sales or leasing from the sales or leasing of the unit, resulting in lower parking demand;
- Two car-share vehicles proposed on-site;
- Two parking spaces allocated to office carpool parking;
- Pre-loaded PRESTO cards ($50) for residential unit renters during building lease-up period;
- Utilization of the Consumers Road Corporate Shuttle;
- Addition of a new public road to facilitate enhanced pedestrian connectivity;
- The provision of TGS, Version 3, Tier 1 bicycle parking; and
- Community outreach and information packages intended to market and advertise the travel options available to residents, visitors, and office employees on site.

The inclusion of a comprehensive TDM Plan ensures that the proposed parking supply is appropriate and supportable. Given that the extensive suite of TDM measures provides support for the use of a variety of sustainable transportation alternatives, the ability to live at the site without owning a car – and thus, without requiring a parking space – will be increased substantially.

Observed Parking Demand

BA Group has observed parking demand similar to that proposed for the Project at comparably located residential buildings.

BA Group has undertaken a parking demand survey for existing residential buildings which are geographically comparable to the Site (they are not located downtown) and are less rapid transit accessible than the site. Details with respect to this study are outlined below in **Table 11**.

TABLE 11 OBSERVED EXISTING RESIDENTIAL PARKING DEMAND

Site	Study Date & Time	Occupied Units	Resident Parking (supply of 367 spaces)	
			Demand (spaces)	Ratio (spaces / unit)
35 Saranac Boulevard (Bathurst Street / Lawrence Avenue)	Tuesday, June 14, 2016 (3:00 a.m.)	341	161	0.47
	Wednesday, June 15, 2016 (3:00 a.m.)		165	0.48
160,170,180 & 200 Chalkfarm Drive (Jane Street / Wilson Avenue	Wednesday, October 26, 2016 (3:00 a.m.)	951	472	0.50
	Thursday, November 3, 2016 (3:00 a.m.)		477	0.50
	Tuesday, November 8, 2016 (3:00 a.m.)		481	0.51
5 Fisherville Road and 6040 Bathurst Street (Bathurst Street / Steeles Avenue West)	Wednesday, October 7, 2015 (4:00 a.m.)	396[2]	219	0.55
	Thursday, October 15, 2015 (4:00 a.m.)		228	0.58
2667, 2677 Kipling Avenue (Kipling Avenue / Finch Avenue)	Thursday, May 30, 2013 (3:00 am)	455	258	0.57
	Friday, May 31, 2013 (3:00 am)		260	0.57
	Friday, June 7, 2013 (3:00am)		257	0.56

Notes:
1. Table summarizes the combined resident parking demand for both 5 Fisherville Road and 6040 Bathurst Street.
2. Unit occupancy for October 2015 provided by Pinedale Properties management staff.

As indicated above, the observed residential parking demands are generally in the order of 0.47 – 0.58 spaces / unit. This is lower than the proposed overall supply of Policy Area 3 minimum parking requirements.

Decreasing Parking Demands over Time

BA Group has conducted a number of parking demand studies for residential buildings within transit accessible areas of the City over a substantial period of time. BA Group has been able to obtain parking demand information at three buildings over the last 20 years (1996 to 2015).

The overall history of demands recorded in each case provides a significant level of insight into the way parking demands have evolved at each residential building over time and may evolve in the future. It is noted that the availability of parking supply at these buildings has not been constrained at any time.

Survey information recorded at these buildings is illustrated in **Figure 11**. The location and description of the three buildings surveyed are outlined below:

- 45 Dunfield Avenue: A rental apartment building in the Yonge / Eglinton area
  7 information points between 1996 and 2015
- 55 / 57 Charles Street West: A rental / condominium buildings in the Bay / Bloor area
  6 information points between 2005 and 2015
- 77 Davisville Avenue: A rental apartment building in the Yonge / Davisville area
  8 information points between 2011 and 2013

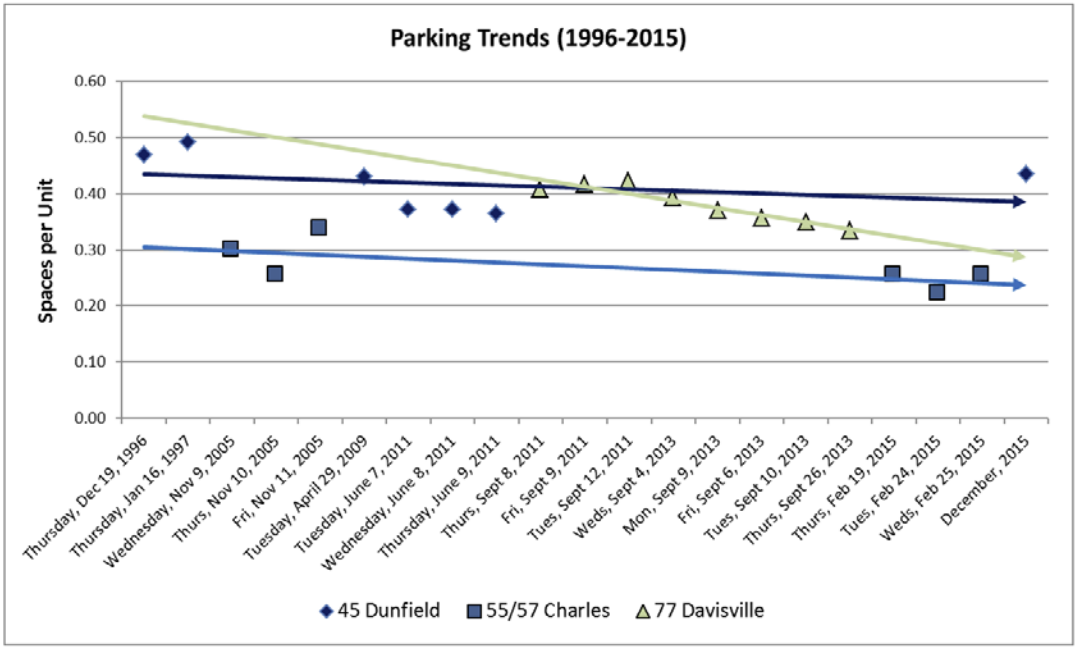


FIGURE 11: OBSERVED PARKING DEMAND TRENDS (1996-2015)

It is notable that all three buildings have experienced, while not always linear, a significant decrease in parking demands during the timeframes outlined above. The observed residential parking demand for these buildings decreased from approximately 0.50 to 0.35 spaces per unit to approximately 0.44 to 0.23 spaces per unit. This provides strong evidence of the downward evolution of parking in transit accessible locations.

The overall trends relate to a shift in modal split towards non-automobile modes as vehicle ownership decreases and other modes of transportation become more readily available and as the costs of not only building underground parking rise significantly, so to do the costs of maintaining and managing the same underground parking.

Historic Reductions from the Zoning By-law

The City of Toronto has regularly granted permission to establish minimum resident parking standards well below the prevailing by-laws.

BA Group has reviewed residential developments for which reduced parking standards have been approved in Toronto. Such approvals have been provided by City Council as part of the Zoning By-law Amendment process, by the Committee of Adjustment as part of Minor Variance applications, or at the Ontario Municipal Board. There have been a significant number of approvals provided through the above processes at apartment buildings where (significantly) reduced resident parking rates have been adopted, outside of downtown Toronto.

These recent approvals range from an effective residential parking ratio of 0.49 spaces per unit up to 0.66 spaces per unit, and an additional site with Policy Area 3 minimum parking requirements approved. It is notable that the proposed effective residential parking demand for the site (0.79 spaces per unit, blended) is slightly higher than the range of these recent approvals, therefore, it would be considered more than appropriate for meeting the residential parking demands of the site.

Table 12 outlines a selection of such approvals and the approved standards.

TABLE 12 SUMMARY OF APPROVED RESIDENT PARKING SUPPLY REDUCTIONS

Address	Approved Parking Supply Ratio(s)	Permission Through:
2135 Sheppard Avenue East	1,200 dwelling units 644 residential parking spaces **Effective Res Ratio: 0.54 spaces / unit**	CofA Decision – A0800/17NY TLAB Case File Number: 17 268352 S45 33 TLAB (2018)
2384 and 2388 Yonge Street and 31 Montgomery Avenue	233 dwelling units 114 residential parking spaces **Effective Res. Ratio: 0.49 spaces/unit**	Site Specific By-Law 1038-2014
2, 4 and 6 Teagarden Court	112 units **Zoning By-law 569-2013 PA 3 rates approved**	Site Specific By-law 1338-2018 (LPAT)
58-68 Orchard View Blvd & 439-445 Duplex Avenue	223 dwelling units 112 residential parking spaces **Effective Res. Ratio: 0.50 spaces/unit**	Site Specific By-Law 240-2011 & 241-2011
1990 High Park Avenue	104 dwelling units 69 residential parking spaces **Effective Res. Ratio: 0.66 spaces/unit**	Site Specific By-Law 107-2015 (OMB)
30 Tippett Road	421 market dwelling units, 100 affordable housing units 304 residential parking spaces **Effective Res. Ratio: 0.60 spaces/ market unit** **Effective Res. Ratio: 0.50 spaces/ affordable unit**	Site Specific By-law 546-2019

7.1.3.2 Non-Residential Parking Supply

The following section outlines the adequacy of the proposed non-residential parking supply for the Project. The key element of the proposed non-residential parking supply is that sharing provisions of Zoning By-law 569-2013 have been applied; it is proposed to share residential visitor parking with office parking given that their respective peak periods will not overlap. Further, within the proposed shared parking supply, the minimum office parking requirement is the most substantial component and it is primarily comprised of replacement parking for the existing surface parking that is proposed to removed to facilitate the development.

As such, BA Group undertook a parking utilization study at the existing office building on the site. These counts are directly applicable to the proposed development because the proposed office parking will continue to primarily serve the existing office building.

The study was undertaken at the following dates and times with counts undertaken on an hourly basis:

- Wednesday, November 6, 2019: 8:00am to 6:00pm
- Thursday, November 7, 2019: 8:00 to 6:00pm

In **Table 13**, the peak parking demand results for each survey date are outlined and in **Figure 12**, temporal variation throughout the day is illustrated. Complete survey results are included in **Appendix C**.

TABLE 13 1 HERON'S HILL WAY PARKING UTILIZATION PEAK DEMAND RESULTS

Date	Parking Supply	Time of Peak Observation	Peak Parking Utilization
Wedn., Nov. 6, 2019	48 spaces	12:00pm (noon)	26 parking spaces (54% of supply)
Thurs., Nov. 7, 2019		1:00pm	25 parking spaces (52% of supply)

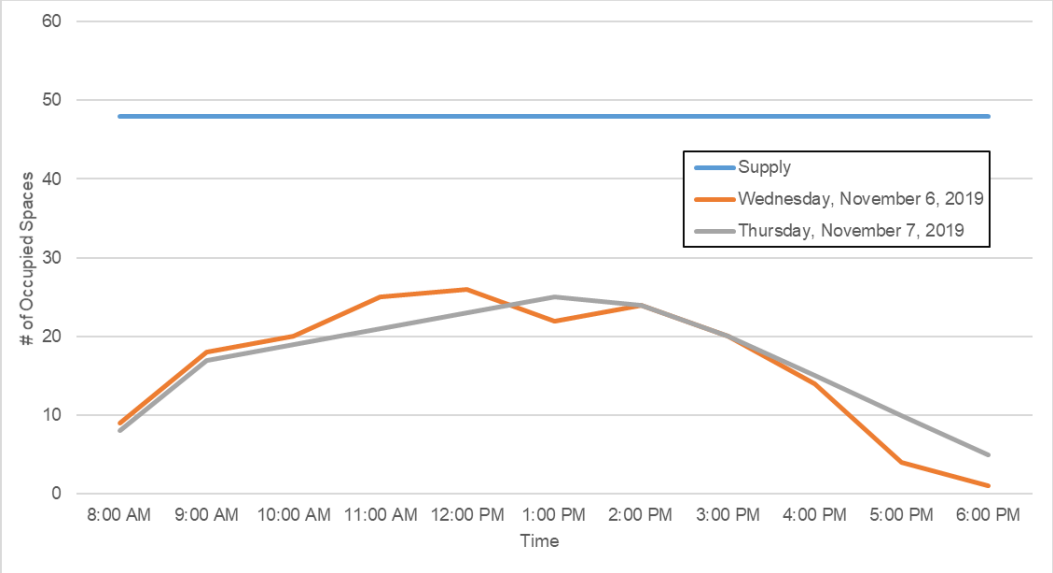


FIGURE 12: 1 HERON'S HILL WAY PARKING UTILIZATION TEMPORAL VARIATION RESULTS

In support of the proposed non-residential sharing of parking that is proposed, the following observations are pertinent:

- The results of the study indicate that at the time of peak observation, the parking lot was approximately half full each day. This indicates that if residential visitor parking demand were to be unexpectedly high at midday during a weekday, a substantial amount of parking will be available.
- By 6:00pm, when residential visitor parking can be expected to begin to peak in a given day, peak observed office parking at the site was 5 vehicles. This indicates that the majority of the non-residential parking supply will be available for residential visitor parking during weekday evenings.

In summary, the proposed non-residential parking supply is appropriate because it is permitted in Zoning By-law 569-2013. An on-site parking utilization study validated the theory behind the sharing provisions; it indicates that office parking demand will be approximately half of the non-residential parking supply and further, office parking demand is low in the evenings which will be when residential visitor parking will peak.

7.1.4 Vehicular Parking Summary

In summary, it is proposed to supply parking on-site to replace the existing office parking supply and to otherwise meet the minimum parking requirements of Zoning By-law 569-2013, Policy Area 3.

The resident parking supply is appropriate on the basis of the rationale provided within this section of the report which includes relevant transportation policy, local infrastructure, and planning context, existing area transportation behaviour, the TDM plan that is proposed for the site, observed parking demand at a proxy site, the observed decline in parking demand over time, and recently approved resident parking supply ratio reductions for buildings in similar context.

The non-residential parking supply is appropriate as it is the result of the application of Zoning By-law 569-2013 sharing provisions. Further, an on-site parking demand study validated the theory behind the sharing provisions as it illustrated low office parking demand at the time when residential visitor parking demand can be expected to peak.

7.2 BICYCLE PARKING CONSIDERATIONS

7.2.1 Minimum Bicycle Parking Requirements

Former City of North York Zoning By-law 7625 and Site-specific By-law 295-2010 do not contain minimum bicycle parking requirements. However given that it is a transportation demand management (TDM) objective to provide bicycle parking (as is outlined in **Section 6.0**), the minimum bicycle parking requirements of Zoning By-law 569-2013 and the Toronto Green Standard (TGS), Version 3, Zone 2, Tier 1 have been referenced.

In addition, it is proposed to maintain the existing bicycle parking supply that supports the existing building.

Within **Table 14**, the application of these requirements to the development programme is outlined.

TABLE 14 MINIMUM BICYCLE PARKING REQUIREMENTS (ZONING BY-LAW 569-2013 AND TGS)

Use	Term	Units / GFA	Minimum Requirement	Number of Required Spaces
Residential	Long-term	350 units	0.68 sps / unit	238 spaces
	Short-term		0.07 sps / unit	25 spaces
Office (new)	Long-term	292 m^2	None[2]	0 spaces
	Short-term			
Office (existing)		2,227 m^2	Maintain existing supply	13 spaces
TOTAL				**276 spaces**

Notes:
1. As per Section 230.5.1.10(2) of Zoning By-law 569-2013, if "the calculation of the minimum bicycle parking spaces for all uses results in a fraction of a bicycle parking space being required, the number of required bicycle parking spaces must be rounded up to the next whole number."
2. As per Section 230.5.10.1(3) of Zoning By-law 569-2013, if "a bicycle parking space is required for uses on a lot, other than a dwelling unit, and the total interior floor area of all such uses on the lot is 2000 square metres or less, then no bicycle parking space is required."

As per the requirements of Zoning By-law 569-2013 and the TGS, in addition to maintaining the existing bicycle parking supply in support of the existing office building, a total of 276 bicycle parking spaces are required. Of this total, 238 spaces are long-term residential, 25 spaces are short-term residential, and the existing office supply is 13 spaces.

7.2.2 Proposed Bicycle Parking Supply

The proposed bicycle parking supply is 281 bicycle parking spaces which meets and exceeds the requirements of Zoning By-law 569-2013 and the TGS, not withstanding that the existing applicable zoning requirements do not require bicycle parking. Of this total, it is proposed to provide 238 spaces for long-term residential, 25 spaces for short-term residential, maintaining the existing office supply of 13 spaces, and providing 5 bicycle parking spaces for the proposed office use.

7.3 LOADING CONSIDERATIONS

7.3.1 Minimum Loading Requirements

7.3.1.1 Former North York Zoning By-law 7625

The minimum loading requirements of former North York Zoning By-law 7625 are applicable to the site. As such, they are outlined below in **Table 15**; the listed requirements include the existing loading space that supports the existing office building, which will need to be replaced within the development.

TABLE 15 FORMER NORTH YORK ZONING BY-LAW 7625 MINIMUM LOADING REQUIREMENTS

	Units / GFA	Type 'A'	Type 'B'[1]	Type 'C'	Type 'G'	Total
Residential	350 units	0	1	0	0	1
Office (New)	292 m^2	0	0	0	0	0
Office (Existing)	2,227 m^2	0	1	0	0	1
TOTAL		**0**	**2**	**0**	**0**	**2**

Notes:
1. While not formally described as a Type B loading space, the only loading space dimensions provided in former North York Zoning By-law 7625 are a length of 11.0 metres, width of 3.6 metres, and a vertical clearance of 4.2 metres, as per Section 6A(16)(b)(i). This is nearly identical to the dimensions of a Type B loading space, as described by Zoning By-law 569-2013.

As per former North York Zoning By-law 7625, 2 Type B loading spaces are required, including 1 loading space for the residential component and 1 loading space to replace the existing office loading space.

7.3.1.2 City of Toronto Zoning By-law 569-2013

For context, the minimum loading requirements of contemporary Zoning By-law 569-2013 have been applied to the development programme and are outlined in **Table 16**. Similarly, the requirements include the existing loading space that supports the existing office building, which will need to be replaced within the development.

TABLE 16 CITY OF TORONTO ZONING BY-LAW 569-2013 MINIMUM LOADING REQUIREMENTS

	Units / GFA	Type 'A'	Type 'B'[1]	Type 'C'	Type 'G'	Total
Residential	350 units	0	0	0	1	1
Office (New)	292 m^2	0	0	0	0	0
Office (Existing)	2,227 m^2	0	1	0	0	1
TOTAL		**0**	**1**	**0**	**1**	**2**
TOTAL (with sharing)[1]		**0**	**0**	**0**	**1**	**1**

Notes:
1. The sharing provisions of Section 40.10.90.1(1) have been applied.

As per City of Toronto Zoning By-law 569-2013, 1 Type G loading space is required given the application of sharing provisions.

7.3.2 Proposed Loading Supply

It is proposed to provide the following loading supply:

- 1 Type G loading space
- 2 parking spaces, located adjacent to the loading space. The intended user of these spaces will be contractors and couriers.

The proposed loading supply meets the requirements of Zoning By-law 569-2013, which we believe to be more representative of contemporary loading needs (i.e. the size of a City of Toronto garbage truck) than former North York Zoning By-law 7625.

The Type G loading space has been functionally tested and facilitates acceptable vehicle manoeuvring. In **Appendix D**, vehicle manoeuvring diagrams are provided.

8.0 MULTI-MODAL TRAVEL DEMAND FORECASTING

The site is located in close proximity to a variety of public transit options, including higher order transit; the area is generally supportive of non-auto dependent travel modes. Further, the proposed development plan will be as supportive as possible of non-auto dependent travel modes by making provisions for pedestrian, bicycle and transit facilities to implement this strategy and a transportation demand management (TDM) plan.

8.1 APPROACH & PARAMETERS

Person-based trip generation forecasts have been developed in order to quantify the estimated number of new driver, passenger, transit, cycling and walking trips associated with the proposed development during the critical weekday morning and weekday afternoon peak travel hours. These forecasts are detailed in the following sections.

8.2 RESIDENTIAL TRAVEL DEMAND

The volume of travel demand associated with the proposed residential component of the site has been developed based upon an analysis of typical and expected travel patterns for the residential units planned for the site, understanding typical residential unit occupancy trends, and mode splits in the area of the site.

Existing area residential travel mode distribution patterns are summarized in **Table 17**.

TABLE 17 EXISTING AREA RESIDENTIAL MODE SPLIT

Travel Mode	Mode Split
Auto Driver	50%
Auto Passenger	2%
Transit	35%
Walk	11%
Cycle	2%
Total	**100%**

Notes:
1. Residential travel mode distribution based on 2016 TTS data for home-based trips to and from TTS Zone 484.

Person trip generation forecasts for the future residential component of the site are provided in **Table 18**.

Key results include a forecast of 180 person trips in the morning (35 inbound, 145 outbound) and 170 person trips in the afternoon (105 inbound, 65 outbound). The corresponding residential person trip generation rates are 0.51 trips per unit in the morning (0.10 trips per unit inbound, 0.41 trips per unit outbound) and 0.49 trips per unit in the afternoon (0.30 trips per unit inbound, 0.19 trips per unit outbound).

TABLE 18 RESIDENTIAL TRIP GENERATION (FIRST PRINCIPLES)

Parameter	Base Population Assumptions
Residential Units	350 units
Absenteeism / Vacant Units	5%
Unit Occupancy	1.8 persons / unit[1]
Total Persons Residing on Site	600
% of persons Travelling in Peak Period	65%
% of Persons Travelling in Peak Hour[2,3]	45%
Persons Travelling in Peak Hour	175

Peak Hour Travel Demand Forecasts[3]

Travel Mode	Split[4]	AM Peak Hour			PM Peak Hour		
		In	Out	2-Way	In	Out	2-Way
Auto Driver	50%	20	70	90	55	35	90
Auto Passenger	2%	0	5	5	0	0	0
Transit	35%	10	50	60	40	25	65
Pedestrian	11%	5	15	20	10	5	15
Cycle	2%	0	5	5	0	0	0
Total	**100%**	**35**	**145**	**180**	**105**	**65**	**170**

	Forecast Person Trips			
	AM Peak Hour		PM Peak Hour	
Resulting Person Trips	35	145	105	65
Peak Hour Demand	**Trips**	**Rate (per unit)**	**Trips**	**Rate (per unit)**
Inbound	**35**	0.10	105	0.30
Outbound	145	0.41	65	0.19
Two-way	**180**	**0.51**	**170**	**0.49**

	Forecast Auto Usage[5]			
	AM Peak Hour		PM Peak Hour	
Resulting Vehicular Trips	20	70	55	35
Peak Hour Demand	**Trips**	**Rate (per unit)**	**Trips**	**Rate (per unit)**
Inbound	20	0.06	55	0.16
Outbound	70	0.20	35	0.10
Two-way	**90**	**0.26**	**90**	**0.26**

Notes:
1. Based on the "*Trends in Housing Occupancy*" report, City of Toronto, 2012.
2. It is assumed that the same number of people that travel in the weekday morning peak hour also travel the weekday afternoon peak hour.
3. In/Out splits for non-auto travel modes based upon ITE 10th ed. trip generation splits for residential uses (Land-Use 222).
4. Based on existing area travel mode distribution, as summarized in **Table 17**.
5. Vehicle occupancy based on 2016 TTS survey data for auto passengers.

BA Group undertook a review of vehicular trip generation surveys conducted at residential proxy sites located within the area of the site, vehicle trip generation rates utilized in approved area traffic impact studies. These vehicular trip generation rates were compared to the forecasts made, as summarized in **Table 19**.

TABLE 19 GROSS RESIDENTIAL PERSON TRIP GENERATION

Methodology	Morning Peak Hour (trips per unit)			Afternoon Peak Hour (trips per unit)		
	In	Out	2-Way	In	Out	2-Way
First Principles[1]	0.10	0.41	0.51	0.30	0.19	0.49
ITE LU222 Dense Multi-Use Urban	0.15	0.56	0.71	0.34	0.24	0.58
ITE LU222 Centre City Core	0.16	0.46	0.62	0.34	0.26	0.59
325 Bogert Avenue	0.16	0.49	0.65	0.31	0.32	0.63
160, 170, 180,& 200 Chaulkfarm Drive	0.07	0.55	0.62	0.37	0.15	0.52
60-61 Heintzman Street	0.07	0.41	0.48	0.34	0.17	0.51
1375 Dupont Street	0.06	0.26	0.32	0.21	0.06	0.27
151 & 181 Village Green Square	0.04	0.35	0.39	0.21	0.11	0.32
Heron's Hill Condos (2015 & 2035 Sheppard Avenue East, 275 Yorkland Road & 20 & 30 Heron's Hill Way)	0.06	0.30	0.36	0.26	0.13	0.39
Adopted Rate	**0.10**	**0.41**	**0.51**	**0.30**	**0.19**	**0.49**
Gross Person Trips *(350 units)*	**35**	**145**	**180**	**105**	**65**	**170**

Notes:
1. See **Table 18**.

The observed and approved person trip generation rates are similar to that which have been forecast in this analysis – 0.51 two-way person trips during the weekday morning and 0.49 two-way person trips during the weekday afternoon peak hour– providing supplementary support for the trip generation forecasts calculated in this analysis.

8.3 OFFICE TRAVEL DEMAND

The volume of travel demand associated with the proposed office component of the site has been developed based upon an analysis of the existing conditions associated with the existing office building, and expected travel patterns for the new office space proposed in the new building, understanding typical office occupancy and mode splits in the area of the site

Existing area office travel mode distribution patterns are summarized in **Table 17**.

TABLE 20 EXISTING AREA OFFICE MODE SPLIT

Travel Mode	Mode Split
Auto Driver	77%
Auto Passenger	6%
Transit	14%
Walk	3%
Cycle	0%
Total	**100%**

Notes:
1. Office travel mode distribution based on 2016 TTS data for work-based trips to and from TTS Zone 484.

8.3.1 Existing Office Site Traffic

Existing site trip generation is determined by turning movement counts provided by Spectrum Traffic Inc. on Tuesday, January 22, 2019 at the existing site driveway. All egressing and ingressing site trips will be retained for future scenarios given that the office parking supply will be reconstructed. Existing site trip generation is summarized in **Table 21**.

TABLE 21 EXISTING SITE TRIP GENERATION

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Existing Site Trips[1]	5	0	5	5	10	15

Notes:
1. Existing site trips are rounded to the nearest 5.

8.3.2 New Building Office Site Traffic

The existing site contains 2,227 m^2 GFA. By way of comparison, it is proposed for the new building to contain 292 m^2 GFA (approximately 13% of the existing site).

As such, given the observed vehicular site traffic generated by the existing office building, it is reasonable to assume that the vehicular site traffic generated by the office portion of the proposed new building will be negligible. BA Group conservatively assumes the following new office vehicular trip generation for the purpose of this analysis:

- AM Peak Hour Total Vehicular Trips: 5 total trips
    - Inbound: 5 trips
    - Outbound: 0 trips
- PM Peak Hour Total Vehicular Trips: 5 total trips
    - Inbound: 0 trips
    - Outbound: 5 trips

8.3.3 Office Travel Demand Summary

Person trip generation forecasts for the total (existing and future) office component of the site are provided in **Table 22**. The total person trips generated have been calculated based upon the vehicular traffic generation outlined in the preceding subsections.

Key results include a forecast of 15 person trips in the morning (15 inbound, 0 outbound) and 25 person trips in the afternoon (5 inbound, 20 outbound). The corresponding office person trip generation rates are 0.60 trips per 100 m^2 GFA in the morning (0.60 trips per 100 m^2 GFA inbound, 0.00 trips per 100 m^2 GFA outbound) and 1.00 trips per 100 m^2 GFA in the afternoon (0.20 trips per 100 m^2 GFA inbound, 0.80 trips per 100 m^2 GFA outbound).

Vehicular trip generation, which is largely based upon an analysis of existing conditions for the purpose of this analysis, are forecasted to be 10 trips in the morning (10 inbound, 0 outbound) and 20 trips in the afternoon (5 inbound, 15 outbound). The corresponding office person trip generation rates are 0.40 trips per 100 m^2 GFA in the morning (0.40 trips per 100 m^2 GFA inbound, 0.00 trips per 100 m^2 GFA outbound) and 0.80 trips per 100 m^2 GFA in the afternoon (0.20 trips per 100 m^2 GFA inbound, 0.60 trips per 100 m^2 GFA outbound).

TABLE 22 OFFICE TRIP GENERATION (FIRST PRINCIPLES)

Parameter	Base Population Assumptions
Existing Office GFA	2,227 m^2 GFA
Proposed New Office GFA	292 m^2 GFA
Total Office GFA	2,515 m^2 GFA

Peak Hour Travel Demand Forecasts							
Travel Mode	**Split[1]**	**AM Peak Hour**			**PM Peak Hour**		
		In	**Out**	**2-Way**	**In**	**Out**	**2-Way**
Auto Driver	77%	10	0	10	5	15	20
Auto Passenger	6%	0	0	0	0	0	0
Transit	14%	5	0	5	0	5	5
Pedestrian	3%	0	0	0	0	0	0
Cycle	0%	0	0	0	0	0	0
Total	**100%**	**15**	**0**	**15**	**5**	**20**	**25**

	Forecast Person Trips			
	AM Peak Hour		**PM Peak Hour**	
Peak Hour Demand	**Person Trips**	**Rate (per 100 sm GFA)**	**Person Trips**	**Rate (per 100 sm GFA)**
Inbound	15	0.60	5	0.20
Outbound	0	0	20	0.80
Two-way	**15**	**0.60**	**25**	**1.00**

	Forecast Auto Usage			
	AM Peak Hour		**PM Peak Hour**	
Peak Hour Demand	**Vehicle Trips**	**Rate (per 100 sm GFA)**	**Vehicle Trips**	**Rate (per 100 sm GFA)**
Inbound	10	0.40	5	0.20
Outbound	0	0	15	0.60
Two-way	**10**	**0.40**	**20**	**0.80**

Notes:
1. Based on existing area travel mode distribution, as summarized in **Table 20**.

8.4 SUMMARY OF SITE TRAVEL DEMAND BY MODE

The combined multi-model travel demand for the site is the sum of the demand contributions from the proposed residential and office land uses and is summarized in **Table 23**.

TABLE 23 TOTAL SITE: PERSON TRIP GENERATION

Travel Mode	AM Peak			PM Peak		
	Inbound	Outbound	Two-way	Inbound	Outbound	Two-way
Residential Land Use						
Auto Driver	20	70	90	55	35	90
Auto Passenger	0	5	5	0	0	0
Transit	10	50	60	40	25	65
Walk	5	15	20	10	5	15
Cycle	0	5	5	0	0	0
Total	**35**	**145**	**180**	**105**	**65**	**170**
Office Land Use						
Auto Driver	10	0	10	5	15	20
Auto Passenger	0	0	0	0	0	0
Transit	5	0	5	0	5	5
Walk	0	0	0	0	0	0
Cycle	0	0	0	0	0	0
Total	**15**	**0**	**15**	**5**	**20**	**25**
Total Site						
Auto Driver	30	70	100	60	50	110
Auto Passenger	0	5	5	0	0	0
Transit	15	50	65	40	30	70
Walk	5	15	20	10	5	15
Cycle	0	5	5	0	0	0
Total	**50**	**145**	**195**	**110**	**85**	**195**

Overall, the site is forecast to generate in the order of 195 and 195 gross two-way person trips during the morning and afternoon peak hours, respectively. Included among this total are 100 and 110 gross two-way vehicle trips during the morning and afternoon peak hours, respectively.

8.5 TORONTO GREEN STANDARD VERSION 3 (TRIP REDUCTION)

The Toronto Green Standard (TGS) Version 3 (V3) contains sustainability requirements for New Development in Toronto (Mid to High-Rise Residential & All Non-Residential); the latest update became applicable to applications submitted after May 1, 2018.

Standard AQ1.1 requires developments to "Reduce single occupancy auto vehicle trips from generated by proposed development by 15% through a variety of multimodal infrastructure strategies and TDM measures."

It is noteworthy that a comprehensive Transportation Demand Management (TDM) Plan is provided in **Section 6.0** of this report that contains a variety of measures designed to encourage non-automobile reliant travel. In our opinion, the totality of these measures will work in tandem to achieve the aforementioned TGS requirement.

Table 24 provides a comparison of the forecast trip generation for the proposed development based upon the trip generation characteristics established within the BA Group report materials and those calculated using the ITE Trip Generation Manual 10th Edition. The BA Group trip generation rates reflect the characteristics of a mixed use building that relies upon a percentage of trips made by building occupants being made by non-automobile dependent means and the observed office trip generation. The ITE rates reflect a lesser usage of transit and other sustainable travel measures and form a baseline to compare how this building and in this context is achieving a reduction in auto trip generation.

TABLE 24 TGS V3 VEHICULAR TRIP GENERATION REDUCTION SUMMARY

Rate	AM Peak Hour			PM Peak Hour		
	Inbound	Outbound	Two-Way	Inbound	Outbound	Two-Way
ITE-based Trip Generation						
ITE-based Residential Trip Generation[1]	15	85	100	70	40	110
ITE-based Office Trip Generation[2]	40	10	50	10	40	50
ITE- based Trip Generation	**55**	**95**	**150**	**80**	**80**	**160**
Adopted Residential Site Trip Generation (see **Table 18**)	20	70	90	55	35	90
Adopted Office Site Trip Generation (see **Table 22**)	10	0	10	5	15	20
Adopted Site Trip Generation	**30**	**70**	**100**	**60**	**50**	**110**
DIFFERENCE	**-45%**	**-26%**	**-33%**	**-25%**	**-38%**	**-31%**

Notes:
1. Residential based on ITE222 "general urban / suburban" best fit curve equations: AM: T=0.28(x)+12.86, PM: T=0.34(x)+8.56
2. Office based on ITE "general urban / suburban" best fit curve equations: AM: T=0.94(X)+26.49, PM: Ln(T)=0.95Ln(X)+0.36

As outlined above, a comparison of the volumes of traffic that the proposed building could be expected to generate using the ITE trip generation rates and the projected site trip generation (reflecting the site location and the adoption of the aforementioned TDM measures), is anticipated to result in reductions in two-way auto trip generation of an estimated 33 percent during morning peak hour and 31 percent during afternoon peak hour. The overall reduction in two-way auto, peak hour trips is estimated to be 32 percent, meeting and exceeding the TGS V3 requirement.

9.0 MULTI-MODAL TRANSPORTATION ASSESSMENT

9.1 PEDESTRIAN ASSESSMENT

9.1.1 Pedestrian Environment Review

9.1.1.1 Existing Conditions

The site is located in the ConsumersNext area / Consumers Road Business Park area. At major signalized intersections within the study area, pedestrian crosswalks and pedestrian signal heads are provided; on the major arterial roads there are landscaped buffers between the sidewalk and traffic lanes. In the immediate vicinity of the site, signalized intersections are spaced approximately 150 – 250 metres apart which are relatively short distances in comparison to the remainder of the ConsumersNext area, affording crossing opportunities without large gaps. Further, all roads in the immediate vicinity of the site have continuous and connected sidewalks, with curb ramps at intersections.

Generally, the pedestrian experience in the ConsumersNext area is hindered by the relatively large size of the city blocks and the vehicle-oriented design of the local network. Very few mid-block connections exist due to the wide array of surface parking lots that occupy most of the land, limiting pedestrian connections to the sidewalks and at-street retail activity. However, this characterization does not reflect the pedestrian conditions in the immediate vicinity of the site which are more favourable, with exception of the area south of the site.

9.1.1.2 Future Conditions

The ConsumersNext TMP sets out several planned infrastructure improvements, many of which serve the purpose of improving the area's pedestrian experience. Multiple new streets and street extensions have been proposed in order to increase the area's permeability and to reduce vehicular traffic congestion. A major future pedestrian connection within the area is the multi-use trail that will run along the west and south edges of the business park, bordering Highway 401 and Highway 404. The combination of smaller building blocks and the increase in pedestrian connections allows for an overall better public realm environment and pedestrian experience.

As part of the project, a portion of a new public road will be built at the east of the site. The road will be built with sidewalks and landscaped buffers, to City of Toronto standards.

9.1.2 Site Pedestrian Volumes

As is noted in **Table 23**, in total, approximately 20 and 15 two-way pedestrian trips are projected during the morning and afternoon peak hours, respectively.

9.1.3 Pedestrian Travel Evaluation

9.1.3.1 Assessment Criteria

BA Group has undertaken a general review of the area pedestrian system and facilities under existing and future conditions.

The review considered the following assessment criteria:

Walking:

- Pedestrian facilities are wide enough to allow pedestrians to walk and pass comfortably under expected pedestrian volumes;
- Walking paths have minimal interaction with vehicular crossings (e.g. driveways, laneways, etc.);
- Adequate lighting is provided along pedestrian facilities; and
- Width of sidewalks, walkways, stairs, ramps and other pedestrian facilities is maintained under winter/snow removal conditions.

Waiting:

- Pedestrian waiting facilities provided at intersections should be designed to accommodate the volume of pedestrians expected to accumulate between crossing cycles and minimize pedestrians' exposure to hazards; and
- Actuated/callable pedestrian signals are provided at signalized crossings.

Crossing:

- Formal pedestrian crossings are provided at the intersections or desired locations of crossing;
- Formal crossings in the area pedestrian network provide efficient routes for pedestrians to cross to reach desired destinations and discourage jay-walking or informal crossings; and
- Crosswalks are wide enough to accommodate expected two-way crossings volumes.

Connecting:

- Pedestrian facilities make up a well-connected network providing a high level of area coverage without "gaps" or disconnected links in the network; and
- Pedestrian facilities provide efficient routes between key destinations.

Accessible:

- Pedestrian facilities are available to all regardless of age or ability and are designed to be accessible, where possible, and practical.

9.1.3.2 Evaluation Results

BA Group has undertaken a review of the area pedestrian system based upon criteria such as: the adequacy of pedestrian facilities to accommodate anticipated pedestrian volumes and provide a safe, comfortable environment that encourages pedestrian travel; the ability of area pedestrian facilities to provide a well-connected pedestrian network; the adequacy of pedestrian crossing opportunities; the adequacy of pedestrian storage (e.g. waiting areas) and crossing opportunities at area signalized intersections; and the overall accessibility of pedestrian facilities to accommodate all users.

Assessment results are provided below.

Walking

- The frontage of the site will maintain the existing sidewalk and landscape buffer.
- Sidewalks will be provided on the new road.
- The proposed building setback from Heron's Hill Way will foster an active street frontage.
- The proposed POPS to be located between the existing office building and the proposed building will provide a safe walking connection between the office and parking garage for office employees.
- The planned network can support the forecast pedestrian volumes.

Waiting/Crossing

- Formal pedestrian crossings exist at signalized intersections.
- Distance between existing intersections is in the order of 150 – 250 metres.
- The proposed POPS space will serve as a pedestrian refuge space.

Connecting

- While the immediate vicinity of the site is well-connected due to its relatively low intersection spacing, the area to the south is less connected.
- The proposed land being allocated for a new public road at the east end of the site is the initial step in providing enhanced pedestrian connectivity to the south and east of the site.

Accessibility

- The Yorkland Boulevard / Heron's Hill Way and Sheppard Avenue East / Heron's Hill Way intersections have tactile paving features.
- Accesses to site buildings will be designed as per appropriate accessibility standards.

9.2 CYCLING ASSESSMENT

9.2.1 Cycling Environment Review

9.2.1.1 Existing Conditions

As outlined in **Section 3.3.1,** there is a lack of cycling infrastructure in the immediate vicinity of the Consumers Road Business Park area. The local cycling network currently consists of shared lanes, indicated by signage and pavement markings. The nearest on-street cycling lanes are located approximately 1.3 km from the site. There is a significant gap in cycling infrastructure that should be addressed in order to better connect the site to the wider cycling network and promote cycling in the area.

As is noted in **Section 4.3.3**, there are two (2) outdoor bicycle racks that can accommodate parking for 13 bicycles serving the existing office building, all located adjacent to the main entrance of the building along Heron's Hill Way.

Overall, the lack of cycling infrastructure in the vicinity of the site results in the low cycling volumes observed around the site. However, this is consistent with other sites within this area of North York.

9.2.1.2 Future Conditions

The Cycling Network Plan (2019) sets out several planned infrastructure improvements, many of which serve the purpose of connecting gaps in the City's existing cycling network and expanding to new areas of the City. New cycling routes planned include a bike lane along Sheppard Avenue East, as well as bike lanes and pavement markings along Brian Drive, Huntingwood Drive, and Old Sheppard Avenue.

The ConsumersNext TMP proposes new cycling routes along the planned street network, as well as the existing street network, in order to improve the area's cycling environment. A major cycling route provision is the proposed multi-use trail along the Highway 404 and 401 borders. The TMP also outlines proposed cycling connections along Victoria Park Avenue, Yorkland Boulevard, Settlers Road and Consumers Road. These new routes will provide a cycling connection between the Consumers Road Business Park area and the wider cycling network

Furthermore, the TMP proposes provision of on-street bicycle parking spaces, bike-share services and bike boxes along key cycling routes in order to support the planned cycling network.

As part of the project, a total of 281 bicycle parking spaces will be provided, consisting of 238 long-term residential bicycle parking spaces and 25 short-term residential bicycle parking spaces. The proposed supply meets the requirements of Zoning By-law 569-2013 and the Toronto Green Standard, Version 3, Zone 2, Tier 1. The existing bicycle parking serving the office building will be retained.

The combination of new cycling routes and cycling-supportive infrastructure allows for an overall better cycling experience.

9.2.2 Site Cycling Volumes

As is noted in **Table 23**, in total, approximately 0 and 5 two-way cycling trips are projected during the morning and afternoon peak hours, respectively.

9.2.3 Cycling Travel Evaluation

9.2.3.1 Assessment Criteria

BA Group has undertaken a general review of the cycling infrastructure provided on the development site and within its vicinity.

The review considered the following assessment criteria:

Cycling:

- There are enough cycling facilities, and cycling facilities are wide enough, to accommodated expected cycling volumes;
- Cycling routes have minimal interaction with vehicular crossings (e.g. driveways, laneways, etc.) and limited blockages; and
- Traffic volumes and speed limit of, and proximity to, adjacent vehicle traffic lanes.

Bicycle Parking:

- The site must have an adequate bicycle parking supply, inclusive of short-term bicycle parking that is located in highly visible and publicly accessible locations.

Sharing:

- Bike Share Toronto facilities can be conveniently located on-site or in close proximity; it is preferable if bike sharing stations are located adjacent higher order transit stations.

Connecting:

- It is beneficial if the site is well-connected as part of the City of Toronto's cycling network via infrastructure that is safe, convenient, and has high capacity.

Support:

- Bicycle repair stations provided on-site are an amenity that adds convenience to local cycling.

9.2.3.2 Evaluation Results

An assessment of the cycling network and facilities was conducted based upon the criteria outlined in the previous section.

Assessment results are provided below.

Cycling

- The cycling volumes are currently low as a result of the lack of cycling infrastructure in the area.
- The City has planned cycling infrastructure in the area in its Cycling Network Ten Year Plan and the ConsumersNext TMP.
- Within the TMP, the site would be located within 200 metres of cycling infrastructure on Yorkland road, Shappard Avenue East, and a multi-use trail located parallel to Highway 404 and Highway 401.

Parking/Sharing

- Two (2) outdoor bicycle racks serving the existing office building; these will be retained.
- Provision of 25 short-term residential bicycle parking spaces and 238 long-term bicycle parking spaces on-site.
- Bicycle parking primarily provided on the ground level and P1 Level.

Connecting

- It is recommended that the City of Toronto construct the proposed on-street cycling networks proposed in both its Cycling Network Ten Year Plan and the ConsumersNext TMP.

Support

- Provision of bicycle repair station on site within the bicycle parking facilities may be proposed with a future site plan application to the City.
- Provision of change and shower facilities will be maintained within the existing office building.

9.3 TRANSIT ASSESSMENT

9.3.1 Transit Environment Review

9.3.1.1 Existing Conditions

The site is well situated with respect to public transit. It is in close proximity (approximately 140 metres) to several bus routes that run along Sheppard Avenue East, Yorkland Boulevard, Consumers Road, Victoria Park Avenue, Pharmacy Avenue, and Huntingwood Drive – connecting the site to higher order transit (e.g. Subway Lines 1, 3, and 4).

It is also notable that the site is located approximately 700 metres from Don Mills Station, the eastern terminus of TTC Subway Line 4 (Sheppard). While numerous bus connections provide convenient access to Don Mills Station, it is located within walking distance for those who are able-bodied.

As a result, the subject Site is well serviced by public transit options that provide frequent and convenient access to local destinations and seamless flow between modes of travel.

9.3.1.2 Future Conditions

In addition to being located 700 metres from Don Mills Station, Sheppard Avenue East has been earmarked for rapid transit although plans have not yet been finalized for the type of higher-order transit to be delivered (i.e. LRT or Sheppard Subway Extension), as is outlined in **Section 3.2.2**. At this time, it is unknown where stops will be located along the new lines; this will likely depend on the transit mode that is utilized.

9.3.2 Site Transit Volumes

As is noted in **Table 23**, in total, approximately 65 and 70 two-way transit trips are projected during the morning and afternoon peak hours, respectively.

9.3.3 Transit Infrastructure Evaluation

9.3.3.1 Assessment Criteria

BA Group has undertaken a general review of the transit infrastructure located within the vicinity of the site. Existing and projected transit passenger volumes were accounted for in the assessment. The review considered the following assessment criteria:

Availability:

- Higher order transit service is highly available to the site, with stations located in close proximity; and
- Transit options facilitate City-wide transit accessibility with minimal or no transfer required between routes.

Access:

- Adjacent or nearby transit stops offer convenient and accessible entrance and exit, and do not encourage jaywalking activity; and
- Multiple access points are preferable.

Capacity:

- There is capacity for the existing transit services to accommodate an increase in transit usage; and
- Where capacity is limited, plans are in place to alleviate capacity concerns via service expansion and/or the construction of new higher order transit route(s).

Operations:

- Bus stops have transit shelters;
- Surface transit routes are well integrated with general traffic network; and
- Preferably, the site is functionally integrated with adjacent higher order transit station, facilitating seamless access to stations.

9.3.3.2 Evaluation Results

The site is well located relative to area transit services and to enable site related transit demands to be accomodated. Higher order transit is easily accessible at the nearby Don Mills Station on Line 4 and Victoria Park Station on Line 2, both of which have direct bus route connections from the site. An assessment of the existing transit network was conducted based upon the criteria established in the previous section. A summary of the key findings of the transit assessment is provided below.

Assessment results are provided below.

Availability:

- The site is located approximately 700 metres east of the Don Mills Station, which acts as a transit hub for several bus routes operating in the area.
- 5 TTC and 1 YRT bus routes can be accessed from the local bus stops at the Sheppard Avenue East / Heron's Hill Way intersection, located 140 metres from the site.
- Future rapid transit expansion on Sheppard Avenue East will further increase the transit connectivity of the area around the site.
- Proposed transit interchanges at major key intersections within the Consumers Road Business Park area will provide convenient access to the multiple bus routes that operate in the vicinity.

Capacity:

- It is recommended that ridership of routes within the Sheppard Avenue East corridor be monitored over time and should capacity be reached, consideration be given to providing additional services on this corridor as demands change.

Access:

- The Sheppard Avenue East / Heron's Hill Way intersection is signalized, encouraging safe pedestrian crossing to and from the bus stop at this location.
- The Sheppard Avenue East / Yorkland Road intersection is signalized, encouraging safe pedestrian crossing to and from Don Mills Station.

Operations:

- The Sheppard Avenue East / Heron's Hill Way intersection has bus shelters at each of its bus stops.
- Bus services operating along Sheppard Avenue East all provide direct links to Don Mills Station.

10.0 VEHICULAR TRAFFIC ASSESSMENT

10.1 VEHICULAR TRAFFIC VOLUME FORECASTS

10.1.1 Existing Road Network

The existing road network configuration assumed for all analysis scenarios is shown in **Figure 13**.

10.1.2 Existing Traffic Volumes

Base existing turning movement volumes were established for intersections within the area road network for the weekday morning and afternoon peak hours (the busiest hours of traffic are between 7:30 a.m. to 9:30 a.m. and 4:00 p.m. to 6:00 p.m., respectively), and are based on recent traffic count information collected by Spectrum Traffic Inc. on behalf of BA Group.

Traffic count information adopted as the basis for the traffic operations analysis and undertaken to assess the operational impacts of the proposed development are summarized in **Table 25**. Turning movement count sheets are included in **Appendix E**.

TABLE 25 TRAFFIC DATA INFORMATION

Intersection	Date	Conducted By
Sheppard Avenue East / Heron's Hill Way	Wednesday November 6, 2019	Spectrum Traffic Inc.
Sheppard Avenue East / Yorkland Road / Highway 404 Ramps		
Yorkland Road / Heron's Hill Way		
Yorkland Road / Yorkland Boulevard / Private Driveway		
Private Driveway / Heron's Hill Way	Tuesday January 22, 2019	
Private Driveway / Heron's Hill Way / Existing Site Access		

Existing turning movement volumes were rounded to the nearest five (5) vehicles and reviewed in detail to ensure a general consistency in the traffic volumes on links between intersections. Where necessary, minor volume adjustments were made to balance traffic volumes between intersections to provide a balanced and representative traffic volume base for the purposes of the traffic operations analyses undertaken as part of this assessment.

The existing, rounded and balanced baseline area traffic volumes for the weekday morning and afternoon peak hours are illustrated in **Figure 14.**

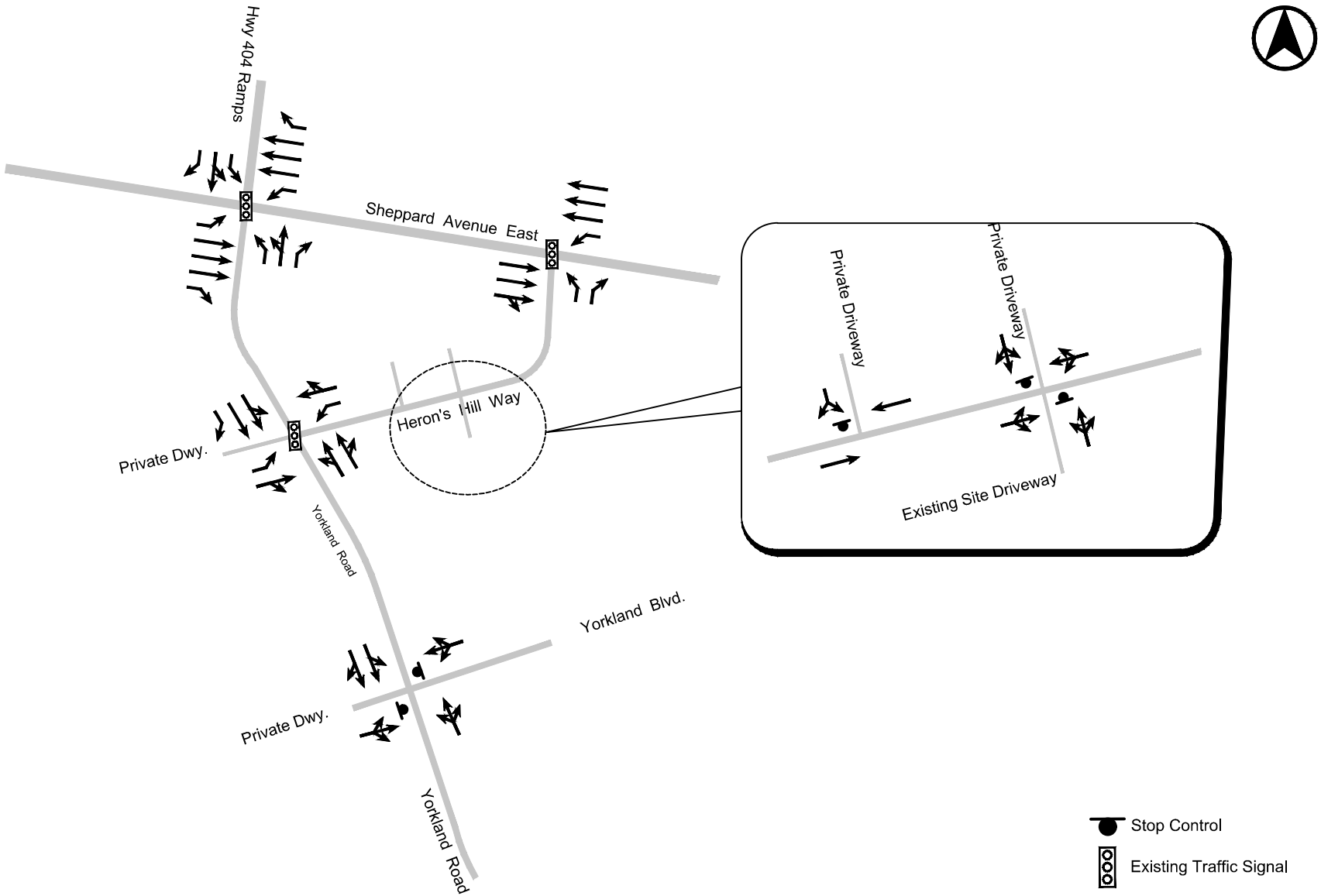


FIGURE 13 EXISTING LANE CONFIGURATIONS

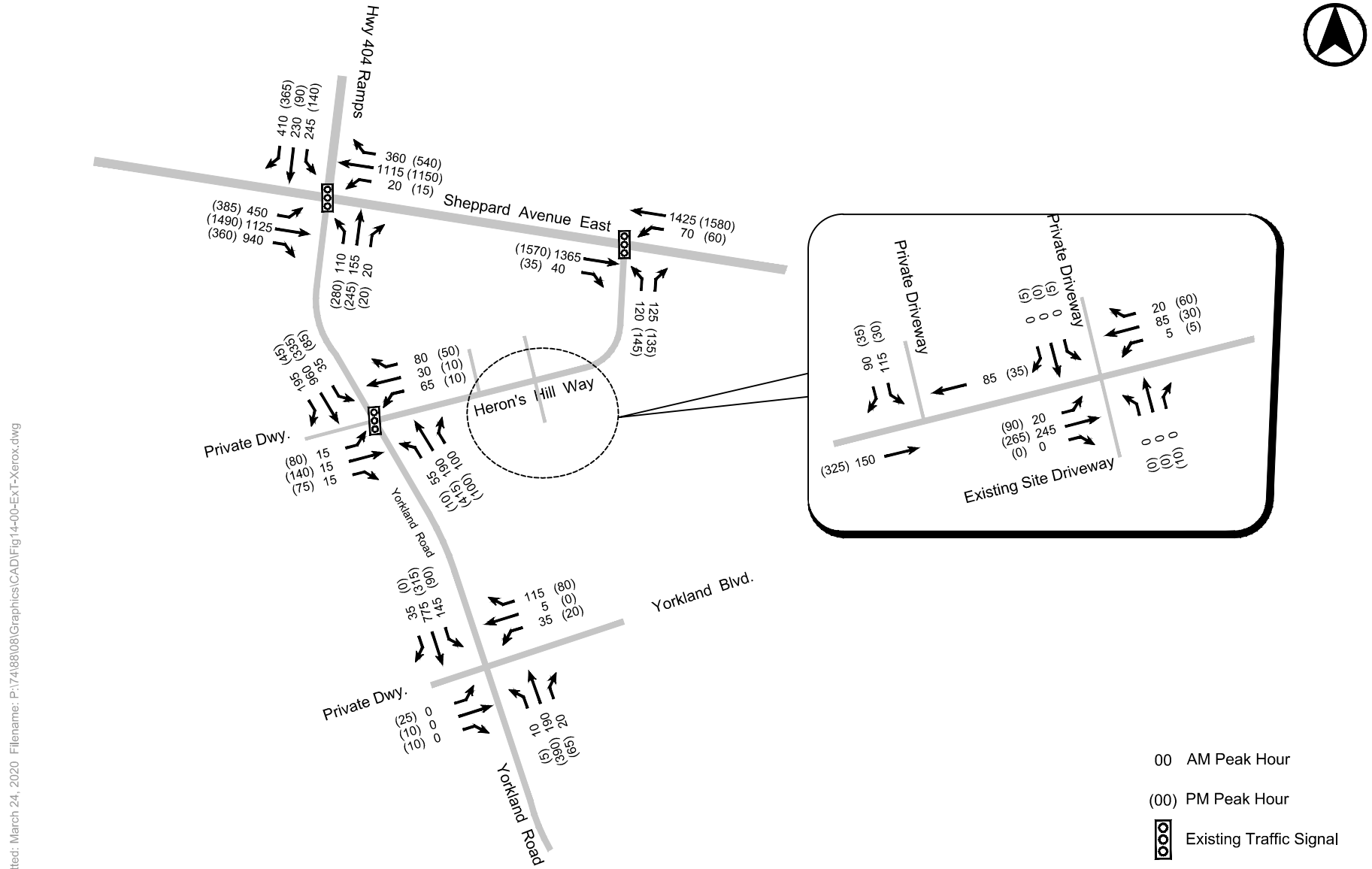


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FIGURE 14 EXISTING TRAFFIC VOLUMES

10.1.3 Future Background Traffic Volumes

Future background traffic volumes are illustrated in **Figure 15** and represent the summation of corridor growth and background development traffic allowances as summarized in the following sections.

Corridor Growth
Historical traffic data was reviewed for the Sheppard Avenue East corridor and the Highway 404 E-S On and S-EW Off ramps to determine if there have been any changes in traffic activity levels due to general traffic growth over the past 10 years. The observed trends are as follows:

- **Sheppard Avenue East:** 0% corridor growth in both peak hours;
- **Highway 404 E-S On-Ramp:** 0% corridor growth in both peak hours; and
- **Highway 404 S-EW Off-Ramp:** 1.0% and 1.5% corridor growth in the weekday morning and afternoon peak hours, respectively.

Corridor growth calculations are provided in **Appendix F**.

Background Development Traffic Allowance
Allowances were made to account for new traffic generated by other development proposals in proximity to the proposed site that are either under construction, approved, being reviewed or for which an application is expected to be submitted to the City in the near future. A total of 13 background developments have been considered comprising of the following:

- 12,827 residential units;
- 28,446 m^2 retail GFA;
- 30,150 m^2 office GFA; and
- 8,336 m^2 non-residential GFA.

A summary of the considered background developments are provided in **Table 26**.

Trip generation and traffic assignments adopted for each background development are based upon information contained in the traffic impact studies (TIS) prepared for each project. Where no traffic volumes and distributions were available for a specific background development, trip generation rates and distribution assumptions have been adopted consistent with the methodology adopted in this study.

TABLE 26 BACKGROUND DEVELOPMENTS

Development Address	Development Statistics	Report Source	Trip Generation / Distribution Source
2135 Sheppard Avenue East	1,200 residential units 18,192 m^2 retail GFA	BA Group	TIS Report (November 2013)
2205 Sheppard Avenue East	1,580 residential units 1,665 m^2 retail GFA	LEA Consulting	Retail: TIS Report (March 2014) Residential: Assigned by BA Group
2933 Sheppard Ave East	179 residential units 300 m^2 retail	LEA Consulting	TIS Report (February 2013)
3105 Sheppard Ave East	274 residential units 1,069 m^2 retail	Nextrans Consulting	TIS Report (December 2016)
3220 Sheppard Ave East	234 residential units	MMM Group	TIS Report (November 11)
3260 Sheppard Ave East	851 residential units 1,088 m^2 retail	LEA Consulting	TIS Report (April 2018)
3445 Sheppard Ave East	359 residential units 768 m^2 retail	LEA Consulting	TIS Report (June 2014)
2450 Victoria Park Avenue	1,247 residential units 1,605 m^2 retail GFA	BA Group	TIS Report (October 2017)
20 Godstone Road	248 residential units	BA Group	TIS Report (October 2017)
Lansing Square Master Plan	1,355 residential units 3,560 m^2 retail GFA 30,150 m^2 office GFA	BA Group	TIS Report (April 2019)
Allenbury Gardens Community	1,147 residential units 199 m^2 retail	BA Group	TIS Report (December 2012)[1]
Parkway Forest Community	2,791 residential units 5,829 m^2 community space Ancillary retail	MMM Group	TIS Report (August 2016)[1]
2500 & 2600 Don Mills Rd, 1650 Sheppard Ave E & 25 Leith Hill Rd	1,362 residential units	BA Group	TIS Report (February 2019)
Total	**12,827 residential units** **28,446 m^2 retail GFA** **30,150 m^2 office GFA** **8,336 m^2 non-residential GFA**		

Notes:
1. This is a phased development which was partially constructed and occupied at the time of this report. Appropriate adjustments to the trip assignment were made to reflect these conditions.

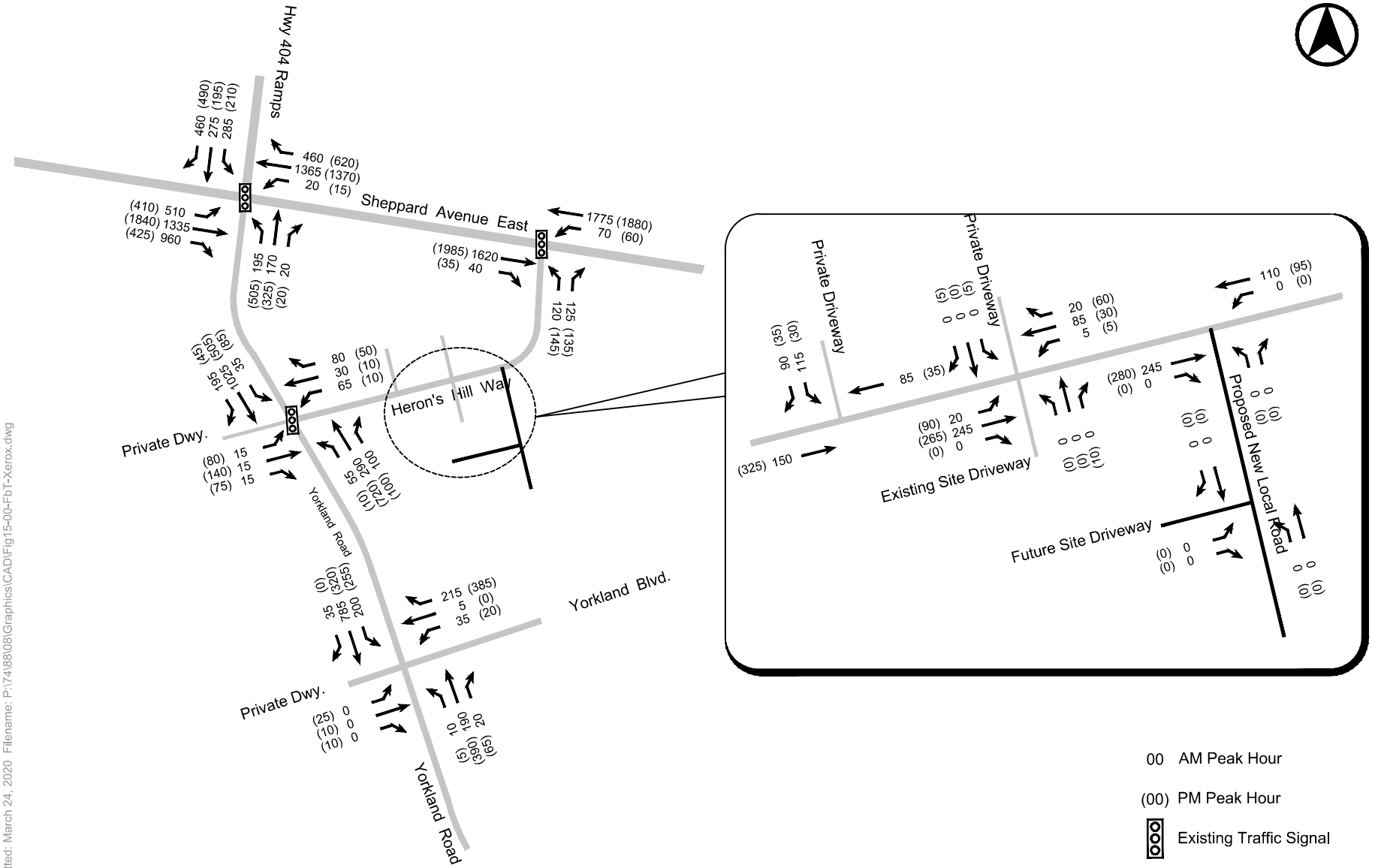

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FIGURE 15 FUTURE BACKGROUND TRAFFIC VOLUMES

10.1.4 Site Total Traffic Volumes

Site Total Trip Generation

As summarized in **Section 8.0**, 100 and 110 two-way vehicle site trips are expected in the weekday morning and afternoon peak hours, respectively.

TABLE 27 SITE TOTAL TRIP GENERATION

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Existing (Office) Site Trips						
Existing Site Trips	5	0	5	5	10	15
New Residential Site Trips						
New Site Trips	20	70	90	55	35	90
New Office Site Trips						
New Site Trips	5	0	5	0	5	5
Total Site Trips						
Total Site Trips	30	70	100	60	50	110

Site Trip Distribution

The distribution of residential and office vehicle site trips is based on a review of survey data provided by Transportation Tomorrow Survey (TTS) dated 2016 and summarized in **Table 28**.

TABLE 28 SITE TRIP DISTRIBUTION

Corridor	To / From	Residential				Office			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		In	Out	In	Out	In	Out	In	Out
Sheppard Avenue East	West[1]	30%	53%	31%	48%	36%	50%	36%	50%
Sheppard Avenue East	East	8%	27%	23%	38%	13%	16%	13%	16%
Highway 404	North	62%	20%	46%	14%	51%	34%	51%	34%
Total		**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Notes:

1. Includes traffic to / from the south on Highway 404.

10.1.5 Future Total Traffic Volumes

Future total traffic volumes are established by adding the total site traffic illustrated in **Figure 16** to future background traffic illustrated in **Figure 15**. Future total traffic volumes are illustrated in **Figure 17**.

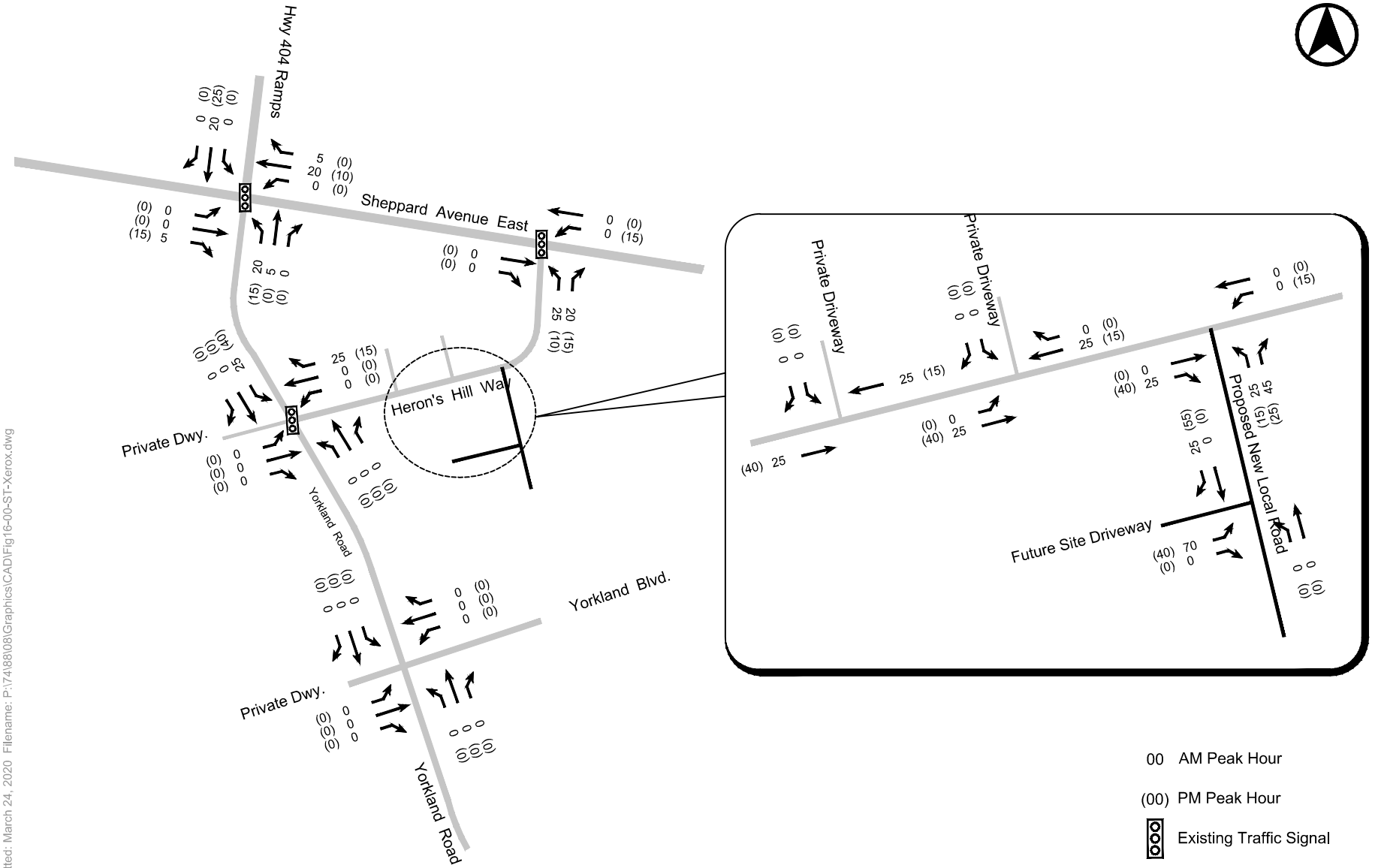

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FIGURE 16 NEW SITE TRAFFIC VOLUMES

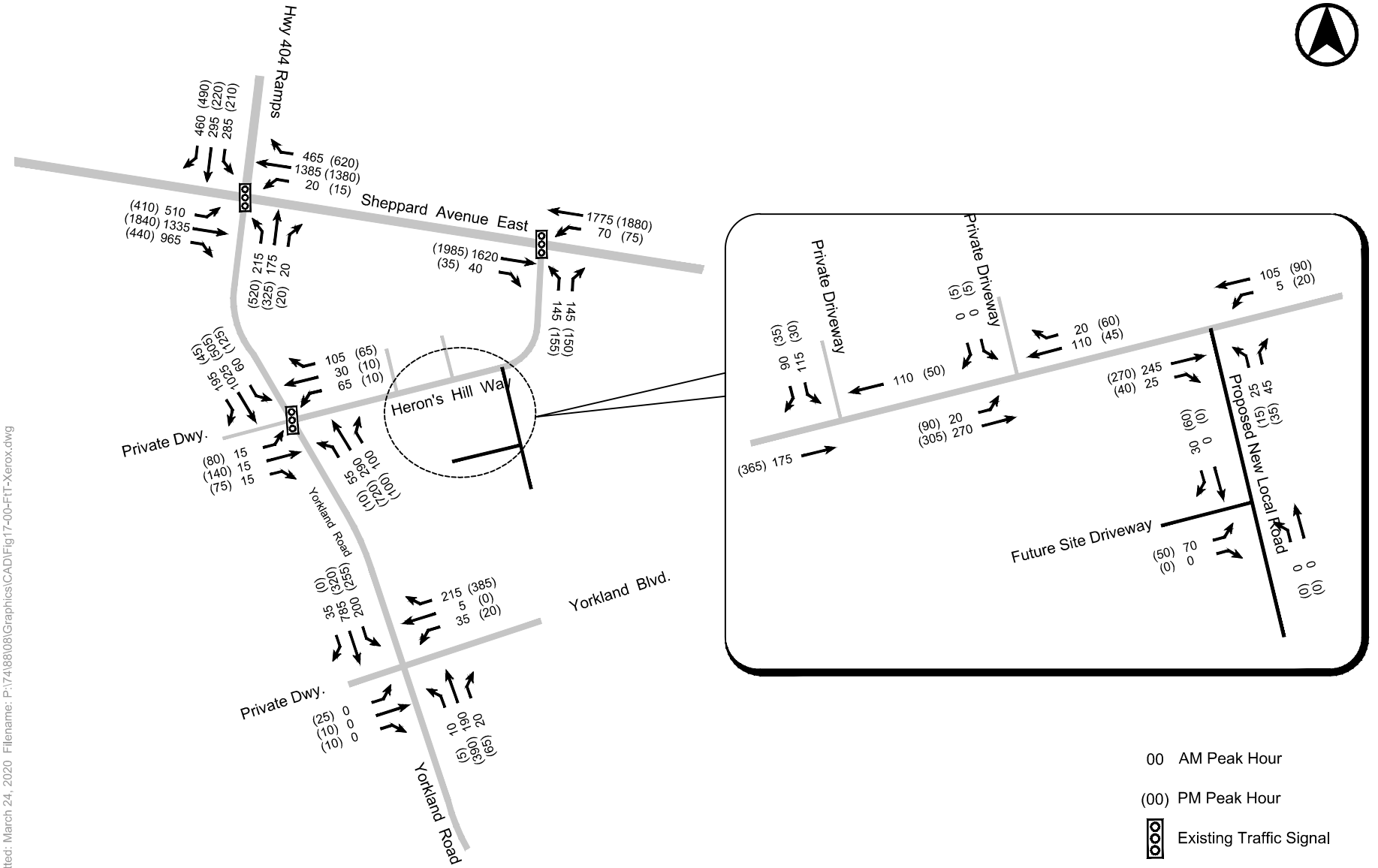

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FIGURE 17 FUTURE TOTAL TRAFFIC VOLUMES

10.2 CAPACITY OPERATIONS ANALYSIS

The following section provides a summary of traffic operations analysis undertaken for existing, future background and future total traffic conditions.

10.2.1 Methodology

Intersection capacity analysis has been completed using Synchro Version 9.2 and the Highway Capacity Manual (HCM) methodology.

For signalized intersections, the volume-to-capacity ratio (v/c) is an indicator of the capacity utilization for the key movements in the intersection. A v/c of 1.00 indicates that certain governing traffic movements through the intersection are operating at or near maximum capacity. The primary overall level of service (LOS) indicator is delay, both on individual movements and expressed as an average for all vehicles processed. Many busy urban intersections operate at LOS D to E, which reflect average (control) delays in the range of 35 to 80 seconds.

For unsignalized intersections, level of service (LOS) characterizes operational conditions for key movements in terms of delay within the traffic stream. LOS A represents a good level of service with short delays. LOS F represents a poor level of service with long delays. The volume to capacity ratio (v/c) is an indicator of the capacity utilization for key movements at the intersection and resultant residual capacity potential.

10.2.2 Input and Calibration Parameters

Key parameters used in the analysis include:

- Existing lane configurations are assumed for all scenarios;
- Existing signal timings are provided by the City of Toronto (included as **Appendix G**) and confirmed by observations in the field;
- Heavy vehicle percentages are derived from existing traffic counts;
- Peak hour factors are derived from existing traffic counts;
- Pedestrian and bicycle approach crossings are derived from existing traffic counts;
- Existing Conditions Calibration:
    - **Lost Time Adjustment:** Intergreen studies were conducted for the eastbound left movement at the Sheppard Avenue East / Yorkland Road / Highway 404 Ramps intersection during the weekday morning and afternoon peak hours yielding a lost time adjustment of -3.5 seconds for both peak hours. This is under the assumption that each observed eastbound vehicle traversing the intersection on an amber or red signal is equivalent to one second of effective green time. More information is included in **Appendix H**.
    - **Delay Study:** A delay study was conducted for the westbound movements at the Yorkland Road / Yorkland Boulevard / Private Driveway intersection during the weekday morning and afternoon peak hours. The results are summarized in **Table 29** below. More information is included in **Appendix I**.
    - **Gap Study:** A gap study was conducted for the eastbound movements at the Yorkland Road / Yorkland Boulevard / Private Driveway intersection during the weekday afternoon peak hour. The results are summarized in **Table 30** below. More information is included in **Appendix J**.

- Under future scenarios at Sheppard Avenue East / Yorkland Road / Highway 404, the lane utilization factors (LUFs) for all through movements were adjusted to 1.00 (representing an equal distribution of through traffic across all through lanes in any direction). A LUF of less than 1.00 reflects the inefficient use of lanes, where vehicles may favour or avoid one lane over another due to the presence of blockages in one lane (e.g. vehicles making a turn from the through lane). At this location, all through lanes are exclusively through lanes or only possess one through lane; as the intersection and its movements reach capacity under future conditions, traffic volumes will dissipate across all lanes equally;
- Under future scenarios at Sheppard Avenue East / Yorkland Road / Highway 404, left turn factors were adjusted to represent the increasing aggressiveness of left turning vehicles operating on the protected green phase to complete their turns as the movement's capacity is approached or reached. As such, a protected left turn factor of 1.00 (rather than a default of 0.95) has been adopted for the eastbound left turn in both the weekday morning and afternoon peak hours and the northbound left turn in the weekday afternoon peak hour;
- A lost time adjustment factor of -1.0 for all other movements as outlined in the City of Toronto's *Guidelines for Using Synchro 9*; and
- Synchro defaults for all other parameters.

TABLE 29 DELAY STUDY SYNCHRO CALIBRATION, YORKLAND BLVD ONTO YORKLAND RD

	Observed Average Delay [1, 2, 3]	Delay Used to Calibrate Synchro Control Delay [2]	Default Values				Calibrated Values			
			Critical Gap	Follow up time	Avg. Control Delay [3]	LOS	Critical Gap	Follow up time	Avg. Control Delay [3]	LOS
WBL	18 (23)	23 (28)	8.0 (8.0)	3.7 (3.8)	25.5 (21.7)	D (C)	7.5 (8.9)	3.7 (5.2)	23.0 (28.0)	C (D)
WBT[4]			6.5 (--)	4.0 (--)			6.5 (--)	3.9 (--)		
WBR			7.0 (6.9)	3.3 (3.3)			6.5 (6.9)	3.3 (3.3)		

Notes:
1. Average observed delay in the weekday morning peak hour.
2. 5 seconds was added to the observed delay to determine the 'Control Delay' used to calibrate the HCM 2000 model in Synchro to account for the method in which HCM calculates delay.
3. Synchro control delay (HCM 2000 methodology).
4. There are no westbound through volumes during the afternoon peak hour.

TABLE 30 GAP STUDY SYNCHRO CALIBRATION, PRIVATE DRIVEWAY ONTO YORKLAND RD

	Observed Gap Capacity (veh. / h)	Default Values					Calibrated Values				
		Gaps (veh. / h)	Critical Gap	Follow Up Time	Avg. Control Delay	LOS	Gaps (veh. / h)	Critical Gap	Follow Up Time	Avg. Control Delay	LOS
EBL	138	104	7.5	3.5	42.7	E	137	6.9	3.0	33.2	D

Notes:
1. Observed in the weekday afternoon peak hour.

10.2.3 Traffic Operations Scenarios

Traffic operations are discussed in the subsequent sections for these scenarios:

- Existing traffic conditions;
- Future background traffic conditions (2025 horizon year); and
- Future total traffic conditions (2025 horizon year).

10.2.4 Study Area Intersections Operations

The following sections discuss the operations of the study area intersections. Synchro reports are provided in **Appendix K**.

10.2.4.1 Signalized Intersection Operations

Sheppard Avenue East / Yorkland Road / Highway 404 Ramps

The intersection of Sheppard Avenue East / Yorkland Road / Highway 404 Ramps operates under SCOOT traffic signal control with a cycle length of 144 seconds in both the weekday morning and afternoon peak hours. Under all future scenarios and in both peak hours, signal timing plans have been adjusted within the existing cycle lengths. The results of the traffic analysis for this intersection are summarized in **Table 31**.

Under existing conditions, the intersection operates well at overall v/c of 0.82 and 0.83 during the weekday morning and afternoon peak hours, respectively. Critical movements (i.e. movements with v/c ≥ 0.85) include the eastbound left turn and all northbound movements.

Under future background conditions, the intersection continues to operate well in the weekday morning peak hour at overall v/c of 0.90. However, during the weekday afternoon peak hour, the intersection operates over-capacity at overall v/c of 1.02. Critical movements include the eastbound left turn, all northbound movements, westbound through and the southbound through and left turn movements.

With the addition of site-generated impact under future total conditions, the intersection will continue to operate well in the weekday morning peak hour and operate over-capacity in the weekday afternoon peak hour at overall v/c of 0.92 and 1.03, respectively.

Overall, the individual impact of the proposed development on the operation of this intersection is considered to be minimal and the over-capacity conditions in the weekday afternoon peak hour are expected regardless of any development on the site given that the future background (i.e. without consideration of the site) conditions operate over-capacity at overall v/c of 1.02.

Potential Intersection Improvements

BA Group has reviewed potential reconfigurations of this intersection. Consideration was given to an intersection configuration that would allow the removal of the current split phasing which is in operation for the northbound and southbound approaches. The layout considered the following:

1. Conversion of the existing shared northbound through-left lane to a left turn lane only and conversion of the existing northbound right lane to a shared through-right lane (e.g. the northbound approach comprises two left turn lanes and one shared through-right turn lane; and

2. Conversion of the existing shared southbound through-left lane to a through lane only (e.g. the southbound approach comprises one left turn lane, one through lane and one right turn lane). With the above layout modifications, the split phasing for the northbound and southbound movements was removed. The northbound left movement will operate on a protected phase while the southbound left movement will operate on permissive and protected phases.

With these improvements, the intersection of Sheppard Avenue East / Yorkland Road / Highway 404 Ramps will operate well at overall v/c of 0.88 and 0.91 during the weekday morning and afternoon peak hours, respectively. It is recommended that the operation of the intersection be monitored moving forward.

TABLE 31 SHEPPARD AVENUE EAST / YORKLAND ROAD / HIGHWAY 404 RAMPS TRAFFIC OPERATIONS SUMMARY

Movement	Existing Traffic Conditions		Future Background Traffic Conditions		Future Total Traffic Conditions		Future Total Traffic Conditions +Road Improvements	
	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS
EBL	0.96 (0.92)	E (E)	0.94 (1.11)	E (F)	0.96 (1.12)	E (F)	0.92 (0.94)	E (E)
EBT	0.41 (0.57)	B (C)	0.46 (0.80)	C (D)	0.47 (0.80)	C (D)	0.42 (0.64)	B (C)
EBR	0.66 (0.26)	A (A)	0.68 (0.30)	A (A)	0.68 (0.31)	A (A)	0.68 (0.31)	A (A)
WBL	0.14 (0.19)	C (D)	0.20 (0.33)	D (E)	0.21 (0.33)	D (E)	0.17 (0.23)	D (D)
WBT	0.66 (0.76)	D (D)	0.96 (1.09)	E (F)	0.99 (1.10)	E (F)	0.84 (0.86)	D (D)
WBR	0.42 (0.73)	C (C)	0.59 (0.87)	C (D)	0.60 (0.87)	C (D)	0.56 (0.89)	C (D)
NBL	0.62 (0.98)	E (F)	0.88 (1.09)	F (F)	0.94 (1.11)	F (F)	0.69 (0.95)	E (F)
NBTR	0.92 (0.94)	F (F)	0.86 (1.01)	F (F)	0.88 (1.03)	F (F)	0.59 (0.85)	E (F)
NBR	0.01 (0.01)	E (D)	0.01 (0.01)	E (D)	0.01 (0.01)	E (D)	-- (--)	-- (--)
SBL	0.74 (0.43)	E (D)	0.81 (0.56)	E (D)	0.78 (0.56)	E (D)	0.89 (0.71)	E (D)
SBT	0.77 (0.41)	E (D)	0.81 (0.55)	E (D)	0.83 (0.61)	E (D)	0.80 (0.62)	E (E)
SBR	0.29 (0.25)	A (A)	0.32 (0.34)	A (A)	0.32 (0.34)	A (A)	0.32 (0.34)	A (A)
Overall	**0.82 (0.83)**	**C (D)**	**0.90 (1.02)**	**D (E)**	**0.92 (1.03)**	**D (E)**	**0.88 (0.91)**	**C (D)**

Notes:
1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour).

Sheppard Avenue East / Heron's Hill Way

The intersection of Sheppard Avenue East / Heron's Hill Way operates under traffic signal control with a cycle length of 100 seconds in both the weekday morning and weekday afternoon peak hours. Under all future scenarios in the weekday afternoon peak hour, signal timing plans have been optimized within the existing cycle lengths. The results of the traffic analysis for this intersection are summarized in **Table 32**.

Under existing conditions, the intersection operates well at overall v/c of 0.42 and 0.54 during the weekday morning and afternoon peak hours, respectively.

Under future background conditions, the intersection continues to operate well at overall v/c of 0.51 and 0.67 during the weekday morning and afternoon peak hours, respectively.

With the addition of site-generated impact under future total conditions, the intersection will operate well at overall v/c of 0.53 and 0.68 during the weekday morning and afternoon peak hours, respectively.

No intersection improvements or mitigation measures are recommended at Sheppard Avenue East / Heron's Hill Way.

TABLE 32 SHEPPARD AVENUE EAST / HERON'S HILL WAY TRAFFIC OPERATIONS SUMMARY

Movement	Existing Traffic Conditions		Future Background Traffic Conditions		Future Total Traffic Conditions	
	V/C	LOS	V/C	LOS	V/C	LOS
EBTR	0.42 (0.53)	A (A)	0.49 (0.76)	A (B)	0.49 (0.77)	A (B)
WBL	0.38 (0.58)	B (C)	0.53 (0.40)	C (B)	0.54 (0.50)	C (B)
WBT	0.42 (0.51)	A (A)	0.52 (0.61)	A (B)	0.52 (0.61)	A (B)
NBL	0.41 (0.42)	D (C)	0.41 (0.42)	D (C)	0.48 (0.44)	D (C)
NBR	0.33 (0.40)	D (C)	0.38 (0.20)	D (C)	0.44 (0.24)	D (C)
Overall	**0.42 (0.54)**	**A (B)**	**0.51 (0.67)**	**B (B)**	**0.53 (0.68)**	**B (B)**

Notes:
1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour).

Yorkland Road / Heron's Hill Way / Private Driveway

The intersection of Yorkland Road / Heron's Hill Way / Private Driveway operates under traffic signal control with a cycle length of 144 seconds in both the weekday morning and afternoon peak hours. The results of the traffic analysis for this intersection are summarized in **Table 33**.

Under existing conditions, the intersection operates well at overall v/c of 0.41 and 0.34 during the weekday morning and afternoon peak hours, respectively.

Under future background conditions, the intersection continues to operate well at overall v/c of 0.43 and 0.45 during the weekday morning and afternoon peak hours, respectively.

With the addition of site-generated impact under future total conditions, the intersection will operate well at overall v/c of 0.45 and 0.49 during the weekday morning and afternoon peak hours, respectively.

No intersection improvements or mitigation measures are recommended at Yorkland Road / Heron's Hill Way / Private Driveway.

TABLE 33 YORKLAND ROAD / HERON'S HILL WAY / PRIVATE DRIVEWAY STREET TRAFFIC OPERATIONS SUMMARY

Movement	Existing Traffic Conditions		Future Background Traffic Conditions		Future Total Traffic Conditions	
	V/C	LOS	V/C	LOS	V/C	LOS
EBL	0.10 (0.46)	D (D)	0.10 (0.46)	D (D)	0.12 (0.47)	D (E)
EBTR	0.08 (0.74)	D (E)	0.08 (0.74)	D (E)	0.08 (0.74)	D (E)
WBL	0.35 (0.13)	D (D)	0.35 (0.13)	D (D)	0.35 (0.13)	D (D)
WBTR	0.19 (0.09)	D (D)	0.18 (0.09)	D (D)	0.20 (0.10)	D (D)
NBLTR	0.20 (0.25)	A (A)	0.25 (0.38)	A (A)	0.26 (0.38)	A (A)
SBLT	0.42 (0.25)	B (A)	0.45 (0.37)	A (A)	0.48 (0.44)	A (A)
SBR	0.17 (0.05)	B (A)	0.17 (0.05)	A (A)	0.17 (0.06)	A (A)
Overall	**0.41 (0.34)**	**B (C)**	**0.43 (0.45)**	**B (B)**	**0.45 (0.49)**	**B (B)**

Notes:
1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour).

10.2.4.2 Unsignalized Intersections Operations

The results of the traffic analysis for the study area unsignalized intersections are summarized in **Table 34**.

All unsignalized intersections including the site access within the study area aside from Yorkland Road / Yorkland Boulevard / Private Driveway operate well at LOS B or better in all scenarios. No improvements or mitigation measures are recommended for any unsignalized intersections.

During future scenarios, the intersection of Yorkland Road / Yorkland Boulevard / Private Driveway operates at LOS F in the weekday afternoon peak hour. However, no site traffic is assumed to travel southwards on

Yorkland Road due to the ease of access onto the main area road network via Yorkland Road north of Heron's Hill Way and Heron's Hill Way itself. Consequently, the traffic operational issues at this intersection will occur regardless of the site's development. Reasonable mitigation measures would include converting the intersection into an all-way "STOP" control or a signalized intersection in the future. Traffic operations should continue to be monitored at this intersection regardless of this application.

TABLE 34 UNSIGNALIZED INTERSECTION TRAFFIC OPERATIONS SUMMARY

Movement	Existing Traffic Conditions		Future Background Traffic Conditions		Future Total Traffic Conditions	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
Existing Site Access / Private Driveway / Heron's Hill Way[3]						
EBLTR / EBLT	0.7 (2.5)	A (A)	0.7 (2.5)	A (A)	0.7 (2.4)	A (A)
WBLTR / WBTR	0.4 (0.5)	A (A)	0.4 (0.5)	A (A)	-- (--)	-- (--)
NBLTR / --	0.0 (10.5)	A (B)	0.0 (10.5)	A (B)	-- (--)	-- (--)
SBLTR / SBLR	0.0 (12.8)	A (B)	0.0 (12.8)	A (B)	0.0 (12.2)	A (B)
Heron's Hill Way / Private Driveway						
SBLR	12.4 (10.3)	B (B)	12.4 (10.3)	B (B)	13.2 (10.6)	B (B)
Yorkland Road / Yorkland Boulevard / Private Driveway						
EBLTR[2]	0.0 (33.2)	A (D)	0.0 (Err)	A (F)	0.0 (Err)	A (F)
WBLT	23.0 (28.0)	C (D)	33.0 (243.7)	D (F)	32.8 (244.3)	D (F)
NBLTR	0.6 (0.1)	A (A)	0.6 (0.1)	A (A)	0.6 (0.1)	A (A)
SBLT	3.4 (4.0)	A (A)	4.4 (7.5)	A (A)	4.4 (7.5)	A (A)
Proposed New Local Road / Heron's Hill Way						
WBLT	-- (--)	-- (--)	-- (--)	-- (--)	0.4 (1.6)	A (A)
NBLR	-- (--)	-- (--)	-- (--)	-- (--)	10.8 (10.9)	B (B)
Proposed New Local Road / Future Site Access						
EBLR	-- (--)	-- (--)	-- (--)	-- (--)	8.9 (8.9)	A (A)

Notes:
1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour).
2. "Err" = "Error". Delays were not calculated in the Synchro model. However, the movements displayed LOS F.
3. The existing site access will be removed in the future total scenario.

10.3 CONSUMERSNEXT TMP SENSITIVITY ANALYSIS

10.3.1 Overview

Two scenarios projecting future traffic volumes were summarized in the ConsumersNext TMP:

1. The first set of volumes represented a “Pre-LRT” scenario, whereby development yield was deliberately constrained to a point where individual turning movement volume-to-capacity ratios at signalized intersections did not exceed a value of 1.10. On this basis, the TMP suggested a reduced allowable development yield for the ConsumersNext area, prior to the construction of the Sheppard LRT.
2. The second set of volumes represented a “Post-LRT” scenario and considered full development of the preferred option for the ConsumersNext area. For the purposes of a sensitivity analysis, an assessment has been undertaken based on the TMP’s “Pre-LRT” scenario volumes, but with the added assumption that the subject site is fully built out.

10.3.2 Scope

Analysis was conducted during the weekday morning and afternoon peak hours for the TMP’s Pre-LRT scenario, but with the added assumption that the subject site is fully built out. Intersections included within the analysis are based on the overlap between the site’s study area and the TMP’s study area and are listed in **Table 35**.

TABLE 35 FUTURE INTERSECTIONS WITHIN STUDY AREA

Intersection	Future Traffic Control
Sheppard Avenue East / Heron’s Hill Way	Signalized
Sheppard Avenue East / Yorkland Road / Highway 404 Ramps	

10.3.3 Analysis Methodology

Traffic operations analyses have been undertaken at the area intersections listed above using standard capacity analysis procedures previously discussed in **Section 10.2.1**. As previously noted, the ConsumersNext TMP established a reasonable capacity threshold of 1.10 volume-to-capacity ratio to establish the allowable development yield. As such, the 1.10 acceptable capacity threshold has been maintained for evaluation purposes for the sensitivity analysis.

Sensitivity analysis considers two scenarios:

- Pre-LRT future total volumes (i.e. base volumes); and
- Pre-LRT future total volumes plus additional site volumes as compared to the Pre-LRT scenario.

10.3.4 Network-Wide Parameters and Model Calibration

The parameters as described in **Section 10.2.2** are used in the Synchro models in this exercise except for those outlined in Attachment A of Appendix D of the TMP. Those parameters are attached in **Appendix L**.

10.3.5 Traffic Volumes

10.3.5.1 Base Volumes

The Pre-LRT future total volumes as outlined in the TMP have been adopted as base volumes. These volumes are illustrated in **Figure 18**.

10.3.5.2 Additional Site Volumes

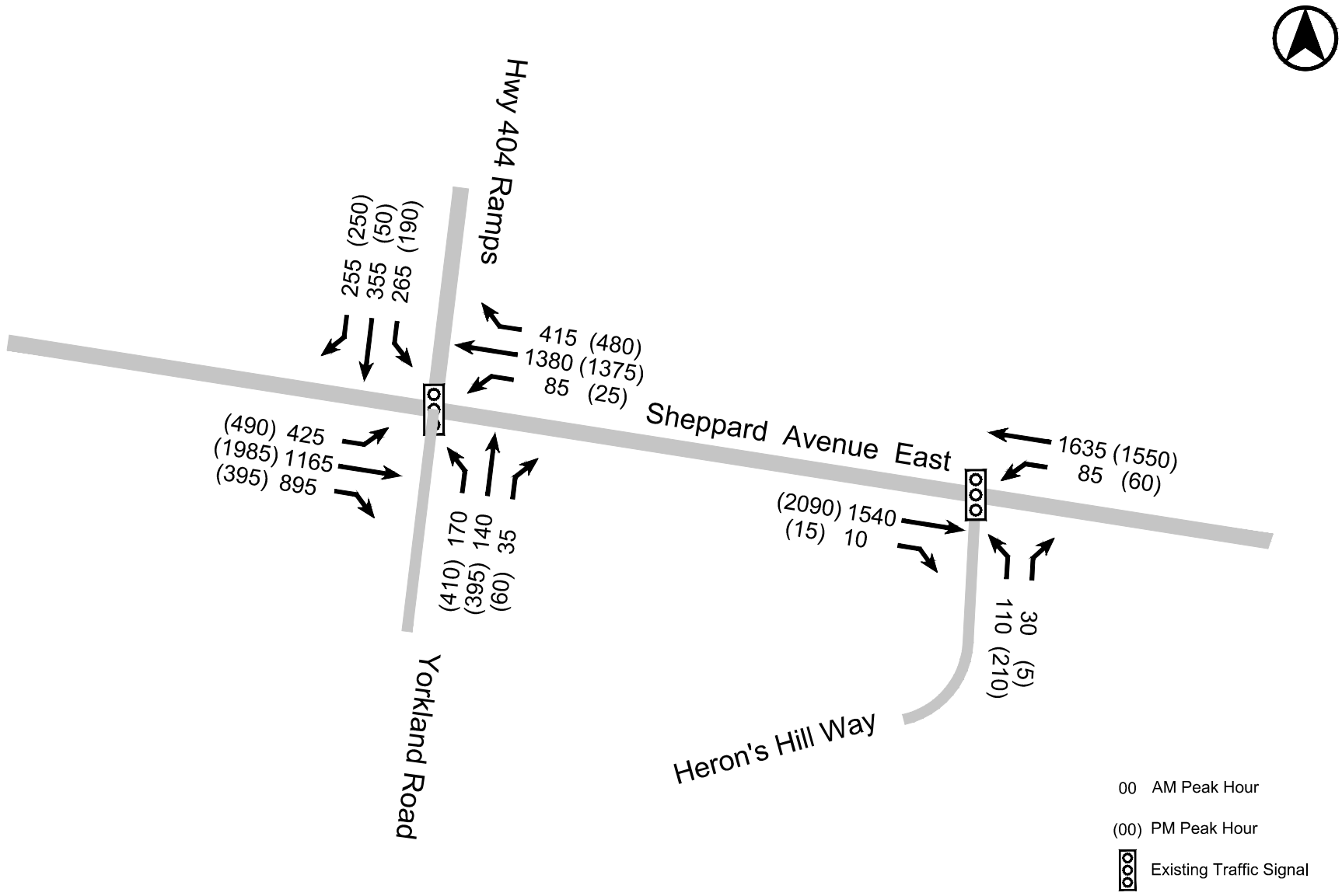
Projected additional site volumes associated with the full build-out of the site when compared with the Pre-LRT scenario were calculated based on a number of assumptions and calculations in accordance with the methodologies outlined in the TMP. Detailed calculations are provided in **Appendix M**.

10.3.5.3 Distribution of Additional Site Volumes

Adopted distributions for the additional site volumes were consistent with those outlined in **Section 10.1.4**. The resultant additional site volumes are shown graphically in **Figure 19**.

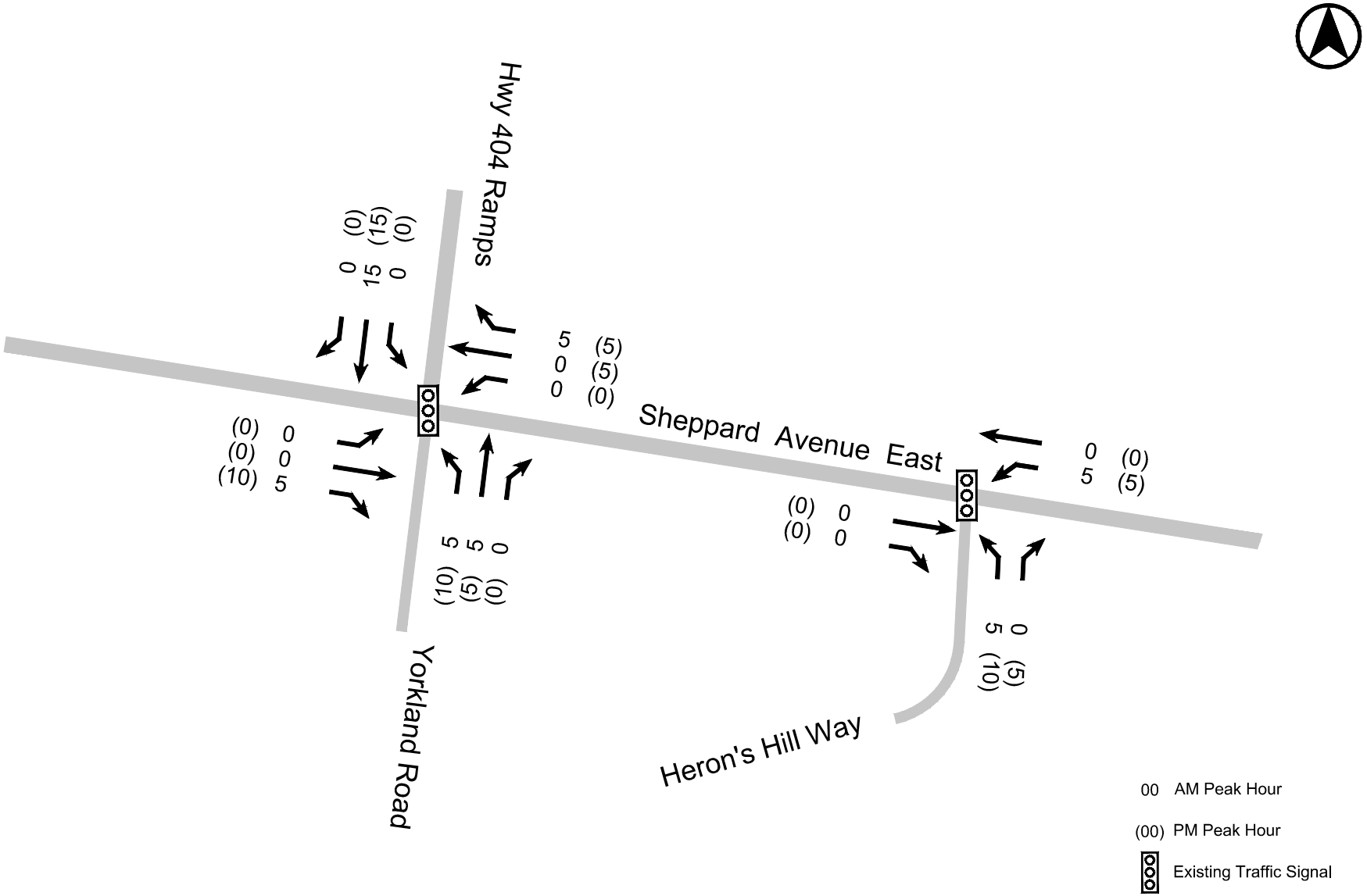
10.3.5.4 Base Plus Additional Site Volumes

Base plus additional site volumes (the addition of the base volumes (**Figure 18**) and the additional site volumes (**Figure 19**) are shown in **Figure 20**.



Date Plotted: March 24, 2020 Filename: P:\74\88108\Graphics\CAD\Fig18-00-BaseVolumes.dwg

FIGURE 18 TMP SENSITIVITY ANALYSIS BASE (PRE-LRT) TRAFFIC VOLUMES



Date Plotted: March 24, 2020 Filename: P:\74\88\08\Graphics\CAD\Fig19-00-AdditionalSiteVol.dwg

FIGURE 19 TMP SENSITIVITY ANALYSIS ADDITIONAL SITE TRAFFIC VOLUMES

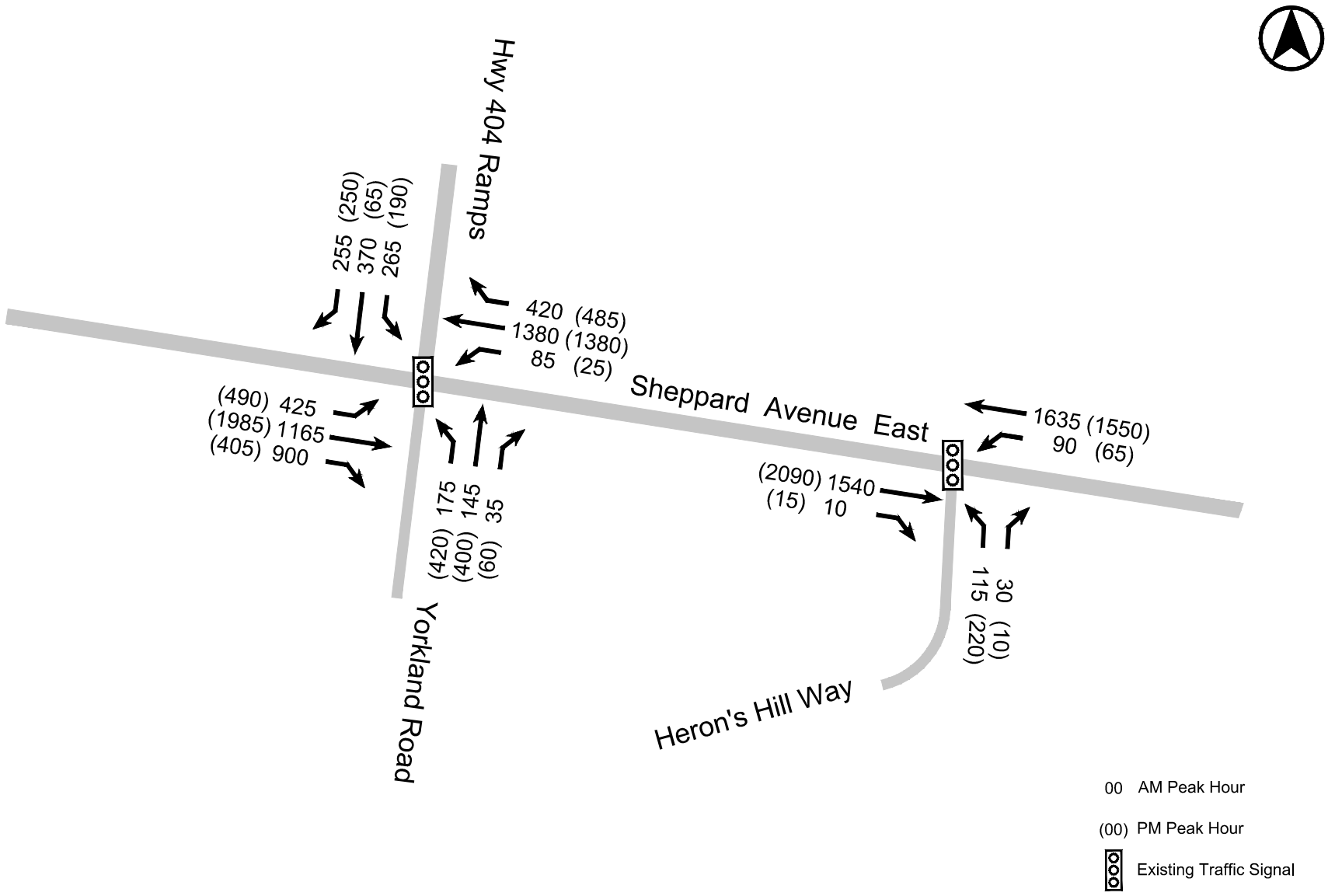


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FIGURE 20 TMP SENSITIVITY ANALYSIS BASE TRAFFIC VOLUMES PLUS ADDITIONAL SITE TRAFFIC VOLUMES

10.3.6 Traffic Operations

10.3.6.1 Overview

The results of the TMP sensitivity analysis are outlined in **Table 36** for intersections within the scope of this exercise. The Synchro reports are provided in **Appendix N**.

For comparison purposes, results for both the Base Volumes scenario and the Base Plus Additional Site Volumes scenario were provided.

In reviewing the results, it should be noted that while efforts were made to remain as consistent as possible with the TMP Synchro analysis, a number of assumptions were required to be made in relation to various inputs, including (but not limited to) heavy vehicle percentages, conflicting bicycle volumes, pedestrian crossing volumes, peak hour factors and signal timings. In this respect, the results of the TMP Pre-LRT scenario will not align exactly with those reported in the TMP. In any case, the results are generally consistent and can be considered to provide insight into the impacts of the additional site volumes associated with the subject site being fully built-out.

It should also be noted that the TMP sensitivity analysis represents a different scenario to that of the analysis outlined in **Section 10.2**. Key differences to note include (but are not limited to):

- The TMP sensitivity analysis assumes full build-out of the ConsumersNext road network, while the analysis outlined in **Section 10.2** assumes only the road network within the subject site is built out.
- The TMP sensitivity analysis assumes development of the ConsumersNext area up to the TMP suggested reduced allowable development yield associated with the “Pre-LRT” scenario, while the analysis outlined in **Section 10.2** assumes full development of the subject site and other area development.
- The two analyses are based on different sets of existing volumes.

In this respect, while intersection operations remain generally consistent with the analysis outlined in **Section 10.2**, it should be noted that the analyses represent different scenarios and are not going to yield the exact same results.

10.3.6.2 Analysis Summary

Based on the analysis, it is considered that the subject site could be fully built-out and result in minimal impact when compared with the Pre-LRT (i.e. Base Volumes) scenario.

Consistent with the TMP requirement to maintain individual turning movement volume-to-capacity ratios at signalized intersections of no more than 1.10 for the Pre-LRT scenario, all movements within the Base Plus Additional Site Volumes scenario remain within this threshold. However, all movements under both scenarios will operate at v/c of less than 1.00.

Furthermore, the additional site volumes have minimal impact on the operation of the intersections when compared with the Pre-LRT (i.e. Base Volumes) scenario.

TABLE 36 TMP SENSITIVITY TRAFFIC OPERATIONS SUMMARY

Movement	Base Pre-LRT		Base Pre-LRT Plus Additional Site	
	V/C	LOS	V/C	LOS
Sheppard Avenue East / Yorkland Road / Highway 404 Ramps				
EBL	0.88 (0.88)	E (D)	0.88 (0.88)	E (D)
EBT	0.46 (0.86)	C (D)	0.46 (0.87)	C (D)
EBR	0.63 (0.28)	A (A)	0.63 (0.29)	A (A)
WBL	0.66 (0.58)[2]	E (F)	0.67 (0.58)[2]	E (F)
WBT	0.93 (0.99)	E (E)	0.95 (0.99)	E (E)
WBR	0.44 (0.75)	C (D)	0.45 (0.75)	C (D)
NBL	0.82 (0.80)	F (E)	0.84 (0.82)	F (E)
NBLT	0.77 (0.97)	E (F)	0.79 (0.98)	E (F)
NBR	0.02 (0.04)	E (D)	0.02 (0.04)	E (D)
SBL	0.68 (0.44)	E (D)	0.66 (0.45)	D (D)
SBLT	0.95 (0.41)	F (D)	0.96 (0.43)	F (D)
SBR	0.18 (0.17)	A (A)	0.18 (0.17)	A (A)
Overall	**0.91 (0.90)**	**D (D)**	**0.92 (0.90)**	**D (D)**
Sheppard Avenue East / Heron's Hill Way				
EBTR	0.45 (0.70)	A (B)	0.45 (0.81)	A (B)
WBL	0.56 (0.96)	C (F)	0.59 (0.41)	C (B)
WBT	0.47 (0.52)	A (A)	0.48 (0.51)	A (A)
NBL	0.38 (0.57)	D (C)	0.39 (0.59)	D (C)
NBR	0.03 (0.01)	D (C)	0.03 (0.01)	D (C)
Overall	**0.52 (0.85)**	**A (B)**	**0.55 (0.73)**	**A (B)**

Notes:
1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour).
2. Delays of LOS F (i.e. greater than 80 seconds) are characteristic of busy urban intersections, especially given that this intersection is formed in conjunction with the Highway 404 ramps. The intersection's cycle timing splits have been optimized to serve all movements. It is noteworthy that the intersection's cycle length is 144 seconds, while only 25 westbound left turning vehicles complete the movement during the weekday afternoon peak hour when delays are projected to be above 80 seconds.

10.4 MINISTRY OF TRANSPORTATION OF ONTARIO (MTO) CONSIDERATIONS

As part of the traffic analysis work contained herein, site-generated vehicular traffic volumes have been distributed to (and from) Highway 404 via the Sheppard Avenue East / Yorkland Road / Highway 404 Northbound On/Ramp intersection. The traffic volumes that access the on-ramp or exit the off-ramp (SBL, SBT, SBR, EBL, NBT, and WBR) have been compared to the existing traffic volumes making the corresponding turning movements.

In total, existing traffic volumes for the intersection that access the on-ramp or exit the off-ramp are 1,850 during the morning peak hour and 1,765 during the afternoon peak hour. In comparison, the site is adding 30 vehicles to these turning movements during morning peak hour (1.6% increase) and 25 vehicles during afternoon peak hour (1.4% increase). Notably, 20 vehicles and 25 vehicles are being added to the southbound through movement during morning and afternoon peak hours, respectively.

In summary, the vehicular site traffic generated and distributed by the site will have a negligible impact on the Sheppard Avenue East / Yorkland Boulevard / Highway 404 Northbound On/Ramp intersection.

10.4.1 ConsumersNext TMP Sensitivity Analysis Scenario

A similar comparison has been made to the “base volumes” included in the ConsumersNext TMP “Pre-LRT” scenario, as referenced in **Section 10.3**.

“TMP Base” volumes for the intersection that access the on-ramp or exit the off-ramp are 1,855 during the morning peak hour and 1,855 during the afternoon peak hour. In comparison, the site is adding 25 vehicles to these turning movements (in addition to the “TMP Base” volumes) during morning peak hour (1.3% increase) and 25 vehicles during afternoon peak hour (1.3% increase). Notably, 15 vehicles and 15 vehicles are being added to the southbound through movement during morning and afternoon peak hours, respectively.

Similarly, under the ConsumersNext TMP Sensitivity Analysis scenario, the vehicular site traffic generated and distributed by the site will have a negligible impact on the Sheppard Avenue East / Yorkland Boulevard / Highway 404 Northbound On/Ramp intersection.

11.0 SUMMARY AND CONCLUSIONS

BA Group has been retained by Paradise Developments Heron's Hill Inc. to provide urban transportation consulting services in relation to a proposed mixed-use development to be located at the property with a municipal address of 1 Heron's Hill Way in the City of Toronto (the "site").

11.1 KEY FINDINGS

Policy & Planning Context

1. The ConsumersNext Secondary Plan, passed in 2018 and remaining under appeal, sets the general development context for the area currently known as the Consumers Road Business Park. The Secondary Plan emphasizes multi-modal transportation as part of its "Vision and Guiding Principles" partially due to the future construction of higher order transit; this is referred to as "the new identity for the area."

2. In support of the Secondary Plan, the ConsumersNext Transportation Master Plan (the "TMP"), dated May 2017, was published in support. Notable elements of the TMP included a proposal for a more fulsome public street network, the fostering of a pedestrian-oriented environment, a proposed improved cycling network, and an indication that minimum parking requirements may be introduced for development projects in conjunction with the implementation of a transportation demand management (i.e. "TDM") strategies.

Transportation Context

3. The Site is well located relative to the significant roadway connections provided across the City and the GTA (i.e. Highway 404, Highway 401, and Don Valley Parkway).

4. As part of the proposed enhanced public street network proposed in the TMP, planned street connections are illustrated directly adjacent to the site, to its east.

5. The site is located approximately 700 metres from Don Mills Station, the eastern terminus of TTC Subway Line 4 (Sheppard). Further, it is located in close proximity (approximately 140 metres) to several bus routes that run along Sheppard Avenue East, Yorkland Boulevard, Consumers Road, Victoria Park Avenue, Pharmacy Avenue, and Huntingwood Drive – connecting the site to higher order transit (e.g. Subway Lines 1, 3, and 4).

6. Sheppard Avenue East (east of Don Mills Station) has been earmarked for rapid transit expansion for some time although no current plans exist and no funding is tied to the project. As a result, the effects of the Sheppard East LRT and/or Sheppard Subway Extension are not comprehensively analyzed in this report.

7. The site is located in proximity to a variety of cycling routing facilities that provide far reach within the City of Toronto. Included among these facilities are Middle and Upper Don Trail, and the Shaughnessy Boulevard bike lanes.

8. Significantly improved cycling infrastructure is planned in the local area in the Cycling Network Ten Year Plan and the ConsumersNext TMP. The former includes routes identified for study including Brian Drive, Old Sheppard Avenue, and Huntingwood Drive. The latter identifies Yorkland Boulevard, Consumers Road, and Settlers Road as “bike lanes / cycle tracks”, and a trail along Highway 404 and Highway 401.

9. Generally, the pedestrian experience in the ConsumersNext area is hindered by the relatively large size of the city blocks and the vehicle-oriented design of the local network. However, in the immediate vicinity of the site, signalized intersections are spaced approximately 150 – 250 metres apart which are relatively short distances in comparison to the remainder of the ConsumersNext area, affording crossing opportunities without large gaps. Further, all roads in the immediate vicinity of the site have continuous and connected sidewalks, with curb ramps at intersections.

10. Within a 500-metre radius of the site, there are 2 car-share vehicles (1 ZipCar and 1 Enterprise CarShare) located within walking distance to the site that are available to be used on demand by site residents, employees, and visitors. There are no Bike Share Toronto stations located within walking distance of the site.

11. Notably, a free shuttle bus runs between Don Mills Subway Station, 200 Yorkland Boulevard, 235 Yorkland Boulevard, and 2001 and 2005 Sheppard Avenue East. Known as the Consumers Road Corporate Shuttle, the service provides commuters to and from the Consumers Road Business Park with convenient access to higher order transit (i.e. Subway Line 4). The 2001 and 2005 Sheppard Avenue East scheduled stop is located within 250 metres of the site.

Existing Site

12. The development site is occupied by a single, standalone officel building located on the west side of the site. The existing building is two storeys in height and has a gross floor area (GFA) of 2,227 m^2. Additionally, a surface parking lot and greenspace encompasses the remainder of the space within the boundaries of the site. The existing surface parking lot contains 48 parking spaces that support the aforementioned office building.

Development Programme

13. The concept development plan for the site envisions a mixed-use development that includes office and residential uses, as well as the provision for a privately-operated public space (POPS), all of which will be integrated with the existing office building on the west side of the site. The new uses will replace the existing surface parking lot in the centre of the site and the vacant greenspace on the east side of the site.

14. The proposed building is to consist of 350 residential dwelling units, a 4-story podium element consisting of above-grade parking and 292 m^2 of office use at grade, as well as 327 parking spaces with 1-storey below grade parking.

15. Notable elements of the site plan include the inclusion of a portion of a new public road within the eastern end of the site (included to facilitate the development of the proposed ConsumersNext TMP road network), a single driveway access from the new public road, two lay-by (i.e. pick-up and drop-off) spaces located on Heron’s Hill Way, and the provision of bicycle parking.

Transportation Demand Management Plan

16. Transportation demand management (TDM) measures are incorporated into the development plan to minimize the need for vehicle travel to and from the site and encourage and facilitate use of transit and active transportation modes. TDM reduces auto use and encourages alternative modes to better balance mobility. Primary objectives of the TDM Plan contained herein include:
    - reducing demand on road infrastructure, thereby minimizing road and parking capital expenditures;
    - increasing travel efficiency;
    - reducing emissions that cause climate change;
    - improving air quality; and
    - improving overall health.

17. Notable measures included within the TDM Plan include a reduced vehicular parking supply (in relation to minimum parking requirements), the provision of an on-site car-share vehicle, carpool parking (for the office component), pre-loaded PRESTO cards, inclusion of the site as part of the Consumers Road Corporate Shuttle, the provision of the new public road to increase mid-block connections, the provision of bicycle parking, and coordination, communication, and promotion of the TDM Plan.

Site Plan Review – Parking

18. It is proposed to supply parking on-site to replace the existing office parking supply and to otherwise meet the minimum parking requirements of Zoning By-law 569-2013, Policy Area 3 which are lower than the requirements of the applicable Site-specific By-law 295-2010. Through the application of Zoning By-law 569-2013 sharing provisions, the application of Policy Area 3 results in a minimum parking requirement of 327 parking spaces. 276 parking spaces are required for residents and 51 parking spaces are required for the shared use of residential visitors and office employees/visitors.

19. The proposed resident parking supply is determined to be appropriate based on area transportation infrastructure and transportation planning context, existing area transportation behaviour, the comprehensive transportation demand management plan proposed for the site, observed parking demand at proxy sites being lower than what is proposed at the site, observed decline in residential parking demand over time, and recently approved resident parking supply ratio reductions for buildings in similar context.

20. The proposed non-resident parking supply is determined to be appropriate based on a parking utilization survey conducted at the existing site that determined that the parking demand associated with the existing office building – that will remain – will be approximately half of the non-residential parking supply and further, office parking demand is low in the evenings which will be when residential visitor parking will peak, validating the theory behind the sharing provisions of Zoning By-law 569-2013.

Site Plan Review – Bicycle Parking

21. The proposed bicycle parking supply is 281 bicycle parking spaces which meets and exceeds the requirements of Zoning By-law 569-2013 and the TGS, not withstanding that the existing applicable zoning requirements do not require bicycle parking. Of this total, it is proposed to provide 238 spaces for long-term residential, 25 spaces for short-term residential, maintaining the existing office supply of 13 spaces, and providing 5 bicycle parking spaces for the proposed office use.

Site Plan Review – Loading

22. It is proposed to provide 1 Type G loading space and to allocate 2 parking spaces to contractor and courier use. The proposed loading supply meets the practical needs of the proposed building (and existing building), and meets the requirements of Zoning By-law 569-2013, which we believe to be more representative of contemporary loading needs (i.e. the size of a City of Toronto garbage truck) than former North York Zoning By-law 7625.

Multi-Modal Travel Demand Forecasting

23. Travel demand to and from the Site has been developed for the development's residential use, using a person-trip generation methodology by applying modal split to person trip rates as derived from area proxy sites. The proposed development is forecast to result in approximately 180 and 170 two-way residential person trips in the weekday morning and afternoon peak hours respectively.

24. Travel demand to and from the site for the office component is primarily based upon observed site traffic, given that the majority of the office GFA that will be included on the site will be comprised of the existing office building. This analysis was supplemented by a person-trip generation methodology by applying modal split to person trip rates as derived from area proxy sites. The proposed development is forecast to result in approximately 15 and 25 two-way office person trips in the weekday morning and afternoon peak hours respectively.

25. In total, 195 and 195 two-way person trips are forecasted for the proposed development during the weekday morning and afternoon peak hours, respectively. 100 two-way vehicle trips are anticipated during the weekday morning peak hour, and 110 two-way vehicle trips are anticipated during the weekday afternoon peak hour.

Multi-Modal Transportation Assessment

26. The site is well served by transit infrastructure, and will benefit from the extent of local transit routes servicing the site and ongoing planned investments in area transit infrastructure.

27. Approximately 65 and 70 two-way transit trips are projected during the morning and afternoon peak hours, respectively.

28. Generally, there is a lack of cycling infrastructure in the immediate vicinity of the Consumers Road Business Park area although a significant amount of on- and off-street cycling infrastructure is planned within the Cycling Network Plan (2019) and the ConsumersNext TMP.

29. Approximately 0 and 5 two-way cycling trips are projected during the morning and afternoon peak hours, respectively.

30. In the immediate vicinity of the site, signalized intersections are spaced approximately 150 – 250 metres apart which are relatively short distances in comparison to the remainder of the ConsumersNext area, affording crossing opportunities without large gaps.

31. Approximately 20 and 15 two-way pedestrian trips are projected during the morning and afternoon peak hours, respectively.

Vehicle Traffic Volumes

32. A total of 100 and 110 two-way vehicle site trips are expected in the weekday morning and afternoon peak hours, respectively. Of this, there are
    a. 5 and 15 two-way existing (i.e. office) site trips during the weekday morning and afternoon peak hours;
    b. 90 two-way new residential site trips during both peak hours;
    c. And 5 two-way new office site trips during both peak hours.

Vehicle Traffic Operations

33. With the addition of site-generated impact under future total conditions, the Sheppard Avenue East / Yorkland Road / Highway 404 Ramps intersection will continue to operate well in the weekday morning peak hour and operate over-capacity in the weekday afternoon peak hour at overall v/c of 0.92 and 1.03, respectively. Overall, the individual impact of the proposed development on the operation of this intersection is considered to be minimal and the over-capacity conditions in the weekday afternoon peak hour are expected regardless of any development on the site given that the future background (i.e. without consideration of the site) conditions operate over-capacity at overall v/c of 1.02. Consideration was given to an intersection configuration that would allow the removal of the current split phasing which is in operation for the northbound and southbound approaches. With these improvements, the intersection will operate well at overall v/c of 0.88 and 0.91 during the weekday morning and afternoon peak hours, respectively. It is recommended that the operation of the intersection be monitored moving forward.

34. With the addition of site-generated impact under future total conditions, the Sheppard Avenue East / Heron's Hill Way intersection will operate well at overall v/c of 0.53 and 0.68 during the weekday morning and afternoon peak hours, respectively. No intersection improvements or mitigation measures are recommended.

35. With the addition of site-generated impact under future total conditions, the Yorkland Road / Heron's Hill Way / Private Driveway intersection will operate well at overall v/c of 0.45 and 0.49 during the weekday morning and afternoon peak hours, respectively. No intersection improvements or mitigation measures are recommended.

36. All unsignalized intersections including the site access within the study area aside from Yorkland Road / Yorkland Boulevard / Private Driveway operate well at LOS B or better in all scenarios. No improvements or mitigation measures are recommended for any unsignalized intersections.

37. During future scenarios, the intersection of Yorkland Road / Yorkland Boulevard / Private Driveway operates at LOS F in the weekday afternoon peak hour. However, no site traffic is assumed to travel southwards on Yorkland Road due to the ease of access onto the main area road network via Yorkland Road north of Heron's Hill Way and Heron's Hill Way itself. Consequently, the traffic operational issues at this intersection will occur regardless of the site's development. Reasonable mitigation measures would include converting the intersection into an all-way "STOP" control or a signalized intersection in the future. Traffic operations should continue to be monitored at this intersection regardless of this application.

ConsumersNext TMP Sensitivity Analysis

38. All intersections and their movements analyzed in the scope of the sensitivity analysis will operate at v/c of less than 1.00. Furthermore, the additional site volumes have minimal impact on the operation of the intersections when compared with the Pre-LRT (i.e. Base Volumes) scenario.

APPENDIX A:
Site-specific By-law 295-2010

CITY OF TORONTO

BY-LAW No. 295-2010(OMB)

To amend the former City of North York Zoning By-law No. 7625 with respect to lands municipally known as 2025, 2035 and 2045 Sheppard Avenue East.

WHEREAS the Ontario Municipal Board, deems it advisable to amend the former City of North York Zoning By-law No. 7625, with respect to certain lands municipally known as 2025, 2035 and 2045 Sheppard Avenue East;

THEREFORE pursuant to the Orders of the Ontario Municipal Board issued on October 12, 2004, November 20, 2007 and January 28, 2009, in Board File No. PL030692, By-law No. 7625, of the former City of North York, is amended as follows:

1. Schedules "B" and "C" of By-law No. 7625 of the former City of North York are amended in accordance with Schedule 1 of this by-law.

2. Section 64 of By-law No. 7625 of the former City of North York is amended by adding the following subsection:

"**64.23 (127) C1(127)**

DEFINITIONS

(a) For the purpose of this exception, "gross floor area" shall mean the aggregate of the areas of each floor, measured between the exterior faces of the exterior walls of the building or structure at the level of each floor, but excluding:

(i) any part of the building used as mechanical floor area;

(ii) any area used for motor vehicle access or parking, including that contained within an above-grade parking structure;

(iii) any area used for loading or truck circulation, including that contained within an above-grade structure;

(iv) enclosed locker storage areas, above or below grade;

(v) any part of the building used for bicycle storage space:

(vi) the floor area of unenclosed residential balconies; and

(vii) private recreational amenity area, to a maximum of 1.5 m^2 per dwelling unit.

(b) For the purpose of this exception, "mechanical floor area" shall mean the floor area within a building that is used exclusively for the accommodation of mechanical equipment necessary to physically operate the building such as heating, ventilation, air conditioning, electrical, telephone, plumbing, fire protection and elevator equipment.

(c) For the purpose of this exception, "established grade" shall mean 178.70 metres Canadian Geodetic Datum.

(d) For the purposes of this exception, "apartment house dwellings" shall mean a building containing more than four (4) dwelling units, each having access either from an interior corridor system or direct access at grade, or any combination thereof.

PERMITTED USES

(e) On lands identified as Parcel 1 on Schedule C1(127), the only permitted uses shall be:

(i) Residential: apartment house dwellings, multiple attached dwellings, a day nursery within an apartment house dwelling, and accessory uses including recreational amenity areas;

(ii) Commercial: automatic laundry shops, banks, business and professional offices, clubs, commercial galleries, commercial schools, dry-cleaning and laundry collecting establishments, financial institutions, fitness centres, personal service shops, professional medical offices, retail stores, sales offices, service shops, showrooms, studios, synthetic dry-cleaning establishments, and restaurants (including accessory outdoor cafe).

(f) On Parcel 2, the only permitted uses shall be:

(i) Commercial: adult education schools, automatic laundry shops, banks, banquet halls, business and professional offices, car rental agencies, clubs, colleges, commercial galleries, commercial schools, communications and broadcasting, community centres, custom workshops, day nurseries, dry-cleaning and laundry collecting establishments, financial institutions, fitness centres, health science research laboratories, information processing, laundries, parking lots, personal service shops, professional medical offices, places of worship, public libraries, research laboratories, retail stores, sales offices, service shops, studios, synthetic dry-cleaning establishments, restaurants (including accessory outdoor cafe), showrooms, and take-out restaurants.

EXCEPTION REGULATIONS

GROSS FLOOR AREA

(g) The maximum gross floor area for all uses shall be 93,814 m^2.

(h) The maximum gross floor area for all uses on the lands identified as Parcel 1 on Schedule C1(127) shall be 85,074 m^2.

(i) The maximum gross floor area for all uses on the lands identified as Parcel 2 on Schedule C1(127) shall be 10,000 m^2.

DWELLING UNITS

(j) The maximum number of dwelling units shall be 1,070.

(k) The provisions of Section 23.2.4.2 for unit size shall not apply.

HEIGHT

(l) The maximum number of storeys above established grade and the maximum building height for all buildings on the lands identified as Parcel 1 shall be as shown on Schedule C1(127). For the purposes of this paragraph, "building height" shall have the same meaning as defined in Section 2.10.

For the purposes of this section, the definitions of "building height" and "storey" shall have the same meaning as defined in Sections 2.10 and 2.77, respectively, with the exception that mechanical penthouses, roof access enclosures, rooftop recreational structures, and storage rooms for rooftop recreational furniture and equipment, shall be excluded.

(m) The maximum building height for all buildings on the lands identified as Parcel 2 on Schedule C1(127) shall be 6 storeys and a maximum of 25 metres.

(n) The provisions of Section 23.2.4.3 for maximum building height for commercial buildings with dwellings above the first floor shall not apply.

YARD SETBACKS

(o) The minimum yard setbacks for all buildings and structures above-grade on the lands identified as Parcel 1 shall be as shown on Schedule C1(127); where there is no minimum yard setback indicated on Schedule C1(127), the minimum yard setback shall be 0 metres.

(p) The minimum yard setbacks shown on Schedule C1(127) shall not apply to balconies, canopies, exterior stairways, wheelchair ramps and decks.

(q) The minimum yard setbacks for all buildings and structures above-grade on the lands identified as Parcel 2 on Schedule C1 (127) shall be:

(i) north – 0 metres;

(ii) south – 7.5 metres, except for a screen wall, which shall be set back a minimum of 1.0 metre;

(iii) west – 3.0 metres; and

(iv) east – 7.5 metres.

(r) The maximum yard setbacks for all buildings and structures above-grade on the lands identified as Parcel 2 on Schedule C1 (127) shall be:

(i) north – 3.0 metres; and

(ii) west – 9.0 metres.

(s) The minimum yard setbacks for below-grade structures shall be 0 metres.

(t) The provisions of Section 23.2.2.1 for setback from the centerline of the road allowance shall not apply.

DISTANCE BETWEEN BUILDINGS

(u) The minimum separation distances between buildings on the lands identified as Parcel 1 shall be as shown on Schedule C1(127).

(v) The minimum separation distances between buildings shown on Schedule C1(127) shall not apply to balconies, canopies, exterior stairways, wheelchair ramps and decks.

LANDSCAPING

(w) The provisions of Section 15.8 for landscaping shall not apply.

LOT COVERAGE

(x) The provisions of Sections 20.2.2 and 23.2.1 for lot coverage shall not apply.

LOT AREA

(y) The provisions of Section 23.2.4.1 for lot area shall not apply.

LOT FRONTAGE

(z) The provisions of Section 20.2.3 for lot frontage shall not apply.

PARKING

(aa) Parking spaces shall be provided in accordance with the following:

(i) a minimum of 1.2 parking spaces per dwelling unit and a maximum of 1.4 parking spaces per dwelling unit, of which a minimum of 0.2 parking spaces per dwelling unit shall be for visitor use;

(ii) a minimum of one parking space per 48 m^2 of office uses;

(iii) a minimum of one parking space per 56 m^2 of retail/service commercial uses (based upon the sharing of half of the normal by-law requirements with the required visitors parking);

PRIVATE RECREATIONAL AMENITY AREA

(bb) Private recreational amenity area shall be provided in accordance with the following:

(i) a minimum of 1.5 m^2 of indoor private recreational amenity area per dwelling unit.

LOCKER SPACE

(cc) A minimum of one locker with a minimum area of 1.4 m^2 shall be provided for each dwelling unit.

DIVISION OF LANDS

(dd) Notwithstanding any severance or division of the lands subject to this exception, the regulations of this exception shall continue to apply to the whole of the lands as if it remained one lot.

SECTION 37 AGREEMENT

(ee) The owner of the lands zoned C1(127) shall enter into an agreement with the City of Toronto, pursuant to Section 37 of the *Planning Act*, R.S.O. 1990, to secure the following general facilities, services or matters on the specific terms set out in said agreement:

(i) the provision of a contribution in the amount of $1,000,000 to be used for community facility improvements in the area;

(ii) the provision of a contribution in the amount of $500,000 to be used for public art, to be located at the owner's sole discretion provided it is visible from a publicly accessible space;

(iii) the provision of a contribution by letter of credit in the amount of $200,000 to be used for pedestrian related improvements along Sheppard Avenue East west of Yorkland Road to the Don Mills subway station;

(iv) the provision of a contribution of $10,000 to be used for future traffic monitoring;

(v) the provision of 'countdown' pedestrian signals at the intersection of the proposed public road with Sheppard Avenue East, or a contribution of funds therefor to an upset limit of $20,000;

(vi) the provision of facilities which provide for the priority of public transit vehicles through the intersection of the proposed public road with Sheppard Avenue East, or a contribution of funds therefor to an upset limit of $25,000;

(vii) the provision of a maximum of three above-ground loop-detectors used in conjunction with signal prioritization facilities, or a contribution of funds therefor to an upset limit of $10,000 each;

(viii) the provision of a shuttle bus service to the Don Mills subway station to the residents of the residential buildings for the peak three-hour morning and afternoon transit usage times, weekdays excluding holidays, sized for approximately 25 persons at full site occupancy, with a correspondingly smaller size at prior times, commencing prior to full occupancy of the first residential building and terminating on the earlier of 10 years from the date of service commencement or on the opening of a rapid transit station located east of Highway 404 in or nearby the Consumers' Road Business Park;

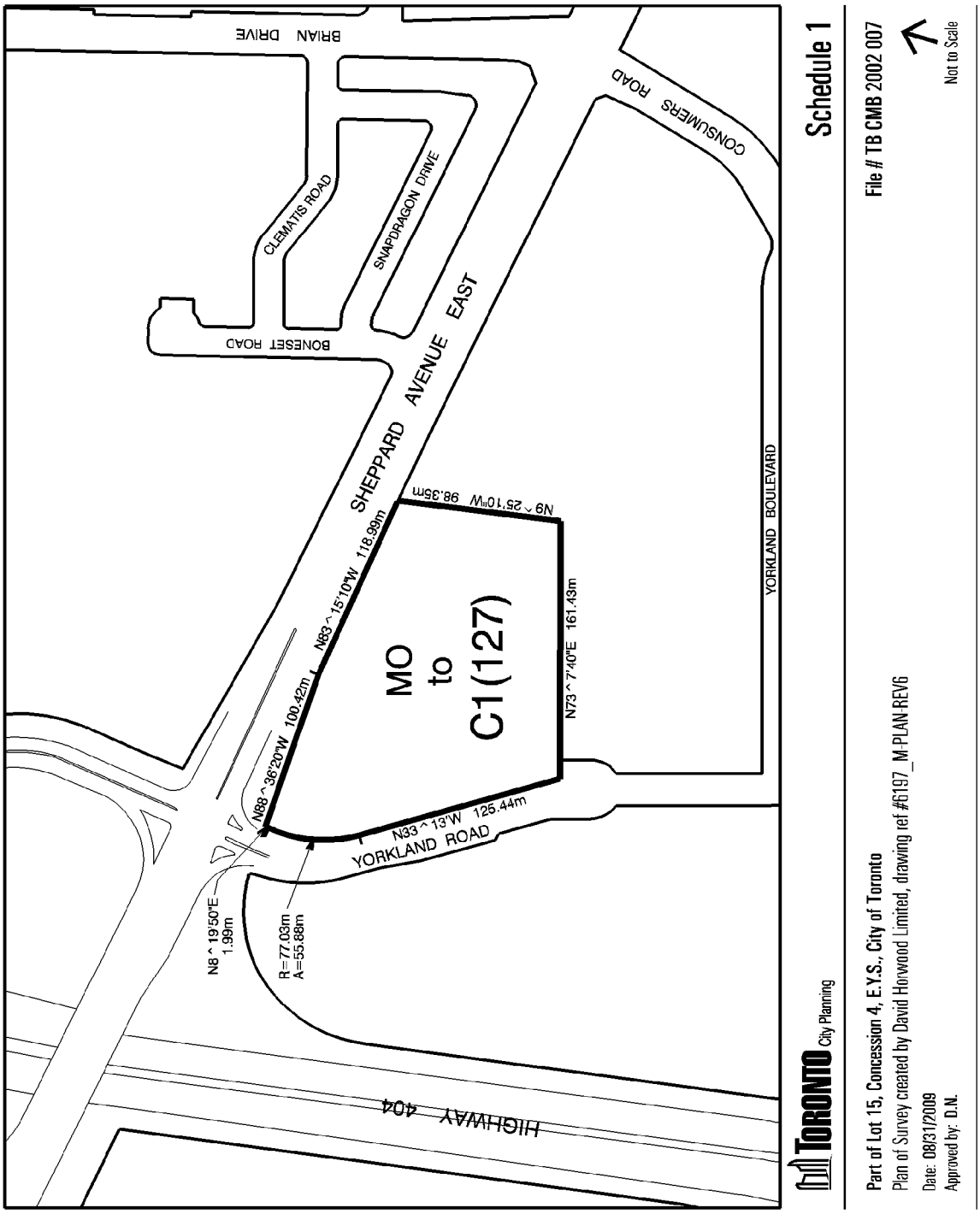
(ix) the provision for each residential unit in the first residential building at the time of occupancy of each such unit, free of charge, one single-year, one-person Toronto Transit Commission pass, as negotiated with the Toronto Transit Commission on a discounted bulk purchase basis;

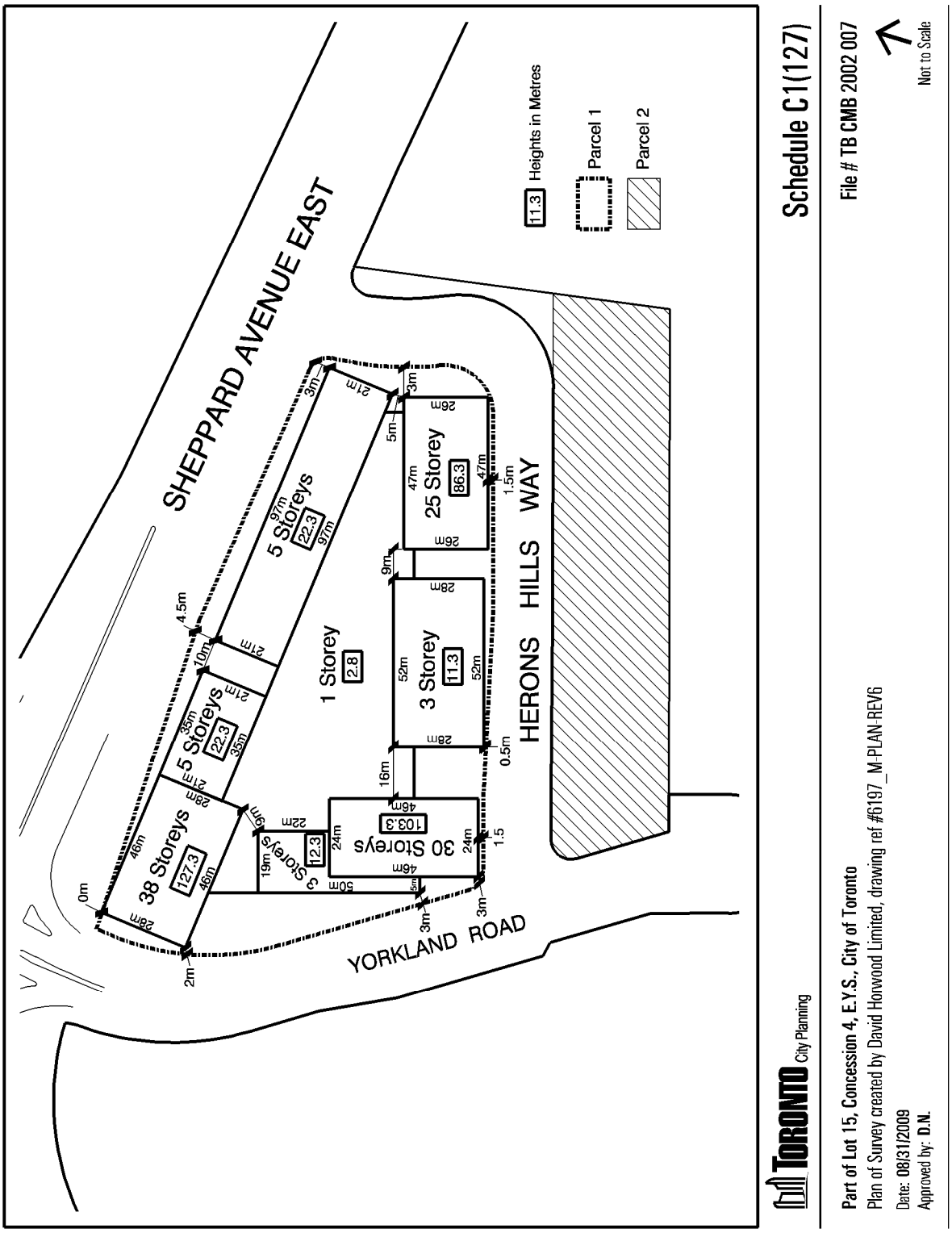
(x) a building with a minimum gross floor area of 464 square metres on the south side of the new public road shall be substantially completed prior to the occupancy of the first residential building; and

(xi) one or more buildings which collectively have a minimum gross floor area of 3,995 square metres on the south side of the new public road shall be substantially completed prior to the occupancy of the third residential building."

3. Section 64.23 of By-law No. 7625 of the former City of North York is amended by adding Schedule C1(127) attached to this By-law.

PURSUANT TO DECISIONS/ ORDERS OF THE ONTARIO MUNICIPAL BOARD ISSUED ON OCTOBER 12, 2004 (ORDER NO. 1629), NOVEMBER 20, 2007 AND JANUARY 28, 2009 IN BOARD CASE NO. PL030692.


BRIAN DRIVE
CONSUMERS ROAD
CLEMATIS ROAD
SNAPDRAGON DRIVE
BONESET ROAD
SHEPPARD AVENUE EAST
YORKLAND BOULEVARD
MO
to
C1(127)
N9 ^ 25'10"W 98.35m
N83 ^ 15'10"W 118.99m
N88 ^ 36'20"W 100.42m
N73 ^ 7'40"E 161.43m
N33 ^ 13'W 125.44m
YORKLAND ROAD
N8 ^ 19'50"E
1.99m
R=77.03m
A=55.88m
HIGHWAY 404
Schedule 1
TORONTO City Planning
File # TB CMB 2002 007
Part of Lot 15, Concession 4, E.Y.S., City of Toronto
Plan of Survey created by David Horwood Limited, drawing ref #6197_M-PLAN-REV6
Date: 08/31/2009
Approved by: D.N.
Not to Scale


SHEPPARD AVENUE EAST
HERONS HILLS WAY
YORKLAND ROAD
38 Storeys
127.3
5 Storeys
22.3
1 Storey
2.8
3 Storey
11.3
25 Storey
86.3
30 Storeys
103.3
5 Storeys
12.3
Heights in Metres
Parcel 1
Parcel 2
TORONTO City Planning
Schedule C1(127)
File # TB CMB 2002 007
Part of Lot 15, Concession 4, E.Y.S., City of Toronto
Plan of Survey created by David Horwood Limited, drawing ref #6197_M-PLAN-REV6
Date: 08/31/2009
Approved by: D.N.
Not to Scale

APPENDIX B:
Reduced Scale Architectural Plans

PROPOSED MIXED-USE DEVELOPMENT
(PROPOSED RESIDENTIAL & OFFICE)
HERON'S HILL WAY

PARADISE DEVELOPMENTS HERON'S HILL INC.

PARADISE DEVELOPMENTS®

BOUSFIELDS INC.

GRAZIANI + CORAZZA ARCHITECTS

Statistics Template - Toronto Green Standard Version 3.0

Mid to High Rise Residential and all New Non-Residential Development

The Toronto Green Standard Version 3.0 Statistics Template is submitted with Site Plan Control Applications and stand alone Zoning Bylaw Amendment applications. Complete the table and copy it directly onto the Site Plan submitted as part of the application.

For Zoning Bylaw Amendment applications: complete General Project Description and Section 1.

For Site Plan Control applications: complete General Project Description, Section 1 and Section 2.

For further information, please visit www.toronto.ca/greendevelopment

General Project Description	Proposed
Total Gross Floor Area	28,470
Breakdown of project components (m²)	
Residential	25,951
Retail	
Commercial	2,519
Industrial	
Institutional/Other	
Total number of residential units	350

Section 1: For Stand Alone Zoning Bylaw Amendment Applications and Site Plan Control Applications

Automobile Infrastructure	Required	Proposed	Proposed %
Number of Parking Spaces	327	327	100
Number of parking spaces dedicated for priority LEV parking	0	0	0%
Number of parking spaces with EVSE			

Cycling Infrastructure	Required	Proposed	Proposed %
Number of long-term bicycle parking spaces (residential)	210	210	100
Number of long-term bicycle parking spaces (all other uses)	7	7	100
Number of long-term bicycle parking (all uses) located on:			
a) first storey of building		88	42
b) second storey of building		122	
c) first level below-ground			
d) second level below-ground			
e) other levels below-ground			

11-0063 2018-09 — Page 1 of 3

Statistics Template - Toronto Green Standard Version 3.0

Mid to High Rise Residential and all New Non-Residential Development

Cycling Infrastructure	Required	Proposed	Proposed %
Number of short-term bicycle parking spaces (residential)	53	53	
Number of short-term bicycle parking spaces (all other uses)	11	11	
Number of male shower and change facilities (non-residential)			
Number of female shower and change facilities (non-residential)			

Tree Planting & Soil Volume	Required	Proposed	Proposed %
Total Soil Volume (40% of the site area ÷ 66 m² x 30 m³)			

Section 2: For Site Plan Control Applications

Cycling Infrastructure	Required	Proposed	Proposed %
Number of short-term bicycle parking spaces (all uses) at-grade or on first level below grade		10	

UHI Non-roof Hardscape	Required	Proposed	Proposed %
Total non-roof hardscape area (m²)		508	
Total non-roof hardscape area treated for Urban Heat Island (minimum 50%) (m²)	50%	254	
Area of non-roof hardscape treated with: (indicate m²)			
a) high-albedo surface material	254	254	
b) open-grid pavement			
c) shade from tree canopy			
d) shade from high-albedo structures			
e) shade from energy generation structures			
Percentage of required car parking spaces under cover (minimum 75%) (non-residential only)			

Green & Cool Roofs	Required	Proposed	Proposed %
Available Roof Space (m²)		743	60
Available Roof Space provided as Green Roof (m²)	446		
Available Roof Space provided as Cool Roof (m²)			
Available Roof Space provided as Solar Panels (m²)			

11-0063 2018-09 — Page 2 of 3

Statistics Template - Toronto Green Standard Version 3.0

Mid to High Rise Residential and all New Non-Residential Development

Water Efficiency	Required	Proposed	Proposed %
Total landscaped site area (m²)		360	
Landscaped site area planted with drought-tolerant plants (minimum 50%) (m² and %) (if applicable)	50%	180	

Tree Planting Areas & Soil Volume	Required	Proposed	Proposed %
Total site area (m²)	6,491		
Total Soil Volume (40% of the site area ÷ 66 m² x 30 m³)	1,180	540	
Total number of planting areas (minimum of 30m³ soil)		4	
Total number of trees planted		23	
Number of surface parking spaces (if applicable)			
Number of shade trees located in surface parking area interior (minimum 1 tree for 5 parking spaces)			

Native and Pollinator Supportive Species	Required	Proposed	Proposed %
Total number of plants			
Total number of native plants and % of total plants (min 50%)			

Bird Friendly Glazing	Required	Proposed	Proposed %
Total area of glazing of all elevations within 12m above grade (including glass balcony railings)		100	
Total area of treated glazing (minimum 85% of total area of glazing within 12m above grade) (m²)		85	
Percentage of glazing within 12m above grade treated with:			
a) Low reflectance opaque materials			
b) Visual markers		100	
c) Shading			

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GENERAL NOTES

1. For landscaping, refer to landscape drawings.
2. For proposed grading, refer to landscape drawings.
3. All perimeter existing information indicated taken from survey.
4. All work to be done in conformance with the 2018 Ontario Building Code. [OBC AS AMENDED]

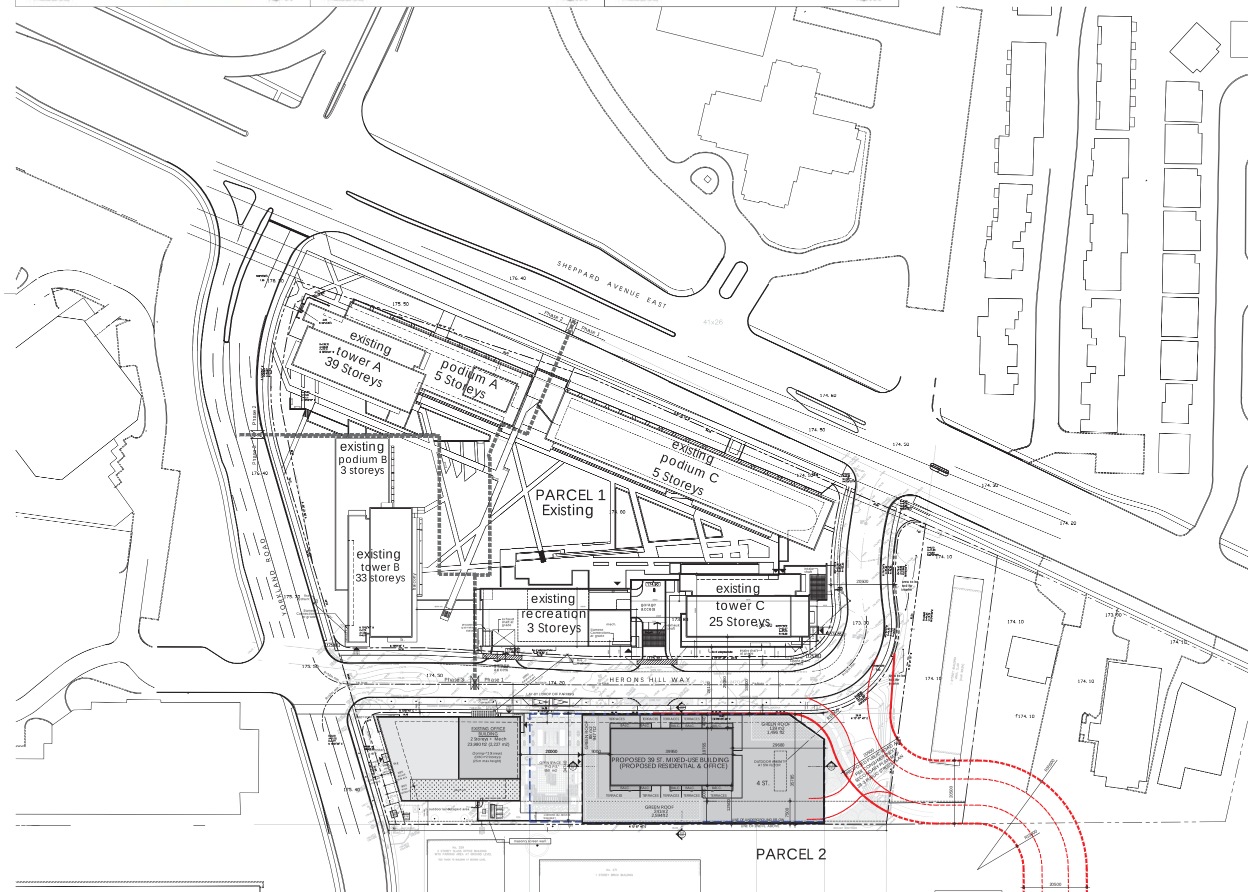
SURVEY INFORMATION

R. AVIS SURVEYING INC.. TEL 416.490.8352 FAX 416.491.6206
235 Yorkland Boulevard, Toronto, Ontario M2J 4Y8
Website: www.ravissurveying.com

Drawn: S.R./J.B.
Checked: P.R./O.L.S.
Project No. 2301-20
Drawing No. 2301-201-A.DWG

LIST OF DRAWINGS

KEY MAP



STATISTICAL INFORMATION

	EXISTING OFFICE BUILDING	REQUIRED	PROPOSED 39 ST. MIXED-USE BUILDING (PROPOSED RESIDENTIAL & OFFICE)
1. SITE AREA	± 6,491 M2 ±69,865 FT2; ± 0.64 HA ± 1.60 AC		
2. GFA	2,227 M2 23,980 FT2 (0.34x)		RESIDENTIAL (GFA AS PER BYLAW): 25,951 M2 279,343 FT2 (INCLUDING INDOOR AMENITY 563 M2 6,070 FT2); NON-RESIDENTIAL: (OFFICE) 292 M2 3,144 FT2; 26,243 M2 282,487 FT2 (4.04x)
	TOTAL SITE GFA 28,470 M2 306,467 FT2		
3. FSI	4.38x		
4. AMENITY		AMENITY: INDOOR - 2 X 350U** = (700M2) TOTAL = 700 M2; OUTDOOR - 2 X 350U = (700M2) TOTAL = 700 M2; TOTAL 1400 M2	INDOOR = 565 M2; OUTDOOR = 823 M2; TOTAL PROVIDED 1,388 M2
5. BUILDING HEIGHT	Zoning=*2 Storeys OBC=*2 Storeys **13.5 m height (25 m max.height)		39 STOREYS
6. UNIT COUNT			TOWER: 5TH 10 U; 6TH-39TH (34 FLS) 10 U; 10U X 34 FLS = 340 U; TOTAL 350 U**. UNIT BREAKDOWN: 1 BED 140; 1 BEDROOM + DEN 70; 2 BED 70; 2 BEDROOM + DEN 35; 3 BED 35; TOTAL 350 U. TOTAL PROVIDED 350 U**
7. UNIT BREAKDOWN		3.8.2.1 (5) NOT LESS THAN 15% OF ALL RESIDENTIAL SUITES SHALL BE PROVIDED WITH A BARRIER-FREE PATH OF TRAVEL FROM THE SUITE ENTRANCE DOOR TO, (A) AT LEAST ONE BEDROOM AT THE SAME LEVEL, (B) AT LEAST ONE BATHROOM CONFORMING TO SENTENCE 3.8.2.1(6) (C) A KITCHEN OR A KITCHEN SPACE, AND (D) A LIVING ROOM OR SPACE. REQUIRED = 15% X 350** UNITS = (52.5 UNITS) 53 UNITS	1 BEDROOM 140, 1 BEDROOM + DEN 70 (32); 2 BEDROOM 70, 2 BEDROOM + DEN 35 (16); 3 BEDROOM 35 (6); TOTAL 350** 54. OF WHICH 54 UNITS MEET 3.8.2.1 (5) OF THE 2012 OBC
8. PARKING — RESIDENTS		1 BEDROOM 0.7 X 140 = 98; 1 BEDROOM + DEN 0.7 X 70 = 49; 2 BEDROOM 0.9 X 70 = 63; 2 BEDROOM + DEN 0.9 X 35 = 31; 3 BEDROOM 1.0 X 35 = 35; (276) 276 SPACES***	P1 LEVEL = 37 SPACES; GROUND = 0 SPACES; 2ND LEVEL = 72 SPACES; 3RD LEVEL = 84 SPACES; 4TH LEVEL = 83 SPACES; TOTAL = 276 SPACES
VISITORS		SHARED BETWEEN OFFICE AND VISITORS* VISITOR 3 SPACES	SHARED BETWEEN OFFICE AND VISITORS*
OFFICE	EXISTING = [1 spaces per 48 m2] REQUIRED = 46 SPACES PROVIDED = 48 SPACES AT SURFACE. NOTE: 46 SURFACE SPACES TO BE RELOCATED IN P1 U/G OF PROPOSED RESIDENTIAL BUILDING	1 SPACE PER 100M2 = (2.0 SPACES) (288 M2) 2 SPACES; EXISTING OFFICE BLDG. 46 SPACES; TOTAL 51 SPACES	SURFACE LEVEL = 04 SPACES; P1 LEVEL = 47 SPACES; TOTAL = 51 SPACES
		TOTAL - 327 SPACES***	TOTAL PROVIDED 327 SPACES***
		*NOTE: SEE TRANSPORTATION REPORT	
9. BUILDING SETBACKS			
11. GREEN ROOF	426 M2	AVAILABLE ROOF SPACE IS DEFINED AS THE TOTAL ROOF AREA MINUS AREAS DESIGNATED FOR: -RENEWABLE ENGERY DEVICES -PRIVATE TERRACES NO GREATER IN AREA THAN THE FLOOR SPACE OF THE ABUTTING RESIDENTIAL UNIT AT THE ROOF LEVEL -RESIDENTIAL OUTDOOR AMENITY (MAX. 2M2/UNIT) -A TOWER ROOF ON A BUILDING WITH A FLOOR PLATE LESS THAN 750M2. BUILDINGS WITH A GFA OF 20,000M2 OR GREATER 60% OF THE AVAILABLE ROOF SPACE MUST BE GREEN ROOF. REQUIRED = 60% X 743 M2 AVAILABLE ROOF SPACE = 446 M2	EXISTING OFFICE BUILDING = 426 M2; PROPOSED 39 ST. MIXED-USE BUILDING = 468 M2 (PROPOSED RESIDENTIAL & OFFICE); TOTAL PROVIDED = 894 M2
12. BICYCLE STORAGE — RESIDENTS + VISITORS + OFFICE	EXISTING OFFICE BUILDING = 13 SPACES; TOTAL - 13 SPACES	AS PER TORONTO GREEN STANDARD: RESIDENTIAL ZONE = 0.75 SP/UNIT OCCUPANT LONG-TERM 0.75 X 350** = (262.5) TOTAL 263 BICYCLE SPACES; RESIDENTIAL ZONE = 263 BICYCLE 0.80 X 263** = (210.4) = 210; 210 BICYCLE SPACES (LONG TERM RESIDENT); RESIDENTIAL ZONE = 0.20 SP/UNIT VISITOR SHORT-TERM 0.20 X 263** = (52.6) 53 BICYCLE SPACES (SHORT TERM VISITOR); PROPOSED OFFICE = 4 SP/UNIT VISITOR SHORT TERM = 1 SP/UNIT VISITOR LONG TERM; TOTAL - 268 SPACES	EXISTING OFFICE BUILDING = 13 SPACES; PROPOSED 39 ST. MIXED-USE BUILDING = 268 SPACES (PROPOSED RESIDENTIAL & OFFICE); TOTAL PROVIDED 281 SPACES

** FINAL SUITE MIX AND DWELLING UNIT COUNT SUBJECT TO MARKET CONDITIONS
*** FINAL PARKING COUNT MAY VARY DEPENDING ON FINAL DWELLING UNIT COUNT

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1320 Shawson Drive, Suite 100, Mississauga Ontario L4W 1C3
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ONTARIO ASSOCIATION OF ARCHITECTS — JOHNNY CHIMIENTI LICENCE 6299

PROPOSED 39 ST. MIXED-USE BUILDING (PROPOSED RESIDENTIAL & OFFICE)

PARADISE DEVELOPMENTS HERON'S HILL INC.

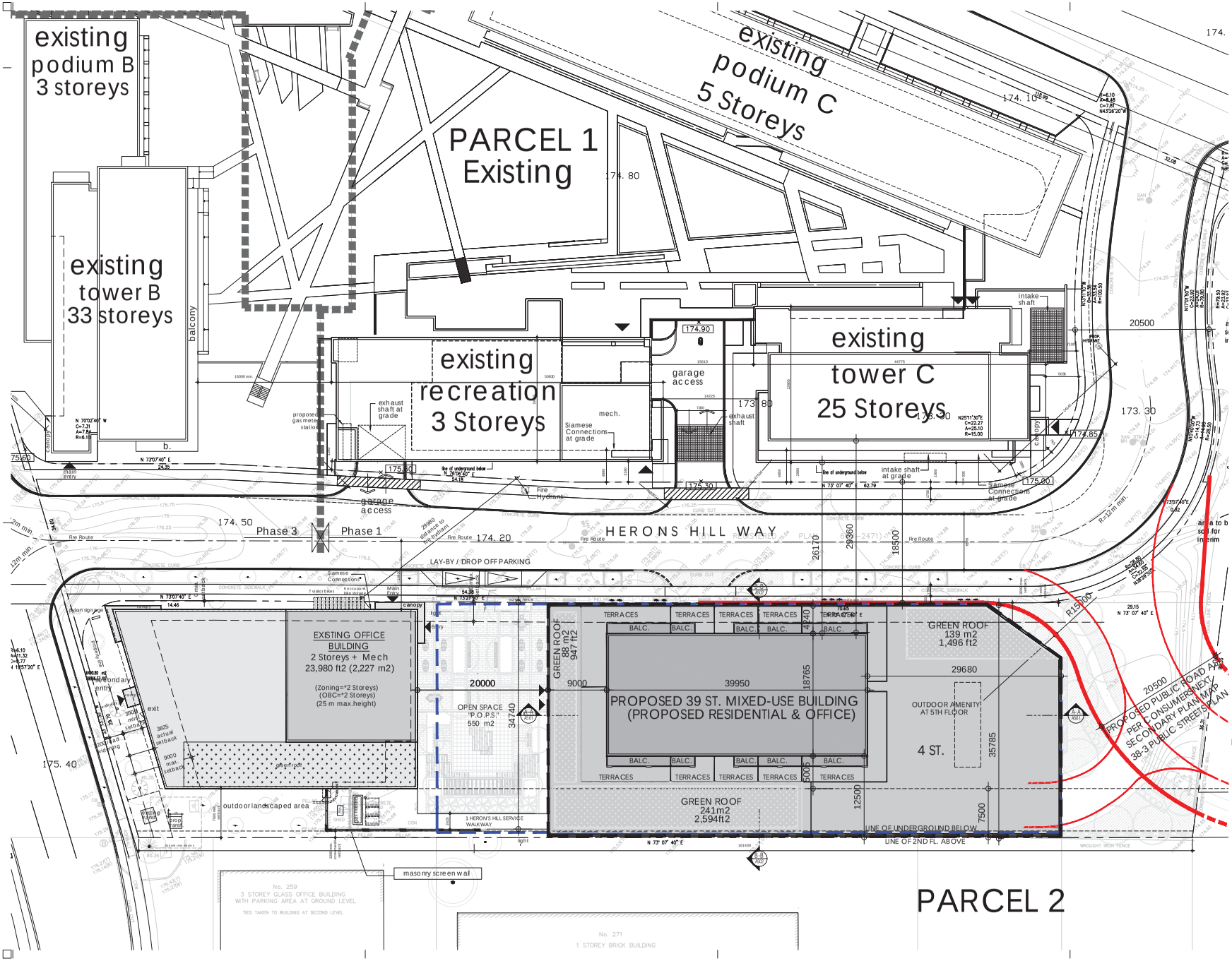
HERONS HILL WAY + SHEPPARD AVE. E
NORTH YORK ONTARIO

Project Architect:	E. Corazza
Assistant Designer:	J. Chimienti
Drawn By:	J. Chimienti
Checked By:	D. Biase
Plot Date:	MAR.17.2020
Job #	1684.19

CONTEXT PLAN + STATISTICS

1:750 A101

TITLEBLOCK SIZE: 610 x 900



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PROPOSED 39 ST. MIXED-USE BUILDING
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PARADISE DEVELOPMENTS HERON'S HILL INC.

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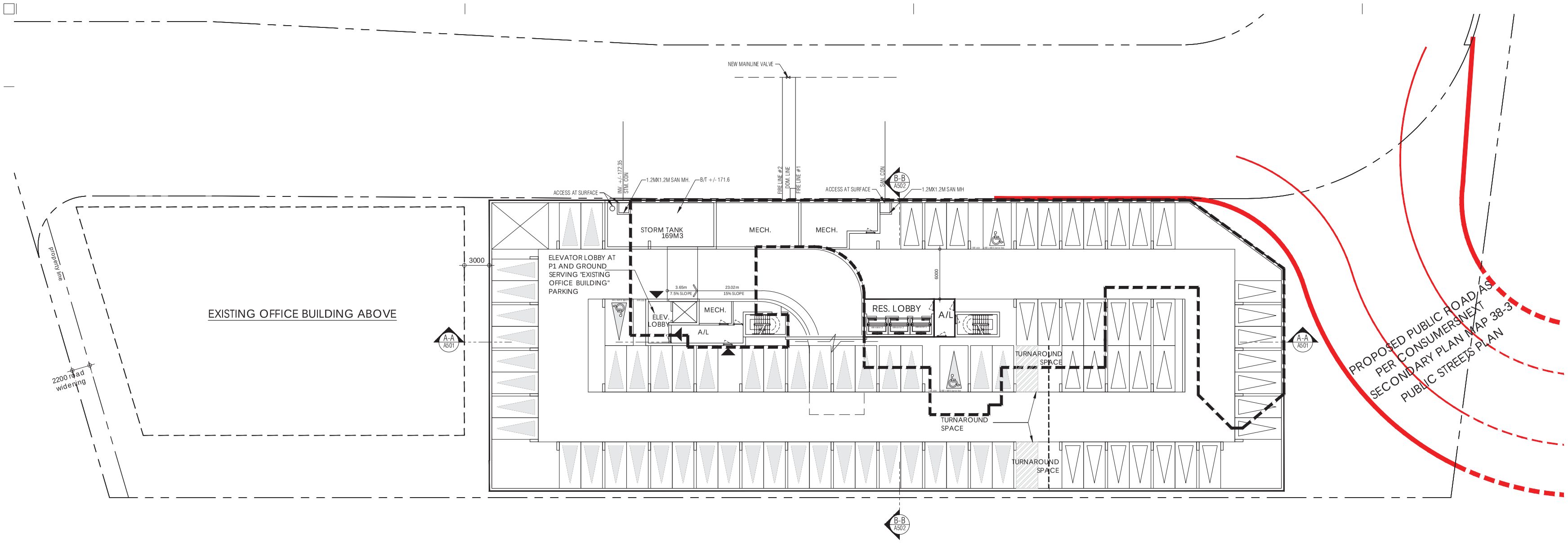
SITE PLAN

1:250 A102

TITLEBLOCK SIZE: 610 x 900



P1 UNDERGROUND PLAN
TCA = 3,300 M2 / 35,526 FT2
PARKING = ± 84 SPACES

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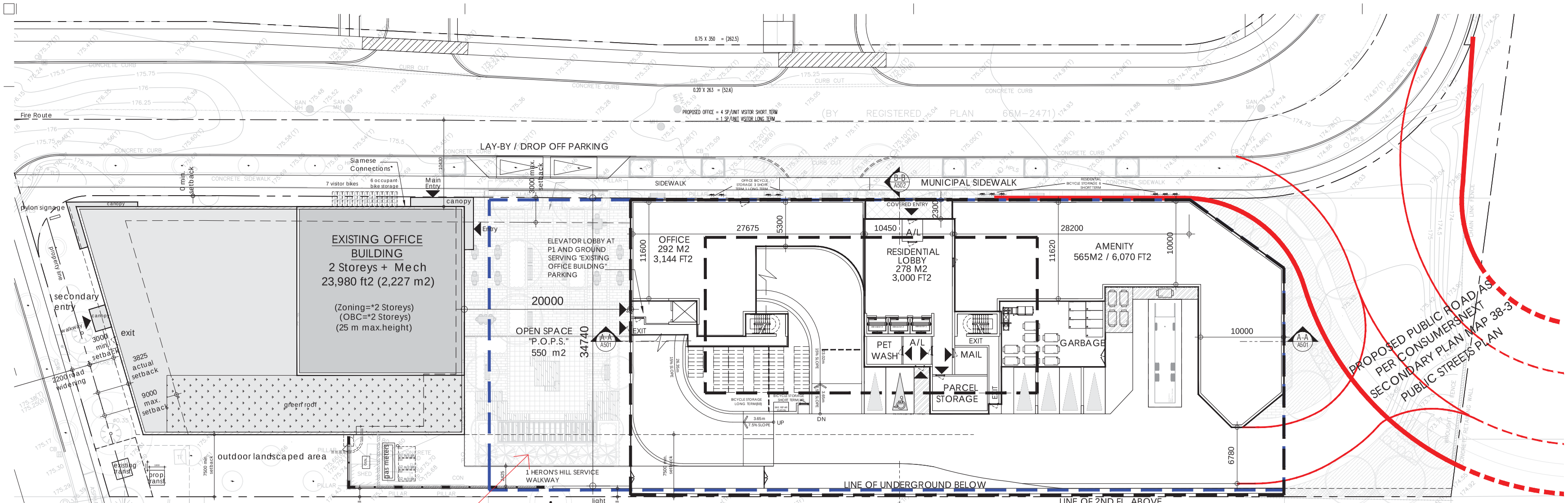
Job #	1684.19

FLOOR PLAN
P1

1:250

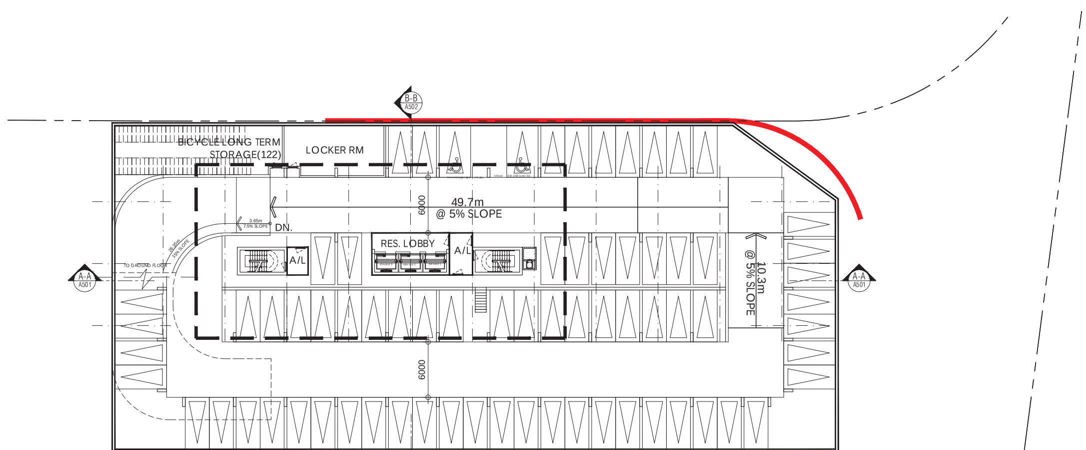
A201

TITLEBLOCK SIZE: 610 x 900



GROUND FLOOR PLAN
GFA = 1,296 M2 (13,947ft2)
GFA AS PER BY LAW = 1,249 M2 (13,451 ft2)
TCA = 2,138 M2 / 23,012 FT2
UNITS = 0 U.
PARKING = ± 6 SPACES
BIKES= ± 146 SPACES

P.O.P.S DESIGN CONCEPT



2ND FLOOR PLAN

GFA AS PER BY LAW = 37.11 M2 (399.45 ft2)
TCA = 2,751 M2 / 29,618 FT2
PARKING = 72
BIKES= ± 122 SPACES

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PARADISE DEVELOPMENTS HERON'S HILL INC.

HERONS HILL WAY + SHEPPARD AVE. E
NORTH YORK ONTARIO

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Drawn By:	J. Chimienti
Checked By:	D. Biase
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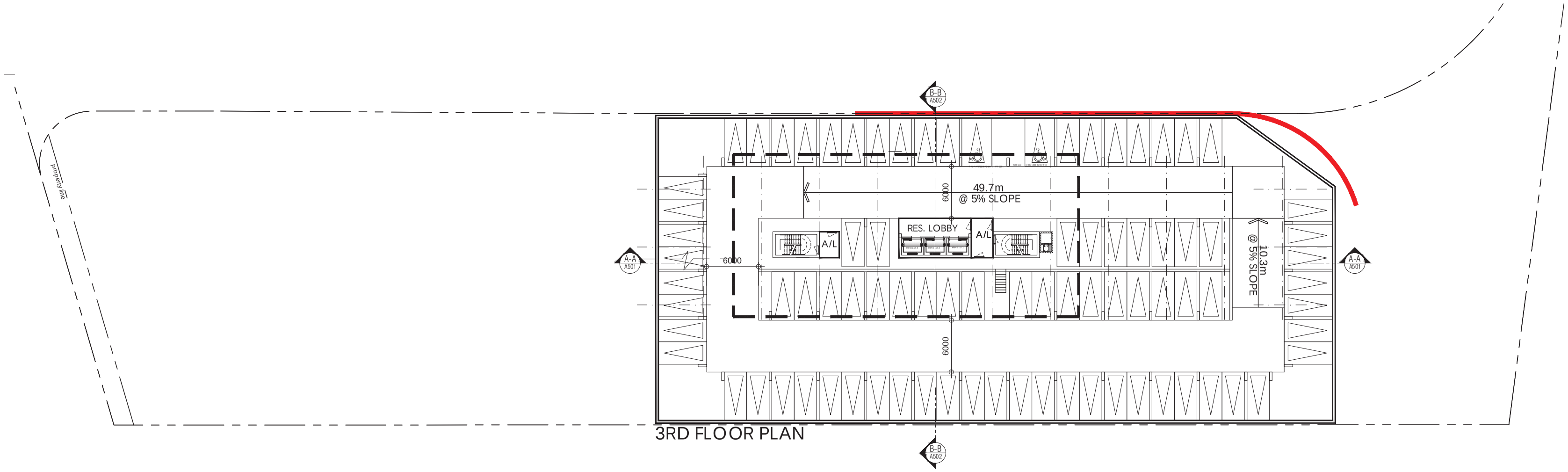
Job #	1684.19

FLOOR PLAN
GROUND AND 2ND

1:250

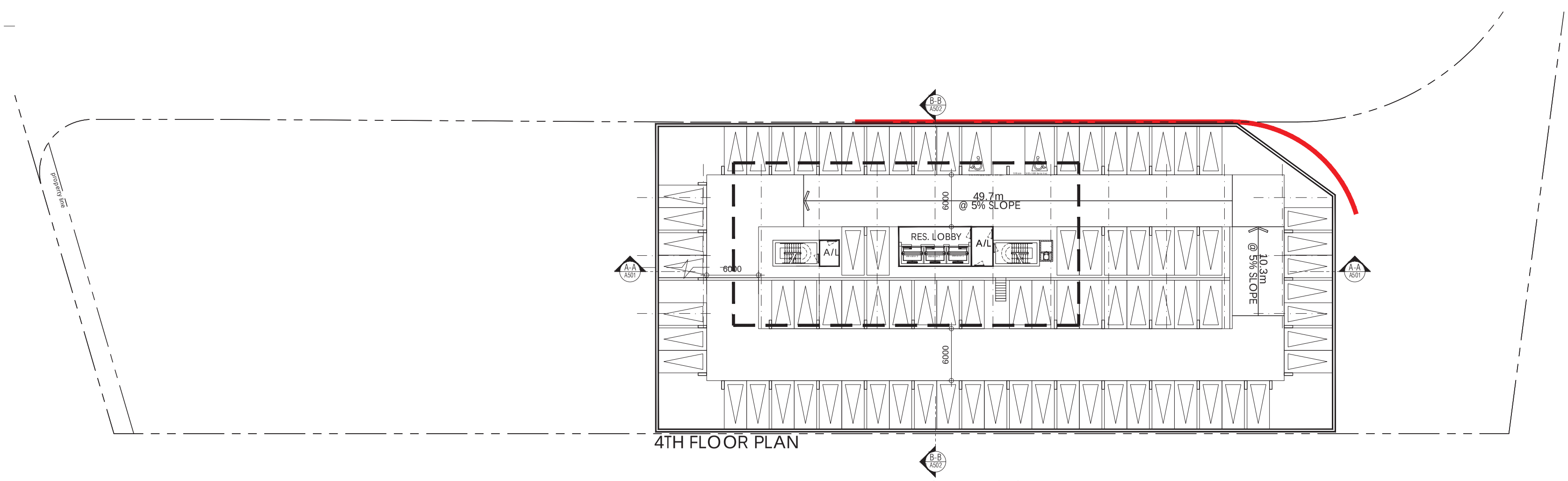
A301

TITLEBLOCK SIZE: 610 x 900



3RD FLOOR PLAN

GFA AS PER BY LAW = 37.11 M2 (399.45 ft2)
TCA = 2,751 M2 / 29,618 FT2
PARKING = 84



4TH FLOOR PLAN

GFA AS PER BY LAW = 37.11 M2 (399.45 ft2)
TCA = 2,751 M2 / 29,618 FT2
PARKING = 83

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Checked By:	D. Biase
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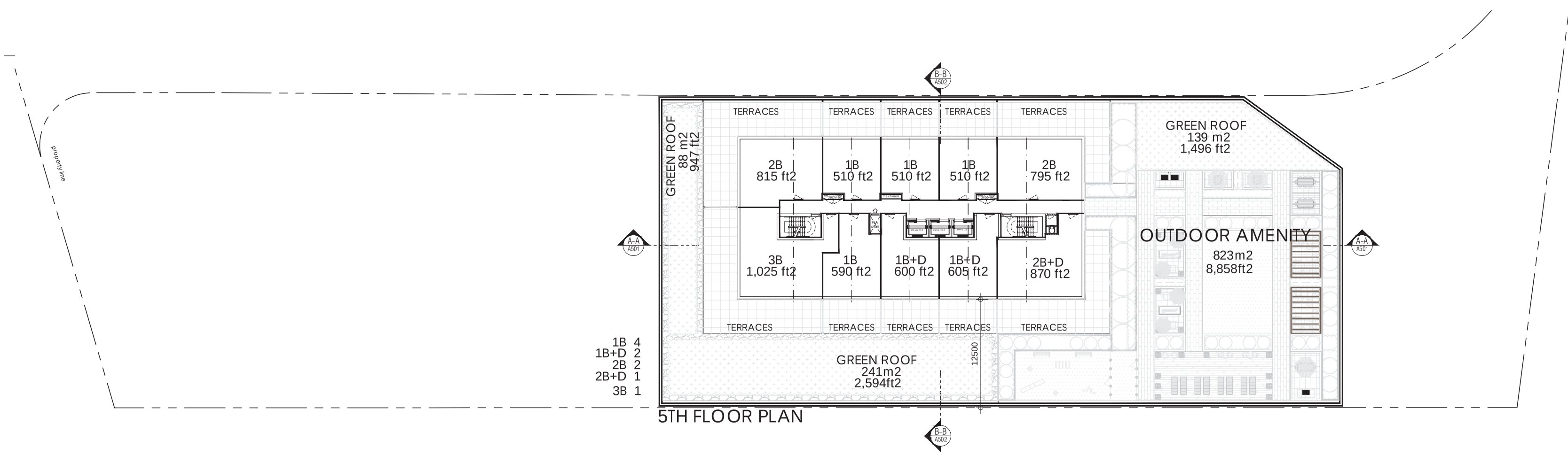
Job #	1684.19

FLOOR PLAN
3RD AND 4TH

1:250

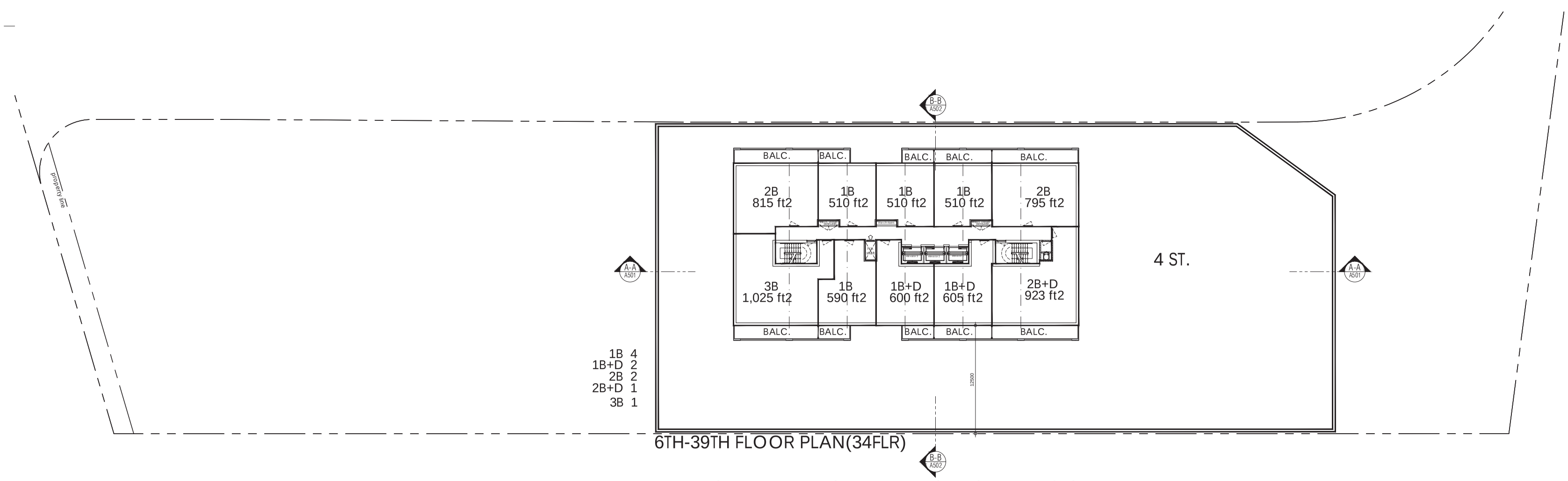
A302

TITLEBLOCK SIZE: 610 x 900



5TH FLOOR PLAN

GFA = 750 M2/FLR (8,070 ft2/FLR)
GFA AS PER BY LAW = 710.94 (7,652.43 ft2)
TSA = 634.5 M2/FLR(6,830 ft2/FLR)
TCA = 2,751 M2 / 29,618 FT2
(INCLUDES ROOF TERRACE/
OUTDOOR AMENITY)
UNITS = 10 U./FLR



6TH-39TH FLOOR PLAN(34FLR)

GFA = (750M2X34FL2) 25,500 M2/FLR (274,380 ft2)
GFA AS PER BY LAW = (710.94M2X34FLR) 24,172M2 (260,183 FT2)
TSA = (639M2 X 34FLR) 21,726M2 (234,022FT2)
TCA = (867M2 X 34FL) 29,478 (317,346FT2)
(INCLUDES BALCONIES)
UNITS = (10 U.X34)340 U.

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PROPOSED 39 ST. MIXED-USE BUILDING
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PARADISE DEVELOPMENTS HERON'S HILL INC.

HERONS HILL WAY + SHEPPARD AVE. E
NORTH YORK ONTARIO

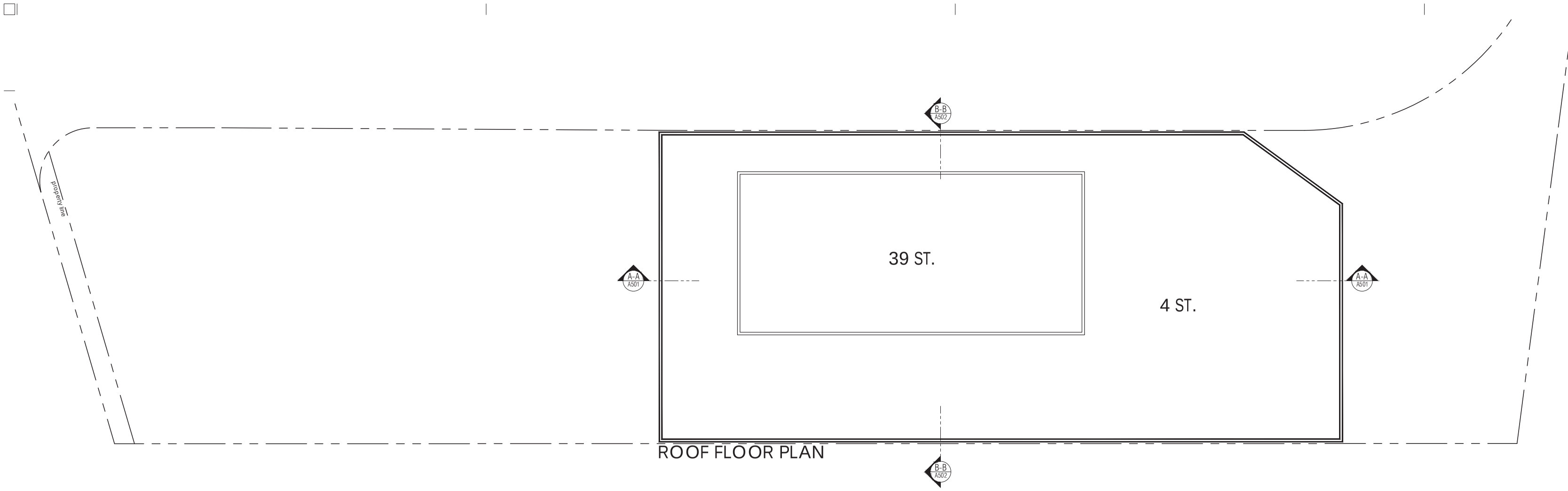
Project Architect:	E. Corazza
Assistant Designer:	J. Chimienti
Drawn By:	J. Chimienti
Checked By:	D. Biase
Plot Date:	MAR.17.2020
Job #	1684.19

FLOOR PLAN
5TH AND 6TH-39TH

1:250

A303

TITLEBLOCK SIZE: 610 x 900



ROOF FLOOR PLAN

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PROPOSED 39 ST. MIXED-USE BUILDING
(PROPOSED RESIDENTIAL & OFFICE)

PARADISE DEVELOPMENTS HERON'S HILL INC.

HERONS HILL WAY + SHEPPARD AVE. E
NORTH YORK ONTARIO

Project Architect:	E. Corazza
Assistant Designer:	J. Chimienti
Drawn By:	J. Chimienti
Checked By:	D. Biase
Plot Date:	**MAR.17.2020**
Job #	1684.19

FLOOR PLAN
ROOF PLAN

1:250

A304

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MATERIAL LEGEND

1. PRECAST 1 — WHITE
2. PRECAST 2 — BLACK WITH BRICK PATTERN
3. VISION GLASS
4. SPANDREL PANEL 1 — DARK GREY / LIGHT GREY
5. SPANDREL PANEL 2 — WHITE

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PROPOSED 39 ST. MIXED-USE BUILDING
(PROPOSED RESIDENTIAL & OFFICE)

PARADISE DEVELOPMENTS HERON'S HILL INC.

HERONS HILL WAY + SHEPPARD AVE. E
NORTH YORK ONTARIO

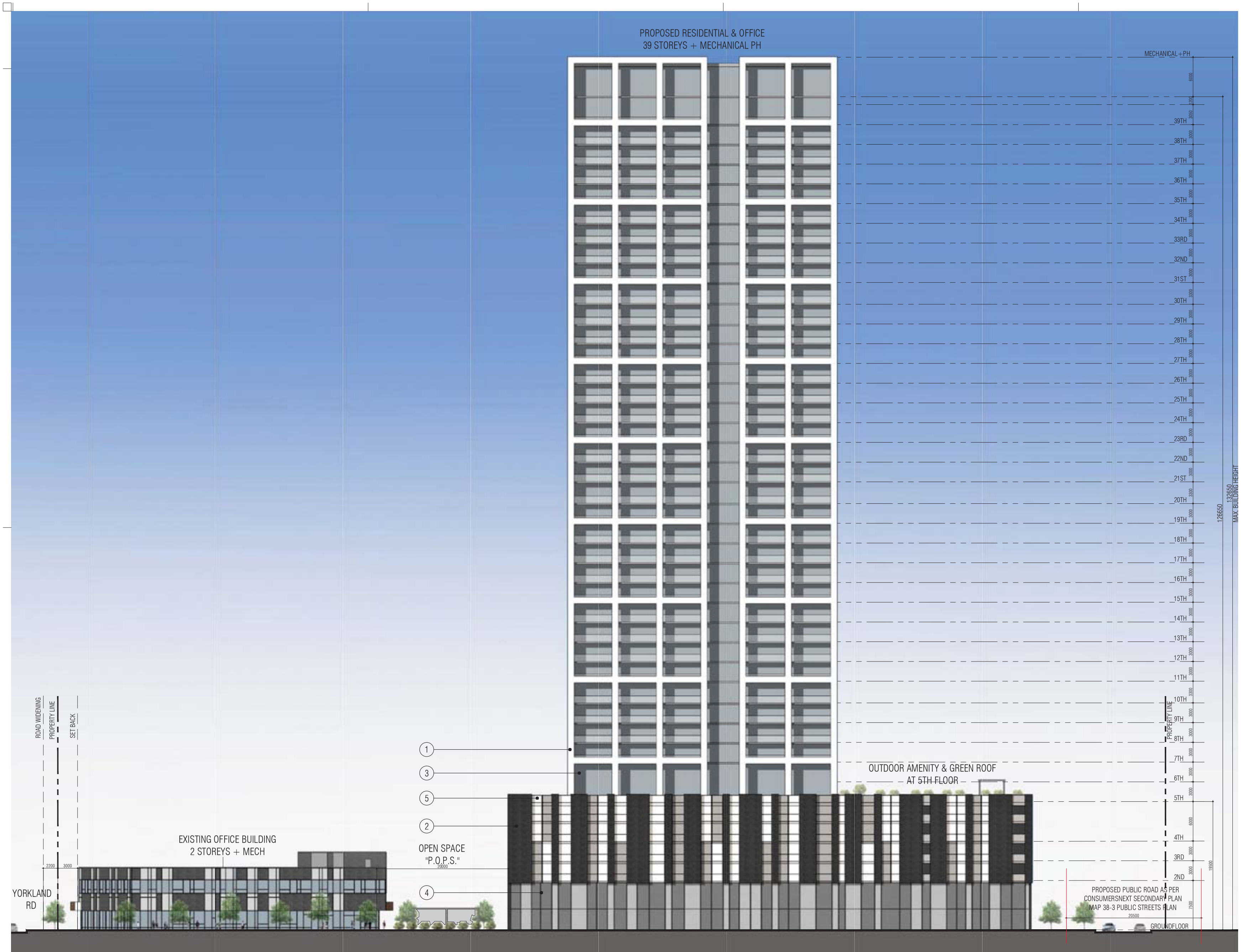
Project Architect:	E. Corazza
Assistant Designer:	J. Chimienti
Drawn By:	J. Chimienti
Checked By:	D. Biase
Plot Date:	MAR.17.2020
Job #	1684.19

NORTH ELEVATION

1:250

A401

TITLEBLOCK SIZE: 610 x 900



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MATERIAL LEGEND

1. PRECAST 1 — WHITE
2. PRECAST 2 — BLACK WITH BRICK PATTERN
3. VISION GLASS
4. SPANDREL PANEL 1 — DARK GREY / LIGHT GREY
5. SPANDREL PANEL 2 — WHITE

issued for revisions

GRAZIANI + CORAZZA ARCHITECTS INC.

ONTARIO ASSOCIATION OF ARCHITECTS
JOHNNY CHIMIENTI
LICENCE
6299

1320 Shawson Drive, Suite 100 Mississauga Ontario L4W 1C3
Phone. 905.795.2601 Fax.905.795.2844 www.gc-architects.com

PROPOSED 39 ST. MIXED-USE BUILDING
(PROPOSED RESIDENTIAL & OFFICE)

PARADISE DEVELOPMENTS HERON'S HILL INC.

HERONS HILL WAY + SHEPPARD AVE. E
NORTH YORK ONTARIO

Project Architect:	E. Corazza
Assistant Designer:	J. Chimienti
Drawn By:	J. Chimienti
Checked By:	D. Biase
Plot Date:	MAR.17.2020
Job #	1684.19

SOUTH ELEVATION

1:250

A402

TITLEBLOCK SIZE: 610 x 900

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1. MAR.18.2020 ISSUED FOR REZONING J. CHI.

MATERIAL LEGEND

1. PRECAST 1 — WHITE
2. PRECAST 2 — BLACK WITH BRICK PATTERN
3. VISION GLASS
4. SPANDREL PANEL 1 — DARK GREY / LIGHT GREY
5. SPANDREL PANEL 2 — WHITE

issued for revisions

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HERONS HILL WAY + SHEPPARD AVE. E
NORTH YORK ONTARIO

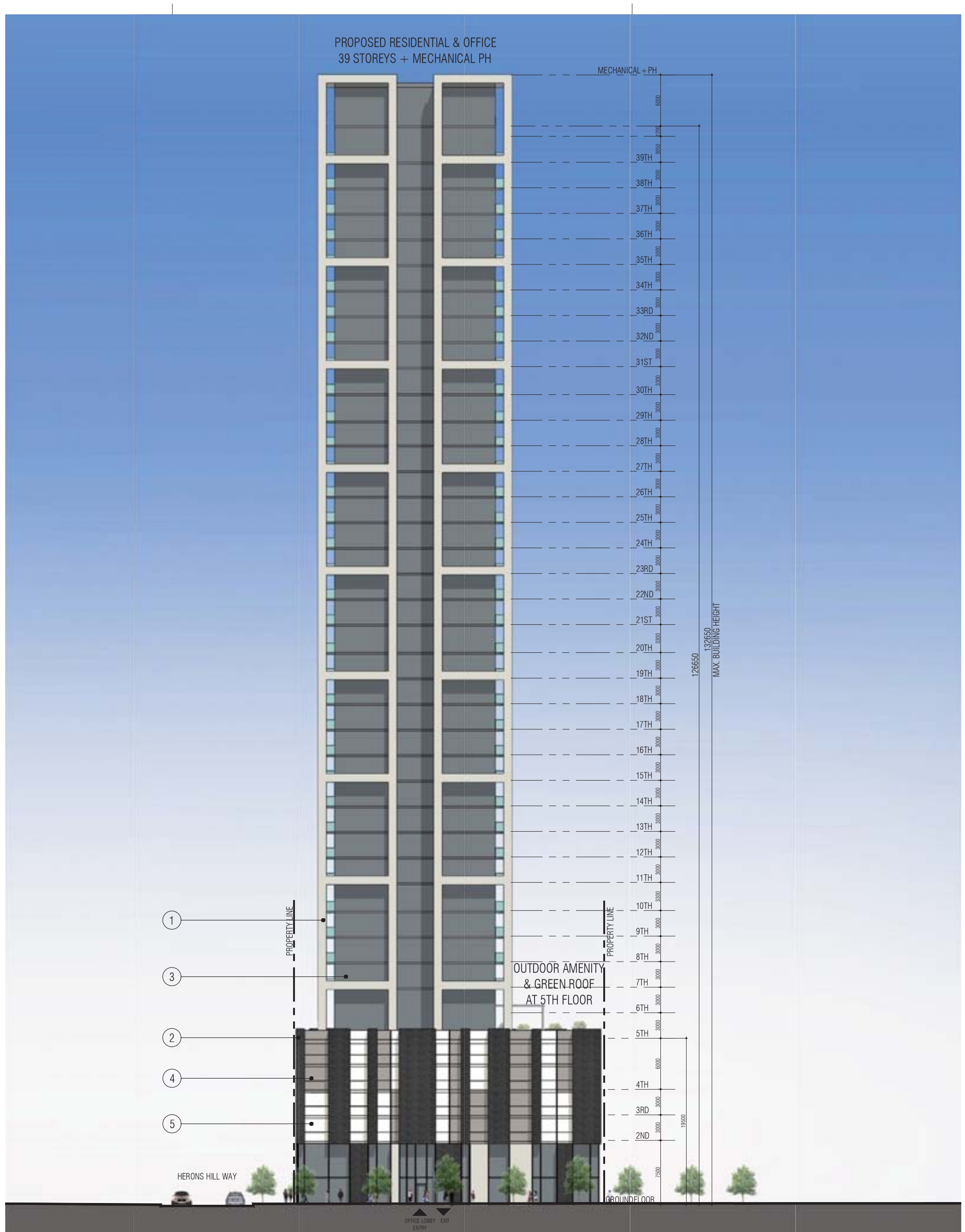
Project Architect:	E. Corazza
Assistant Designer:	J. Chimienti
Drawn By:	J. Chimienti
Checked By:	D. Biase
Plot Date:	MAR.17.2020
Job #	1684.19

EAST ELEVATION

1:250

A403

TITLEBLOCK SIZE: 610 x 900



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1. MAR.18.2020 ISSUED FOR REZONING J. CHI.

MATERIAL LEGEND

1. PRECAST 1 — WHITE
2. PRECAST 2 — BLACK WITH BRICK PATTERN
3. VISION GLASS
4. SPANDREL PANEL 1 — DARK GREY / LIGHT GREY
5. SPANDREL PANEL 2 — WHITE

issued for revisions

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PARADISE DEVELOPMENTS HERON'S HILL INC.

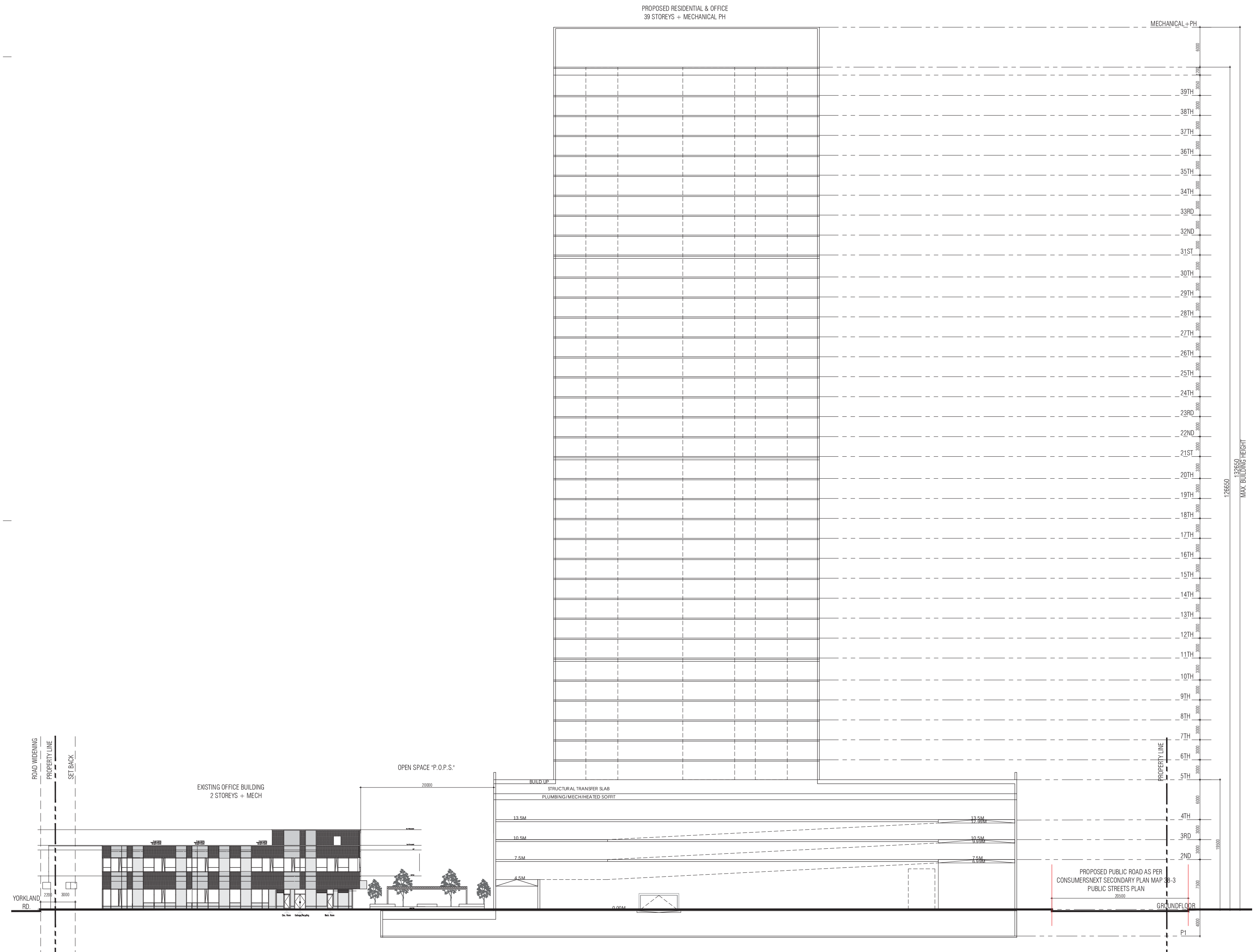
HERONS HILL WAY + SHEPPARD AVE. E
NORTH YORK ONTARIO

Project Architect:	E. Corazza
Assistant Designer:	J. Chimienti
Drawn By:	J. Chimienti
Checked By:	D. Biase
Plot Date:	**MAR.17.2020**
Job #	1684.19

WEST ELEVATION

1:250 A404

TITLEBLOCK SIZE: 610 x 900



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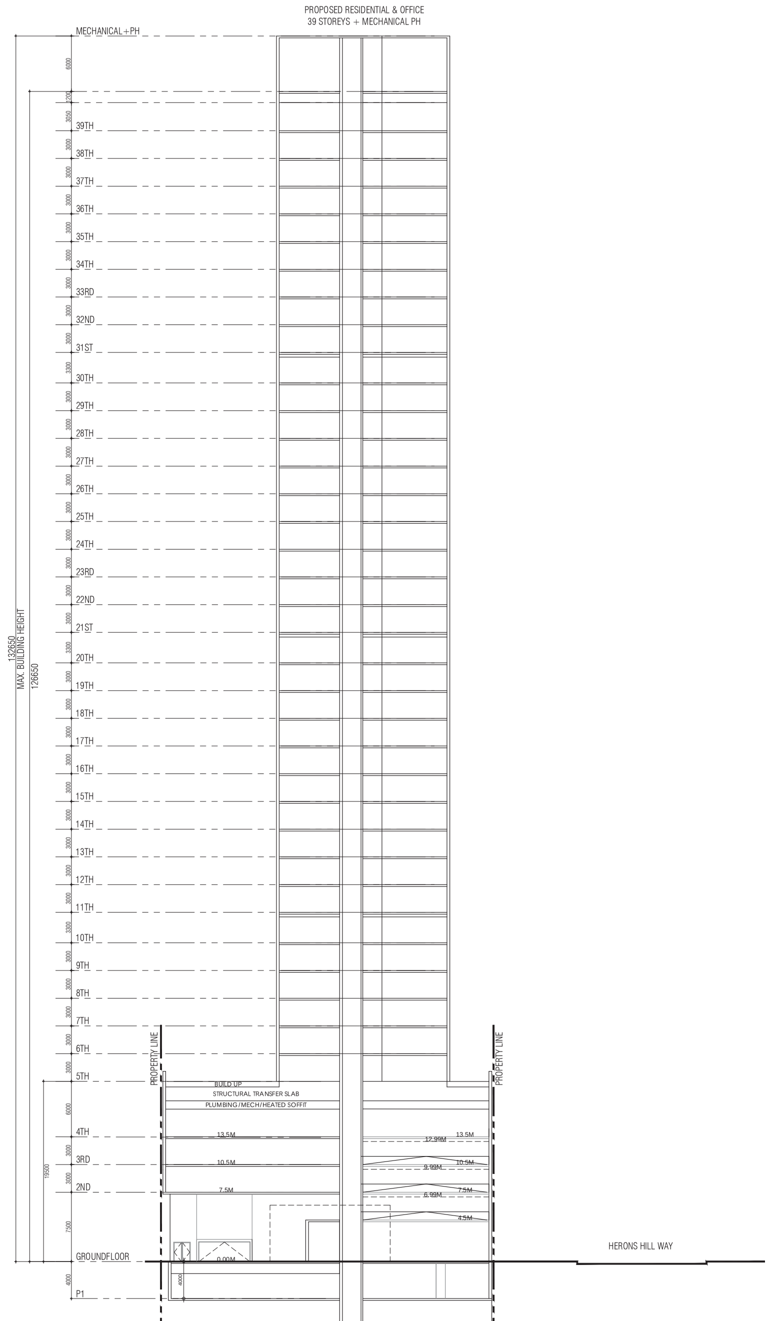
HERONS HILL WAY + SHEPPARD AVE. E
NORTH YORK ONTARIO

Project Architect:	E. Corazza
Assistant Designer:	J. Chimienti
Drawn By:	J. Chimienti
Checked By:	D. Biase
Plot Date:	MAR.17.2020
Job #	1684.19

BUILDING SECTION
SECTION A-A

1:250 A501

TITLEBLOCK SIZE: 610 x 900



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HERONS HILL WAY + SHEPPARD AVE. E
NORTH YORK ONTARIO

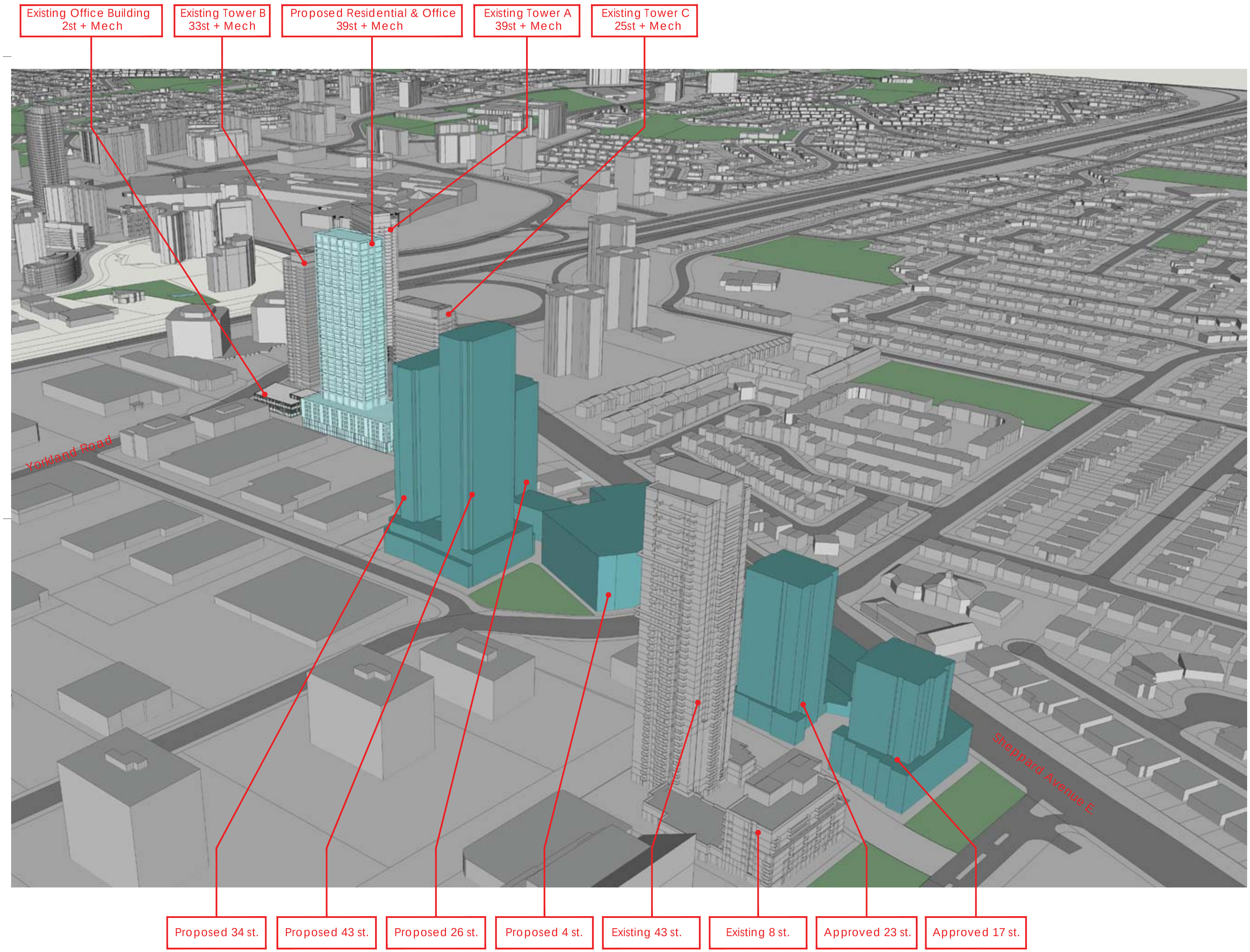
Project Architect:	E. Corazza
Assistant Designer:	J. Chimienti
Drawn By:	J. Chimienti
Checked By:	D. Biase
Plot Date:	**MAR.17.2020**
Job #	1684.19

BUILDING SECTION
SECTION B-B

1:250

A502

TITLEBLOCK SIZE: 610 x 900



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1. MAR.18.2020 ISSUED FOR REZONING J. CHI.

- 1 Heron's Hill Way Mixed-Use Proposal
- Mixed-Use Development
- Office Use Development
- Existing Buildings

issued for revisions

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NORTH YORK ONTARIO

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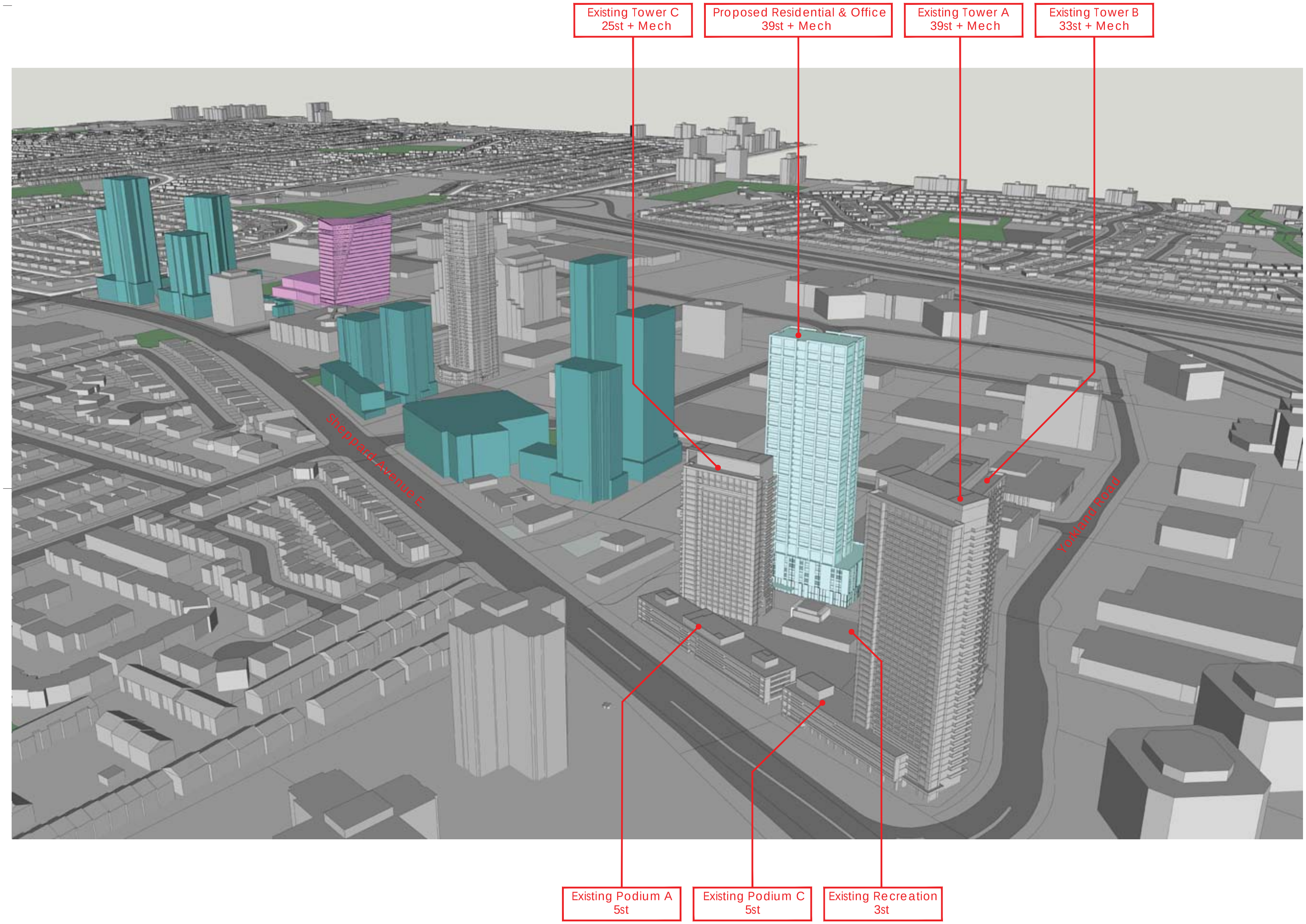
Assistant Designer:	J. Chimienti
Drawn By:	J. Chimienti
Checked By:	D. Biase
Plot Date:	MAR.17.2020
Job #	1684.19

MASSING VIEW LOOKING NW

N.T.S. A601

TITLEBLOCK SIZE: 610 x 900



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- 1 Heron's Hill Way Mixed-Use Proposal
- Mixed-Use Development
- Office Use Development
- Existing Buildings

issued for revisions

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PARADISE DEVELOPMENTS HERON'S HILL INC.

HERONS HILL WAY + SHEPPARD AVE. E
NORTH YORK ONTARIO

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Assistant Designer:	J. Chimienti
Drawn By:	J. Chimienti
Checked By:	D. Biase
Plot Date:	MAR.17.2020
Job #	1684.19

MASSING VIEW LOOKING SE

N.T.S. A602

TITLEBLOCK SIZE: 610 x 900

APPENDIX C:
1 Heron’s Hill Way Parking Utilization Study

Project No: 7488.08
Project: 1 Heron's Hill Way
Study Location: 1 Heron's Hill Way - Paradise Development Office Building
Study Time: 8:00 am -6:00 pm

Parking Demand Study

Wednesday, November 6, 2019

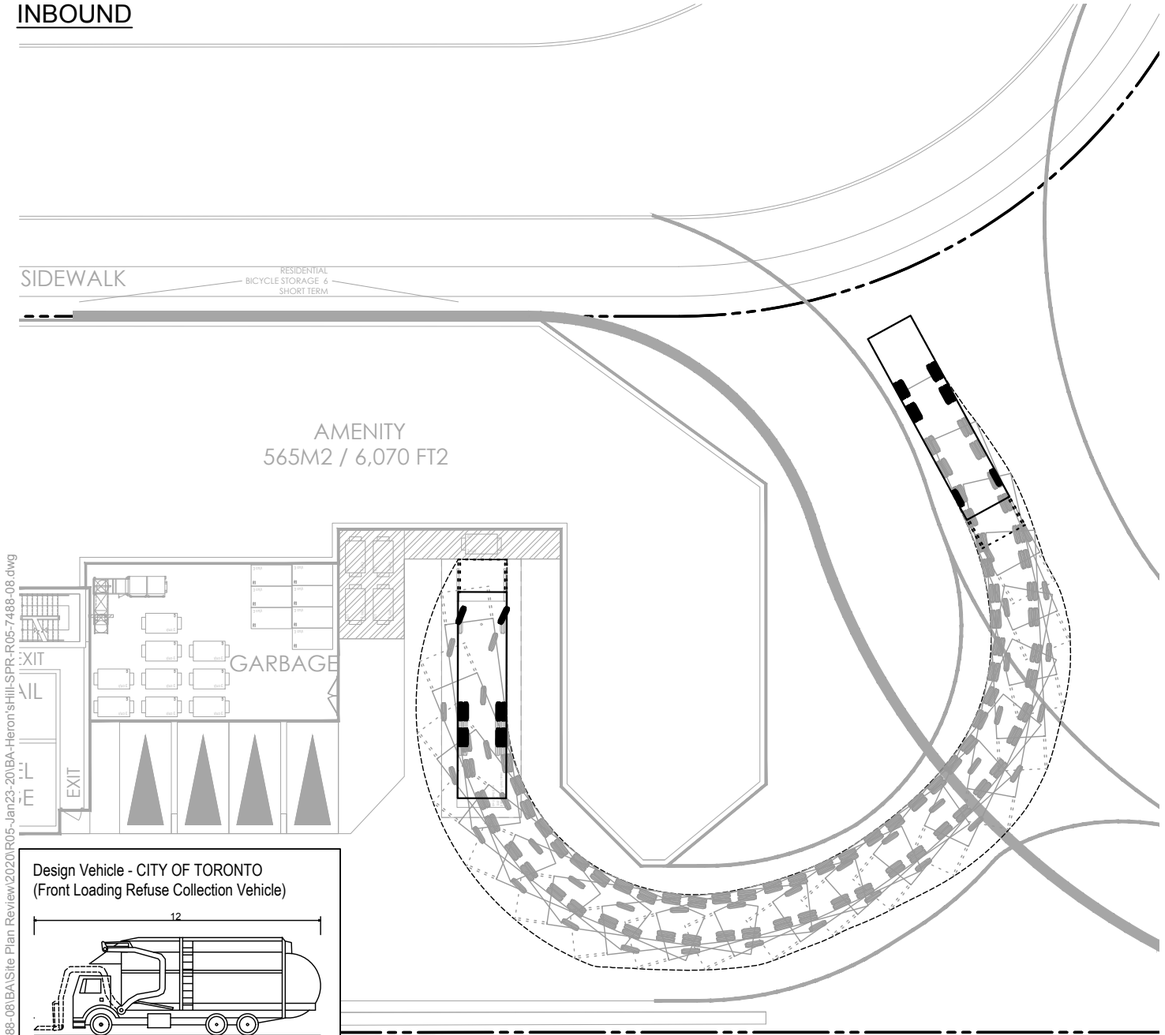
Area Supply	Regular Stalls 38	Reserved Stalls 9	Accessible Stalls 1	Total 48	Occupancy Ratio
Time					
8:00	9	0	0	9	19%
9:00	18	0	0	18	38%
10:00	20	0	0	20	42%
11:00	20	5	0	25	52%
12:00	19	7	0	26	54%
13:00	16	6	0	22	46%
14:00	19	5	0	24	50%
15:00	19	1	0	20	42%
16:00	14	0	0	14	29%
17:00	4	0	0	4	8%
18:00	1	0	0	1	2%

Thursday, November 7, 2019

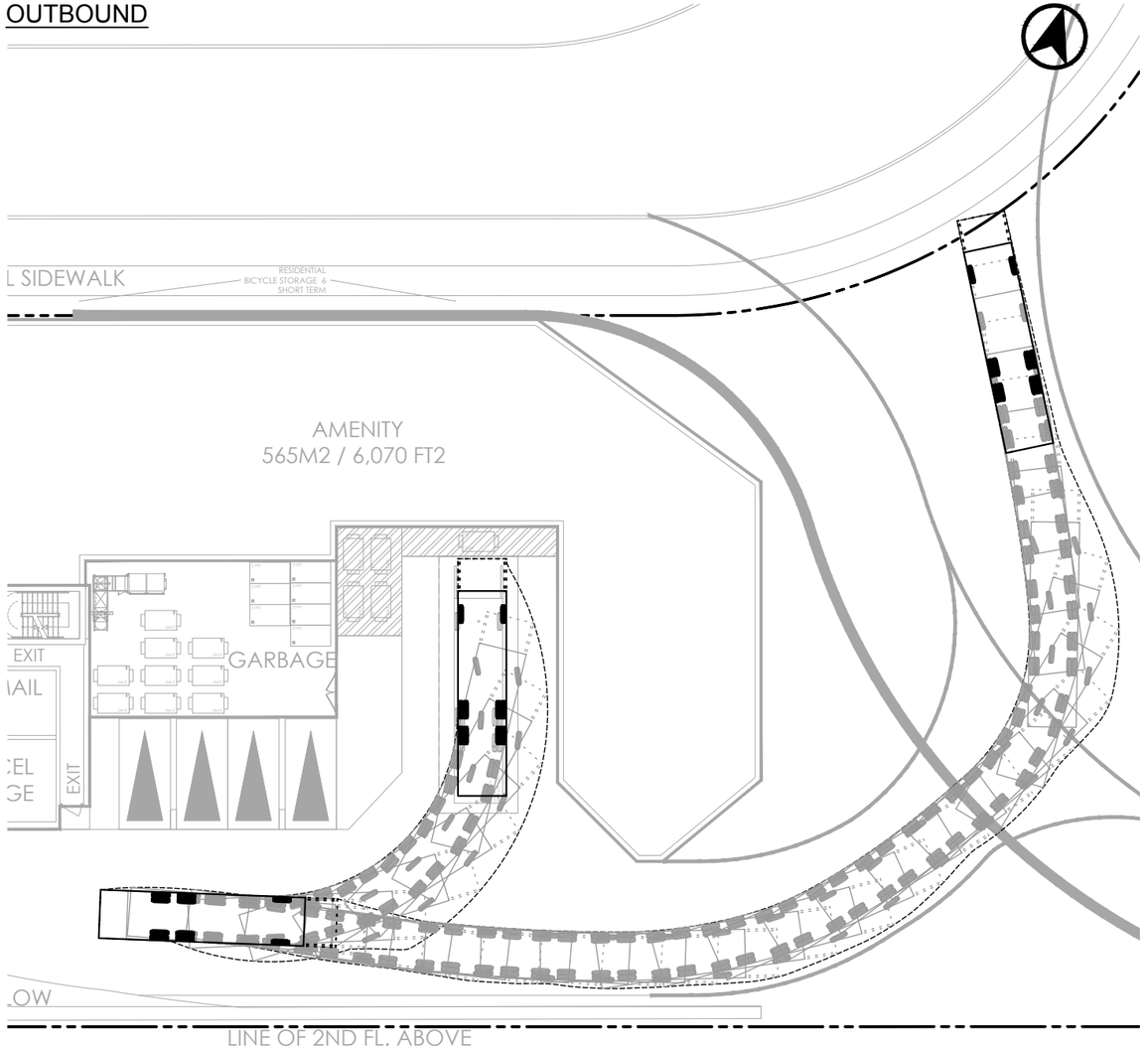
Area Supply	Regular Stalls 38	Reserved Stalls 9	Accessible Stalls 1	Total 48	Occupancy Ratio
Time					
8:00	8	0	0	8	17%
9:00	17	0	0	17	35%
10:00	17	2	0	19	40%
11:00	17	4	0	21	44%
12:00	17	6	0	23	48%
13:00	19	6	0	25	52%
14:00	21	3	0	24	50%
15:00	18	2	0	20	42%
16:00	12	3	0	15	31%
17:00	8	2	0	10	21%
18:00	3	2	0	5	10%

APPENDIX D:
Vehicle Manoeuvring Diagrams

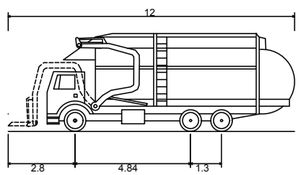
INBOUND



OUTBOUND



Design Vehicle - CITY OF TORONTO
(Front Loading Refuse Collection Vehicle)



Overall Length (Forks Down)	12.00m
Overall Length (Forks Up)	10.00m*
Overall Width	2.45m
Overall Body Height	4.10m
Outside Turning Radius	14.00m
Inside Turning Radius	9.50m

(Dimensions as per City of Toronto Requirements for Garbage, Recycling and Organics Collection Services for New Developments and Redevelopments, May 2012)

* Field measured by BA Group, Aug. 8/11

BA Group

1 HERON'S HILL WAY

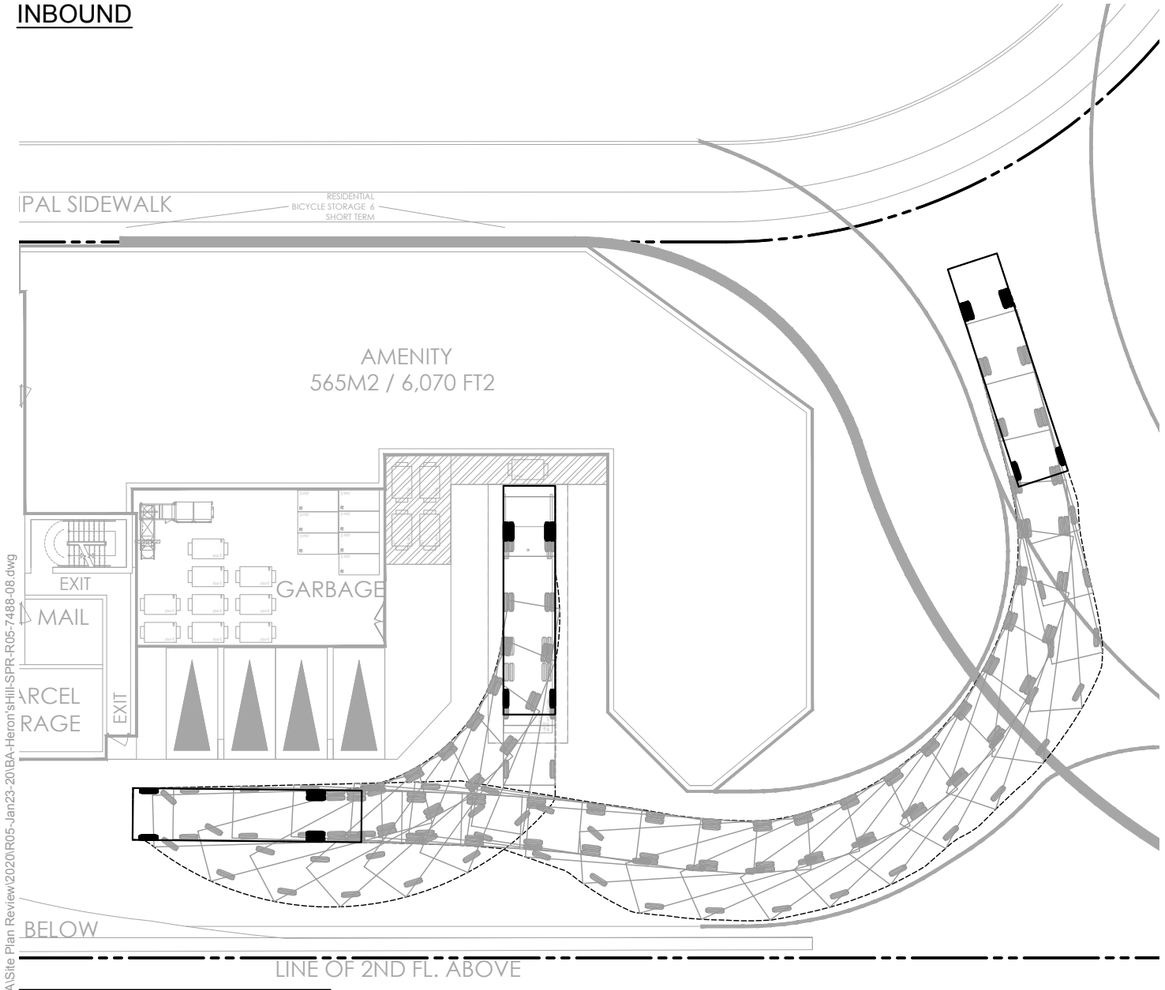
VEHICULAR MANOEUVRING DIAGRAM
CITY OF TORONTO FRONT-LOADING GARBAGE TRUCK

Project:	1 HERON'S HILL WAY
Project No.	7488-08
Date:	AUGUST 21, 2019
Revised:	JANUARY 23, 2020

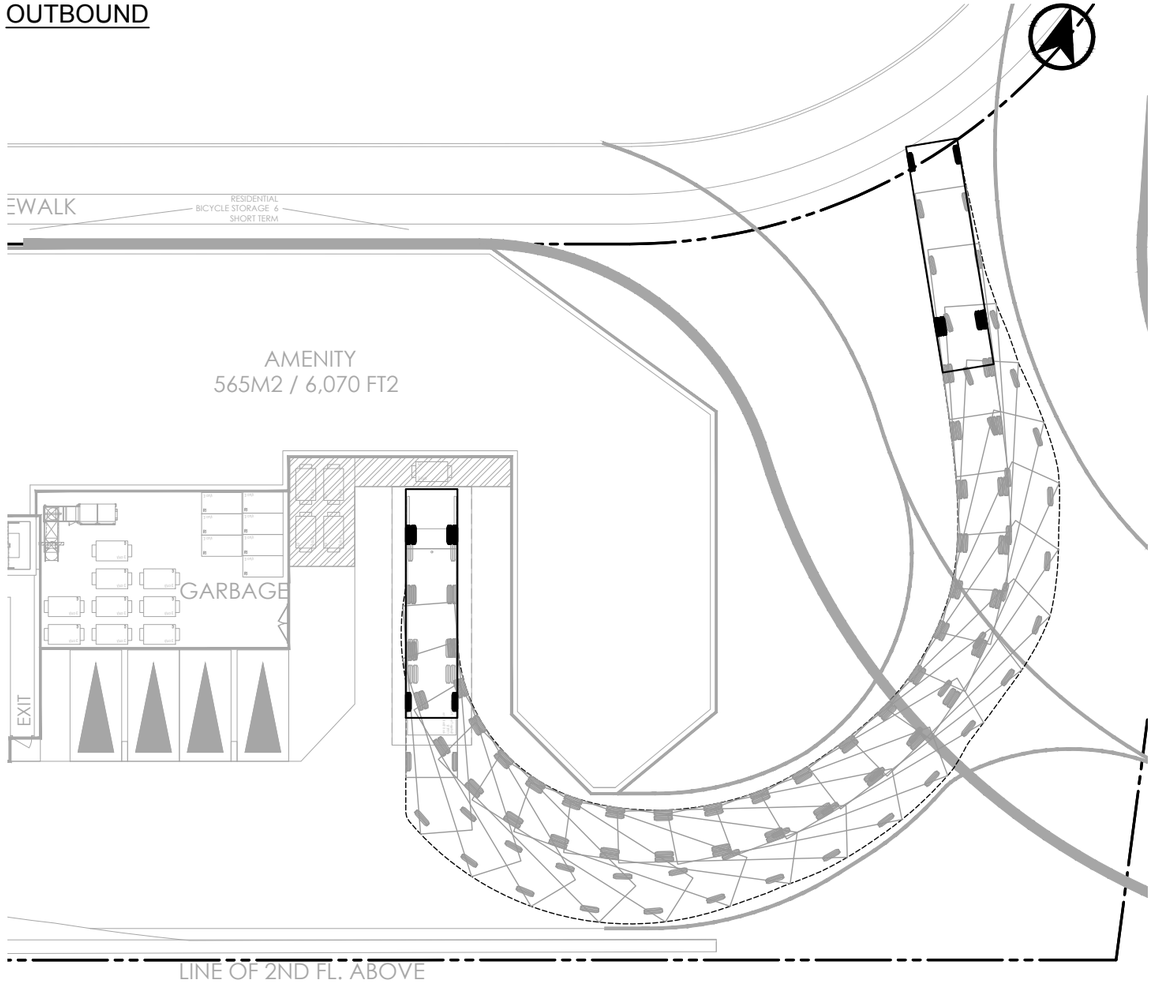
Scale 1:300 (0, 5, 10m)

Drawing No. VMD-01

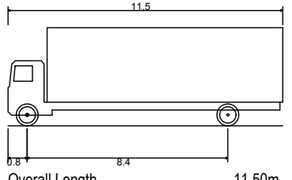
INBOUND



OUTBOUND



Design Vehicle - TAC HSU (Heavy Single Unit)



Overall Length	11.50m
Overall Width	2.60m
Overall Body Height	4.11m
Outside Turning Radius	14.56m
Inside Turning Radius	8.69m

Date Plotted: January 23, 2020 Filename: J:\7488-08\BA\Site Plan Review\2020\R05-Jan23-20\BA-Heron'sHill-SPR-R05-7488-08.dwg

BA Group

1 HERON'S HILL WAY

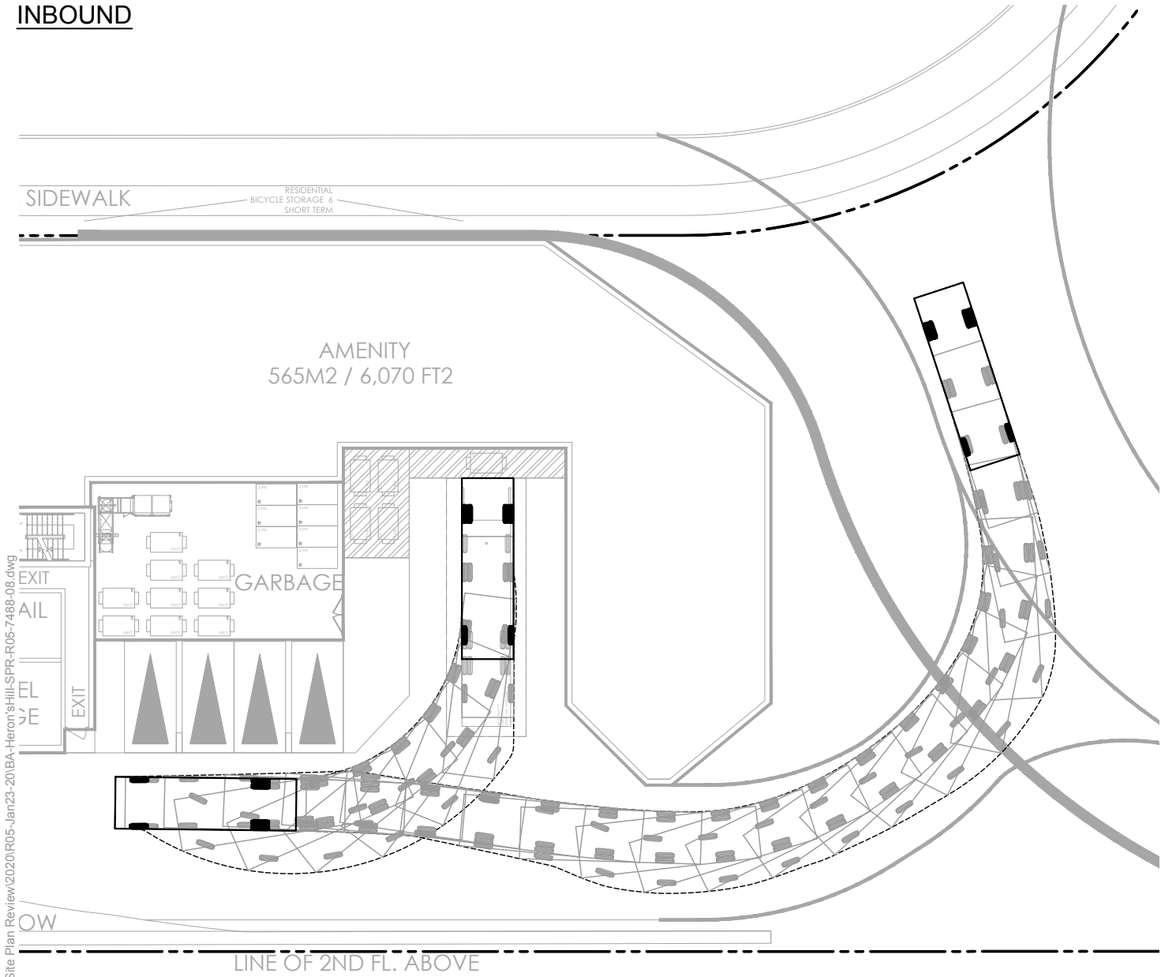
VEHICULAR MANOEUVRING DIAGRAM
TAC HEAVY SINGLE UNIT TRUCK (HSU)

Project:	1 HERON'S HILL WAY
Project No.	7488-08
Date:	AUGUST 21, 2019
Revised:	JANUARY 23, 2020

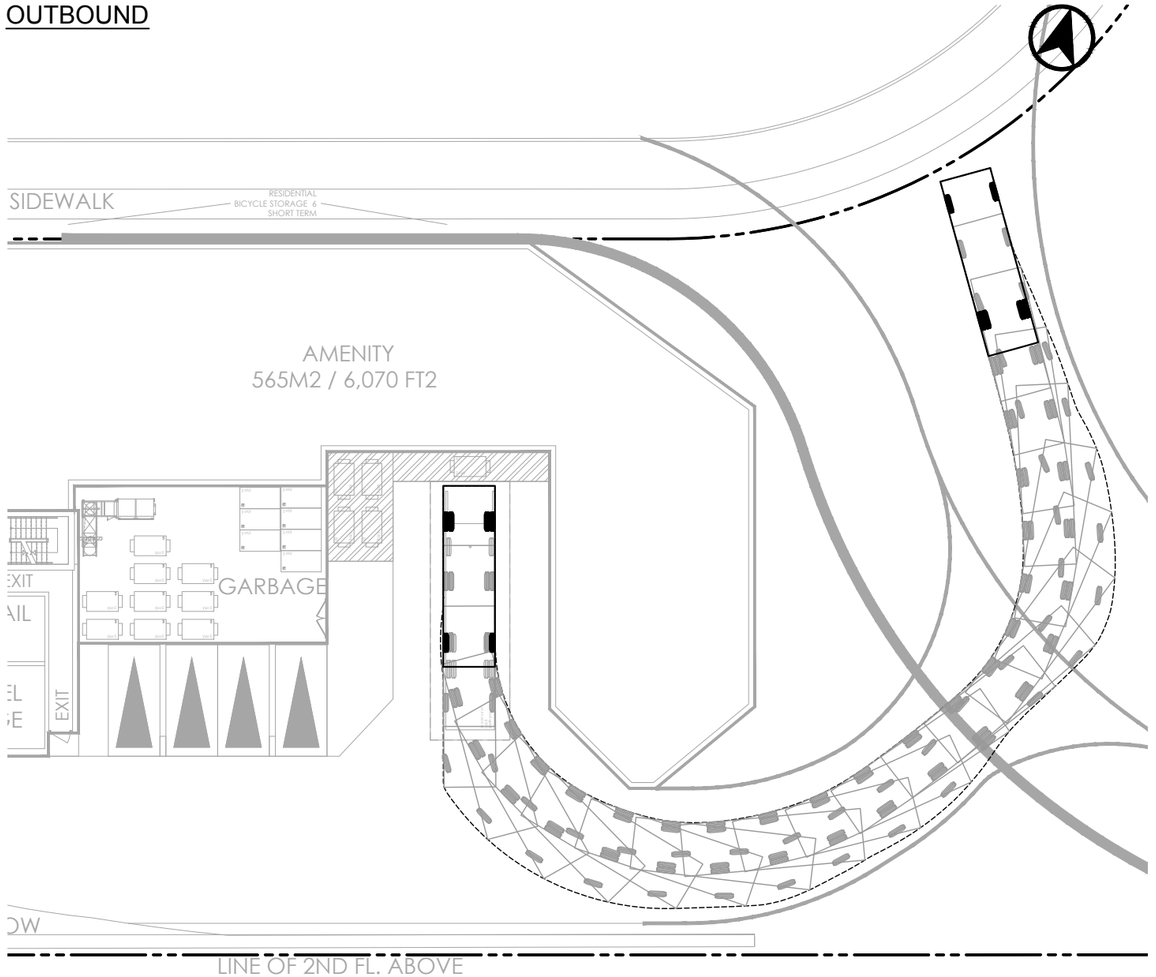
Scale 1:300 (0 5 10m)

Drawing No. VMD-02

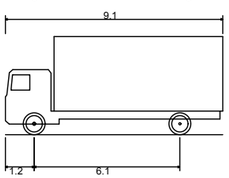
INBOUND



OUTBOUND



Design Vehicle - TAC SU (Single Unit Truck)



Overall Length	9.10m
Overall Width	2.60m
Overall Body Height	4.11m
Outside Turning Radius	13.40m
Inside Turning Radius	8.60m

BA Group

1 HERON'S HILL WAY

VEHICULAR MANOEUVRING DIAGRAM
TAC SINGLE UNIT TRUCK (SU)

Project:	1 HERON'S HILL WAY
Project No.	7488-08
Date:	AUGUST 21, 2019
Revised:	JANUARY 23, 2020

Scale 1:300 (0, 5, 10m)

Drawing No. VMD-03

APPENDIX E:
Existing Turning Movement Counts

Turning Movement Count (1 . CONDO DRIVEWAY 1 & HERONS HILL WAY)

Start Time	N Approach CONDO DRIVEWAY 1					E Approach HERONS HILL WAY					W Approach HERONS HILL WAY					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	U-Turn E:E	Peds E:	Approach Total	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:30:00	21	13	0	8	34	0	7	0	0	7	8	0	0	0	8	49	
07:45:00	24	13	0	13	37	0	11	1	1	12	19	0	1	1	20	69	
08:00:00	27	17	0	7	44	0	13	0	0	13	13	0	0	0	13	70	
08:15:00	25	24	0	8	49	0	24	0	0	24	19	0	1	0	20	93	281
08:30:00	21	41	0	8	62	0	21	0	0	21	32	0	0	0	32	115	347
08:45:00	15	33	0	10	48	0	18	1	0	19	27	0	1	0	28	95	373
09:00:00	18	16	0	5	34	0	12	0	0	12	18	0	0	0	18	64	367
09:15:00	17	15	0	4	32	0	11	0	1	11	14	0	0	0	14	57	331
BREAK																	
16:00:00	11	3	0	1	14	0	7	1	1	8	34	0	2	0	36	58	
16:15:00	11	7	0	2	18	0	8	0	0	8	58	0	1	1	59	85	
16:30:00	12	9	0	12	21	0	8	0	0	8	66	0	1	0	67	96	
16:45:00	2	7	0	2	9	0	8	0	0	8	62	0	1	0	63	80	319
17:00:00	3	3	0	12	6	1	13	0	0	14	90	0	1	0	91	111	372
17:15:00	5	5	0	6	10	0	4	0	0	4	57	1	0	0	58	72	359
17:30:00	15	13	0	1	28	0	10	0	1	10	76	0	0	0	76	114	377
17:45:00	14	10	0	7	24	0	9	0	1	9	64	0	2	1	66	99	396
Grand Total	241	229	0	106	470	1	184	3	5	188	657	1	11	3	669	**1327**	-
Approach%	51.3%	48.7%	0%		-	0.5%	97.9%	1.6%		-	98.2%	0.1%	1.6%		-	-	-
Totals %	18.2%	17.3%	0%		35.4%	0.1%	13.9%	0.2%		14.2%	49.5%	0.1%	0.8%		50.4%	-	-
Heavy	0	0	0		-	0	15	0		-	10	0	0		-	-	-
Heavy %	0%	0%	0%		-	0%	8.2%	0%		-	1.5%	0%	0%		-	-	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	-	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	-	-

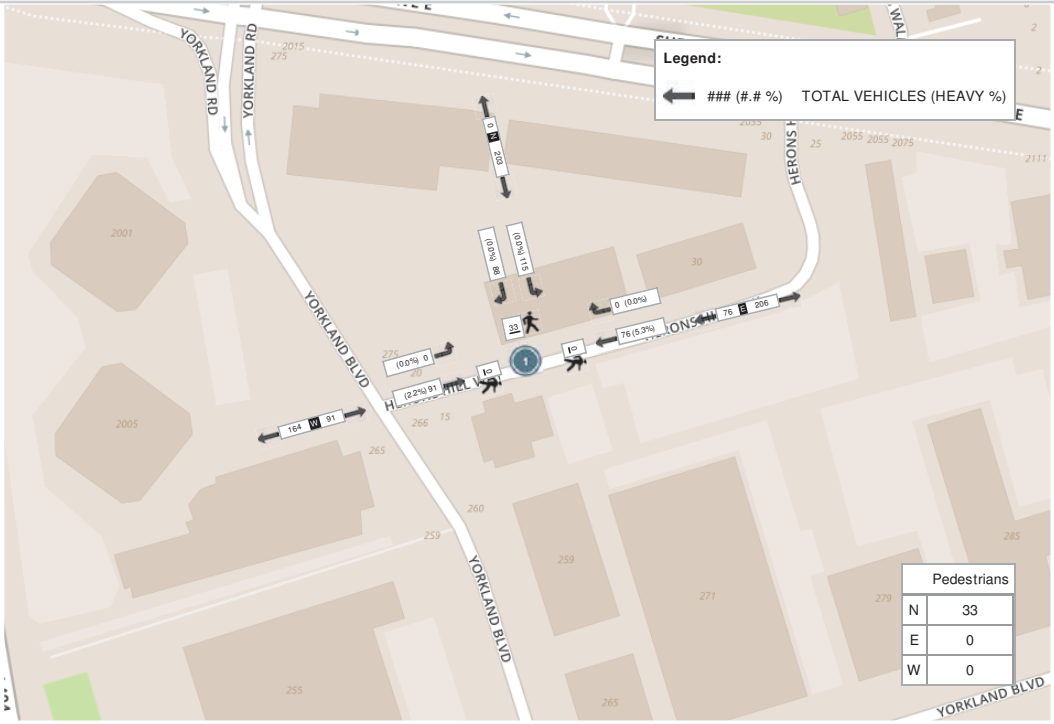
Peak Hour: 08:00 AM - 09:00 AM Weather: Few Clouds (-17.78 °C)

Start Time	N Approach CONDO DRIVEWAY 1					E Approach HERONS HILL WAY					W Approach HERONS HILL WAY					Int. Total (15 min)
	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	27	17	0	7	44	0	13	0	0	13	13	0	0	0	13	70
08:15:00	25	24	0	8	49	0	24	0	0	24	19	0	1	0	20	93
08:30:00	21	41	0	8	62	0	21	0	0	21	32	0	0	0	32	115
08:45:00	15	33	0	10	48	0	18	1	0	19	27	0	1	0	28	95
Grand Total	88	115	0	33	203	0	76	1	0	77	91	0	2	0	93	**373**
Approach%	43.3%	56.7%	0%		-	0%	98.7%	1.3%		-	97.8%	0%	2.2%		-	-
Totals %	23.6%	30.8%	0%		54.4%	0%	20.4%	0.3%		20.6%	24.4%	0%	0.5%		24.9%	-
PHF	0.81	0.7	0		0.82	0	0.79	0.25		0.8	0.71	0	0.5		0.73	-
Heavy	0	0	0		0	0	4	0		4	2	0	0		2	-
Heavy %	0%	0%	0%		0%	0%	5.3%	0%		5.2%	2.2%	0%	0%		2.2%	-
Lights	88	115	0		203	0	72	1		73	89	0	2		91	-
Lights %	100%	100%	0%		100%	0%	94.7%	100%		94.8%	97.8%	0%	100%		97.8%	-
Single-Unit Trucks	0	0	0		0	0	0	0		0	1	0	0		1	-
Single-Unit Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	1.1%	0%	0%		1.1%	-
Buses	0	0	0		0	0	4	0		4	1	0	0		1	-
Buses %	0%	0%	0%		0%	0%	5.3%	0%		5.2%	1.1%	0%	0%		1.1%	-
Pedestrians	-	-	-	33	-	-	-	-	0	-	-	-	-	0	-	-
Pedestrians%	-	-	-	100%		-	-	-	0%		-	-	-	0%		-

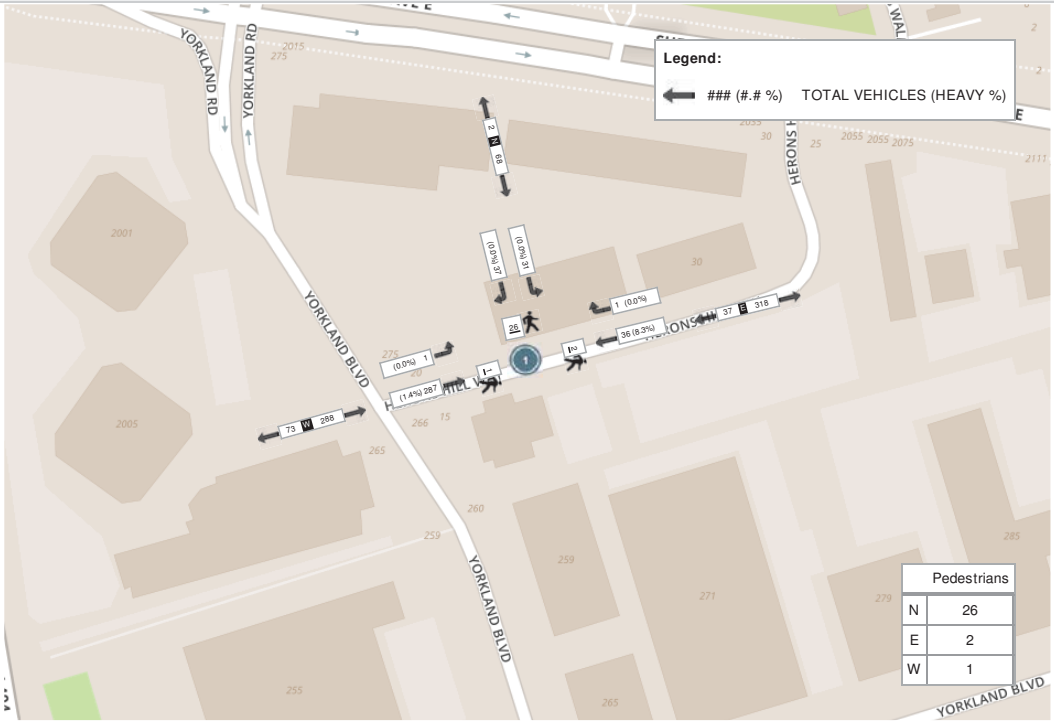
Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (-6.5 °C)

Start Time	N Approach CONDO DRIVEWAY 1					E Approach HERONS HILL WAY					W Approach HERONS HILL WAY					Int. Total (15 min)
	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	
17:00:00	3	3	0	12	6	1	13	0	0	14	90	0	1	0	91	111
17:15:00	5	5	0	6	10	0	4	0	0	4	57	1	0	0	58	72
17:30:00	15	13	0	1	28	0	10	0	1	10	76	0	0	0	76	114
17:45:00	14	10	0	7	24	0	9	0	1	9	64	0	2	1	66	99
Grand Total	37	31	0	26	68	1	36	0	2	37	287	1	3	1	291	**396**
Approach%	54.4%	45.6%	0%		-	2.7%	97.3%	0%		-	98.6%	0.3%	1%		-	-
Totals %	9.3%	7.8%	0%		17.2%	0.3%	9.1%	0%		9.3%	72.5%	0.3%	0.8%		73.5%	-
PHF	0.62	0.6	0		0.61	0.25	0.69	0		0.66	0.8	0.25	0.38		0.8	-
Heavy	0	0	0		0	0	3	0		3	4	0	0		4	-
Heavy %	0%	0%	0%		0%	0%	8.3%	0%		8.1%	1.4%	0%	0%		1.4%	-
Lights	37	31	0		68	1	33	0		34	283	1	3		287	-
Lights %	100%	100%	0%		100%	100%	91.7%	0%		91.9%	98.6%	100%	100%		98.6%	-
Single-Unit Trucks	0	0	0		0	0	0	0		0	1	0	0		1	-
Single-Unit Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0.3%	0%	0%		0.3%	-
Buses	0	0	0		0	0	3	0		3	3	0	0		3	-
Buses %	0%	0%	0%		0%	0%	8.3%	0%		8.1%	1%	0%	0%		1%	-
Pedestrians	-	-	-	26	-	-	-	-	2	-	-	-	-	1	-	-
Pedestrians%	-	-	-	89.7%		-	-	-	6.9%		-	-	-	3.4%		-

Peak Hour: 08:00 AM - 09:00 AM Weather: Few Clouds (-17.78 °C)



Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (-6.5 °C)



Turning Movement Count (2 . CONDO DRIVEWAY 2 & HERONS HILL WAY)

Start Time	N Approach CONDO DRIVEWAY 2						E Approach HERONS HILL WAY						S Approach PARADISE DEVELOPMENT DRIVEWAY						W Approach HERONS HILL WAY						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:30:00	0	0	0	0	7	0	0	6	1	0	5	7	0	0	1	0	13	1	2	18	2	0	0	22	30	
07:45:00	1	0	0	0	15	1	3	9	3	0	8	15	0	0	2	0	27	2	4	23	6	0	4	33	51	
08:00:00	1	0	0	0	11	1	2	12	2	1	10	17	1	0	0	0	26	1	3	25	2	0	4	30	49	
08:15:00	0	0	0	0	11	0	0	23	2	0	18	25	0	0	0	0	39	0	1	40	1	1	2	43	68	198
08:30:00	0	0	0	0	5	0	7	21	0	0	1	28	0	0	0	0	21	0	0	64	7	0	0	71	99	267
08:45:00	1	0	0	0	7	1	7	17	1	0	5	25	0	0	1	0	16	1	0	56	7	0	1	63	90	306
09:00:00	0	0	1	0	13	1	6	12	0	0	5	18	0	0	0	0	17	0	1	26	7	0	2	34	53	310
09:15:00	1	0	0	1	4	2	6	10	0	0	0	16	1	0	0	0	14	1	1	21	6	0	0	28	47	289
BREAK																										
16:00:00	2	0	0	0	7	2	11	5	0	1	0	17	3	0	2	1	16	6	0	22	13	0	4	35	60	
16:15:00	0	0	1	0	9	1	18	8	0	0	4	26	1	0	0	0	23	1	4	46	16	0	7	66	94	
16:30:00	1	0	0	0	6	1	12	5	0	2	1	19	5	1	1	0	10	7	3	57	14	1	3	75	102	
16:45:00	2	0	3	0	6	5	14	7	2	0	4	23	4	0	0	0	16	4	0	50	19	0	4	69	101	357
17:00:00	3	0	2	0	11	5	19	9	1	0	5	29	3	0	2	0	19	5	0	76	17	0	3	93	132	429
17:15:00	0	0	1	0	5	1	17	4	0	0	0	21	1	0	0	0	12	1	0	42	20	0	1	62	85	420
17:30:00	3	0	1	0	8	4	8	8	2	0	1	18	2	0	0	0	18	2	1	66	21	0	6	88	112	430
17:45:00	1	0	2	0	8	3	17	8	1	0	1	26	2	0	0	0	6	2	0	45	30	0	3	75	106	435
Grand Total	16	0	11	1	133	28	147	164	15	4	68	330	23	1	9	1	293	34	20	677	188	2	44	887	**1279**	-
Approach%	57.1%	0%	39.3%	3.6%		-	44.5%	49.7%	4.5%	1.2%		-	67.6%	2.9%	26.5%	2.9%		-	2.3%	76.3%	21.2%	0.2%		-	-	-
Totals %	1.3%	0%	0.9%	0.1%		2.2%	11.5%	12.8%	1.2%	0.3%		25.8%	1.8%	0.1%	0.7%	0.1%		2.7%	1.6%	52.9%	14.7%	0.2%		69.4%	-	-
Heavy	0	0	0	0		-	0	17	0	0		-	0	0	0	0		-	0	10	0	0		-	-	-
Heavy %	0%	0%	0%	0%		-	0%	10.4%	0%	0%		-	0%	0%	0%	0%		-	0%	1.5%	0%	0%		-	-	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-

Peak Hour: 08:15 AM - 09:15 AM Weather: Few Clouds (-17.78 °C)

Start Time	N Approach CONDO DRIVEWAY 2						E Approach HERONS HILL WAY						S Approach PARADISE DEVELOPMENT DRIVEWAY						W Approach HERONS HILL WAY						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:15:00	0	0	0	0	11	0	0	23	2	0	18	25	0	0	0	0	39	0	1	40	1	1	2	43	68
08:30:00	0	0	0	0	5	0	7	21	0	0	1	28	0	0	0	0	21	0	0	64	7	0	0	71	99
08:45:00	1	0	0	0	7	1	7	17	1	0	5	25	0	0	1	0	16	1	0	56	7	0	1	63	90
09:00:00	0	0	1	0	13	1	6	12	0	0	5	18	0	0	0	0	17	0	1	26	7	0	2	34	53
Grand Total	1	0	1	0	36	2	20	73	3	0	29	96	0	0	1	0	93	1	2	186	22	1	5	211	**310**
Approach%	50%	0%	50%	0%		-	20.8%	76%	3.1%	0%		-	0%	0%	100%	0%		-	0.9%	88.2%	10.4%	0.5%		-	-
Totals %	0.3%	0%	0.3%	0%		0.6%	6.5%	23.5%	1%	0%		31%	0%	0%	0.3%	0%		0.3%	0.6%	60%	7.1%	0.3%		68.1%	-
PHF	0.25	0	0.25	0		0.5	0.71	0.79	0.38	0		0.86	0	0	0.25	0		0.25	0.5	0.73	0.79	0.25		0.74	-
Heavy	0	0	0	0		0	0	3	0	0		3	0	0	0	0		0	0	2	0	0		2	-
Heavy %	0%	0%	0%	0%		0%	0%	4.1%	0%	0%		3.1%	0%	0%	0%	0%		0%	0%	1.1%	0%	0%		0.9%	-
Lights	1	0	1	0		2	20	70	3	0		93	0	0	1	0		1	2	184	22	1		209	-
Lights %	100%	0%	100%	0%		100%	100%	95.9%	100%	0%		96.9%	0%	0%	100%	0%		100%	100%	98.9%	100%	100%		99.1%	-
Single-Unit Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	-
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.5%	-
Buses	0	0	0	0		0	0	3	0	0		3	0	0	0	0		0	0	1	0	0		1	-
Buses %	0%	0%	0%	0%		0%	0%	4.1%	0%	0%		3.1%	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.5%	-
Pedestrians	-	-	-	-	36	-	-	-	-	-	29	-	-	-	-	-	93	-	-	-	-	-	5	-	-
Pedestrians%	-	-	-	-	22.1%		-	-	-	-	17.8%		-	-	-	-	57.1%		-	-	-	-	3.1%		-

Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (-6.5 °C)

Start Time	N Approach CONDO DRIVEWAY 2						E Approach HERONS HILL WAY						S Approach PARADISE DEVELOPMENT DRIVEWAY						W Approach HERONS HILL WAY						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
17:00:00	3	0	2	0	11	5	19	9	1	0	5	29	3	0	2	0	19	5	0	76	17	0	3	93	132
17:15:00	0	0	1	0	5	1	17	4	0	0	0	21	1	0	0	0	12	1	0	42	20	0	1	62	85
17:30:00	3	0	1	0	8	4	8	8	2	0	1	18	2	0	0	0	18	2	1	66	21	0	6	88	112
17:45:00	1	0	2	0	8	3	17	8	1	0	1	26	2	0	0	0	6	2	0	45	30	0	3	75	106
Grand Total	7	0	6	0	32	13	61	29	4	0	7	94	8	0	2	0	55	10	1	229	88	0	13	318	**435**
Approach%	53.8%	0%	46.2%	0%		-	64.9%	30.9%	4.3%	0%		-	80%	0%	20%	0%		-	0.3%	72%	27.7%	0%		-	-
Totals %	1.6%	0%	1.4%	0%		3%	14%	6.7%	0.9%	0%		21.6%	1.8%	0%	0.5%	0%		2.3%	0.2%	52.6%	20.2%	0%		73.1%	-
PHF	0.58	0	0.75	0		0.65	0.8	0.81	0.5	0		0.81	0.67	0	0.25	0		0.5	0.25	0.75	0.73	0		0.85	-
Heavy	0	0	0	0		0	0	4	0	0		4	0	0	0	0		0	0	4	0	0		4	-
Heavy %	0%	0%	0%	0%		0%	0%	13.8%	0%	0%		4.3%	0%	0%	0%	0%		0%	0%	1.7%	0%	0%		1.3%	-
Lights	7	0	6	0		13	61	25	4	0		90	8	0	2	0		10	1	225	88	0		314	-
Lights %	100%	0%	100%	0%		100%	100%	86.2%	100%	0%		95.7%	100%	0%	100%	0%		100%	100%	98.3%	100%	0%		98.7%	-
Single-Unit Trucks	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	1	0	0		1	-
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	3.4%	0%	0%		1.1%	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.3%	-
Buses	0	0	0	0		0	0	3	0	0		3	0	0	0	0		0	0	3	0	0		3	-
Buses %	0%	0%	0%	0%		0%	0%	10.3%	0%	0%		3.2%	0%	0%	0%	0%		0%	0%	1.3%	0%	0%		0.9%	-
Pedestrians	-	-	-	-	32	-	-	-	-	-	7	-	-	-	-	-	55	-	-	-	-	-	13	-	-
Pedestrians%	-	-	-	-	29.9%		-	-	-	-	6.5%		-	-	-	-	51.4%		-	-	-	-	12.1%		-

Peak Hour: 08:15 AM - 09:15 AM Weather: Few Clouds (-17.78 °C)

Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (-6.5 °C)

Turning Movement Count (2 . SHEPPARD AVE E & HERONS HILL WAY)

Start Time	E Approach SHEPPARD AVE E					S Approach HERONS HILL WAY					W Approach SHEPPARD AVE E					Int. Total (15 min)	Int. Total (1 hr)
	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	U-Turn W:W	Peds W:	Approach Total		
07:30:00	390	9	1	1	400	19	6	0	11	25	1	230	0	18	231	656	
07:45:00	345	15	2	5	362	17	9	0	13	26	8	240	0	21	248	636	
08:00:00	288	17	0	6	305	19	13	0	14	32	11	292	0	19	303	640	
08:15:00	303	23	0	7	326	31	26	0	15	57	8	310	0	37	318	701	2633
08:30:00	326	23	1	3	350	37	42	0	14	79	7	318	0	6	325	754	2731
08:45:00	352	19	0	6	371	31	35	0	24	66	7	332	0	16	339	776	2871
09:00:00	339	13	1	2	353	24	23	0	18	47	15	395	0	14	410	810	3041
09:15:00	406	14	0	4	420	18	5	0	11	23	10	321	0	16	331	774	3114
BREAK																	
16:00:00	391	13	0	5	404	27	23	0	17	50	5	414	0	11	419	873	
16:15:00	369	13	1	3	383	24	17	0	20	41	4	402	1	14	407	831	
16:30:00	366	8	0	4	374	29	19	0	11	48	7	410	0	10	417	839	
16:45:00	396	13	0	10	409	14	45	0	18	59	6	369	0	15	375	843	3386
17:00:00	419	14	0	5	433	50	50	0	18	100	8	414	0	7	422	955	3468
17:15:00	397	17	0	4	414	41	33	0	17	74	6	377	0	20	383	871	3508
17:30:00	366	13	0	6	379	13	30	0	11	43	11	372	0	20	383	805	3474
17:45:00	279	14	0	4	293	34	28	0	23	62	9	392	0	24	401	756	3387
Grand Total	5732	238	6	75	5976	428	404	0	255	832	123	5588	1	268	5712	**12520**	-
Approach%	95.9%	4%	0.1%		-	51.4%	48.6%	0%		-	2.2%	97.8%	0%		-	-	-
Totals %	45.8%	1.9%	0%		47.7%	3.4%	3.2%	0%		6.6%	1%	44.6%	0%		45.6%	-	-
Heavy	246	2	0		-	5	8	0		-	11	228	0		-	-	-
Heavy %	4.3%	0.8%	0%		-	1.2%	2%	0%		-	8.9%	4.1%	0%		-	-	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	-	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	-	-

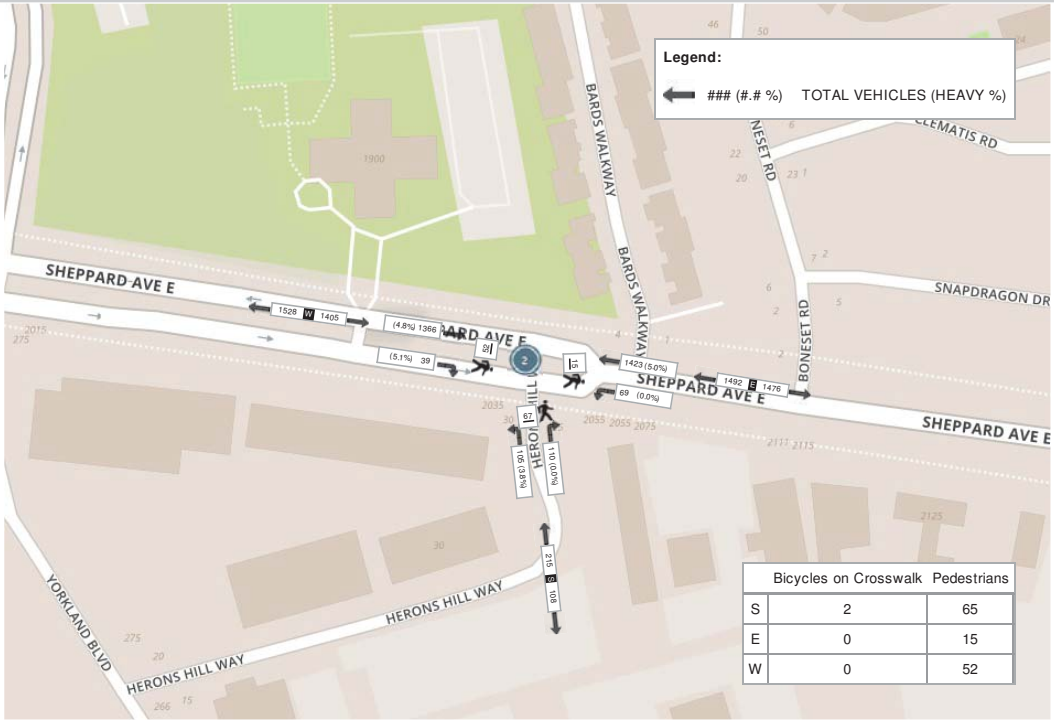
Peak Hour: 08:30 AM - 09:30 AM Weather: Clear Sky (-0.54 °C)

Start Time	E Approach SHEPPARD AVE E					S Approach HERONS HILL WAY					W Approach SHEPPARD AVE E					Int. Total (15 min)
	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	
08:30:00	326	23	1	3	350	37	42	0	14	79	7	318	0	6	325	754
08:45:00	352	19	0	6	371	31	35	0	24	66	7	332	0	16	339	776
09:00:00	339	13	1	2	353	24	23	0	18	47	15	395	0	14	410	810
09:15:00	406	14	0	4	420	18	5	0	11	23	10	321	0	16	331	774
Grand Total	1423	69	2	15	1494	110	105	0	67	215	39	1366	0	52	1405	**3114**
Approach%	95.2%	4.6%	0.1%		-	51.2%	48.8%	0%		-	2.8%	97.2%	0%		-	-
Totals %	45.7%	2.2%	0.1%		48%	3.5%	3.4%	0%		6.9%	1.3%	43.9%	0%		45.1%	-
PHF	0.88	0.75	0.5		0.89	0.74	0.63	0		0.68	0.65	0.86	0		0.86	-
Heavy	71	0	0		71	0	4	0		4	2	65	0		67	-
Heavy %	5%	0%	0%		4.8%	0%	3.8%	0%		1.9%	5.1%	4.8%	0%		4.8%	-
Lights	1352	69	2		1423	110	101	0		211	37	1301	0		1338	-
Lights %	95%	100%	100%		95.2%	100%	96.2%	0%		98.1%	94.9%	95.2%	0%		95.2%	-
Single-Unit Trucks	26	0	0		26	0	0	0		0	1	14	0		15	-
Single-Unit Trucks %	1.8%	0%	0%		1.7%	0%	0%	0%		0%	2.6%	1%	0%		1.1%	-
Buses	44	0	0		44	0	4	0		4	1	49	0		50	-
Buses %	3.1%	0%	0%		2.9%	0%	3.8%	0%		1.9%	2.6%	3.6%	0%		3.6%	-
Articulated Trucks	1	0	0		1	0	0	0		0	0	2	0		2	-
Articulated Trucks %	0.1%	0%	0%		0.1%	0%	0%	0%		0%	0%	0.1%	0%		0.1%	-
Pedestrians	-	-	-	15	-	-	-	-	65	-	-	-	-	52	-	-
Pedestrians%	-	-	-	11.2%		-	-	-	48.5%		-	-	-	38.8%		-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	2	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	1.5%		-	-	-	0%		-

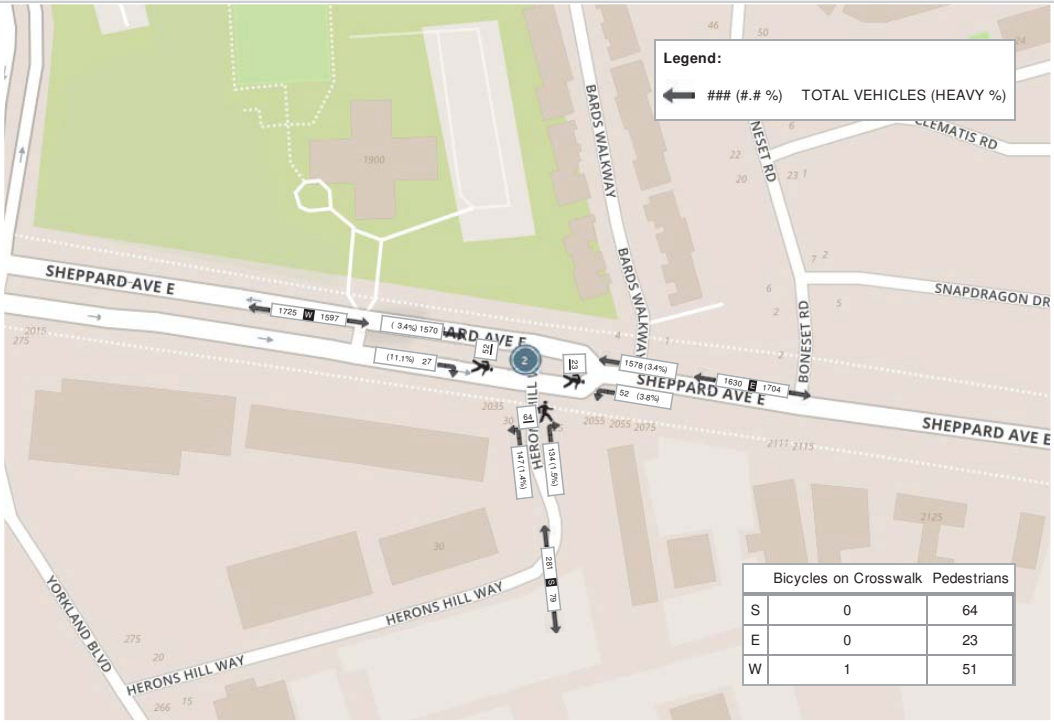
Peak Hour: 04:30 PM - 05:30 PM Weather: Broken Clouds (4.25 °C)

Start Time	E Approach SHEPPARD AVE E					S Approach HERONS HILL WAY					W Approach SHEPPARD AVE E					Int. Total (15 min)
	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	
16:30:00	366	8	0	4	374	29	19	0	11	48	7	410	0	10	417	839
16:45:00	396	13	0	10	409	14	45	0	18	59	6	369	0	15	375	843
17:00:00	419	14	0	5	433	50	50	0	18	100	8	414	0	7	422	955
17:15:00	397	17	0	4	414	41	33	0	17	74	6	377	0	20	383	871
Grand Total	1578	52	0	23	1630	134	147	0	64	281	27	1570	0	52	1597	**3508**
Approach%	96.8%	3.2%	0%		-	47.7%	52.3%	0%		-	1.7%	98.3%	0%		-	-
Totals %	45%	1.5%	0%		46.5%	3.8%	4.2%	0%		8%	0.8%	44.8%	0%		45.5%	-
PHF	0.94	0.76	0		0.94	0.67	0.74	0		0.7	0.84	0.95	0		0.95	-
Heavy	53	2	0		55	2	2	0		4	3	53	0		56	-
Heavy %	3.4%	3.8%	0%		3.4%	1.5%	1.4%	0%		1.4%	11.1%	3.4%	0%		3.5%	-
Lights	1525	50	0		1575	132	145	0		277	24	1517	0		1541	-
Lights %	96.6%	96.2%	0%		96.6%	98.5%	98.6%	0%		98.6%	88.9%	96.6%	0%		96.5%	-
Single-Unit Trucks	11	1	0		12	2	0	0		2	0	7	0		7	-
Single-Unit Trucks %	0.7%	1.9%	0%		0.7%	1.5%	0%	0%		0.7%	0%	0.4%	0%		0.4%	-
Buses	40	1	0		41	0	2	0		2	3	45	0		48	-
Buses %	2.5%	1.9%	0%		2.5%	0%	1.4%	0%		0.7%	11.1%	2.9%	0%		3%	-
Articulated Trucks	2	0	0		2	0	0	0		0	0	1	0		1	-
Articulated Trucks %	0.1%	0%	0%		0.1%	0%	0%	0%		0%	0%	0.1%	0%		0.1%	-
Pedestrians	-	-	-	23	-	-	-	-	64	-	-	-	-	51	-	-
Pedestrians%	-	-	-	16.5%		-	-	-	46%		-	-	-	36.7%		-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	0%		-	-	-	0.7%		-

Peak Hour: 08:30 AM - 09:30 AM Weather: Clear Sky (-0.54 °C)



Peak Hour: 04:30 PM - 05:30 PM Weather: Broken Clouds (4.25 °C)



	Bicycles on Crosswalk	Pedestrians
S	0	64
E	0	23
W	1	51

Turning Movement Count (3 . YORKLAND RD & HERONS HILL WAY)

Start Time	N Approach YORKLAND RD						E Approach HERONS HILL WAY						S Approach YORKLAND RD						W Approach HERONS HILL WAY						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:30:00	23	138	5	0	6	166	21	3	4	0	3	28	3	25	6	0	6	34	4	1	5	0	8	10	238	
07:45:00	36	164	12	0	4	212	29	7	8	0	6	44	6	36	22	0	10	64	5	4	6	0	16	15	335	
08:00:00	33	197	3	0	6	233	22	10	12	0	12	44	12	37	14	0	8	63	3	2	5	0	21	10	350	
08:15:00	54	253	4	0	12	311	24	15	15	0	20	54	17	52	5	0	18	74	1	3	2	0	37	6	445	1368
08:30:00	38	241	8	0	19	287	17	8	19	0	26	44	37	58	20	0	27	115	9	7	1	0	23	17	463	1593
08:45:00	50	212	15	0	15	277	11	5	11	0	9	27	27	39	19	1	2	86	2	6	6	0	11	14	404	1662
09:00:00	51	253	10	0	7	314	13	4	12	0	13	29	20	42	12	0	6	74	4	1	4	0	15	9	426	1738
09:15:00	49	184	8	0	10	241	12	19	13	0	8	44	9	38	11	0	3	58	4	3	7	0	11	14	357	1650
BREAK																										
16:00:00	7	74	13	0	5	94	12	2	1	1	14	16	21	118	3	0	9	142	11	9	14	0	13	34	286	
16:15:00	8	94	11	0	9	113	9	1	6	0	12	16	18	85	1	0	2	104	14	9	14	0	12	37	270	
16:30:00	6	95	17	0	5	118	11	0	1	0	9	12	24	107	1	0	3	132	26	18	21	0	15	65	327	
16:45:00	9	90	20	0	5	119	11	5	3	0	14	19	16	103	2	0	0	121	17	31	19	0	11	67	326	1209
17:00:00	14	70	21	0	9	105	12	1	5	0	22	18	34	114	3	0	11	151	18	55	16	0	39	89	363	1286
17:15:00	14	75	27	0	7	116	11	2	3	0	10	16	20	89	5	0	3	114	15	35	24	0	18	74	320	1336
17:30:00	7	83	37	0	6	127	8	2	2	0	15	12	22	73	2	0	9	97	19	12	16	0	19	47	283	1292
17:45:00	8	54	27	0	6	89	10	2	5	0	23	17	19	79	2	0	6	100	6	32	1	0	14	39	245	1211
Grand Total	407	2277	238	0	131	2922	233	86	120	1	216	440	305	1095	128	1	123	1529	158	228	161	0	283	547	**5438**	-
Approach%	13.9%	77.9%	8.1%	0%		-	53%	19.5%	27.3%	0.2%		-	19.9%	71.6%	8.4%	0.1%		-	28.9%	41.7%	29.4%	0%		-	-	-
Totals %	7.5%	41.9%	4.4%	0%		53.7%	4.3%	1.6%	2.2%	0%		8.1%	5.6%	20.1%	2.4%	0%		28.1%	2.9%	4.2%	3%	0%		10.1%	-	-
Heavy	8	29	1	0		-	8	2	2	0		-	5	26	7	0		-	10	6	1	0		-	-	-
Heavy %	2%	1.3%	0.4%	0%		-	3.4%	2.3%	1.7%	0%		-	1.6%	2.4%	5.5%	0%		-	6.3%	2.6%	0.6%	0%		-	-	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-

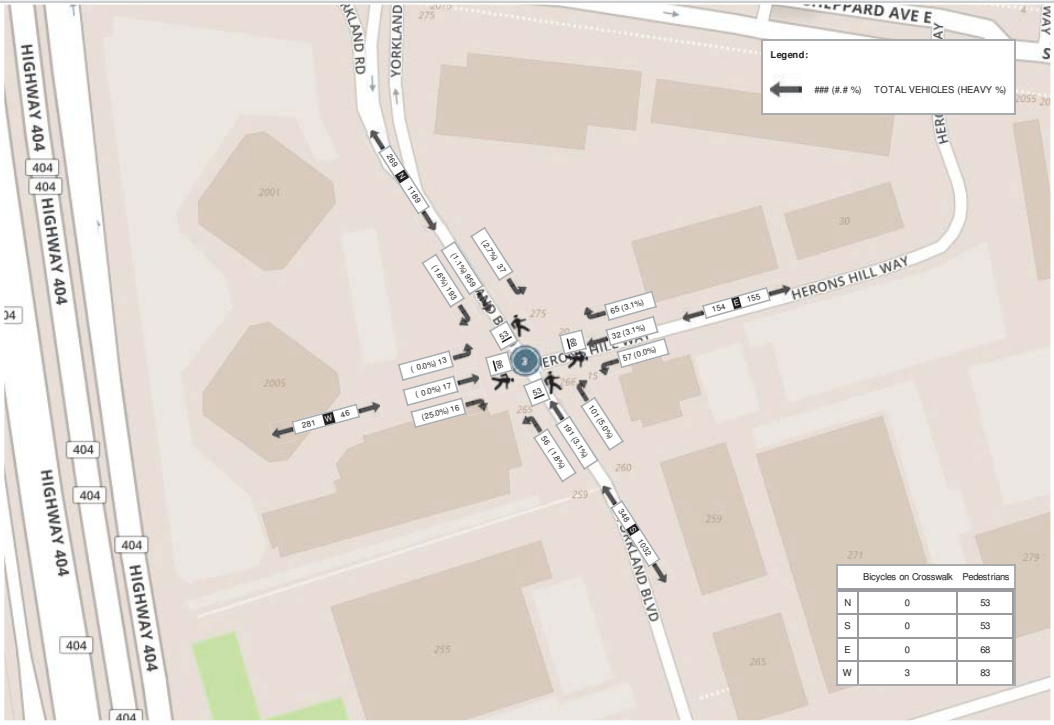
Peak Hour: 08:15 AM - 09:15 AM Weather: Clear Sky (-0.54 °C)

Start Time	N Approach YORKLAND RD						E Approach HERONS HILL WAY						S Approach YORKLAND RD						W Approach HERONS HILL WAY						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:15:00	54	253	4	0	12	311	24	15	15	0	20	54	17	52	5	0	18	74	1	3	2	0	37	6	445
08:30:00	38	241	8	0	19	287	17	8	19	0	26	44	37	58	20	0	27	115	9	7	1	0	23	17	463
08:45:00	50	212	15	0	15	277	11	5	11	0	9	27	27	39	19	1	2	86	2	6	6	0	11	14	404
09:00:00	51	253	10	0	7	314	13	4	12	0	13	29	20	42	12	0	6	74	4	1	4	0	15	9	426
Grand Total	193	959	37	0	53	1189	65	32	57	0	68	154	101	191	56	1	53	349	16	17	13	0	86	46	**1738**
Approach%	16.2%	80.7%	3.1%	0%		-	42.2%	20.8%	37%	0%		-	28.9%	54.7%	16%	0.3%		-	34.8%	37%	28.3%	0%		-	-
Totals %	11.1%	55.2%	2.1%	0%		68.4%	3.7%	1.8%	3.3%	0%		8.9%	5.8%	11%	3.2%	0.1%		20.1%	0.9%	1%	0.7%	0%		2.6%	-
PHF	0.89	0.95	0.62	0		0.95	0.68	0.53	0.75	0		0.71	0.68	0.82	0.7	0.25		0.76	0.44	0.61	0.54	0		0.68	-
Heavy	3	11	1	0		15	2	1	0	0		3	5	6	1	0		12	4	0	0	0		4	-
Heavy %	1.6%	1.1%	2.7%	0%		1.3%	3.1%	3.1%	0%	0%		1.9%	5%	3.1%	1.8%	0%		3.4%	25%	0%	0%	0%		8.7%	-
Lights	190	948	36	0		1174	63	31	57	0		151	96	185	55	1		337	12	17	13	0		42	-
Lights %	98.4%	98.9%	97.3%	0%		98.7%	96.9%	96.9%	100%	0%		98.1%	95%	96.9%	98.2%	100%		96.6%	75%	100%	100%	0%		91.3%	-
Single-Unit Trucks	1	2	0	0		3	0	1	0	0		1	0	2	1	0		3	2	0	0	0		2	-
Single-Unit Trucks %	0.5%	0.2%	0%	0%		0.3%	0%	3.1%	0%	0%		0.6%	0%	1%	1.8%	0%		0.9%	12.5%	0%	0%	0%		4.3%	-
Buses	2	9	1	0		12	2	0	0	0		2	5	4	0	0		9	2	0	0	0		2	-
Buses %	1%	0.9%	2.7%	0%		1%	3.1%	0%	0%	0%		1.3%	5%	2.1%	0%	0%		2.6%	12.5%	0%	0%	0%		4.3%	-
Pedestrians	-	-	-	-	53	-	-	-	-	-	68	-	-	-	-	-	53	-	-	-	-	-	83	-	-
Pedestrians%	-	-	-	-	20.4%		-	-	-	-	26.2%		-	-	-	-	20.4%		-	-	-	-	31.9%		-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	-	-
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	1.2%		-

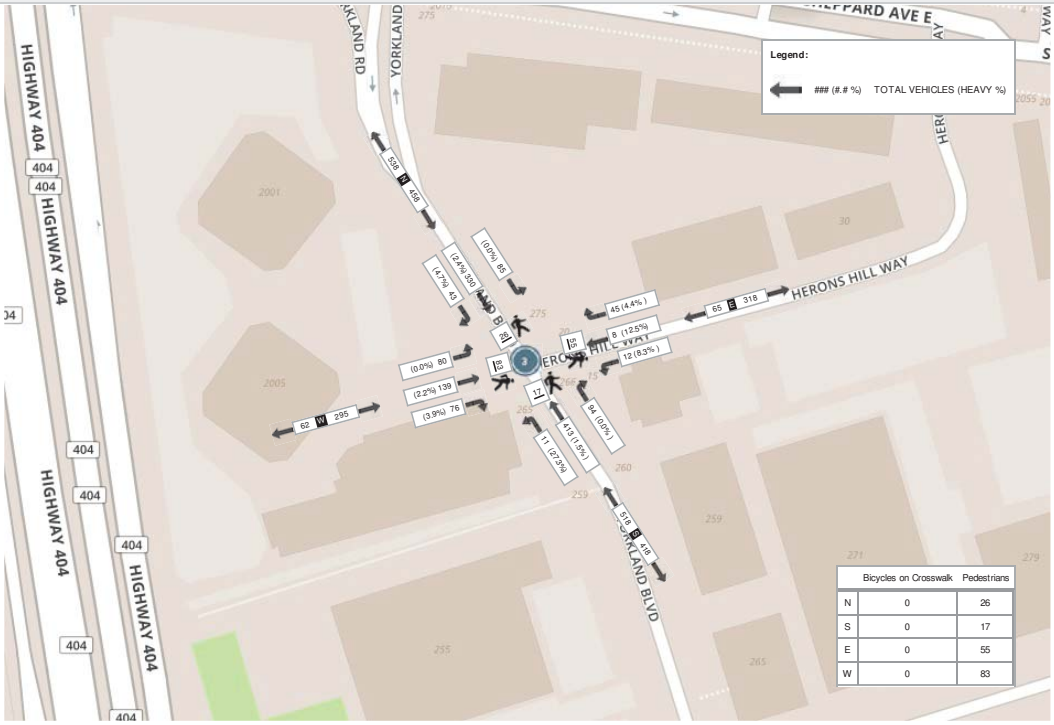
Peak Hour: 04:30 PM - 05:30 PM Weather: Broken Clouds (4.25 °C)

Start Time	N Approach YORKLAND RD						E Approach HERONS HILL WAY						S Approach YORKLAND RD						W Approach HERONS HILL WAY						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
16:30:00	6	95	17	0	5	118	11	0	1	0	9	12	24	107	1	0	3	132	26	18	21	0	15	65	327
16:45:00	9	90	20	0	5	119	11	5	3	0	14	19	16	103	2	0	0	121	17	31	19	0	11	67	326
17:00:00	14	70	21	0	9	105	12	1	5	0	22	18	34	114	3	0	11	151	18	55	16	0	39	89	363
17:15:00	14	75	27	0	7	116	11	2	3	0	10	16	20	89	5	0	3	114	15	35	24	0	18	74	320
Grand Total	43	330	85	0	26	458	45	8	12	0	55	65	94	413	11	0	17	518	76	139	80	0	83	295	**1336**
Approach%	9.4%	72.1%	18.6%	0%		-	69.2%	12.3%	18.5%	0%		-	18.1%	79.7%	2.1%	0%		-	25.8%	47.1%	27.1%	0%		-	-
Totals %	3.2%	24.7%	6.4%	0%		34.3%	3.4%	0.6%	0.9%	0%		4.9%	7%	30.9%	0.8%	0%		38.8%	5.7%	10.4%	6%	0%		22.1%	-
PHF	0.77	0.87	0.79	0		0.96	0.94	0.4	0.6	0		0.86	0.69	0.91	0.55	0		0.86	0.73	0.63	0.83	0		0.83	-
Heavy	2	8	0	0		10	2	1	1	0		4	0	6	3	0		9	3	3	0	0		6	-
Heavy %	4.7%	2.4%	0%	0%		2.2%	4.4%	12.5%	8.3%	0%		6.2%	0%	1.5%	27.3%	0%		1.7%	3.9%	2.2%	0%	0%		2%	-
Lights	41	322	85	0		448	43	7	11	0		61	94	407	8	0		509	73	136	80	0		289	-
Lights %	95.3%	97.6%	100%	0%		97.8%	95.6%	87.5%	91.7%	0%		93.8%	100%	98.5%	72.7%	0%		98.3%	96.1%	97.8%	100%	0%		98%	-
Single-Unit Trucks	2	2	0	0		4	0	1	0	0		1	0	1	1	0		2	3	1	0	0		4	-
Single-Unit Trucks %	4.7%	0.6%	0%	0%		0.9%	0%	12.5%	0%	0%		1.5%	0%	0.2%	9.1%	0%		0.4%	3.9%	0.7%	0%	0%		1.4%	-
Buses	0	6	0	0		6	2	0	1	0		3	0	5	2	0		7	0	2	0	0		2	-
Buses %	0%	1.8%	0%	0%		1.3%	4.4%	0%	8.3%	0%		4.6%	0%	1.2%	18.2%	0%		1.4%	0%	1.4%	0%	0%		0.7%	-
Pedestrians	-	-	-	-	26	-	-	-	-	-	55	-	-	-	-	-	17	-	-	-	-	-	83	-	-
Pedestrians%	-	-	-	-	14.4%		-	-	-	-	30.4%		-	-	-	-	9.4%		-	-	-	-	45.9%		-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

Peak Hour: 08:15 AM - 09:15 AM Weather: Clear Sky (-0.54 °C)



Peak Hour: 04:30 PM - 05:30 PM Weather: Broken Clouds (4.25 °C)



Turning Movement Count (4 . YORKLAND RD & YORKLAND BLVD)

Start Time	N Approach YOKL AND	KHE ANS	IWL ANg	h EHI ANA	:WTr AN	ueeHIU-Kn fLLP	E Approach YOKL gNA	KHE gND	IWL gNS	h EHI gNg	:WTr gN	ueeHIU-Kn fLLP	S Approach YOKL SNg	KHE SNA	IWL SND	h EHI SNS	:WTr SN	ueeHIU-Kn fLLP	W Approach YOKL DNS	KHE DNg	IWL DNA	h EHI DND	:WTr DN	ueeHIU-Kn fLLP	Int. Total (15 min)	Int. Total (1 hr)
dsNpdNdd	o	acs	al	d	d	ao0	7	d	aa	d	l	cd	a	cc	d	d	d	cp	d	d	d	d	p	d	a37	
dsNol Ndd	c	aoo	cl	d	d	asa	c7	a	ad	d	ca	od	o	p0	c	d	a	oc	d	d	a	d	l	a	cl o	
d3NddNdd	0	a0l	co	d	d	a7l	as	d	ac	d	pd	c7	0	po	a	d	d	oa	d	d	d	d	7	d	c0l	
d3Nal Ndd	3	a00	c0	d	a	cdd	pp	d	al	d	co	o3	0	oc	l	d	d	l p	d	d	d	d	7	d	pda	add7
d3NpdNdd	s	cda	l o	d	a	c0c	po	d	l	d	a0	p7	l	0a	p	d	d	07	d	d	d	d	0	d	psd	aa7d
d3Nol Ndd	aa	a3l	pl	d	p	cpa	cp	a	3	d	ap	pc	p	o0	p	d	d	l c	a	d	d	d	l	a	pa0	acl c
d7NddNdd	3	cca	pc	d	d	c0a	cs	c	s	d	ao	p0	0	oa	d	d	d	os	d	d	a	d	7	a	pol	appc
d7Nal Ndd	o	a0o	pa	d	c	a77	cl	a	aa	d	3	ps	0	od	d	d	d	o0	d	a	c	d	l	p	c3l	apa0
221 Ygu 8 22																										
a0NddNdd	a	sd	aa	d	a	3c	cd	d	l	d	ad	cl	aa	7s	d	d	d	ad3	a	a	o	d	0	0	cca	
a0Nal Ndd	a	3c	ca	d	p	ado	a7	d	p	d	ap	cc	0	3o	d	d	a	7d	a	d	d	d	s	a	cas	
a0NpdNdd	a	ad0	ca	d	p	ac3	ap	a	c	d	ap	a0	aa	aad	a	d	c	acc	d	p	0	d	s	7	csl	
a0Nol Ndd	d	so	a3	d	a	7c	ad	d	s	d	ap	as	aa	3o	c	d	a	7s	o	a	ad	d	7	al	cca	7po
asNddNdd	d	0o	c0	d	d	7d	pa	d	s	d	a7	p3	c0	aap	d	d	p	ap7	l	d	3	d	co	ap	c3d	77p
asNal Ndd	d	sp	cl	d	p	73	c3	d	o	d	ao	pc	as	3o	d	d	p	ada	p	o	a	d	0	3	cp7	adal
asNpdNdd	d	sl	ca	a	d	7s	cd	d	s	d	7	cs	ac	0d	d	d	a	sc	d	a	p	d	3	o	cdd	7od
asNol Ndd	d	l a	a3	d	c	07	cc	d	p	d	0	cl	al	sp	d	d	d	33	d	d	p	d	p	p	a3l	7do
Grand Total	l p	a703	odp	a	cd	cocl	p0d	0	aas	d	cc3	o3p	ao0	adcs	as	d	ac	aa7d	al	aa	p7	d	aca	0l	**4163**	5
Approach%	c6c4	3a6c4	a0604	d4		5	so6 4	a6c4	co6c4	d4		5	ac6p4	306p4	a6o4	d4		5	cp6a4	a0674	0d4	d4		5	-	5
Totals %	a6p4	os6p4	76s4	d4		l 36p4	3604	d6a4	c634	d4		aa604	p6 4	co6s4	d6o4	d4		c3604	d6o4	d6p4	d674	d4		a604	-	5
Heavy	a	pp	o	d		5	ap	d	cp	d		5	cc	cp	d	d		5	a	d	a	d		5	-	5
Heavy %	a674	a6s4	a4	d4		5	p604	d4	a76s4	d4		5	al 6a4	c6c4	d4	d4		5	06s4	d4	c604	d4		5	-	5
Bicycles	d	a	d	d		5	d	d	d	d		5	d	d	d	d		5	d	d	d	d		5	-	5
Bicycle %	d4	d6a4	d4	d4		5	d4	d4	d4	d4		5	d4	d4	d4	d4		5	d4	d4	d4	d4		5	-	5

Peak Hour: 08:15 AM - 09:15 AMmmWeather: Clear Sky (-0.54 °C)

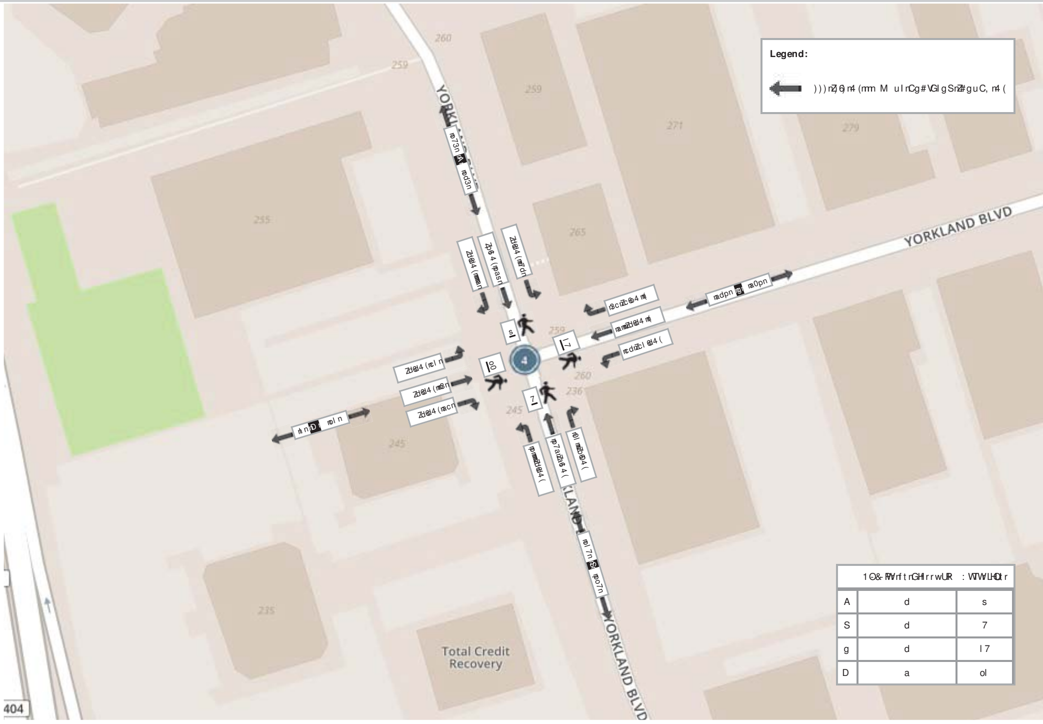
Start Time	N Approach YOKL	KHE	IWL	h EHI	:WTr	ueeHIU-Kn fLLP	E Approach YOKL	KHE	IWL	h EHI	:WTr	ueeHIU-Kn fLLP	S Approach YOKL	KHE	IWL	h EHI	:WTr	ueeHIU-Kn fLLP	W Approach YOKL	KHE	IWL	h EHI	:WTr	ueeHIU-Kn fLLP	Int. Total (15 min)
d3Nal Ndd	3	a00	c0	d	a	cdd	pp	d	al	d	co	o3	0	oc	l	d	d	l p	d	d	d	d	7	d	pda
d3NpdNdd	s	cda	l o	d	a	c0c	po	d	l	d	a0	p7	l	0a	p	d	d	07	d	d	d	d	0	d	psd
d3Nol Ndd	aa	a3l	pl	d	p	cpa	cp	a	3	d	ap	pc	p	o0	p	d	d	l c	a	d	d	d	l	a	pa0
d7NddNdd	3	cca	pc	d	d	c0a	cs	c	s	d	ao	p0	0	oa	d	d	d	os	d	d	a	d	7	a	pol
Grand Total	po	ssp	aos	d	l	7l o	aas	p	pl	d	0s	al l	cd	a7d	aa	d	d	cca	a	d	a	d	c7	c	**1332**
Approach%	p604	3a4	al 6o4	d4		5	sl 6 4	a674	cc604	d4		5	74	304	l 4	d4		5	l d4	d4	l d4	d4		5	-
Totals %	c604	l 34	aa4	d4		sa604	3634	d6c4	c604	d4		aa604	a6 4	ao6p4	d634	d4		a0604	d6a4	d4	d6a4	d4		d6c4	-
PHF	d6ss	d63s	d603	d		d67a	d630	d6p3	d6 3	d		d63a	d63p	d6s3	d6 l	d		d63	d6cl	d	d6cl	d		d6	-
Heavy	a	aa	c	d		ao	o	d	3	d		ac	s	3	d	d		al	a	d	d	d		a	-
Heavy %	c674	a6o4	a6o4	d4		a6 4	p6o4	d4	cc674	d4		s6s4	pl 4	o6c4	d4	d4		0634	add4	d4	d4	d4		l d4	-
Lights	pp	s0c	aol	d		7od	aap	p	cs	d		aop	ap	a3c	aa	d		cd0	d	d	a	d		a	-
Lights %	7s6a4	73604	73604	d4		736 4	70604	add4	ss6a4	d4		7c6p4	0l 4	7l 634	add4	d4		7p6c4	d4	d4	add4	d4		l d4	-
Single-Unit Trucks	a	c	d	d		p	d	d	a	d		a	d	p	d	d		p	a	d	d	d		a	-
Single-Unit Trucks %	c674	d6p4	d4	d4		d6p4	d4	d4	c674	d4		d604	d4	a604	d4	d4		a6o4	add4	d4	d4	d4		l d4	-
Buses	d	7	c	d		aa	o	d	s	d		aa	s	l	d	d		ac	d	d	d	d		d	-
Buses %	d4	a6c4	a6o4	d4		a6c4	p6o4	d4	cd4	d4		s6a4	pl 4	c604	d4	d4		l 6o4	d4	d4	d4	d4		d4	-
Pedestrians	5	5	5	5	l	5	5	5	5	5	0s	5	5	5	5	5	d	5	5	5	5	5	c3	5	-
Pedestrians%	5	5	5	5	l 4	n	5	5	5	5	006p4	n	5	5	5	5	d4	n	5	5	5	5	cs6s4	n	-
Bicycles on Crosswalk	5	5	5	5	d	5	5	5	5	5	d	5	5	5	5	5	d	5	5	5	5	5	a	5	-
Bicycles on Crosswalk%	5	5	5	5	d4	n	5	5	5	5	d4	n	5	5	5	5	d4	n	5	5	5	5	a4	n	-
Bicycles on Road	d	d	d	d	d	5	d	d	d	d	d	5	d	d	d	d	d	5	d	d	d	d	d	5	-
Bicycles on Road%	5	5	5	5	d4	n	5	5	5	5	d4	n	5	5	5	5	d4	n	5	5	5	5	d4	n	-

Peak Hour: 04:30 PM - 05:30 PMmmWeather: Broken Clouds (4.25 °C)

Start Time	N Approach						E Approach						S Approach						W Approach						Int. Total (15 min)
	YOKL	KHE	IWL	h EH	: WTr	ueeHIU-Kn f LLP	YOKL	KHE	IWL	h EH	: WTr	ueeHIU-Kn f LLP	YOKL	KHE	IWL	h EH	: WTr	ueeHIU-Kn f LLP	YOKL	KHE	IWL	h EH	: WTr	ueeHIU-Kn f LLP	
a0NpdNdd	a	ad0	ca	d	p	ac3	ap	a	c	d	ap	a0	aa	aad	a	d	c	acc	d	p	0	d	s	7	csl
a0NlNdd	d	so	a3	d	a	7c	ad	d	s	d	ap	as	aa	3o	c	d	a	7s	o	a	ad	d	7	al	cca
asNddNdd	d	0o	c0	d	d	7d	pa	d	s	d	a7	p3	c0	aap	d	d	p	ap7	l	d	3	d	co	ap	c3d
asNalNdd	d	sp	cl	d	p	73	c3	d	o	d	ao	pc	as	3o	d	d	p	ada	p	o	a	d	0	3	cp7
Grand Total	a	pas	7d	d	s	od3	3c	a	cd	d	l 7	adp	0l	p7a	p	d	7	ol 7	ac	3	cl	d	o0	ol	**1015**
Approach%	d6c4	ss6s4	cc6a4	d4		5	s7604	a4	a7604	d4		5	ao6c4	3l 6c4	d6s4	d4		5	c06s4	as634	ll 604	d4		5	-
Totals %	d6a4	pa6c4	3674	d4		od6c4	36a4	d6a4	c4	d4		ad6a4	06o4	p36 4	d6p4	d4		ol 6c4	a6c4	d634	c6 4	d4		o6o4	-
PHF	d6cl	d6sl	d63s	d		d63	d600	d6cl	d6sa	d		d603	d60p	d63s	d6p3	d		d63p	d60	d6	d60p	d		d6sl	-
Heavy	d	aa	d	d		aa	c	d	l	d		s	p	0	d	d		7	d	d	d	d		d	-
Heavy %	d4	p6 4	d4	d4		c6s4	c6o4	d4	cl 4	d4		0634	o604	a6 4	d4	d4		c4	d4	d4	d4	d4		d4	-
Lights	a	pd0	7d	d		p7s	3d	a	al	d		70	0c	p3l	p	d		ol d	ac	3	cl	d		ol	-
Lights %	add4	706 4	add4	d4		7s6p4	7s604	add4	sl 4	d4		7p6c4	7l 6o4	736 4	add4	d4		734	add4	add4	add4	d4		add4	-
Single-Unit Trucks	d	l	d	d		l	d	d	d	d		d	a	c	d	d		p	d	d	d	d		d	-
Single-Unit Trucks %	d4	a604	d4	d4		a6c4	d4	d4	d4	d4		d4	a6 4	d6 4	d4	d4		d6s4	d4	d4	d4	d4		d4	-
Buses	d	0	d	d		0	c	d	l	d		s	c	o	d	d		0	d	d	d	d		d	-
Buses %	d4	a674	d4	d4		a6 4	c6o4	d4	cl 4	d4		0634	p6a4	a4	d4	d4		a6p4	d4	d4	d4	d4		d4	-
Pedestrians	5	5	5	5	s	5	5	5	5	5	l 7	5	5	5	5	5	7	5	5	5	5	5	ol	5	-
Pedestrians%	5	5	5	5	l 634	n	5	5	5	5	o3634	n	5	5	5	5	s6o4	n	5	5	5	5	ps6c4	n	-
Bicycles on Crosswalk	5	5	5	5	d	5	5	5	5	5	d	5	5	5	5	5	d	5	5	5	5	5	a	5	-
Bicycles on Crosswalk%	5	5	5	5	d4	n	5	5	5	5	d4	n	5	5	5	5	d4	n	5	5	5	5	d634	n	-
Bicycles on Road	d	d	d	d	d	5	d	d	d	d	d	5	d	d	d	d	d	5	d	d	d	d	d	5	-
Bicycles on Road%	5	5	5	5	d4	n	5	5	5	5	d4	n	5	5	5	5	d4	n	5	5	5	5	d4	n	-

Peak Hour: 08:15 AM - 09:15 AMmmWeather: Clear Sky (-0.54 °C)

Peak Hour: 04:30 PM - 05:30 PM Weather: Broken Clouds (4.25 °C)



Turning Movement Count (4 . YORKKL AN LDR R & BVA) SL a N ANp

Ytcrt Time	a LhhrocEW HWY 404 NB OFF-ON RAMP						R LhhrocEW SHEPPARD AVE E						Y LhhrocEW YORKLAND RD						I LhhrocEW SHEPPARD AVE E						Int. Totc1 (45 minp	Int. Totc1 (4 Wp
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:30:00	57	43	31	0	6	131	92	332	2	1	0	427	4	15	29	0	13	48	124	198	99	0	0	421	1027	
07:45:00	51	53	46	0	9	150	72	265	6	0	0	343	3	23	44	0	23	70	150	198	117	0	3	465	1028	
08:00:00	61	62	54	0	4	177	76	225	5	0	0	306	4	21	32	0	26	57	184	237	118	0	0	539	1079	
08:15:00	82	52	72	0	6	206	80	260	6	0	0	346	9	27	34	0	32	70	238	274	145	0	1	657	1279	4413
08:30:00	139	60	51	0	12	250	109	289	5	0	0	403	2	32	24	0	24	58	229	240	111	0	5	580	1291	4677
08:45:00	108	48	57	0	2	213	100	280	6	0	0	386	3	26	24	0	19	53	221	302	91	0	5	614	1266	4915
09:00:00	80	56	64	0	8	200	69	287	3	0	0	359	8	32	29	0	11	69	254	311	104	0	3	669	1297	5133
09:15:00	76	74	81	0	6	231	83	364	6	1	0	454	9	22	49	0	14	80	158	257	73	1	2	489	1254	5108
BREAK																										
16:00:00	75	17	28	0	9	120	155	244	0	0	0	399	13	59	61	0	17	133	78	371	118	0	1	567	1219	
16:15:00	92	22	36	1	4	151	128	288	2	0	0	418	2	63	49	0	18	114	90	376	106	0	3	572	1255	
16:30:00	98	24	36	0	6	158	107	269	0	0	0	376	11	71	75	0	17	157	98	369	115	0	0	582	1273	
16:45:00	102	23	39	0	7	164	154	257	6	0	0	417	3	63	56	0	16	122	91	355	99	0	1	545	1248	4995
17:00:00	83	16	32	0	7	131	141	324	2	0	0	467	3	46	77	0	22	126	89	391	83	0	8	563	1287	5063
17:15:00	81	29	34	0	7	144	140	299	5	0	0	444	1	46	71	0	15	118	83	375	89	2	9	549	1255	5063
17:30:00	90	20	36	0	14	146	116	274	1	0	0	391	3	46	51	0	29	100	97	345	100	0	3	542	1179	4969
17:45:00	93	21	30	0	6	144	97	216	0	0	0	313	2	42	44	0	30	88	78	376	104	0	1	558	1103	4824
Grcnd Totc1	1368	620	727	1	113	2716	1719	4473	55	2	0	6249	80	634	749	0	326	1463	2262	4975	1672	3	45	8912	**463%**	-
LhhrocEWs	50.4%	22.8%	26.8%	0%		-	27.5%	71.6%	0.9%	0%		-	5.5%	43.3%	51.2%	0%		-	25.4%	55.8%	18.8%	0%		-	**H**	-
Totc1y s	7.1%	3.2%	3.8%	0%		14%	8.9%	23.1%	0.3%	0%		32.3%	0.4%	3.3%	3.9%	0%		7.6%	11.7%	25.7%	8.6%	0%		46.1%	**H**	-
OecvP	34	5	11	0		-	17	235	2	0		-	4	5	25	0		-	31	229	31	0		-	**H**	-
OecvP s	2.5%	0.8%	1.5%	0%		-	1%	5.3%	3.6%	0%		-	5%	0.8%	3.3%	0%		-	1.4%	4.6%	1.9%	0%		-	**H**	-
kiEPEtey	0	0	0	0		-	1	0	0	0		-	0	0	0	0		-	0	0	0	0		-	**H**	-
kiEPEte s	0%	0%	0%	0%		-	0.1%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	**H**	-

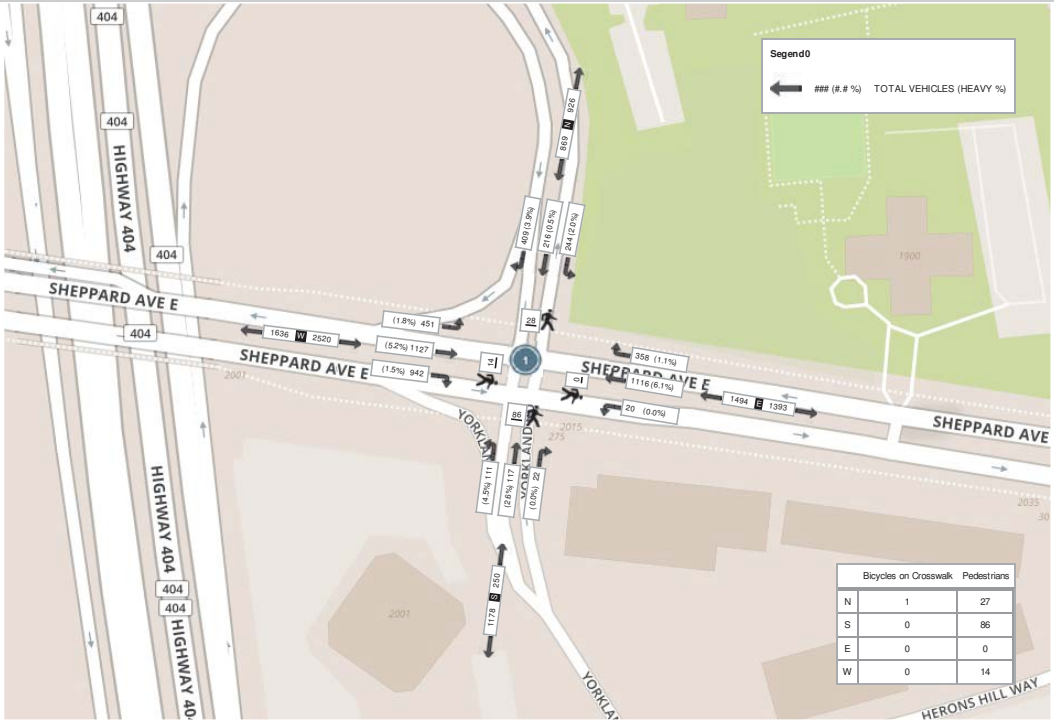
Kec: Oour0-8045 LM H-6045 LM I ectWer0C1ecr Y: P(H.5%9Cp

Ytcrt Time	a LhhrocEW HWY 404 NB OFF-ON RAMP						R LhhrocEW SHEPPARD AVE E						Y LhhrocEW YORKLAND RD						I LhhrocEW SHEPPARD AVE E						Int. Totc1 (45 minp
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:15:00	82	52	72	0	6	206	80	260	6	0	0	346	9	27	34	0	32	70	238	274	145	0	1	657	1279
08:30:00	139	60	51	0	12	250	109	289	5	0	0	403	2	32	24	0	24	58	229	240	111	0	5	580	1291
08:45:00	108	48	57	0	2	213	100	280	6	0	0	386	3	26	24	0	19	53	221	302	91	0	5	614	1266
09:00:00	80	56	64	0	8	200	69	287	3	0	0	359	8	32	29	0	11	69	254	311	104	0	3	669	1297
Grcnd Totc1	409	216	244	0	28	869	358	1116	20	0	0	1494	22	117	111	0	86	250	942	1127	451	0	14	2520	5433
LhhrocEW%	47.1%	24.9%	28.1%	0%		-	24%	74.7%	1.3%	0%		-	8.8%	46.8%	44.4%	0%		-	37.4%	44.7%	17.9%	0%		-	H
Totc1y s	8%	4.2%	4.8%	0%		16.9%	7%	21.7%	0.4%	0%		29.1%	0.4%	2.3%	2.2%	0%		4.9%	18.4%	22%	8.8%	0%		49.1%	H
KO*	0.74	0.9	0.85	0		0.87	0.82	0.97	0.83	0		0.93	0.61	0.91	0.82	0		0.89	0.93	0.91	0.78	0		0.94	H
OecvP	16	1	5	0		22	4	68	0	0		72	0	3	5	0		8	14	59	8	0		81	H
OecvP s	3.9%	0.5%	2%	0%		2.5%	1.1%	6.1%	0%	0%		4.8%	0%	2.6%	4.5%	0%		3.2%	1.5%	5.2%	1.8%	0%		3.2%	H
SigWy	393	215	239	0		847	354	1048	20	0		1422	22	114	106	0		242	928	1068	443	0		2439	H
SigWy s	96.1%	99.5%	98%	0%		97.5%	98.9%	93.9%	100%	0%		95.2%	100%	97.4%	95.5%	0%		96.8%	98.5%	94.8%	98.2%	0%		96.8%	H
Ying tel2nit TruE y	13	1	2	0		16	3	16	0	0		19	0	1	1	0		2	2	9	5	0		16	H
Ying tel2nit TruE y s	3.2%	0.5%	0.8%	0%		1.8%	0.8%	1.4%	0%	0%		1.3%	0%	0.9%	0.9%	0%		0.8%	0.2%	0.8%	1.1%	0%		0.6%	H
kuyey	3	0	3	0		6	0	51	0	0		51	0	2	4	0		6	12	48	2	0		62	H
kuyey s	0.7%	0%	1.2%	0%		0.7%	0%	4.6%	0%	0%		3.4%	0%	1.7%	3.6%	0%		2.4%	1.3%	4.3%	0.4%	0%		2.5%	H
LrtiEu1cted TruE y	0	0	0	0		0	1	1	0	0		2	0	0	0	0		0	0	2	1	0		3	H
LrtiEu1cted TruE y s	0%	0%	0%	0%		0%	0.3%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0.2%	0.2%	0%		0.1%	H
Kedeytricny	-	-	-	-	27	-	-	-	-	-	0	-	-	-	-	-	86	-	-	-	-	-	14	-	H
Kedeytricnys	-	-	-	-	21.1%		-	-	-	-	0%		-	-	-	-	67.2%		-	-	-	-	10.9%		H
kiEPEley on CroyyF ct	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	H
kiEPEley on CroyyF ct s	-	-	-	-	0.8%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		H
kiEPEley on Aocd	0	0	0	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	H
kiEPEley on Aocds	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		H

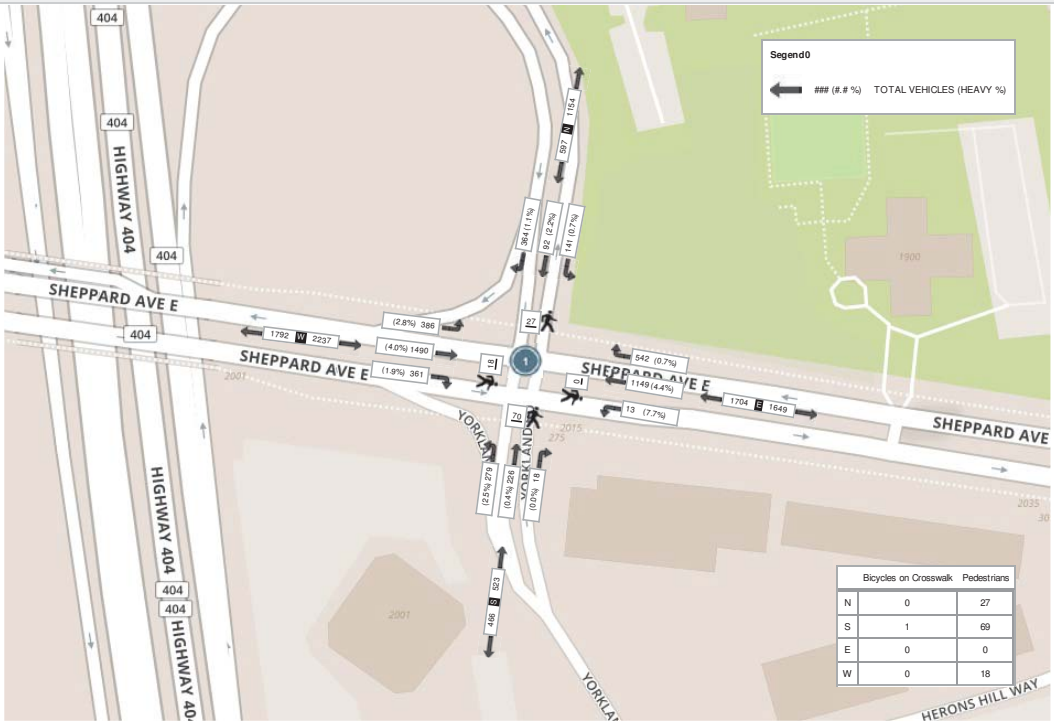
Kec: Oour0-%03- KM H-503- KM I ectWer0k ro: en C1oudy (%U5 9Cp

Ytcrt Time	a LhhrocEW HWY 404 NB OFF-ON RAMP						R LhhrocEW SHEPPARD AVE E						Y LhhrocEW YORKLAND RD						I LhhrocEW SHEPPARD AVE E						Int. Totc1 (45 minp
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
16:30:00	98	24	36	0	6	158	107	269	0	0	0	376	11	71	75	0	17	157	98	369	115	0	0	582	1273
16:45:00	102	23	39	0	7	164	154	257	6	0	0	417	3	63	56	0	16	122	91	355	99	0	1	545	1248
17:00:00	83	16	32	0	7	131	141	324	2	0	0	467	3	46	77	0	22	126	89	391	83	0	8	563	1287
17:15:00	81	29	34	0	7	144	140	299	5	0	0	444	1	46	71	0	15	118	83	375	89	2	9	549	1255
Grcnd Totc1	364	92	141	0	27	597	542	1149	13	0	0	1704	18	226	279	0	70	523	361	1490	386	2	18	2239	5-w8
LhhrocEW%	61%	15.4%	23.6%	0%		-	31.8%	67.4%	0.8%	0%		-	3.4%	43.2%	53.3%	0%		-	16.1%	66.5%	17.2%	0.1%		-	H
Totc1y s	7.2%	1.8%	2.8%	0%		11.8%	10.7%	22.7%	0.3%	0%		33.7%	0.4%	4.5%	5.5%	0%		10.3%	7.1%	29.4%	7.6%	0%		44.2%	H
KO*	0.89	0.79	0.9	0		0.91	0.88	0.89	0.54	0		0.91	0.41	0.8	0.91	0		0.83	0.92	0.95	0.84	0.25		0.96	H
OecvP	4	2	1	0		7	4	50	1	0		55	0	1	7	0		8	7	59	11	0		77	H
OecvP s	1.1%	2.2%	0.7%	0%		1.2%	0.7%	4.4%	7.7%	0%		3.2%	0%	0.4%	2.5%	0%		1.5%	1.9%	4%	2.8%	0%		3.4%	H
SigWy	360	90	140	0		590	538	1099	12	0		1649	18	225	272	0		515	354	1431	375	2		2162	H
SigWy s	98.9%	97.8%	99.3%	0%		98.8%	99.3%	95.6%	92.3%	0%		96.8%	100%	99.6%	97.5%	0%		98.5%	98.1%	96%	97.2%	100%		96.6%	H
Ying tel2nit TruE y	3	2	0	0		5	4	5	1	0		10	0	0	1	0		1	1	9	6	0		16	H
Ying tel2nit TruE y s	0.8%	2.2%	0%	0%		0.8%	0.7%	0.4%	7.7%	0%		0.6%	0%	0%	0.4%	0%		0.2%	0.3%	0.6%	1.6%	0%		0.7%	H
kuyey	1	0	1	0		2	0	43	0	0		43	0	1	6	0		7	6	49	3	0		58	H
kuyey s	0.3%	0%	0.7%	0%		0.3%	0%	3.7%	0%	0%		2.5%	0%	0.4%	2.2%	0%		1.3%	1.7%	3.3%	0.8%	0%		2.6%	H
LrtiEu1cted TruE y	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	0	1	2	0		3	H
LrtiEu1cted TruE y s	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0.1%	0.5%	0%		0.1%	H
Kedeytricny	-	-	-	-	27	-	-	-	-	-	0	-	-	-	-	-	69	-	-	-	-	-	18	-	H
Kedeytricnys	-	-	-	-	23.5%		-	-	-	-	0%		-	-	-	-	60%		-	-	-	-	15.7%		H
kiEPEley on CroyyF ct	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	H
kiEPEley on CroyyF ct s	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0.9%		-	-	-	-	0%		H
kiEPEley on Aocd	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	H
kiEPEley on Aocds	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		H

Kec: Oour0-8045 LM H-6045 LM I ectWer0C1ecr Y: P (H.5%9Cp



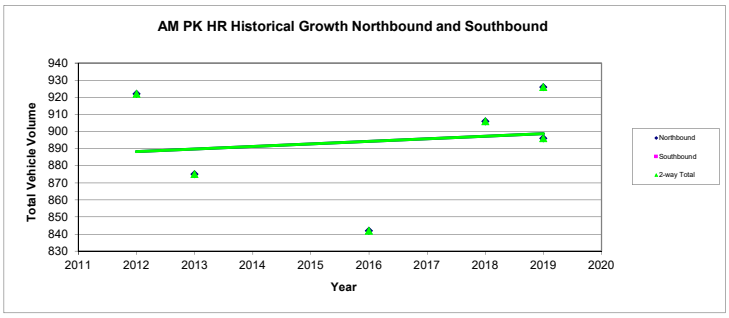
Kec: Oour0-%03- KM H-503- KM I ectWer0kro:en C1oudy (%U5 9Cp



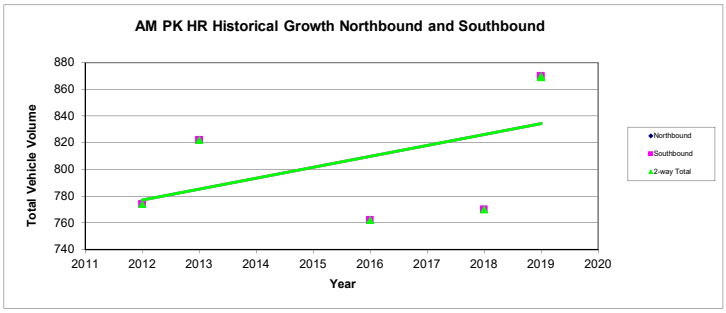
APPENDIX F:
Corridor Growth Calculations

Project: 1 Heron's Hill Way
Project ID: 7488-08
Intersection: Sheppard Avenue / Yorkland Road
Peak Hour: AM

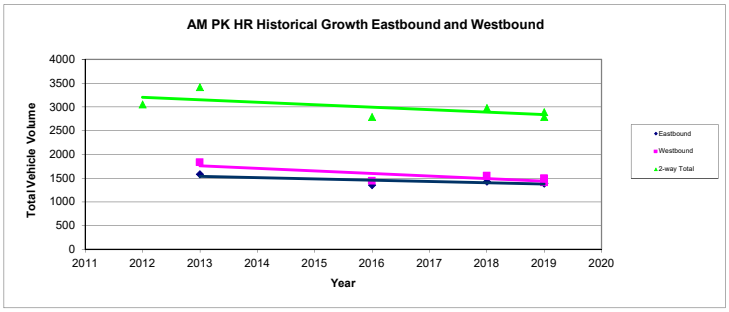
Count Information		orth of Sheppard Avenue / Yorkland Roa		
Date	Year	Northbound	Southbound	2-way
Wednesday, November 6	2019	926		926
Tuesday, January 8	2019	896		896
Tuesday, October 16	2018	906		906
Tuesday, November 1	2016	842		842
Thursday, June 6	2013	875		875
Thursday, June 28	2012	922		922
Trend Point		898.77	#VALUE!	898.77
Slope		1.51	#DIV/0!	1.51
Growth		**0.17%**	**#DIV/0!**	**0.17%**



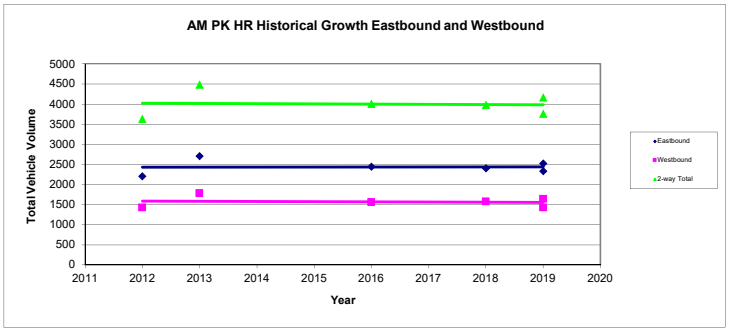
Count Information		orth of Sheppard Avenue / Yorkland Roa		
Date	Year	Northbound	Southbound	2-way
Wednesday, November 6	2019		869	869
Tuesday, January 8	2019		870	870
Tuesday, October 16	2018		770	770
Tuesday, November 1	2016		762	762
Thursday, June 6	2013		822	822
Thursday, June 28	2012		774	774
Trend Point		#VALUE!	834.39	834.39
Slope		#DIV/0!	8.20	8.20
Growth		**#DIV/0!**	**0.98%**	**0.98%**



Count Information		ast of Sheppard Avenue / Yorkland Roa		
Date	Year	Eastbound	Westbound	2-way
Wednesday, November 6	2019	1393	1494	2887
Tuesday, January 8	2019	1387	1403	2790
Tuesday, October 16	2018	1428	1545	2973
Tuesday, November 1	2016	1350	1438	2788
Thursday, June 6	2013	1583	1829	3412
Thursday, June 28	2012	1459	1594	3053
Trend Point		1383.58	1451.74	2835.32
Slope		-17.56	-34.86	-52.42
Growth		**-1.27%**	**-2.40%**	**-1.85%**

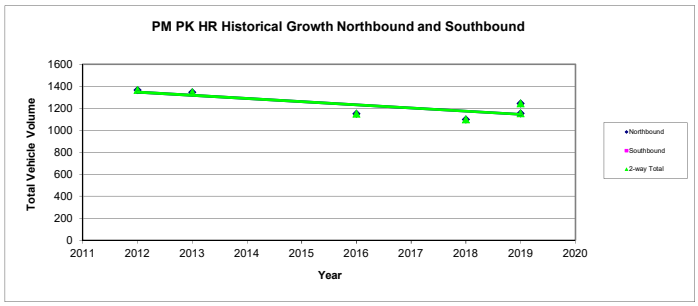


Count Information		est of Sheppard Avenue / Yorkland Roa		
Date	Year	Eastbound	Westbound	2-way
Wednesday, November 6	2019	2520	1636	4156
Tuesday, January 8	2019	2331	1424	3755
Tuesday, October 16	2018	2401	1572	3973
Tuesday, November 1	2016	2443	1552	3995
Thursday, June 6	2013	2698	1778	4476
Thursday, June 28	2012	2202	1422	3624
Trend Point		2433.74	1548.15	3981.89
Slope		0.44	-5.59	-5.16
Growth		**0.02%**	**-0.36%**	**-0.13%**

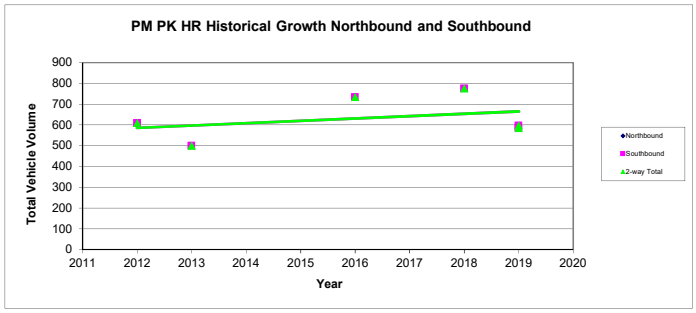


Project: 1 Heron's Hill Way
Project ID: 7488-08
Intersection: Sheppard Avenue / Yorkland Road
Peak Hour: PM

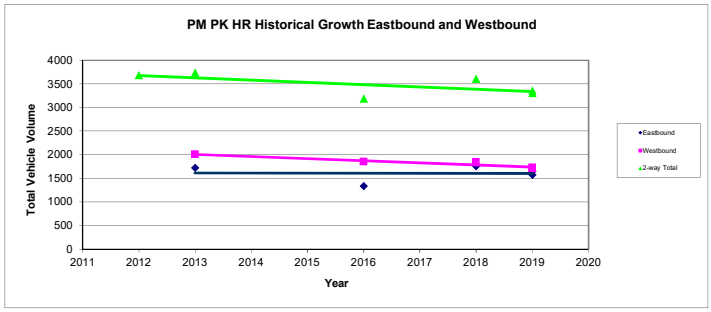
Count Information		orth of Sheppard Avenue / Yorkland Ro		
Date	Year	Northbound	Southbound	2-way
Wednesday, November 6	2019	1154		1154
Tuesday, January 8	2019	1243		1243
Tuesday, October 16	2018	1097		1097
Tuesday, November 1	2016	1152		1152
Thursday, June 6	2013	1346		1346
Thursday, June 28	2012	1367		1367
Trend Point		1144.98	#VALUE!	1144.98
Slope		-28.77	#DIV/0!	-28.77
Growth		**-2.51%**	**#DIV/0!**	**-2.51%**



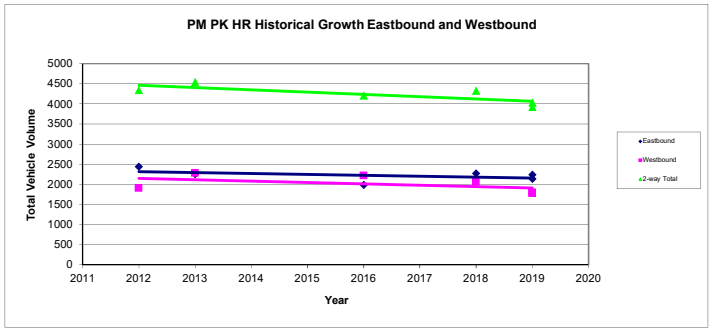
Count Information		orth of Sheppard Avenue / Yorkland Ro		
Date	Year	Northbound	Southbound	2-way
Wednesday, November 6	2019		597	597
Tuesday, January 8	2019		584	584
Tuesday, October 16	2018		775	775
Tuesday, November 1	2016		734	734
Thursday, June 6	2013		499	499
Thursday, June 28	2012		608	608
Trend Point		#VALUE!	664.97	664.97
Slope		#DIV/0!	11.34	11.34
Growth		**#DIV/0!**	**1.71%**	**1.71%**



Count Information		ast of Sheppard Avenue / Yorkland Roa		
Date	Year	Eastbound	Westbound	2-way
Wednesday, November 6	2019	1649	1704	3353
Tuesday, January 8	2019	1573	1727	3300
Tuesday, October 16	2018	1758	1847	3605
Tuesday, November 1	2016	1337	1851	3188
Thursday, June 6	2013	1726	2007	3733
Thursday, June 28	2012	1944	1739	3683
Trend Point		1577.59	1763.95	3341.54
Slope		-30.67	-17.14	-47.81
Growth		**-1.94%**	**-0.97%**	**-1.43%**

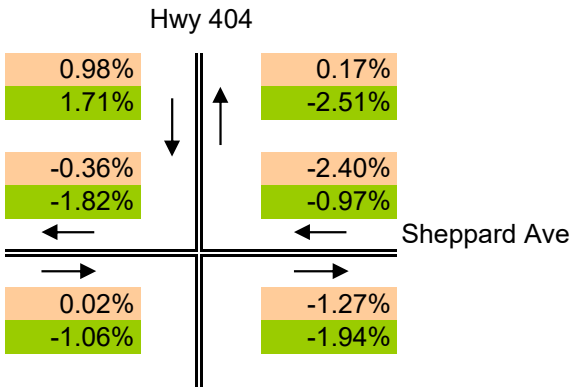


Count Information		est of Sheppard Avenue / Yorkland Roa		
Date	Year	Eastbound	Westbound	2-way
Wednesday, November 6	2019	2237	1792	4029
Tuesday, January 8	2019	2139	1782	3921
Tuesday, October 16	2018	2270	2058	4328
Tuesday, November 1	2016	1984	2220	4204
Thursday, June 6	2013	2257	2281	4538
Thursday, June 28	2012	2436	1904	4340
Trend Point		2155.92	1907.73	4063.64
Slope		-22.79	-34.74	-57.54
Growth		**-1.06%**	**-1.82%**	**-1.42%**



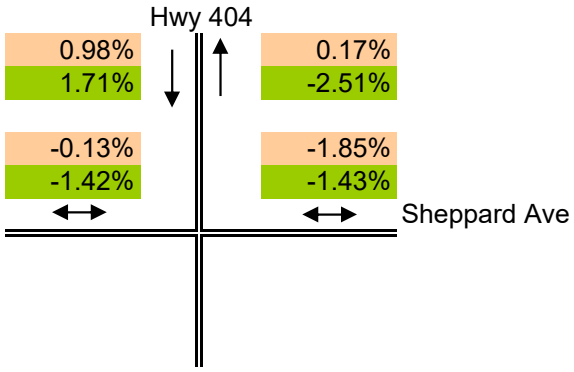
Background Traffic Growth Rates

AM
PM



Background Traffic Growth Rates (2-way)

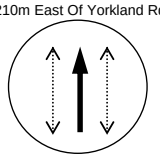
AM
PM



APPENDIX G:
Existing Signal Timing Plans

LOCATION:	**Sheppard Ave & Heron's Hill Way (210m East of Yorkland Rd)**	***DISTRICT:***	**North York**
MODE/COMMENT:	**SA2-VMG with PR and 2-Wire Polara APS**	***COMPUTER SYSTEM:***	**TransSuite**
TCS:	**2092**	***CONTROLLER/CABINET TYPE:***	**PEEK ATC 1000 / TS2 T1**
PREPARED/CHECKED BY:	**AR / IA**	***CONFLICT FLASH:***	**Red & Red**
PREPARATION DATE:	**January 22, 2018**	***DESIGN WALK SPEED:***	**1.0 m/s (FDW based on full crossing at 1.2 m/s)**
IMPLEMENTATION DATE:	**April 10, 2018**	***CHANNEL/DROP:***	**4039/4**
		CONTROLLER FIRMWARE:	**3.018.1.2976**

N

NEMA Phase		OFF All Other Times	AM 06:45- 10:00 M-F	PM 15:00- 19:00 M-F	NIGHT 22:00- 06:30 M-F	DVP	Phase Mode (Fixed/Demanded or Callable)	Remarks
	Local Plan	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5		
	Split Table	Split 1	Split 2	Split 3	Split 4	Split 5		
1 NOT USED	WLK FDW MIN MAX1 AMB ALR SPLIT							Pedestrian Minimums: EWWK = 7 sec, EWFD = 12 sec NSWK = 7 sec, NSFD = 24 sec
2 Sheppard Ave 	WLK 7 FDW 12 MIN 19 MAX1 53 AMB 4 ALR 2 SPLIT	58	83	63	53	73	Fixed	NB phase is callable by vehicle or pedestrian actuation. If a vehicle call is received, the minimum NBG is 7 secs. If ongoing side street vehicle demand exists, the NBG is capable of providing vehicle extensions up to the maximum. If a pedestrian call is received, the pedestrian minimums will be served. The NSWK & NSFD are only displayed on the pedestrian signal heads if a pedestrian call is received. Extension time is based on vehicle demand. Unused extension time is allocated to the EWG.
3 NOT USED	WLK FDW MIN MAX1 AMB ALR SPLIT							Side Street Passage Time = 3 sec Actuated APS on during 7 secs of EW & 10 secs of NS WALK periods only. Extended Push Activation = 3 secs
4 Heron's Hill Way (210m East Of Yorkland Rd) 	WLK 7 FDW 24 MIN 7 MAX1 31 AMB 3 ALR 2 SPLIT	37	37	37	37	37	Callable by Stopbar loop and/or Pushbutton; Extendable by Stopbar loop.	
5 NOT USED	WLK FDW MIN MAX1 AMB ALR SPLIT							
6 Sheppard Ave 	WLK 7 FDW 12 MIN 19 MAX1 53 AMB 4 ALR 2 SPLIT	58	83	63	53	73	Fixed	
7 NOT USED	WLK FDW MIN MAX1 AMB ALR SPLIT							
8 NOT USED	WLK 7 FDW 24 MIN 7 MAX1 31 AMB 3 ALR 2 SPLIT	37	37	37	37	37		
	CL OF	95 9	120 117	100 18	90 70	110 88		

NOTES:

CITY OF TORONTO – TRANSPORTATION SERVICES
TRAFFIC SYSTEMS OPERATIONS – TRAFFIC SIGNALS
703 Don Mills Rd, Fifth Floor, Toronto ON M3C 3N3
Phone: 416-397-5770 Fax: 416-397-5777

CURRENT SIGNAL TIMING INFORMATION

Location: Sheppard Ave & Hwy 404 NB Ramp/Yorkland Rd
TCS/SCN: 0747/12571
Our Ref: 2019_0266
Staff: AS/AD
Preparation Date: November 14, 2019
Controller Type: Peek ATC-1000/TS2T1
Mode of Control: SA2-VMG with WRM, split NB/SB phasing & UPS
Design Walk Speed: 1.0 m/s (FDW based on full crossing using 1.2 m/s)
EWFD Duration: 19 seconds
NSFD Duration: 25 seconds
Issued to: BA Consulting Group Ltd. (Marie Y. Wong)

Control Level	TYPICAL				SCOOT			
Plan	OFF PEAK	AM PEAK	PM PEAK	NIGHT	OFF PEAK	AM PEAK	PM PEAK	NIGHT
Time of Operation	All Other Times	6:30-10:00, M-F	15:00-19:00, M-F	01:30-06:00, Daily	All Other Times	6:30-10:00, M-F	15:00-19:00, M-F	01:30-06:00, Daily
Signal Aspect								
East-West Phase								
* EBLA/EBG/EWWK (South Side Only)	18	21	20	7	6 - 21	6 - 30	6 - 22	6 - 15
* EBYA/EBG/EWWK (South Side Only)	3	3	3	3	3	3	3	3
* EBG/EWWK (South Side Only)	1	1	1	1	1	1	1	1
EWG/EWWK (Both Sides)	28	41	34	40	7 - 39	7 - 55	7 - 55	7 - 30
EWFD	19	19	19	19	19	19	19	19
EWY/EWDW	4	4	4	4	4	4	4	4
ALLR	3	3	3	3	3	3	3	3
North Bound Phase								
** NBG/NBLA/NSDW	13	13	21	12	7 - 13	7 - 13	7 - 21	7 - 12
** NBY/NBYA/NSDW	4	4	4	4	4	4	4	4
** ALLR	3	3	3	3	3	3	3	3
South Bound Phase								
*** SBG/SBLA/WBRA/NSWK (West Side Only)	7	7	7	7	7 - 32	7 - 32	7 - 32	7 - 32
*** SBG/SBLA/WBRA/NSFD (West Side Only)/SBDW	0-25	0-25	0-25	0-25	0-25	0-25	0-25	0-25
*** SBY/SBYA/WRYA/NSDW	4	4	4	4	4	4	4	4
*** ALLR	3	3	3	3	3	3	3	3
Cycle Length/Range	128	144	144	128	112 - 128	128 - 144	128 - 144	112 - 128

NOTES:

NS pedestrian crossing on West side only.

* EBLA callable by setback loop. Unused time allocated to EWG.

** NBG phase is callable by vehicle actuation. Unused time allocated to EWG. If a vehicle call is received, the minimum NBG is 7 seconds. If ongoing NB vehicle demand exists on the stopbar loop, the NBG/NBLA is capable of providing vehicle extensions up to the maximum.

*** SBG phase is callable by vehicle and/or pedestrian actuation. Unused time allocated to EWG. If a vehicle call is received, the minimum SBG is 7 seconds. If a pedestrian call is received, the pedestrian minimums will be served. The NSWK & NSFD are only displayed on the west side if a pedestrian call is received.

NB and SB phases are callable and skippable. If NB and SB detectors are both active at the end of the EW phase, the NB phase is served first followed by the SB phase.

SCOOT cycle lengths between 32-64 may change by 4 second increments, between 64-128 by 8 second increments and above 128 by 16 second increments. SCOOT may change the cycle length by one increment at a time every 150 seconds.

CITY OF TORONTO – TRANSPORTATION SERVICES
TRAFFIC SYSTEMS OPERATIONS – TRAFFIC SIGNALS
703 Don Mills Rd, Fifth Floor, Toronto ON M3C 3N3
Phone: 416-397-5770 Fax: 416-397-5777

CURRENT SIGNAL TIMING INFORMATION

Location: Yorkland Rd & Herons Hill Way/Private Access
TCS/SCN: 184/12591
Our Ref: 2019_0266
Staff: AS/AD
Date: November 13, 2019
Controller Type: Econolite ASC/3-2100/M
Mode of Control: SA2-VMG with PR
Design Walk Speed: 1.0 m/s (FDW based on full crossing at 1.2 m/s)
E/W FDW Duration: 19 seconds
N/S FDW Duration: 13 seconds
Issued To: BA Consulting Group Ltd. (Marie Y. Wong)

Control Level	TYPICAL			SCOOT		
Plan	**A.M. Peak**	**OFF Peak**	**P.M. Peak**	**A.M. Peak**	**OFF Peak**	**P.M. Peak**
Time of Operation	06:30-09:15, M-F.	All other times	15:45-18:15, M-F.	06:15-10:00, M-F.	All other times	15:00-19:00, M-F.
Signal Aspect						
North-South Phase						
NSG/NSWK	92	76	83	60-76	60-76	7-108
NSG/NSFD	13	13	13	13	13	13
NSY/NSDW	4	4	4	4	4	4
ALLR	3	3	3	3	3	3
East-West Phase						
EWG/EWWK	7	7	32	7-76	7-76	7-57
EWG/EWFD	19	19	19	0-19	0-19	0-19
EWY/EWDW	3	3	3	3	3	3
ALLR	3	3	3	3	3	3
Cycle Length/Range	144	128	144	128-144	112-128	128-160

NOTES:

EWG Phase is callable by vehicle or and/or pedestrian actuation. If a vehicle call is received, the minimum EWG is 7 seconds at all times. If ongoing demand exists on the stopbar loop, the EWG is capable of providing vehicle extensions up to a maixmum of 26 seconds, and this time can go up to 57 seconds during PM. If a pedestrian call is received, the minimum EWG is 26 seconds at all times.

SCOOT cycle lengths between 32-64 may change by 4 second increments, between 64-128 by 8 second increments and above 128 by 16 second increments. SCOOT may change the cycle length by one increment at a time every 150 seconds.

APPENDIX H:
Intergreen Study

Project No: 1 Heron's Hill Way
Project: 7488-08
Study Location: Sheppard EBL to 404
Municipality: Toronto
Study Date: 2019 Nov 6
Study Time: 8:15 AM - 9:15 AM
Cycle Length (s) 144

INTERGREEN STUDY

Eastbound Left Turn

Start Time	Cycle No.	Protected Phase (Advanced)			Phase Total	Permissive Phase			Phase Total	Intergreen Total
		Green	Amber	Red		Green	Amber	Red		
8:15	**1**	16	2	0	18		2	1	3	5
8:17	2	14	1	1	16		2	1	3	5
8:19	3	16	2	1	19		1	1	2	5
8:22	4	11	2	1	14	1	2		3	5
8:24	5	15	2		17	3	2		5	4
8:26	6	16	1	1	18		3		3	5
8:29	7	18	1		19		3	1	4	5
8:31	8	16	1	1	18		1	1	2	4
8:33	9	15	1	1	17		1		1	3
8:36	10	9	1		10	3	2	1	6	4
8:39	11	12	1	1	14	1	2		3	4
8:41	12	16	1	1	18		2	1	3	5
8:44	13	13	1	1	15		2		2	4
8:46	14	14	2	1	17		2	1	3	6
8:49	15	16	1	1	18		2		2	4
8:51	16	11	1		12	1	2		3	3
8:53	17	6	1		7		1	1	2	3
8:56	18	10			10		1		1	1
8:58	19	15	1	1	17	2			2	2
9:01	20	12	1		13	6	2	1	9	4
9:03	21	11	2		13	1	1		2	3
9:05	22	14	1	1	16	4			4	2
9:08	23	11	1		12	1	1		2	2
9:11	24	14	1	1	16	1	2		3	4
9:13	25	12	1		13		2		2	3
9:15	**26**	**END PEAK HOUR**								
Total		333	30	14	**377**	24	41	10	**75**	95

Count:	**452**
TMC Comparison:	*451*
%Diff (%)	*0*

Lost Time Adjust	3.8
Used	**3.5**

Project No: 1 Heron's Hill Way
Project: 7488-08
Study Location: Sheppard EBL to 404
Municipality: Toronto
Study Date: 2019 Nov 6
Study Time: 4:30 PM - 5:30 PM
Cycle Length (s) 144

INTERGREEN STUDY

Eastbound Left Turn

Start Time	Cycle No.	Protected Phase (Advanced)			Phase Total	Permissive Phase			Phase Total	Intergreen Total
		Green	Amber	Red		Green	Amber	Red		
16:30	**1**	12	1		13	13	1		14	2
16:33	2	7			7		1		1	1
16:35	3	10	1	1	12	8	2		10	4
16:38	4	9	1		10		2		2	3
16:41	5	11	1	1	13	10	2		12	4
16:43	6	11	1	1	13	7	2		9	4
16:45	7	10	2		12	1	2		3	4
16:48	8	8	1		9		2		2	3
16:50	9	10	1	1	12		3		3	5
16:52	10	10	1	1	12	7	1		8	3
16:55	11	10	1		11		2		2	3
16:57	12	10	2	1	13	5	2		7	5
16:59	13	11	2		13		2	1	3	5
17:02	14	9	1		10		2	1	3	4
17:04	15	10	1		11		1		1	2
17:06	16	9	1		10	5	2		7	3
17:09	17	9	1		10		2		2	3
17:12	18	9	2		11	2	2		4	4
17:15	19	6			6		1		1	1
17:17	20	10	2		12		2	1	3	5
17:19	21	10	2	1	13		2		2	5
17:22	22	10	1		11		2	1	3	4
17:24	23	11	1		12	4	2		6	3
17:27	24	11	1		12	1	2	1	4	4
17:29	25	9	1		10				0	1
17:30	**26**	**END PEAK HOUR**								
Total		242	29	7	**278**	63	44	5	**112**	85

Count:	**390**
TMC Comparison:	*386*
%Diff (%)	*1*

Lost Time Adjust	3.4
Used	**3.5**

APPENDIX I:
Delay Study

Project No: 7488-08
Project: 1 Herons Hill Way Parking Study
Study Location: Yorkland Blvd WB out to Yorkland Rd
Municipality: City of Toronto
Study Date: Wednesday November 6, 2019
Study Time: 16:30 - 17:30

Delay Study

	Overall Delay (sec)	Left Turn Delay (sec)	Through Delay (sec)	Right Turn Delay (sec)
PM Peak Hour 16:30 - 17:30				
Minimum Delay	0	2	76	0
Average Delay	23	21	76	23
85th Percentile	42	34	76	42
95th Percentile	78	45	76	79
Maximum Delay	114	97	76	114
Total Vehicles Measured	154	30	1	123
Total from Traffic Count	103	20	1	82
Sample	150%	150%	100%	150%

Project No: 7488-08
Project: 1 Heron's Hill Way
Study Location: Yorkland Blvd / Yorkland Rd
Municipality: Toronto
Study Date: 2019-11-06
Study Time: 830-930

Delay Study

	Overall Delay (sec)	Left Turn Delay (sec)	Right Turn Delay (sec)
AM Peak Hour 8:30-9:30			
Minimum Delay	3	5	3
Average Delay	18	31	14
85th Percentile	34	51	24
95th Percentile	56	82	46
Maximum Delay	95	95	75
Total Vehicles Measured	141	31	110
Total from Traffic Count	45	9	36
Sample	313%	344%	306%

APPENDIX J:
Gap Study

2-HOUR GAP SURVEY - GROSS GAP STUDY*

Eastbound Left Turn onto Yorkland Road

PM
16:00 - 18:00

	LEFT OUT		
2 HOUR TOTAL	276		
AVERAGE HOUR	138		
LEAST GAP	0		
LEAST GAP HOUR	16:30	-	17:30

LENGTH OF CRITICAL GAP (SECONDS)		
	LEFT IN	**LEFT OUT**
INITIAL	5	6
SUBSEQUENT	3	4

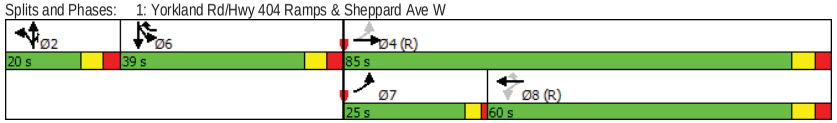
* EXISTING TURNS DID NOT BREAK THE GAPS BEING MEASURED

APPENDIX K:
Synchro Reports and Proposed Signal Timing Plans

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	450	1125	940	20	1115	360	110	155	20	245	230	410
Future Volume (vph)	450	1125	940	20	1115	360	110	155	20	245	230	410
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Split	NA	Prot	Split	NA	Free
Protected Phases	7	4			8	6	2	2	2	6	6	
Permitted Phases	4		Free	8		8						Free
Detector Phase	7	4		8	8	6	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	11.0	85.0		60.0	60.0	39.0	14.0	14.0	14.0	39.0	39.0	
Total Split (s)	25.0	85.0		60.0	60.0	39.0	20.0	20.0	20.0	39.0	39.0	
Total Split (%)	17.4%	59.0%		41.7%	41.7%	27.1%	13.9%	13.9%	13.9%	27.1%	27.1%	
Yellow Time (s)	3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	-3.5	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	0.5	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	C-Min		C-Min	C-Min	None	None	None	None	None	None	
Act Effct Green (s)	88.8	83.3	144.0	50.1	50.1	77.5	15.3	15.3	15.3	27.4	27.4	144.0
Actuated g/C Ratio	0.62	0.58	1.00	0.35	0.35	0.54	0.11	0.11	0.11	0.19	0.19	1.00
v/c Ratio	0.95	0.41	0.66	0.14	0.66	0.46	0.62	0.92	0.08	0.74	0.77	0.29
Control Delay	65.3	17.6	2.4	32.9	41.5	8.7	82.6	113.6	1.0	69.9	70.4	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.3	17.6	2.4	32.9	41.5	8.7	82.6	113.6	1.0	69.9	70.4	0.5
LOS	E	B	A	C	D	A	F	F	A	E	E	A
Approach Delay		20.5			33.5			95.0			37.9	
Approach LOS		C			C			F			D	

Intersection Summary			
Cycle Length: 144			
Actuated Cycle Length: 144			
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 31.3		Intersection LOS: C	
Intersection Capacity Utilization 117.3%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 1: Yorkland Rd/Hwy 404 Ramps & Sheppard Ave W



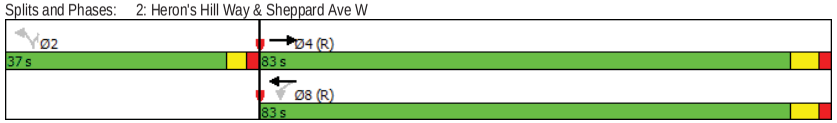
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	450	1125	940	20	1115	360	110	155	20	245	230	410
Future Volume (vph)	450	1125	940	20	1115	360	110	155	20	245	230	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	0.5	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	3.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.94	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1684	4839	1437	1636	4885	1395	1524	1725	1507	1569	1757	1426
Flt Permitted	0.14	1.00	1.00	0.24	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	246	4839	1437	410	4885	1395	1524	1725	1507	1569	1757	1426
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	455	1136	949	20	1126	364	111	157	20	247	232	414
RTOR Reduction (vph)	0	0	0	0	0	45	0	0	18	0	0	0
Lane Group Flow (vph)	455	1136	949	20	1126	319	100	168	2	222	257	414
Confl. Peds. (#/hr)	30		85	85		30	15					15
Heavy Vehicles (%)	0%	6%	1%	2%	5%	2%	5%	3%	0%	2%	1%	4%
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Split	NA	Prot	Split	NA	Free
Protected Phases	7	4			8	6	2	2	2	6	6	
Permitted Phases	4		Free	8		8						Free
Actuated Green, G (s)	82.3	82.3	144.0	49.1	49.1	75.5	14.3	14.3	14.3	26.4	26.4	144.0
Effective Green, g (s)	85.8	83.3	144.0	50.1	50.1	77.5	15.3	15.3	15.3	27.4	27.4	144.0
Actuated g/C Ratio	0.60	0.58	1.00	0.35	0.35	0.54	0.11	0.11	0.11	0.19	0.19	1.00
Clearance Time (s)	4.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	473	2799	1437	142	1699	750	161	183	160	298	334	1426
v/s Ratio Prot	c0.22	0.23			0.23	0.08	0.07	0.10	0.00	0.14	0.15	
v/s Ratio Perm	0.35		c0.66	0.05		0.15						0.29
v/c Ratio	0.96	0.41	0.66	0.14	0.66	0.42	0.62	0.92	0.01	0.74	0.77	0.29
Uniform Delay, d1	37.1	16.7	0.0	32.2	39.8	19.9	61.6	63.7	57.6	55.0	55.3	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.06	1.05	1.00	1.00	1.00	1.00
Incremental Delay, d2	31.6	0.4	2.4	2.1	2.1	0.4	7.1	42.9	0.0	9.7	10.2	0.5
Delay (s)	68.7	17.2	2.4	34.3	41.8	20.3	72.4	109.9	57.6	64.7	65.5	0.5
Level of Service	E	B	A	C	D	C	E	F	E	E	E	A
Approach Delay (s)		20.9			36.5			93.3			35.2	
Approach LOS		C			D			F			D	

Intersection Summary					
HCM 2000 Control Delay	31.8	HCM 2000 Level of Service		C	
HCM 2000 Volume to Capacity ratio	0.82				
Actuated Cycle Length (s)	144.0	Sum of lost time (s)		18.5	
Intersection Capacity Utilization	117.3%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	1365	70	1425	120	125
Future Volume (vph)	1365	70	1425	120	125
Turn Type	NA	Perm	NA	Perm	Perm
Protected Phases	4		8		
Permitted Phases		8		2	2
Detector Phase	4	8	8	2	2
Switch Phase					
Minimum Initial (s)	19.0	19.0	19.0	7.0	7.0
Minimum Split (s)	25.0	25.0	25.0	37.0	37.0
Total Split (s)	83.0	83.0	83.0	37.0	37.0
Total Split (%)	69.2%	69.2%	69.2%	30.8%	30.8%
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	4.0	4.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	Min	Min
Act Effct Green (s)	87.1	87.1	87.1	23.9	23.9
Actuated g/C Ratio	0.73	0.73	0.73	0.20	0.20
v/c Ratio	0.42	0.38	0.42	0.41	0.40
Control Delay	8.0	16.2	8.1	43.6	28.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	8.0	16.2	8.1	43.6	28.4
LOS	A	B	A	D	C
Approach Delay	8.0		8.4	35.8	
Approach LOS	A		A	D	

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 117 (98%), Referenced to phase 4:EBT and 8:WBTL, Start of 1st Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.42			
Intersection Signal Delay: 10.4		Intersection LOS: B	
Intersection Capacity Utilization 69.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 2: Heron's Hill Way & Sheppard Ave W



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1365	40	70	1425	120	125
Future Volume (vph)	1365	40	70	1425	120	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.0	3.0	3.5	3.0	3.0
Total Lost time (s)	5.0		5.0	5.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00		0.98	1.00	0.94	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4833		1650	4885	1526	1464
Flt Permitted	1.00		0.15	1.00	0.95	1.00
Satd. Flow (perm)	4833		262	4885	1526	1464
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1422	42	73	1484	125	130
RTOR Reduction (vph)	2	0	0	0	0	35
Lane Group Flow (vph)	1462	0	73	1484	125	95
Confl. Peds. (#/hr)		65	65		50	15
Heavy Vehicles (%)	5%	5%	0%	5%	4%	0%
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	4			8		
Permitted Phases			8		2	2
Actuated Green, G (s)	86.1		86.1	86.1	22.9	22.9
Effective Green, g (s)	87.1		87.1	87.1	23.9	23.9
Actuated g/C Ratio	0.73		0.73	0.73	0.20	0.20
Clearance Time (s)	6.0		6.0	6.0	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3507		190	3545	303	291
v/s Ratio Prot	0.30			c0.30		
v/s Ratio Perm			0.28		c0.08	0.06
v/c Ratio	0.42		0.38	0.42	0.41	0.33
Uniform Delay, d1	6.5		6.3	6.5	41.9	41.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4		5.8	0.4	0.9	0.7
Delay (s)	6.8		12.0	6.8	42.8	41.8
Level of Service	A		B	A	D	D
Approach Delay (s)	6.8			7.1	42.3	
Approach LOS	A			A	D	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	15	15	65	30	55	190	35	960	195
Future Volume (vph)	15	15	65	30	55	190	35	960	195
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	32.0	32.0	32.0	32.0	80.0	80.0	80.0	80.0	80.0
Total Split (s)	32.0	32.0	32.0	32.0	112.0	112.0	112.0	112.0	112.0
Total Split (%)	22.2%	22.2%	22.2%	22.2%	77.8%	77.8%	77.8%	77.8%	77.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0		6.0		6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	23.2	23.2	23.2	23.2		109.8		109.8	109.8
Actuated g/C Ratio	0.16	0.16	0.16	0.16		0.76		0.76	0.76
v/c Ratio	0.10	0.13	0.35	0.36		0.21		0.42	0.19
Control Delay	50.3	30.8	57.0	20.5		4.1		11.2	4.3
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.5	0.0
Total Delay	50.3	30.8	57.0	20.5		4.1		11.7	4.3
LOS	D	C	E	C		A		B	A
Approach Delay		37.3		34.1		4.1		10.5	
Approach LOS		D		C		A		B	

Intersection Summary			
Cycle Length: 144			
Actuated Cycle Length: 144			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.42			
Intersection Signal Delay: 12.3		Intersection LOS: B	
Intersection Capacity Utilization 155.2%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 3: Yorkland Rd & Private Driveway/Heron's Hill Way

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	15	15	65	30	80	55	190	100	35	960	195
Future Volume (vph)	15	15	15	65	30	80	55	190	100	35	960	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0		5.0	5.0			6.0			6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			0.95	1.00
Frpb, ped/bikes	1.00	0.95		1.00	0.93			0.97			1.00	0.90
Flpb, ped/bikes	0.93	1.00		0.92	1.00			1.00			1.00	1.00
Frt	1.00	0.93		1.00	0.89			0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			1.00	1.00
Satd. Flow (prot)	1572	1473		1551	1514			3183			3521	1327
Flt Permitted	0.59	1.00		0.74	1.00			0.69			0.92	1.00
Satd. Flow (perm)	977	1473		1202	1514			2199			3260	1327
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	16	16	16	68	31	83	57	198	104	36	1000	203
RTOR Reduction (vph)	0	13	0	0	69	0	0	25	0	0	0	35
Lane Group Flow (vph)	16	19	0	68	45	0	0	334	0	0	1036	168
Confl. Peds. (#/hr)	50		50	50		50	85		70	70		85
Heavy Vehicles (%)	0%	0%	25%	0%	3%	3%	2%	3%	5%	3%	1%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	22.2	22.2		22.2	22.2			108.8			108.8	108.8
Effective Green, g (s)	23.2	23.2		23.2	23.2			109.8			109.8	109.8
Actuated g/C Ratio	0.16	0.16		0.16	0.16			0.76			0.76	0.76
Clearance Time (s)	6.0	6.0		6.0	6.0			7.0			7.0	7.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	157	237		193	243			1676			2485	1011
v/s Ratio Prot		0.01			0.03							
v/s Ratio Perm	0.02			c0.06				0.15			c0.32	0.13
v/c Ratio	0.10	0.08		0.35	0.19			0.20			0.42	0.17
Uniform Delay, d1	51.5	51.3		53.7	52.2			4.8			6.0	4.7
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.63	2.29
Incremental Delay, d2	0.3	0.1		1.1	0.4			0.3			0.4	0.3
Delay (s)	51.8	51.5		54.8	52.6			5.1			10.1	10.9
Level of Service	D	D		D	D			A			B	B
Approach Delay (s)		51.6			53.4			5.1			10.3	
Approach LOS		D			D			A			B	

Intersection Summary					
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B		
HCM 2000 Volume to Capacity ratio	0.41				
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	11.0		
Intersection Capacity Utilization	155.2%	ICU Level of Service	H		
Analysis Period (min)	15				
c Critical Lane Group					

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	35	5	115	10	190	20	145	775	35
Future Volume (Veh/h)	0	0	0	35	5	115	10	190	20	145	775	35
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	39	6	128	11	211	22	161	861	39
Pedestrians		30			65						5	
Lane Width (m)		3.5			3.5						3.5	
Walking Speed (m/s)		1.2			1.2						1.2	
Percent Blockage		2			5						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)											183	
pX, platoon unblocked	0.90	0.90	0.90	0.90	0.90		0.90					
vC, conflicting volume	1612	1552	480	1062	1561	292	930			298		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1466	1399	214	857	1409	292	711			298		
tC, single (s)	7.5	6.5	8.9	*7.5	6.5	*6.5	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	4.3	3.7	*3.9	3.3	2.2			2.2		
p0 queue free %	100	100	100	78	94	81	99			87		
cM capacity (veh/h)	52	101	494	175	101	687	792			1201		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	0	173	244	592	470
Volume Left	0	39	11	161	0
Volume Right	0	128	22	0	39
cSH	1700	370	792	1201	1700
Volume to Capacity	0.00	0.47	0.01	0.13	0.28
Queue Length 95th (m)	0.0	19.2	0.3	3.7	0.0
Control Delay (s)	0.0	23.0	0.6	3.4	0.0
Lane LOS	A	C	A	A	
Approach Delay (s)	0.0	23.0	0.6	1.9	
Approach LOS	A	C			

Intersection Summary					
Average Delay	4.2				
Intersection Capacity Utilization	60.3%	ICU Level of Service		B	
Analysis Period (min)	15				

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	245	0	5	85	20	0	0	0	0	0	0
Future Volume (Veh/h)	20	245	0	5	85	20	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	26	314	0	6	109	26	0	0	0	0	0	0
Pedestrians		5			30			95			35	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			3			8			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		113			135							
pX, platoon unblocked												
vC, conflicting volume	170			409			600	643	439	565	630	162
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	170			409			600	643	439	565	630	162
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			100	100	100	100	100	100
cM capacity (veh/h)	1378			1069			344	344	559	375	350	859

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	340	141	0	0
Volume Left	26	6	0	0
Volume Right	0	26	0	0
cSH	1378	1069	1700	1700
Volume to Capacity	0.02	0.01	0.00	0.00
Queue Length 95th (m)	0.5	0.1	0.0	0.0
Control Delay (s)	0.7	0.4	0.0	0.0
Lane LOS	A	A	A	A
Approach Delay (s)	0.7	0.4	0.0	0.0
Approach LOS			A	A

Intersection Summary					
Average Delay	0.6				
Intersection Capacity Utilization	36.5%	ICU Level of Service		A	
Analysis Period (min)	15				

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	150	85	0	115	90
Future Volume (Veh/h)	0	150	85	0	115	90
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	0	185	105	0	142	111
Pedestrians					35	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					3	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		65	183			
pX, platoon unblocked						
vC, conflicting volume	140				325	140
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	140				325	140
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				78	87
cM capacity (veh/h)	1413				654	887

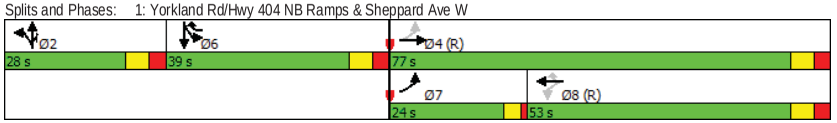
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	185	105	253
Volume Left	0	0	142
Volume Right	0	0	111
cSH	1700	1700	739
Volume to Capacity	0.11	0.06	0.34
Queue Length 95th (m)	0.0	0.0	12.2
Control Delay (s)	0.0	0.0	12.4
Lane LOS			B
Approach Delay (s)	0.0	0.0	12.4
Approach LOS			B

Intersection Summary				
Average Delay			5.8	
Intersection Capacity Utilization			29.1%	ICU Level of Service A
Analysis Period (min)			15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	385	1490	360	15	1150	540	280	245	20	140	90	365
Future Volume (vph)	385	1490	360	15	1150	540	280	245	20	140	90	365
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Split	NA	Prot	Split	NA	Free
Protected Phases	7	4			8	6	2	2	2	6	6	
Permitted Phases	4		Free	8		8						Free
Detector Phase	7	4		8	8	6	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	11.0	77.0		53.0	53.0	39.0	14.0	14.0	14.0	39.0	39.0	
Total Split (s)	24.0	77.0		53.0	53.0	39.0	28.0	28.0	28.0	39.0	39.0	
Total Split (%)	16.7%	53.5%		36.8%	36.8%	27.1%	19.4%	19.4%	19.4%	27.1%	27.1%	
Yellow Time (s)	3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	-3.5	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	0.5	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	C-Min		C-Min	C-Min	None	None	None	None	None	None	
Act Effct Green (s)	83.0	77.5	144.0	44.8	44.8	69.1	24.2	24.2	24.2	24.3	24.3	144.0
Actuated g/C Ratio	0.58	0.54	1.00	0.31	0.31	0.48	0.17	0.17	0.17	0.17	0.17	1.00
v/c Ratio	0.92	0.57	0.26	0.19	0.76	0.75	0.98	0.94	0.06	0.43	0.41	0.25
Control Delay	64.6	23.6	0.4	41.9	48.4	18.5	119.4	106.3	0.8	57.6	56.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.6	23.6	0.4	41.9	48.4	18.5	119.4	106.3	0.8	57.6	56.4	0.4
LOS	E	C	A	D	D	B	F	F	A	E	E	A
Approach Delay		26.9			38.9			108.5			22.3	
Approach LOS		C			D			F			C	

Intersection Summary		
Cycle Length: 144		
Actuated Cycle Length: 144		
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of 1st Green		
Natural Cycle: 150		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.98		
Intersection Signal Delay: 39.2	Intersection LOS: D	
Intersection Capacity Utilization 114.5%	ICU Level of Service H	
Analysis Period (min) 15		

Splits and Phases: 1: Yorkland Rd/Hwy 404 NB Ramps & Sheppard Ave W



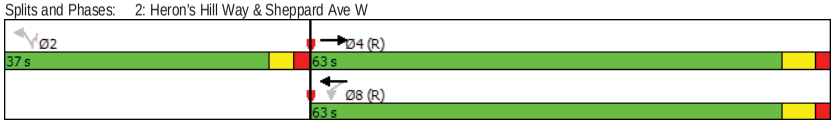
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	385	1490	360	15	1150	540	280	245	20	140	90	365
Future Volume (vph)	385	1490	360	15	1150	540	280	245	20	140	90	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	0.5	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	3.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00	0.95	0.99	1.00
Satd. Flow (prot)	1635	4932	1430	1552	4932	1420	1554	1770	1507	1585	1734	1466
Flt Permitted	0.11	1.00	1.00	0.16	1.00	1.00	0.95	0.99	1.00	0.95	0.99	1.00
Satd. Flow (perm)	183	4932	1430	259	4932	1420	1554	1770	1507	1585	1734	1466
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	393	1520	367	15	1173	551	286	250	20	143	92	372
RTOR Reduction (vph)	0	0	0	0	0	55	0	0	17	0	0	0
Lane Group Flow (vph)	393	1520	367	15	1173	496	257	279	3	116	119	372
Confl. Peds. (#/hr)	25		70	70		25	20					20
Heavy Vehicles (%)	3%	4%	2%	8%	4%	1%	3%	0%	0%	1%	2%	1%
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Split	NA	Prot	Split	NA	Free
Protected Phases	7	4			8	6	2	2	2	6	6	
Permitted Phases	4		Free	8		8						Free
Actuated Green, G (s)	76.5	76.5	144.0	43.8	43.8	67.1	23.2	23.2	23.2	23.3	23.3	144.0
Effective Green, g (s)	80.0	77.5	144.0	44.8	44.8	69.1	24.2	24.2	24.2	24.3	24.3	144.0
Actuated g/C Ratio	0.56	0.54	1.00	0.31	0.31	0.48	0.17	0.17	0.17	0.17	0.17	1.00
Clearance Time (s)	4.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	426	2654	1430	80	1534	681	261	297	253	267	292	1466
v/s Ratio Prot	c0.21	0.31			c0.24	c0.12	c0.17	0.16	0.00	0.07	0.07	
v/s Ratio Perm	0.31		0.26	0.06		0.23						0.25
v/c Ratio	0.92	0.57	0.26	0.19	0.76	0.73	0.98	0.94	0.01	0.43	0.41	0.25
Uniform Delay, d1	40.6	22.2	0.0	36.3	44.8	30.0	59.7	59.2	49.9	53.7	53.4	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.18	1.17	1.00	1.00	1.00	1.00
Incremental Delay, d2	25.4	0.9	0.4	5.1	3.7	3.9	50.6	35.6	0.0	1.1	0.9	0.4
Delay (s)	66.0	23.1	0.4	41.4	48.5	33.9	120.8	105.1	50.0	54.8	54.4	0.4
Level of Service	E	C	A	D	D	C	F	F	D	D	D	A
Approach Delay (s)		26.8			43.8			110.4			21.4	
Approach LOS		C			D			F			C	

Intersection Summary				
HCM 2000 Control Delay	40.9	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.83			
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	18.5	
Intersection Capacity Utilization	114.5%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	1570	60	1580	145	135
Future Volume (vph)	1570	60	1580	145	135
Turn Type	NA	Perm	NA	Perm	Perm
Protected Phases	4		8		
Permitted Phases		8		2	2
Detector Phase	4	8	8	2	2
Switch Phase					
Minimum Initial (s)	19.0	19.0	19.0	7.0	7.0
Minimum Split (s)	25.0	25.0	25.0	37.0	37.0
Total Split (s)	63.0	63.0	63.0	37.0	37.0
Total Split (%)	63.0%	63.0%	63.0%	37.0%	37.0%
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	4.0	4.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	Min	Min
Act Effct Green (s)	67.0	67.0	67.0	24.0	24.0
Actuated g/C Ratio	0.67	0.67	0.67	0.24	0.24
v/c Ratio	0.53	0.58	0.51	0.42	0.42
Control Delay	10.6	39.3	10.5	33.2	30.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	10.6	39.3	10.5	33.2	30.2
LOS	B	D	B	C	C
Approach Delay	10.6		11.5	31.8	
Approach LOS	B		B	C	

Intersection Summary			
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 55 (55%), Referenced to phase 4:EBT and 8:WBTL, Start of 1st Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 12.7		Intersection LOS: B	
Intersection Capacity Utilization 75.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Heron's Hill Way & Sheppard Ave W



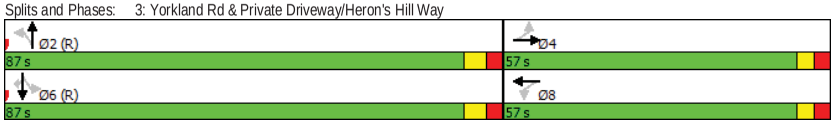
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1570	35	60	1580	145	135
Future Volume (vph)	1570	35	60	1580	145	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.0	3.0	3.5	3.0	3.0
Total Lost time (s)	5.0		5.0	5.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00		0.99	1.00	0.95	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4935		1604	4980	1587	1425
Flt Permitted	1.00		0.10	1.00	0.95	1.00
Satd. Flow (perm)	4935		169	4980	1587	1425
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1707	38	65	1717	158	147
RTOR Reduction (vph)	2	0	0	0	0	11
Lane Group Flow (vph)	1743	0	65	1717	158	136
Confl. Peds. (#/hr)		65	65		50	25
Heavy Vehicles (%)	3%	11%	4%	3%	1%	2%
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	4			8		
Permitted Phases			8		2	2
Actuated Green, G (s)	66.0		66.0	66.0	23.0	23.0
Effective Green, g (s)	67.0		67.0	67.0	24.0	24.0
Actuated g/C Ratio	0.67		0.67	0.67	0.24	0.24
Clearance Time (s)	6.0		6.0	6.0	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3306		113	3336	380	342
v/s Ratio Prot	0.35			0.34		
v/s Ratio Perm			c0.38		c0.10	0.10
v/c Ratio	0.53		0.58	0.51	0.42	0.40
Uniform Delay, d1	8.4		8.9	8.3	32.1	31.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6		19.6	0.6	0.7	0.8
Delay (s)	9.0		28.4	8.9	32.8	32.7
Level of Service	A		C	A	C	C
Approach Delay (s)	9.0			9.6	32.8	
Approach LOS	A			A	C	

Intersection Summary				
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.54			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	75.5%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	80	140	10	10	10	415	85	335	45
Future Volume (vph)	80	140	10	10	10	415	85	335	45
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.0	13.0	13.0	13.0	27.0	27.0	27.0	27.0	27.0
Total Split (s)	57.0	57.0	57.0	57.0	87.0	87.0	87.0	87.0	87.0
Total Split (%)	39.6%	39.6%	39.6%	39.6%	60.4%	60.4%	60.4%	60.4%	60.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0		6.0		6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	25.3	25.3	25.3	25.3		107.7		107.7	107.7
Actuated g/C Ratio	0.18	0.18	0.18	0.18		0.75		0.75	0.75
v/c Ratio	0.46	0.75	0.13	0.23		0.25		0.24	0.07
Control Delay	59.3	65.9	49.8	16.8		6.1		6.1	1.4
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	59.3	65.9	49.8	16.8		6.1		6.1	1.4
LOS	E	E	D	B		A		A	A
Approach Delay		64.1		21.6		6.1		5.6	
Approach LOS		E		C		A		A	

Intersection Summary			
Cycle Length: 144			
Actuated Cycle Length: 144			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 40			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 19.4		Intersection LOS: B	
Intersection Capacity Utilization 60.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: Yorkland Rd & Private Driveway/Heron's Hill Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	140	75	10	10	50	10	415	100	85	335	45
Future Volume (vph)	80	140	75	10	10	50	10	415	100	85	335	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0		5.0	5.0			6.0			6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			0.95	1.00
Frpb, ped/bikes	1.00	0.96		1.00	0.86			0.96			1.00	0.68
Flpb, ped/bikes	0.86	1.00		1.00	1.00			1.00			0.98	1.00
Frt	1.00	0.95		1.00	0.88			0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	1.00
Satd. Flow (prot)	1447	1671		1560	1347			3244			3418	976
Flt Permitted	0.71	1.00		0.30	1.00			0.94			0.72	1.00
Satd. Flow (perm)	1089	1671		500	1347			3063			2484	976
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	152	82	11	11	54	11	451	109	92	364	49
RTOR Reduction (vph)	0	17	0	0	45	0	0	8	0	0	0	12
Lane Group Flow (vph)	87	217	0	11	20	0	0	563	0	0	456	37
Confl. Peds. (#/hr)	25		15	15		25	85		55	55		85
Heavy Vehicles (%)	0%	2%	4%	8%	13%	4%	27%	2%	0%	0%	2%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	24.3	24.3		24.3	24.3			106.7			106.7	106.7
Effective Green, g (s)	25.3	25.3		25.3	25.3			107.7			107.7	107.7
Actuated g/C Ratio	0.18	0.18		0.18	0.18			0.75			0.75	0.75
Clearance Time (s)	6.0	6.0		6.0	6.0			7.0			7.0	7.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	191	293		87	236			2290			1857	729
v/s Ratio Prot		c0.13			0.02							
v/s Ratio Perm	0.08			0.02				c0.18			0.18	0.04
v/c Ratio	0.46	0.74		0.13	0.09			0.25			0.25	0.05
Uniform Delay, d1	53.2	56.2		50.0	49.7			5.6			5.6	4.8
Progression Factor	1.00	1.00		1.00	1.00			1.00			0.92	0.64
Incremental Delay, d2	1.7	9.4		0.7	0.2			0.3			0.3	0.1
Delay (s)	54.9	65.6		50.7	49.8			5.9			5.5	3.2
Level of Service	D	E		D	D			A			A	A
Approach Delay (s)		62.7			50.0			5.9			5.3	
Approach LOS		E			D			A			A	

Intersection Summary				
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.34			
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	11.0	
Intersection Capacity Utilization	60.0%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	10	10	20	0	80	5	390	65	90	315	0
Future Volume (Veh/h)	25	10	10	20	0	80	5	390	65	90	315	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	11	11	22	0	88	5	429	71	99	346	0
Pedestrians		45			60			10			5	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		4			5			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)											183	
pX, platoon unblocked	1.00	1.00	1.00	1.00	1.00		1.00					
vC, conflicting volume	1156	1159	228	932	1124	530	391			560		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1152	1154	221	927	1119	530	384			560		
tC, single (s)	*6.9	6.5	6.9	*8.9	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	*3.0	4.0	3.3	*5.2	4.0	3.3	2.2			2.2		
p0 queue free %	80	93	99	77	100	81	100			90		
cM capacity (veh/h)	137	162	752	96	171	468	1139			972		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	49	110	505	272	173
Volume Left	27	22	5	99	0
Volume Right	11	88	71	0	0
cSH	176	264	1139	972	1700
Volume to Capacity	0.28	0.42	0.00	0.10	0.10
Queue Length 95th (m)	8.7	15.5	0.1	2.7	0.0
Control Delay (s)	33.2	28.0	0.1	4.0	0.0
Lane LOS	D	D	A	A	
Approach Delay (s)	33.2	28.0	0.1	2.4	
Approach LOS	D	D			

Intersection Summary				
Average Delay	5.3			
Intersection Capacity Utilization	56.4%	ICU Level of Service	B	
Analysis Period (min)	15			

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	265	0	5	30	60	0	0	10	5	0	5
Future Volume (Veh/h)	90	265	0	5	30	60	0	0	10	5	0	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	110	323	0	6	37	73	0	0	12	6	0	6
Pedestrians		15			5			55			30	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		1			0			5			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		113			135							
pX, platoon unblocked				0.91			0.91	0.91	0.91	0.91	0.91	
vC, conflicting volume	140			378			704	750	383	676	714	118
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	140			272			629	679	277	598	639	118
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	92			99			100	100	98	98	100	99
cM capacity (veh/h)	1419			1136			302	293	665	323	309	904

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	433	116	12	12
Volume Left	110	6	0	6
Volume Right	0	73	12	6
cSH	1419	1136	665	476
Volume to Capacity	0.08	0.01	0.02	0.03
Queue Length 95th (m)	2.0	0.1	0.4	0.6
Control Delay (s)	2.5	0.5	10.5	12.8
Lane LOS	A	A	B	B
Approach Delay (s)	2.5	0.5	10.5	12.8
Approach LOS			B	B

Intersection Summary					
Average Delay	2.5				
Intersection Capacity Utilization	41.1%	ICU Level of Service		A	
Analysis Period (min)	15				

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	325	35	0	30	35
Future Volume (Veh/h)	0	325	35	0	30	35
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	374	40	0	34	40
Pedestrians					25	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		73	175			
pX, platoon unblocked					0.90	
vC, conflicting volume	65				439	65
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	65				320	65
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				94	96
cM capacity (veh/h)	1518				597	984

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	374	40	74
Volume Left	0	0	34
Volume Right	0	0	40
cSH	1700	1700	758
Volume to Capacity	0.22	0.02	0.10
Queue Length 95th (m)	0.0	0.0	2.6
Control Delay (s)	0.0	0.0	10.3
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.3
Approach LOS			B

Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	27.6%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	510	1335	960	20	1365	460	195	170	20	285	275	460
Future Volume (vph)	510	1335	960	20	1365	460	195	170	20	285	275	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	0.5	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	3.0
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	0.95	*1.00	1.00	0.95	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	1.00	1.00	1.00	0.95	1.00	1.00	1.00	0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1773	5368	1437	1648	5420	1420	1652	1833	1507	1569	1867	1439
Flt Permitted	0.10	1.00	1.00	0.22	1.00	1.00	1.00	0.99	1.00	0.95	1.00	1.00
Satd. Flow (perm)	172	5368	1437	375	5420	1420	1652	1833	1507	1569	1867	1439
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	515	1348	970	20	1379	465	197	172	20	288	278	465
RTOR Reduction (vph)	0	0	0	0	0	70	0	0	18	0	0	0
Lane Group Flow (vph)	515	1348	970	20	1379	395	177	192	2	259	307	465
Confl. Peds. (#/hr)	30		85	85		30	15					15
Heavy Vehicles (%)	0%	5%	1%	0%	4%	1%	2%	2%	0%	2%	0%	3%
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Split	NA	Prot	Split	NA	Free
Protected Phases	7	4			8	6	2	2	2	6	6	
Permitted Phases	4		Free	8		8						Free
Actuated Green, G (s)	78.0	78.0	144.0	37.2	37.2	65.6	16.6	16.6	16.6	28.4	28.4	144.0
Effective Green, g (s)	81.5	79.0	144.0	38.2	38.2	67.6	17.6	17.6	17.6	29.4	29.4	144.0
Actuated g/C Ratio	0.57	0.55	1.00	0.27	0.27	0.47	0.12	0.12	0.12	0.20	0.20	1.00
Clearance Time (s)	4.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	545	2944	1437	99	1437	666	201	224	184	320	381	1439
v/s Ratio Prot	c0.26	0.25			c0.25	0.12	0.11	0.10	0.00	0.17	0.16	
v/s Ratio Perm	0.27		c0.67	0.05		0.16						0.32
v/c Ratio	0.94	0.46	0.68	0.20	0.96	0.59	0.88	0.86	0.01	0.81	0.81	0.32
Uniform Delay, d1	42.4	19.6	0.0	41.1	52.1	28.1	62.2	62.0	55.6	54.6	54.6	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.00	1.00	1.00	1.00
Incremental Delay, d2	25.3	0.5	2.6	4.5	15.9	1.4	32.5	25.6	0.0	14.0	11.7	0.6
Delay (s)	67.7	20.1	2.6	45.6	68.0	29.5	95.5	88.3	55.6	68.6	66.3	0.6
Level of Service	E	C	A	D	E	C	F	F	E	E	E	A
Approach Delay (s)		22.7			58.2			89.9			37.3	
Approach LOS		C			E			F			D	

Intersection Summary				
HCM 2000 Control Delay	40.3	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.90			
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	18.5	
Intersection Capacity Utilization	102.5%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1620	40	70	1775	120	125
Future Volume (vph)	1620	40	70	1775	120	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.0	3.0	3.5	3.0	3.0
Total Lost time (s)	5.0		5.0	5.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00		0.99	1.00	0.94	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4887		1664	4932	1541	1464
Flt Permitted	1.00		0.11	1.00	0.95	1.00
Satd. Flow (perm)	4887		189	4932	1541	1464
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1688	42	73	1849	125	130
RTOR Reduction (vph)	2	0	0	0	0	19
Lane Group Flow (vph)	1728	0	73	1849	125	111
Confl. Peds. (#/hr)		65	65		50	15
Heavy Vehicles (%)	4%	5%	0%	4%	3%	0%
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	4			8		
Permitted Phases			8		2	2
Actuated Green, G (s)	86.1		86.1	86.1	22.9	22.9
Effective Green, g (s)	87.1		87.1	87.1	23.9	23.9
Actuated g/C Ratio	0.73		0.73	0.73	0.20	0.20
Clearance Time (s)	6.0		6.0	6.0	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3547		137	3579	306	291
v/s Ratio Prot	0.35			0.37		
v/s Ratio Perm			c0.39		c0.08	0.08
v/c Ratio	0.49		0.53	0.52	0.41	0.38
Uniform Delay, d1	7.0		7.4	7.2	41.9	41.6
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5		14.0	0.5	0.9	0.8
Delay (s)	7.5		21.4	7.8	42.8	42.5
Level of Service	A		C	A	D	D
Approach Delay (s)	7.5			8.3	42.6	
Approach LOS	A			A	D	

Intersection Summary				
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.51			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	74.0%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	15	15	65	30	80	55	290	100	35	1025	195
Future Volume (vph)	15	15	15	65	30	80	55	290	100	35	1025	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0		5.0	5.0			6.0			6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			0.95	1.00
Frpb, ped/bikes	1.00	0.95		1.00	0.93			0.98			1.00	0.90
Flpb, ped/bikes	0.93	1.00		0.92	1.00			1.00			1.00	1.00
Frt	1.00	0.93		1.00	0.89			0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			1.00	1.00
Satd. Flow (prot)	1572	1460		1551	1525			3267			3523	1327
Flt Permitted	0.59	1.00		0.74	1.00			0.70			0.92	1.00
Satd. Flow (perm)	977	1460		1202	1525			2299			3243	1327
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	16	16	16	68	31	83	57	302	104	36	1068	203
RTOR Reduction (vph)	0	13	0	0	69	0	0	17	0	0	0	33
Lane Group Flow (vph)	16	19	0	68	45	0	0	446	0	0	1104	170
Confl. Peds. (#/hr)	50		50	50		50	85		70	70		85
Heavy Vehicles (%)	0%	0%	27%	0%	3%	2%	2%	2%	5%	2%	1%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	22.2	22.2		22.2	22.2			108.8			108.8	108.8
Effective Green, g (s)	23.2	23.2		23.2	23.2			109.8			109.8	109.8
Actuated g/C Ratio	0.16	0.16		0.16	0.16			0.76			0.76	0.76
Clearance Time (s)	6.0	6.0		6.0	6.0			7.0			7.0	7.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	157	235		193	245			1752			2472	1011
v/s Ratio Prot		0.01			0.03							
v/s Ratio Perm	0.02			c0.06				0.19			c0.34	0.13
v/c Ratio	0.10	0.08		0.35	0.18			0.25			0.45	0.17
Uniform Delay, d1	51.5	51.3		53.7	52.2			5.0			6.2	4.7
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.66	2.14
Incremental Delay, d2	0.3	0.1		1.1	0.4			0.4			0.4	0.3
Delay (s)	51.8	51.5		54.8	52.6			5.4			10.7	10.3
Level of Service	D	D		D	D			A			B	B
Approach Delay (s)		51.6			53.4			5.4			10.6	
Approach LOS		D			D			A			B	

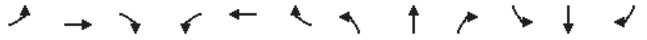
Intersection Summary				
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.43			
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	11.0	
Intersection Capacity Utilization	155.2%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	35	5	215	10	190	20	200	785	35
Future Volume (Veh/h)	0	0	0	35	5	215	10	190	20	200	785	35
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	39	6	239	11	211	22	222	872	39
Pedestrians		30			65						5	
Lane Width (m)		3.5			3.5						3.5	
Walking Speed (m/s)		1.2			1.2						1.2	
Percent Blockage		2			5						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)											183	
pX, platoon unblocked	0.89	0.89	0.89	0.89	0.89		0.89					
vC, conflicting volume	1856	1686	486	1189	1694	292	941			298		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1719	1528	184	972	1538	292	694			298		
tC, single (s)	7.5	6.5	6.9	*7.5	6.5	*6.5	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.7	*3.9	3.3	2.2			2.2		
p0 queue free %	100	100	100	72	92	65	99			82		
cM capacity (veh/h)	25	79	726	137	78	689	793			1201		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	0	284	244	658	475
Volume Left	0	39	11	222	0
Volume Right	0	239	22	0	39
cSH	1700	401	793	1201	1700
Volume to Capacity	0.00	0.71	0.01	0.18	0.28
Queue Length 95th (m)	0.0	42.7	0.3	5.4	0.0
Control Delay (s)	0.0	33.0	0.6	4.4	0.0
Lane LOS	A	D	A	A	
Approach Delay (s)	0.0	33.0	0.6	2.5	
Approach LOS	A	D			

Intersection Summary				
Average Delay	7.5			
Intersection Capacity Utilization	67.8%	ICU Level of Service	C	
Analysis Period (min)	15			

* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	245	0	5	85	20	0	0	0	0	0	0
Future Volume (Veh/h)	20	245	0	5	85	20	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	26	314	0	6	109	26	0	0	0	0	0	0
Pedestrians		5			30			95			35	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			3			8			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		113			135							
pX, platoon unblocked												
vC, conflicting volume	170			409			600	643	439	565	630	162
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	170			409			600	643	439	565	630	162
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			100	100	100	100	100	100
cM capacity (veh/h)	1378			1069			344	344	559	375	350	859

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	340	141	0	0
Volume Left	26	6	0	0
Volume Right	0	26	0	0
cSH	1378	1069	1700	1700
Volume to Capacity	0.02	0.01	0.00	0.00
Queue Length 95th (m)	0.5	0.1	0.0	0.0
Control Delay (s)	0.7	0.4	0.0	0.0
Lane LOS	A	A	A	A
Approach Delay (s)	0.7	0.4	0.0	0.0
Approach LOS			A	A

Intersection Summary				
Average Delay			0.6	
Intersection Capacity Utilization			36.5%	ICU Level of Service
Analysis Period (min)			15	

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	150	85	0	115	90
Future Volume (Veh/h)	0	150	85	0	115	90
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	0	185	105	0	142	111
Pedestrians					35	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					3	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		65	183			
pX, platoon unblocked						
vC, conflicting volume	140				325	140
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	140				325	140
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				78	87
cM capacity (veh/h)	1413				654	887

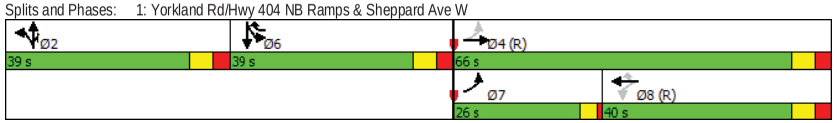
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	185	105	253
Volume Left	0	0	142
Volume Right	0	0	111
cSH	1700	1700	739
Volume to Capacity	0.11	0.06	0.34
Queue Length 95th (m)	0.0	0.0	12.2
Control Delay (s)	0.0	0.0	12.4
Lane LOS			B
Approach Delay (s)	0.0	0.0	12.4
Approach LOS			B

Intersection Summary				
Average Delay			5.8	
Intersection Capacity Utilization			29.1%	ICU Level of Service
Analysis Period (min)			15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	410	1840	425	15	1370	620	505	325	20	210	195	490
Future Volume (vph)	410	1840	425	15	1370	620	505	325	20	210	195	490
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Split	NA	Prot	Split	NA	Free
Protected Phases	7	4			8	6	2	2	2	6	6	
Permitted Phases	4		Free	8		8						Free
Detector Phase	7	4		8	8	6	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	11.0	33.0		33.0	33.0	39.0	14.0	14.0	14.0	39.0	39.0	
Total Split (s)	26.0	66.0		40.0	40.0	39.0	39.0	39.0	39.0	39.0	39.0	
Total Split (%)	18.1%	45.8%		27.8%	27.8%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	
Yellow Time (s)	3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	-3.5	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	0.5	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	C-Min		C-Min	C-Min	None	None	None	None	None	None	
Act Effct Green (s)	67.5	62.0	144.0	34.0	34.0	65.0	33.0	33.0	33.0	31.0	31.0	144.0
Actuated g/C Ratio	0.47	0.43	1.00	0.24	0.24	0.45	0.23	0.23	0.23	0.22	0.22	1.00
v/c Ratio	1.10	0.80	0.30	0.33	1.09	0.88	1.09	1.01	0.05	0.56	0.55	0.34
Control Delay	116.1	39.1	0.5	68.5	105.1	30.4	127.1	105.4	0.3	56.9	55.7	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	116.1	39.1	0.5	68.5	105.1	30.4	127.1	105.4	0.3	56.9	55.7	0.6
LOS	F	D	A	E	F	C	F	F	A	E	E	A
Approach Delay		44.8			81.7			113.4			25.8	
Approach LOS		D			F			F			C	

Intersection Summary			
Cycle Length: 144			
Actuated Cycle Length: 144			
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.10			
Intersection Signal Delay: 62.7		Intersection LOS: E	
Intersection Capacity Utilization 108.6%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Yorkland Rd/Hwy 404 NB Ramps & Sheppard Ave W



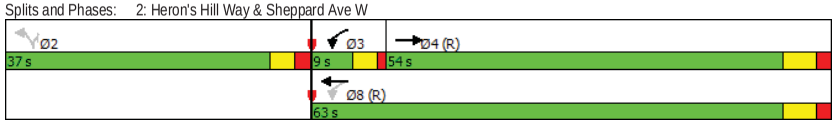
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	410	1840	425	15	1370	620	505	325	20	210	195	490
Future Volume (vph)	410	1840	425	15	1370	620	505	325	20	210	195	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	0.5	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	3.0
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	0.95	*1.00	1.00	0.95	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	1.00	1.00	1.00	0.95	1.00	1.00	1.00	0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1722	5472	1430	1563	5420	1434	1668	1853	1507	1600	1853	1466
Flt Permitted	0.11	1.00	1.00	0.12	1.00	1.00	1.00	0.99	1.00	0.95	1.00	1.00
Satd. Flow (perm)	186	5472	1430	194	5420	1434	1668	1853	1507	1600	1853	1466
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	418	1878	434	15	1398	633	515	332	20	214	199	500
RTOR Reduction (vph)	0	0	0	0	0	69	0	0	15	0	0	0
Lane Group Flow (vph)	418	1878	434	15	1398	564	417	430	5	193	220	500
Confl. Peds. (#/hr)	25		70	70		25	20					20
Heavy Vehicles (%)	3%	3%	2%	7%	4%	1%	1%	0%	0%	0%	1%	1%
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Split	NA	Prot	Split	NA	Free
Protected Phases	7	4			8	6	2	2	2	6	6	
Permitted Phases	4		Free	8		8						Free
Actuated Green, G (s)	61.0	61.0	144.0	33.0	33.0	63.0	32.0	32.0	32.0	30.0	30.0	144.0
Effective Green, g (s)	64.5	62.0	144.0	34.0	34.0	65.0	33.0	33.0	33.0	31.0	31.0	144.0
Actuated g/C Ratio	0.45	0.43	1.00	0.24	0.24	0.45	0.23	0.23	0.23	0.22	0.22	1.00
Clearance Time (s)	4.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	376	2356	1430	45	1279	647	382	424	345	344	398	1466
v/s Ratio Prot	c0.21	0.34			c0.26	c0.19	c0.25	0.23	0.00	0.12	0.12	
v/s Ratio Perm	0.28		0.30	0.08		0.21						0.34
v/c Ratio	1.11	0.80	0.30	0.33	1.09	0.87	1.09	1.01	0.01	0.56	0.55	0.34
Uniform Delay, d1	46.1	35.5	0.0	45.6	55.0	35.7	55.5	55.5	42.9	50.4	50.3	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.00	1.00
Incremental Delay, d2	80.1	2.9	0.5	18.8	54.6	12.3	71.9	46.3	0.0	2.1	1.7	0.6
Delay (s)	126.3	38.5	0.5	64.4	109.6	48.0	133.1	107.5	42.9	52.5	52.0	0.6
Level of Service	F	D	A	E	F	D	F	F	D	D	D	A
Approach Delay (s)		45.9			90.2			118.3			24.0	
Approach LOS		D			F			F			C	

Intersection Summary					
HCM 2000 Control Delay	66.2	HCM 2000 Level of Service		E	
HCM 2000 Volume to Capacity ratio	1.02				
Actuated Cycle Length (s)	144.0	Sum of lost time (s)		18.5	
Intersection Capacity Utilization	108.6%	ICU Level of Service		G	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	1985	60	1880	145	135
Future Volume (vph)	1985	60	1880	145	135
Turn Type	NA	pm+pt	NA	Perm	Perm
Protected Phases	4	3	8		
Permitted Phases		8		2	2
Detector Phase	4	3	8	2	2
Switch Phase					
Minimum Initial (s)	19.0	5.0	19.0	7.0	7.0
Minimum Split (s)	25.0	9.0	25.0	37.0	37.0
Total Split (s)	54.0	9.0	63.0	37.0	37.0
Total Split (%)	54.0%	9.0%	63.0%	37.0%	37.0%
Yellow Time (s)	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	3.0	5.0	4.0	4.0
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	C-Min	None	C-Min	Min	Min
Act Effct Green (s)	59.0	69.0	67.0	24.0	24.0
Actuated g/C Ratio	0.59	0.69	0.67	0.24	0.24
v/c Ratio	0.75	0.36	0.61	0.42	0.35
Control Delay	20.3	14.4	11.9	33.2	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.3	14.4	11.9	33.2	11.4
LOS	C	B	B	C	B
Approach Delay	20.3		12.0	22.7	
Approach LOS	C		B	C	

Intersection Summary			
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 16.7		Intersection LOS: B	
Intersection Capacity Utilization 72.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 2: Heron's Hill Way & Sheppard Ave W



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1985	35	60	1880	145	135
Future Volume (vph)	1985	35	60	1880	145	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.0	3.0	3.5	3.0	3.0
Total Lost time (s)	5.0		3.0	5.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	0.95	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4944		1636	4980	1587	1439
Flt Permitted	1.00		0.07	1.00	0.95	1.00
Satd. Flow (perm)	4944		113	4980	1587	1439
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2158	38	65	2043	158	147
RTOR Reduction (vph)	2	0	0	0	0	79
Lane Group Flow (vph)	2194	0	65	2043	158	68
Confl. Peds. (#/hr)		65	65		50	25
Heavy Vehicles (%)	3%	11%	3%	3%	1%	1%
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	4		3	8		
Permitted Phases			8		2	2
Actuated Green, G (s)	57.2		66.0	66.0	23.0	23.0
Effective Green, g (s)	58.2		67.0	67.0	24.0	24.0
Actuated g/C Ratio	0.58		0.67	0.67	0.24	0.24
Clearance Time (s)	6.0		4.0	6.0	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2877		164	3336	380	345
v/s Ratio Prot	c0.44		0.02	c0.41		
v/s Ratio Perm			0.24		c0.10	0.05
v/c Ratio	0.76		0.40	0.61	0.42	0.20
Uniform Delay, d1	15.7		12.7	9.2	32.1	30.3
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0		1.6	0.8	0.7	0.3
Delay (s)	17.7		14.2	10.1	32.8	30.6
Level of Service	B		B	B	C	C
Approach Delay (s)	17.7			10.2	31.7	
Approach LOS	B			B	C	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	80	140	10	10	10	720	85	505	45
Future Volume (vph)	80	140	10	10	10	720	85	505	45
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.0	13.0	13.0	13.0	27.0	27.0	27.0	27.0	27.0
Total Split (s)	57.0	57.0	57.0	57.0	87.0	87.0	87.0	87.0	87.0
Total Split (%)	39.6%	39.6%	39.6%	39.6%	60.4%	60.4%	60.4%	60.4%	60.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0		6.0		6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	25.3	25.3	25.3	25.3		107.7		107.7	107.7
Actuated g/C Ratio	0.18	0.18	0.18	0.18		0.75		0.75	0.75
v/c Ratio	0.46	0.75	0.13	0.23		0.38		0.36	0.07
Control Delay	59.3	65.9	49.9	16.7		7.4		7.3	1.7
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	59.3	65.9	49.9	16.7		7.4		7.3	1.7
LOS	E	E	D	B		A		A	A
Approach Delay		64.1		21.5		7.4		6.9	
Approach LOS		E		C		A		A	

Intersection Summary			
Cycle Length: 144			
Actuated Cycle Length: 144			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 40			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 16.9		Intersection LOS: B	
Intersection Capacity Utilization 67.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Yorkland Rd & Private Driveway/Heron's Hill Way

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	140	75	10	10	50	10	720	100	85	505	45
Future Volume (vph)	80	140	75	10	10	50	10	720	100	85	505	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0		5.0	5.0			6.0			6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			0.95	1.00
Frpb, ped/bikes	1.00	0.96		1.00	0.86			0.97			1.00	0.68
Flpb, ped/bikes	0.86	1.00		1.00	1.00			1.00			0.99	1.00
Frt	1.00	0.95		1.00	0.88			0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	1.00
Satd. Flow (prot)	1447	1671		1532	1365			3366			3461	986
Flt Permitted	0.71	1.00		0.30	1.00			0.94			0.67	1.00
Satd. Flow (perm)	1089	1671		491	1365			3181			2347	986
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	152	82	11	11	54	11	783	109	92	549	49
RTOR Reduction (vph)	0	17	0	0	45	0	0	4	0	0	0	9
Lane Group Flow (vph)	87	217	0	11	20	0	0	899	0	0	641	40
Confl. Peds. (#/hr)	25		15	15		25	85		55	55		85
Heavy Vehicles (%)	0%	2%	4%	10%	10%	3%	30%	1%	0%	0%	2%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	24.3	24.3		24.3	24.3			106.7			106.7	106.7
Effective Green, g (s)	25.3	25.3		25.3	25.3			107.7			107.7	107.7
Actuated g/C Ratio	0.18	0.18		0.18	0.18			0.75			0.75	0.75
Clearance Time (s)	6.0	6.0		6.0	6.0			7.0			7.0	7.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	191	293		86	239			2379			1755	737
v/s Ratio Prot		c0.13			0.02							
v/s Ratio Perm	0.08			0.02				c0.28			0.27	0.04
v/c Ratio	0.46	0.74		0.13	0.09			0.38			0.37	0.05
Uniform Delay, d1	53.2	56.2		50.0	49.7			6.4			6.3	4.8
Progression Factor	1.00	1.00		1.00	1.00			1.00			0.96	0.51
Incremental Delay, d2	1.7	9.4		0.7	0.2			0.5			0.6	0.1
Delay (s)	54.9	65.6		50.7	49.8			6.8			6.6	2.6
Level of Service	D	E		D	D			A			A	A
Approach Delay (s)		62.7			50.0			6.8			6.3	
Approach LOS		E			D			A			A	

Intersection Summary					
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio	0.45				
Actuated Cycle Length (s)	144.0	Sum of lost time (s)		11.0	
Intersection Capacity Utilization	67.2%	ICU Level of Service		C	
Analysis Period (min)	15				
c Critical Lane Group					

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	10	10	20	0	385	5	390	65	255	320	0
Future Volume (Veh/h)	25	10	10	20	0	385	5	390	65	255	320	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	11	11	22	0	423	5	429	71	280	352	0
Pedestrians		45			60			10			5	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		4			5			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)											183	
pX, platoon unblocked	0.96	0.96	0.96	0.96	0.96		0.96					
vC, conflicting volume	1860	1527	231	1297	1492	530	397			560		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1818	1473	130	1235	1437	530	302			560		
tC, single (s)	*6.9	6.5	6.9	*8.9	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	*3.0	4.0	3.3	*5.2	4.0	3.3	2.2			2.2		
p0 queue free %	0	86	99	47	100	10	100			71		
cM capacity (veh/h)	5	80	832	41	84	470	1181			972		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	49	445	505	456	176
Volume Left	27	22	5	280	0
Volume Right	11	423	71	0	0
cSH	9	311	1181	972	1700
Volume to Capacity	5.71	1.43	0.00	0.29	0.10
Queue Length 95th (m)	Err	190.3	0.1	9.6	0.0
Control Delay (s)	Err	243.7	0.1	7.5	0.0
Lane LOS	F	F	A	A	
Approach Delay (s)	Err	243.7	0.1	5.4	
Approach LOS	F	F			

Intersection Summary				
Average Delay	369.0			
Intersection Capacity Utilization	77.0%	ICU Level of Service	D	
Analysis Period (min)	15			

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	265	0	5	30	60	0	0	10	5	0	5
Future Volume (Veh/h)	90	265	0	5	30	60	0	0	10	5	0	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	110	323	0	6	37	73	0	0	12	6	0	6
Pedestrians		15			5			55			30	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		1			0			5			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		113			135							
pX, platoon unblocked				0.91			0.91	0.91	0.91	0.91	0.91	
vC, conflicting volume	140			378			704	750	383	676	714	118
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	140			272			629	679	277	598	639	118
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	92			99			100	100	98	98	100	99
cM capacity (veh/h)	1419			1136			302	293	665	323	309	904

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	433	116	12	12
Volume Left	110	6	0	6
Volume Right	0	73	12	6
cSH	1419	1136	665	476
Volume to Capacity	0.08	0.01	0.02	0.03
Queue Length 95th (m)	2.0	0.1	0.4	0.6
Control Delay (s)	2.5	0.5	10.5	12.8
Lane LOS	A	A	B	B
Approach Delay (s)	2.5	0.5	10.5	12.8
Approach LOS			B	B

Intersection Summary				
Average Delay	2.5			
Intersection Capacity Utilization	41.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	325	35	0	30	35
Future Volume (Veh/h)	0	325	35	0	30	35
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	374	40	0	34	40
Pedestrians					25	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		73	175			
pX, platoon unblocked					0.90	
vC, conflicting volume	65				439	65
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	65				320	65
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				94	96
cM capacity (veh/h)	1518				597	984

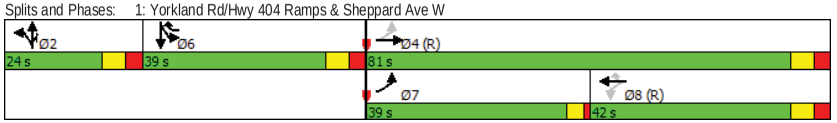
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	374	40	74
Volume Left	0	0	34
Volume Right	0	0	40
cSH	1700	1700	758
Volume to Capacity	0.22	0.02	0.10
Queue Length 95th (m)	0.0	0.0	2.6
Control Delay (s)	0.0	0.0	10.3
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.3
Approach LOS			B

Intersection Summary				
Average Delay			1.6	
Intersection Capacity Utilization			27.6%	ICU Level of Service A
Analysis Period (min)			15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	510	1335	965	20	1385	465	215	175	20	285	295	460
Future Volume (vph)	510	1335	965	20	1385	465	215	175	20	285	295	460
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Split	NA	Prot	Split	NA	Free
Protected Phases	7	4			8	6	2	2	2	6	6	
Permitted Phases	4		Free	8		8						Free
Detector Phase	7	4		8	8	6	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	11.0	33.0		33.0	33.0	39.0	14.0	14.0	14.0	39.0	39.0	
Total Split (s)	39.0	81.0		42.0	42.0	39.0	24.0	24.0	24.0	39.0	39.0	
Total Split (%)	27.1%	56.3%		29.2%	29.2%	27.1%	16.7%	16.7%	16.7%	27.1%	27.1%	
Yellow Time (s)	3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	-3.5	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	0.5	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	C-Min		C-Min	C-Min	None	None	None	None	None	None	
Act Effct Green (s)	83.2	77.7	144.0	37.5	37.5	67.8	18.0	18.0	18.0	30.3	30.3	144.0
Actuated g/C Ratio	0.58	0.54	1.00	0.26	0.26	0.47	0.12	0.12	0.12	0.21	0.21	1.00
v/c Ratio	0.95	0.47	0.68	0.21	0.99	0.64	0.94	0.88	0.07	0.78	0.83	0.32
Control Delay	68.9	21.4	2.6	49.6	75.0	14.9	109.9	97.2	0.7	70.7	72.5	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.9	21.4	2.6	49.6	75.0	14.9	109.9	97.2	0.7	70.7	72.5	0.6
LOS	E	C	A	D	E	B	F	F	A	E	E	A
Approach Delay		23.6			59.8			98.4			40.2	
Approach LOS		C			E			F			D	

Intersection Summary		
Cycle Length: 144		
Actuated Cycle Length: 144		
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of 1st Green		
Natural Cycle: 130		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.99		
Intersection Signal Delay: 42.4	Intersection LOS: D	
Intersection Capacity Utilization 103.9%	ICU Level of Service G	
Analysis Period (min) 15		

Splits and Phases: 1: Yorkland Rd/Hwy 404 Ramps & Sheppard Ave W



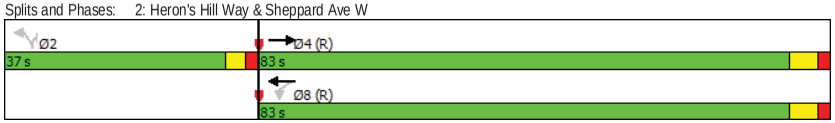
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	510	1335	965	20	1385	465	215	175	20	285	295	460
Future Volume (vph)	510	1335	965	20	1385	465	215	175	20	285	295	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	0.5	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	3.0
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	0.95	*1.00	1.00	0.95	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	1.00	1.00	1.00	0.95	1.00	1.00	1.00	0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1773	5368	1437	1648	5420	1421	1652	1831	1507	1569	1867	1439
Flt Permitted	0.10	1.00	1.00	0.22	1.00	1.00	1.00	0.99	1.00	0.95	1.00	1.00
Satd. Flow (perm)	175	5368	1437	375	5420	1421	1652	1831	1507	1569	1867	1439
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	515	1348	975	20	1399	470	217	177	20	288	298	465
RTOR Reduction (vph)	0	0	0	0	0	68	0	0	18	0	0	0
Lane Group Flow (vph)	515	1348	975	20	1399	402	193	201	3	259	327	465
Confl. Peds. (#/hr)	30		85	85		30	15					15
Heavy Vehicles (%)	0%	5%	1%	0%	4%	1%	2%	2%	0%	2%	0%	3%
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Split	NA	Prot	Split	NA	Free
Protected Phases	7	4			8	6	2	2	2	6	6	
Permitted Phases	4		Free	8		8						Free
Actuated Green, G (s)	76.7	76.7	144.0	36.5	36.5	65.8	17.0	17.0	17.0	29.3	29.3	144.0
Effective Green, g (s)	80.2	77.7	144.0	37.5	37.5	67.8	18.0	18.0	18.0	30.3	30.3	144.0
Actuated g/C Ratio	0.56	0.54	1.00	0.26	0.26	0.47	0.12	0.12	0.12	0.21	0.21	1.00
Clearance Time (s)	4.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	538	2896	1437	97	1411	669	206	228	188	330	392	1439
v/s Ratio Prot	c0.26	0.25			c0.26	0.13	c0.12	0.11	0.00	0.17	c0.18	
v/s Ratio Perm	0.27		0.68	0.05		0.16						0.32
v/c Ratio	0.96	0.47	0.68	0.21	0.99	0.60	0.94	0.88	0.01	0.78	0.83	0.32
Uniform Delay, d1	42.9	20.4	0.0	41.6	53.1	28.1	62.4	62.0	55.2	53.8	54.4	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.02	1.00	1.00	1.00	1.00
Incremental Delay, d2	28.0	0.5	2.6	4.8	22.0	1.5	44.0	29.7	0.0	11.6	14.1	0.6
Delay (s)	70.9	20.9	2.6	46.4	75.1	29.6	107.3	92.6	55.2	65.4	68.6	0.6
Level of Service	E	C	A	D	E	C	F	F	E	E	E	A
Approach Delay (s)		23.7			63.5			97.6			37.7	
Approach LOS		C			E			F			D	

Intersection Summary				
HCM 2000 Control Delay	43.2	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.92			
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	18.5	
Intersection Capacity Utilization	103.9%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	1620	70	1775	145	145
Future Volume (vph)	1620	70	1775	145	145
Turn Type	NA	Perm	NA	Perm	Perm
Protected Phases	4		8		
Permitted Phases		8		2	2
Detector Phase	4	8	8	2	2
Switch Phase					
Minimum Initial (s)	19.0	19.0	19.0	7.0	7.0
Minimum Split (s)	25.0	25.0	25.0	37.0	37.0
Total Split (s)	83.0	83.0	83.0	37.0	37.0
Total Split (%)	69.2%	69.2%	69.2%	30.8%	30.8%
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	4.0	4.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	Min	Min
Act Effct Green (s)	86.4	86.4	86.4	24.6	24.6
Actuated g/C Ratio	0.72	0.72	0.72	0.20	0.20
v/c Ratio	0.49	0.54	0.52	0.48	0.47
Control Delay	8.9	29.9	9.3	45.3	38.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	8.9	29.9	9.3	45.3	38.1
LOS	A	C	A	D	D
Approach Delay	8.9		10.1	41.7	
Approach LOS	A		B	D	

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 117 (98%), Referenced to phase 4:EBT and 8:WBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 12.0		Intersection LOS: B	
Intersection Capacity Utilization 74.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Heron's Hill Way & Sheppard Ave W



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1620	40	70	1775	145	145
Future Volume (vph)	1620	40	70	1775	145	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.0	3.0	3.5	3.0	3.0
Total Lost time (s)	5.0		5.0	5.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00		0.99	1.00	0.94	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4887		1664	4932	1541	1464
Flt Permitted	1.00		0.11	1.00	0.95	1.00
Satd. Flow (perm)	4887		188	4932	1541	1464
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1688	42	73	1849	151	151
RTOR Reduction (vph)	2	0	0	0	0	19
Lane Group Flow (vph)	1728	0	73	1849	151	132
Confl. Peds. (#/hr)		65	65		50	15
Heavy Vehicles (%)	4%	5%	0%	4%	3%	0%
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	4			8		
Permitted Phases			8		2	2
Actuated Green, G (s)	85.4		85.4	85.4	23.6	23.6
Effective Green, g (s)	86.4		86.4	86.4	24.6	24.6
Actuated g/C Ratio	0.72		0.72	0.72	0.21	0.21
Clearance Time (s)	6.0		6.0	6.0	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3518		135	3551	315	300
v/s Ratio Prot	0.35			0.37		
v/s Ratio Perm			c0.39		c0.10	0.09
v/c Ratio	0.49		0.54	0.52	0.48	0.44
Uniform Delay, d1	7.3		7.7	7.5	42.1	41.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5		14.7	0.5	1.2	1.0
Delay (s)	7.8		22.4	8.1	43.2	42.7
Level of Service	A		C	A	D	D
Approach Delay (s)	7.8			8.6	43.0	
Approach LOS	A			A	D	

Intersection Summary				
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.53			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	74.8%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	15	15	65	30	55	290	60	1025	195
Future Volume (vph)	15	15	65	30	55	290	60	1025	195
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	32.0	32.0	32.0	32.0	80.0	80.0	80.0	80.0	80.0
Total Split (s)	32.0	32.0	32.0	32.0	112.0	112.0	112.0	112.0	112.0
Total Split (%)	22.2%	22.2%	22.2%	22.2%	77.8%	77.8%	77.8%	77.8%	77.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0		6.0		6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	23.2	23.2	23.2	23.2		109.8		109.8	109.8
Actuated g/C Ratio	0.16	0.16	0.16	0.16		0.76		0.76	0.76
v/c Ratio	0.12	0.13	0.35	0.42		0.26		0.48	0.19
Control Delay	50.9	30.8	57.0	18.6		5.1		12.5	4.6
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.6	0.0
Total Delay	50.9	30.8	57.0	18.6		5.1		13.2	4.6
LOS	D	C	E	B		A		B	A
Approach Delay		37.5		31.1		5.1		11.8	
Approach LOS		D		C		A		B	

Intersection Summary			
Cycle Length: 144			
Actuated Cycle Length: 144			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 12.9		Intersection LOS: B	
Intersection Capacity Utilization 155.5%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 3: Yorkland Rd & Private Driveway/Heron's Hill Way

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	15	15	65	30	105	55	290	100	60	1025	195
Future Volume (vph)	15	15	15	65	30	105	55	290	100	60	1025	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0		5.0	5.0			6.0			6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			0.95	1.00
Frpb, ped/bikes	1.00	0.95		1.00	0.93			0.98			1.00	0.90
Flpb, ped/bikes	0.94	1.00		0.92	1.00			1.00			1.00	1.00
Frt	1.00	0.93		1.00	0.88			0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			1.00	1.00
Satd. Flow (prot)	1581	1460		1551	1505			3267			3516	1327
Flt Permitted	0.52	1.00		0.74	1.00			0.69			0.88	1.00
Satd. Flow (perm)	863	1460		1202	1505			2284			3110	1327
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	16	16	16	68	31	109	57	302	104	62	1068	203
RTOR Reduction (vph)	0	13	0	0	91	0	0	17	0	0	0	32
Lane Group Flow (vph)	16	19	0	68	49	0	0	446	0	0	1131	171
Confl. Peds. (#/hr)	50		50	50		50	85		70	70		85
Heavy Vehicles (%)	0%	0%	27%	0%	3%	2%	2%	2%	5%	2%	1%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	22.2	22.2		22.2	22.2			108.8			108.8	108.8
Effective Green, g (s)	23.2	23.2		23.2	23.2			109.8			109.8	109.8
Actuated g/C Ratio	0.16	0.16		0.16	0.16			0.76			0.76	0.76
Clearance Time (s)	6.0	6.0		6.0	6.0			7.0			7.0	7.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	139	235		193	242			1741			2371	1011
v/s Ratio Prot		0.01			0.03							
v/s Ratio Perm	0.02			c0.06				0.20			c0.36	0.13
v/c Ratio	0.12	0.08		0.35	0.20			0.26			0.48	0.17
Uniform Delay, d1	51.6	51.3		53.7	52.4			5.0			6.4	4.7
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.69	2.09
Incremental Delay, d2	0.4	0.1		1.1	0.4			0.4			0.5	0.3
Delay (s)	52.0	51.5		54.8	52.8			5.4			11.3	10.0
Level of Service	D	D		D	D			A			B	B
Approach Delay (s)		51.6			53.5			5.4			11.1	
Approach LOS		D			D			A			B	

Intersection Summary				
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.45			
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	11.0	
Intersection Capacity Utilization	155.5%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	35	5	215	10	190	20	200	785	35
Future Volume (Veh/h)	0	0	0	35	5	215	10	190	20	200	785	35
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	39	6	239	11	211	22	222	872	39
Pedestrians		30			65						5	
Lane Width (m)		3.5			3.5						3.5	
Walking Speed (m/s)		1.2			1.2						1.2	
Percent Blockage		2			5						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)											183	
pX, platoon unblocked	0.89	0.89	0.89	0.89	0.89		0.89					
vC, conflicting volume	1856	1686	486	1189	1694	292	941			298		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1716	1524	177	967	1534	292	689			298		
tC, single (s)	7.5	6.5	6.9	*7.5	6.5	*6.5	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.7	*3.9	3.3	2.2			2.2		
p0 queue free %	100	100	100	72	92	65	99			82		
cM capacity (veh/h)	25	79	731	138	79	689	795			1201		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	0	284	244	658	475
Volume Left	0	39	11	222	0
Volume Right	0	239	22	0	39
cSH	1700	402	795	1201	1700
Volume to Capacity	0.00	0.71	0.01	0.18	0.28
Queue Length 95th (m)	0.0	42.5	0.3	5.4	0.0
Control Delay (s)	0.0	32.8	0.6	4.4	0.0
Lane LOS	A	D	A	A	
Approach Delay (s)	0.0	32.8	0.6	2.5	
Approach LOS	A	D			

Intersection Summary				
Average Delay	7.4			
Intersection Capacity Utilization	67.8%	ICU Level of Service	C	
Analysis Period (min)	15			

* User Entered Value

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	270	110	20	0	0
Future Volume (Veh/h)	20	270	110	20	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	26	346	141	26	0	0
Pedestrians		5	30		35	
Lane Width (m)		3.6	3.6		0.0	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		0	3		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		113	135			
pX, platoon unblocked						
vC, conflicting volume	202				617	194
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	202				617	194
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	100
cM capacity (veh/h)	1382				437	849

Direction, Lane #	EB 1	WB 1
Volume Total	372	167
Volume Left	26	0
Volume Right	0	26
cSH	1382	1700
Volume to Capacity	0.02	0.10
Queue Length 95th (m)	0.5	0.0
Control Delay (s)	0.7	0.0
Lane LOS	A	
Approach Delay (s)	0.7	0.0
Approach LOS		

Intersection Summary				
Average Delay		0.5		
Intersection Capacity Utilization		41.7%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	245	25	5	105	25	45
Future Volume (Veh/h)	245	25	5	105	25	45
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	266	27	5	114	27	49
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	155			94		
pX, platoon unblocked						
vC, conflicting volume			293		404	280
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			293		404	280
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	94
cM capacity (veh/h)			1280		605	764

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	293	119	76
Volume Left	0	5	27
Volume Right	27	0	49
cSH	1700	1280	699
Volume to Capacity	0.17	0.00	0.11
Queue Length 95th (m)	0.0	0.1	2.9
Control Delay (s)	0.0	0.4	10.8
Lane LOS		A	B
Approach Delay (s)	0.0	0.4	10.8
Approach LOS			B

Intersection Summary				
Average Delay		1.8		
Intersection Capacity Utilization		25.2%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	70	0	0	0	0	30
Future Volume (Veh/h)	70	0	0	0	0	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	0	0	0	0	33
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	16	16	33			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	16	16	33			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	100	100			
cM capacity (veh/h)	1007	1068	1592			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	76	0	33
Volume Left	76	0	0
Volume Right	0	0	33
cSH	1007	1700	1700
Volume to Capacity	0.08	0.00	0.02
Queue Length 95th (m)	2.0	0.0	0.0
Control Delay (s)	8.9	0.0	0.0
Lane LOS	A		
Approach Delay (s)	8.9	0.0	0.0
Approach LOS	A		

Intersection Summary				
Average Delay	6.2			
Intersection Capacity Utilization	13.9%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	175	110	0	115	90
Future Volume (Veh/h)	0	175	110	0	115	90
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	0	216	136	0	142	111
Pedestrians					35	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					3	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		65	183			
pX, platoon unblocked						
vC, conflicting volume	171				387	171
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	171				387	171
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				76	87
cM capacity (veh/h)	1377				602	852

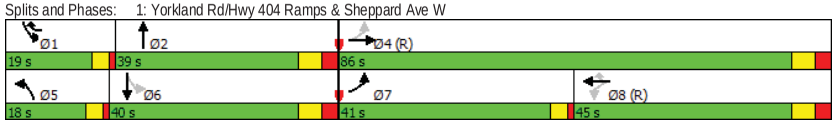
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	216	136	253
Volume Left	0	0	142
Volume Right	0	0	111
cSH	1700	1700	691
Volume to Capacity	0.13	0.08	0.37
Queue Length 95th (m)	0.0	0.0	13.4
Control Delay (s)	0.0	0.0	13.2
Lane LOS			B
Approach Delay (s)	0.0	0.0	13.2
Approach LOS			B

Intersection Summary				
Average Delay	5.5			
Intersection Capacity Utilization	29.5%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	510	1335	965	20	1385	465	215	175	285	295	460
Future Volume (vph)	510	1335	965	20	1385	465	215	175	285	295	460
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Prot	NA	pm+pt	NA	Free
Protected Phases	7	4			8	1	5	2	1	6	
Permitted Phases	4		Free	8		8			6		Free
Detector Phase	7	4		8	8	1	5	2	1	6	
Switch Phase											
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	11.0	33.0		33.0	33.0	11.0	11.0	39.0	11.0	39.0	
Total Split (s)	41.0	86.0		45.0	45.0	19.0	18.0	39.0	19.0	40.0	
Total Split (%)	28.5%	59.7%		31.3%	31.3%	13.2%	12.5%	27.1%	13.2%	27.8%	
Yellow Time (s)	3.0	4.0		4.0	4.0	3.0	3.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	3.0		3.0	3.0	1.0	1.0	3.0	1.0	3.0	
Lost Time Adjust (s)	-3.5	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	0.5	6.0		6.0	6.0	3.0	3.0	6.0	3.0	6.0	
Lead/Lag	Lead			Lag	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min		C-Min	C-Min	None	None	None	None	None	
Act Effct Green (s)	91.8	86.3	144.0	44.3	44.3	63.9	14.2	26.1	47.3	28.5	144.0
Actuated g/C Ratio	0.64	0.60	1.00	0.31	0.31	0.44	0.10	0.18	0.33	0.20	1.00
v/c Ratio	0.91	0.42	0.68	0.17	0.84	0.63	0.69	0.59	0.86	0.80	0.32
Control Delay	61.4	16.5	2.6	45.4	52.9	18.1	75.2	59.2	63.5	71.2	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.4	16.5	2.6	45.4	52.9	18.1	75.2	59.2	63.5	71.2	0.6
LOS	E	B	A	D	D	B	E	E	E	E	A
Approach Delay		19.9			44.2			67.6		37.9	
Approach LOS		B			D			E		D	

Intersection Summary			
Cycle Length: 144			
Actuated Cycle Length: 144			
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of 1st Green			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 33.5		Intersection LOS: C	
Intersection Capacity Utilization 97.9%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Yorkland Rd/Hwy 404 Ramps & Sheppard Ave W



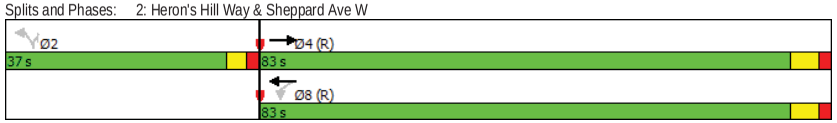
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	510	1335	965	20	1385	465	215	175	20	285	295	460
Future Volume (vph)	510	1335	965	20	1385	465	215	175	20	285	295	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	0.5	6.0	3.0	6.0	6.0	3.0	3.0	6.0		3.0	6.0	3.0
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	0.97	*1.00		1.00	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.93	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1773	5368	1437	1648	5420	1382	3204	1818		1652	1879	1439
Flt Permitted	0.08	1.00	1.00	0.22	1.00	1.00	0.95	1.00		0.39	1.00	1.00
Satd. Flow (perm)	150	5368	1437	375	5420	1382	3204	1818		681	1879	1439
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	515	1348	975	20	1399	470	217	177	20	288	298	465
RTOR Reduction (vph)	0	0	0	0	0	144	0	3	0	0	0	0
Lane Group Flow (vph)	515	1348	975	20	1399	326	217	194	0	288	298	465
Confl. Peds. (#/hr)	30		85	85		30	15					15
Heavy Vehicles (%)	0%	5%	1%	0%	4%	1%	2%	2%	0%	2%	0%	3%
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Prot	NA		pm+pt	NA	Free
Protected Phases	7	4			8	1	5	2		1	6	
Permitted Phases	4		Free	8		8				6		Free
Actuated Green, G (s)	85.3	85.3	144.0	43.3	43.3	58.9	13.2	25.1		43.1	27.5	144.0
Effective Green, g (s)	88.8	86.3	144.0	44.3	44.3	60.9	14.2	26.1		45.1	28.5	144.0
Actuated g/C Ratio	0.62	0.60	1.00	0.31	0.31	0.42	0.10	0.18		0.31	0.20	1.00
Clearance Time (s)	4.0	7.0		7.0	7.0	4.0	4.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	560	3217	1437	115	1667	584	315	329		325	371	1439
v/s Ratio Prot	c0.26	0.25			c0.26	0.06	0.07	0.11		c0.10	0.16	
v/s Ratio Perm	0.30		0.68	0.05		0.17				c0.18		0.32
v/c Ratio	0.92	0.42	0.68	0.17	0.84	0.56	0.69	0.59		0.89	0.80	0.32
Uniform Delay, d1	41.5	15.4	0.0	36.5	46.5	31.4	62.8	54.0		44.0	55.1	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.02	1.00		1.00	1.00	1.00
Incremental Delay, d2	20.2	0.4	2.6	3.3	5.3	1.2	6.0	2.6		23.8	11.9	0.6
Delay (s)	61.7	15.8	2.6	39.7	51.8	32.5	69.9	56.8		67.8	67.0	0.6
Level of Service	E	B	A	D	D	C	E	E		E	E	A
Approach Delay (s)		19.6			46.9			63.7			37.8	
Approach LOS		B			D			E			D	

Intersection Summary					
HCM 2000 Control Delay	34.0	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.88				
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	15.5		
Intersection Capacity Utilization	97.9%	ICU Level of Service	F		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	1620	70	1775	145	145
Future Volume (vph)	1620	70	1775	145	145
Turn Type	NA	Perm	NA	Perm	Perm
Protected Phases	4		8		
Permitted Phases		8		2	2
Detector Phase	4	8	8	2	2
Switch Phase					
Minimum Initial (s)	19.0	19.0	19.0	7.0	7.0
Minimum Split (s)	25.0	25.0	25.0	37.0	37.0
Total Split (s)	83.0	83.0	83.0	37.0	37.0
Total Split (%)	69.2%	69.2%	69.2%	30.8%	30.8%
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	4.0	4.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	Min	Min
Act Effct Green (s)	86.4	86.4	86.4	24.6	24.6
Actuated g/C Ratio	0.72	0.72	0.72	0.20	0.20
v/c Ratio	0.49	0.54	0.52	0.48	0.47
Control Delay	8.9	29.9	9.3	45.3	38.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	8.9	29.9	9.3	45.3	38.1
LOS	A	C	A	D	D
Approach Delay	8.9		10.1	41.7	
Approach LOS	A		B	D	

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 117 (98%), Referenced to phase 4:EBT and 8:WBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 12.0		Intersection LOS: B	
Intersection Capacity Utilization 74.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Heron's Hill Way & Sheppard Ave W



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1620	40	70	1775	145	145
Future Volume (vph)	1620	40	70	1775	145	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.0	3.0	3.5	3.0	3.0
Total Lost time (s)	5.0		5.0	5.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00		0.99	1.00	0.94	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4887		1664	4932	1541	1464
Flt Permitted	1.00		0.11	1.00	0.95	1.00
Satd. Flow (perm)	4887		188	4932	1541	1464
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1688	42	73	1849	151	151
RTOR Reduction (vph)	2	0	0	0	0	19
Lane Group Flow (vph)	1728	0	73	1849	151	132
Confl. Peds. (#/hr)		65	65		50	15
Heavy Vehicles (%)	4%	5%	0%	4%	3%	0%
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	4			8		
Permitted Phases			8		2	2
Actuated Green, G (s)	85.4		85.4	85.4	23.6	23.6
Effective Green, g (s)	86.4		86.4	86.4	24.6	24.6
Actuated g/C Ratio	0.72		0.72	0.72	0.21	0.21
Clearance Time (s)	6.0		6.0	6.0	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3518		135	3551	315	300
v/s Ratio Prot	0.35			0.37		
v/s Ratio Perm			c0.39		c0.10	0.09
v/c Ratio	0.49		0.54	0.52	0.48	0.44
Uniform Delay, d1	7.3		7.7	7.5	42.1	41.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5		14.7	0.5	1.2	1.0
Delay (s)	7.8		22.4	8.1	43.2	42.7
Level of Service	A		C	A	D	D
Approach Delay (s)	7.8			8.6	43.0	
Approach LOS	A			A	D	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	15	15	65	30	55	290	60	1025	195
Future Volume (vph)	15	15	65	30	55	290	60	1025	195
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	32.0	32.0	32.0	32.0	80.0	80.0	80.0	80.0	80.0
Total Split (s)	32.0	32.0	32.0	32.0	112.0	112.0	112.0	112.0	112.0
Total Split (%)	22.2%	22.2%	22.2%	22.2%	77.8%	77.8%	77.8%	77.8%	77.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0		6.0		6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	23.2	23.2	23.2	23.2		109.8		109.8	109.8
Actuated g/C Ratio	0.16	0.16	0.16	0.16		0.76		0.76	0.76
v/c Ratio	0.12	0.13	0.35	0.44		0.26		0.48	0.19
Control Delay	51.2	30.8	57.0	19.1		5.1		13.3	5.2
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.6	0.0
Total Delay	51.2	30.8	57.0	19.1		5.1		13.9	5.2
LOS	D	C	E	B		A		B	A
Approach Delay		37.6		31.4		5.1		12.6	
Approach LOS		D		C		A		B	

Intersection Summary			
Cycle Length: 144			
Actuated Cycle Length: 144			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 13.4		Intersection LOS: B	
Intersection Capacity Utilization 155.5%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 3: Yorkland Rd & Private Driveway/Heron's Hill Way

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	15	15	65	30	105	55	290	100	60	1025	195
Future Volume (vph)	15	15	15	65	30	105	55	290	100	60	1025	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0		5.0	5.0			6.0			6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			0.95	1.00
Frpb, ped/bikes	1.00	0.95		1.00	0.88			0.98			1.00	0.90
Flpb, ped/bikes	0.90	1.00		0.92	1.00			1.00			1.00	1.00
Frt	1.00	0.93		1.00	0.88			0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			1.00	1.00
Satd. Flow (prot)	1512	1460		1551	1427			3267			3516	1327
Flt Permitted	0.52	1.00		0.74	1.00			0.69			0.88	1.00
Satd. Flow (perm)	825	1460		1202	1427			2284			3110	1327
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	16	16	16	68	31	109	57	302	104	62	1068	203
RTOR Reduction (vph)	0	13	0	0	91	0	0	17	0	0	0	32
Lane Group Flow (vph)	16	19	0	68	49	0	0	446	0	0	1131	171
Confl. Peds. (#/hr)	50		50	50		50	85		70	70		85
Heavy Vehicles (%)	0%	0%	27%	0%	3%	2%	2%	2%	5%	2%	1%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	22.2	22.2		22.2	22.2			108.8			108.8	108.8
Effective Green, g (s)	23.2	23.2		23.2	23.2			109.8			109.8	109.8
Actuated g/C Ratio	0.16	0.16		0.16	0.16			0.76			0.76	0.76
Clearance Time (s)	6.0	6.0		6.0	6.0			7.0			7.0	7.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	132	235		193	229			1741			2371	1011
v/s Ratio Prot		0.01			0.03							
v/s Ratio Perm	0.02			c0.06				0.20			c0.36	0.13
v/c Ratio	0.12	0.08		0.35	0.22			0.26			0.48	0.17
Uniform Delay, d1	51.7	51.3		53.7	52.5			5.0			6.4	4.7
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.79	2.38
Incremental Delay, d2	0.4	0.1		1.1	0.5			0.4			0.5	0.3
Delay (s)	52.1	51.5		54.8	53.0			5.4			12.0	11.4
Level of Service	D	D		D	D			A			B	B
Approach Delay (s)		51.7			53.6			5.4			11.9	
Approach LOS		D			D			A			B	

Intersection Summary					
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio	0.45				
Actuated Cycle Length (s)	144.0	Sum of lost time (s)		11.0	
Intersection Capacity Utilization	155.5%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	35	5	215	10	190	20	200	785	35
Future Volume (Veh/h)	0	0	0	35	5	215	10	190	20	200	785	35
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	39	6	239	11	211	22	222	872	39
Pedestrians		30			65						5	
Lane Width (m)		3.5			3.5						3.5	
Walking Speed (m/s)		1.2			1.2						1.2	
Percent Blockage		2			5						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)											183	
pX, platoon unblocked	0.89	0.89	0.89	0.89	0.89		0.89					
vC, conflicting volume	1856	1686	486	1189	1694	292	941			298		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1716	1524	177	967	1534	292	689			298		
tC, single (s)	7.5	6.5	6.9	*7.5	6.5	*6.5	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.7	*3.9	3.3	2.2			2.2		
p0 queue free %	100	100	100	72	92	65	99			82		
cM capacity (veh/h)	25	79	731	138	79	689	795			1201		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	0	284	244	658	475
Volume Left	0	39	11	222	0
Volume Right	0	239	22	0	39
cSH	1700	402	795	1201	1700
Volume to Capacity	0.00	0.71	0.01	0.18	0.28
Queue Length 95th (m)	0.0	42.5	0.3	5.4	0.0
Control Delay (s)	0.0	32.8	0.6	4.4	0.0
Lane LOS	A	D	A	A	
Approach Delay (s)	0.0	32.8	0.6	2.5	
Approach LOS	A	D			

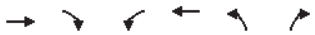
Intersection Summary				
Average Delay	7.4			
Intersection Capacity Utilization	67.8%	ICU Level of Service	C	
Analysis Period (min)	15			

* User Entered Value

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	270	110	20	0	0
Future Volume (Veh/h)	20	270	110	20	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	26	346	141	26	0	0
Pedestrians		5	30		35	
Lane Width (m)		3.6	3.6		0.0	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		0	3		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		113	135			
pX, platoon unblocked						
vC, conflicting volume	202				617	194
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	202				617	194
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	100
cM capacity (veh/h)	1382				437	849

Direction, Lane #	EB 1	WB 1
Volume Total	372	167
Volume Left	26	0
Volume Right	0	26
cSH	1382	1700
Volume to Capacity	0.02	0.10
Queue Length 95th (m)	0.5	0.0
Control Delay (s)	0.7	0.0
Lane LOS	A	
Approach Delay (s)	0.7	0.0
Approach LOS		

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	41.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	245	25	5	105	25	45
Future Volume (Veh/h)	245	25	5	105	25	45
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	266	27	5	114	27	49
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	155			94		
pX, platoon unblocked						
vC, conflicting volume			293		404	280
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			293		404	280
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	94
cM capacity (veh/h)			1280		605	764

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	293	119	76
Volume Left	0	5	27
Volume Right	27	0	49
cSH	1700	1280	699
Volume to Capacity	0.17	0.00	0.11
Queue Length 95th (m)	0.0	0.1	2.9
Control Delay (s)	0.0	0.4	10.8
Lane LOS		A	B
Approach Delay (s)	0.0	0.4	10.8
Approach LOS			B

Intersection Summary				
Average Delay		1.8		
Intersection Capacity Utilization		25.2%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	70	0	0	0	0	30
Future Volume (Veh/h)	70	0	0	0	0	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	0	0	0	0	33
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	16	16	33			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	16	16	33			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	100	100			
cM capacity (veh/h)	1007	1068	1592			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	76	0	33
Volume Left	76	0	0
Volume Right	0	0	33
cSH	1007	1700	1700
Volume to Capacity	0.08	0.00	0.02
Queue Length 95th (m)	2.0	0.0	0.0
Control Delay (s)	8.9	0.0	0.0
Lane LOS	A		
Approach Delay (s)	8.9	0.0	0.0
Approach LOS	A		

Intersection Summary				
Average Delay		6.2		
Intersection Capacity Utilization		13.9%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis — Future Total AM Peak Hour
8: Heron's Hill Way & Private Driveway — 01-23-2020

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	175	110	0	115	90
Future Volume (Veh/h)	0	175	110	0	115	90
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	0	216	136	0	142	111
Pedestrians					35	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					3	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		65	183			
pX, platoon unblocked						
vC, conflicting volume	171				387	171
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	171				387	171
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				76	87
cM capacity (veh/h)	1377				602	852

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	216	136	253
Volume Left	0	0	142
Volume Right	0	0	111
cSH	1700	1700	691
Volume to Capacity	0.13	0.08	0.37
Queue Length 95th (m)	0.0	0.0	13.4
Control Delay (s)	0.0	0.0	13.2
Lane LOS			B
Approach Delay (s)	0.0	0.0	13.2
Approach LOS			B

Intersection Summary				
Average Delay		5.5		
Intersection Capacity Utilization		29.5%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Signalized Intersection Capacity Analysis — Future Total PM Peak Hour
1: Yorkland Rd/Hwy 404 NB Ramps & Sheppard Ave W — 01-23-2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	410	1840	440	15	1380	620	520	325	20	210	220	490
Future Volume (vph)	410	1840	440	15	1380	620	520	325	20	210	220	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	0.5	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	3.0
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	0.95	*1.00	1.00	0.95	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	1.00	1.00	1.00	0.95	1.00	1.00	1.00	0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1722	5472	1430	1564	5420	1434	1668	1852	1507	1600	1854	1466
Flt Permitted	0.11	1.00	1.00	0.12	1.00	1.00	1.00	0.99	1.00	0.95	1.00	1.00
Satd. Flow (perm)	186	5472	1430	194	5420	1434	1668	1852	1507	1600	1854	1466
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	418	1878	449	15	1408	633	531	332	20	214	224	500
RTOR Reduction (vph)	0	0	0	0	0	69	0	0	15	0	0	0
Lane Group Flow (vph)	418	1878	449	15	1408	564	425	438	5	193	245	500
Confl. Peds. (#/hr)	25		70	70		25	20					20
Heavy Vehicles (%)	3%	3%	2%	7%	4%	1%	1%	0%	0%	0%	1%	1%
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Split	NA	Prot	Split	NA	Free
Protected Phases	7	4			8	6	2	2	2	6	6	
Permitted Phases	4		Free	8		8						Free
Actuated Green, G (s)	60.8	60.8	144.0	33.0	33.0	63.2	32.0	32.0	32.0	30.2	30.2	144.0
Effective Green, g (s)	64.3	61.8	144.0	34.0	34.0	65.2	33.0	33.0	33.0	31.2	31.2	144.0
Actuated g/C Ratio	0.45	0.43	1.00	0.24	0.24	0.45	0.23	0.23	0.23	0.22	0.22	1.00
Clearance Time (s)	4.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	374	2348	1430	45	1279	649	382	424	345	346	401	1466
v/s Ratio Prot	c0.21	0.34			c0.26	c0.19	c0.25	0.24	0.00	0.12	0.13	
v/s Ratio Perm	0.29		0.31	0.08		0.21						0.34
v/c Ratio	1.12	0.80	0.31	0.33	1.10	0.87	1.11	1.03	0.01	0.56	0.61	0.34
Uniform Delay, d1	46.1	35.7	0.0	45.6	55.0	35.5	55.5	55.5	42.9	50.3	50.9	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.10	1.00	1.00	1.00	1.00
Incremental Delay, d2	82.3	3.0	0.6	18.8	57.5	11.9	79.1	51.5	0.0	1.9	2.7	0.6
Delay (s)	128.5	38.7	0.6	64.4	112.5	47.4	140.3	112.6	42.9	52.2	53.7	0.6
Level of Service	F	D	A	E	F	D	F	F	D	D	D	A
Approach Delay (s)		46.1			92.1			124.4			25.1	
Approach LOS		D			F			F			C	

Intersection Summary				
HCM 2000 Control Delay	67.9	HCM 2000 Level of Service		E
HCM 2000 Volume to Capacity ratio	1.03			
Actuated Cycle Length (s)	144.0	Sum of lost time (s)		18.5
Intersection Capacity Utilization	109.6%	ICU Level of Service		H
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1985	35	75	1880	155	150
Future Volume (vph)	1985	35	75	1880	155	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.0	3.0	3.5	3.0	3.0
Total Lost time (s)	5.0		3.0	5.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	0.95	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4944		1636	4980	1587	1439
Flt Permitted	1.00		0.07	1.00	0.95	1.00
Satd. Flow (perm)	4944		113	4980	1587	1439
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2158	38	82	2043	168	163
RTOR Reduction (vph)	2	0	0	0	0	79
Lane Group Flow (vph)	2194	0	82	2043	168	84
Confl. Peds. (#/hr)		65	65		50	25
Heavy Vehicles (%)	3%	11%	3%	3%	1%	1%
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	4		3	8		
Permitted Phases			8		2	2
Actuated Green, G (s)	57.0		65.8	65.8	23.2	23.2
Effective Green, g (s)	58.0		66.8	66.8	24.2	24.2
Actuated g/C Ratio	0.58		0.67	0.67	0.24	0.24
Clearance Time (s)	6.0		4.0	6.0	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2867		163	3326	384	348
v/s Ratio Prot	c0.44		0.03	c0.41		
v/s Ratio Perm			0.31		c0.11	0.06
v/c Ratio	0.77		0.50	0.61	0.44	0.24
Uniform Delay, d1	15.9		13.6	9.3	32.1	30.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0		2.4	0.9	0.8	0.4
Delay (s)	17.9		16.0	10.2	32.9	30.9
Level of Service	B		B	B	C	C
Approach Delay (s)	17.9			10.4	31.9	
Approach LOS	B			B	C	

Intersection Summary				
HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0	
Intersection Capacity Utilization	72.6%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	140	75	10	10	65	10	720	100	125	505	45
Future Volume (vph)	80	140	75	10	10	65	10	720	100	125	505	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0		5.0	5.0			6.0			6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			0.95	1.00
Frpb, ped/bikes	1.00	0.96		1.00	0.86			0.97			1.00	0.68
Flpb, ped/bikes	0.87	1.00		1.00	1.00			1.00			0.99	1.00
Frt	1.00	0.95		1.00	0.87			0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	1.00
Satd. Flow (prot)	1464	1671		1532	1351			3367			3447	986
Flt Permitted	0.69	1.00		0.30	1.00			0.94			0.60	1.00
Satd. Flow (perm)	1056	1671		491	1351			3179			2094	986
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	152	82	11	11	71	11	783	109	136	549	49
RTOR Reduction (vph)	0	17	0	0	59	0	0	4	0	0	0	8
Lane Group Flow (vph)	87	217	0	11	23	0	0	899	0	0	685	41
Confl. Peds. (#/hr)	25		15	15		25	85		55	55		85
Heavy Vehicles (%)	0%	2%	4%	10%	10%	3%	30%	1%	0%	0%	2%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	24.3	24.3		24.3	24.3			106.7			106.7	106.7
Effective Green, g (s)	25.3	25.3		25.3	25.3			107.7			107.7	107.7
Actuated g/C Ratio	0.18	0.18		0.18	0.18			0.75			0.75	0.75
Clearance Time (s)	6.0	6.0		6.0	6.0			7.0			7.0	7.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	185	293		86	237			2377			1566	737
v/s Ratio Prot		c0.13			0.02							
v/s Ratio Perm	0.08			0.02				0.28			c0.33	0.04
v/c Ratio	0.47	0.74		0.13	0.10			0.38			0.44	0.06
Uniform Delay, d1	53.3	56.2		50.0	49.8			6.4			6.8	4.8
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.04	0.50
Incremental Delay, d2	1.9	9.4		0.7	0.2			0.5			0.8	0.1
Delay (s)	55.2	65.6		50.7	50.0			6.8			7.9	2.5
Level of Service	E	E		D	D			A			A	A
Approach Delay (s)		62.8			50.1			6.8			7.5	
Approach LOS		E			D			A			A	

Intersection Summary				
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.49			
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	11.0	
Intersection Capacity Utilization	68.1%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	10	10	20	0	385	5	390	65	255	320	0
Future Volume (Veh/h)	25	10	10	20	0	385	5	390	65	255	320	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	11	11	22	0	423	5	429	71	280	352	0
Pedestrians		45			60			10			5	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		4			5			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)											183	
pX, platoon unblocked	0.97	0.97	0.97	0.97	0.97		0.97					
vC, conflicting volume	1860	1527	231	1297	1492	530	397			560		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1819	1475	133	1237	1438	530	305			560		
tC, single (s)	*6.9	6.5	6.9	*8.9	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	*3.0	4.0	3.3	*5.2	4.0	3.3	2.2			2.2		
p0 queue free %	0	86	99	47	100	10	100			71		
cM capacity (veh/h)	5	80	829	41	84	470	1179			972		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	49	445	505	456	176
Volume Left	27	22	5	280	0
Volume Right	11	423	71	0	0
cSH	9	311	1179	972	1700
Volume to Capacity	5.72	1.43	0.00	0.29	0.10
Queue Length 95th (m)	Err	190.5	0.1	9.6	0.0
Control Delay (s)	Err	244.3	0.1	7.5	0.0
Lane LOS	F	F	A	A	
Approach Delay (s)	Err	244.3	0.1	5.4	
Approach LOS	F	F			

Intersection Summary				
Average Delay	369.2			
Intersection Capacity Utilization	77.0%	ICU Level of Service	D	
Analysis Period (min)	15			

* User Entered Value

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	90	305	45	60	5	5
Future Volume (Veh/h)	90	305	45	60	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	110	372	55	73	6	6
Pedestrians		15	5		30	
Lane Width (m)		3.6	3.6		3.6	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		1	0		3	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		113	136			
pX, platoon unblocked					0.91	
vC, conflicting volume	158				718	136
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	158				645	136
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				98	99
cM capacity (veh/h)	1398				360	883

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	482	128	12
Volume Left	110	0	6
Volume Right	0	73	6
cSH	1398	1700	511
Volume to Capacity	0.08	0.08	0.02
Queue Length 95th (m)	2.0	0.0	0.6
Control Delay (s)	2.4	0.0	12.2
Lane LOS	A		B
Approach Delay (s)	2.4	0.0	12.2
Approach LOS			B

Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	41.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	270	40	20	90	15	35
Future Volume (Veh/h)	270	40	20	90	15	35
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	293	43	22	98	16	38
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	153			95		
pX, platoon unblocked						
vC, conflicting volume			336		456	314
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			336		456	314
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		97	95
cM capacity (veh/h)			1235		556	731

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	336	120	54
Volume Left	0	22	16
Volume Right	43	0	38
cSH	1700	1235	668
Volume to Capacity	0.20	0.02	0.08
Queue Length 95th (m)	0.0	0.4	2.1
Control Delay (s)	0.0	1.6	10.9
Lane LOS		A	B
Approach Delay (s)	0.0	1.6	10.9
Approach LOS			B

Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	31.9%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	0	0	0	0	60
Future Volume (Veh/h)	50	0	0	0	0	60
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	0	0	0	65
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	32	32	65			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	32	32	65			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	100	100			
cM capacity (veh/h)	986	1047	1550			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	54	0	65
Volume Left	54	0	0
Volume Right	0	0	65
cSH	986	1700	1700
Volume to Capacity	0.05	0.00	0.04
Queue Length 95th (m)	1.4	0.0	0.0
Control Delay (s)	8.9	0.0	0.0
Lane LOS	A		
Approach Delay (s)	8.9	0.0	0.0
Approach LOS	A		

Intersection Summary				
Average Delay	4.0			
Intersection Capacity Utilization	13.7%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	365	50	0	30	35
Future Volume (Veh/h)	0	365	50	0	30	35
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	420	57	0	34	40
Pedestrians					25	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		73	175			
pX, platoon unblocked					0.90	
vC, conflicting volume	82				502	82
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	82				390	82
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				94	96
cM capacity (veh/h)	1496				544	963

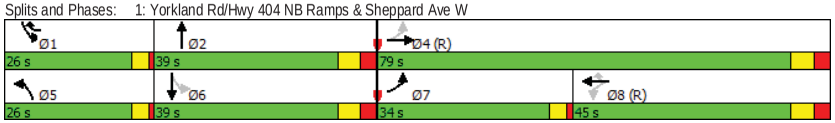
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	420	57	74
Volume Left	0	0	34
Volume Right	0	0	40
cSH	1700	1700	711
Volume to Capacity	0.25	0.03	0.10
Queue Length 95th (m)	0.0	0.0	2.8
Control Delay (s)	0.0	0.0	10.6
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.6
Approach LOS			B

Intersection Summary				
Average Delay			1.4	
Intersection Capacity Utilization			29.7%	ICU Level of Service A
Analysis Period (min)			15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	410	1840	440	15	1380	620	520	325	210	220	490
Future Volume (vph)	410	1840	440	15	1380	620	520	325	210	220	490
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Prot	NA	pm+pt	NA	Free
Protected Phases	7	4			8	1	5	2	1	6	
Permitted Phases	4		Free	8		8			6		Free
Detector Phase	7	4		8	8	1	5	2	1	6	
Switch Phase											
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	11.0	33.0		33.0	33.0	11.0	11.0	39.0	11.0	39.0	
Total Split (s)	34.0	79.0		45.0	45.0	26.0	26.0	39.0	26.0	39.0	
Total Split (%)	23.6%	54.9%		31.3%	31.3%	18.1%	18.1%	27.1%	18.1%	27.1%	
Yellow Time (s)	3.0	4.0		4.0	4.0	3.0	3.0	4.0	3.0	4.0	
All-Red Time (s)	1.0	3.0		3.0	3.0	1.0	1.0	3.0	1.0	3.0	
Lost Time Adjust (s)	-3.5	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	0.5	6.0		6.0	6.0	3.0	3.0	6.0	3.0	6.0	
Lead/Lag	Lead			Lag	Lag	Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min		C-Min	C-Min	None	None	None	None	None	
Act Effct Green (s)	82.9	77.4	144.0	43.5	43.5	66.4	23.7	31.7	50.8	27.9	144.0
Actuated g/C Ratio	0.58	0.54	1.00	0.30	0.30	0.46	0.16	0.22	0.35	0.19	1.00
v/c Ratio	0.93	0.64	0.31	0.23	0.86	0.87	0.95	0.86	0.69	0.62	0.34
Control Delay	69.6	25.4	0.6	52.7	54.4	40.5	90.0	86.2	41.2	60.1	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.6	25.4	0.6	52.7	54.4	40.5	90.0	86.2	41.2	60.1	0.6
LOS	E	C	A	D	D	D	F	F	D	E	A
Approach Delay		28.1			50.1			88.5		24.1	
Approach LOS		C			D			F		C	

Intersection Summary		
Cycle Length: 144		
Actuated Cycle Length: 144		
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of 1st Green		
Natural Cycle: 125		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.95		
Intersection Signal Delay: 42.4	Intersection LOS: D	
Intersection Capacity Utilization 99.8%	ICU Level of Service F	
Analysis Period (min) 15		

Splits and Phases: 1: Yorkland Rd/Hwy 404 NB Ramps & Sheppard Ave W



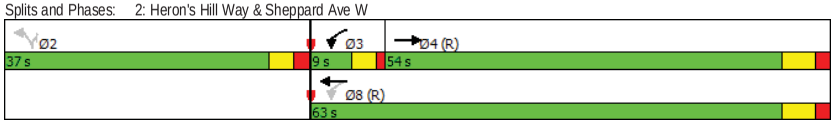
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	410	1840	440	15	1380	620	520	325	20	210	220	490
Future Volume (vph)	410	1840	440	15	1380	620	520	325	20	210	220	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	0.5	6.0	3.0	6.0	6.0	3.0	3.0	6.0		3.0	6.0	3.0
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	0.97	*1.00		1.00	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.94	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1722	5472	1430	1561	5420	1402	3406	1863		1685	1860	1466
Flt Permitted	0.09	1.00	1.00	0.13	1.00	1.00	1.00	1.00		0.21	1.00	1.00
Satd. Flow (perm)	148	5472	1430	213	5420	1402	3406	1863		364	1860	1466
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	418	1878	449	15	1408	633	531	332	20	214	224	500
RTOR Reduction (vph)	0	0	0	0	0	82	0	2	0	0	0	0
Lane Group Flow (vph)	418	1878	449	15	1408	551	531	350	0	214	224	500
Confl. Peds. (#/hr)	25		70	70		25	20					20
Heavy Vehicles (%)	3%	3%	2%	7%	4%	1%	1%	0%	0%	0%	1%	1%
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Prot	NA		pm+pt	NA	Free
Protected Phases	7	4			8	1	5	2		1	6	
Permitted Phases	4		Free	8		8				6		Free
Actuated Green, G (s)	76.4	76.4	144.0	42.5	42.5	61.4	22.7	30.7		45.8	26.9	144.0
Effective Green, g (s)	79.9	77.4	144.0	43.5	43.5	63.4	23.7	31.7		47.8	27.9	144.0
Actuated g/C Ratio	0.55	0.54	1.00	0.30	0.30	0.44	0.16	0.22		0.33	0.19	1.00
Clearance Time (s)	4.0	7.0		7.0	7.0	4.0	4.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	447	2941	1430	64	1637	617	560	410		303	360	1466
v/s Ratio Prot	c0.22	0.34			0.26	c0.12	c0.16	c0.19		0.10	0.12	
v/s Ratio Perm	0.30		0.31	0.07		0.27				0.14		0.34
v/c Ratio	0.94	0.64	0.31	0.23	0.86	0.89	0.95	0.85		0.71	0.62	0.34
Uniform Delay, d1	44.1	23.4	0.0	37.7	47.4	37.2	59.5	53.9		38.2	53.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.08	1.25		1.00	1.00	1.00
Incremental Delay, d2	26.8	1.1	0.6	8.4	6.2	15.3	24.6	15.2		7.3	3.3	0.6
Delay (s)	70.9	24.5	0.6	46.1	53.5	52.5	88.9	82.7		45.5	56.5	0.6
Level of Service	E	C	A	D	D	D	F	F		D	E	A
Approach Delay (s)		27.7			53.2			86.4			24.2	
Approach LOS		C			D			F			C	

Intersection Summary				
HCM 2000 Control Delay	42.9	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.91			
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	15.5	
Intersection Capacity Utilization	99.8%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	1985	75	1880	155	150
Future Volume (vph)	1985	75	1880	155	150
Turn Type	NA	pm+pt	NA	Perm	Perm
Protected Phases	4	3	8		
Permitted Phases		8		2	2
Detector Phase	4	3	8	2	2
Switch Phase					
Minimum Initial (s)	19.0	5.0	19.0	7.0	7.0
Minimum Split (s)	25.0	9.0	25.0	37.0	37.0
Total Split (s)	54.0	9.0	63.0	37.0	37.0
Total Split (%)	54.0%	9.0%	63.0%	37.0%	37.0%
Yellow Time (s)	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	3.0	5.0	4.0	4.0
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	C-Min	None	C-Min	Min	Min
Act Effct Green (s)	58.7	68.8	66.8	24.2	24.2
Actuated g/C Ratio	0.59	0.69	0.67	0.24	0.24
v/c Ratio	0.76	0.45	0.61	0.44	0.38
Control Delay	20.5	18.4	12.0	33.7	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.5	18.4	12.0	33.7	13.3
LOS	C	B	B	C	B
Approach Delay	20.5		12.2	23.6	
Approach LOS	C		B	C	

Intersection Summary			
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 16.9		Intersection LOS: B	
Intersection Capacity Utilization 72.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 2: Heron's Hill Way & Sheppard Ave W



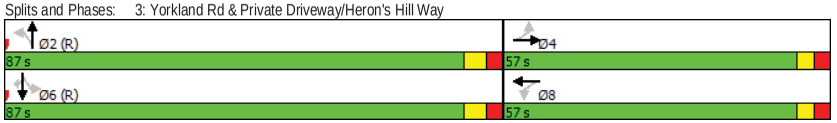
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1985	35	75	1880	155	150
Future Volume (vph)	1985	35	75	1880	155	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.0	3.0	3.5	3.0	3.0
Total Lost time (s)	5.0		3.0	5.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	0.95	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4944		1636	4980	1587	1439
Flt Permitted	1.00		0.07	1.00	0.95	1.00
Satd. Flow (perm)	4944		113	4980	1587	1439
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2158	38	82	2043	168	163
RTOR Reduction (vph)	2	0	0	0	0	79
Lane Group Flow (vph)	2194	0	82	2043	168	84
Confl. Peds. (#/hr)		65	65		50	25
Heavy Vehicles (%)	3%	11%	3%	3%	1%	1%
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	4		3	8		
Permitted Phases			8		2	2
Actuated Green, G (s)	57.0		65.8	65.8	23.2	23.2
Effective Green, g (s)	58.0		66.8	66.8	24.2	24.2
Actuated g/C Ratio	0.58		0.67	0.67	0.24	0.24
Clearance Time (s)	6.0		4.0	6.0	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2867		163	3326	384	348
v/s Ratio Prot	c0.44		0.03	c0.41		
v/s Ratio Perm			0.31		c0.11	0.06
v/c Ratio	0.77		0.50	0.61	0.44	0.24
Uniform Delay, d1	15.9		13.6	9.3	32.1	30.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0		2.4	0.9	0.8	0.4
Delay (s)	17.9		16.0	10.2	32.9	30.9
Level of Service	B		B	B	C	C
Approach Delay (s)	17.9			10.4	31.9	
Approach LOS	B			B	C	

Intersection Summary				
HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0	
Intersection Capacity Utilization	72.6%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	80	140	10	10	10	720	125	505	45
Future Volume (vph)	80	140	10	10	10	720	125	505	45
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.0	13.0	13.0	13.0	27.0	27.0	27.0	27.0	27.0
Total Split (s)	57.0	57.0	57.0	57.0	87.0	87.0	87.0	87.0	87.0
Total Split (%)	39.6%	39.6%	39.6%	39.6%	60.4%	60.4%	60.4%	60.4%	60.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0		-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0		6.0		6.0	6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	25.3	25.3	25.3	25.3		107.7		107.7	107.7
Actuated g/C Ratio	0.18	0.18	0.18	0.18		0.75		0.75	0.75
v/c Ratio	0.53	0.75	0.13	0.30		0.38		0.44	0.07
Control Delay	64.3	65.9	49.9	15.8		7.4		9.1	1.8
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0	0.0
Total Delay	64.3	65.9	49.9	15.8		7.4		9.1	1.8
LOS	E	E	D	B		A		A	A
Approach Delay		65.5		19.8		7.4		8.6	
Approach LOS		E		B		A		A	

Intersection Summary			
Cycle Length: 144			
Actuated Cycle Length: 144			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 40			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 17.5		Intersection LOS: B	
Intersection Capacity Utilization 68.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Yorkland Rd & Private Driveway/Heron's Hill Way



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	140	75	10	10	65	10	720	100	125	505	45
Future Volume (vph)	80	140	75	10	10	65	10	720	100	125	505	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0		5.0	5.0			6.0			6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95			0.95	1.00
Frpb, ped/bikes	1.00	0.96		1.00	0.76			0.97			1.00	0.68
Flpb, ped/bikes	0.78	1.00		1.00	1.00			1.00			0.99	1.00
Frt	1.00	0.95		1.00	0.87			0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	1.00
Satd. Flow (prot)	1316	1671		1532	1202			3367			3447	986
Flt Permitted	0.69	1.00		0.30	1.00			0.94			0.60	1.00
Satd. Flow (perm)	950	1671		491	1202			3179			2094	986
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	152	82	11	11	71	11	783	109	136	549	49
RTOR Reduction (vph)	0	17	0	0	59	0	0	4	0	0	0	8
Lane Group Flow (vph)	87	217	0	11	23	0	0	899	0	0	685	41
Confl. Peds. (#/hr)	25		15	15		25	85		55	55		85
Heavy Vehicles (%)	0%	2%	4%	10%	10%	3%	30%	1%	0%	0%	2%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	24.3	24.3		24.3	24.3			106.7			106.7	106.7
Effective Green, g (s)	25.3	25.3		25.3	25.3			107.7			107.7	107.7
Actuated g/C Ratio	0.18	0.18		0.18	0.18			0.75			0.75	0.75
Clearance Time (s)	6.0	6.0		6.0	6.0			7.0			7.0	7.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	166	293		86	211			2377			1566	737
v/s Ratio Prot		c0.13			0.02							
v/s Ratio Perm	0.09			0.02				0.28			c0.33	0.04
v/c Ratio	0.52	0.74		0.13	0.11			0.38			0.44	0.06
Uniform Delay, d1	53.9	56.2		50.0	49.9			6.4			6.8	4.8
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.07	0.52
Incremental Delay, d2	3.0	9.4		0.7	0.2			0.5			0.8	0.1
Delay (s)	56.9	65.6		50.7	50.1			6.8			8.2	2.6
Level of Service	E	E		D	D			A			A	A
Approach Delay (s)		63.2			50.2			6.8			7.8	
Approach LOS		E			D			A			A	

Intersection Summary				
HCM 2000 Control Delay	18.0	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.49			
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	11.0	
Intersection Capacity Utilization	68.1%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	10	10	20	0	385	5	390	65	255	320	0
Future Volume (Veh/h)	25	10	10	20	0	385	5	390	65	255	320	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	11	11	22	0	423	5	429	71	280	352	0
Pedestrians		45			60			10			5	
Lane Width (m)		3.5			3.5			3.5			3.5	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		4			5			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)											183	
pX, platoon unblocked	0.97	0.97	0.97	0.97	0.97		0.97					
vC, conflicting volume	1860	1527	231	1297	1492	530	397			560		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1819	1475	133	1237	1438	530	305			560		
tC, single (s)	*6.9	6.5	6.9	*8.9	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	*3.0	4.0	3.3	*5.2	4.0	3.3	2.2			2.2		
p0 queue free %	0	86	99	47	100	10	100			71		
cM capacity (veh/h)	5	80	829	41	84	470	1179			972		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	49	445	505	456	176
Volume Left	27	22	5	280	0
Volume Right	11	423	71	0	0
cSH	9	311	1179	972	1700
Volume to Capacity	5.72	1.43	0.00	0.29	0.10
Queue Length 95th (m)	Err	190.5	0.1	9.6	0.0
Control Delay (s)	Err	244.3	0.1	7.5	0.0
Lane LOS	F	F	A	A	
Approach Delay (s)	Err	244.3	0.1	5.4	
Approach LOS	F	F			

Intersection Summary				
Average Delay	369.2			
Intersection Capacity Utilization	77.0%	ICU Level of Service	D	
Analysis Period (min)	15			

* User Entered Value

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	90	305	45	60	5	5
Future Volume (Veh/h)	90	305	45	60	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	110	372	55	73	6	6
Pedestrians		15	5		30	
Lane Width (m)		3.6	3.6		3.6	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		1	0		3	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		113	136			
pX, platoon unblocked					0.91	
vC, conflicting volume	158				718	136
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	158				645	136
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				98	99
cM capacity (veh/h)	1398				360	883

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	482	128	12
Volume Left	110	0	6
Volume Right	0	73	6
cSH	1398	1700	511
Volume to Capacity	0.08	0.08	0.02
Queue Length 95th (m)	2.0	0.0	0.6
Control Delay (s)	2.4	0.0	12.2
Lane LOS	A		B
Approach Delay (s)	2.4	0.0	12.2
Approach LOS			B

Intersection Summary				
Average Delay		2.1		
Intersection Capacity Utilization		41.6%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	270	40	20	90	15	35
Future Volume (Veh/h)	270	40	20	90	15	35
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	293	43	22	98	16	38
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	153			95		
pX, platoon unblocked						
vC, conflicting volume			336		456	314
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			336		456	314
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		97	95
cM capacity (veh/h)			1235		556	731

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	336	120	54
Volume Left	0	22	16
Volume Right	43	0	38
cSH	1700	1235	668
Volume to Capacity	0.20	0.02	0.08
Queue Length 95th (m)	0.0	0.4	2.1
Control Delay (s)	0.0	1.6	10.9
Lane LOS		A	B
Approach Delay (s)	0.0	1.6	10.9
Approach LOS			B

Intersection Summary				
Average Delay		1.5		
Intersection Capacity Utilization		31.9%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	0	0	0	0	60
Future Volume (Veh/h)	50	0	0	0	0	60
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	0	0	0	65
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	32	32	65			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	32	32	65			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	100	100			
cM capacity (veh/h)	986	1047	1550			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	54	0	65
Volume Left	54	0	0
Volume Right	0	0	65
cSH	986	1700	1700
Volume to Capacity	0.05	0.00	0.04
Queue Length 95th (m)	1.4	0.0	0.0
Control Delay (s)	8.9	0.0	0.0
Lane LOS	A		
Approach Delay (s)	8.9	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	13.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	365	50	0	30	35
Future Volume (Veh/h)	0	365	50	0	30	35
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	420	57	0	34	40
Pedestrians					25	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		73	175			
pX, platoon unblocked					0.90	
vC, conflicting volume	82				502	82
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	82				390	82
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				94	96
cM capacity (veh/h)	1496				544	963

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	420	57	74
Volume Left	0	0	34
Volume Right	0	0	40
cSH	1700	1700	711
Volume to Capacity	0.25	0.03	0.10
Queue Length 95th (m)	0.0	0.0	2.8
Control Delay (s)	0.0	0.0	10.6
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.6
Approach LOS			B

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	29.7%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX L:
ConsumersNext Synchro Calibration Parameters

Table A: Calibration Adjustments

Peak Hour	Movement	Saturated Flow Rate (protected)	Saturated Flow Rate (permitted)	PHF	LTA	Split Adjustments (Applicable to SCOOT signals)
Yorkland / Sheppard						
AM	Eastbound Left-turn	2,050	227	0.95		
	Westbound Left-turn	2,050	415	1.00	-3.0	Adj. EBL & WBT splits.
	Southbound Through	1,800				
PM	Eastbound Left-turn	2,050	400	1.00	-3.0	Adj. splits.
	Westbound Through	6,015		1.00		Adj. splits.
	Northbound Left-turn	2,050				Adj. splits.
	Northbound Through	2,005				Adj. splits.
Consumers / Victoria Park						
AM	Northbound Left-turn	2,050	222	0.96		
	Southbound Through	4,900				
PM	Eastbound Right-turn			0.97		
Sheppard / Don Mills						
AM	Eastbound Through	4,850				
	Westbound Left-turn	2,050	237	0.92		
	Northbound Left-turn	2,050	188	1.00	-3.0	
	Southbound Left-turn	2,050	243	0.92		Adj. NBL & SBT splits.
	Southbound Through	5,050				Adj. NBL & SBT splits.
PM	Westbound Left-turn	2,050	283	1.00	-3.0	Adj. WBL & EBT splits.
	Northbound Left-turn	2,050	254	1.00	-3.0	Adj. NBL & SBT splits.
	Northbound Through	5,300				
	Southbound Left-turn	2,050	216	1.00	-3.0	
Sheppard / Settlers						
AM	Westbound Left-turn	2,050	328	1.00	-3.0	
PM	Westbound Left-turn	2,050	162	0.95		
Sheppard / Victoria Park						
AM	Westbound Through	5,050				
	Northbound Left-turn	2,050	221	1.00	-2.0	
PM	Northbound Left-turn	1,750	205			
	Northbound Through	5,400				
	Southbound Left-turn	1,775	207			
	Southbound Through	6,015		0.97		
Sheppard / Fairview Mall Drive						
AM	Eastbound Left-turn	1,800	190			
Sheppard / Consumers						
PM	Westbound Left-turn	1,929	260			
Victoria Park / Hwy 401 WB Off-Ramp						
AM	Westbound Right-turn	3,300				

APPENDIX M:
Calculation of Additional Site Volumes


District B1
Hwy 404
District C
District B2
District A
District B3
Hwy 401

Scenario 1

Scenario 1 Summary		Residents + Jobs	47,006
District A Jobs	14,755		
District B1 Jobs	3,709		
District B2 Jobs	6,800		
District C Jobs	3,361		
District MU Jobs	2,985		
Total Jobs	31,609		
Total Residents	15,398		

District A

Summary

Scenario Jobs	14,755		
Site Area (Ha)	Site Area (m2)	Scenario FSI	Park Dedication (Ha)
29.97	299,700	1	0.5203

Existing Employment

Existing Jobs
7,645

Scenario Employment

GFA (m2)	Scenario Jobs			
332,365	14,755			GFA m2 by type
Job Type	Assumed Job Ratio	Assumed GFA / Job	Number of Jobs	
Institutional	10%	67	496	33,237
Manufacturing	5%	80	208	16,618
Office	80%	19.5	13,635	265,892
Retail/Service	5%	40	415	16,618
		Total	14,755	332,365

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
Employment						
Institutional	Community Agencies	25%	8,309	89,439		
	Community Centre	20%	6,647	71,551		
	Private/Trade School	50%	16,618	178,877		
	Child Care	5%	1,662	17,888		
Manufacturing	Industrial Park	100%	16,618	178,877		
Office	General Office	90%	239,303	2,575,834		7,645
	Medical Office	10%	26,589	286,204		
Retail/Service	Specialty Retail Centre	20%	3,324	35,775		
	Restaurant	50%	8,309	89,439		
	Cinema/Entertainment	0%	0	0		
	Fitness/Recreation	15%	2,493	26,832		
	Hotel	15%	2,493	26,832	62	
TOTAL			**332,365**	**3,577,547**		

District B1

Summary

Scenario Jobs	3,709		
Site Area (Ha)	Site Area (m2)	Scenario FSI	Park Dedication (Ha)
7.84	78,400	Existing FSIs	0.1568

Existing Employment

Existing Jobs
1,314

Scenario Employment

GFA (m2)	Scenario Jobs			
87,495	3,709			GFA m2 by type
Job Type	Assumed Job Ratio	Assumed GFA / Job	Number of Jobs	
Institutional	10%	67	131	8,750
Manufacturing	0%	80	0	0
Office	70%	19.5	3,141	61,247
Retail/Service	20%	40	437	17,499
		Total	3,709	87,495

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
Employment						
Institutional	Community Agencies	25%	2,187	23,545		
	Community Centre	20%	1,750	18,836		
	Private/Trade School	50%	4,375	47,089		
	Child Care	5%	437	4,709		
Manufacturing	Industrial Park	100%	0	0		
Office	General Office	85%	52,060	560,364		1,314
	Medical Office	15%	9,187	98,888		
Retail/Service	Specialty Retail Centre	20%	3,500	37,672		
	Restaurant	50%	8,750	94,179		
	Cinema/Entertainment	0%	0	0		
	Fitness/Recreation	15%	2,625	28,254		
	Hotel	15%	2,625	28,254	66	
TOTAL			**87,495**	**941,788**		

District B2

Summary

Scenario Jobs	6,800		
Site Area (Ha)	Site Area (m2)	Scenario FSI	Park Dedication (Ha)
16.00	160,000	1	0.32

Existing Employment

Existing Jobs
3,418

Scenario Employment

GFA (m2)	Scenario Jobs			
160,412	6,800			GFA m2 by type
Job Type	Assumed Job Ratio	Assumed GFA / Job	Number of Jobs	
Institutional	10%	67	239	16,041
Manufacturing	0%	80	0	0
Office	70%	19.5	5,758	112,288
Retail/Service	20%	40	802	32,082
		Total	6,800	160,412

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
Employment						
Institutional	Community Agencies	25%	4,010	43,167		
	Community Centre	20%	3,208	34,533		
	Private/Trade School	50%	8,021	86,333		
	Child Care	5%	802	8,633		
Manufacturing	Industrial Park	100%	0	0		
Office	General Office	85%	95,445	1,027,363		3,418
	Medical Office	15%	16,843	181,299		
Retail/Service	Specialty Retail Centre	20%	6,416	69,066		
	Restaurant	50%	16,041	172,666		
	Cinema/Entertainment	0%	0	0		
	Fitness/Recreation	15%	4,812	51,800		
	Hotel	15%	4,812	51,800	120	
Residential – n/a			**160,412**	**1,726,660**		

District C

Summary

Scenario Jobs	3,361		
Site Area (Ha)	Site Area (m2)	Scenario FSI	Park Dedication (m2)
8.78	87,840	1	0.1757

Existing Employment

Existing Jobs
2,475

Scenario Employment

GFA (m2)	Scenario Jobs			
77,436	3,361			GFA m2 by type
Job Type	Assumed Job Ratio	Assumed GFA / Job	Number of Jobs	
Institutional	0%	67	0	0
Manufacturing	0%	80	0	0
Office	70%	19.5	2,780	54,205
Retail/Service	30%	40	581	23,231
		Total	3,361	77,436

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
Employment						
Institutional	Community Agencies	25%	0	0		
	Community Centre	20%	0	0		
	Private/Trade School	50%	0	0		
	Child Care	5%	0	0		
Manufacturing	Industrial Park	100%	0	0		
Office	General Office	95%	51,495	554,287		2,475
	Medical Office	5%	2,710	29,173		
Retail/Service	Specialty Retail Centre	20%	4,646	50,011		
	Restaurant	50%	11,615	125,027		
	Cinema/Entertainment	5%	1,162	12,503		
	Fitness/Recreation	15%	3,485	37,508		
	Hotel	10%	2,323	25,005	58	
Residential – n/a			**77,436**	**833,514**		
			55100	593,091		

District MU

Summary

Total Jobs	2,985
Total Residents	15,398
Number of Units	8,396
Apartment	8,347
Townhouse	49

Site Area (Ha)	Site Area (m2)	Scenario FSI	Park Dedication (Ha)
24.62	246,200	3 to 5	3.48

Potential Employment

New GFA (m2)	New Jobs	Average GFA (m2) / Job	Jobs / Net Ha	
121,521	2,985	41	121	GFA m2 by type
Job Type	Assumed Job Ratio	Assumed GFA / Job	Number of Jobs	
Institutional	5%	67	91	6,076
Manufacturing	0%	80	0	0
Office	5%	19.5	312	6,076
Retail/Service	85%	40	2,582	103,293
		Total	2,985	115,445

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
Employment						
Institutional	Community Agencies	25%	1,519	16,351		
	Community Centre	20%	1,215	13,080		
	Private/Trade School	50%	3,038	32,701		
	Child Care	5%	304	3,270		
Manufacturing	Industrial Park	100%	0	0		
Office	General Office	60%	3,646	39,241		2,854
	Medical Office	40%	2,430	26,161		
Retail/Service	Specialty Retail Centre	40%	41,317	444,735		
	Restaurant	30%	30,988	333,551		
	Cinema/Entertainment	5%	5,165	55,592		
	Fitness/Recreation	15%	15,494	166,776		
	Hotel	10%	10,329	111,184	258	
TOTAL			**115,445**	**1,242,642**		
Residential – n/a			Units			
Apartment / Townhouse	Condo/Townhouse	80%	6717			
	Rental	10%	840			
	Affordable Housing					
	Senior Home	10%	840			
	Nursing Home					
	Assisted Housing					
TOTAL			**8,396**			

TOTAL BUSINESS PARK

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
Employment						
Institutional	Community Agencies	25%	16,026	172,500	0	0
	Community Centre	20%	12,821	138,000	0	0
	Private/Trade School	50%	32,052	345,001	0	0
	Child Care	5%	3,205	34,500	0	0
Manufacturing	Industrial Park		16,618	178,877	0	0
Office	General Office		441,948	4,757,089	0	17,706
	Medical Office		57,760	621,725	0	0
Retail/Service	Specialty Retail Centre		59,203	637,259	0	0
	Restaurant		75,703	814,862	0	0
	Cinema/Entertainment		6,326	68,095	0	0
	Fitness/Recreation		28,909	311,169	0	0
	Hotel		22,582	243,074	565	0
TOTAL			**773,153**	**8,322,152**		
Residential – n/a			Units			
Apartment / Townhouse	Condo/Townhouse		6717			
	Rental		840			
	Affordable Housing		0			
	Senior Home		840			
	Nursing Home		0			
	Assisted Housing		0			
TOTAL			**8,396**			

Scenario 2

Scenario 2 Summary		Residents + Jobs	50,824
District A Jobs	14,755		
District B1 Jobs	3,709		
District B2 Jobs	6,800		
District C Jobs	3,361		
District MU Jobs	2,794		
Total Jobs	31,418		
Total Residents	19,406		

District A

Summary

Scenario Jobs	14,755		
Site Area (Ha)	Site Area (m2)	Scenario FSI	Park Dedication (Ha)
29.97	299,700	1	0.5203

Existing Employment

Existing Jobs
7,645

Scenario Employment

GFA (m2)	Scenario Jobs			
332,365	14,755			GFA m2 by type
Job Type	Assumed Job Ratio	Assumed GFA / Job	Number of Jobs	
Institutional	10%	67	496	33,237
Manufacturing	5%	80	208	16,618
Office	80%	19.5	13,635	265,892
Retail/Service	5%	40	415	16,618
		Total	14,755	332,365

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
Employment						
Institutional	Community Agencies	25%	8,309	89,439		
	Community Centre	20%	6,647	71,551		
	Private/Trade School	50%	16,618	178,877		
	Child Care	5%	1,662	17,888		
Manufacturing	Industrial Park	100%	16,618	178,877		
Office	General Office	90%	239,303	2,575,834		7,645
	Medical Office	10%	26,589	286,204		
Retail/Service	Specialty Retail Centre	20%	3,324	35,775		
	Restaurant	50%	8,309	89,439		
	Cinema/Entertainment	0%	0	0		
	Fitness/Recreation	15%	2,493	26,832		
	Hotel	15%	2,493	26,832	62	
TOTAL			**332,365**	**3,577,547**		

District B1

Summary

Scenario Jobs	3,709		
Site Area (Ha)	Site Area (m2)	Scenario FSI	Park Dedication (Ha)
7.84	78,400	Existing FSIs	0.1568

Existing Employment

Existing Jobs
1,314

Scenario Employment

GFA (m2)	Scenario Jobs			
87,495	3,709			GFA m2 by type
Job Type	Assumed Job Ratio	Assumed GFA / Job	Number of Jobs	
Institutional	10%	67	131	8,750
Manufacturing	0%	80	0	0
Office	70%	19.5	3,141	61,247
Retail/Service	20%	40	437	17,499
		Total	3,709	87,495

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
Employment						
Institutional	Community Agencies	25%	2,187	23,545		
	Community Centre	20%	1,750	18,836		
	Private/Trade School	50%	4,375	47,089		
	Child Care	5%	437	4,709		
Manufacturing	Industrial Park	100%	0	0		
Office	General Office	85%	52,060	560,364		1,314
	Medical Office	15%	9,187	98,888		
Retail/Service	Specialty Retail Centre	20%	3,500	37,672		
	Restaurant	50%	8,750	94,179		
	Cinema/Entertainment	0%	0	0		
	Fitness/Recreation	15%	2,625	28,254		
	Hotel	15%	2,625	28,254	66	
TOTAL			**87,495**	**941,788**		

District B2

Summary

Scenario Jobs	6,800		
Site Area (Ha)	Site Area (m2)	Scenario FSI	Park Dedication (Ha)
16.00	160,000	1	0.32

Existing Employment

Existing Jobs
3,418

Scenario Employment

GFA (m2)	Scenario Jobs			
160,412	6,800			GFA m2 by type
Job Type	Assumed Job Ratio	Assumed GFA / Job	Number of Jobs	
Institutional	10%	67	239	16,041
Manufacturing	0%	80	0	0
Office	70%	19.5	5,758	112,288
Retail/Service	20%	40	802	32,082
		Total	6,800	160,412

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
	Employment					
Institutional	Community Agencies	25%	4,010	43,167		
	Community Centre	20%	3,208	34,533		
	Private/Trade School	50%	8,021	86,333		
	Child Care	5%	802	8,633		
Manufacturing	Industrial Park	100%	0	0		
Office	General Office	85%	95,445	1,027,363		3,418
	Medical Office	15%	16,843	181,299		
Retail/Service	Specialty Retail Centre	20%	6,416	69,066		
	Restaurant	50%	16,041	172,666		
	Cinema/Entertainment	0%	0	0		
	Fitness/Recreation	15%	4,812	51,800		
	Hotel	15%	4,812	51,800	120	
Residential – n/a			**160,412**	**1,726,660**		

District C

Summary

Scenario Jobs	3,361		
Site Area (Ha)	Site Area (m2)	Scenario FSI	Park Dedication (m2)
8.78	87,840	1	0.1757

Existing Employment

Existing Jobs
2,475

Scenario Employment

GFA (m2)	Scenario Jobs			
77,436	3,361			GFA m2 by type
Job Type	Assumed Job Ratio	Assumed GFA / Job	Number of Jobs	
Institutional	0%	67	0	0
Manufacturing	0%	80	0	0
Office	70%	19.5	2,780	54,205
Retail/Service	30%	40	581	23,231
		Total	3,361	77,436

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
	Employment					
Institutional	Community Agencies	25%	0	0		
	Community Centre	20%	0	0		
	Private/Trade School	50%	0	0		
	Child Care	5%	0	0		
Manufacturing	Industrial Park	100%	0	0		
Office	General Office	95%	51,495	554,287		2,475
	Medical Office	5%	2,710	29,173		
Retail/Service	Specialty Retail Centre	20%	4,646	50,011		
	Restaurant	50%	11,615	125,027		
	Cinema/Entertainment	5%	1,162	12,503		
	Fitness/Recreation	15%	3,485	37,508		
	Hotel	10%	2,323	25,005	58	
Residential – n/a			**77,436**	**833,514**		

District MU

Summary

Total Jobs	2,794
Total Residents	19,406
Number of Units	10,596
Apartment	10,573
Townhouse	23

Site Area (Ha)	Site Area (m2)	Scenario FSI	Park Dedication (Ha)
24.62	246,200	3 to 5	3.48

Potential Employment

New GFA (m2)	New Jobs	Average GFA (m2) / Job	Jobs / Net Ha	
113,768	2,985	38	121	GFA m2 by type
Job Type	Assumed Job Ratio	Assumed GFA / Job	Number of Jobs	
Institutional	5%	67	85	5,688
Manufacturing	0%	80	0	0
Office	5%	19.5	292	5,688
Retail/Service	85%	40	2,418	96,702
		Total	2,794	108,079

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
Employment						
Institutional	Community Agencies	25%	1,422	15,307		
	Community Centre	20%	1,138	12,246		
	Private/Trade School	50%	2,844	30,615		
	Child Care	5%	284	3,061		
Manufacturing	Industrial Park	100%	0	0		
Office	General Office	60%	3,413	36,737		
	Medical Office	40%	2,275	24,492		
Retail/Service	Specialty Retail Centre	40%	38,681	416,358		
	Restaurant	30%	29,011	312,269		
	Cinema/Entertainment	5%	4,835	52,045		
	Fitness/Recreation	15%	14,505	156,134		
	Hotel	10%	9,670	104,090	242	
TOTAL			**108,079**	**1,163,354**		
Residential – n/a			Units			
Apartment / Townhouse	Condo/Townhouse	80%	8477			
	Rental	10%	1060			
	Affordable Housing					
	Senior Home	10%	1060			
	Nursing Home					
	Assisted Housing					
TOTAL			**10,596**			

TOTAL BUSINESS PARK

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
Employment						
Institutional	Community Agencies	25%	15,929	171,457	0	0
	Community Centre	20%	12,743	137,166	0	0
	Private/Trade School	50%	31,858	342,914	0	0
	Child Care	5%	3,186	34,291	0	0
Manufacturing	Industrial Park		16,618	178,877	0	0
Office	General Office		441,715	4,754,585	0	14,852
	Medical Office		57,605	620,056	0	0
Retail/Service	Specialty Retail Centre		56,567	608,883	0	0
	Restaurant		73,726	793,579	0	0
	Cinema/Entertainment		5,997	64,547	0	0
	Fitness/Recreation		27,920	300,528	0	0
	Hotel		21,923	235,980	548	0
TOTAL			**765,787**	**8,242,864**		
Residential – n/a			Units			
Apartment / Townhouse	Condo/Townhouse		8477			
	Rental		1060			
	Affordable Housing		0			
	Senior Home		1060			
	Nursing Home		0			
	Assisted Housing		0			
TOTAL			**10,596**			

Scenario 3

Scenario 3 Summary		Residents + Jobs	51,979
District A Jobs	14,755		
District B1 Jobs	3,709		
District B2 Jobs	6,800		
District C Jobs	3,361		
District MU Jobs	2,794		
Total Jobs	31,418		
Total Residents	20,561		

District A

Summary

Scenario Jobs	14,755		
Site Area (Ha)	Site Area (m2)	Scenario FSI	Park Dedication (Ha)
29.97	299,700	1	0.5203

Existing Employment

Existing Jobs
7,645

Scenario Employment

GFA (m2)	Scenario Jobs			
332,365	14,755			GFA m2 by type
Job Type	Assumed Job Ratio	Assumed GFA / Job	Number of Jobs	
Institutional	10%	67	496	33,237
Manufacturing	5%	80	208	16,618
Office	80%	19.5	13,635	265,892
Retail/Service	5%	40	415	16,618
		Total	14,755	332,365

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
Employment						
Institutional	Community Agencies	25%	8,309	89,439		
	Community Centre	20%	6,647	71,551		
	Private/Trade School	50%	16,618	178,877		
	Child Care	5%	1,662	17,888		
Manufacturing	Industrial Park	100%	16,618	178,877		
Office	General Office	90%	239,303	2,575,834		7,645
	Medical Office	10%	26,589	286,204		
Retail/Service	Specialty Retail Centre	20%	3,324	35,775		
	Restaurant	50%	8,309	89,439		
	Cinema/Entertainment	0%	0	0		
	Fitness/Recreation	15%	2,493	26,832		
	Hotel	15%	2,493	26,832	62	
TOTAL			**332,365**	**3,577,547**		

District B1

Summary

Scenario Jobs	3,709		
Site Area (Ha)	Site Area (m2)	Scenario FSI	Park Dedication (Ha)
7.84	78,400	Existing FSIs	0.1568

Existing Employment

Existing Jobs
1,314

Scenario Employment

GFA (m2)	Scenario Jobs			
87,495	3,709			GFA m2 by type
Job Type	Assumed Job Ratio	Assumed GFA / Job	Number of Jobs	
Institutional	10%	67	131	8,750
Manufacturing	0%	80	0	0
Office	70%	19.5	3,141	61,247
Retail/Service	20%	40	437	17,499
		Total	3,709	87,495

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
Employment						
Institutional	Community Agencies	25%	2,187	23,545		
	Community Centre	20%	1,750	18,836		
	Private/Trade School	50%	4,375	47,089		
	Child Care	5%	437	4,709		
Manufacturing	Industrial Park	100%	0	0		
Office	General Office	85%	52,060	560,364		1,314
	Medical Office	15%	9,187	98,888		
Retail/Service	Specialty Retail Centre	20%	3,500	37,672		
	Restaurant	50%	8,750	94,179		
	Cinema/Entertainment	0%	0	0		
	Fitness/Recreation	15%	2,625	28,254		
	Hotel	15%	2,625	28,254	66	
TOTAL			**87,495**	**941,788**		

District B2

Summary

Scenario Jobs	6,800		
Site Area (Ha)	Site Area (m2)	Scenario FSI	Park Dedication (Ha)
16.00	160,000	1	0.32

Existing Employment

Existing Jobs
3,418

Scenario Employment

GFA (m2)	Scenario Jobs			
160,412	6,800			GFA m2 by type
Job Type	Assumed Job Ratio	Assumed GFA / Job	Number of Jobs	
Institutional	10%	67	239	16,041
Manufacturing	0%	80	0	0
Office	70%	19.5	5,758	112,288
Retail/Service	20%	40	802	32,082
		Total	6,800	160,412

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
	Employment					
Institutional	Community Agencies	25%	4,010	43,167		
	Community Centre	20%	3,208	34,533		
	Private/Trade School	50%	8,021	86,333		
	Child Care	5%	802	8,633		
Manufacturing	Industrial Park	100%	0	0		
Office	General Office	85%	95,445	1,027,363		3,418
	Medical Office	15%	16,843	181,299		
Retail/Service	Specialty Retail Centre	20%	6,416	69,066		
	Restaurant	50%	16,041	172,666		
	Cinema/Entertainment	0%	0	0		
	Fitness/Recreation	15%	4,812	51,800		
	Hotel	15%	4,812	51,800	120	
Residential – n/a			**160,412**	**1,726,660**		

District C

Summary

Scenario Jobs	3,361		
Site Area (Ha)	Site Area (m2)	Scenario FSI	Park Dedication (m2)
8.78	87,840	1	0.1757

Existing Employment

Existing Jobs
2,475

Scenario Employment

GFA (m2)	Scenario Jobs			
77,436	3,361			GFA m2 by type
Job Type	Assumed Job Ratio	Assumed GFA / Job	Number of Jobs	
Institutional	0%	67	0	0
Manufacturing	0%	80	0	0
Office	70%	19.5	2,780	54,205
Retail/Service	30%	40	581	23,231
		Total	3,361	77,436

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
	Employment					
Institutional	Community Agencies	25%	0	0		
	Community Centre	20%	0	0		
	Private/Trade School	50%	0	0		
	Child Care	5%	0	0		
Manufacturing	Industrial Park	100%	0	0		
Office	General Office	95%	51,495	554,287		2,475
	Medical Office	5%	2,710	29,173		
Retail/Service	Specialty Retail Centre	20%	4,646	50,011		
	Restaurant	50%	11,615	125,027		
	Cinema/Entertainment	5%	1,162	12,503		
	Fitness/Recreation	15%	3,485	37,508		
	Hotel	10%	2,323	25,005	58	
Residential – n/a			**77,436**	**833,514**		

District MU

Summary

Total Jobs	2,794
Total Residents	20,561
Number of Units	11,227
Apartment	11,204
Townhouse	23

Site Area (Ha)	Site Area (m2)	Scenario FSI	Park Dedication (Ha)
24.62	246,200	3 to 5	3.48

Potential Employment

New GFA (m2)	New Jobs	Average GFA (m2) / Job	Jobs / Net Ha	
113,768	2,985	38	121	GFA m2 by type
Job Type	Assumed Job Ratio	Assumed GFA / Job	Number of Jobs	
Institutional	5%	67	85	5,688
Manufacturing	0%	80	0	0
Office	5%	19.5	292	5,688
Retail/Service	85%	40	2,418	96,702
		Total	2,794	108,079

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
Employment						
Institutional	Community Agencies	25%	1,422	15,307		
	Community Centre	20%	1,138	12,246		
	Private/Trade School	50%	2,844	30,615		
	Child Care	5%	284	3,061		
Manufacturing	Industrial Park	100%	0	0		
Office	General Office	60%	3,413	36,737		
	Medical Office	40%	2,275	24,492		
Retail/Service	Specialty Retail Centre	40%	38,681	416,358		
	Restaurant	30%	29,011	312,269		
	Cinema/Entertainment	5%	4,835	52,045		
	Fitness/Recreation	15%	14,505	156,134		
	Hotel	10%	9,670	104,090	242	
TOTAL			**108,079**	**1,163,354**		
Residential – n/a			Units			
Apartment / Townhouse	Condo/Townhouse	80%	8982			
	Rental	10%	1123			
	Affordable Housing					
	Senior Home	10%	1123			
	Nursing Home					
	Assisted Housing					
TOTAL			**11,227**			

TOTAL BUSINESS PARK

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
Employment						
Institutional	Community Agencies	25%	15,929	171,457	0	0
	Community Centre	20%	12,743	137,166	0	0
	Private/Trade School	50%	31,858	342,914	0	0
	Child Care	5%	3,186	34,291	0	0
Manufacturing	Industrial Park		16,618	178,877	0	0
Office	General Office		441,715	4,754,585	0	14,852
	Medical Office		57,605	620,056	0	0
Retail/Service	Specialty Retail Centre		56,567	608,883	0	0
	Restaurant		73,726	793,579	0	0
	Cinema/Entertainment		5,997	64,547	0	0
	Fitness/Recreation		27,920	300,528	0	0
	Hotel		21,923	235,980	548	0
TOTAL			**765,787**	**8,242,864**		
Residential – n/a			Units			
Apartment / Townhouse	Condo/Townhouse		8982			
	Rental		1123			
	Affordable Housing		0			
	Senior Home		1123			
	Nursing Home		0			
	Assisted Housing		0			
TOTAL			**11,227**			

Preferred Development Scenario

Preferred Scenario Summary		Residents + Jobs	49,499
District A Jobs	14,755		
District B1 Jobs	3,709		
District B2 Jobs	6,800		
District C Jobs	3,361		
District MU Jobs	2,651		
Total Jobs	31,275		
Total Residents	18,224		

District A

Summary

Scenario Jobs	14,755		
Site Area (Ha)	Site Area (m2)	Scenario FSI	Park Dedication (Ha)
29.97	299,700	1	0.5203

Existing Employment

Existing Jobs
7,645

Scenario Employment

GFA (m2)	Scenario Jobs			
332,365	14,755			GFA m2 by type
Job Type	Assumed Job Ratio	Assumed GFA / Job	Number of Jobs	
Institutional	10%	67	496	33,237
Manufacturing	5%	80	208	16,618
Office	80%	19.5	13,635	265,892
Retail/Service	5%	40	415	16,618
		Total	14,755	332,365

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
Employment						
Institutional	Community Agencies	25%	8,309	89,439		
	Community Centre	20%	6,647	71,551		
	Private/Trade School	50%	16,618	178,877		
	Child Care	5%	1,662	17,888		
Manufacturing	Industrial Park	100%	16,618	178,877		
Office	General Office	90%	239,303	2,575,834		7,645
	Medical Office	10%	26,589	286,204		
Retail/Service	Specialty Retail Centre	20%	3,324	35,775		
	Restaurant	50%	8,309	89,439		
	Cinema/Entertainment	0%	0	0		
	Fitness/Recreation	15%	2,493	26,832		
	Hotel	15%	2,493	26,832	62	
TOTAL			**332,365**	**3,577,547**		

District B1

Summary

Scenario Jobs	3,709		
Site Area (Ha)	Site Area (m2)	Scenario FSI	Park Dedication (Ha)
7.84	78,400	Existing FSIs	0.1568

Existing Employment

Existing Jobs
1,314

Scenario Employment

GFA (m2)	Scenario Jobs			
87,495	3,709			GFA m2 by type
Job Type	Assumed Job Ratio	Assumed GFA / Job	Number of Jobs	
Institutional	10%	67	131	8,750
Manufacturing	0%	80	0	0
Office	70%	19.5	3,141	61,247
Retail/Service	20%	40	437	17,499
		Total	3,709	87,495

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
Employment						
Institutional	Community Agencies	25%	2,187	23,545		
	Community Centre	20%	1,750	18,836		
	Private/Trade School	50%	4,375	47,089		
	Child Care	5%	437	4,709		
Manufacturing	Industrial Park	100%	0	0		
Office	General Office	85%	52,060	560,364		1,314
	Medical Office	15%	9,187	98,888		
Retail/Service	Specialty Retail Centre	20%	3,500	37,672		
	Restaurant	50%	8,750	94,179		
	Cinema/Entertainment	0%	0	0		
	Fitness/Recreation	15%	2,625	28,254		
	Hotel	15%	2,625	28,254	66	
TOTAL			**87,495**	**941,788**		

District B2

Summary

Scenario Jobs	6,800		
Site Area (Ha)	Site Area (m2)	Scenario FSI	Park Dedication (Ha)
16.00	160,000	1	0.32

Existing Employment

Existing Jobs
3,418

Scenario Employment

GFA (m2)	Scenario Jobs			
160,412	6,800			GFA m2 by type
Job Type	Assumed Job Ratio	Assumed GFA / Job	Number of Jobs	
Institutional	10%	67	239	16,041
Manufacturing	0%	80	0	0
Office	70%	19.5	5,758	112,288
Retail/Service	20%	40	802	32,082
		Total	6,800	160,412

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
Employment						
Institutional	Community Agencies	25%	4,010	43,167		
	Community Centre	20%	3,208	34,533		
	Private/Trade School	50%	8,021	86,333		
	Child Care	5%	802	8,633		
Manufacturing	Industrial Park	100%	0	0		
Office	General Office	85%	95,445	1,027,363		3,418
	Medical Office	15%	16,843	181,299		
Retail/Service	Specialty Retail Centre	20%	6,416	69,066		
	Restaurant	50%	16,041	172,666		
	Cinema/Entertainment	0%	0	0		
	Fitness/Recreation	15%	4,812	51,800		
	Hotel	15%	4,812	51,800	120	
Residential – n/a			**160,412**	**1,726,660**		

District C

Summary

Scenario Jobs	3,361		
Site Area (Ha)	Site Area (m2)	Scenario FSI	Park Dedication (m2)
8.78	87,840	1	0.1757

Existing Employment

Existing Jobs
2,475

Scenario Employment

GFA (m2)	Scenario Jobs			
77,436	3,361			GFA m2 by type
Job Type	Assumed Job Ratio	Assumed GFA / Job	Number of Jobs	
Institutional	0%	67	0	0
Manufacturing	0%	80	0	0
Office	70%	19.5	2,780	54,205
Retail/Service	30%	40	581	23,231
		Total	3,361	77,436

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
Employment						
Institutional	Community Agencies	25%	0	0		
	Community Centre	20%	0	0		
	Private/Trade School	50%	0	0		
	Child Care	5%	0	0		
Manufacturing	Industrial Park	100%	0	0		
Office	General Office	95%	51,495	554,287		2,475
	Medical Office	5%	2,710	29,173		
Retail/Service	Specialty Retail Centre	20%	4,646	50,011		
	Restaurant	50%	11,615	125,027		
	Cinema/Entertainment	5%	1,162	12,503		
	Fitness/Recreation	15%	3,485	37,508		
	Hotel	10%	2,323	25,005	58	
Residential – n/a			**77,436**	**833,514**		
			55100	593,091		

District MU

Summary

Total Jobs	2,651
Total Residents	18,224
Number of Units	9,939
Apartment	9,887
Townhouse	52

Site Area (Ha)	Site Area (m2)	Scenario FSI	Park Dedication (Ha)
24.62	246,200	3 to 5	3.48

Potential Employment

New GFA (m2)	New Jobs	Average GFA (m2) / Job	Jobs / Net Ha	
107,944	2,985	36	121	GFA m2 by type
Job Type	Assumed Job Ratio	Assumed GFA / Job	Number of Jobs	
Institutional	5%	67	81	5,397
Manufacturing	0%	80	0	0
Office	5%	19.5	277	5,397
Retail/Service	85%	40	2,294	91,753
		Total	2,651	102,547

EAST OF VIC PARK ONLY

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
Employment						
Institutional	Community Agencies	25%	1,349	14,524		
	Community Centre	20%	1,079	11,619		
	Private/Trade School	50%	2,699	29,048		
	Child Care	5%	270	2,905		
Manufacturing	Industrial Park	100%	0	0		
Office	General Office	60%	3,238	34,857		2,854
	Medical Office	40%	2,159	23,238		
Retail/Service	Specialty Retail Centre	40%	36,701	395,047		
	Restaurant	30%	27,526	296,285		
	Cinema/Entertainment	5%	4,588	49,381		
	Fitness/Recreation	15%	13,763	148,143		
	Hotel	10%	9,175	98,762	229	
TOTAL			**102,547**	**1,103,807**		
Residential – n/a			Units			
Apartment / Townhouse	Condo/Townhouse	80%	7952			
	Rental	10%	994			
	Affordable Housing					
	Senior Home	10%	994			
	Nursing Home					
	Assisted Housing					
TOTAL			**9,939**			

TOTAL BUSINESS PARK

760,255

RE Millward LU Type	Trip Generation Type	% of LU Type	New GFA (m2)	New GFA (ft2)	New jobs	Existing jobs
Employment						
Institutional	Community Agencies	25%	15,856	170,674	0	0
	Community Centre	20%	12,685	136,539	0	0
	Private/Trade School	50%	31,712	341,347	0	0
	Child Care	5%	3,171	34,135	0	0
Manufacturing	Industrial Park		16,618	178,877	0	0
Office	General Office		441,541	4,752,705	0	17,706
	Medical Office		57,489	618,802	0	0
Retail/Service	Specialty Retail Centre		54,587	587,571	0	0
	Restaurant		72,241	777,596	0	0
	Cinema/Entertainment		5,749	61,884	0	0
	Fitness/Recreation		27,177	292,536	0	0
	Hotel		21,428	230,652	536	0
TOTAL			**760,255**	**8,183,317**		
Residential – n/a			Units			
Apartment / Townhouse	Condo/Townhouse		7952			
	Rental		994			
	Affordable Housing		0			
	Senior Home		994			
	Nursing Home		0			
	Assisted Housing		0			
TOTAL			**9,939**			

Overview

In order to determine the additional site volumes associated with the full build out of the site when compared with the TMP's "Pre-LRT" constrained volumes, the following information was estimated:

1. The portion of the TMP's "Pre-LRT" constrained volumes associated with the site to estimate the baseline site volumes.
2. The TMP adopted allowable development yield for the "Pre-LRT" constrained scenario, compared with the full development of ConsumersNext to determine a value by which to factor up the baseline site volumes and calculate the additional site volumes.
3. Percentage of TMP site trips associated with each land use to determine appropriate distributions for the additional site volumes.

A number of assumptions and calculations were required to estimate the above. These assumptions and calculations are outlined in the following sections.

TMP Baseline Site Volumes

To estimate the portion of the TMP's "Pre-LRT" constrained volumes associated with the site to estimate the baseline site volumes, the following steps were undertaken:

1. The site area as a percentage of the TMP ConsumersNext Area was estimated by zone. The site is located in Zone B1 as defined by the TMP – see **Table 1**. The District Reference Map and land use assumptions from the TMP are provided in this Appendix.
2. The percentage of trips associated with Zone B1 compared with all of the ConsumersNext area was calculated – see **Table 2**.
3. The percentage of trips associated with the site was subsequently calculated through the combination of the information gathered in Steps 1 and 2 – see **Table 2**.
4. The baseline site volumes for the "Pre-LRT" constrained scenario were calculated on the basis of the percentage of trips associated with the site – see **Table 3**.

TABLE 1 ESTIMATED TMP SITE AREA ASSUMPTIONS

	Zone B1
A – TMP ConsumersNext Zone B1 Area	78,400 m^2
B – TMP Site Area	6,491 m^2
C –TMP Site Area as Percentage of TMP ConsumersNext B1 Area (e.g. B / A)	**8%**

Notes:
1. Source: TMP – Appendix A, Land Use Assumptions
2. Source: Estimated by measuring from TMP – Appendix A, District Map

TABLE 2 ESTIMATED PERCENTAGE OF TMP CONSUMERSNEXT TRIPS ASSOCIATED WITH SITE

	AM Peak	PM Peak
	Zone B1	
A – TMP ConsumersNext Trips by Zone[1]	1519	2445
B – Total TMP ConsumersNext Trips (All Zones)[1]	13,333	22,847
C – TMP ConsumersNext Trips by Zone as Percentage of Total TMP ConsumersNext Trips **(e.g. A / B)**	11%	11%
D – TMP Site Area as Percentage of TMP ConsumersNext Area by Zone[2]	8%	8%
E – TMP Site Trips as Percentage of Total TMP ConsumersNext Trips (e.g. C x D)	**1%**	**1%**

Notes:
1. Source: Manually calculated based on trip generation parameters outlined in TMP and land use assumptions in Appendix A of TMP
2. Source: See **Table 1** of this Appendix.

TABLE 3 ESTIMATED TMP CONSUMERSNEXT "PRE-LRT" CONSTRAINED TRIPS ASSOCIATED WITH SITE

	AM Peak			PM Peak		
	In	Out	2-Way	In	Out	2-Way
A – TMP ConsumersNext "Pre-LRT" Constrained Trips[1]	4,634	2,512	7,146	4,813	5,742	10,555
B – TMP Site Trips as Percentage of Total ConsumersNext Trips[2]	1%			1%		
C – Estimated TMP "Pre-LRT" Constrained Trips Associated with Site (e.g. A x B)	**45**	**25**	**70**	**50**	**55**	**105**

Notes:
1. Source: TMP – Appendix D, Table 3
2. Source: See **Table 2** of this Appendix.

ConsumersNext to determine a value by which to factor up the baseline site volumes and calculate the additional site volumes, the following steps were undertaken:

1. The allowable development yield for the "Pre-LRT" constrained scenario was calculated based on the "Pre-LRT" constrained trips versus the unconstrained trips – see **Table 4**.
2. The additional site volumes were determined by back calculating from the baseline site volumes based on the allowable development yield calculated in Step 1 – see **Table 4**.

TABLE 4 ESTIMATED TMP ADDITIONAL SITE TRIPS

	AM Peak			PM Peak		
	In	Out	2-Way	In	Out	2-Way
A – TMP ConsumersNext "Pre-LRT" Constrained Trips[1]			7,146			10,555
B – TMP ConsumersNext "Pre-LRT" Unconstrained Trips[2]			11,196			16,654
C – Estimated TMP "Pre-LRT" Constrained Development Yield as Percentage of Unconstrained Development Yield[3] **(e.g. A / B)**	65%					
D – Estimated TMP "Pre-LRT" Constrained Trips Associated with Site[4]	45	25	70	50	55	105
E – Estimated TMP Unconstrained Trips Associated with Site **(e.g. D / C)**	70	40	110	80	85	165
F – Estimated TMP Additional Site Trips (e.g. E – D)	**25**	**15**	**40**	**30**	**30**	**60**

Notes:
1. Source: TMP – Appendix D, Table 3
2. Source: TMP – Appendix D, Table 2
3. Rounded to nearest 5%
4. Source: See **Table 3** of this Appendix.

TMP Site Land Use Assumptions

To estimate the percentage of TMP site trips associated with each land use to determine appropriate distributions for the additional site volumes, the following steps were undertaken:

1. The trips within Zone B1 were calculated by land use as a percentage of total trips within that zone – see **Table 5**.
2. Based on the above and the zone breakdown within the site, the trips within the site were calculated by land use as a percentage of total site trips.
3. The above percentages were subsequently utilized to calculate the additional site trips by land use.

TABLE 5 ESTIMATED TMP SITE TRIPS BY LAND USE AS PERCENTAGE

		AM Peak	PM Peak
		Zone B1	
TMP ConsumersNext Trips by Land Use and Zone[1]	Employment	1281	1288
	Residential[2]	238	1156
	Total	1519	2444
TMP Site Trips by Land Use and Zone	**Employment**	**84%**	**53%**
	Residential[2]	**16%**	**47%**

Notes:
1. Source: Manually calculated based on trip generation parameters outlined in TMP and land use assumptions in Appendix A of TMP
2. Consistent with the TMP, residential trips include those associated with the retail land use.
3. Source: See **Table 1** of this report.

TABLE 6 ESTIMATED TMP ADDITIONAL SITE TRIPS BY LAND USE

	AM Peak			PM Peak		
	In	Out	2-Way	In	Out	2-Way
Additional Site Trips	25	15	40	30	30	60
Employment[2,3]			84%			53%
	20	**15**	**35**	**15**	**15**	**30**
Residential[2,4]			16%			47%
	5	**0**	**5**	**15**	**15**	**30**

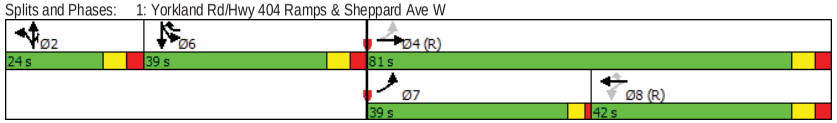
Notes:
1. Source: See **Table 4** of this report.
2. Percentage Source: See **Table 5** of this report.
3. Employment inbound/outbound percentage assumed as per ITE 10th Edition General Office Building (LUC 710), General Urban/Suburban
4. Consistent with the TMP, residential trips include those associated with the retail land use. Inbound/outbound split assumed as remainder after deducting employment trips.

APPENDIX N:
Synchro Reports for Sensitivity Analysis

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	425	1165	895	85	1380	415	170	140	35	265	355	255
Future Volume (vph)	425	1165	895	85	1380	415	170	140	35	265	355	255
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Split	NA	Prot	Split	NA	Free
Protected Phases	7	4			8	6	2	2	2	6	6	
Permitted Phases	4		Free	8		8						Free
Detector Phase	7	4		8	8	6	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	11.0	33.0		33.0	33.0	39.0	14.0	14.0	14.0	39.0	39.0	
Total Split (s)	39.0	81.0		42.0	42.0	39.0	24.0	24.0	24.0	39.0	39.0	
Total Split (%)	27.1%	56.3%		29.2%	29.2%	27.1%	16.7%	16.7%	16.7%	27.1%	27.1%	
Yellow Time (s)	3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-3.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	3.0	6.0		4.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	C-Min		C-Min	C-Min	None	None	None	None	None	None	
Act Effct Green (s)	79.1	76.1	144.0	45.8	43.8	76.5	17.2	17.2	17.2	32.7	32.7	144.0
Actuated g/C Ratio	0.55	0.53	1.00	0.32	0.30	0.53	0.12	0.12	0.12	0.23	0.23	1.00
v/c Ratio	0.87	0.46	0.63	0.66	0.93	0.50	0.82	0.77	0.12	0.68	0.94	0.18
Control Delay	54.1	22.0	2.1	70.3	60.4	8.7	90.6	83.1	4.1	61.4	87.0	0.3
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.1	22.0	2.2	70.3	60.4	8.7	90.6	83.1	4.1	61.4	87.0	0.3
LOS	D	C	A	E	E	A	F	F	A	E	F	A
Approach Delay		20.3			49.4			78.5			54.7	
Approach LOS		C			D			E			D	

Intersection Summary			
Cycle Length: 144			
Actuated Cycle Length: 144			
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of 1st Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 39.1		Intersection LOS: D	
Intersection Capacity Utilization 98.8%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Yorkland Rd/Hwy 404 Ramps & Sheppard Ave W



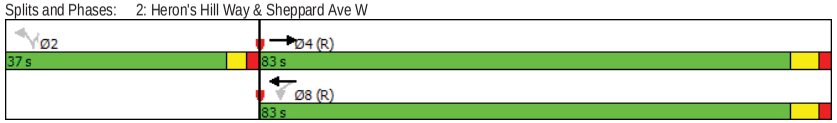
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	425	1165	895	85	1380	415	170	140	35	265	355	255
Future Volume (vph)	425	1165	895	85	1380	415	170	140	35	265	355	255
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	3.0	6.0	3.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	3.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2050	4885	1437	2050	4932	1419	1569	1740	1507	1569	1800	1439
Flt Permitted	0.09	1.00	1.00	0.23	1.00	1.00	0.95	0.99	1.00	0.95	1.00	1.00
Satd. Flow (perm)	227	4885	1437	415	4932	1419	1569	1740	1507	1569	1776	1439
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	429	1177	904	86	1394	419	172	141	35	268	359	258
RTOR Reduction (vph)	0	0	0	0	0	85	0	0	31	0	0	0
Lane Group Flow (vph)	429	1177	904	86	1394	334	153	160	4	241	386	258
Confl. Peds. (#/hr)	30		85	85		30	15					15
Heavy Vehicles (%)	0%	5%	1%	0%	4%	1%	2%	2%	0%	2%	0%	3%
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Split	NA	Prot	Split	NA	Free
Protected Phases	7	4			8	6	2	2	2	6	6	
Permitted Phases	4		Free	8		8						Free
Actuated Green, G (s)	75.1	75.1	144.0	42.8	42.8	74.5	16.2	16.2	16.2	31.7	31.7	144.0
Effective Green, g (s)	76.1	76.1	144.0	45.8	43.8	76.5	17.2	17.2	17.2	32.7	32.7	144.0
Actuated g/C Ratio	0.53	0.53	1.00	0.32	0.30	0.53	0.12	0.12	0.12	0.23	0.23	1.00
Clearance Time (s)	4.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	490	2581	1437	131	1500	753	187	207	180	356	408	1439
v/s Ratio Prot	c0.18	0.24			c0.28	0.10	0.10	0.09	0.00	0.15	c0.21	
v/s Ratio Perm	0.28		c0.63	0.21		0.13						0.18
v/c Ratio	0.88	0.46	0.63	0.66	0.93	0.44	0.82	0.77	0.02	0.68	0.95	0.18
Uniform Delay, d1	40.6	21.1	0.0	42.3	48.6	20.7	61.9	61.5	56.0	50.8	54.8	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.9	0.6	2.1	22.9	11.6	0.4	23.4	16.2	0.1	5.0	30.8	0.3
Delay (s)	56.5	21.7	2.1	65.2	60.2	21.1	82.8	75.4	56.0	55.9	85.6	0.3
Level of Service	E	C	A	E	E	C	F	E	E	E	F	A
Approach Delay (s)		20.6			51.8			76.7			52.6	
Approach LOS		C			D			E			D	

Intersection Summary					
HCM 2000 Control Delay	39.6	HCM 2000 Level of Service		D	
HCM 2000 Volume to Capacity ratio	0.91				
Actuated Cycle Length (s)	144.0	Sum of lost time (s)		21.0	
Intersection Capacity Utilization	98.8%	ICU Level of Service		F	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	1540	85	1635	110	30
Future Volume (vph)	1540	85	1635	110	30
Turn Type	NA	Perm	NA	Perm	Perm
Protected Phases	4		8		
Permitted Phases		8		2	2
Detector Phase	4	8	8	2	2
Switch Phase					
Minimum Initial (s)	19.0	19.0	19.0	7.0	7.0
Minimum Split (s)	25.0	25.0	25.0	37.0	37.0
Total Split (s)	83.0	83.0	83.0	37.0	37.0
Total Split (%)	69.2%	69.2%	69.2%	30.8%	30.8%
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	4.0	4.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	Min	Min
Act Effct Green (s)	87.3	87.3	87.3	23.7	23.7
Actuated g/C Ratio	0.73	0.73	0.73	0.20	0.20
v/c Ratio	0.45	0.56	0.47	0.38	0.10
Control Delay	8.3	27.8	8.6	42.8	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	8.3	27.8	8.6	42.8	13.0
LOS	A	C	A	D	B
Approach Delay	8.3		9.6	36.4	
Approach LOS	A		A	D	

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 117 (98%), Referenced to phase 4:EBT and 8:WBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 10.1		Intersection LOS: B	
Intersection Capacity Utilization 71.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 2: Heron's Hill Way & Sheppard Ave W



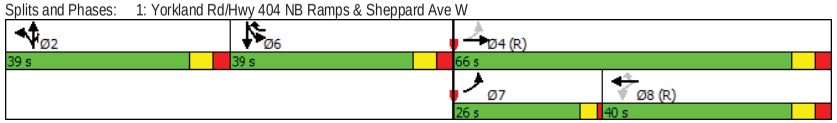
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1540	10	85	1635	110	30
Future Volume (vph)	1540	10	85	1635	110	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.0	3.0	3.5	3.0	3.0
Total Lost time (s)	5.0		5.0	5.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00		0.98	1.00	0.94	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4920		1659	4932	1541	1464
Flt Permitted	1.00		0.13	1.00	0.95	1.00
Satd. Flow (perm)	4920		219	4932	1541	1464
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1604	10	89	1703	115	31
RTOR Reduction (vph)	0	0	0	0	0	23
Lane Group Flow (vph)	1614	0	89	1703	115	8
Confl. Peds. (#/hr)		65	65		50	15
Heavy Vehicles (%)	4%	5%	0%	4%	3%	0%
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	4			8		
Permitted Phases			8		2	2
Actuated Green, G (s)	86.3		86.3	86.3	22.7	22.7
Effective Green, g (s)	87.3		87.3	87.3	23.7	23.7
Actuated g/C Ratio	0.73		0.73	0.73	0.20	0.20
Clearance Time (s)	6.0		6.0	6.0	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3579		159	3588	304	289
v/s Ratio Prot	0.33			0.35		
v/s Ratio Perm			c0.41		c0.07	0.01
v/c Ratio	0.45		0.56	0.47	0.38	0.03
Uniform Delay, d1	6.6		7.5	6.8	41.8	38.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4		13.5	0.5	0.8	0.0
Delay (s)	7.0		21.0	7.3	42.6	38.9
Level of Service	A		C	A	D	D
Approach Delay (s)	7.0			7.9	41.8	
Approach LOS	A			A	D	

Intersection Summary					
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A		
HCM 2000 Volume to Capacity ratio	0.52				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	10.0		
Intersection Capacity Utilization	71.4%	ICU Level of Service	C		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	490	1985	395	25	1375	480	410	395	60	190	50	250
Future Volume (vph)	490	1985	395	25	1375	480	410	395	60	190	50	250
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Split	NA	Prot	Split	NA	Free
Protected Phases	7	4			8	6	2	2	2	6	6	
Permitted Phases	4		Free	8		8						Free
Detector Phase	7	4		8	8	6	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	11.0	33.0		33.0	33.0	39.0	14.0	14.0	14.0	39.0	39.0	
Total Split (s)	26.0	66.0		40.0	40.0	39.0	39.0	39.0	39.0	39.0	39.0	
Total Split (%)	18.1%	45.8%		27.8%	27.8%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	
Yellow Time (s)	3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	-3.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	1.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	C-Min		C-Min	C-Min	None	None	None	None	None	None	
Act Effct Green (s)	72.8	67.8	144.0	34.0	34.0	59.2	33.0	33.0	33.0	25.2	25.2	144.0
Actuated g/C Ratio	0.51	0.47	1.00	0.24	0.24	0.41	0.23	0.23	0.23	0.18	0.18	1.00
v/c Ratio	0.87	0.86	0.28	0.57	0.99	0.77	0.80	0.97	0.14	0.44	0.41	0.17
Control Delay	46.7	39.5	0.5	94.4	75.6	23.4	72.4	95.3	7.1	56.6	55.4	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.7	39.5	0.5	94.4	75.6	23.4	72.4	95.3	7.1	56.6	55.4	0.3
LOS	D	D	A	F	E	C	E	F	A	E	E	A
Approach Delay		35.4			62.5			79.4			27.6	
Approach LOS		D			E			E			C	

Intersection Summary			
Cycle Length: 144			
Actuated Cycle Length: 144			
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of 1st Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 49.3		Intersection LOS: D	
Intersection Capacity Utilization 110.1%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 1: Yorkland Rd/Hwy 404 NB Ramps & Sheppard Ave W



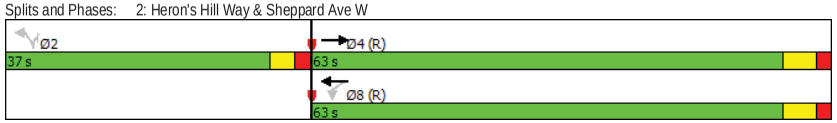
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	490	1985	395	25	1375	480	410	395	60	190	50	250
Future Volume (vph)	490	1985	395	25	1375	480	410	395	60	190	50	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	1.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	3.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (prot)	2050	4980	1430	1566	6015	1428	2050	2005	1507	1600	1727	1466
Flt Permitted	0.11	1.00	1.00	0.12	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00
Satd. Flow (perm)	400	4980	1430	194	4932	1428	1585	1775	1507	1600	1727	1466
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	500	2026	403	26	1403	490	418	403	61	194	51	255
RTOR Reduction (vph)	0	0	0	0	0	51	0	0	47	0	0	0
Lane Group Flow (vph)	500	2026	403	26	1403	439	376	445	14	122	123	255
Confl. Peds. (#/hr)	25		70	70		25	20					20
Heavy Vehicles (%)	3%	3%	2%	7%	4%	1%	1%	0%	0%	0%	1%	1%
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Split	NA	Prot	Split	NA	Free
Protected Phases	7	4			8	6	2	2	2	6	6	
Permitted Phases	4		Free	8		8						Free
Actuated Green, G (s)	66.8	66.8	144.0	33.0	33.0	57.2	32.0	32.0	32.0	24.2	24.2	144.0
Effective Green, g (s)	69.8	67.8	144.0	34.0	34.0	59.2	33.0	33.0	33.0	25.2	25.2	144.0
Actuated g/C Ratio	0.48	0.47	1.00	0.24	0.24	0.41	0.23	0.23	0.23	0.17	0.17	1.00
Clearance Time (s)	4.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	569	2344	1430	45	1420	587	469	459	345	280	302	1466
v/s Ratio Prot	c0.20	0.41			c0.23	c0.13	0.18	c0.22	0.01	0.08	0.07	
v/s Ratio Perm	0.23		0.28	0.13		0.18						0.17
v/c Ratio	0.88	0.86	0.28	0.58	0.99	0.75	0.80	0.97	0.04	0.44	0.41	0.17
Uniform Delay, d1	34.7	34.0	0.0	48.7	54.8	36.1	52.4	55.0	43.2	53.1	52.8	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.12	1.12	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.4	4.6	0.5	44.4	21.2	5.2	9.3	33.1	0.0	1.1	0.9	0.3
Delay (s)	49.1	38.5	0.5	93.0	76.0	41.3	68.1	95.0	43.2	54.1	53.7	0.3
Level of Service	D	D	A	F	E	D	E	F	D	D	D	A
Approach Delay (s)		35.1			67.4			79.9			26.5	
Approach LOS		D			E			E			C	

Intersection Summary					
HCM 2000 Control Delay	50.7	HCM 2000 Level of Service		D	
HCM 2000 Volume to Capacity ratio	0.90				
Actuated Cycle Length (s)	144.0	Sum of lost time (s)		19.0	
Intersection Capacity Utilization	110.1%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	2090	60	1550	210	5
Future Volume (vph)	2090	60	1550	210	5
Turn Type	NA	Perm	NA	Perm	Perm
Protected Phases	4		8		
Permitted Phases		8		2	2
Detector Phase	4	8	8	2	2
Switch Phase					
Minimum Initial (s)	19.0	19.0	19.0	7.0	7.0
Minimum Split (s)	25.0	25.0	25.0	37.0	37.0
Total Split (s)	63.0	63.0	63.0	37.0	37.0
Total Split (%)	63.0%	63.0%	63.0%	37.0%	37.0%
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	4.0	4.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	Min	Min
Act Effct Green (s)	65.6	65.6	65.6	25.4	25.4
Actuated g/C Ratio	0.66	0.66	0.66	0.25	0.25
v/c Ratio	0.70	0.96	0.52	0.57	0.01
Control Delay	14.0	127.5	10.8	36.7	18.0
Queue Delay	0.1	0.0	0.0	0.0	0.0
Total Delay	14.1	127.5	10.8	36.7	18.0
LOS	B	F	B	D	B
Approach Delay	14.1		15.2	36.3	
Approach LOS	B		B	D	

Intersection Summary			
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 55 (55%), Referenced to phase 4:EBT and 8:WBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 15.7		Intersection LOS: B	
Intersection Capacity Utilization 77.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Heron's Hill Way & Sheppard Ave W



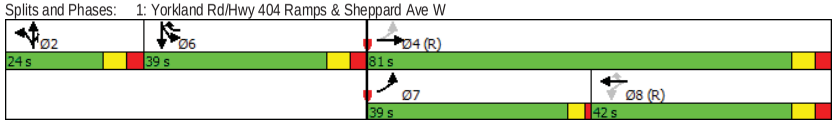
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	2090	15	60	1550	210	5
Future Volume (vph)	2090	15	60	1550	210	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.0	3.0	3.5	3.0	3.0
Total Lost time (s)	5.0		5.0	5.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	0.95	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4966		1636	4980	1587	1439
Flt Permitted	1.00		0.06	1.00	0.95	1.00
Satd. Flow (perm)	4966		105	4980	1587	1439
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2272	16	65	1685	228	5
RTOR Reduction (vph)	1	0	0	0	0	2
Lane Group Flow (vph)	2287	0	65	1685	228	3
Confl. Peds. (#/hr)		65	65		50	25
Heavy Vehicles (%)	3%	11%	3%	3%	1%	1%
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	4			8		
Permitted Phases			8		2	2
Actuated Green, G (s)	64.6		64.6	64.6	24.4	24.4
Effective Green, g (s)	65.6		65.6	65.6	25.4	25.4
Actuated g/C Ratio	0.66		0.66	0.66	0.25	0.25
Clearance Time (s)	6.0		6.0	6.0	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3257		68	3266	403	365
v/s Ratio Prot	0.46			0.34		
v/s Ratio Perm			c0.62		c0.14	0.00
v/c Ratio	0.70		0.96	0.52	0.57	0.01
Uniform Delay, d1	11.0		15.9	8.9	32.5	27.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3		97.2	0.6	1.8	0.0
Delay (s)	12.3		113.1	9.5	34.3	27.9
Level of Service	B		F	A	C	C
Approach Delay (s)	12.3			13.4	34.2	
Approach LOS	B			B	C	

Intersection Summary					
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B		
HCM 2000 Volume to Capacity ratio	0.85				
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0		
Intersection Capacity Utilization	77.0%	ICU Level of Service	D		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	425	1165	900	85	1380	420	175	145	35	265	370	255
Future Volume (vph)	425	1165	900	85	1380	420	175	145	35	265	370	255
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Split	NA	Prot	Split	NA	Free
Protected Phases	7	4			8	6	2	2	2	6	6	
Permitted Phases	4		Free	8		8						Free
Detector Phase	7	4		8	8	6	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	11.0	33.0		33.0	33.0	39.0	14.0	14.0	14.0	39.0	39.0	
Total Split (s)	39.0	81.0		42.0	42.0	39.0	24.0	24.0	24.0	39.0	39.0	
Total Split (%)	27.1%	56.3%		29.2%	29.2%	27.1%	16.7%	16.7%	16.7%	27.1%	27.1%	
Yellow Time (s)	3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-3.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	3.0	6.0		4.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	C-Min		C-Min	C-Min	None	None	None	None	None	None	
Act Effct Green (s)	78.2	75.2	144.0	44.8	42.8	76.3	17.3	17.3	17.3	33.5	33.5	144.0
Actuated g/C Ratio	0.54	0.52	1.00	0.31	0.30	0.53	0.12	0.12	0.12	0.23	0.23	1.00
v/c Ratio	0.87	0.46	0.63	0.67	0.95	0.51	0.84	0.79	0.12	0.66	0.96	0.18
Control Delay	54.4	22.4	2.1	72.0	63.7	9.0	93.5	84.8	3.9	60.3	89.4	0.3
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.4	22.4	2.2	72.0	63.7	9.0	93.5	84.8	3.9	60.3	89.4	0.3
LOS	D	C	A	E	E	A	F	F	A	E	F	A
Approach Delay		20.6			51.9			80.7			56.1	
Approach LOS		C			D			F			E	

Intersection Summary			
Cycle Length: 144			
Actuated Cycle Length: 144			
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of 1st Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 40.5		Intersection LOS: D	
Intersection Capacity Utilization 99.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Yorkland Rd/Hwy 404 Ramps & Sheppard Ave W



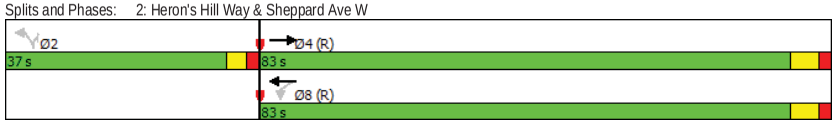
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	425	1165	900	85	1380	420	175	145	35	265	370	255
Future Volume (vph)	425	1165	900	85	1380	420	175	145	35	265	370	255
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	3.0	6.0	3.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	3.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2050	4885	1437	2050	4932	1420	1569	1740	1507	1569	1800	1439
Flt Permitted	0.09	1.00	1.00	0.23	1.00	1.00	0.95	0.99	1.00	0.95	1.00	1.00
Satd. Flow (perm)	227	4885	1437	415	4932	1420	1569	1740	1507	1569	1777	1439
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	429	1177	909	86	1394	424	177	146	35	268	374	258
RTOR Reduction (vph)	0	0	0	0	0	83	0	0	31	0	0	0
Lane Group Flow (vph)	429	1177	909	86	1394	341	158	165	4	241	401	258
Confl. Peds. (#/hr)	30		85	85		30	15					15
Heavy Vehicles (%)	0%	5%	1%	0%	4%	1%	2%	2%	0%	2%	0%	3%
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Split	NA	Prot	Split	NA	Free
Protected Phases	7	4			8	6	2	2	2	6	6	
Permitted Phases	4		Free	8		8						Free
Actuated Green, G (s)	74.2	74.2	144.0	41.8	41.8	74.3	16.3	16.3	16.3	32.5	32.5	144.0
Effective Green, g (s)	75.2	75.2	144.0	44.8	42.8	76.3	17.3	17.3	17.3	33.5	33.5	144.0
Actuated g/C Ratio	0.52	0.52	1.00	0.31	0.30	0.53	0.12	0.12	0.12	0.23	0.23	1.00
Clearance Time (s)	4.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	490	2551	1437	129	1465	752	188	209	181	365	418	1439
v/s Ratio Prot	c0.18	0.24			c0.28	0.11	0.10	0.09	0.00	0.15	c0.22	
v/s Ratio Perm	0.28		c0.63	0.21		0.13						0.18
v/c Ratio	0.88	0.46	0.63	0.67	0.95	0.45	0.84	0.79	0.02	0.66	0.96	0.18
Uniform Delay, d1	40.8	21.7	0.0	43.1	49.6	20.9	62.0	61.6	55.9	50.1	54.6	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.9	0.6	2.1	24.1	14.5	0.4	27.1	17.7	0.1	4.4	33.2	0.3
Delay (s)	56.7	22.3	2.1	67.2	64.1	21.4	86.8	76.8	55.9	54.5	87.8	0.3
Level of Service	E	C	A	E	E	C	F	E	E	D	F	A
Approach Delay (s)		20.9			54.7			79.2			53.8	
Approach LOS		C			D			E			D	

Intersection Summary					
HCM 2000 Control Delay	41.1	HCM 2000 Level of Service		D	
HCM 2000 Volume to Capacity ratio	0.92				
Actuated Cycle Length (s)	144.0	Sum of lost time (s)		21.0	
Intersection Capacity Utilization	99.5%	ICU Level of Service		F	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	1540	90	1635	115	30
Future Volume (vph)	1540	90	1635	115	30
Turn Type	NA	Perm	NA	Perm	Perm
Protected Phases	4		8		
Permitted Phases		8		2	2
Detector Phase	4	8	8	2	2
Switch Phase					
Minimum Initial (s)	19.0	19.0	19.0	7.0	7.0
Minimum Split (s)	25.0	25.0	25.0	37.0	37.0
Total Split (s)	83.0	83.0	83.0	37.0	37.0
Total Split (%)	69.2%	69.2%	69.2%	30.8%	30.8%
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	4.0	4.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	Min	Min
Act Effct Green (s)	87.2	87.2	87.2	23.8	23.8
Actuated g/C Ratio	0.73	0.73	0.73	0.20	0.20
v/c Ratio	0.45	0.59	0.48	0.39	0.10
Control Delay	8.4	30.8	8.6	43.1	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	8.4	30.8	8.6	43.1	13.0
LOS	A	C	A	D	B
Approach Delay	8.4		9.8	36.9	
Approach LOS	A		A	D	

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 117 (98%), Referenced to phase 4:EBT and 8:WBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 10.3		Intersection LOS: B	
Intersection Capacity Utilization 71.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 2: Heron's Hill Way & Sheppard Ave W



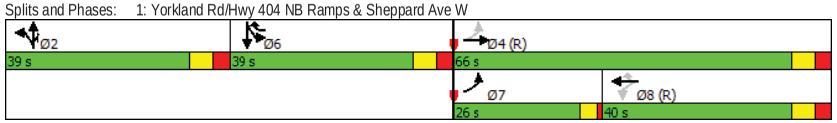
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1540	10	90	1635	115	30
Future Volume (vph)	1540	10	90	1635	115	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.0	3.0	3.5	3.0	3.0
Total Lost time (s)	5.0		5.0	5.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00		0.98	1.00	0.94	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4920		1659	4932	1541	1464
Flt Permitted	1.00		0.13	1.00	0.95	1.00
Satd. Flow (perm)	4920		219	4932	1541	1464
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1604	10	94	1703	120	31
RTOR Reduction (vph)	0	0	0	0	0	23
Lane Group Flow (vph)	1614	0	94	1703	120	8
Confl. Peds. (#/hr)		65	65		50	15
Heavy Vehicles (%)	4%	5%	0%	4%	3%	0%
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	4			8		
Permitted Phases			8		2	2
Actuated Green, G (s)	86.2		86.2	86.2	22.8	22.8
Effective Green, g (s)	87.2		87.2	87.2	23.8	23.8
Actuated g/C Ratio	0.73		0.73	0.73	0.20	0.20
Clearance Time (s)	6.0		6.0	6.0	5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3575		159	3583	305	290
v/s Ratio Prot	0.33			0.35		
v/s Ratio Perm			c0.43		c0.08	0.01
v/c Ratio	0.45		0.59	0.48	0.39	0.03
Uniform Delay, d1	6.7		7.9	6.8	41.8	38.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4		15.1	0.5	0.8	0.0
Delay (s)	7.1		23.0	7.3	42.7	38.8
Level of Service	A		C	A	D	D
Approach Delay (s)	7.1			8.1	41.9	
Approach LOS	A			A	D	

Intersection Summary					
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A		
HCM 2000 Volume to Capacity ratio	0.55				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	10.0		
Intersection Capacity Utilization	71.5%	ICU Level of Service	C		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	490	1985	405	25	1380	485	420	400	60	190	65	250
Future Volume (vph)	490	1985	405	25	1380	485	420	400	60	190	65	250
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Split	NA	Prot	Split	NA	Free
Protected Phases	7	4			8	6	2	2	2	6	6	
Permitted Phases	4		Free	8		8						Free
Detector Phase	7	4		8	8	6	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	11.0	33.0		33.0	33.0	39.0	14.0	14.0	14.0	39.0	39.0	
Total Split (s)	26.0	66.0		40.0	40.0	39.0	39.0	39.0	39.0	39.0	39.0	
Total Split (%)	18.1%	45.8%		27.8%	27.8%	27.1%	27.1%	27.1%	27.1%	27.1%	27.1%	
Yellow Time (s)	3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	-3.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	1.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	C-Min		C-Min	C-Min	None	None	None	None	None	None	
Act Effct Green (s)	72.5	67.5	144.0	34.0	34.0	59.5	33.0	33.0	33.0	25.5	25.5	144.0
Actuated g/C Ratio	0.50	0.47	1.00	0.24	0.24	0.41	0.23	0.23	0.23	0.18	0.18	1.00
v/c Ratio	0.87	0.87	0.29	0.57	0.99	0.77	0.82	0.98	0.14	0.45	0.43	0.17
Control Delay	47.5	39.9	0.5	94.4	76.4	23.7	74.0	98.1	6.9	56.9	55.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.5	39.9	0.5	94.4	76.4	23.7	74.0	98.1	6.9	56.9	55.9	0.3
LOS	D	D	A	F	E	C	E	F	A	E	E	A
Approach Delay		35.7			63.1			81.6			28.6	
Approach LOS		D			E			F			C	

Intersection Summary			
Cycle Length: 144			
Actuated Cycle Length: 144			
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of 1st Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 50.1		Intersection LOS: D	
Intersection Capacity Utilization 110.8%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 1: Yorkland Rd/Hwy 404 NB Ramps & Sheppard Ave W



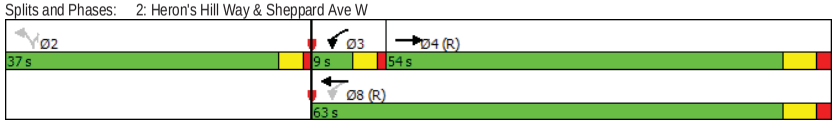
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	490	1985	405	25	1380	485	420	400	60	190	65	250
Future Volume (vph)	490	1985	405	25	1380	485	420	400	60	190	65	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	1.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	3.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	1.00
Satd. Flow (prot)	2050	4980	1430	1566	6015	1428	2050	2005	1507	1600	1733	1466
Flt Permitted	0.11	1.00	1.00	0.12	1.00	1.00	0.95	1.00	1.00	0.95	0.98	1.00
Satd. Flow (perm)	400	4980	1430	194	4932	1428	1585	1775	1507	1600	1733	1466
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	500	2026	413	26	1408	495	429	408	61	194	66	255
RTOR Reduction (vph)	0	0	0	0	0	50	0	0	47	0	0	0
Lane Group Flow (vph)	500	2026	413	26	1408	445	386	451	14	128	132	255
Confl. Peds. (#/hr)	25		70	70		25	20					20
Heavy Vehicles (%)	3%	3%	2%	7%	4%	1%	1%	0%	0%	0%	1%	1%
Turn Type	pm+pt	NA	Free	Perm	NA	pm+ov	Split	NA	Prot	Split	NA	Free
Protected Phases	7	4			8	6	2	2	2	6	6	
Permitted Phases	4		Free	8		8						Free
Actuated Green, G (s)	66.5	66.5	144.0	33.0	33.0	57.5	32.0	32.0	32.0	24.5	24.5	144.0
Effective Green, g (s)	69.5	67.5	144.0	34.0	34.0	59.5	33.0	33.0	33.0	25.5	25.5	144.0
Actuated g/C Ratio	0.48	0.47	1.00	0.24	0.24	0.41	0.23	0.23	0.23	0.18	0.18	1.00
Clearance Time (s)	4.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	565	2334	1430	45	1420	590	469	459	345	283	306	1466
v/s Ratio Prot	c0.20	0.41			c0.23	c0.13	0.19	c0.22	0.01	0.08	0.08	
v/s Ratio Perm	0.23		0.29	0.13		0.18						0.17
v/c Ratio	0.88	0.87	0.29	0.58	0.99	0.75	0.82	0.98	0.04	0.45	0.43	0.17
Uniform Delay, d1	35.0	34.3	0.0	48.7	54.9	36.0	52.7	55.2	43.2	53.0	52.8	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.12	1.12	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.3	4.7	0.5	44.4	22.0	5.4	10.9	36.6	0.0	1.2	1.0	0.3
Delay (s)	50.2	39.0	0.5	93.0	76.8	41.5	70.0	98.6	43.2	54.2	53.8	0.3
Level of Service	D	D	A	F	E	D	E	F	D	D	D	A
Approach Delay (s)		35.5			68.0			82.5			27.4	
Approach LOS		D			E			F			C	

Intersection Summary					
HCM 2000 Control Delay	51.5	HCM 2000 Level of Service		D	
HCM 2000 Volume to Capacity ratio	0.90				
Actuated Cycle Length (s)	144.0	Sum of lost time (s)		19.0	
Intersection Capacity Utilization	110.8%	ICU Level of Service		H	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	2090	65	1550	220	10
Future Volume (vph)	2090	65	1550	220	10
Turn Type	NA	pm+pt	NA	Perm	Perm
Protected Phases	4	3	8		
Permitted Phases		8		2	2
Detector Phase	4	3	8	2	2
Switch Phase					
Minimum Initial (s)	19.0	5.0	19.0	7.0	7.0
Minimum Split (s)	25.0	9.0	25.0	37.0	37.0
Total Split (s)	54.0	9.0	63.0	37.0	37.0
Total Split (%)	54.0%	9.0%	63.0%	37.0%	37.0%
Yellow Time (s)	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	3.0	5.0	3.0	3.0
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	C-Min	None	C-Min	Min	Min
Act Effct Green (s)	57.7	68.3	66.3	25.7	25.7
Actuated g/C Ratio	0.58	0.68	0.66	0.26	0.26
v/c Ratio	0.80	0.37	0.51	0.59	0.03
Control Delay	22.1	14.6	10.3	37.3	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	14.6	10.3	37.3	12.2
LOS	C	B	B	D	B
Approach Delay	22.1		10.5	36.2	
Approach LOS	C		B	D	

Intersection Summary			
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 55 (55%), Referenced to phase 4:EBT and 8:WBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 18.2		Intersection LOS: B	
Intersection Capacity Utilization 75.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Heron's Hill Way & Sheppard Ave W



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	2090	15	65	1550	220	10
Future Volume (vph)	2090	15	65	1550	220	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.0	3.0	3.5	3.0	3.0
Total Lost time (s)	5.0		3.0	5.0	3.0	3.0
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	0.95	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4966		1636	4980	1587	1439
Flt Permitted	1.00		0.07	1.00	0.95	1.00
Satd. Flow (perm)	4966		115	4980	1587	1439
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2272	16	71	1685	239	11
RTOR Reduction (vph)	0	0	0	0	0	8
Lane Group Flow (vph)	2288	0	71	1685	239	3
Confl. Peds. (#/hr)		65	65		50	25
Heavy Vehicles (%)	3%	11%	3%	3%	1%	1%
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	4		3	8		
Permitted Phases			8		2	2
Actuated Green, G (s)	55.9		65.3	65.3	24.7	24.7
Effective Green, g (s)	56.9		66.3	66.3	25.7	25.7
Actuated g/C Ratio	0.57		0.66	0.66	0.26	0.26
Clearance Time (s)	6.0		4.0	6.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2825		173	3301	407	369
v/s Ratio Prot	c0.46		0.03	c0.34		
v/s Ratio Perm			0.25		c0.15	0.00
v/c Ratio	0.81		0.41	0.51	0.59	0.01
Uniform Delay, d1	17.2		14.4	8.6	32.5	27.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.6		1.6	0.6	2.2	0.0
Delay (s)	19.9		16.0	9.2	34.7	27.7
Level of Service	B		B	A	C	C
Approach Delay (s)	19.9			9.4	34.4	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			