

SUBJECT

Wateridge Village Phase 4, Block 6 – Transportation Memorandum

DATE

October 2, 2024

DEPARTMENT

Transportation Engineering

COPIES TO

John Hebert – Project Manager, ROHIT Communities Ontario Inc.

TO

Wally Dubyk, CET
City of Ottawa Transportation Project Manager

OUR REF

144148 Block 6 Ph4 Wateridge Village - Internal
Documents\6.0_Technical\6.23_Traffic\03_Reports\Transportation Memo

PROJECT NUMBER

144148

NAME

David Hook, P.Eng. – Associate Manage, Transportation
Engineering
Ben Pascolo-Neveu, P.Eng. – Transportation Engineer

Technical Memorandum

Introduction

Arcadis was retained by ROHIT Communities Ontario Inc. to prepare a Transportation Memorandum in support of a Site Plan Control application for a proposed residential development within the Wateridge Phase 4 Plan of Subdivision in Ottawa.

The proposed development will include a total of 200 residential units, consisting of two 4-storey apartments of 114 and 86 units in Building B and Building C, respectively (see **Appendix A**). The subject property is generally bound by Oshedinaa Street to the east and Kijigong Street to the south. Currently, there are undeveloped greenfield lands to the north and west of the site.

The proposed access configuration consists of two, all-movement driveways: a vehicular connection on Oshedinaa Street serving the surface level parking lots and a full movement connection on Kijigong Street serving the underground parking garage.

The results of the Transportation Impact Assessment (TIA) Screening Form (see **Appendix B**) indicate that a TIA would not be required for the proposed development, given that the Trip Generation, Location and Safety Triggers were not met. The vast majority of vehicular impacts were accounted for previously as part of the Wateridge Phase 4 TIA (Dillon, 2023), while the proposed development is expected to contribute only 15 additional vehicular trips during the weekday peak morning and afternoon peak hours, constituting a negligible increase in traffic.

Prior to the initiation of the study, it was agreed through email correspondence with the City Transportation Project Manager, Wally Dubyk, on May 11, 2023 that a memorandum would sufficiently address the transportation concerns for the subject site, with consideration of the following items: Transportation Demand Management, Parking, Site Access & Circulation.

The site location and its surrounding context are shown in **Figure 1** below.

Figure 1 - Site Location



Transportation Demand Management

The City of Ottawa requires all new development city-wide to provide a robust Transportation Demand Management (TDM) strategy with the objective of reducing automobile dependence, particularly during the weekday peak travel periods and encourage use of non-auto modes of travel during the peak periods.

The proposed development conforms to the City's TDM principles by providing convenient and direct connections to adjacent pedestrian and cycling facilities.

Context for TDM

The proposed development will consist of mid-rise residential units which provides an appropriate level of compact growth and is supported by the CFB Rockcliffe Community Design Plan (CDP) within this block. Further, the site is located within the 'North West' neighbourhood of the CFB Rockcliffe CDP and within 200 metres of the 'Hemlock Core Street' which is planned to accommodate grade-separated cycle tracks and concrete sidewalks in both directions to help promote the use of active transportation modes.

Need and Opportunity

There is an opportunity to increase the overall proportion of sustainable transportation trips within Wateridge Village through the implementation of strategic TDM measures and site-specific infrastructure in order to complement the facilities which are currently in place or planned along the adjacent road network.

Mode share targets applied as part of the trip generation exercise conducted for the TIA Screening Form were consistent with the Phase 4 TIA and are expected to be achievable, given the suite of TDM measures outlined in the 'TDM Program' section below.

In terms of transit, the proposed development is currently served by Route 27 and will be within a 500-metre walking distance of existing bus stops south of the development, as well as future bus stops on Hemlock Road and Codd's

Road. The subject development will therefore be well positioned to provide residents with increased transit options, as service is gradually strengthened in conjunction with the build-out of the surrounding community.

The primary entrances for each building will be street-oriented to provide direct pedestrian access to the nearest boundary street. A network of pathways is proposed to facilitate connections between building entrances and pedestrian facilities proposed on each boundary street. The design and infrastructure improvements contribute to a development that will reduce private auto usage by integrating well with the existing and proposed sustainable transportation infrastructure.

TDM Program

The City of Ottawa's TDM Measures and TDM-Supportive Development-Design & Infrastructure Checklists were completed for the proposed development and are provided in **Appendix C**. These checklists indicate measures that are being contemplated as part of this development, including the following:

- Install a bike repair station with commonly used tools such as an air pump.
- Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible.
- Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected when possible.
- Provide walkways from public streets to major building entrances; within a site, providing walkways along the front of adjoining buildings, between adjacent buildings, and connecting areas where people may congregate.
- Unbundle parking from monthly rent.
- Locate building close to the street, and do not locate parking areas between the street and building entrances.
- Provide a multimodal travel option information package to new residents.

Parking

Vehicular parking spaces are proposed on-site, consisting of 209 resident and 19 visitor spaces for a total of 228 spaces, shared between the two buildings. The City of Ottawa Zoning By-law 2008-250 indicates a minimum of 113 vehicle parking spaces are required to serve the proposed development and therefore the on-site parking supply is compliant with the by-law. All 19 visitor parking spaces are proposed in the surface parking lot and will be accessed via the proposed site access driveway on Oshedinaa Street. There are also six residential parking spaces within the surface lot along with two accessible parking spaces.

There is a total of 115 bicycle parking stalls proposed including 14 visitor stalls. The visitor stalls are provided at the rear entrances to each building and the remainder are within the secure stalls in the parking garage, as shown in **Appendix A**. Therefore, the requirement of 100 bicycle parking spaces specified in the by-law for the proposed development is satisfied.

Site Access & Circulation

All site-generated traffic will access the proposed developments via two-way private approaches on Kijigong Street and Oshedinaa Street. The proposed site access driveways are both in conformance with the City of Ottawa Private Approach By-law 2003-447, with particular confirmation of the following items:

- Width: As stated in the Private Approach By-law, a private approach shall have a minimum width of 2.4m and a maximum width of 9.0m. The City of Ottawa Zoning By-law further specifies that for driveways providing access to a parking lot or parking garage, a two-way private approach shall have a minimum width of 6.0m. The two-way internal drive aisles for the subject development provide approximately 6.7 metres of clear width

within the surface parking lot and a minimum of approximately 6.0 metres of clear width within the underground parking garage, therefore both are in conformance with the by-law requirements.

- Quantity & Spacing of Private Approaches: For sites with frontages between 35 and 45 metres and frontages above 150 metres, a maximum of two (2) two-way private approaches are permitted on each frontage. The proposed development consists of approximately 214- and 43-metre frontages on Oshedinaa Street and Kijigong Street, respectively. As such, the two two-way private approaches on Oshedinna Street and Kijigong Road are compliant with the by-law.
- Distance from Property Line: Private approaches must be at least 3.0m from the abutting property line, however this requirement can be reduced to 0.3m provided that the access is a safe distance from the nearest driveway serving the adjacent property, sight lines are adequate and that it does not create a traffic hazard. All of the private approaches are at least 3m from the adjacent property lines and are therefore compliant with the by-law.

The proposed site access driveways have been designed as per City Standard SC7.1 (March 2021) to ensure that sidewalks are continuous across each vehicular connection, thereby prioritizing pedestrians over vehicular movements.

Waste collection for both buildings will occur next to the rear entrances within the designated waste collection areas within in the surface parking lot between Buildings B & C. Swept path analysis of a standard front-loading waste collection vehicle can be found in **Appendix D**.

Conclusion

Based on the results of the Transportation Impact Assessment (TIA) Screening Form prepared for the subject site, a net increase of up to 15 two-way additional vehicle-trips beyond the site-generated traffic impacts developed as part of the Wateridge Phase 4 TIA are anticipated during the weekday morning and afternoon peak hours. The proposed development will provide a suite of Transportation Demand Management (TDM) measures to prioritize and support sustainable modes of transportation and reduce reliance on private automobile usage for site-generated trips.

The parking and site access/circulation aspects of the proposed development were reviewed and determined to be in compliance with the City of Ottawa Zoning By-law and Private Approach By-law.

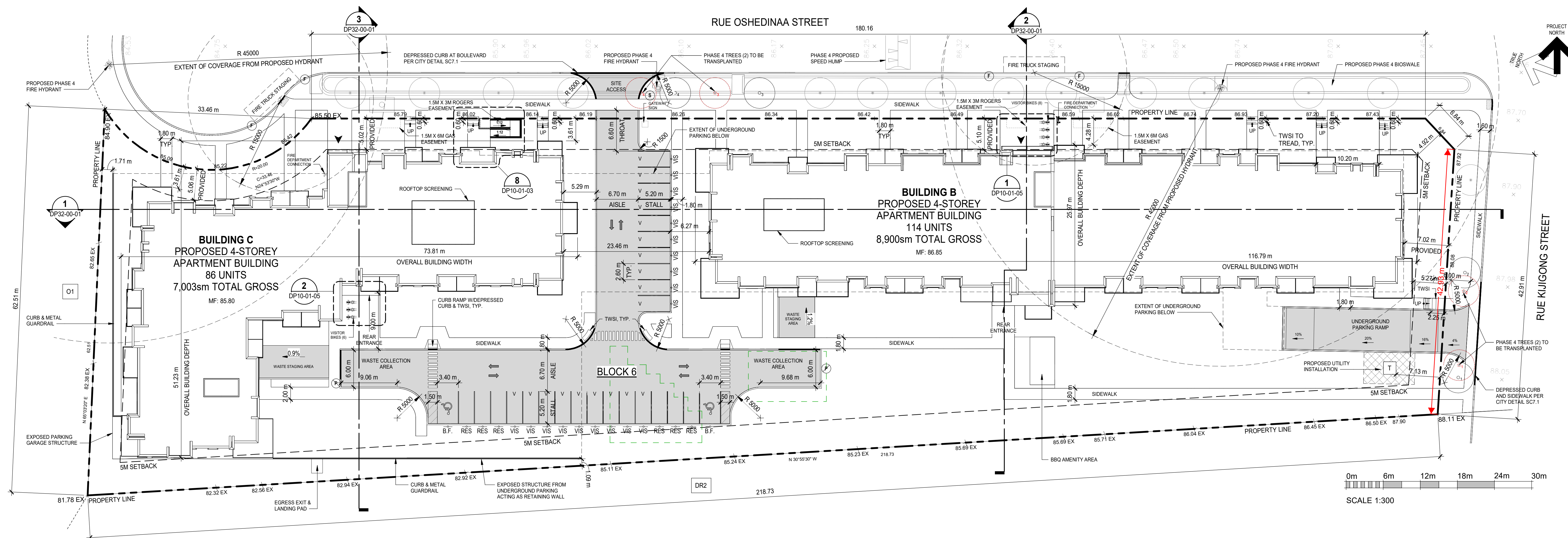
It is therefore the overall opinion of Arcadis that the proposed development will integrate well with, and can be safely accommodated by, the adjacent transportation network.

Reviewed by:



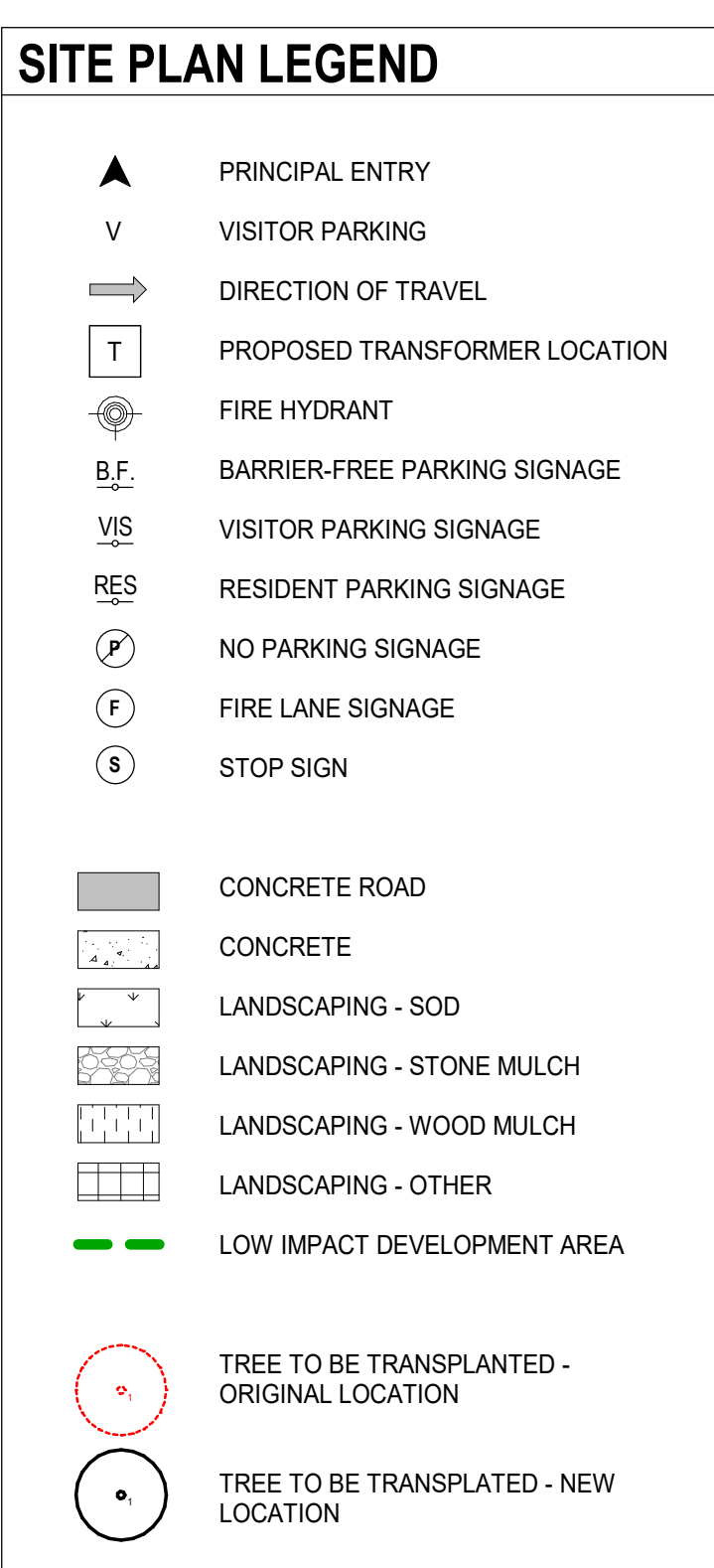
David Hook, P.Eng.

Appendix A – Proposed Development



1 BLOCK 6 SITE PLAN
DP10-01-01 SCALE: 1 : 300

- ### GENERAL NOTES
- ALL EXISTING SITE INFORMATION AS PER TOPOGRAPHICAL SURVEY PLAN DATED MARCH 32nd, 2023 PREPARED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD.
 - WHEEL STOPS TO BE 100MM HIGH AND PLACED 500MM FROM FRONT OF PARKING STALL, TYP.
 - ANY SNOW ACCUMULATED IN INTERNAL ROAD/Private Way IS TO BE TRUCKED OFF SITE.
 - FIRE FIGHTING TO TAKE PLACE FROM OSHEDINAA STREET.
 - REFER TO LANDSCAPE DRAWINGS FOR PLANTING, SITE LIGHTING AND FURNITURE DETAILS.
 - REFER TO CIVIL DRAWINGS FOR SERVICING AND GRADING.



Site Information

LAND USE DISTRICT	R5Y [2312]
LEGAL DESCRIPTION / PIN	Block 6, Registered Plan 4M-1718 / PIN 02473-1232
MUNICIPAL ADDRESS	125 & 135 Oshedinaa Street, Ottawa, ON
COMMUNITY	Wateridge Village
SITE AREA	11,661 SM 125,518 SF Required: 1,400 SM 2.88 AC 1,166 HA
AMENITY AREA	Required Provided Total amenity area 1,272 SM 2,870 50m Communal amenity area 120 SM 793 27m
LOT WIDTH	Minimum Provided 18.0m 48.18m

Development Statistics

PROPOSED USE (PERMITTED)	Planned Unit Development, Two (2) low-rise apartment buildings; one (1) accessory utility installation structure in rear yard
UNITS TOTAL	200
SETBACKS	Required Provided Front yard (Oshedinaa Street) 5.0m 5.02m Corner side yard (Kijigong Street) 5.0m 7.02m Rear yard 5.0m 1.09m Interior side yard 5.0m 1.71m
PROJECTIONS INTO SETBACKS	Greatest Front yard (Oshedinaa Street) 1.39m Corner side yard (Kijigong Street) None Rear yard 3.91m Interior side yard 3.29m
DENSITY	Units/ Ha Units Minimum 105 122.4 Maximum N/A N/A Proposed 172 200
HEIGHT	Maximum Proposed 16.0m 15.71m (Bldg B) / 14.36m (Bldg C)
SITE COVERAGE	34.36%

Area Calculations

BLDG / LEVEL	GROSS FLOOR AREA	
	SF	SM
BUILDING B		
LEVEL 1	24,115.7	2,240.42
LEVEL 2	23,895.1	2,219.93
LEVEL 3	23,895.1	2,219.93
LEVEL 4	23,895.1	2,219.93
GFA	95,801.1	8,900.21
BUILDING C		
LEVEL 1	19,012.1	1,766.28
LEVEL 2	18,788.9	1,745.55
LEVEL 3	18,788.9	1,745.55
LEVEL 4	18,788.9	1,745.55
GFA	75,378.8	7,002.92
TOTAL GFA	171,180 SF	15,903.1 SM
SITE COVERAGE	43,128 SF	4,007 SM
		34.36%

Amenity Area Calculations

BLDG / LEVEL	GROSS FLOOR AREA	
	SF	SM
BUILDING B (PRIVATE)		
LEVEL 1	3,082.6	286.38
LEVEL 2	3,289.0	305.56
LEVEL 3	3,289.0	305.56
LEVEL 4	3,289.0	305.56
Area	12,949.5	1,203.05
BUILDING C (PRIVATE)		
LEVEL 1	2,180.8	202.60
LEVEL 2	2,409.6	223.86
LEVEL 3	2,409.6	223.86
LEVEL 4	2,409.6	223.86
Area	9,409.6	874.18
COMMUNAL AMENITY		
GRADE	8,538.7	793.27
Area	8,538.7	793.27
TOTAL AREA	30,898 SF	2,870.50 SM

Landscape Calculations

BLOCK 6	AREA
HARDSCAPE	1,021 SM
CONCRETE	625
UNIT PAVR	170
PEA GRAVEL	26
SOFTSCAPE	4,369
PLANT BEDS	2,051
SOD	2,318
TOTAL	5,390 SM
SITE COVERAGE	46.22%

Area Calculations - Underground Parking

BLDG / LEVEL	GROSS FLOOR AREA		UNDERGROUND PARKING
	SF	SM	# OF STALLS
BUILDINGS B & C			
UNDERGROUND PARKING	71,827.4	6,672.99	201

Vehicle Parking

TYPE	RATE	UNITS	STALLS	
			REQUIRED	PROVIDED
Building B & C				
Resident	0.50 stalls/unit	200	94	209
Visitor	0.10 stalls/unit	200	19	19
Total Stalls			113	228
	Deficiency			
	Surplus			115

Unit Types - Block 6

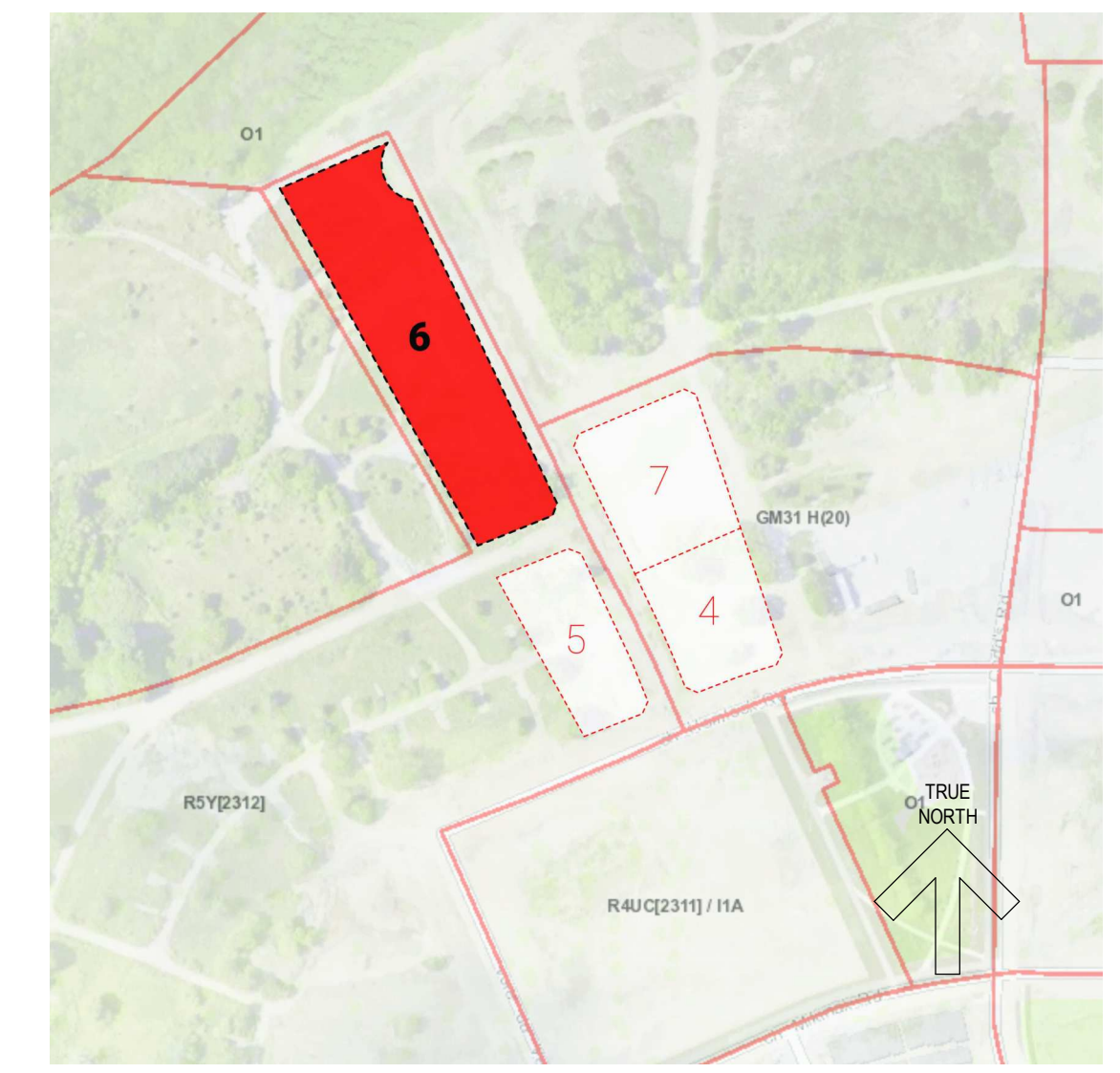
IDENTIFIER	SIZE	DESCRIPTION	PROVIDED AREA	BUILDING B	BUILDING C	QTY...	%	
UNIT A1	< 60 SM	BEDROOM WASHROOM	m ² sq.ft.	1	0	1	0.50%	
UNIT A - ROSA	< 60 SM	1	49.39	531.63	1	8	11.50%	
UNIT B2 - ROSSO	< 60 SM	1	49.84	536.48	8	16	8.00%	
UNIT B - AMBRA	< 60 SM	1 + DEN	58.75	632.38	45	27	36.00%	
AZURRO	> 60 SM	1 + DEN	63.00	678.15	0	4	2.00%	
GIALLO	> 60 SM	1 + DEN	63.00	678.15	0	4	2.00%	
GRIGIO	> 60 SM	1 + DEN	63.00	678.15	6	3	4.50%	
ARGENTO	> 60 SM	2	90.22	971.10	12	16	14.00%	
UNIT G	> 60 SM	2	76.58	824.31	20	9	29	14.50%
NERO D / ORO	> 60 SM	2 + DEN	84.30	907.41	3	3	6	3.00%
UNIT I	> 60 SM	3	103.50	1114.06	4	4	8	4.00%
BUILDING TOTAL				114	86			
TOTAL						200	100%	

Accessible Suite Breakdown - Building B

TYPE	QUANTITY	ACTUAL %	TYPE %	TOTALS
STUDIO / 1 BEDROOM	23	20.35%		
1 BEDROOM + DEN	51	45.13%	65.5%	74
1 BEDROOM ACCESSIBLE	12	10.62%		
2 BEDROOM	32	28.32%		
2 BEDROOM + DEN	3	2.65%	31.0%	35
2 BEDROOM ACCESSIBLE	8	7.08%		
3 BEDROOM	4	3.54%	3.5%	4
3 BEDROOM ACCESSIBLE	1	0.88%		
SUBTOTAL	113	100%		
ACCESSIBLE TOTALS	21	18.58%		

Accessible Suite Breakdown - Building C

TYPE	QUANTITY	ACTUAL %	TYPE %	TOTALS
STUDIO / 1 BEDROOM	16	18.60%		
1 BEDROOM + DEN	39	44.19%	62.8%	54
1 BEDROOM ACCESSIBLE	9	10.47%		
2 BEDROOM	25	29.07%		
2 BEDROOM + DEN	3	3.49%	32.6%	28
2 BEDROOM ACCESSIBLE	4	4.65%		
3 BEDROOM	4	4.65%	4.7%	4
3 BEDROOM ACCESSIBLE	1	1.16%		
SUBTOTAL	86	100%		
ACCESSIBLE TOTALS	14	16.28%		



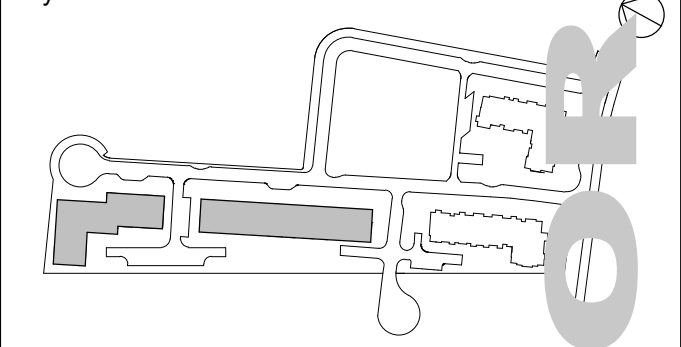
SITE CONTEXT MAP



This drawing has been prepared solely for the use of ROHIT COMMUNITIES and there are no representations of any kind made by NORR Architects Engineers Planners to any party with whom NORR Architects Engineers Planners has not entered into a contract.

This drawing shall not be used for construction purposes until the seal appearing hereon is signed and dated by the Architect or Engineer.

Project Component
SITE PLAN CONTROL APPLICATION
Key Plan



Consultants
Civil: Arcadis Professional Services (Canada) Inc.
Landscape: Arcadis Professional Services (Canada) Inc.
Architecture: NORR Architects Engineers Planners
Structural: TBD
Mechanical: Gookley, Weedmark & Associates Ltd.
Electrical: Gookley, Weedmark & Associates Ltd.
Owner: Rohit at Wateridge 6 Ltd.

Seal(s)



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Ottawa, ON, Canada K1N 5M3
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Project Leader	O.BREYTENBACH	Checked	E.FAULKNER

Client
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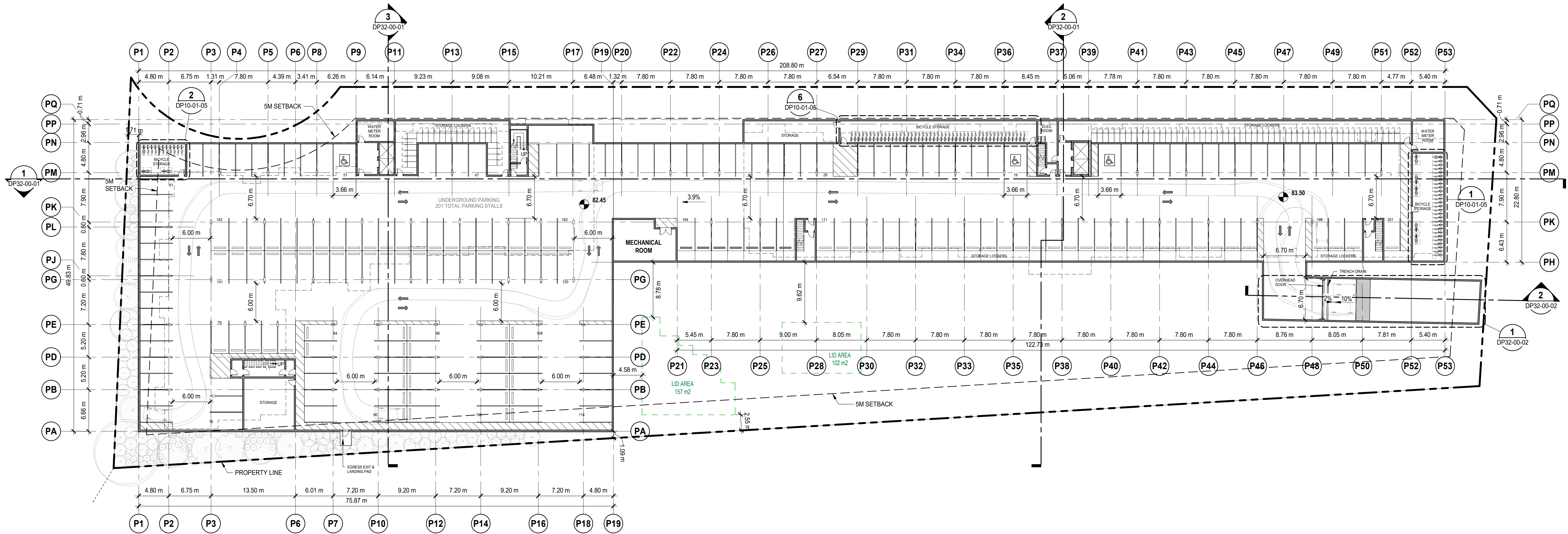
Project
Wateridge Village Block 6
125 & 135 OSHEDINAA STREET
OTTAWA, ON

Drawing Title
SITE PLAN, CONTEXT, STATISTICS AND DETAILS

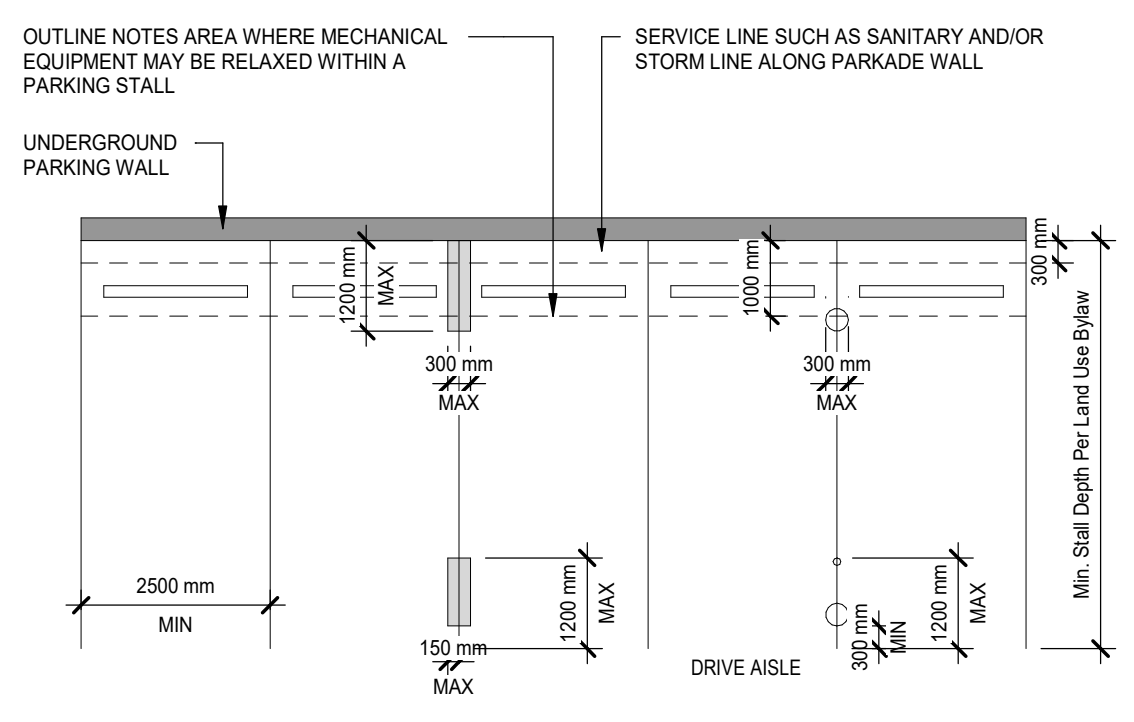
Scale
As indicated

Project No.
NCCA22-0243

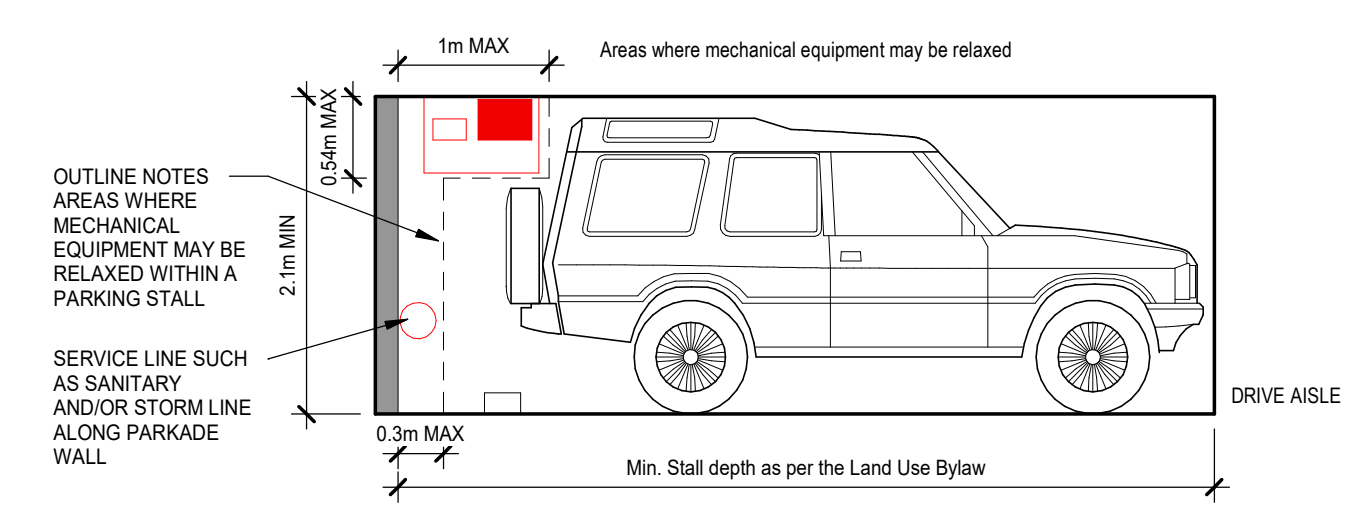
Drawing No.
DP10-01-01



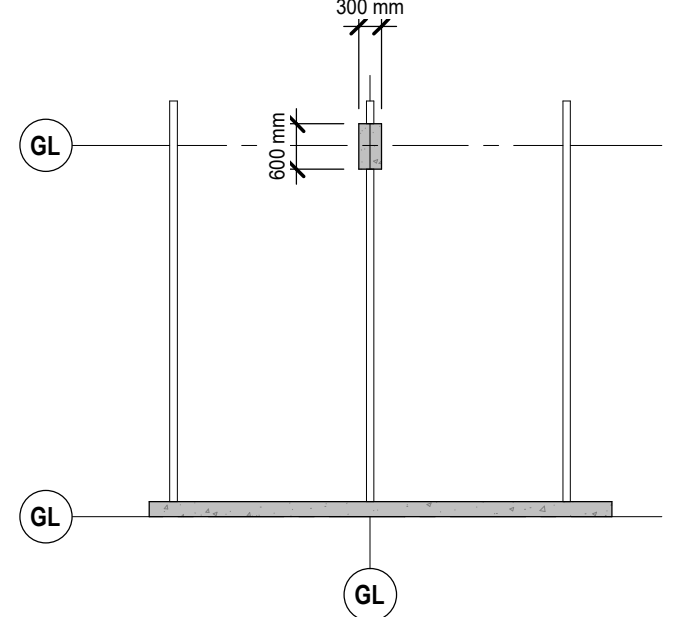
1 UNDERGROUND PARKING PLAN
DP20-00-01 SCALE: 1 : 300



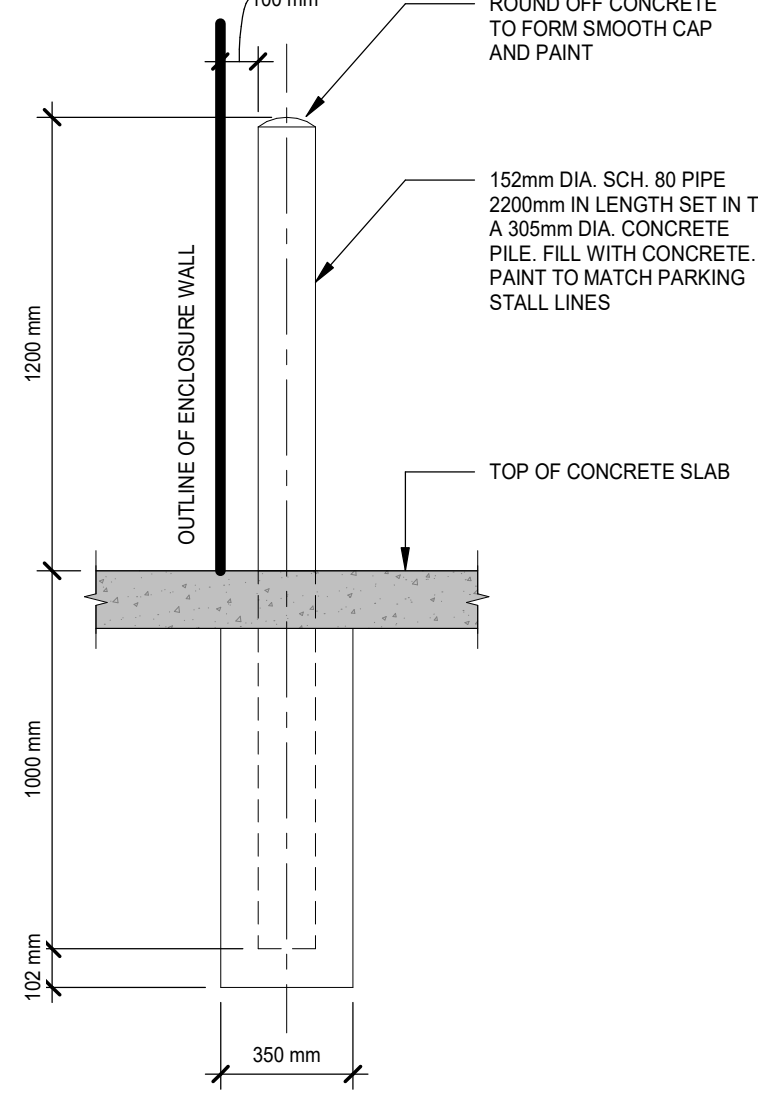
2 VOLUMETRIC ENCROACHMENT PLAN DIAGRAM (TYPICAL)
DP20-00-01 SCALE: 1 : 100



3 VOLUMETRIC ENCROACHMENT SECTION DIAGRAM (TYPICAL)
DP20-00-01 SCALE: 1 : 50

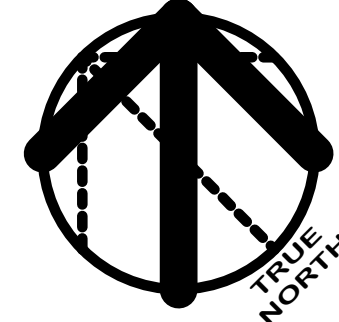


4 TYPICAL COLUMN MEASUREMENTS
DP20-00-01 SCALE: 1 : 100



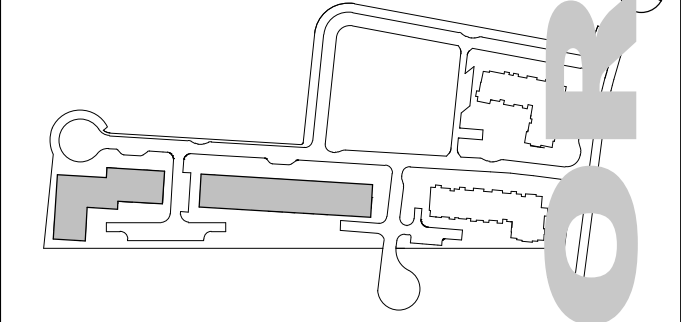
5 TYPICAL BOLLARD DETAIL
DP20-00-01 SCALE: 1 : 20

UNDERGROUND PARKING NOTES:
1. ALL WALLS AND CEILING TO BE PAINTED WHITE.
2. UNLESS NOTED OTHERWISE, DIMENSIONS ARE TAKEN TO FACE OF CONCRETE.
3. LOCATION, SIZE, QUANTITY OF MECHANICAL UNITS ARE SCHEMATIC AND ARE SUBJECT TO CHANGE WITHOUT NOTICE.



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Project Component
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Key Plan



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Civil: Arcadis Professional Services (Canada) Inc.
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Architecture: NORR Architects Engineers Planners
Structural: TBD
Mechanical: TBD
Electrical: TBD
Owner: Rohit at Wateridge 6 Ltd.

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Drawn
O.BREYTENBACH
Checked
E.FAULKNER

Project
Wateridge Village Block 6
125 & 135 OSHEDINAA STREET
OTTAWA, ON
Drawing Title
UNDERGROUND PARKING PLAN

Scale
As indicated
Project No.
NCCA22-0243
Drawing No.
DP20-00-01

PRELIMINARY - NOT FOR CONSTRUCTION

Appendix B – TIA Screening Form

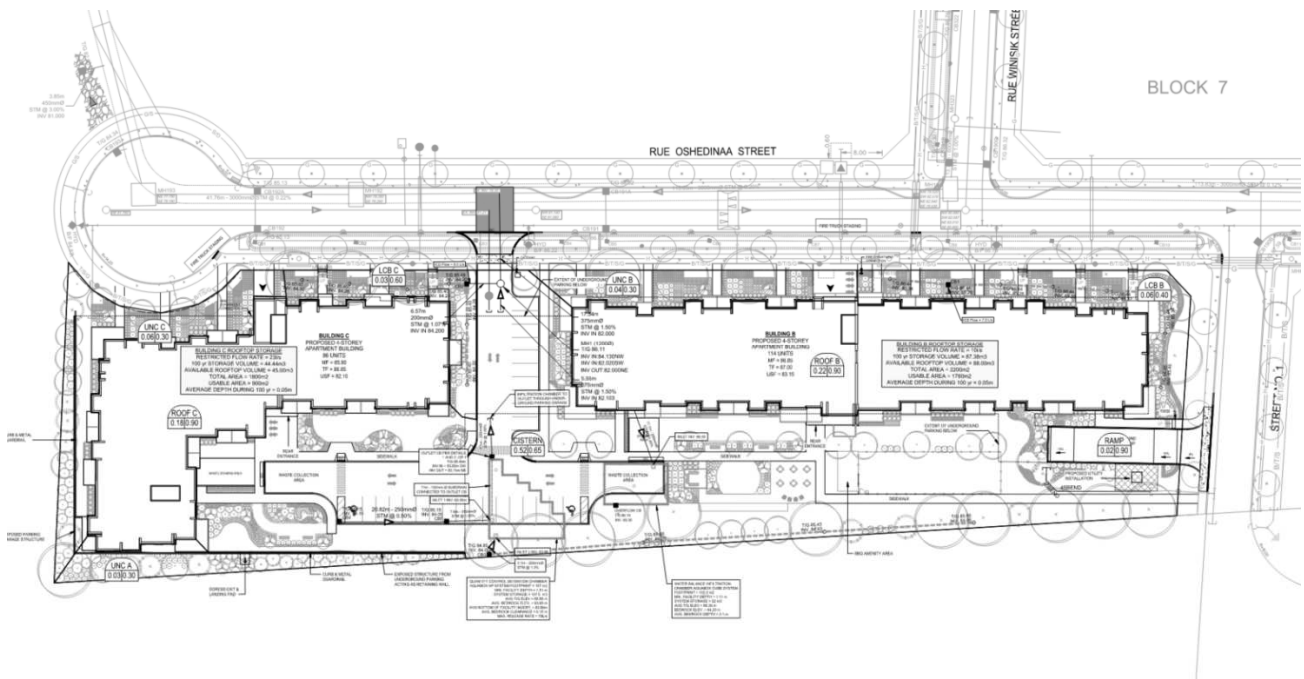
City of Ottawa 2017 TIA Guidelines Screening Form

*Revised per City of Ottawa update to the TIA Guidelines, effective June 14, 2023.

1. Description of Proposed Development

Municipal Address	1076 Hemlock Private
Description of Location	Wateridge Village - The subject property and is generally bound by Oshedinaa Street to the east and Kijigong Street to the south
Land Use Classification	R5Y [2312] Residential Fifth Density Zone, Subzone Y, Urban Exception 2312
Development Size (units)	200
Development Size (m ²)	11,661
Number of Accesses and Locations	2 all-movement driveways: a vehicular connection on Oshedinaa Street serving the surface level parking lots and a full movement connection on the Kijigong Street serving as underground parking access
Phase of Development	Single Phase
Buildout Year	TBD

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



2. Trip Generation Trigger

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

Land Use Type*	Minimum Development Size (60 person trips)
Single-Detached ¹	60 units
Multi-Use Family (Low Rise) ¹	90 units
Multi-Use Family (High-Rise) ¹	150 units
Office ²	1,400 m ²
Industrial ²	7,000 m ²
Fast-food restaurant or coffee shop ²	110 m ²
Destination retail ²	1,800 m ²
Gas station or convenience market ²	90 m ²

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

¹ Table 2 Table 3 & Table 4 TRANS Trip Generation Summary Report

² ITE Trip Generation manual 11.1 Ed.

The proposed development consists of 200 dwelling units, a net increase of 77 over the minimum 123-unit target density for this 1.166-hectare site, as planned for in the *Former CFB Rockcliffe Community Design Plan (August 2015)*. The minimum density target was based on the ‘low to mid-rise resident’ land use characteristics provided in Table 5.2 and highlighted below.

Table 5.2: Land Use Distribution and Density

Land Use	Land Area (ha)	Minimum Density (units/ha)	Minimum Units	Target Employment (jobs)	Estimated Population
Low-Rise Residential	8.94		427		1,167
Blocks 11, 15-17, 19-21, 55	6.53	32	209	n/a	619
Blocks 53, 57	2.41	91	219	n/a	548
Low- To Mid-Rise Residential	19.88	105	2,087	n/a	3,964

A TIA was conducted for Wateridge Phase 4 (Dillon, 2023) which included the subject property. It was assumed that the trip generation for the subject property in that was developed using the minimum CDP density target (i.e. 123 units) and the 2020 TRANS Trip Generation Methodology, providing the results outlined in **Table 1** below.

Table 1: Approximated Site-Generated Traffic from Wateridge Phase 4 TIA – 123 Units

LUC 221 & 222 - Multi-Unit (High-Rise)	Mode Share		Weekday AM Peak Hour			Weekday PM Peak Hour		
	AM	PM	In	Out	Total	In	Out	Total
Auto Driver	48%	52%	7	18	25	15	11	26
Auto Passenger	9%	16%	1	6	7	5	3	8
Transit	30%	28%	5	10	15	9	6	15
Cycling	3%	0%	1	0	1	0	0	0
Walking	10%	4%	2	1	3	1	1	2
Total	100%	100%	16	35	51	30	21	51

Applying 2020 TRANS Trip Generation methodology, and assuming mode share consistent with the Phase 4 TIA for 202 dwelling units, resulted in the trip generation outlined in **Table 2** below.

Table 2: Approximated Site-Generated Traffic from Wateridge Phase 4 TIA – 200 Units

LUC 221 & 222 - Multi-Unit (High-Rise)	Mode Share		Weekday AM Peak Hour			Weekday PM Peak Hour		
	AM	PM	In	Out	Total	In	Out	Total
Auto Driver	48%	52%	11	28	39	24	17	41
Auto Passenger	9%	16%	2	9	11	8	5	13
Transit	30%	28%	8	17	25	14	10	24
Cycling	3%	0%	1	0	1	0	0	0
Walking	10%	4%	3	3	6	2	2	4
Total	100%	100%	25	57	82	48	34	82

The net increase in site-generated trips resulting from a comparison of **Table 1** and **Table 2** is summarized in **Table 3** below.

Table 3: Additional Site-Generated Traffic from Wateridge Phase 4 TIA – 200 Units

LUC 221 & 222 - Multi-Unit (High-Rise)	Mode Share		Weekday AM Peak Hour			Weekday PM Peak Hour		
	AM	PM	In	Out	Total	In	Out	Total
Auto Driver	48%	52%	4	10	14	9	6	15
Auto Passenger	9%	16%	1	3	4	3	2	5
Transit	30%	28%	3	7	10	5	4	9
Cycling	3%	0%	0	0	0	0	0	0
Walking	10%	4%	1	2	3	1	1	2
Total	100%	100%	9	22	31	18	13	31

As indicated in **Table 3** above, the overall increase from 123 to 200 dwelling units would result in up to 31 additional person trips during the weekday morning and afternoon peak hours. Overall, the additional vehicular trips resulting from the proposed site plan in comparison to the minimum target density in the CDP would generate negligible increase in traffic, especially when divided among the site access driveways.

Based on the results above, the Trip Generation Trigger was NOT satisfied.

3. Location Triggers

	Yes	No
Does the development propose a new driveway to a boundary street that is designated as part of the City’s Transit Priority, Rapid Transit or Spine Bicycle Networks?		<input checked="" type="checkbox"/>
Is the development in a Design Priority Area (DPA), Transit-oriented Development (TOD) zone or Hub?*		<input checked="" type="checkbox"/>

**DPA and TOD are identified in the City of Ottawa Official Plan (DPA in Section 2.5.1 and Schedules A and B; TOD in Annex 6). See Chapter 4 for a list of City of Ottawa Planning and Engineering documents that support the completion of TIA). Hubs are identified as Protected Major Transit Station Areas (PTMSAs) and identified in Schedule C1-Protected Major Transit Station Areas (PMTSAs).*

Based on the results above, the Location Trigger was NOT satisfied.

4. Safety Triggers

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

Based on the results above, the Safety Trigger was NOT satisfied.

5. Summary

	Yes	No
Does the development satisfy the Trip Generation Trigger?		<input checked="" type="checkbox"/>
Does the development satisfy the Location Trigger?		<input checked="" type="checkbox"/>
Does the development satisfy the Safety Trigger?		<input checked="" type="checkbox"/>

As indicated above, none of the triggers were satisfied. As such, a TIA Study is not required for the 1076 Hemlock Private development.

Appendix C – TDM Checklists

TDM-Supportive Development Design and Infrastructure Checklist: *Residential Developments (multi-family or condominium)*

Legend	
REQUIRED	The Official Plan or Zoning By-law provides related guidance that must be followed
BASIC	The measure is generally feasible and effective, and in most cases would benefit the development and its users
BETTER	The measure could maximize support for users of sustainable modes, and optimize development performance

TDM-supportive design & infrastructure measures: <i>Residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
1. WALKING & CYCLING: ROUTES		
1.1 Building location & access points		
BASIC	1.1.1 Locate building close to the street, and do not locate parking areas between the street and building entrances	<input checked="" type="checkbox"/> No parking areas located between the street and building entrances, see Site Plan.
BASIC	1.1.2 Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations	<input checked="" type="checkbox"/>
BASIC	1.1.3 Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort	<input checked="" type="checkbox"/> Many doors and windows located along the public realm to provide a sense of security.
1.2 Facilities for walking & cycling		
REQUIRED	1.2.1 Provide convenient, direct access to stations or major stops along rapid transit routes within 600 metres; minimize walking distances from buildings to rapid transit; provide pedestrian-friendly, weather-protected (where possible) environment between rapid transit accesses and building entrances; ensure quality linkages from sidewalks through building entrances to integrated stops/stations (<i>see Official Plan policy 4.3.3</i>)	<input checked="" type="checkbox"/> With street-oriented units provided along Oshedinaa Street, it is anticipated that as the transit continues to develop in the area that we will meet these requirements.
REQUIRED	1.2.2 Provide safe, direct and attractive pedestrian access from public sidewalks to building entrances through such measures as: reducing distances between public sidewalks and major building entrances; providing walkways from public streets to major building entrances; within a site, providing walkways along the front of adjoining buildings, between adjacent buildings, and connecting areas where people may congregate, such as courtyards and transit stops; and providing weather protection through canopies, colonnades, and other design elements wherever possible (<i>see Official Plan policy 4.3.12</i>)	<input checked="" type="checkbox"/> Direct pedestrian access provided from main building entrances to Oshedinaa Street.

TDM-supportive design & infrastructure measures: <i>Residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
REQUIRED	1.2.3 Provide sidewalks of smooth, well-drained walking surfaces of contrasting materials or treatments to differentiate pedestrian areas from vehicle areas, and provide marked pedestrian crosswalks at intersection sidewalks (<i>see Official Plan policy 4.3.10</i>)	<input checked="" type="checkbox"/>
REQUIRED	1.2.4 Make sidewalks and open space areas easily accessible through features such as gradual grade transition, depressed curbs at street corners and convenient access to extra-wide parking spaces and ramps (<i>see Official Plan policy 4.3.10</i>)	<input checked="" type="checkbox"/> Gradual grade transitions, depressed curbs at main entrance drop-off and site access, and access ramps provided, see Site Plan.
REQUIRED	1.2.5 Include adequately spaced inter-block/street cycling and pedestrian connections to facilitate travel by active transportation. Provide links to the existing or planned network of public sidewalks, multi-use pathways and on-road cycle routes. Where public sidewalks and multi-use pathways intersect with roads, consider providing traffic control devices to give priority to cyclists and pedestrians (<i>see Official Plan policy 4.3.11</i>)	<input checked="" type="checkbox"/> We have provided connections to planned sidewalks where possible.
BASIC	1.2.6 Provide safe, direct and attractive walking routes from building entrances to nearby transit stops	<input checked="" type="checkbox"/> We have provided direct/attractive walking routes to the public realm
BASIC	1.2.7 Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible	<input checked="" type="checkbox"/>
BASIC	1.2.8 Design roads used for access or circulation by cyclists using a target operating speed of no more than 30 km/h, or provide a separated cycling facility	<input type="checkbox"/>
1.3 Amenities for walking & cycling		
BASIC	1.3.1 Provide lighting, landscaping and benches along walking and cycling routes between building entrances and streets, sidewalks and trails	<input checked="" type="checkbox"/> Integrated features at main entrances located along Oshedinaa Street and rear entrances.
BASIC	1.3.2 Provide wayfinding signage for site access (where required, e.g. when multiple buildings or entrances exist) and egress (where warranted, such as when directions to reach transit stops/stations, trails or other common destinations are not obvious)	<input checked="" type="checkbox"/> Wayfinding signage incorporated at internal road site accesses.

TDM-supportive design & infrastructure measures: <i>Residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
2. WALKING & CYCLING: END-OF-TRIP FACILITIES		
2.1 Bicycle parking		
REQUIRED	2.1.1 Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible (see <i>Official Plan policy 4.3.6</i>)	<input checked="" type="checkbox"/> Visitor bicycle parking provided at main and rear building entrances.
REQUIRED	2.1.2 Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas (see <i>Zoning By-law Section 111</i>)	<input checked="" type="checkbox"/> Exceeds minimum required number of bicycle parking spaces, secure and convenient access provided.
REQUIRED	2.1.3 Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored (see <i>Zoning By-law Section 111</i>)	<input checked="" type="checkbox"/> Spaces and aisles meet minimum dimensions, < 50% of spaces are vertical, all are securely anchored.
BASIC	2.1.4 Provide bicycle parking spaces equivalent to the expected number of resident-owned bicycles, plus the expected peak number of visitor cyclists	<input checked="" type="checkbox"/>
2.2 Secure bicycle parking		
REQUIRED	2.2.1 Where more than 50 bicycle parking spaces are provided for a single residential building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers (see <i>Zoning By-law Section 111</i>)	<input checked="" type="checkbox"/> All resident bicycle parking spaces are located securely within the building.
BETTER	2.2.2 Provide secure bicycle parking spaces equivalent to at least the number of units at condominiums or multi-family residential developments	<input type="checkbox"/>
2.3 Bicycle repair station		
BETTER	2.3.1 Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area (or secure bicycle parking area, if provided)	<input checked="" type="checkbox"/> Permanent bike repair station will be provided in secure bicycle parking area
3. TRANSIT		
3.1 Customer amenities		
BASIC	3.1.1 Provide shelters, lighting and benches at any on-site transit stops	<input type="checkbox"/> N/A
BASIC	3.1.2 Where the site abuts an off-site transit stop and insufficient space exists for a transit shelter in the public right-of-way, protect land for a shelter and/or install a shelter	<input type="checkbox"/> N/A
BETTER	3.1.3 Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	<input type="checkbox"/> N/A

TDM-supportive design & infrastructure measures: <i>Residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
4. RIDESHARING		
4.1 Pick-up & drop-off facilities		
BASIC	4.1.1 Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones	<input checked="" type="checkbox"/> Existing cul-de-sac on Oshedinaa Street directly adjacent to main building C entrance, plus alternative waiting areas at private road at rear of building
5. CARSHARING & BIKESHARING		
5.1 Carshare parking spaces		
BETTER	5.1.1 Provide up to three carshare parking spaces in an R3, R4 or R5 Zone for specified residential uses (<i>see Zoning By-law Section 94</i>)	<input type="checkbox"/>
5.2 Bikeshare station location		
BETTER	5.2.1 Provide a designated bikeshare station area near a major building entrance, preferably lighted and sheltered with a direct walkway connection	<input type="checkbox"/>
6. PARKING		
6.1 Number of parking spaces		
REQUIRED	6.1.1 Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for	<input checked="" type="checkbox"/>
BASIC	6.1.2 Provide parking for long-term and short-term users that is consistent with mode share targets, considering the potential for visitors to use off-site public parking	<input type="checkbox"/>
BASIC	6.1.3 Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly (<i>see Zoning By-law Section 104</i>)	<input type="checkbox"/>
BETTER	6.1.4 Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking (<i>see Zoning By-law Section 111</i>)	<input type="checkbox"/>
6.2 Separate long-term & short-term parking areas		
BETTER	6.2.1 Provide separate areas for short-term and long-term parking (using signage or physical barriers) to permit access controls and simplify enforcement (i.e. to discourage residents from parking in visitor spaces, and vice versa)	<input checked="" type="checkbox"/> All long-term/resident parking is provided in the underground parking facilities, all short-term/visitor parking at grade on site.

TDM Measures Checklist:
Residential Developments (multi-family, condominium or subdivision)

Legend	
BASIC	The measure is generally feasible and effective, and in most cases would benefit the development and its users
BETTER	The measure could maximize support for users of sustainable modes, and optimize development performance
★	The measure is one of the most dependably effective tools to encourage the use of sustainable modes

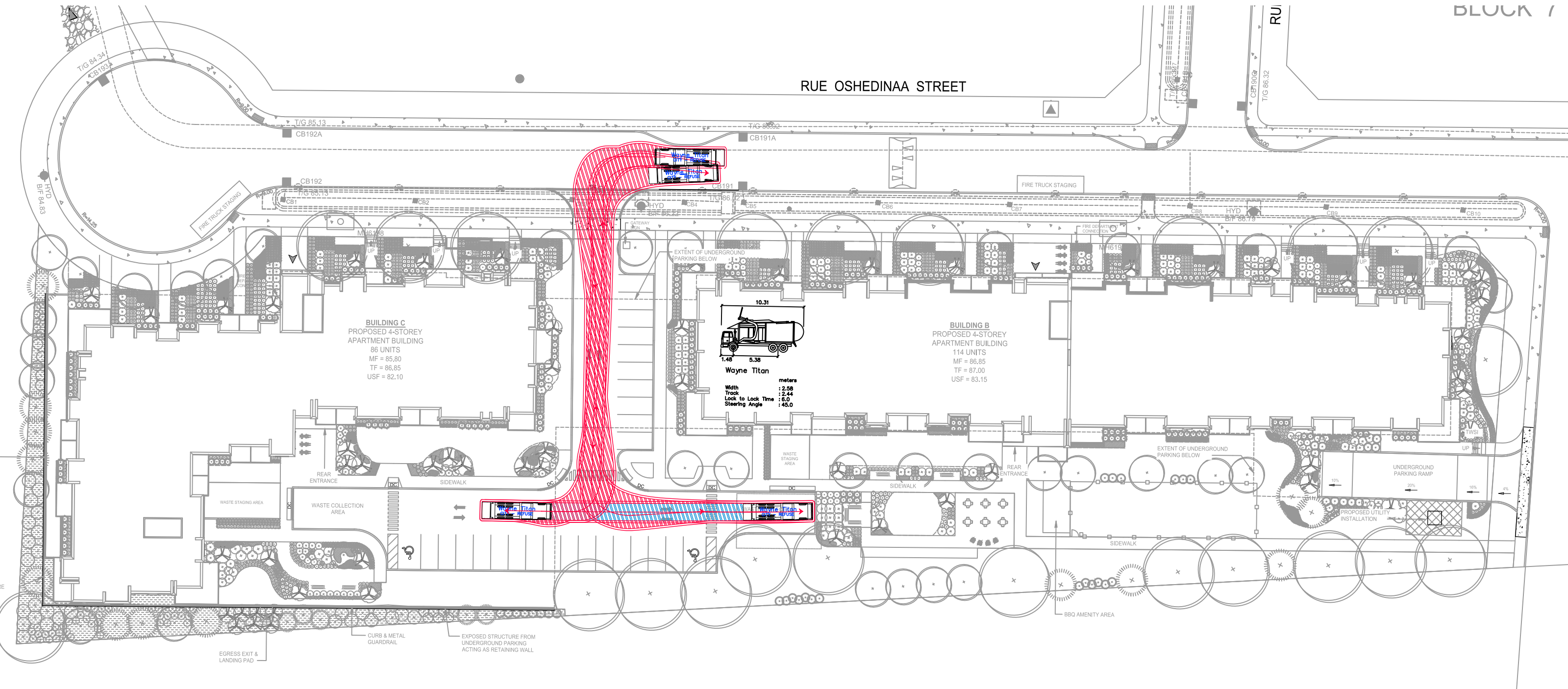
TDM measures: <i>Residential developments</i>		Check if proposed & add descriptions
1. TDM PROGRAM MANAGEMENT		
1.1 Program coordinator		
BASIC	★ 1.1.1 Designate an internal coordinator, or contract with an external coordinator	<input type="checkbox"/> under consideration
1.2 Travel surveys		
BETTER	1.2.1 Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress	<input type="checkbox"/>
2. WALKING AND CYCLING		
2.1 Information on walking/cycling routes & destinations		
BASIC	2.1.1 Display local area maps with walking/cycling access routes and key destinations at major entrances (<i>multi-family, condominium</i>)	<input checked="" type="checkbox"/>
2.2 Bicycle skills training		
BETTER	2.2.1 Offer on-site cycling courses for residents, or subsidize off-site courses	<input type="checkbox"/>

TDM measures: <i>Residential developments</i>		Check if proposed & add descriptions
3. TRANSIT		
3.1 Transit information		
BASIC	3.1.1 Display relevant transit schedules and route maps at entrances (<i>multi-family, condominium</i>)	<input checked="" type="checkbox"/>
BETTER	3.1.2 Provide real-time arrival information display at entrances (<i>multi-family, condominium</i>)	<input type="checkbox"/>
3.2 Transit fare incentives		
BASIC ★	3.2.1 Offer PRESTO cards preloaded with one monthly transit pass on residence purchase/move-in, to encourage residents to use transit	<input type="checkbox"/> under consideration
BETTER	3.2.2 Offer at least one year of free monthly transit passes on residence purchase/move-in	<input type="checkbox"/>
3.3 Enhanced public transit service		
BETTER ★	3.3.1 Contract with OC Transpo to provide early transit services until regular services are warranted by occupancy levels (<i>subdivision</i>)	<input type="checkbox"/>
3.4 Private transit service		
BETTER	3.4.1 Provide shuttle service for seniors homes or lifestyle communities (e.g. scheduled mall or supermarket runs)	<input type="checkbox"/>
4. CARSHARING & BIKESHARING		
4.1 Bikeshare stations & memberships		
BETTER	4.1.1 Contract with provider to install on-site bikeshare station (<i>multi-family</i>)	<input type="checkbox"/> under consideration, could be e-scooter instead
BETTER	4.1.2 Provide residents with bikeshare memberships, either free or subsidized (<i>multi-family</i>)	<input type="checkbox"/>
4.2 Carshare vehicles & memberships		
BETTER	4.2.1 Contract with provider to install on-site carshare vehicles and promote their use by residents	<input type="checkbox"/>
BETTER	4.2.2 Provide residents with carshare memberships, either free or subsidized	<input type="checkbox"/>
5. PARKING		
5.1 Priced parking		
BASIC ★	5.1.1 Unbundle parking cost from purchase price (<i>condominium</i>)	<input type="checkbox"/>
BASIC ★	5.1.2 Unbundle parking cost from monthly rent (<i>multi-family</i>)	<input checked="" type="checkbox"/>

TDM measures: <i>Residential developments</i>		Check if proposed & add descriptions
6. TDM MARKETING & COMMUNICATIONS		
6.1 Multimodal travel information		
BASIC ★	6.1.1 Provide a multimodal travel option information package to new residents	<input checked="" type="checkbox"/>
6.2 Personalized trip planning		
BETTER ★	6.2.1 Offer personalized trip planning to new residents	<input type="checkbox"/>

Appendix D – Swept Path Analysis

RUE OSHEDINAA STREET



BUILDING C
 PROPOSED 4-STORY
 APARTMENT BUILDING
 86 UNITS
 MF = 85.80
 TF = 86.85
 USF = 82.10

BUILDING B
 PROPOSED 4-STORY
 APARTMENT BUILDING
 114 UNITS
 MF = 86.85
 TF = 87.00
 USF = 83.15

10.31
 1.48 5.38
Wayne Titan
 meters
 Width : 2.58
 Track : 2.44
 Lock to Lock Time : 6.0
 Steering Angle : 45.0

EGRESS EXIT & LANDING PAD

CURB & METAL GUARDRAIL

EXPOSED STRUCTURE FROM UNDERGROUND PARKING ACTING AS RETAINING WALL

BBQ AMENITY AREA

PROPOSED UTILITY INSTALLATION

UNDERGROUND PARKING RAMP

EXTENT OF UNDERGROUND PARKING BELOW

REAR ENTRANCE

SIDEWALK

WASTE STAGING AREA

REAR ENTRANCE

SIDEWALK

SIDEWALK

WASTE COLLECTION AREA

WASTE STAGING AREA

REAR ENTRANCE

FIRE TRUCK STAGING

EXTENT OF UNDERGROUND PARKING BELOW

HYD

CB191A

T/G 85.92

CB192A

T/G 85.13

CB192

T/G 85.13

CB1

T/G 85.13

CB2

CB4

T/G 86.7

CB5

T/G 86.7

CB6

T/G 86.7

CB7

T/G 86.7

CB8

T/G 86.7

CB9

T/G 86.7

CB10

T/G 86.7

CB11

T/G 86.7

CB12

T/G 86.7

CB13

T/G 86.7

CB14

T/G 86.7

CB15

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CB16

T/G 86.7

CB17

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CB18

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CB19

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CB20

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CB21

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CB22

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CB23

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CB24

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CB25

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CB30

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CB31

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CB32

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CB33

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CB34

T/G 86.7

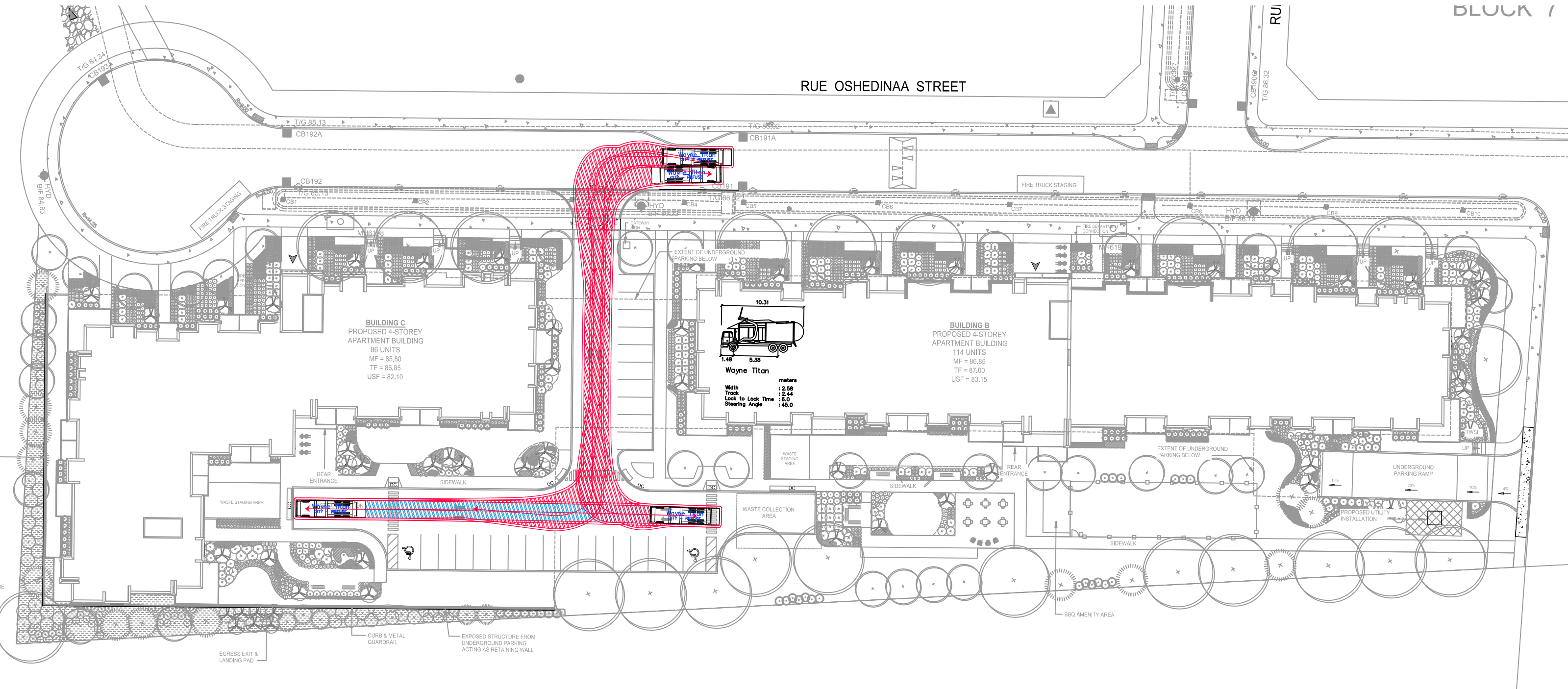
CB35

T/G 86.7

CB36

T/G 86.7

RUE OSHEDINAA STREET



BUILDING C
 PROPOSED 4-STORY
 APARTMENT BUILDING
 86 UNITS
 MF = 85.80
 TF = 86.85
 USF = 82.10

BUILDING B
 PROPOSED 4-STORY
 APARTMENT BUILDING
 114 UNITS
 MF = 86.85
 TF = 87.00
 USF = 83.15

10.31
 1.48 5.38
Wayne Titan
 meters
 Width : 2.58
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EGRESS EXIT & LANDING PAD

CURB & METAL GUARDRAIL

EXPOSED STRUCTURE FROM UNDERGROUND PARKING ACTING AS RETAINING WALL

WASTE COLLECTION AREA

BBQ AMENITY AREA

PROPOSED UTILITY INSTALLATION

UNDERGROUND PARKING RAMP

EXTENT OF UNDERGROUND PARKING BELOW

REAR ENTRANCE

SIDEWALK

WASTE STAGING AREA

SIDEWALK

REAR ENTRANCE

WASTE STAGING AREA

FIRE TRUCK STAGING

EXTENT OF UNDERGROUND PARKING BELOW

HYD

HYD

FIRE TRUCK STAGING

CB192A

CB191A

RU

T/G 86.32

CEP 80.0

CB8

CB9

CB10

CB7

CB6

CB5

CB4

CB3

CB2

CB1

T/G 85.13

CB192

T/G 86.75

B/F 86.75

CEP 80.0

T/G 84.34

CB 193

HYD

B/F 84.83

Park 25

CEP 80.0

T/G 86.32

CEP 80.0

T/G 86.32

CEP 80.0

T/G 86.32

CEP 80.0

T/G 86.32

CEP 80.0

T/G 86.32

CEP 80.0

T/G 86.32

CEP 80.0