

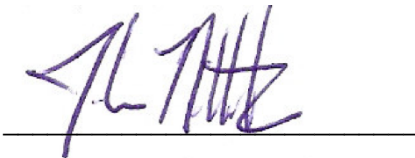
953 Mapleview Drive East (Block 192) City of Barrie

Traffic Brief / Parking Study / Construction Traffic Management Plan for Mapleview South (Innisfil) Ltd.

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1 Introduction

1.1 Background

Maplevue South (Innisfil) Ltd. [The Developer] is proposing a residential condominium development on Block 192, within the 953 Maplevue Drive East subdivision, located within the Hewitt's Secondary Plan Area in the City of Barrie [City]. A traffic brief was prepared by JD Engineering in May 2021 in support of this development. This report has been prepared to address the impact of the changes to the site concept for Block 192.

The subject site is located on the south side of Maplevue Drive between Prince William Way and 20th Sideroad (an excerpt showing the Maplevue South (Innisfil) Ltd. lands is provided in **Appendix A**). Block 192 includes a total of 120 medium-density residential units.

The 953 Maplevue Drive East subdivision includes one intersection access onto Maplevue Drive East [Site Access]. Previously this intersection was to be full-movement, but it has since been confirmed that the Site Access will be restricted to right-in right-out [RIRO] functionality only. Roadway connections are also planned through lands to the east, west, and south.

The Developer has retained **JD Northcote Engineering Inc.** [JD Engineering] to prepare this Traffic Brief / Parking Study / Construction Traffic Management Plan in support of the proposed residential development in Block 192.

The subject lands were considered as part of the Hewitt's Transportation Study (LEA Consulting Ltd. February 2017) which has since been updated (February 2019). This Traffic Brief will build on and update the findings of the updated Hewitt's Transportation Study and other traffic projections in the local area.

1.2 Study Area

Figure 1 shows the location of the subject site and study area intersections in relation to the surrounding area. The Draft Plan of Subdivision by Jones Consulting Group Limited is shown in **Appendix B**.

The subject site is bound by Maplevue Drive East to the north and future residential lands to the east, west and south.

Through consultation with the City, the following intersections are included in the Traffic Brief:

- Maplevue Drive East / Site Access.

Figure 1 – Proposed Site Location and Study Area



1.3 Study Scope and Objectives

The purpose of this study is to identify the potential impacts to traffic flow at the site access and on the surrounding roadway network. The study analysis includes the following tasks:

- Consult with the City to address any traffic-related issues or concerns they have with the proposed development;
- Estimate future traffic volumes through the study area based on the updated Hewitt's Transportation Study, the City's Emme models and the most recent development plans;
- Complete a LOS analysis of horizon year traffic conditions and identify additional operational deficiencies;
- Review the need for auxiliary turn lanes at the study intersection;
- Identify improvement options to address operational deficiencies; and
- Document findings and recommendations in a final report.

1.4 Horizon Year and Analysis Periods

The 2026 and 2031 horizon years were selected for analysis of traffic operations in the study area. The 2026 horizon was chosen to evaluate the need for temporary improvements on Maplevue Drive East, prior to the road widening which is anticipated to be completed by the City post 2026 (the City currently does not have a set timeline for the planned road widening). The weekday morning [AM] and weekday afternoon [PM] peak hours have been selected as the analysis periods for this study.

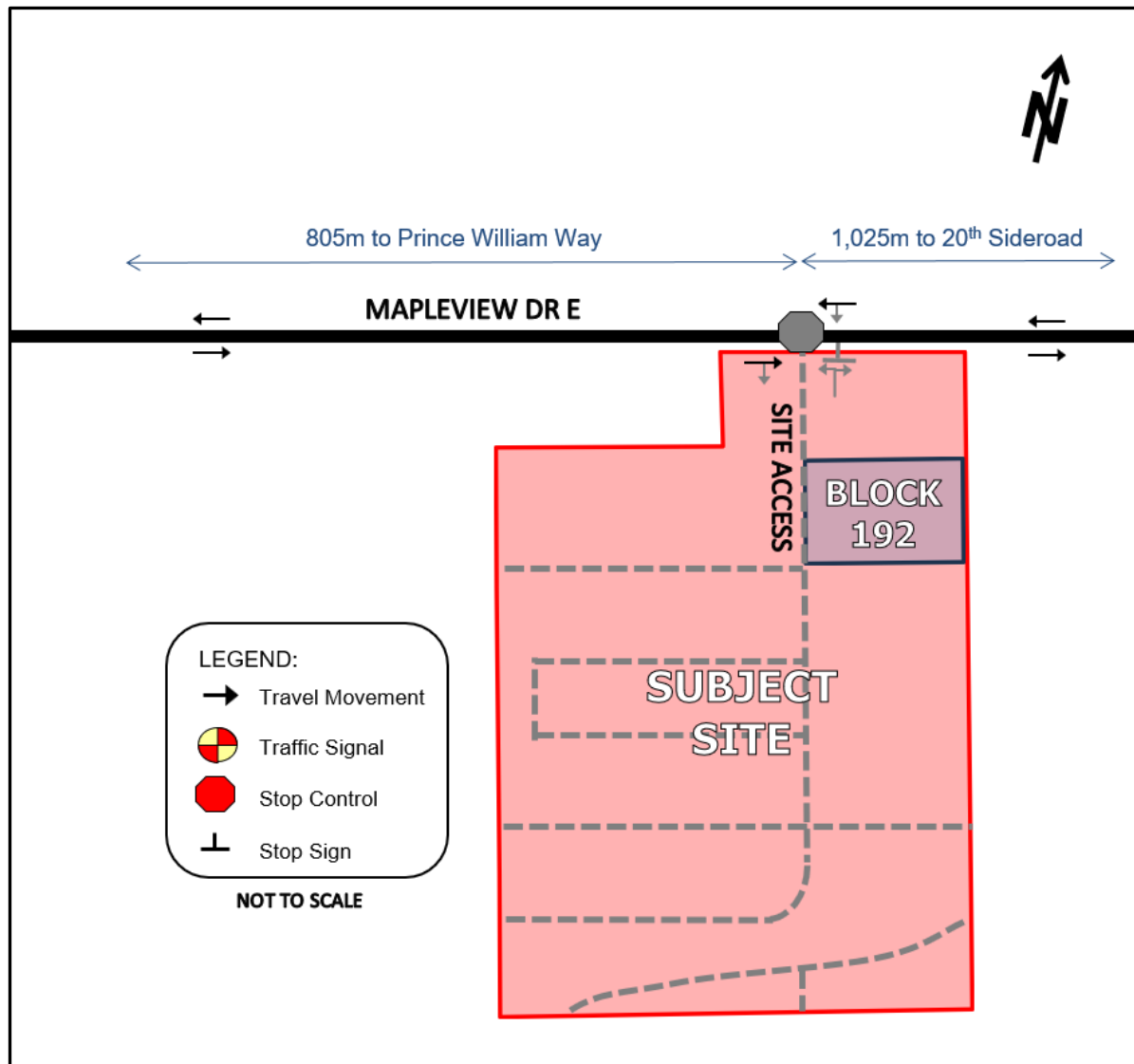
2 Information Gathering

2.1 Street and Intersection Characteristics

Maplevue Drive East is a two-lane arterial road with a rural cross-section within the study area. Maplevue Drive East has a posted speed limit of 60km/h and is under the jurisdiction of the City.

The existing intersection spacing and lane configuration within the study area is illustrated in **Figure 2**.

Figure 2 – Existing (2024) Intersection Spacing and Lane Configuration within Study Area



2.2 Local Transportation Infrastructure Improvements

In review of the City's Capital Project Detail Report, the following road improvements are anticipated within the study area:

- Maplevue Drive East (within study area)
 - Addition of two way left turn lane to provide a 3-lane cross-section;
 - Buffered bike lanes;
 - Sidewalk on the south side of the road; and
 - Multi-use trail on the north side.

Based on our correspondence with the City, it is our understanding that these improvements have been delayed to post 2026. It is also noted that the City is considering the construction of a 5-lane cross-section on Maplevue Drive East between Prince William Way and Terry Fox Drive, rather than the

previously planned 3-lane cross-section. However, in order to be conservative, the 3-lane cross-section has been used in the traffic modeling.

2.3 Traffic Data

A review of the City's Emme model was completed to establish the projected traffic volumes adjacent to the Subject Site during the 2026 and 2031 horizon years (Excerpts are provided in **Appendix C**). A summary of the traffic data is provided in **Table 1**.

Table 1 – Traffic Data

| ROAD | Section | 2016 | | | | 2031 | | | |
|---------------|----------------------------|------|-----|-----|-----|------|-----|-----|-----|
| | | AM | | PM | | AM | | PM | |
| | | EB | WB | EB | WB | EB | WB | EB | WB |
| Maplevue Dr E | East of Prince William Way | 196 | 147 | 299 | 158 | 490 | 664 | 797 | 515 |

The 2026 horizon year traffic volumes are provided in are **Table 2**, estimated by interpolating between the 2016 and 2031 Emme volumes.

Table 2 – 2026 Horizon Year Traffic Volumes

| ROAD | Section | 2026 | | | |
|---------------|----------------------------|------|-----|-----|-----|
| | | AM | | PM | |
| | | EB | WB | EB | WB |
| Maplevue Dr E | East of Prince William Way | 392 | 492 | 631 | 396 |

3 Proposed Development

The 953 Maplevue Drive East residential subdivision is proposed to include the following:

- Block 193 – 100 apartment units;
- Block 192 – 120 apartment units;
- Block 191 – 16 townhouses and 261 – 332 apartment units; and
- Subdivision – 150 single detached units and 61 townhouses (north of the creek).

For a total of:

- 150 single detached units;
- 77 townhouses; and
- 481 – 552 apartment units.

As previously mentioned, the proposed development includes a right-in right-out access driveway onto Maplevue Drive East. The occupancy timeframe of the proposed development has been projected as follows:

- 2026 – 220 occupancies;
- 2031 - 559 occupancies (779 total).

The Draft Plan of the Subdivision including Block 192 is provided in **Appendix B**.

3.1 Traffic Generation

The traffic generation for Block 192 has been based on proxy site survey trip rates as utilized in the Hewitt's Transportation Study. The trip rates and estimated trip generation for the proposed development is illustrated below in **Table 3**.

Table 3 – Trips Rates and Estimated Trip Generation of Proposed Development - Block 192

| Horizon Year | Size | AM Peak Hour | | | PM Peak Hour | | |
|-----------------------------|------------------------|--------------|-----------|-----------|--------------|-----------|-----------|
| | | IN | OUT | TOTAL | IN | OUT | TOTAL |
| Proxy Site Trip Rate | - | 0.14 | 0.34 | 0.48 | 0.41 | 0.25 | 0.66 |
| <i>Block 192</i> | <i>120 units</i> | <i>17</i> | <i>41</i> | <i>58</i> | <i>49</i> | <i>30</i> | <i>79</i> |
| 953 Mapleview Drive (Total) | 779 units ¹ | 109 | 265 | 374 | 319 | 195 | 514 |

¹For the purpose of this study, the highest proposed unit count has been considered

As shown, the subject site is estimated to generate a total of 374 AM and 514 PM peak hour trips during the 2031 horizon year.

Block 192 will attribute 58 AM and 79 PM peak hour trips to the total.

3.2 Traffic Assignment

The assignment of traffic volumes through the study area has been assumed to follow the same distribution as utilized in the Hewitt's Transportation Study for the subject lands. The distribution has been derived from the future (2031) PM peak synchro analysis for the Street 24 (Site Access) / Mapleview Drive East intersection (Excerpts are provided in **Appendix C**). The distribution is illustrated in **Table 4**.

Table 4 – Proposed Development Traffic Distribution

| Travel Direction (to / from) | Percent of Total Traffic Generation | | | |
|-----------------------------------|-------------------------------------|-------------|--------------|-------------|
| | AM Peak Hour | | PM Peak Hour | |
| | IN | OUT | IN | OUT |
| East via Mapleview Drive E | 20% | 6% | 20% | 6% |
| West via Mapleview Drive E | 80% | 94% | 80% | 94% |
| TOTAL | 100% | 100% | 100% | 100% |

As the Site Access has been restricted to right-in right-out functionality only, it is anticipated that trips arriving from the east or departing to the west will utilize internal connections through adjacent subdivisions to the east, west, and south, as the lands are developed. These connections are shown on the Draft Plan and the Hewitt Secondary Plan excerpt and include Street 'E' to the west, Street 'A' (McAush Street) to the east and west, Street 'C' to the west, and future Street 'B' (Terry Fox Drive) to the east and southwest.

The site traffic assignment for the proposed development during the AM and PM peak hour is illustrated in and **Figure 3** and **4**.

Figure 3 – Site Traffic Assignment (2026)

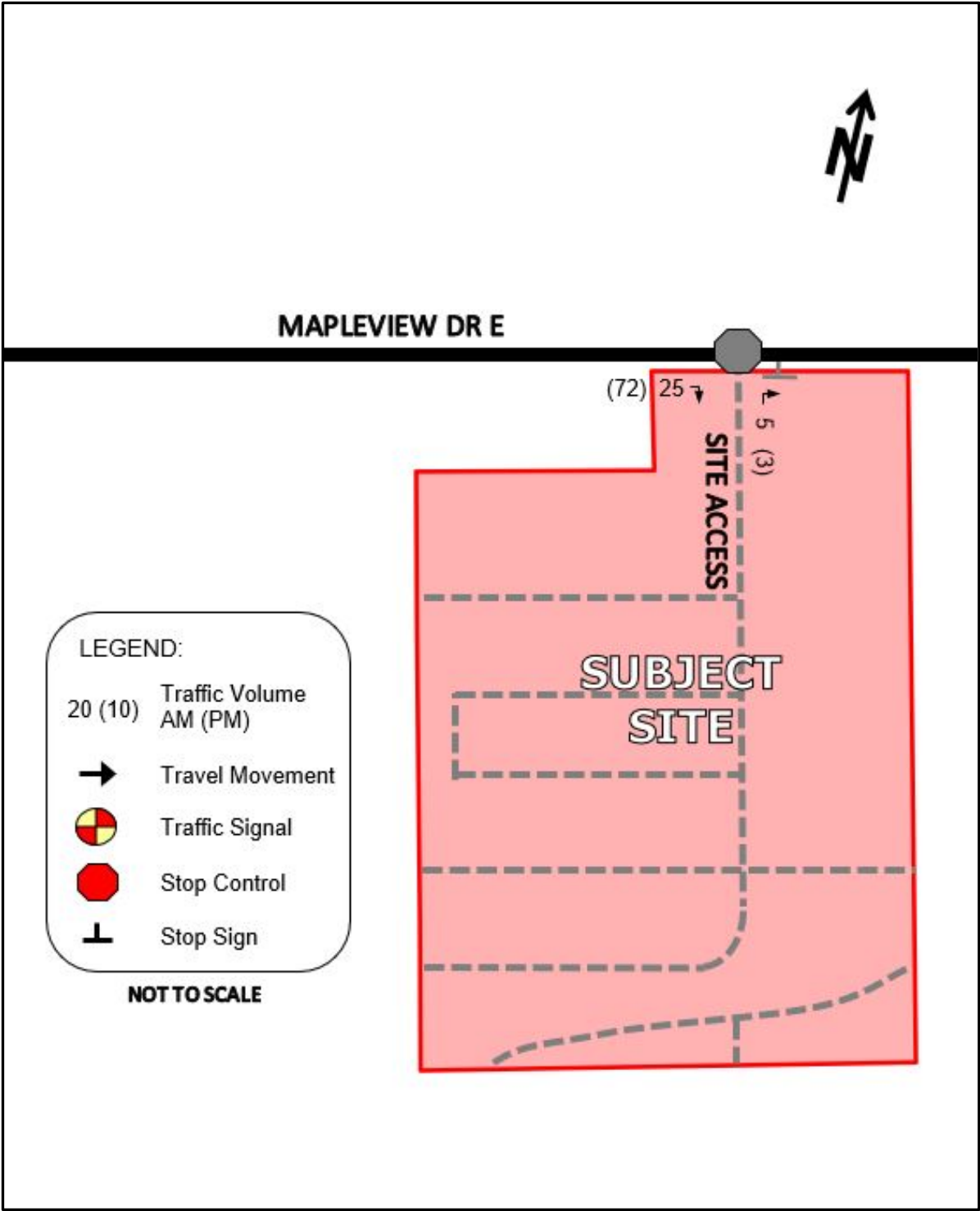
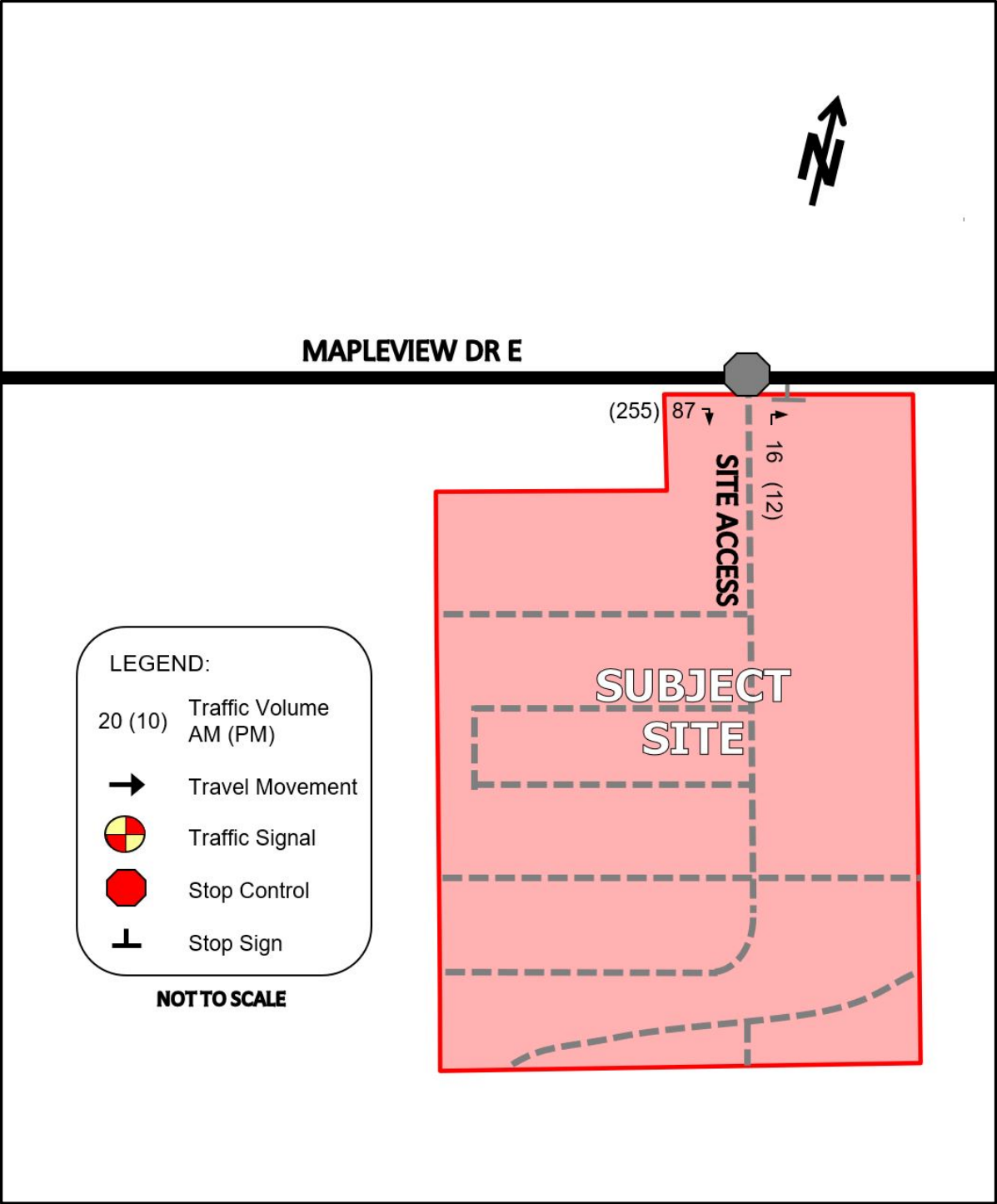


Figure 4 – Site Traffic Assignment (2031)



4 Horizon Year Traffic Volumes

Traffic volumes for the 2026 and 2031 horizon years were established based on the midblock EMME volumes (illustrated in **Table 1** and **Table 2**Table 2) in addition to the site generated traffic volumes.

Figure 5 and **Figure 6** illustrate the 2026 and 2031 peak hour traffic volumes within the study area.

Figure 5 – 2026 Horizon Year Traffic Volumes

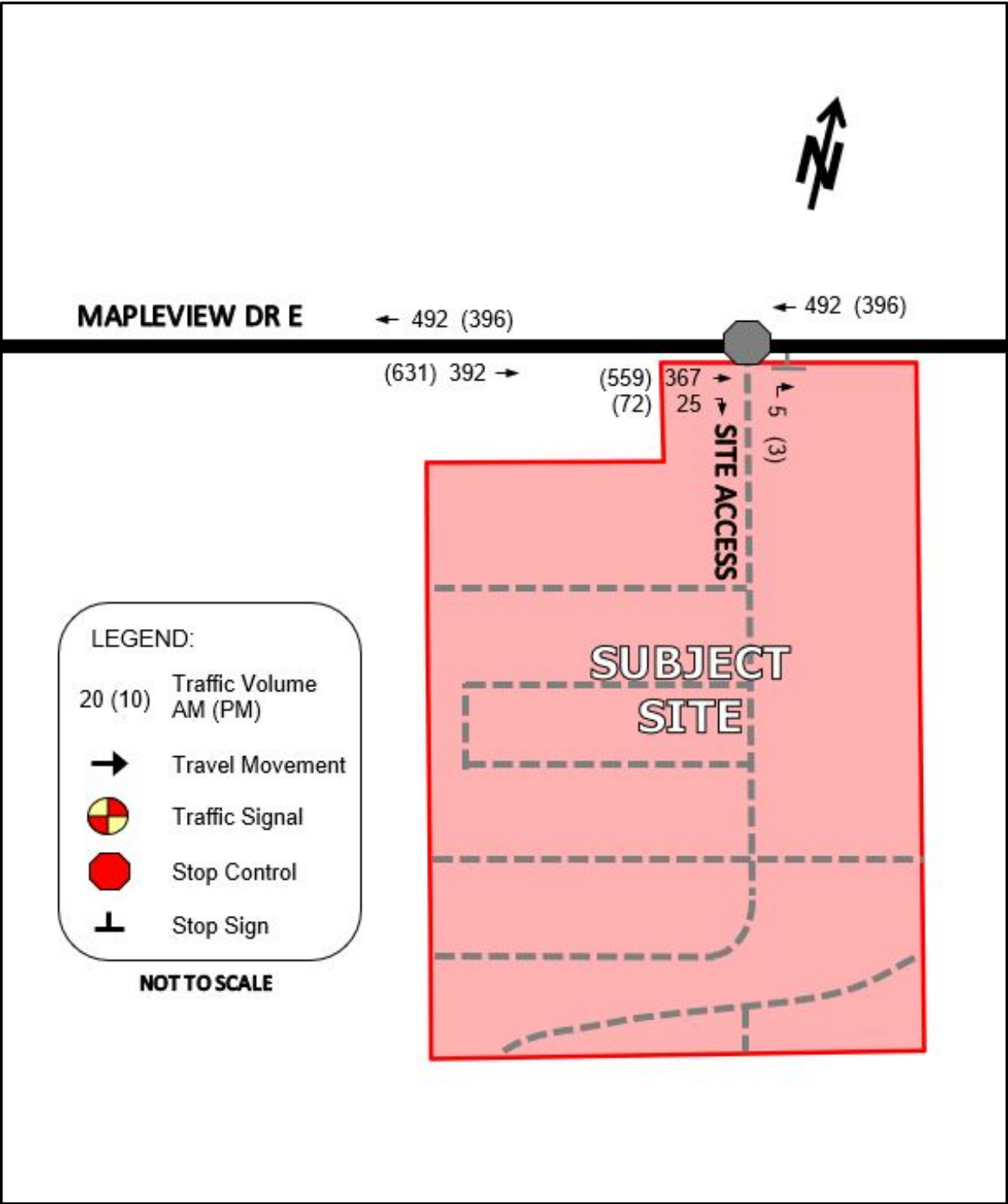
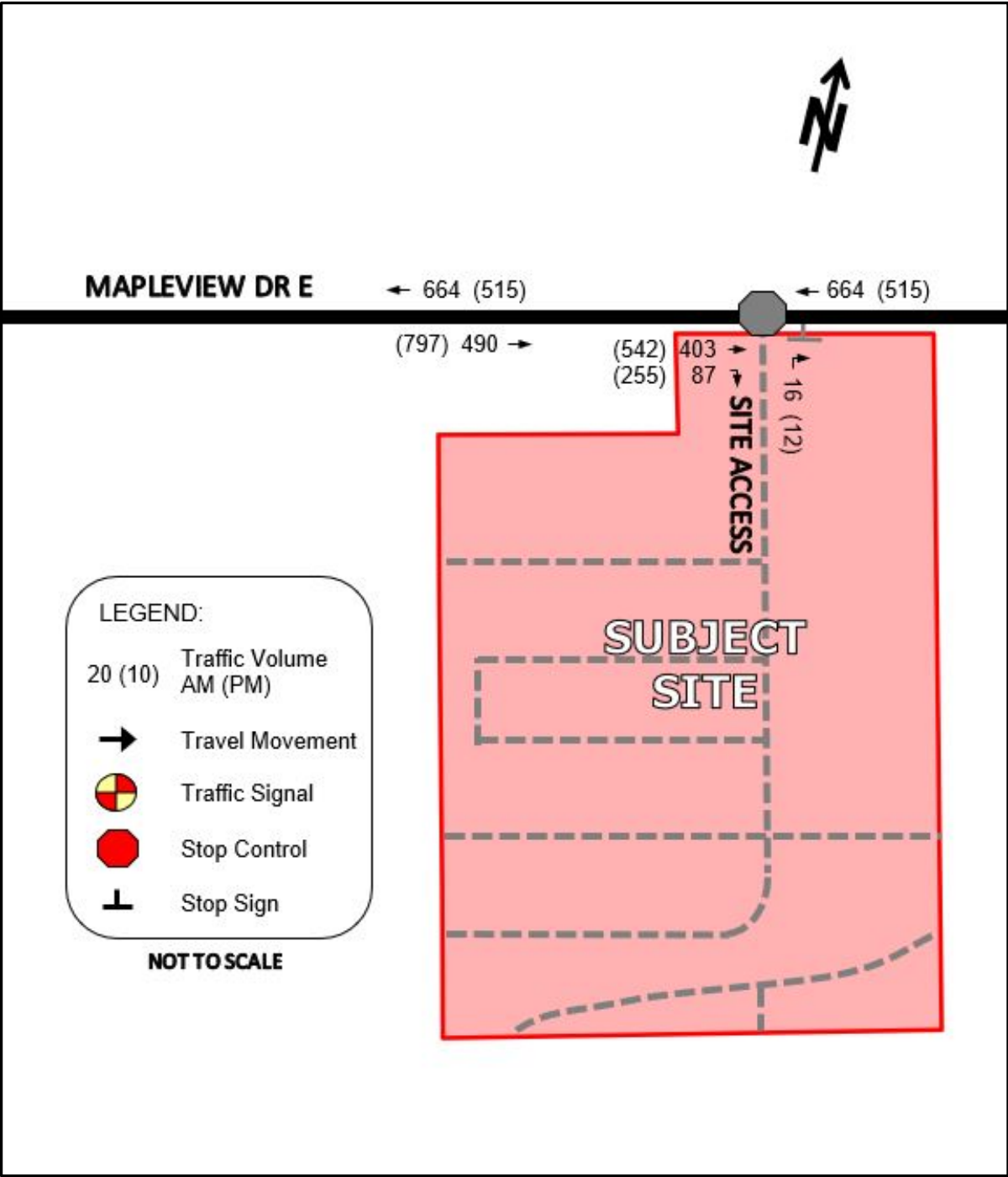


Figure 6 – 2031 Horizon Year Traffic Volumes



5 Future Operation Analysis

5.1 Introduction

Traffic operations within the study area were evaluated using the horizon year traffic volumes with the existing and future road configuration and traffic control. The intersection performance was measured using the traffic analysis software, Synchro 11, a deterministic model that employs Highway Capacity Manual and Intersection Capacity Utilization methodologies for analyzing intersection operations. These procedures are accepted by provincial and municipal agencies throughout North America.

Synchro 11 enables the study area to be graphically defined in terms of streets and intersections, along with their geometric and traffic control characteristics. The user is able to evaluate both signalized and unsignalized intersections in relation to each other, thus not only providing level of service for the individual intersections, but also enabling an assessment of the impact the various intersections in a network have on each other in terms of spacing, traffic congestion, delay, and queuing.

Individual turning movements with a volume-to-capacity [V/C] ratio of 0.85 or greater are considered to be critical movements and have been highlighted in the LOS tables.

The intersection operations were also evaluated in terms of the LOS. LOS is a common measure of the quality of performance at an intersection and is defined in terms of vehicular delay. This delay includes deceleration delay, queue move-up time, stopped delay, and acceleration delay. LOS is expressed on a scale of A through F, where LOS A represents very little delay (i.e. less than 10 seconds per vehicle) and LOS F represents very high delay (i.e. greater than 50 seconds per vehicle for a stop sign controlled intersection and greater than 80 seconds per vehicle for a signalized intersection).

The LOS criteria for signalized and stop sign-controlled intersections are shown in **Table 5**. A description of traffic performance characteristics is included for each LOS.

Table 5 – Level of Service Criteria for Intersections

| LOS | LOS Description | Control Delay (seconds per vehicle) | |
|-----|--|-------------------------------------|-------------------------------|
| | | Signalized Intersections | Stop Controlled Intersections |
| A | Very low delay; most vehicles do not stop (Excellent) | less than 10.0 | less than 10.0 |
| B | Higher delay; more vehicles stop (Very Good) | between 10.0 and 20.0 | between 10.0 and 15.0 |
| C | Higher level of congestion; number of vehicles stopping is significant, although many still pass through intersection without stopping (Good) | between 20.0 and 35.0 | between 15.0 and 25.0 |
| D | Congestion becomes noticeable; vehicles must sometimes wait through more than one red light; many vehicles stop (Satisfactory) | between 35.0 and 55.0 | between 25.0 and 35.0 |
| E | Vehicles must often wait through more than one red light; considered by many agencies to be the limit of acceptable delay | between 55.0 and 80.0 | between 35.0 and 50.0 |
| F | This level is considered to be unacceptable to most drivers; occurs when arrival flow rates exceed the capacity of the intersection (Unacceptable) | greater than 80.0 | greater than 50.0 |

5.2 Horizon Year (2026) Intersection Operation

The results of the LOS analysis under 2026 horizon year traffic volumes during the AM and PM peak hour can be found below in **Table 6** (existing Mapleview Drive 2-lane cross-section) and **Table 7** (improved Mapleview Drive 3-lane cross-section). Stop control has been assumed at the Site Access egress movements. Detailed output of the Synchro analysis can be found in **Appendix D**.

Table 6 – 2026 LOS (2-lane cross-section)

| Location (E-W Street / N-S Street) | Weekday AM Peak Hour | | | Weekday PM Peak Hour | | |
|---------------------------------------|----------------------|-----------|-----|----------------------|-----------|-----|
| | V/C | Delay (s) | LOS | V/C | Delay (s) | LOS |
| Mapleview Dr E / Site Access | - | 0.1 | A | - | 0.0 | A |
| EB | 0.25 | 0.0 | A | 0.40 | 0.0 | A |
| WB | 0.31 | 0.0 | A | 0.25 | 0.0 | A |
| NB | 0.01 | 10.7 | B | 0.01 | 12.7 | B |

Table 7 – 2026 LOS (3-lane cross-section)

| Location (E-W Street / N-S Street) | Weekday AM Peak Hour | | | Weekday PM Peak Hour | | |
|---------------------------------------|----------------------|-----------|-----|----------------------|-----------|-----|
| | V/C | Delay (s) | LOS | V/C | Delay (s) | LOS |
| Mapleview Dr E / Site Access | - | 0.1 | A | - | 0.0 | A |
| EB | 0.25 | 0.0 | A | 0.40 | 0.0 | A |
| WB | 0.31 | 0.0 | A | 0.25 | 0.0 | A |
| NB | 0.01 | 10.7 | B | 0.01 | 12.7 | B |

The results of the LOS analysis indicate that the study intersection will operate within the typical design limits noted in Section 5.1 under both the existing (2-lane) configuration and improved (3-lane) configuration.

The criterion outlined in Section E.7 of the Ministry of Transportation [MTO] Geometric Design Supplement for Ontario Highways [GDSOH] (60vph minimum right turn volume warrant) has been used to assess whether an auxiliary right turn lane is required at the unsignalized study area intersection. The eastbound right-turn volume in the PM peak hour at the Mapleview Drive East / Site Access intersection exceeds the minimum volume threshold; however, this infrastructure improvement is not recommended based on the excellent LOS for this movement and the overall intersection operation under both the existing (2-lane) configuration and improved (3-lane) configuration.

No infrastructure improvements are recommended within the study area to facilitate the 2026 horizon year volumes.

5.3 Horizon Year (2031) Intersection Operation

The results of the LOS analysis under 2031 horizon year traffic volumes during the AM and PM peak hour can be found in **Table 8**. The improved Mapleview Drive 3-lane cross-section was utilized. Stop control has been assumed at the Site Access egress movements. Detailed output of the Synchro analysis can be found in **Appendix D**.

Table 8 – 2031 LOS (3-lane cross-section)

| Location (E-W Street / N-S Street) | Weekday AM Peak Hour | | | Weekday PM Peak Hour | | |
|---------------------------------------|----------------------|-----------|-----|----------------------|-----------|-----|
| | V/C | Delay (s) | LOS | V/C | Delay (s) | LOS |
| Mapleview Dr E / Site Access | - | 0.2 | A | - | 0.1 | A |
| EB | 0.31 | 0.0 | A | 0.51 | 0.0 | A |
| WB | 0.42 | 0.0 | A | 0.33 | 0.0 | A |
| NB | 0.03 | 11.4 | B | 0.03 | 13.8 | B |

The results of the LOS analysis indicate that the study intersection will within the typical design limits noted in Section 5.1.

The eastbound right-turn volume in the PM peak hour at the Mapleview Drive East / Site Access intersection exceeds minimum threshold (as per Section E.7 of the MTO GDSOH); however, this infrastructure improvement is not recommended based on the excellent LOS for this movement and the overall intersection operation.

No infrastructure improvements are recommended within the study area to facilitate the 2031 horizon year volumes.

5.4 Sight Distance Review

A sight distance review has been provided in **Appendix B** to illustrate that the minimum sight stopping distance (85 metres for 60km/h design speed) is provided at the Site Access.

5.5 Swept Path Analysis

A swept path analysis has been provided in **Appendix E** to illustrate that the following vehicles can access the site as intended:

- Passenger Vehicle (TAC P);
- Fire Truck; and
- City of Barrie Recycling Truck.

6 Parking Study

6.1 Scope

The purpose of this analysis is to estimate the minimum parking supply required to adequately service the proposed development of Block 192. The proposed Site Plan includes a total parking supply of 147 parking spaces for the 120 residential units.

6.2 Existing Study Area Parking Infrastructure

On-street parking is currently permitted on both sides of Mapleview Drive East, along the frontage of the subject site. In the current condition, there is a small gravel shoulder on the north and south side of Mapleview Drive East, which would not support on-street parking without disrupting the flow of traffic. In our experience working in the area, on-street parking is not anticipated on Mapleview Drive East. Although not anticipated, in the event that on-street parking becomes an issue on Mapleview Drive

East, the City may consider installing no-parking signage to prohibit parking in this area. It is our understanding that on-street parking will be prohibited in this area following the reconstruction of Maplevue Drive East to a 5-lane cross-section, consistent with the City's existing standards.

Dallaire Street, when constructed, will be a municipal local road. The City standard for a local road permits on-street parking on one side of the road.

It is noted that the on-street parking is subject to the City's Parking By-law (2007-209) which prohibits on-street parking between 12:01 and 07:00, from December 1st each year until March 31st in the following year.

There are no existing private parking lots in the area surrounding Block 192.

6.3 Municipal By-law

The City of Barrie Zoning By-Law 2009-141 [ZBL] provides parking requirements for a variety of building types and land uses. **Table 9** summarizes the parking requirement, according to the ZBL, for the proposed development of Block 192.

Table 9 – Zoning By-law Requirement Parking Calculation

| Category | Zoning By-Law Section | Parking Standard | Units | Parking | | |
|-------------------------|-----------------------|---|------------|--------------------------------------|--------------------------------------|------------|
| | | | | Required | Provided | Net |
| Residential dwelling(s) | 4.6.1 | Minimum of 1.5 spaces per dwelling unit | 120 units | 180 spaces | 147 spaces | -33 spaces |
| Bicycle Parking | 14.4.2 | 0.2 spaces per unit | 120 units | 24 spaces | 36 spaces | +12 spaces |
| Accessible Parking | 4.6.4 | 1 space plus 3% of required spaces | 180 spaces | Type A: 3 spaces Type B: 3 spaces | Type A: 3 spaces Type B: 3 spaces | - |

The proposed vehicle parking supply falls below the calculated requirement by 33 spaces. The proposed bicycle parking exceeds the minimum parking requirement by 12 spaces.

6.4 Proxy Counts – Residential Visitor Parking

6.4.1 Proxy Site Locations – Residential Visitor Parking

To estimate the residential visitor parking demand for the proposed community, two proxy parking surveys have been commissioned by JD Engineering. The proxy sites used in this study are townhouse developments in Barrie, which will provide a conservative estimate of the visitor parking demand. Transit service at the proxy sites is better than the existing transit service at the Subject Site; however, based on transit utilization rates in Barrie, the impact of transit service on residential visitor parking is not anticipated to be significant. Both proxy sites are similar in scale to the proposed development. One proxy site was constructed within the last 5 years and the other proxy site was constructed over 20 years ago. The selected proxy survey locations are as follows:

- 1) 369 Essa Road, Barrie [369 Essa]; and
- 2) 28 Donald Street, Barrie [28 Donald].

The proxy surveys at 369 Essa and 28 Donald were completed at the following times:

- 1) Friday December 3rd, 2021 from 14:00 to 23:00; and
- 2) Saturday December 4th, 2021 from 10:00 to 23:00.

The proxy parking counts were completed at 30-minute intervals during the above-noted periods.

No on-street parking was observed on Essa Road, in the area, during the proxy surveys. On-street parking is permitted on Donald Street, adjacent to 28 Donald; however, as illustrated in the proxy parking counts, the dedicated visitor parking areas maintain additional capacity throughout the survey. Consequently, there would be no incentive for residential visitors to park on Donald Street. As such, the parking data collected represents the full visitor parking demand.

Table 10 summarizes the building and parking statistics at each of the proxy sites.

Table 10 – Residential Visitor Proxy Survey Site Statistics

| Proxy Site | Number of Units | Visitor Parking Supply (At-Grade) |
|------------|-----------------|-----------------------------------|
| 369 Essa | 104 | 14 |
| 28 Donald | 82 | 27 |

6.4.2 Proxy Survey Data – Residential Visitor Parking

Table 11 summarizes the visitor parking survey data for the proxy sites, detailed results are provided in **Appendix C**.

Table 11 – Residential Visitor Proxy Survey Site Data

| Proxy Site | Number of Units | Visitor Parking | | | |
|----------------|-----------------|--|-----------------|-----------------|---------------------------|
| | | Peak Period | Supply (spaces) | Demand (spaces) | Demand Rate (spaces/unit) |
| 369 Essa | 104 | Friday, 21:00 Saturday, 19:30 Saturday, 20:30 Saturday, 21:00 | 14 | 12 | 0.15 |
| 28 Donald | 82 | Friday, 18:30 | 15 | 25 | 0.18 |
| AVERAGE | | | | | 0.17 |

6.5 Analysis – Residential Visitor Parking

The proxy survey at 369 Essa found that the standard visitor parking spaces were fully occupied for a three-hour period during the Friday survey and for a total of two and a half hours during the Saturday survey. It is also noted that some vehicles were parked illegally, in areas along the driveways that were not designated as visitor parking. The survey data also shows that illegal parking occurred at times when there were visitor parking spaces available. This suggests that the illegal parking was not directly related to a shortage of visitor parking spaces. Consequently, we have assumed that the visitor parking demand was not constrained by the visitor parking supply.

Based on the parking data collected at the proxy sites, 27 visitor parking spaces (0.20 spaces per unit) would provide sufficient parking supply to accommodate the peak visitor parking demand from the proposed 120 residential units. The visitor parking generated by the proposed development of Block 192 is not anticipated to impact the future on-street parking that would be available on Dallaire Street.

6.6 Analysis – Resident Parking

In the case of residential visitor parking, when the visitor parking demand exceeds the visitor parking supply, the additional parking demand may result in unauthorized parking in nearby parking lots or undesignated areas. Consequently, providing a conservative visitor parking supply as outlined in Section 6.5, will ensure overflow visitor parking issues do not occur. Allocation of resident parking is different than visitor parking. Lowering the resident parking supply, in conjunction with clear communication during sales / rental process and ongoing parking enforcement, can increase development efficiency and provide transportation demand management.

After removing the parking supply required for visitor parking (27 spaces), the remaining parking supply available for residential units (127 spaces), results in a parking supply rate of 1.06 spaces per unit. This is slightly higher than the minimum parking requirement as identified in the ZBL for a residential development in the Neighbourhood Mixed-use Zone (NMU). Furthermore, the NMU rate is inclusive of visitor parking. Consequently, the proposed residential parking rate of 1.06 spaces per unit is appropriate for the intended use.

6.7 Parking Recommendation

Based on our review of the proxy parking data and the minimum parking requirement for residential development in the Neighbourhood Mixed-use Zone, the proposed parking supply will accommodate the anticipated parking demand generated by the proposed development of Block 192. The recommended parking supply is summarized in **Table 12**.

Table 12 – Recommended Parking Supply

| Category | Size | Parking Rate | Parking |
|--------------------------|------------|------------------------------------|--------------------------------------|
| Resident Parking | 120 units | 1.06 spaces per dwelling unit | 127 spaces |
| Resident Visitor Parking | 120 units | 0.20 spaces per unit | 27 spaces |
| Total Parking | | | 147 spaces |
| Resident Bicycle Parking | 120 units | 0.3 spaces per unit | 36 spaces |
| Accessibility Parking | 180 spaces | 1 space plus 3% of required spaces | Type A: 2 spaces Type B: 2 spaces |

7 Construction Staging

A construction traffic management plan was completed to identify the proposed management of traffic related to parking of trades people, delivery of construction material, maintenance of adjacent property access, pedestrian movements and City infrastructure. A Construction Traffic Management Plan is provided in **Appendix F**.

Construction access for development within the 953 Maplevue Drive East subdivision will be provided via the Site Access intersection on Maplevue Drive East. The proposed Site Access will be the primary access throughout the entire construction period (i.e., demolition, site preparation, servicing and erection etc.). Construction access will be limited to right-in / right-out movements on Maplevue Drive East.

Construction access onto Block 192 will be provided via a dedicated gravel construction driveway onto the right-of-way for the proposed north / south local road within the 953 Maplevue Drive East subdivision (Dallaire Street).

Deliveries and trades parking associated with the construction of Block 192 can be accommodated within the southeast area of Block 191, which will be developed after Block 192. A gravel parking area and gravel driveway will be constructed to provide access into the Street 'E' right-of-way which connects onto Dallaire Street and the Site Access onto Maplevue Drive East.

Construction traffic and parking will not impede or prevent access to the neighboring lots. Construction work will occur within the property limits and outside of the boulevard. Pedestrian movements adjacent to the Subject Site will be unaffected by the construction of the proposed development. No sidewalk closures are expected.

Construction activities within the site (including start-up and warm-up of equipment) will only occur between 07:00 and 19:00 on weekdays and Saturdays, per City of Barrie by-law. No construction activities will occur outside the above-noted periods without approval from the City.

Signage shall be posted at all work zone entrances as required, notifying visitors that check-in at the site office is mandatory. Signage will also be provided to identify the area as a 'construction site', requiring all visitors be equipped with personal protection equipment suitable for a construction zone (hard hat, footwear, high visibility gear). Signage will also be provided informing that access to the site is limited to authorized personnel only.

8 Summary

Maplevue South (Innisfil) Ltd. retained **JD Engineering** to prepare this traffic brief in support of the residential subdivision located within the Hewitt's Secondary Planning Area in the City of Barrie. The proposed Draft Plan of Subdivision is shown in **Appendix B**. This chapter summarizes the conclusions and recommendations from the study.

1. Block 192 includes a total of 120 medium-density residential units.
2. As shown, the subject site is estimated to generate a total of 374 AM and 514 PM peak hour trips during the 2031 horizon year. Block 192 will attribute 58 AM and 79 PM peak hour trips to the total.
3. The 2026 and 2031 horizon year volumes were developed based on the City's Emme model volumes and anticipated build-out of the subject site.
4. An intersection operation and turn lane analysis was completed under the 2026 and 2031 horizon year traffic volumes with the anticipated developments operational at the study area intersections. No infrastructure improvements are recommended.
5. In summary, the proposed development will not cause any operational issues and will not add significant delay or congestion to the local roadway network.

Appendix A – Hewitt Transportation Study Excerpts & 953 Maplevue Drive East - Draft Plan of Subdivision

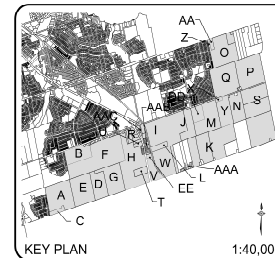
Scale bar: 0 to 100m, SCALE = 1:14,600 (A0)

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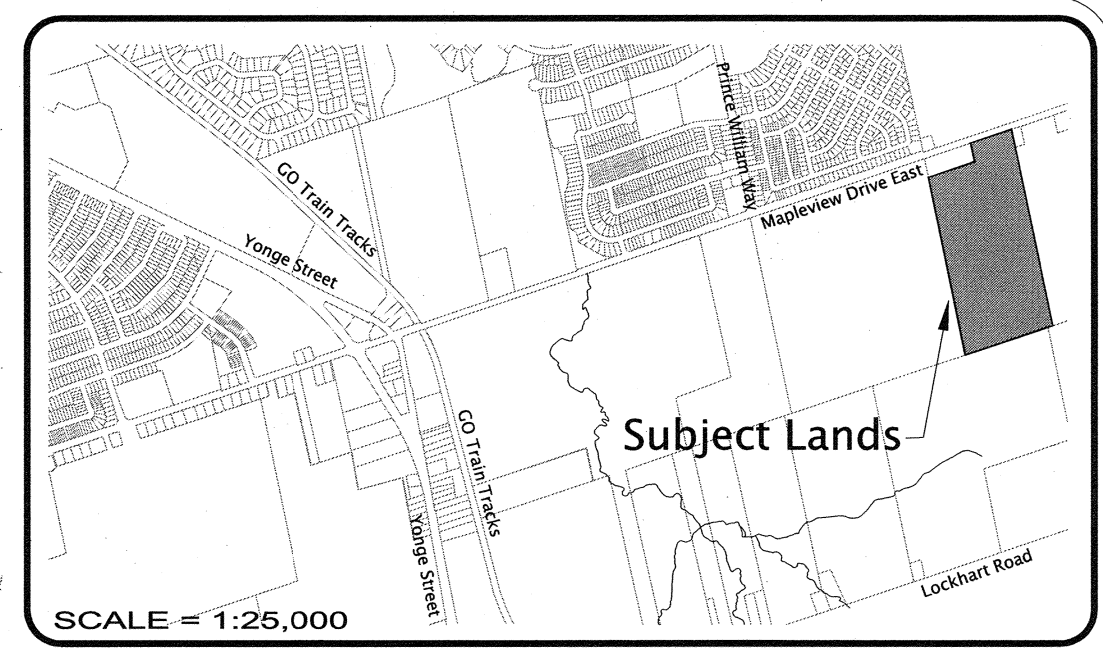
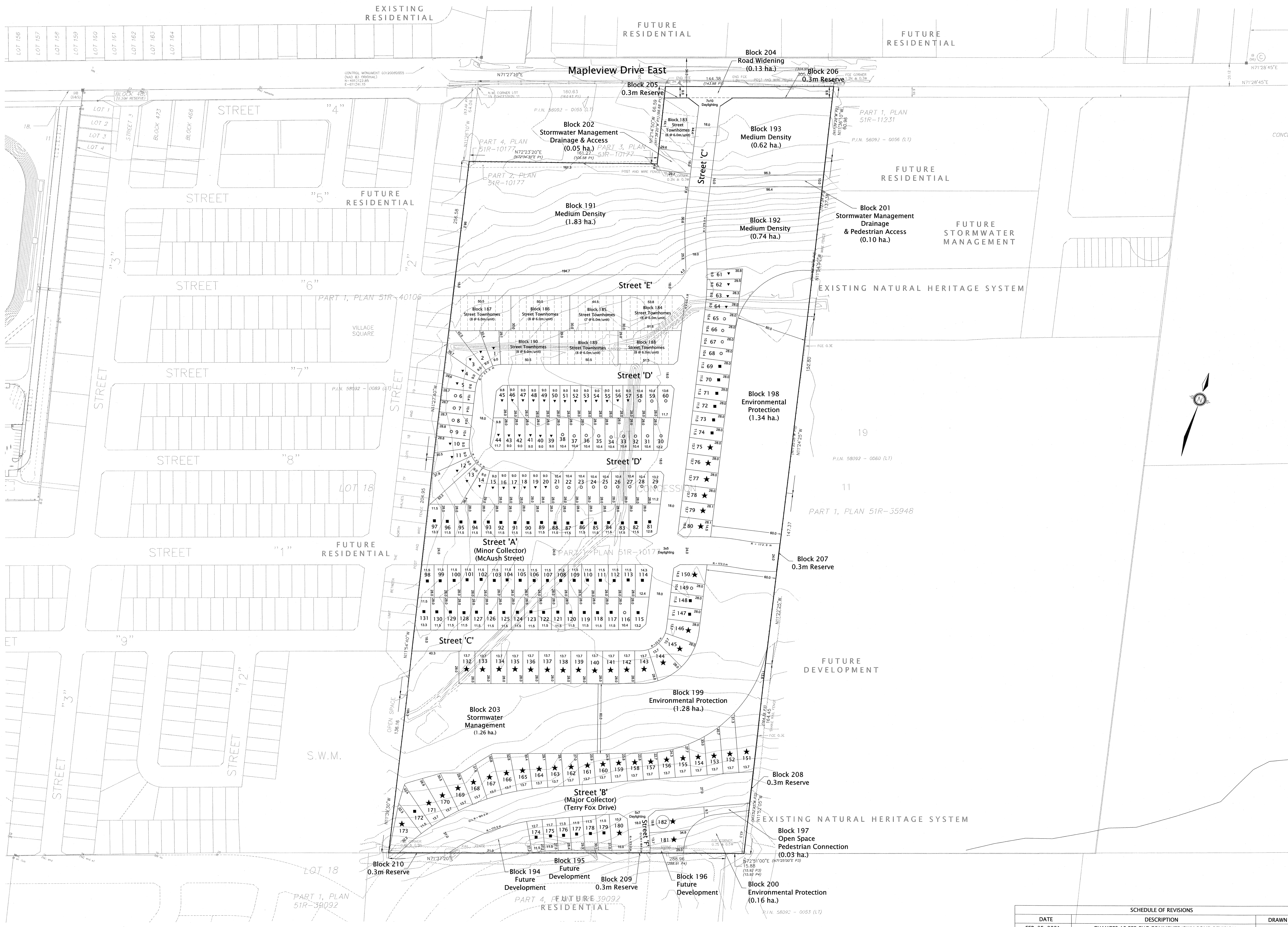
Date Issued: MARCH 26, 2020
Checked By: RD
Project No.: EAS-11118
Drawn By: TUSA
Drawing Name: EAS-11118-DevPlan-20-03-07.dwg

- Subject Lands
 - City of Barrie Settlement Area Boundary (2031)
 - Natural Heritage System including Buffer
 - Participating Landowners
 - Non-Participating Landowners
 - Adjusted based on Draft Plan Approvals
- SWM - Stormwater Management Pond
VS - Village Square
PARK - Parkland
SES - Separate Elementary School
PES - Public Elementary School
SS - Secondary School
MU - Mixed Use Block
M/H RLS - Medium/High Density Residential

Hewitt's Secondary Plan Overall Development Plan



| | | | Secondary Plan Phase | | | | 2017 Phase 1 | | | | 2017 Phase 2 | | | | 2017 Phase 3 | | | | 2017 Phase 4 | | | | 2017 Phase 5 | | | | 2017 Phase 6 | | | | 2017 Phase 7 | | | | 2017 Phase 8 | | | | 2017 Phase 9 | | | | 2017 Phase 10 | | | | 2017 Phase 11 | | | | 2017 Phase 12 | | | | 2017 Phase 13 | | | | 2017 Phase 14 | | | | 2017 Phase 15 | | | | 2017 Phase 16 | | | | 2017 Phase 17 | | | | 2017 Phase 18 | | | | 2017 Phase 19 | | | | 2017 Phase 20 | | | | 2017 Phase 21 | | | | 2017 Phase 22 | | | | 2017 Phase 23 | | | | 2017 Phase 24 | | | | 2017 Phase 25 | | | | 2017 Phase 26 | | | | 2017 Phase 27 | | | | 2017 Phase 28 | | | | 2017 Phase 29 | | | | 2017 Phase 30 | | | | 2017 Phase 31 | | | | 2017 Phase 32 | | | | 2017 Phase 33 | | | | 2017 Phase 34 | | | | 2017 Phase 35 | | | | 2017 Phase 36 | | | | 2017 Phase 37 | | | | 2017 Phase 38 | | | | 2017 Phase 39 | | | | 2017 Phase 40 | | | | 2017 Phase 41 | | | | 2017 Phase 42 | | | | 2017 Phase 43 | | | | 2017 Phase 44 | | | | 2017 Phase 45 | | | | 2017 Phase 46 | | | | 2017 Phase 47 | | | | 2017 Phase 48 | | | | 2017 Phase 49 | | | | 2017 Phase 50 | | | | 2017 Phase 51 | | | | 2017 Phase 52 | | | | 2017 Phase 53 | | | | 2017 Phase 54 | | | | 2017 Phase 55 | | | | 2017 Phase 56 | | | | 2017 Phase 57 | | | | 2017 Phase 58 | | | | 2017 Phase 59 | | | | 2017 Phase 60 | | | | 2017 Phase 61 | | | | 2017 Phase 62 | | | | 2017 Phase 63 | | | | 2017 Phase 64 | | | | 2017 Phase 65 | | | | 2017 Phase 66 | | | | 2017 Phase 67 | | | | 2017 Phase 68 | | | | 2017 Phase 69 | | | | 2017 Phase 70 | | | | 2017 Phase 71 | | | | 2017 Phase 72 | | | | 2017 Phase 73 | | | | 2017 Phase 74 | | | | 2017 Phase 75 | | | | 2017 Phase 76 | | | | 2017 Phase 77 | | | | 2017 Phase 78 | | | | 2017 Phase 79 | | | | 2017 Phase 80 | | | | 2017 Phase 81 | | | | 2017 Phase 82 | | | | 2017 Phase 83 | | | | 2017 Phase 84 | | | | 2017 Phase 85 | | | | 2017 Phase 86 | | | | 2017 Phase 87 | | | | 2017 Phase 88 | | | | 2017 Phase 89 | | | | 2017 Phase 90 | | | | 2017 Phase 91 | | | | 2017 Phase 92 | | | | 2017 Phase 93 | | | | 2017 Phase 94 | | | | 2017 Phase 95 | | | | 2017 Phase 96 | | | | 2017 Phase 97 | | | | 2017 Phase 98 | | | | 2017 Phase 99 | | | | 2017 Phase 100 | | | | 2017 Phase 101 | | | | 2017 Phase 102 | | | | 2017 Phase 103 | | | | 2017 Phase 104 | | | | 2017 Phase 105 | | | | 2017 Phase 106 | | | | 2017 Phase 107 | | | | 2017 Phase 108 | | | | 2017 Phase 109 | | | | 2017 Phase 110 | | | | 2017 Phase 111 | | | | 2017 Phase 112 | | | | 2017 Phase 113 | | | | 2017 Phase 114 | | | | 2017 Phase 115 | | | | 2017 Phase 116 | | | | 2017 Phase 117 | | | | 2017 Phase 118 | | | | 2017 Phase 119 | | | | 2017 Phase 120 | | | | 2017 Phase 121 | | | | 2017 Phase 122 | | | | 2017 Phase 123 | | | | 2017 Phase 124 | | | | 2017 Phase 125 | | | | 2017 Phase 126 | | | | 2017 Phase 127 | | | | 2017 Phase 128 | | | | 2017 Phase 129 | | | | 2017 Phase 130 | | | | 2017 Phase 131 | | | | 2017 Phase 132 | | | | 2017 Phase 133 | | | | 2017 Phase 134 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2017 Phase 178 | | | | 2017 Phase 179 | | | | 2017 Phase 180 | | | | 2017 Phase 181 | | | | 2017 Phase 182 | | | | 2017 Phase 183 | | | | 2017 Phase 184 | | | | 2017 Phase 185 | | | | 2017 Phase 186 | | | | 2017 Phase 187 | | | | 2017 Phase 188 | | | | 2017 Phase 189 | | | | 2017 Phase 190 | | | | 2017 Phase 191 | | | | 2017 Phase 192 | | | | 2017 Phase 193 | | | | 2017 Phase 194 | | | | 2017 Phase 195 | | | | 2017 Phase 196 | | | | 2017 Phase 197 | | | | 2017 Phase 198 | | | | 2017 Phase 199 | | | | 2017 Phase 200 | | | | 2017 Phase 201 | | | | 2017 Phase 202 | | | | 2017 Phase 203 | | | | 2017 Phase 204 | | | | 2017 Phase 205 | | | | 2017 Phase 206 | | | | 2017 Phase 207 | | | | 2017 Phase 208 | | | | 2017 Phase 209 | | | | 2017 Phase 210 | | | | 2017 Phase 211 | | | | 2017 Phase 212 | | | | 2017 Phase 213 | | | | 2017 Phase 214 | | | | 2017 Phase 215 | | | | 2017 Phase 216 | | | | 2017 Phase 217 | | | | 2017 Phase 218 | | | | 2017 Phase 219 | | | | 2017 Phase 220 | | | | 2017 Phase 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2017 Phase 700 | | | | 2017 Phase 701 | | | | 2017 Phase 702 | | | | 2017 Phase 703 | | | | 2017 Phase 704 | | | | 2017 Phase 705 | | | | 2017 Phase 706 | | | | 2017 Phase 707 | | | | 2017 Phase 708 | | | | 2017 Phase 709 | | | | 2017 Phase 710 | | | | 2017 Phase 711 | | | | 2017 Phase 712 | | | | 2017 Phase 713 | | | | 2017 Phase 714 | | | | 2017 Phase 715 | | | | 2017 Phase 716 | | | | 2017 Phase 717 | | | | 2017 Phase 718 | | | | 2017 Phase 719 | | | | 2017 Phase 720 | | | | 2017 Phase 721 | | | | 2017 Phase 722 | | | | 2017 Phase 723 | | | | 2017 Phase 724 | | | | 2017 Phase 725 | | | | 2017 Phase 726 | | | | 2017 Phase 727 | | | | 2017 Phase 728 | | | | 2017 Phase 729 | | | | 2017 Phase 730 | | | | 2017 Phase 731 | | | | 2017 Phase 732 | | | | 2017 Phase 733 | | | | 2017 | | | |
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Proposed Draft Plan of Subdivision Part of Lot 19, Concession 11 Geographic Township of Innisfil, Now in the City of Barrie 2022

OWNER'S CERTIFICATE
I, THE UNDERSIGNED, BEING THE REGISTERED OWNER OF THE
SUBJECT LANDS, HEREBY AUTHORIZE THE JONES CONSULTING
GROUP LTD., TO PREPARE THIS DRAFT PLAN OF SUBDIVISION
AND TO SUBMIT SAME TO THE CITY OF BARRIE FOR APPROVAL.

NOV 8/22
DATE
SURVEYOR'S CERTIFICATE
I CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE
SUBDIVIDED AND THEIR RELATIONSHIP TO ADJACENT LANDS
ARE ACCURATELY AND CORRECTLY SHOWN.

NOV 4, 2022
DATE
RUDY MAK, O.L.S.

ADDITIONAL INFORMATION REQUIRED UNDER
SECTION 51(17) OF THE PLANNING ACT
a) SHOWN ON DRAFT PLAN
b) SHOWN ON DRAFT PLAN
c) SHOWN ON KEY PLAN
d) RESIDENTIAL, OPEN SPACE,
STORMWATER MANAGEMENT,
& ENVIRONMENTAL PROTECTION
e) SHOWN ON DRAFT PLAN
f) SHOWN ON DRAFT PLAN
g) SHOWN ON DRAFT PLAN
h) MUNICIPAL PIPED WATER TO BE PROVIDED
i) SANDY/CLAY LOAM
j) SHOWN ON DRAFT PLAN
k) ALL MUNICIPAL SERVICES TO BE PROVIDED
l) SHOWN ON DRAFT PLAN

| STATISTICS | Area (ha.) | Units |
|---|------------|-----------|
| ★ 13.7 m Singles | | 47 units |
| ■ 11.5 m Singles | | 65 units |
| ○ 10.4 m Singles | | 31 units |
| ▼ 9.0 m Singles | | 39 units |
| (LOTS 1 - 182) | | |
| SUB TOTAL | 6.33 ha. | 182 units |
| Street Townhomes (6.0m) | 1.18 ha. | 61 units |
| Medium Density Residential | 3.19 ha. | 223 units |
| (BLOCKS 191 - 193 @ 70 uph) | | |
| Future Lots & Blocks | 0.15 ha. | 4 units |
| (BLOCKS 194 - 196) | | |
| Open Space/Pedestrian Connection | 0.03 ha. | |
| (BLOCK 197) | | |
| Environmental Protection | 2.78 ha. | |
| (BLOCKS 198 - 200) | | |
| Stormwater Management & Drainage | 1.41 ha. | |
| (BLOCKS 201 - 203) | | |
| Widening & Reserve | 0.15 ha. | |
| Roads | 3.81 ha. | |
| (MINOR COLLECTOR, STREET 'A' (MCAUSH STREET) (MAJOR COLLECTOR, STREET 'B' (TERRY FOX DRIVE) (LOCAL STREETS 'C' - 'F') | | |
| TOTAL | 19.03 ha. | 470 units |

0 10 50 100M
SCALE 1 : 1500 (A1)

MAPLEVIEW SOUTH (INNSIFIL) LTD.
953 MAPLEVIEW DRIVE, BARRIE, ONTARIO

PROPOSED DRAFT PLAN OF SUBDIVISION

Raymond J. Dufour
REGISTERED
PROFESSIONAL
PLANNER
R.P.P.

JONES
CONSULTING GROUP LTD.
PLANNERS & ENGINEERS
229 Mapleview Drive East, Unit 1, Barrie, Ontario, L4N 0W5
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705-734-1056

Date Issued: DEC. 13, 2019

Checked By: RD

Project No.: REI-17055

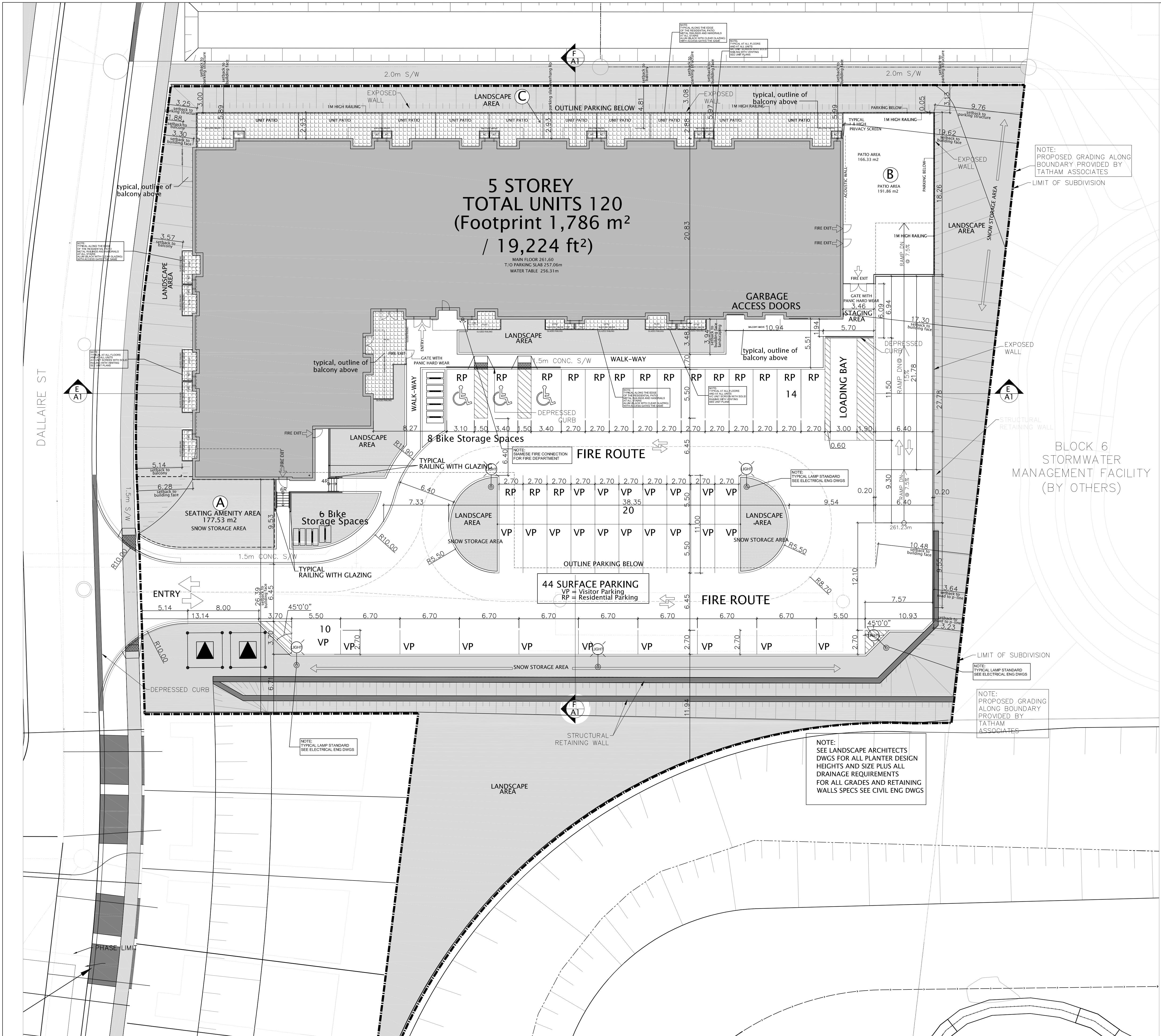
Drawn By: m.c.r.

Drawing Name: REI-17055-DP-8.dwg

| DATE | DESCRIPTION | DRAWN |
|----------------|--|--------|
| FEB. 25, 2021 | CHANGES AS PER ENG COMMENTS/SWM POND REVISION | m.c.r. |
| MARCH 5, 2021 | REVISION TO LOTS 172 & 173 | m.c.r. |
| APRIL 1, 2021 | MINOR CHANGES TO TITLE BLOCK ONLY | m.c.r. |
| MARCH 10, 2022 | CHANGES PER CITY COMMENTS | m.c.r. |
| MARCH 16, 2022 | REVIEW OF RIGHT OF WAY WIDTHS AND DAYLIGHTING | m.c.r. |
| MARCH 21, 2022 | UPDATED ADJACENT LANDS WITH CURRENT DP LINWORK | m.c.r. |
| MARCH 22, 2022 | CHANGES AS PER CITY COMMENTS | m.c.r. |
| MARCH 30, 2022 | CHANGES AS PER CITY COMMENTS | m.c.r. |

MAPLEVIEW SOUTH (INNSIFIL) LTD.
953 MAPLEVIEW DRIVE BARRIE, ONTARIO

Appendix B – Block 192 - Site Plan



Block 'B' Details
B BUILDING FOOT PRINT
(3.2.4.3A GROUP C)
ALLOWABLE 1,800 m²
PROPOSED 1,792 m²

Unit Count:
BLOCK 'B' Apartment Building (5 Storey) 120 units
Total 120 units

| | REQUIRED | PROPOSED |
|---|----------------------|-----------------------------------|
| Site Plan Area | - | 0.74 ha (7,363.63m ²) |
| Lot Frontage | 24.0 m | 70.9 m |
| Front Yard | 3.0 m | 3.28 m |
| Interior Side Yard | 5.0 m | 5.89 m |
| Exterior Side Yard | 1.8 m | 26.39 m |
| Rear Yard | 5.0 m | 17.32 m |
| Lot Coverage | max 50 % (0.36 ha.) | 24 % (0.18 ha.) |
| Accessory Structures | max 10 % (0.07 ha.) | 0 % (0.00 ha.) |
| Landscape Open Space | min. 25 % (0.18 ha.) | 48 % (0.34 ha.) |
| Paved Area | max 35 % | 28 % (0.21 ha.) |
| Density Index | min 120 max 300 | 162.16 |
| Floor Space Index | min 0.5 max 2.5 | 1.22 |
| Building Block B | | 8,930 m ² |
| · GFA | | 5 |
| · Height in Stories | | 120 |
| Units | | 120 |
| Parking Calculations | Required | Provided |
| Required Parking (120 x 1.0) | 120 spaces | 120 spaces |
| Required Visitor Parking (120 x 0.5=60) | 60 spaces | 27 spaces |
| Proposed Visitor Parking (120 x 0.2=24) | | |
| Total Required | 180 spaces | 147 spaces |

Parking Breakdown
Typical Surface Spaces 41 spaces
Surface Barrier Free Spaces 3 spaces
Underground Barrier Free Spaces 3 spaces
Typical Underground Spaces 100 spaces
Total Provided 147 spaces

Barrie Zoning Bylaw 4.6.4 Barrier Free Parking
Barrier Free spaces calculated using Accessibility Parking for Barrie Ont.
Required over 100 spaces 1 space plus 3% of the required parking spaces
3% of 147 = 4.41 (5) plus 1 = 6 (6 required, provided 6)
(Type A - 3.4 x 1.5 - 3 spaces)
(Type B - 3.1 x 1.5 - 3 spaces)

| | | |
|---|-------------|--------------------------------|
| Bicycle Rack Storage (2 x 120) | 24 Required | 22 Secure Storage Provided |
| Total | | 14 Surface Bike Racks Provided |
| Required Outdoor Amenity Area (10m ² /unit-10x120) | | 1200 m ² |
| Provided Amenity Breakdown For Condo Building | | |
| Garden Amenity At Entry, A | | 177.53 m ² |
| Patio area on east side, B | | 191.86 m ² |
| Patio area over parking structure at North side, C | | 232.70 m ² |
| Balcony area at typical floors (157.68 X 4 floors) | | 630.72 m ² |
| Total Outdoor Amenity | | 1319.81 m ² |
| Provided Shared Indoor Amenity | | |
| lounge/meeting rooms Amenity Plus public Washrooms | | 158.52 m ² |
| Total In door Amenity | | 158.52 m ² |

Fire Route

| Unit type and area per floor | AFFORDABLE UNIT * | | | | | | |
|------------------------------|-------------------|------------------|------------|-----------|-----------|-----------|-----------|
| Unit | Area | Unit Type | Main floor | 2nd floor | 3rd floor | 4th floor | 5th floor |
| A | 55m | 1 bed 1 bath | 7 | 7 | 7 | 7 | 35 |
| B * | 34m | Bachelor | 2 | 2 | 2 | 2 | 10 |
| C * | 49m | 1 bed/1 bath | 1 | 1 | 1 | 1 | 5 |
| D | 55m | 1 bed/1 bath/den | 1 | 1 | 1 | 1 | 5 |
| E | 50m | 1 bed/1 bath | 3 | 4 | 4 | 4 | 19 |
| E+ | 52m | 1 bed/1 bath | 1 | 1 | 1 | 1 | 5 |
| F | 58m | 1 bed/1 bath | 1 | 1 | 1 | 1 | 5 |
| G | 63m | 1 bed/1 bath/den | 2 | 2 | 2 | 2 | 8 |
| H | 86m | 2 bed/2 bath | 2 | 2 | 2 | 2 | 10 |
| I | 98m | 2 bed/2 bath/den | 1 | 1 | 1 | 1 | 4 |
| J | 70m | 2 bed/2 bath | 1 | 1 | 1 | 1 | 4 |
| K | 106m | 3 bed/2 bath | 1 | 1 | 1 | 1 | 5 |
| L | 80m | 2 bed/2 bath | 1 | 1 | 1 | 1 | 5 |
| Total Units | 120 | | 20 | 25 | 25 | 25 | 120 |
| Affordable Units * | | | | | | | 15 |

No. Description Date Rev.

| | | | |
|----|---|---------|--|
| 15 | ISSUED FOR PRE-CONSULTATION MEETING | 2021-14 | |
| 14 | ISSUED FOR PRE-CONSULTATION MEETING | 2021-06 | |
| 13 | ISSUED FOR PRE-CONSULTATION MEETING | 2021-05 | |
| 12 | ISSUED FOR PRE-CONSULTATION MEETING | 2021-04 | |
| 11 | ISSUED FOR PRE-CONSULTATION MEETING | 2021-03 | |
| 10 | ISSUED FOR PRE-CONSULTATION MEETING | 2021-02 | |
| 9 | ISSUED FOR PRE-CONSULTATION MEETING | 2021-01 | |
| 8 | ISSUED FOR PRE-CONSULTATION MEETING | 2020-12 | |
| 7 | ISSUED FOR PRE-CONSULTATION MEETING | 2020-11 | |
| 6 | ISSUED FOR PRE-CONSULTATION MEETING | 2020-10 | |
| 5 | ISSUED FOR PRE-CONSULTATION MEETING | 2020-09 | |
| 4 | ISSUED FOR PRE-CONSULTATION MEETING | 2020-08 | |
| 3 | ISSUED FOR CLIENT AND CONSULTANT REVIEW | 2020-07 | |
| 2 | ISSUED FOR CLIENT AND CONSULTANT REVIEW | 2020-06 | |
| 1 | ISSUED FOR CLIENT AND CONSULTANT REVIEW | 2020-05 | |

PROJECT # 2023-05

DATE 2023-05

1:200

CITY OF BARRIE

MAPLEVIEW SOUTH (INNISFIL) LTD.
953 MAPLEVIEW DRIVE-BLOCK-192
SITE PLAN 120 UNITS

DRAWING NO. A-101

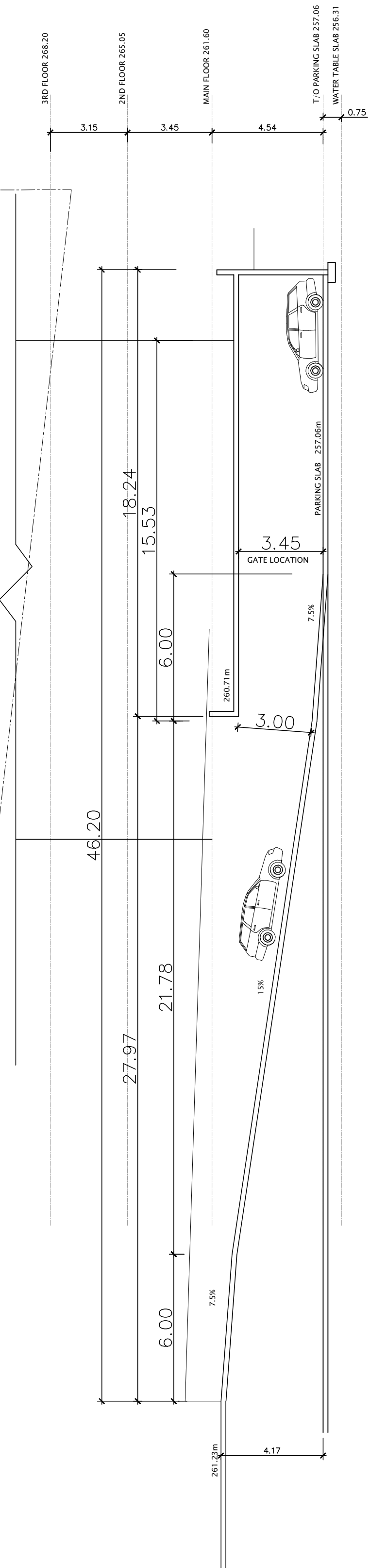
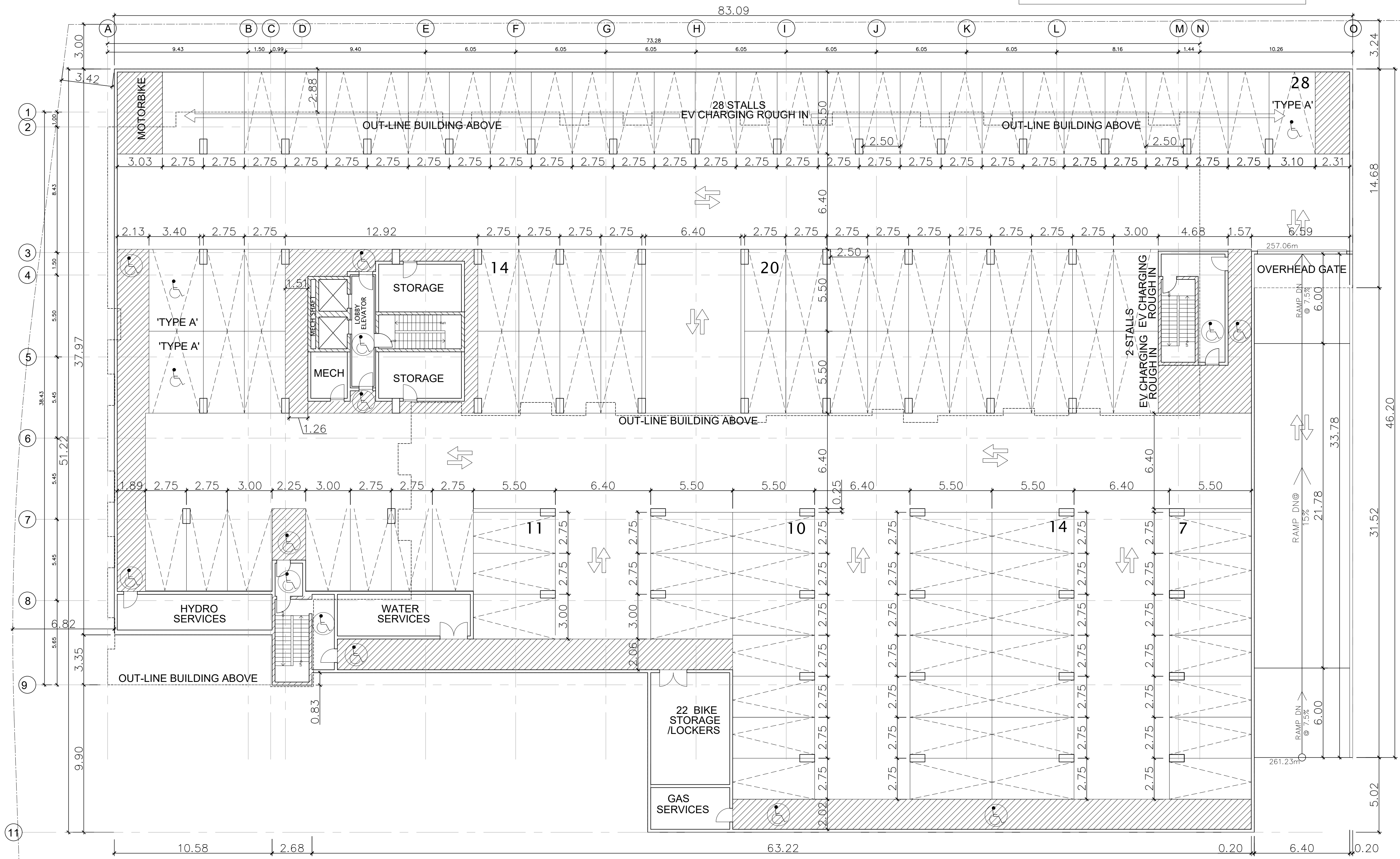
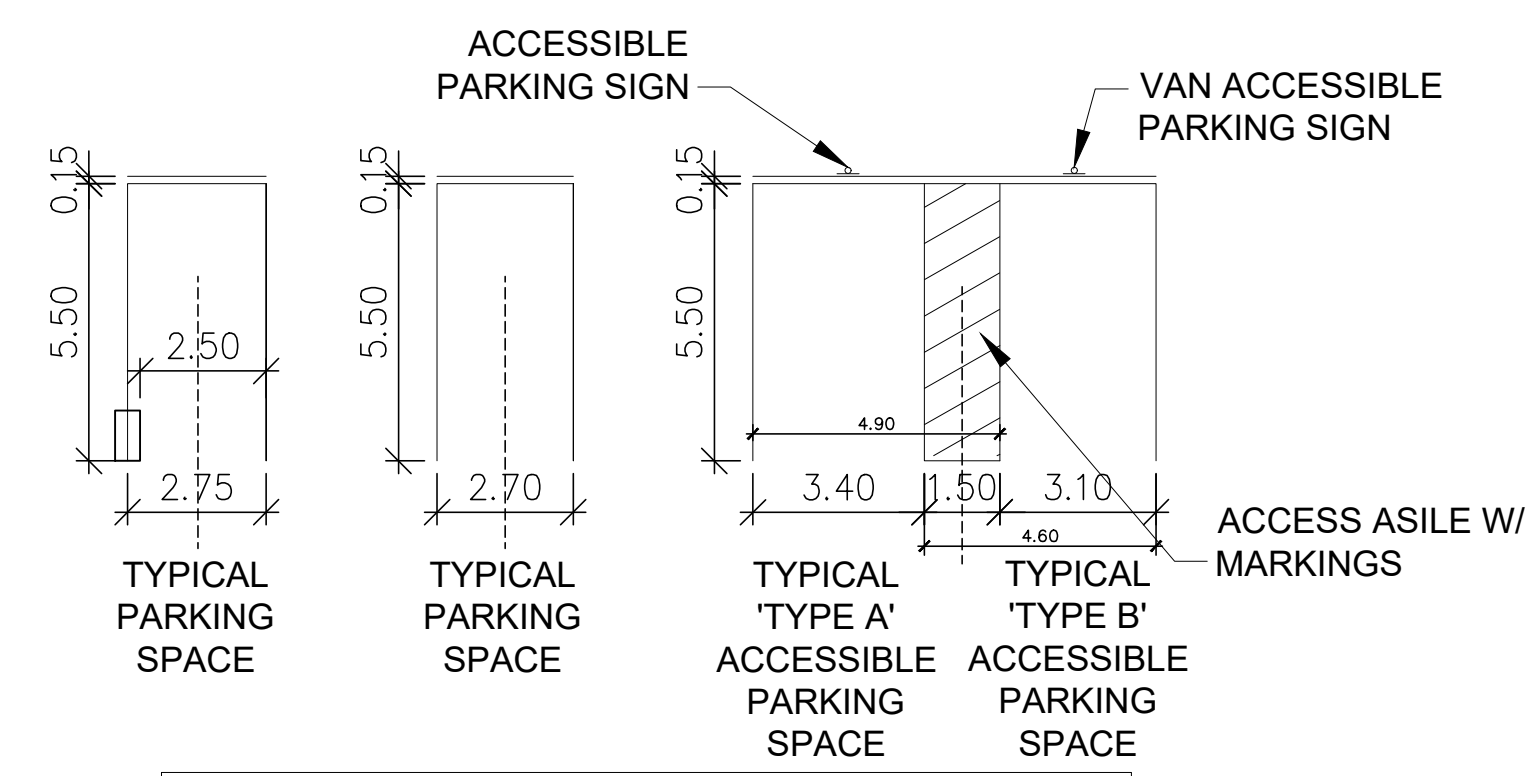
DATE 2023-05

March 30, 2023

S&C ARCHITECTS INC.
7 (416) 848-1091 F. (416) 860-6101
INFO@SCARCHITECTS.CA
60 RANDALL DRIVE, SUITE 10
AURORA, ONTARIO L1S 6L5

BELOW GRADE PARKING
103 parking stall
AREA 3,607 m²
AREA 38,825 sq.ft.

Barrie Zoning Bylaw 4.6.4 Barrier Free Parking Standards

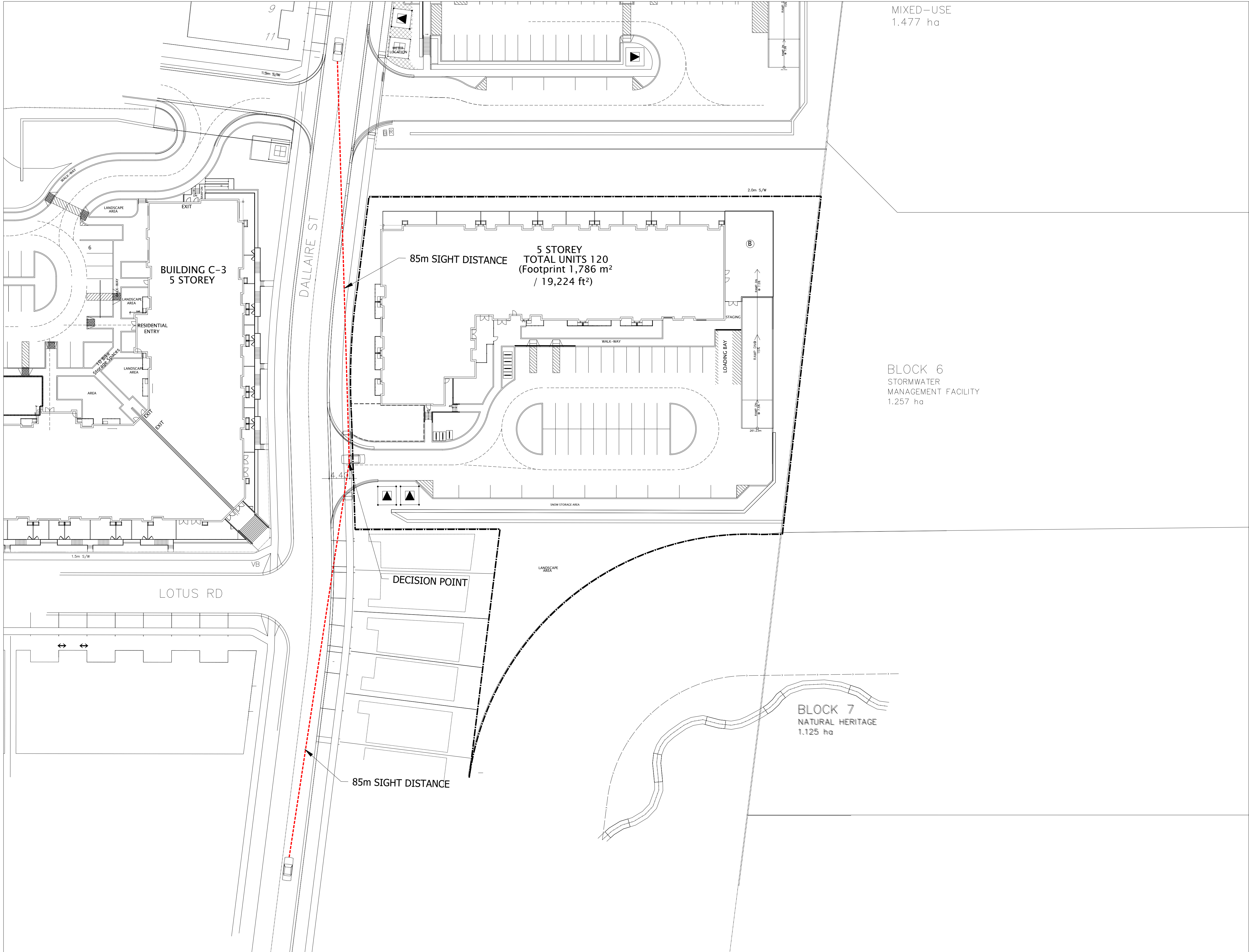
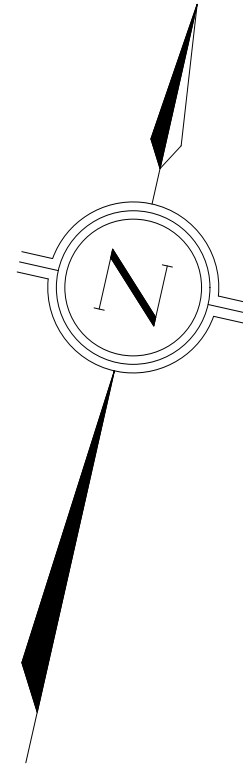


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| 13 | ISSUED FOR PRE-CONSULTATION MEETING | May 06, 2024 | SA |
| 12 | ISSUED FOR PRE-CONSULTATION MEETING | April 12, 2023 | SA |
| 11 | ISSUED FOR PRE-CONSULTATION MEETING | April 11, 2023 | SA |
| 10 | ISSUED FOR PRE-CONSULTATION MEETING | April 06, 2023 | SA |
| 9 | ISSUED FOR PRE-CONSULTATION MEETING | Mar 23, 2023 | SA |
| 8 | ISSUED FOR PRE-CONSULTATION MEETING | Mar 19, 2023 | SA |
| 7 | ISSUED FOR PRE-CONSULTATION MEETING | Feb 26, 2023 | SA |
| 6 | ISSUED FOR PRE-CONSULTATION MEETING | Feb 10, 2023 | SA |
| 5 | ISSUED FOR PRE-CONSULTATION MEETING | Nov 16, 2023 | SA |
| 4 | ISSUED FOR PRE-CONSULTATION MEETING | July 18, 2023 | SA |
| 3 | ISSUED FOR CLIENT AND CONSULTANT REVIEW | May 24, 2023 | SA |
| 2 | ISSUED FOR CLIENT AND CONSULTANT REVIEW | Apr 20, 2023 | SA |
| 1 | ISSUED FOR CLIENT AND CONSULTANT REVIEW | March 30, 2023 | SA |

| | | | |
|-----|---|----------------|------|
| No. | Description | Date | Rev. |
| 1 | ISSUED FOR CLIENT AND CONSULTANT REVIEW | March 30, 2023 | SA |
| 2 | ISSUED FOR CLIENT AND CONSULTANT REVIEW | April 20, 2023 | SA |
| 3 | ISSUED FOR PRE-CONSULTATION MEETING | July 18, 2023 | SA |
| 4 | ISSUED FOR PRE-CONSULTATION MEETING | Nov 16, 2023 | SA |
| 5 | ISSUED FOR PRE-CONSULTATION MEETING | Feb 10, 2023 | SA |
| 6 | ISSUED FOR PRE-CONSULTATION MEETING | Feb 26, 2023 | SA |
| 7 | ISSUED FOR PRE-CONSULTATION MEETING | Mar 19, 2023 | SA |
| 8 | ISSUED FOR PRE-CONSULTATION MEETING | Mar 23, 2023 | SA |
| 9 | ISSUED FOR PRE-CONSULTATION MEETING | Apr 06, 2023 | SA |
| 10 | ISSUED FOR PRE-CONSULTATION MEETING | Apr 11, 2023 | SA |
| 11 | ISSUED FOR PRE-CONSULTATION MEETING | Apr 12, 2023 | SA |
| 12 | ISSUED FOR PRE-CONSULTATION MEETING | May 06, 2024 | SA |



| | |
|--|-------------------|
| MAPLEVIEW SOUTH (INNISFILL) LTD. | |
| 953 MAPLEVIEW DRIVE-BLOCK-192 | |
| CONCEPTUAL UNDERGROUND PARKING 120 UNITS | |
| DATE: March 30, 2023 | REVISION: A-102 |
| PROJECT # 2023-05 | MAPLEVIEW NAME: - |
| SCALE: 1:150 | CITY OF BARRIE |
| S&C ARCHITECTS INC. | |
| 1: (416) 848-0991 F: (416) 360-6101 | |
| INFO@S&CARCHITECTS.CA | |
| 60 RANDALL DRIVE SUITE 10 | |
| AJAX, ONTARIO L1S 6L3 | |



LEGEND

- SIGHTLINE
- SUBJECT SITE PROPERTY BOUNDARY

GENERAL NOTES
1. THIS DRAWING IS NOT INTENDED FOR CONSTRUCTION.
2. DO NOT SCALE DRAWINGS.
3. THE DRAWINGS ARE THE PROPERTY OF JD ENGINEERING AND MUST BE RETURNED ON COMPLETION OF THE PROJECT.
4. BASE DRAWING PROVIDED BY S&C ARCHITECTS ON JUNE 24TH 2024.

| NO. | DATE | APPROVED | REVISIONS |
|-----|-----------|----------|------------------|
| 1. | JUNE 2024 | JN | FIRST SUBMISSION |



JD Northcote Engineering Inc.
Phone: 705.725.4035
86 Cumberland Street
Barrie, ON L4N 2P6
www.JDEngineering.ca

AREA MUNICIPALITY
CITY OF BARRIE

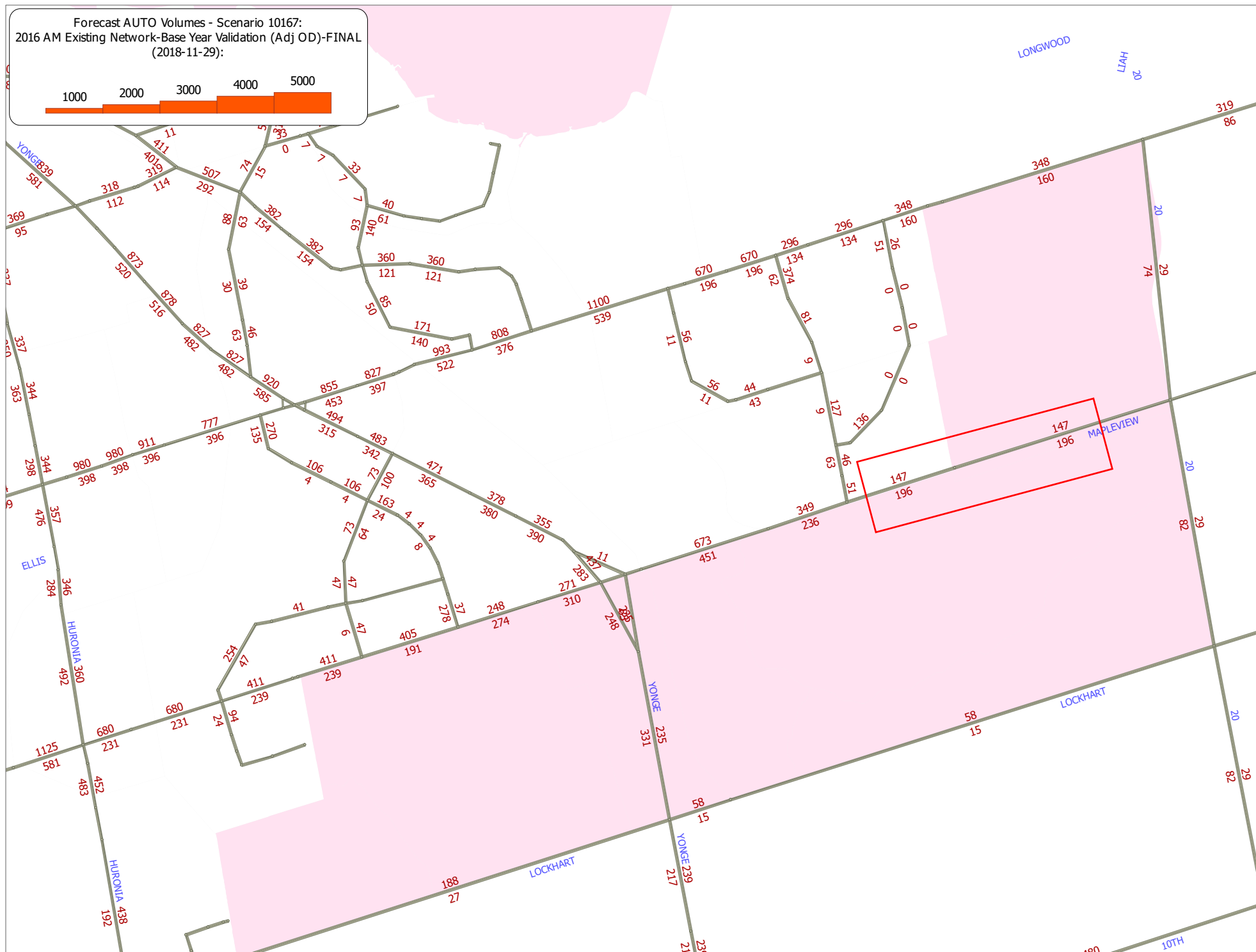
953 MAPLEVIEW DRIVE EAST
BLOCK 192

SIGHT DISTANCE REVIEW

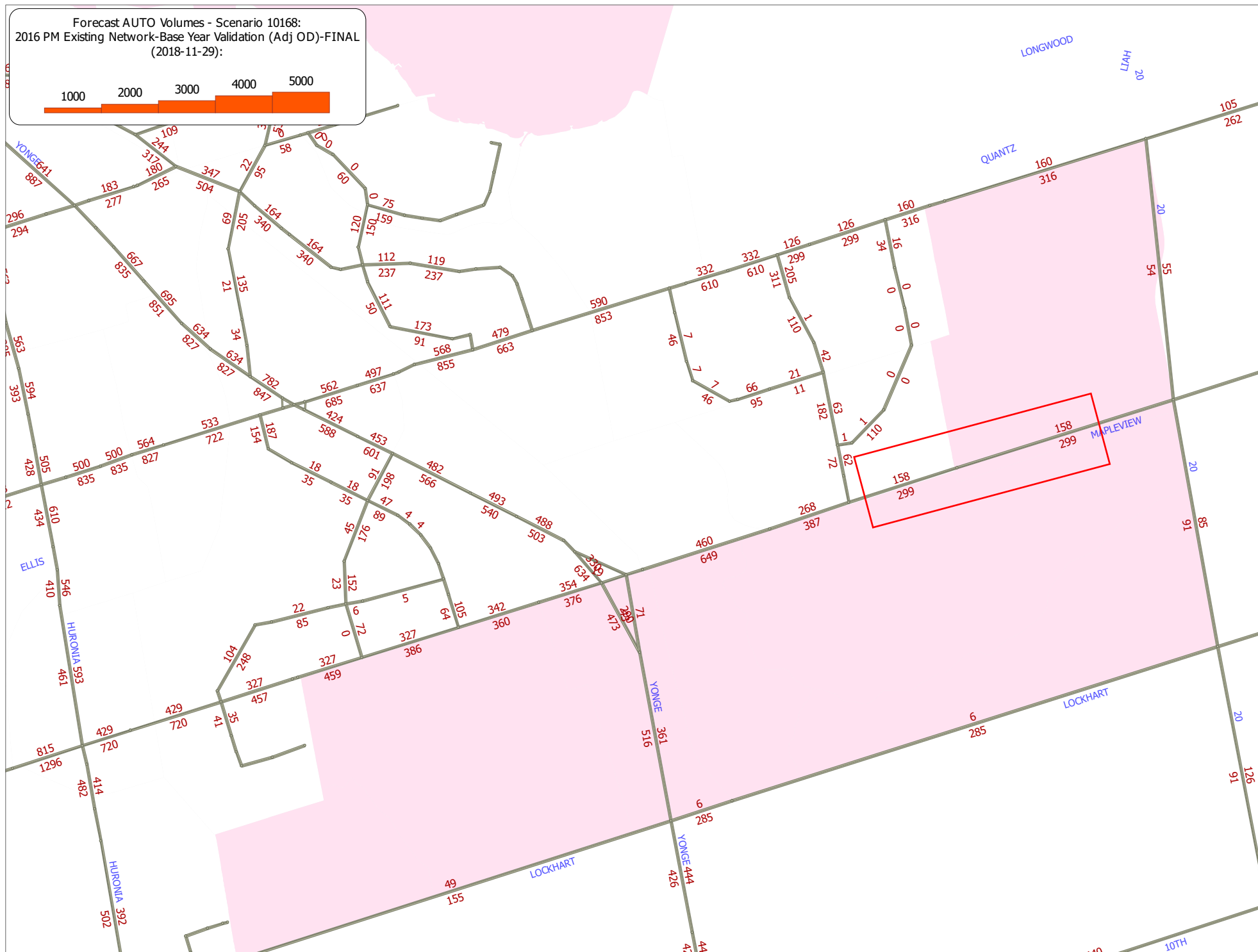
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|----------------------------|-----------------|
| DESIGN: RH | DATE: 06/24 |
| DRAWN: RH | DATE: 06/24 |
| REVIEWED: JN | DATE: 06/24 |
| SCALE HOR: 1:400 | SCALE VERT: N/A |
| SHEET NO: 1302 - BLOCK 192 | |

Appendix C – Traffic Data

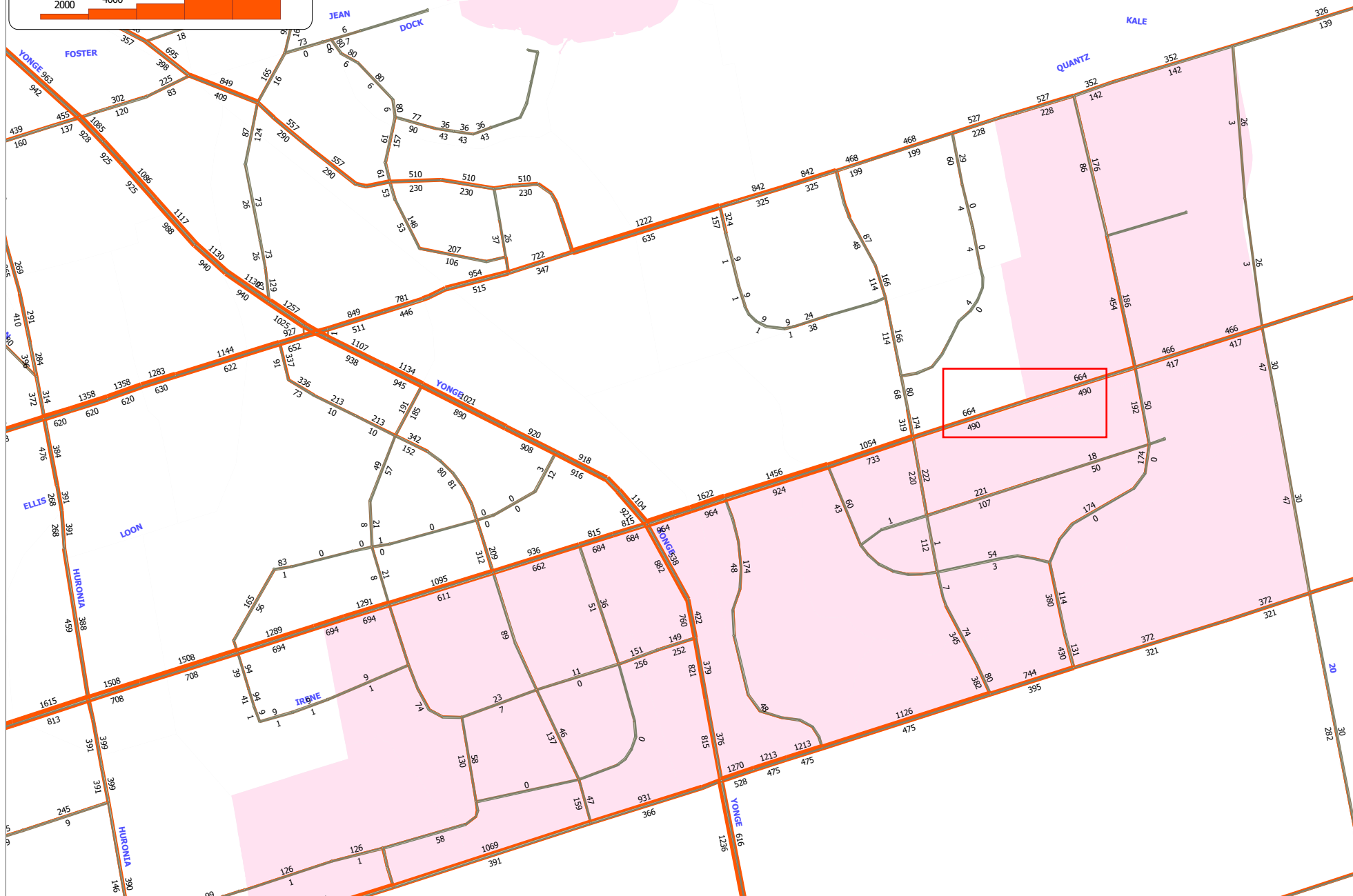
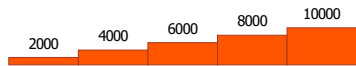
Forecast AUTO Volumes - Scenario 10167:
2016 AM Existing Network-Base Year Validation (Adj OD)-FINAL
(2018-11-29):



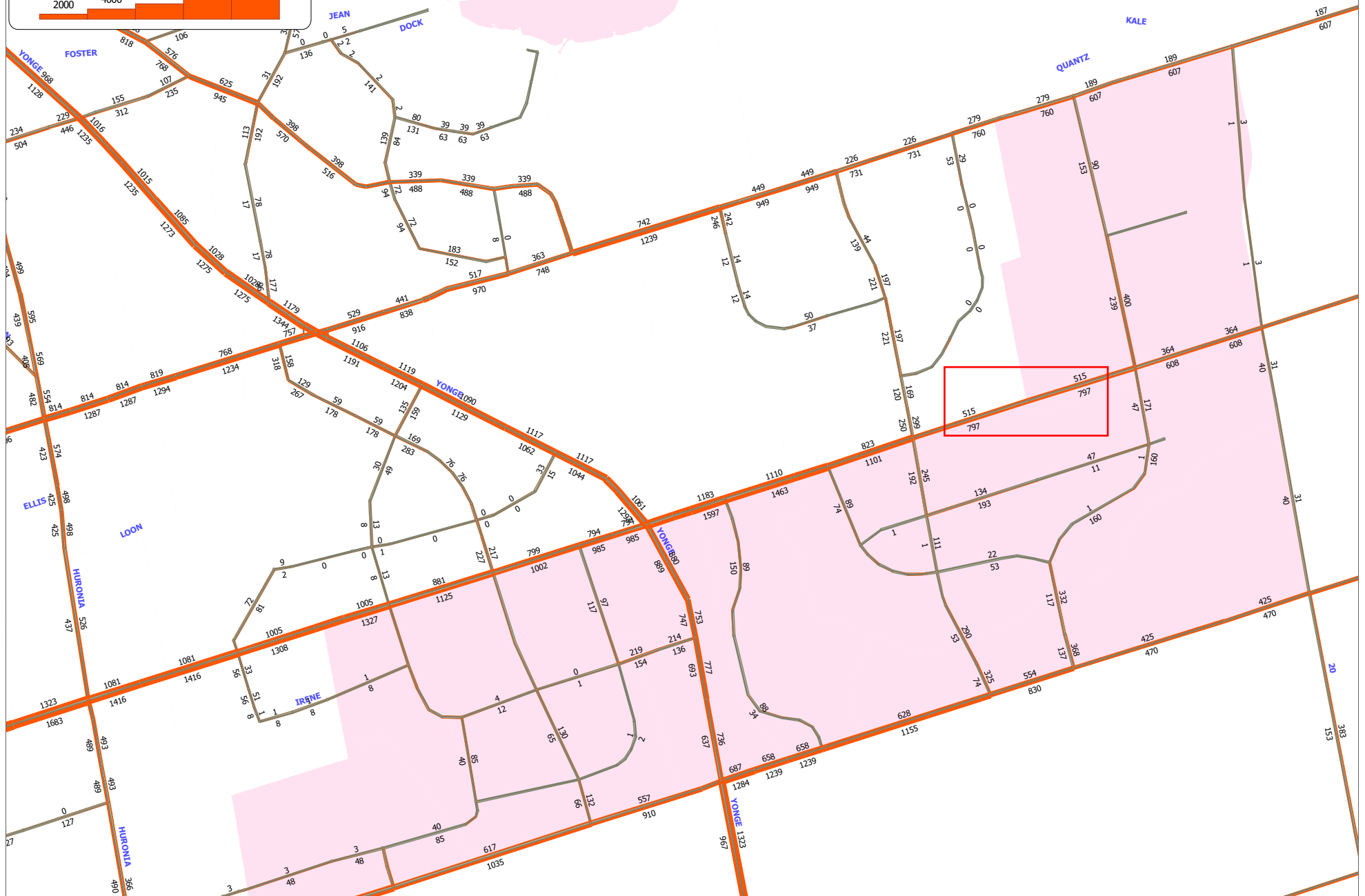
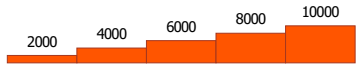
Forecast AUTO Volumes - Scenario 10168:
2016 PM Existing Network-Base Year Validation (Adj OD)-FINAL
(2018-11-29):



Forecast AUTO Volumes - Scenario 44317:
2031 AM TMP Preferred (MED-Alt3D4)wo/HOV+Hwy6Ln-FINAL
(2019-04-04)



Forecast AUTO Volumes - Scenario 44318:
2031 PM TMP Preferred (MED-Alt3D4)wo/HOV+Hwy6Ln-FINAL
(2019-04-04)



Appendix D – Synchro Analysis Output

HCM Unsignalized Intersection Capacity Analysis

1: Site Access & MVD










05-07-2024

| | → | ↘ | ↙ | ← | ↖ | ↗ |
|-----------------------------------|------|------|-------|----------------------|------|------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↗ | | | ↖ | | ↗ |
| Traffic Volume (veh/h) | 367 | 25 | 0 | 492 | 0 | 5 |
| Future Volume (Veh/h) | 367 | 25 | 0 | 492 | 0 | 5 |
| 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) | 399 | 27 | 0 | 535 | 0 | 5 |
| 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 | | | 426 | | 948 | 412 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 426 | | 948 | 412 |
| 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 | | 100 | 99 |
| cM capacity (veh/h) | | | 1133 | | 290 | 640 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | | | |
| Volume Total | 426 | 535 | 5 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 27 | 0 | 5 | | | |
| cSH | 1700 | 1700 | 640 | | | |
| Volume to Capacity | 0.25 | 0.31 | 0.01 | | | |
| Queue Length 95th (m) | 0.0 | 0.0 | 0.2 | | | |
| Control Delay (s) | 0.0 | 0.0 | 10.7 | | | |
| Lane LOS | | | B | | | |
| Approach Delay (s) | 0.0 | 0.0 | 10.7 | | | |
| Approach LOS | | | B | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.1 | | | |
| Intersection Capacity Utilization | | | 30.8% | ICU Level of Service | | A |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis

1: Site Access & MVD

05-07-2024

| | | | | | | |
|-----------------------------------|---|---|---|---|---|---|
| |  |  |  |  |  |  |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations |  | | |  | |  |
| Traffic Volume (veh/h) | 559 | 72 | 0 | 396 | 0 | 3 |
| Future Volume (Veh/h) | 559 | 72 | 0 | 396 | 0 | 3 |
| 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) | 608 | 78 | 0 | 430 | 0 | 3 |
| 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 | | | 686 | | 1077 | 647 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 686 | | 1077 | 647 |
| 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 | | 100 | 99 |
| cM capacity (veh/h) | | | 908 | | 242 | 471 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | | | |
| Volume Total | 686 | 430 | 3 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 78 | 0 | 3 | | | |
| cSH | 1700 | 1700 | 471 | | | |
| Volume to Capacity | 0.40 | 0.25 | 0.01 | | | |
| Queue Length 95th (m) | 0.0 | 0.0 | 0.1 | | | |
| Control Delay (s) | 0.0 | 0.0 | 12.7 | | | |
| Lane LOS | | | B | | | |
| Approach Delay (s) | 0.0 | 0.0 | 12.7 | | | |
| Approach LOS | | | B | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.0 | | | |
| Intersection Capacity Utilization | | | 43.8% | ICU Level of Service | | A |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis

1: Site Access & MVD

05-07-2024

| | | | | | | |
|-----------------------------------|------|------|-------|----------------------|------|------|
| | → | ↘ | ↙ | ← | ↖ | ↗ |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↗ | | | ↖ | | ↗ |
| Traffic Volume (veh/h) | 559 | 72 | 0 | 396 | 0 | 3 |
| Future Volume (Veh/h) | 559 | 72 | 0 | 396 | 0 | 3 |
| 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) | 608 | 78 | 0 | 430 | 0 | 3 |
| 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 | | | 686 | | 1077 | 647 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 686 | | 1077 | 647 |
| 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 | | 100 | 99 |
| cM capacity (veh/h) | | | 908 | | 242 | 471 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | | | |
| Volume Total | 686 | 430 | 3 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 78 | 0 | 3 | | | |
| cSH | 1700 | 1700 | 471 | | | |
| Volume to Capacity | 0.40 | 0.25 | 0.01 | | | |
| Queue Length 95th (m) | 0.0 | 0.0 | 0.1 | | | |
| Control Delay (s) | 0.0 | 0.0 | 12.7 | | | |
| Lane LOS | | | B | | | |
| Approach Delay (s) | 0.0 | 0.0 | 12.7 | | | |
| Approach LOS | | | B | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.0 | | | |
| Intersection Capacity Utilization | | | 43.8% | ICU Level of Service | | A |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis

1: Site Access & MVD

05-07-2024

| | | | | | | |
|-----------------------------------|------|------|-------|----------------------|------|------|
| | → | ↘ | ↙ | ← | ↖ | ↗ |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↱ | | | ↰ | | ↱ |
| Traffic Volume (veh/h) | 559 | 72 | 0 | 396 | 0 | 3 |
| Future Volume (Veh/h) | 559 | 72 | 0 | 396 | 0 | 3 |
| 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) | 608 | 78 | 0 | 430 | 0 | 3 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | TWLT | | | TWLT | | |
| Median storage veh | 2 | | | 2 | | |
| Upstream signal (m) | 252 | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 686 | | 1077 | 647 |
| vC1, stage 1 conf vol | | | | | 647 | |
| vC2, stage 2 conf vol | | | | | 430 | |
| vCu, unblocked vol | | | 686 | | 1077 | 647 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | 5.4 | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 100 | | 100 | 99 |
| cM capacity (veh/h) | | | 908 | | 451 | 471 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | | | |
| Volume Total | 686 | 430 | 3 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 78 | 0 | 3 | | | |
| cSH | 1700 | 1700 | 471 | | | |
| Volume to Capacity | 0.40 | 0.25 | 0.01 | | | |
| Queue Length 95th (m) | 0.0 | 0.0 | 0.1 | | | |
| Control Delay (s) | 0.0 | 0.0 | 12.7 | | | |
| Lane LOS | | | B | | | |
| Approach Delay (s) | 0.0 | 0.0 | 12.7 | | | |
| Approach LOS | | | B | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.0 | | | |
| Intersection Capacity Utilization | | | 43.8% | ICU Level of Service | | A |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis

1: Site Access & MVD

05-07-2024

| | | | | | | |
|-----------------------------------|------|------|-------|----------------------|------|------|
| | → | ↘ | ↙ | ← | ↖ | ↗ |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↗ | | | ↖ | | ↗ |
| Traffic Volume (veh/h) | 403 | 87 | 0 | 664 | 0 | 16 |
| Future Volume (Veh/h) | 403 | 87 | 0 | 664 | 0 | 16 |
| 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) | 438 | 95 | 0 | 722 | 0 | 17 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | TWLT | | | TWLT | | |
| Median storage veh) | 2 | | | 2 | | |
| Upstream signal (m) | 252 | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 533 | | 1208 | 486 |
| vC1, stage 1 conf vol | | | | | 486 | |
| vC2, stage 2 conf vol | | | | | 722 | |
| vCu, unblocked vol | | | 533 | | 1208 | 486 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | 5.4 | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 100 | | 100 | 97 |
| cM capacity (veh/h) | | | 1035 | | 412 | 582 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | | | |
| Volume Total | 533 | 722 | 17 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 95 | 0 | 17 | | | |
| cSH | 1700 | 1700 | 582 | | | |
| Volume to Capacity | 0.31 | 0.42 | 0.03 | | | |
| Queue Length 95th (m) | 0.0 | 0.0 | 0.7 | | | |
| Control Delay (s) | 0.0 | 0.0 | 11.4 | | | |
| Lane LOS | | | B | | | |
| Approach Delay (s) | 0.0 | 0.0 | 11.4 | | | |
| Approach LOS | | | B | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.2 | | | |
| Intersection Capacity Utilization | | | 38.3% | ICU Level of Service | A | |
| Analysis Period (min) | | | 15 | | | |

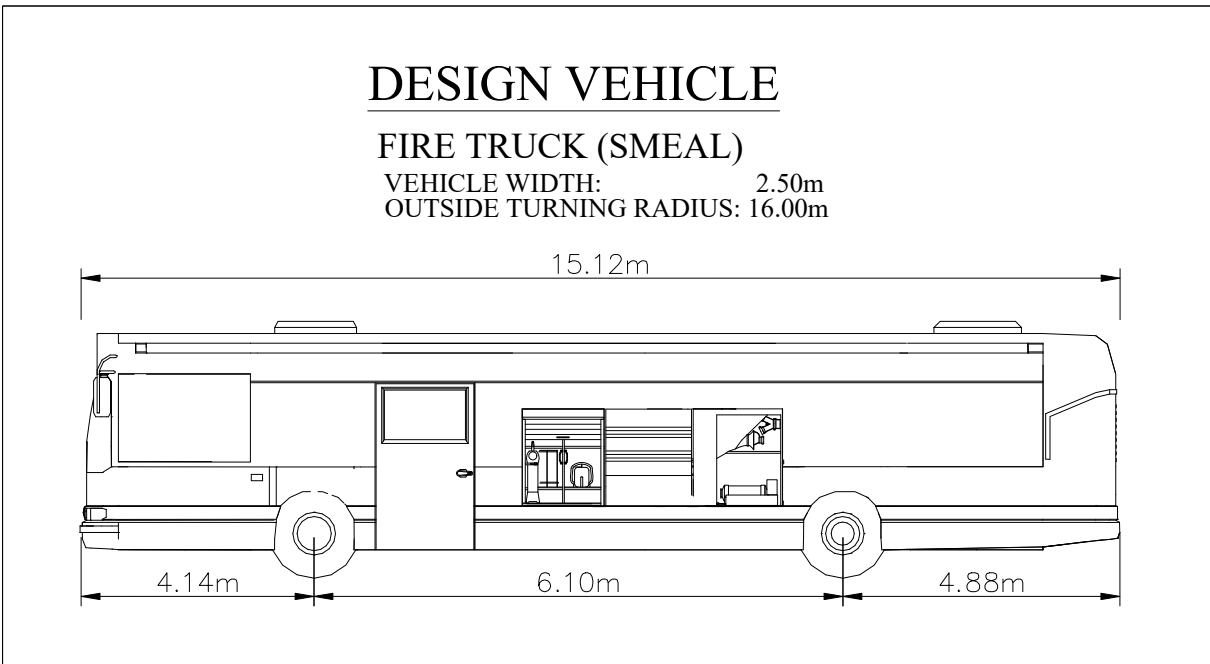
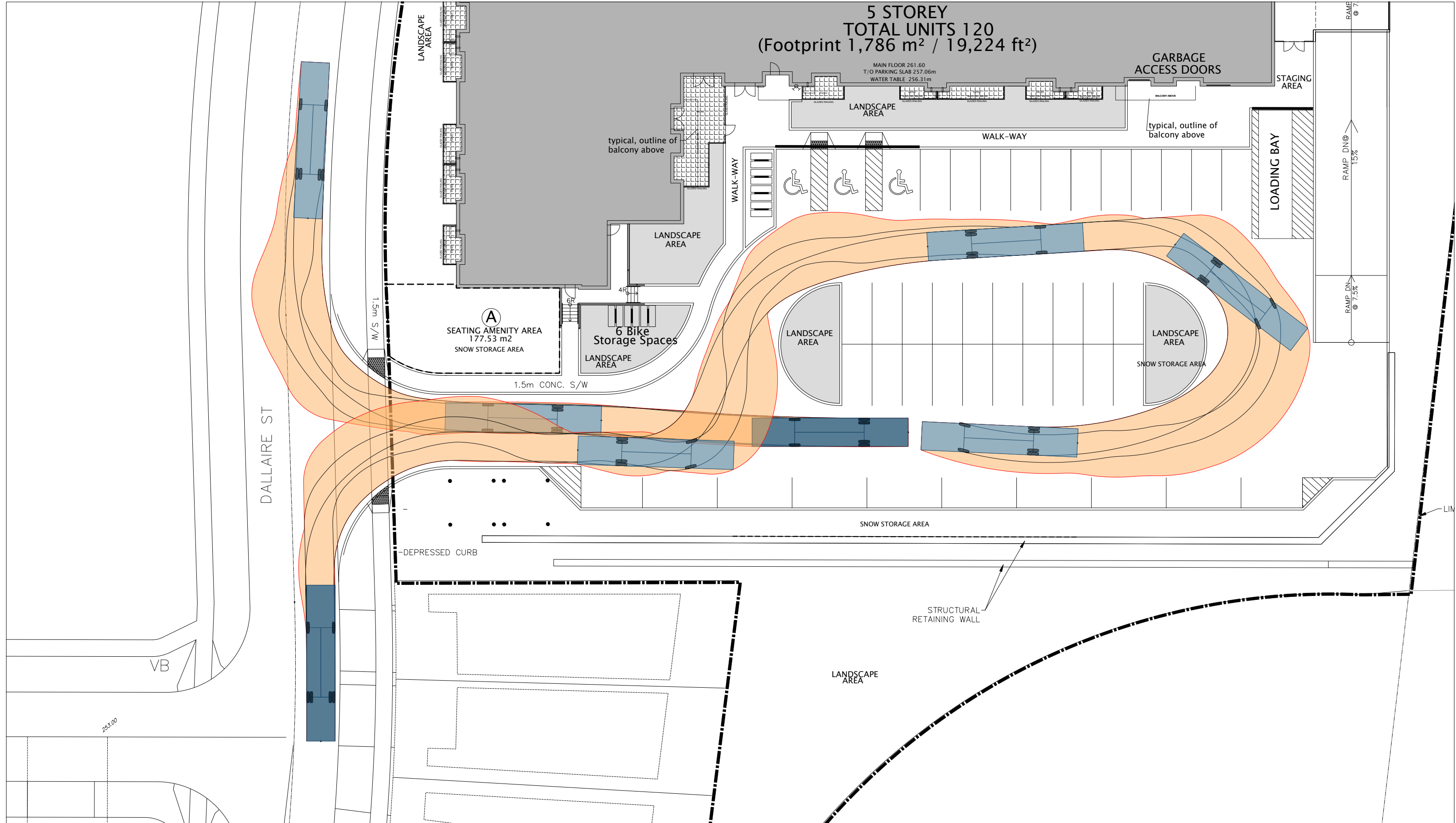
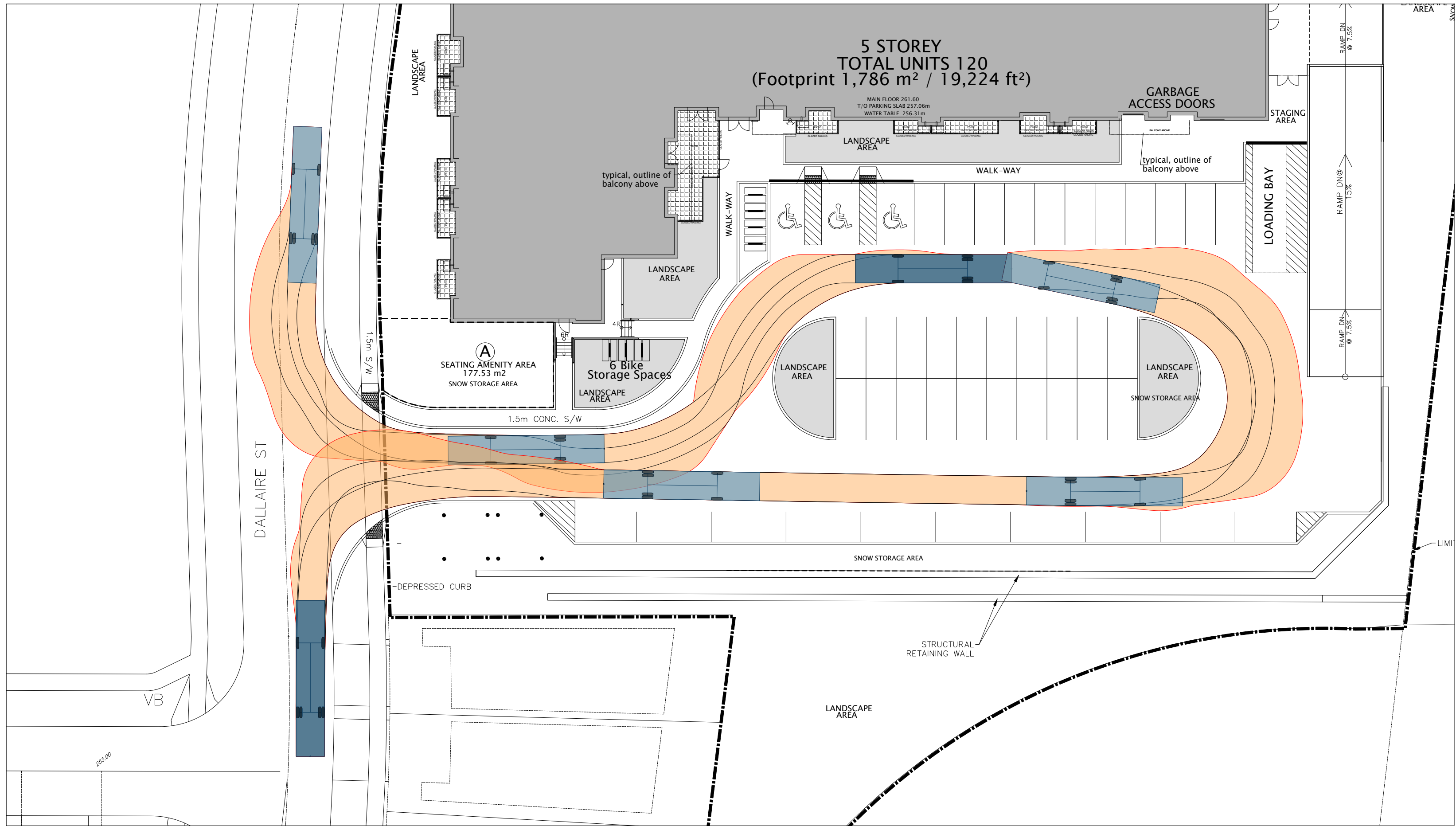
HCM Unsignalized Intersection Capacity Analysis

1: Site Access & MVD

05-07-2024

| | | | | | | |
|-----------------------------------|------|------|-------|----------------------|------|------|
| | → | ↘ | ↙ | ← | ↖ | ↗ |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↱ | | | ↰ | | ↱ |
| Traffic Volume (veh/h) | 542 | 255 | 0 | 515 | 0 | 12 |
| Future Volume (Veh/h) | 542 | 255 | 0 | 515 | 0 | 12 |
| 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) | 589 | 277 | 0 | 560 | 0 | 13 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | TWLT | | | TWLT | | |
| Median storage veh | 2 | | | 2 | | |
| Upstream signal (m) | 252 | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 866 | | 1288 | 728 |
| vC1, stage 1 conf vol | | | | | 728 | |
| vC2, stage 2 conf vol | | | | | 560 | |
| vCu, unblocked vol | | | 866 | | 1288 | 728 |
| tC, single (s) | | | 4.1 | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | 5.4 | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 |
| p0 queue free % | | | 100 | | 100 | 97 |
| cM capacity (veh/h) | | | 777 | | 395 | 424 |
| Direction, Lane # | EB 1 | WB 1 | NB 1 | | | |
| Volume Total | 866 | 560 | 13 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 277 | 0 | 13 | | | |
| cSH | 1700 | 1700 | 424 | | | |
| Volume to Capacity | 0.51 | 0.33 | 0.03 | | | |
| Queue Length 95th (m) | 0.0 | 0.0 | 0.7 | | | |
| Control Delay (s) | 0.0 | 0.0 | 13.8 | | | |
| Lane LOS | | | B | | | |
| Approach Delay (s) | 0.0 | 0.0 | 13.8 | | | |
| Approach LOS | | | B | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.1 | | | |
| Intersection Capacity Utilization | | | 54.1% | ICU Level of Service | A | |
| Analysis Period (min) | | | 15 | | | |

Appendix E – Swept Path Analysis



GENERAL NOTES
1. THIS DRAWING IS NOT INTENDED FOR CONSTRUCTION.
2. DO NOT SCALE DRAWINGS.
3. THE DRAWINGS ARE THE PROPERTY OF JD ENGINEERING AND MUST BE RETURNED ON COMPLETION OF THE PROJECT.
4. BASE DRAWING PROVIDED BY S&C ARCHITECTS INC. ON JUNE 6, 2024.

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| 1. | JUNE 2024 | JN | FIRST SUBMISSION |
| NO. | DATE | APPROVED | REVISIONS |

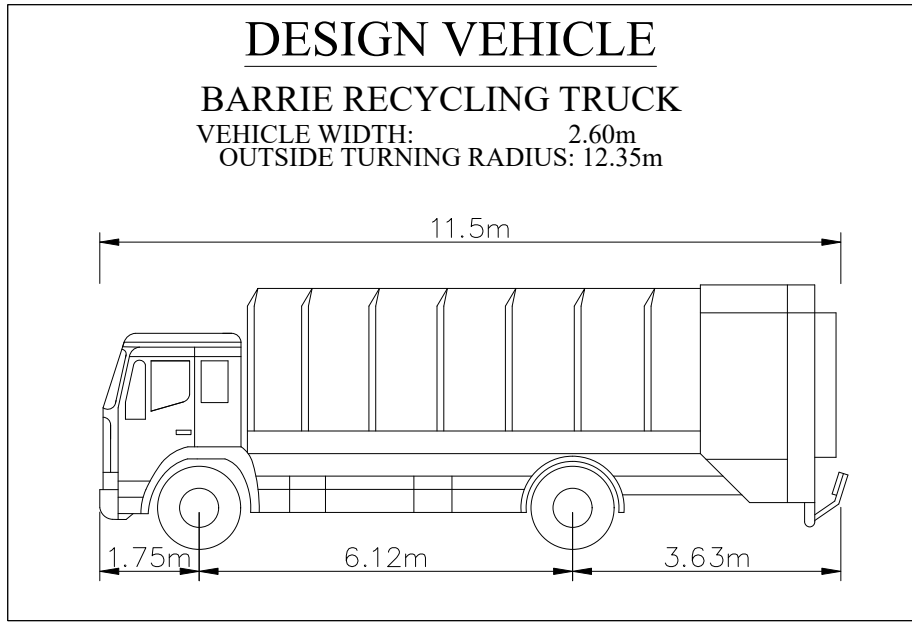
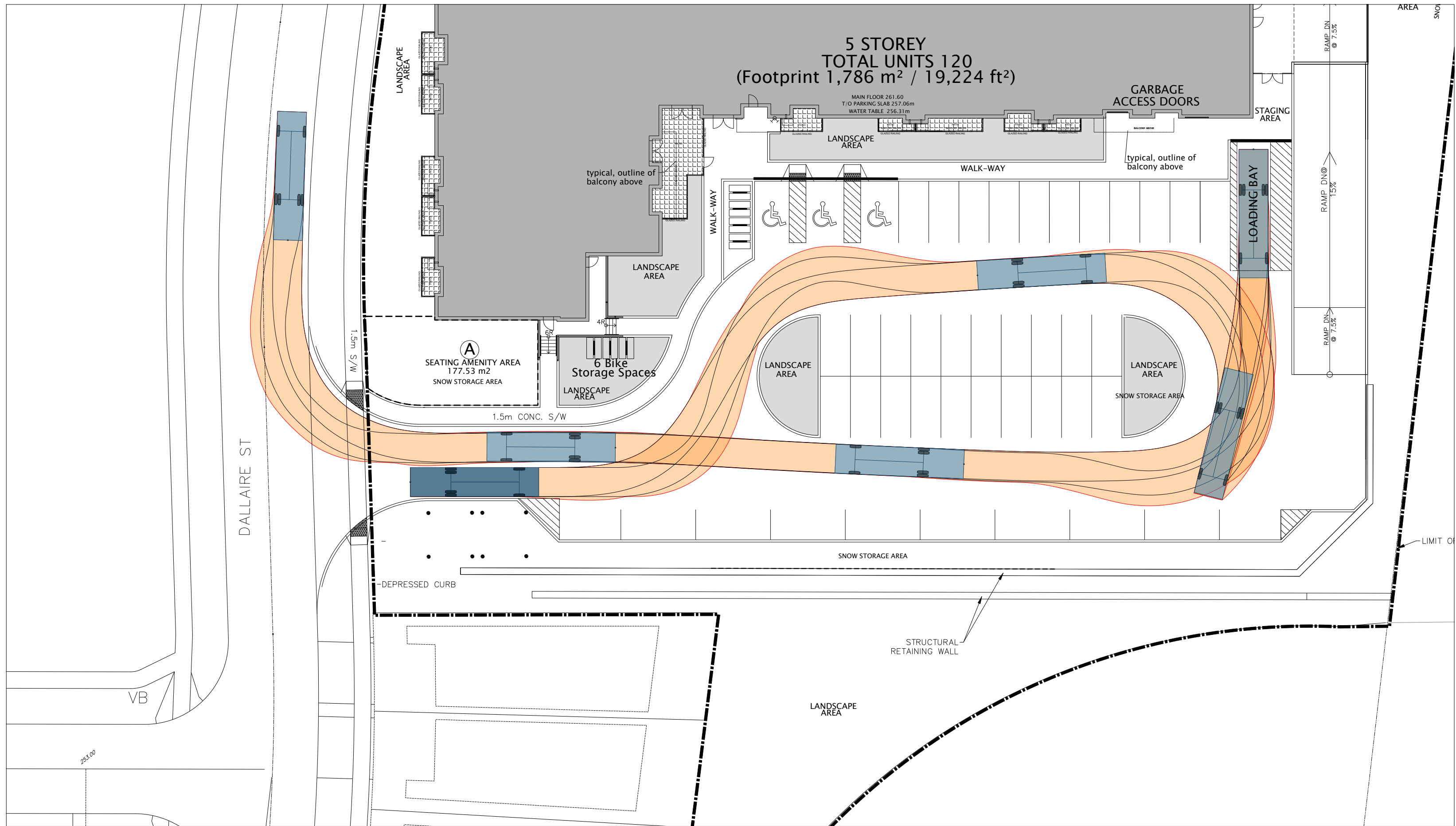
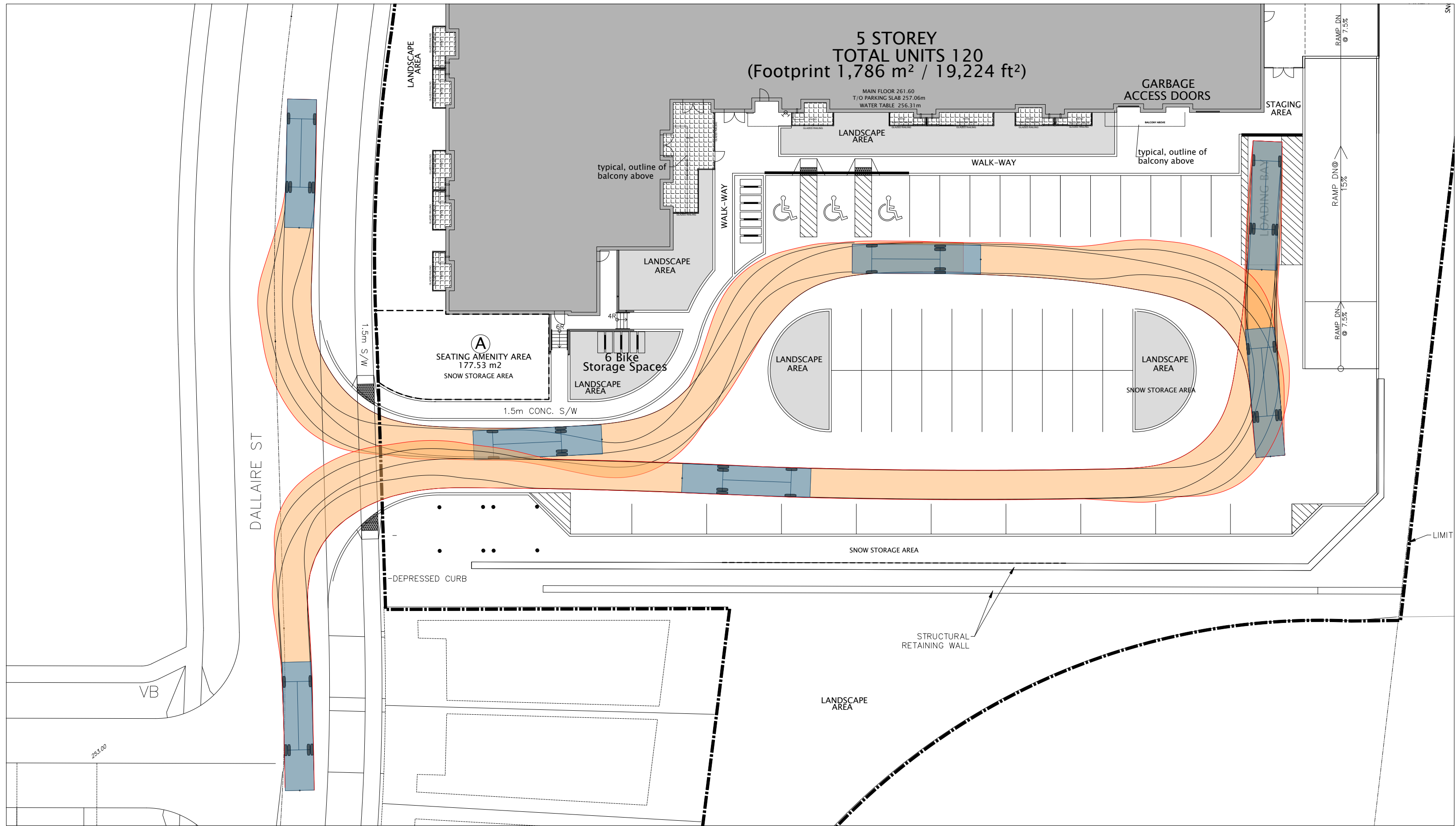
JD Northcote Engineering Inc.
Phone: 705.725.4035
86 Cumberland Street
Barrie, ON L4N 2P6
www.JDEngineering.ca

AREA MUNICIPALITY
CITY OF BARRIE

953 MAPLEVIEW DRIVE EAST
BLOCK 192

EMERGENCY VEHICLE
TURNING MOVEMENTS

| | |
|-------------------------|-----------------|
| DESIGN: JN | DATE: 06/24 |
| DRAWN: JN | DATE: 06/24 |
| REVIEWED: JN | DATE: 06/24 |
| SCALE HOR. 1:300 | SCALE VERT. N/A |
| SHEET NO. 1302 - TURN 1 | |



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| NO. | DATE | APPROVED | REVISIONS |

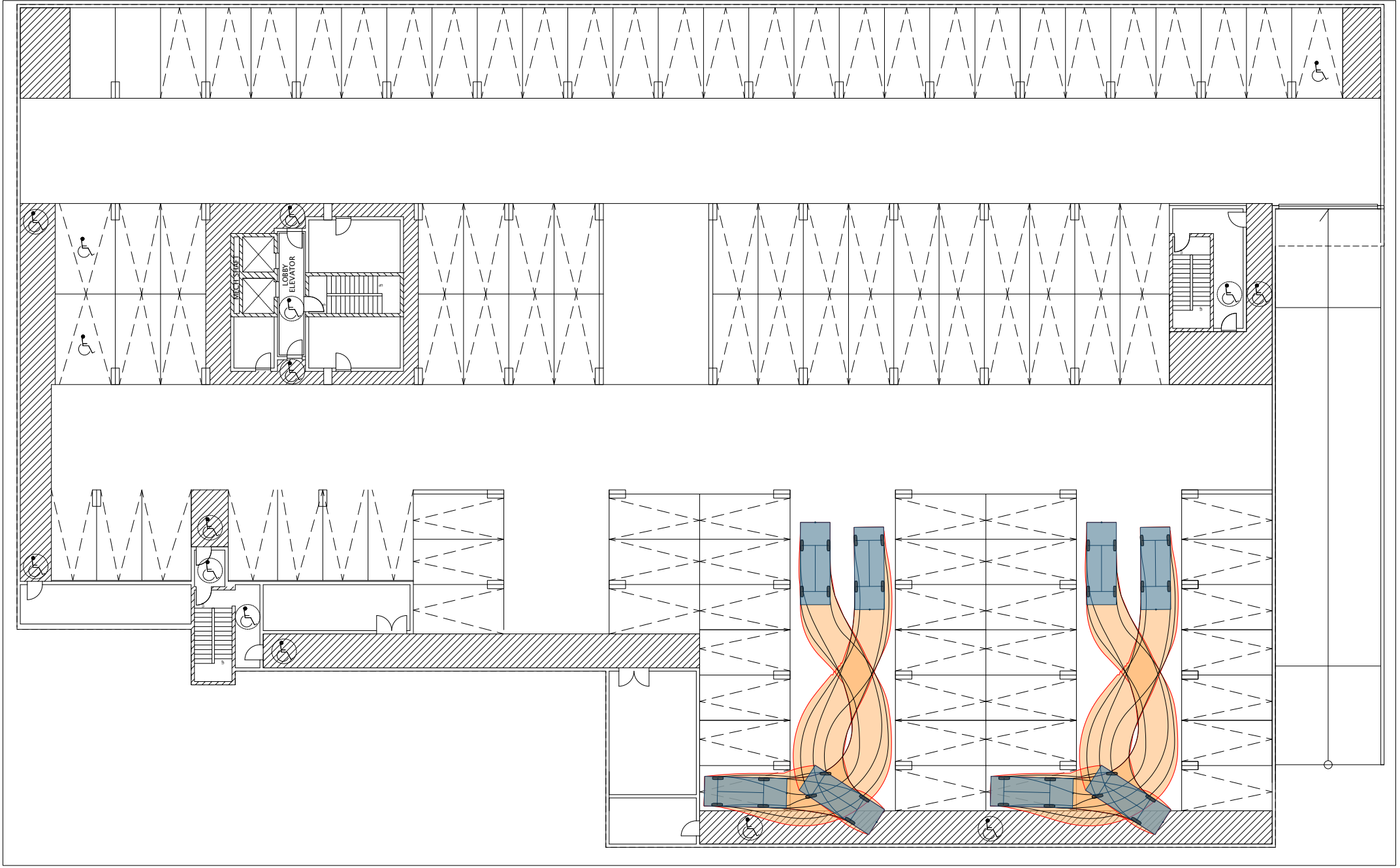
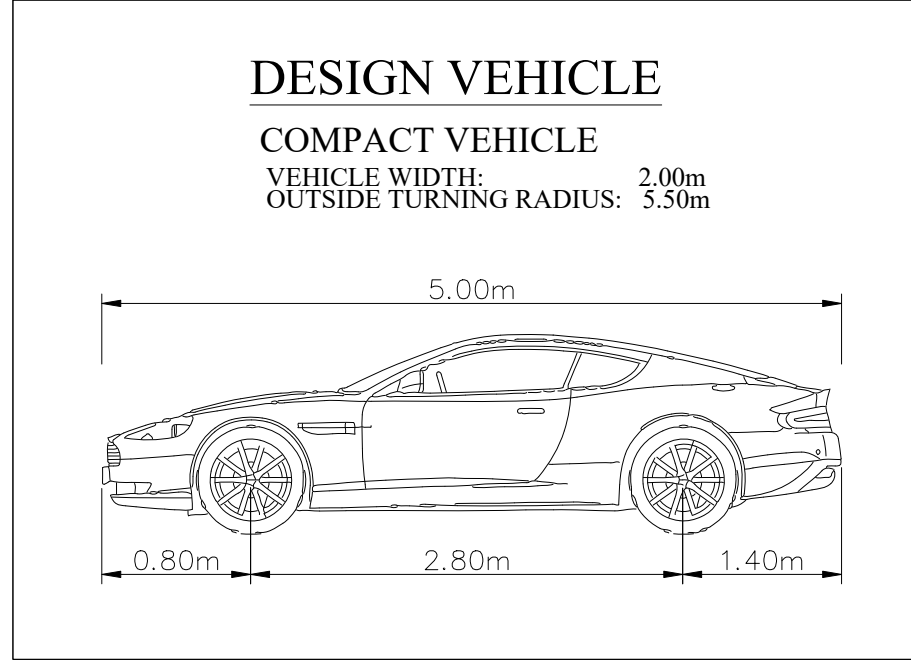
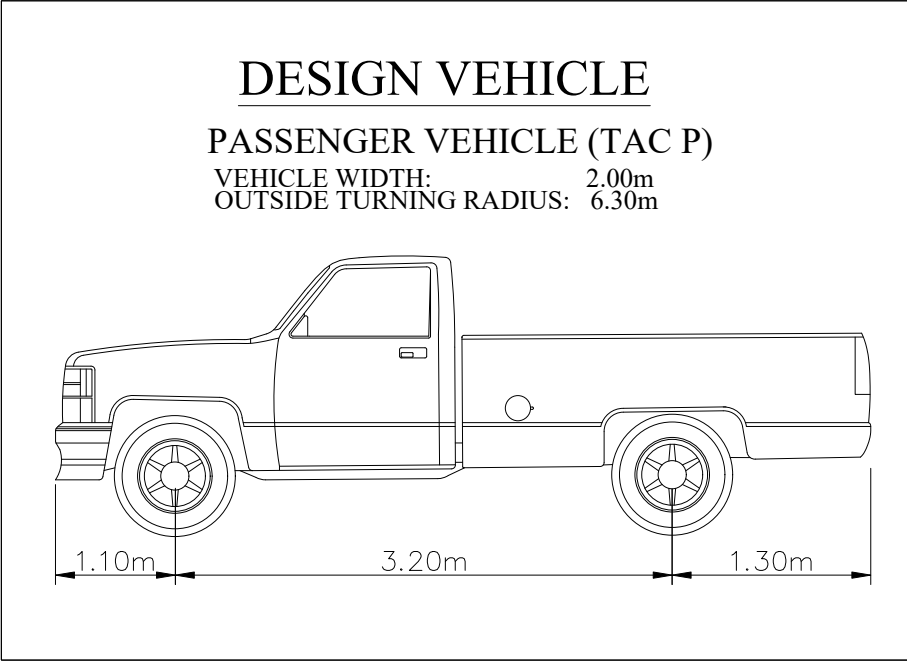
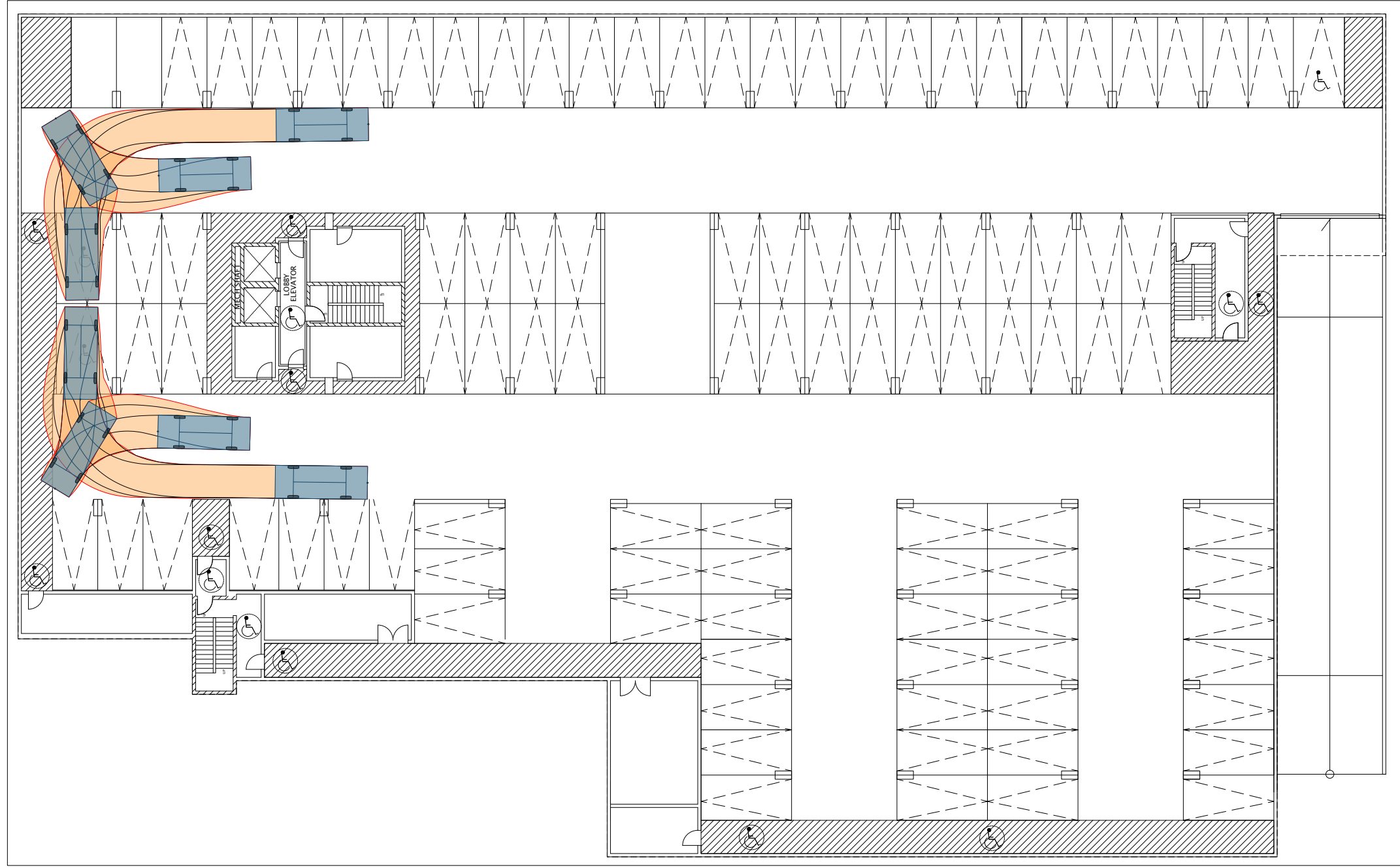
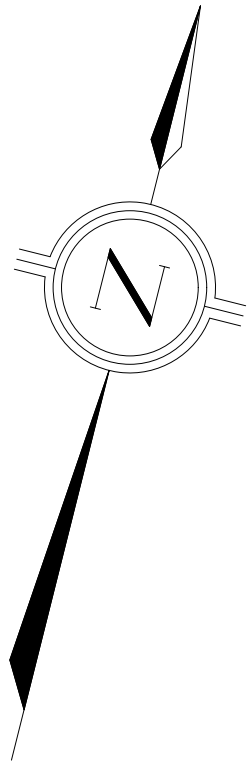
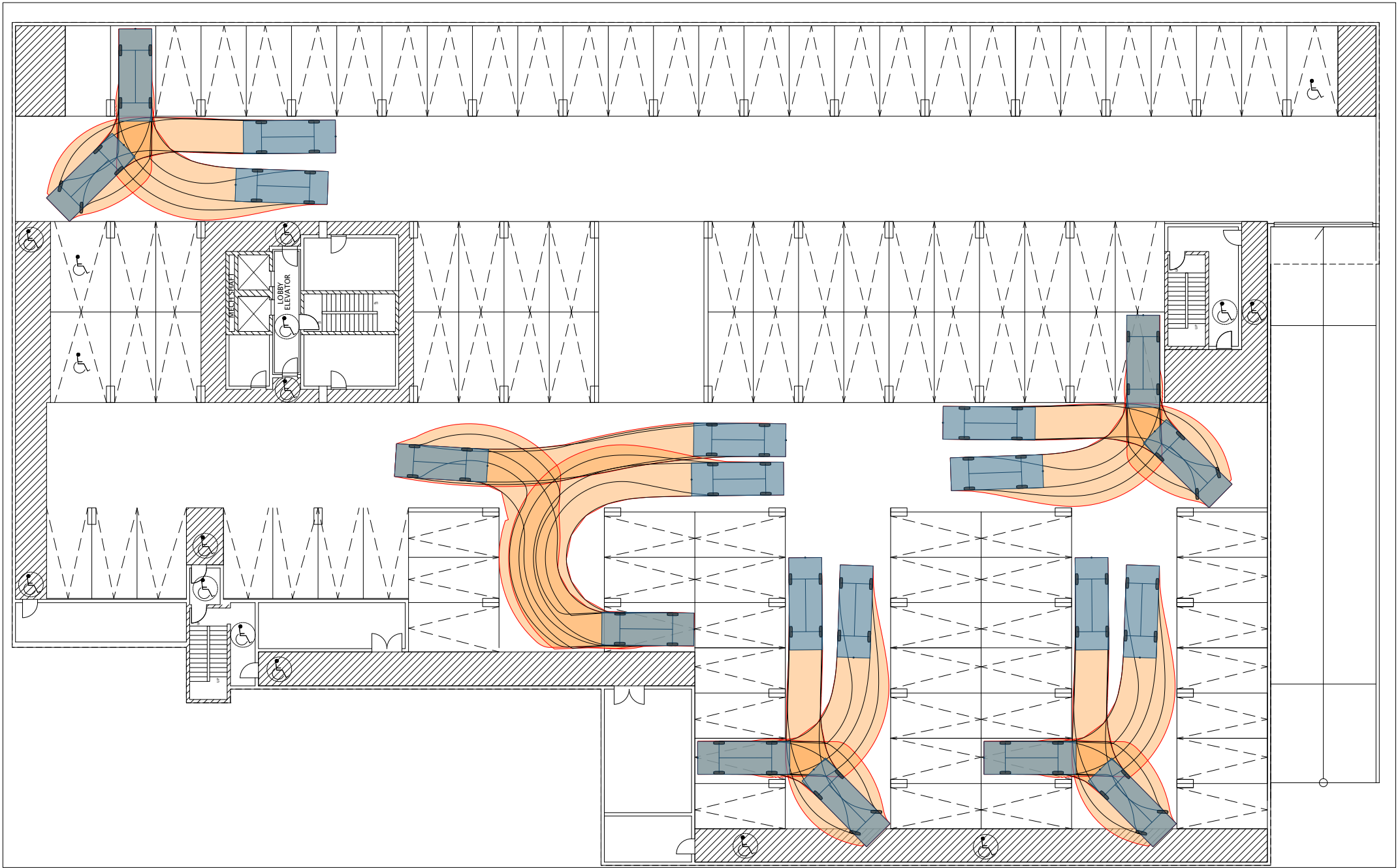
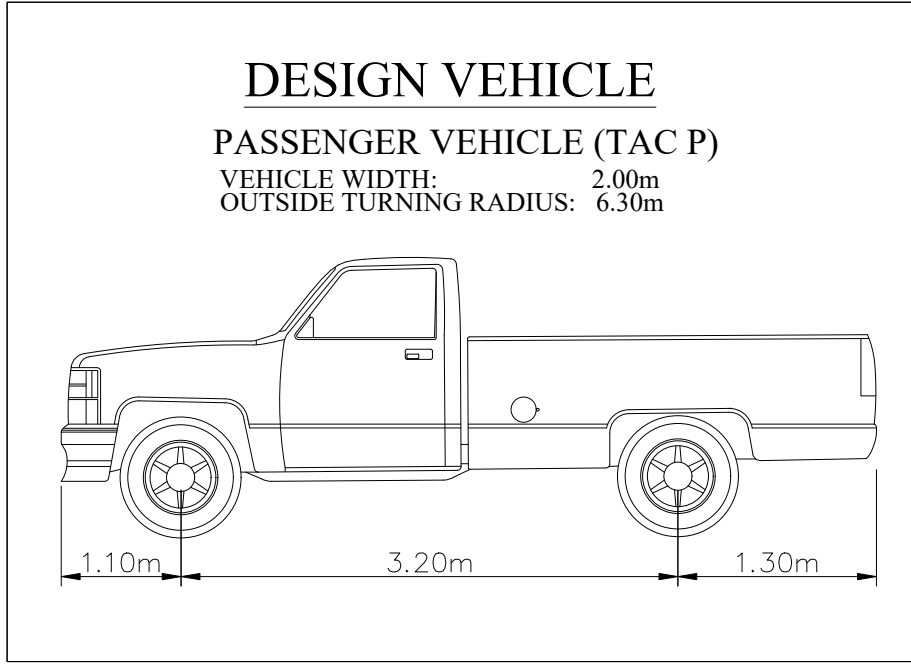
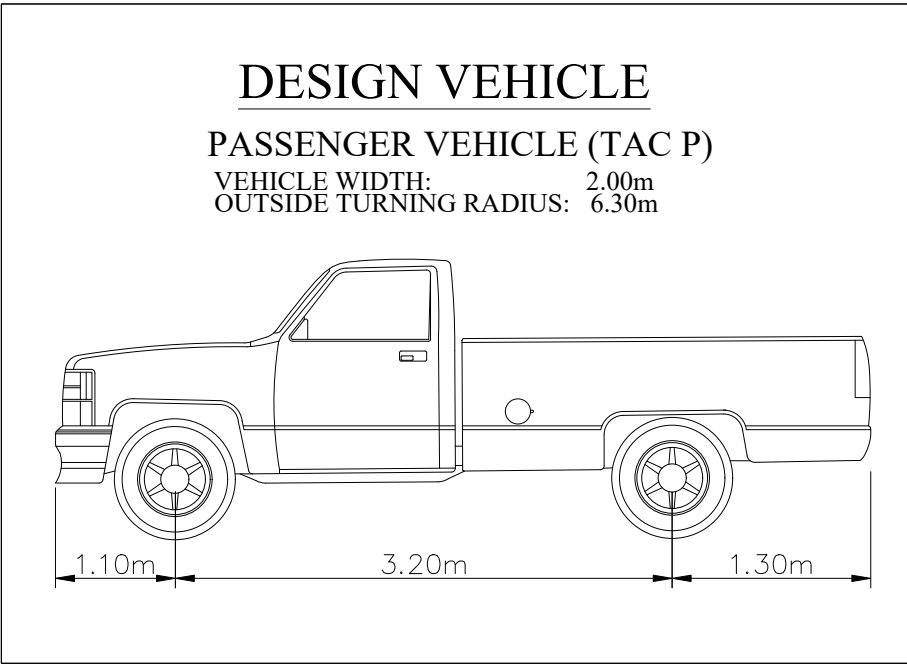
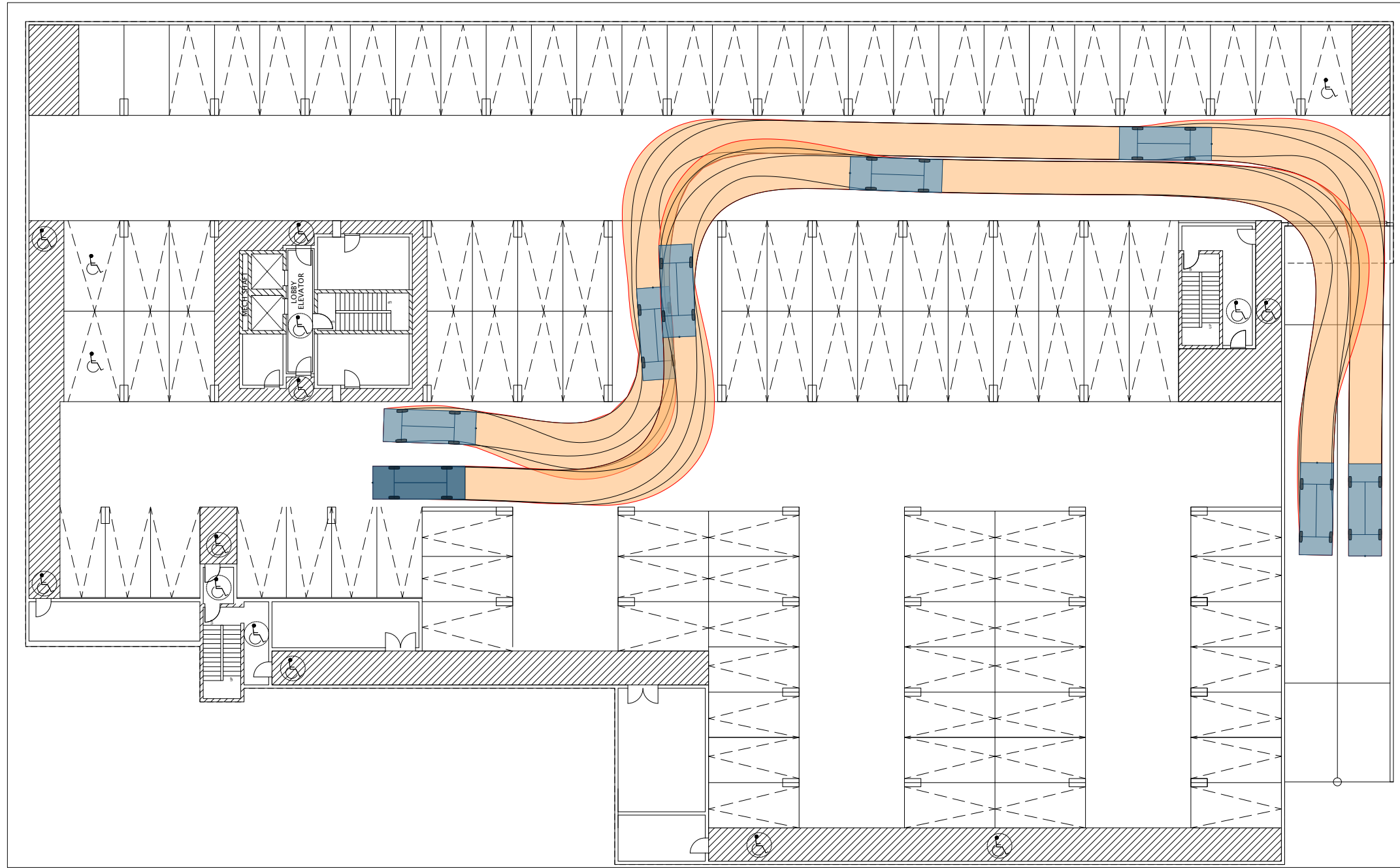
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86 Cumberland Street
Barrie, ON L4N 2P6
www.JDEngineering.ca

AREA MUNICIPALITY
CITY OF BARRIE

**953 MAPLEVIEW DRIVE EAST
BLOCK 192**

**WASTE VEHICLE
TURNING MOVEMENTS**

| | |
|-------------------------|-----------------|
| DESIGN: JN | DATE: 06/24 |
| DRAWN: JN | DATE: 06/24 |
| REVIEWED: JN | DATE: 06/24 |
| SCALE HOR. 1:300 | SCALE VERT. N/A |
| SHEET NO. 1302 - TURN 2 | |



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| | | | |
| 1. | JUNE 2024 | JN | FIRST SUBMISSION |
| NO. | DATE | APPROVED | REVISIONS |



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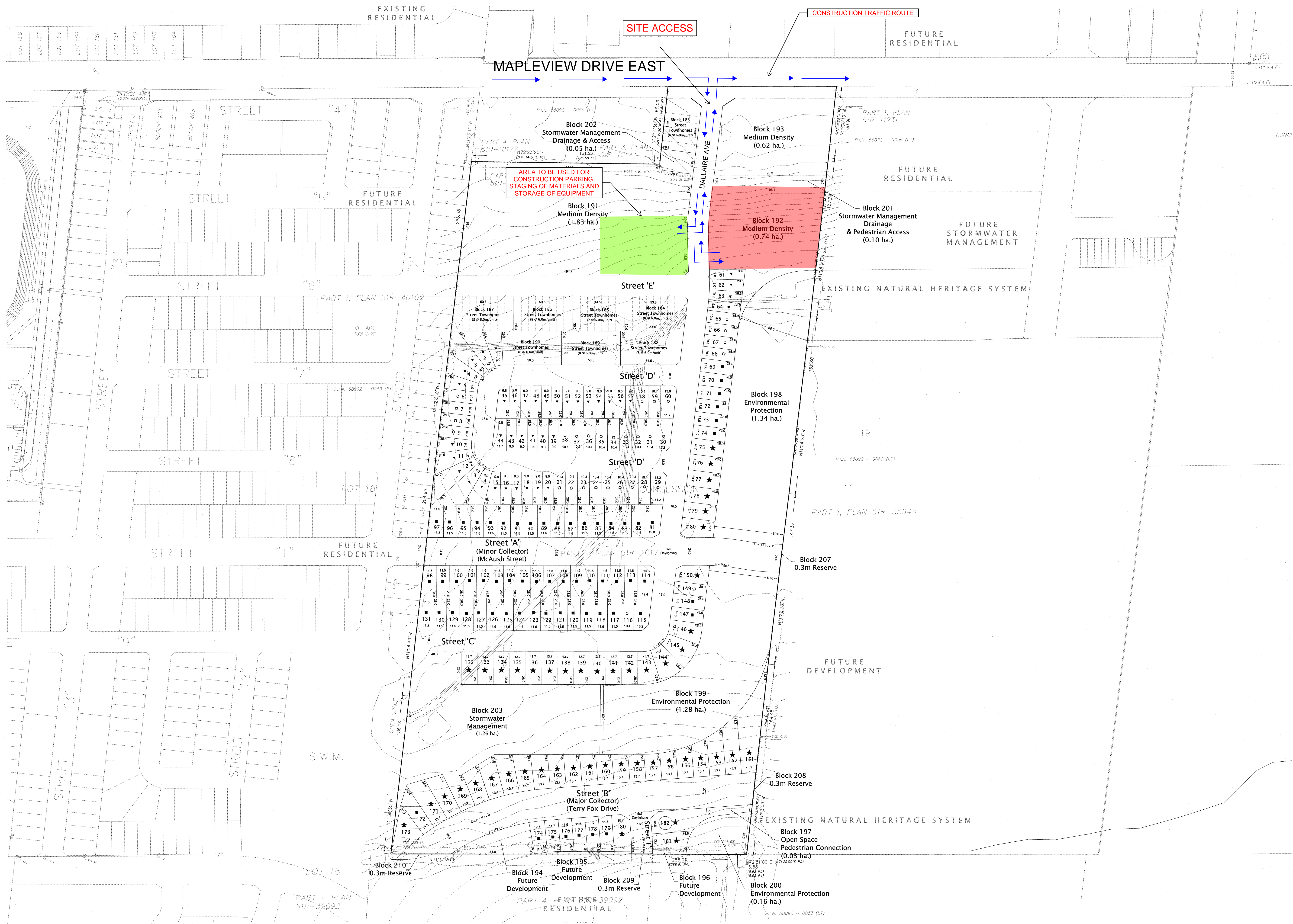
AREA MUNICIPALITY
CITY OF BARRIE

**953 MAPLEVIEW DRIVE EAST
BLOCK 192**

**PASSENGER VEHICLE
TURNING MOVEMENTS**

| | | | |
|------------|---------------|-------------|-------|
| DESIGN: | JN | DATE: | 06/24 |
| DRAWN: | JN | DATE: | 06/24 |
| REVIEWED: | JN | DATE: | 06/24 |
| SCALE HOR. | 1:300 | SCALE VERT. | N/A |
| SHEET NO. | 1302 - TURN 3 | | |

Appendix F – Construction Traffic Management Plan



CONSTRUCTION TRAFFIC
MANAGEMENT PLAN
DATE: JUNE 14, 2024

