

Memorandum

To/Attention Mike Giampa - City of Ottawa Date April 29, 2021

Project Manager

From David Hook Project No 123069

cc David Baffa – Ivanhoé Cambridge

Mark Garber – KingSett Capital

Subject 100 Bayshore Drive (Lot 'B') Transportation Impact Assessment

Addendum #1

Introduction

IBI Group was retained by Ivanhoé Cambridge to prepare a Transportation Impact Assessment (TIA) in support of a combined Official Plan Amendment and Zoning By-law Amendment application for a proposed high-rise residential development to be located on the western portion of 100 Bayshore Drive (Lot 'B') in Ottawa. The TIA final report was submitted April 3, 2020 and the combined Official Plan Amendment and Zoning By-law Amendment application has been approved. This addendum to the TIA is being prepared in support of the Site Plan Control application for the same development. The purpose of the addendum is to summarize the changes to the site plan since the previous application and provide the results of an updated technical analysis based on the latest development plan.

The following items will be discussed as part of this TIA Addendum:

- 1. Summarize the updated site plan;
- 2. Review the proposed parking facilities;
- 3. Review the proposed loading facilities;
- 4. Review the traffic impacts of the updated site plan;
- 5. Identify any updates to planned transit services in the vicinity of the proposed development; and
- 6. Discuss the proposed Transportation Demand Management (TDM) measures that will be implemented as part of this development.

Proposed Development

Since the submission of combined Official Plan Amendment (OPA) and Zoning By-law Amendment (ZBA) application, the number of apartment units within the two apartment towers has increased from 500 units to 554 units.

The current site plan has been provided in **Appendix A**. It should be noted that the overall layout of the site, including the configuration of proposed private approaches, remains unchanged from the previous site plan, however some minor refinements have been made.

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Proposed Parking Facilities

A total of four levels of parking will be provided for the proposed development; three levels within the parking podium and one below grade. The total parking supply has been revised since the submission of the 2020 TIA, as summarized in **Table 1**.

Site Plan	Previous	Current
Resident Parking	210	200
Visitor Parking	50	57
Bicycle Parking	272	290

Table 1 - Proposed Parking Supply

As indicated above, the number of resident parking spaces has decreased in the current site plan while the number of visitor and bicycle parking spaces has increased.

The proposed development is located within the Bayshore Transit Oriented Development zone and therefore there is no minimum requirement for resident parking. Instead, a maximum of 1.75 parking spaces per apartment unit is permitted. The proposed development will provide 0.46 parking spaces per unit and is therefore in compliance with the Zoning By-law.

The Zoning By-law also indicates that a minimum 0.1 visitor parking spaces must be provided per unit, excluding the first 12 units, with a maximum limit of 30 visitor parking spaces per building. The proposed development therefore exceeds the minimum visitor parking requirements.

The Zoning By-law also stipulates that a minimum of 0.5 bicycle parking spaces must also be provided per unit. The proposed development will provide 290 bicycle parking spaces, thereby exceeding the 277 bicycle parking spaces required.

Proposed Loading Facilities

Two loading bays have been provided within the ground level of the parking podium, one for each tower. A vehicular swept path analysis has been completed for both loading bays to illustrate that a 12.5ft moving truck (or equivalent chassis configuration for an extended cargo van) can manoeuvre into and out of these bays. A safety buffer has been included in the analysis to account for the potential lack of experience the drivers of these trucks may have manoeuvring these kinds of vehicles. Larger moving trucks will not be able to manoeuvre within the parking garage and will be instead expected to either reverse along the west edge of the west tower to unload/load or park in the semi-circle loop to unload/load at the eastern tower. Despite the semi-circle drive aisle being a fire route, the analysis confirms that a fire truck can still pass when a large 16.5ft moving truck is present.

The 12.5ft moving trucks that will be able to fit within the parking garage are typically suitable for studio and one-bedroom apartments which represents the majority of units within the proposed development. Larger moving trucks are expected to be used less frequently.

Waste collection for both towers is expected to occur at the western edge of the development near the garage entry. Waste bins will be hauled internally to the collection point by property management staff. The swept path analysis confirms the ability for a waste collection vehicle to access the designated area while maintaining sufficient passageway for vehicles entering or exiting the parking garage.

The results of the swept path analysis have been provided in **Appendix B**.

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Trip Generation

The person-trip generation of the proposed development was recalculated using the updated unit count to determine what impact the increased unit count would have on the adjacent road network. The same methodology and assumptions were used in this analysis as were used in the April 2020 TIA. Table 2 illustrates the estimated number of development-generated person-trips for both the current and previous site plan.

PM Site Plan In Out **Total** In Out Total **Previous** 78 250 328 209 132 341 277 (+27) 363 (+35) 232 (+23) 146 (+14) Current 86 (+8) 378 (+37)

Table 2 - Development-Generated Person-Trips

As illustrated above, the proposed increase in apartment units is expected to increase the overall person-trip generation of the site by approximately 35 person-trips during the weekday morning and afternoon peak hours.

Revised development-generated person-trips were subdivided by mode in accordance with the mode share targets described in the April 2020 TIA:

Auto Driver: 15% Auto Passenger: 5%

Transit: 65% Bicycle: 2% Walk: 13%

Table 3 summarizes the projected number of development-generated trips by mode of transportation. In parentheses is the overall increase in person-trips per mode relative to the previous trip generation projections.

Table 3 - Development-Generated Trips by Mode

Mode	AM		PM	
Mode	In	Out	In	Out
Auto Driver	13 (+1)	41 (+4)	35 (+4)	22 (+2)
Auto Passenger	4 (+0)	14 (+1)	11 (+1)	7 (+0)
Transit	56 (+6)	180 (+18)	151 (+15)	95 (+10)
Bike	11 (+1)	36 (+4)	30 (+3)	19 (+2)
Walk	2 (+0)	6 (+0)	5 (+0)	3 (+0)

As indicated above, the overall trip generation of the site is expected to increase relative to the previous trip generation projections. The overall increase in vehicle-trips is relatively minor and

therefore expected to have a negligible impact on study area intersections. The most significant

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increase is to transit-trips, with an additional 24 and 25 transit-trips generated during the weekday morning and afternoon peak hour, respectively.

Transit

The April 2020 TIA discussed in detail the existing and planned transit facilities in the vicinity of the proposed development. There have been no updates to the planned transit services in the vicinity of the proposed development, however, the TIA neglected to mention the planned Baseline Bus Rapid Transit (BRT) corridor will terminate at Bayshore Station. The Baseline BRT will access Bayshore Station via the existing bus-only connection to Holly Acres Road and no changes to Bayshore Station are proposed as part of this project.

Given the projected increase in transit capacity due to the O-Train Confederation Line extension and future Baseline BRT corridor, it is expected that there will be sufficient transit capacity to accommodate the proposed development.

As part of the planned modifications to Bayshore Station, the City plans on implementing a Pedestrian Cross-Over (PXO) on Woodridge Crescent on the western side of the Woodridge Crescent & Transit Access intersection as well as a pick-up/drop-off lay-by along the site's frontage. It is understood that the location of the proposed passenger pick-up/drop-off lay-by is in conflict with the proposed development plan and limits the functionality of the site. It is therefore recommended that the City consider relocating the pick-up/drop-off lay-by to the west side of the transit access road instead of along Woodridge Crescent. Relocation of the passenger pick-up/drop-off lay-by has the following benefits:

- Ontario Traffic Manual (OTM) Book 15: Pedestrian Crossing Treatments indicates that
 parking should be prohibited within at least 30m of a PXO in order to ensure vehicle
 sightlines are not obstructed. The proposed pick-up/drop-off lay-by on Woodridge
 Crescent is in conflict with this requirement;
- The current location is in excess of 30m of the station entrance and therefore is not in compliance with the City's accessibility guidelines; and
- Locating the lay-by on the transit access road (east of the proposed development) would facilitate pick-up/drop-off activities for traffic coming from both directions along Woodridge Crescent, rather than just the eastbound direction.

Given the current curb-to-curb width of Woodridge Crescent it may be feasible to modify the current pavement markings along the site frontage to accommodate on-street parking on the south side of the road between the two site access driveways, provided they are not within 30 metres of the planned PXO.

Transportation Demand Management (TDM)

A number of Transportation Demand Management (TDM) measures have been identified that are intended to support the low automobile usage targeted for the proposed development. These measures include both infrastructure design considerations as well as actively implemented TDM measures. The key TDM measures that will be implemented include:

- Direct pedestrian and cyclist connections to the adjacent multi-use path;
- On-site pick-up/drop-off spaces will be provided at the front entrance of the buildings;
- Potential direct pedestrian connection to Bayshore Station via an enclosed pedestrian bridge;

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 Majority of bicycle parking will be located within the ground-level parking podium with direct access to the adjacent multi-use path;

- The property management office will provide an internal TDM program coordinator;
- Maps will be displayed in building lobbies illustrating local pedestrian and cycling routes and paths;
- Maps will also be displayed for local bus routes;
- Pre-loaded Presto cards will be offered for the initial lease of each unit (for a limited duration);
- Carshare and bikeshare services will be provided if a provider is available;
- Parking cost will be unbundled from rent; and
- A multimodal travel package will be provided on resident move-in.

The TDM measures checklists have been provided in **Appendix C**.

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Conclusion

A Transportation Impact Assessment (TIA) was previously prepared by IBI Group in April 2020 in support of a combined Official Plan Amendment and Zoning By-law Amendment application for the proposed high-rise residential development on the western portion of 100 Bayshore Drive (Lot 'B'). This addendum has subsequently been prepared in support of the Site Plan Control application for the same development and summarizes the results of updated analyses of the updated site plan, including a review of parking and loading facilities, traffic impacts of the updated site plan, updates to the planned transit services in the area and the proposed Transportation Demand Management (TDM) measures that will be implemented.

The updated site plan has resulted in an increase in apartment units relative to the previous site plan. This increase in units is anticipated to result in additional site-generated person trips, however, the impact on the adjacent transportation network is expected to be negligible.

The proposed parking supply was reviewed and found to be in conformance with the Zoning Bylaw. Swept path analysis was completed for the proposed loading bays which found that a 12.5ft moving truck (or extended cargo van) would be able to manoeuvre in and out of the loading bays within the parking podium. Larger moving trucks, such as those typically used for moving into twobedroom (or larger) apartments would be expected to unload outside of the parking structure. It was noted, however, that the majority of apartment units will be studio or one-bedroom apartments and therefore the larger moving truck would not be used frequently. The swept path analysis also confirmed that waste collection and fire trucks could access the site.

The latest information regarding the planned transit services and facilities within the vicinity of the proposed development was discussed and it is expected that there will be sufficient transit capacity to accommodate the proposed development. It was noted, however, that the City plans to implement a pick-up/drop-off lay-by which is in conflict with the proposed development plan and would significantly limit the functionality of the site. It is recommended that the pick-up/drop-off lay-by be relocated along the transit access in order reduce the impact to the proposed development. A number of benefits were identified for this alternate location. It was further suggested that on-street parking could also be provided along Woodridge Crescent between the two proposed private approaches.

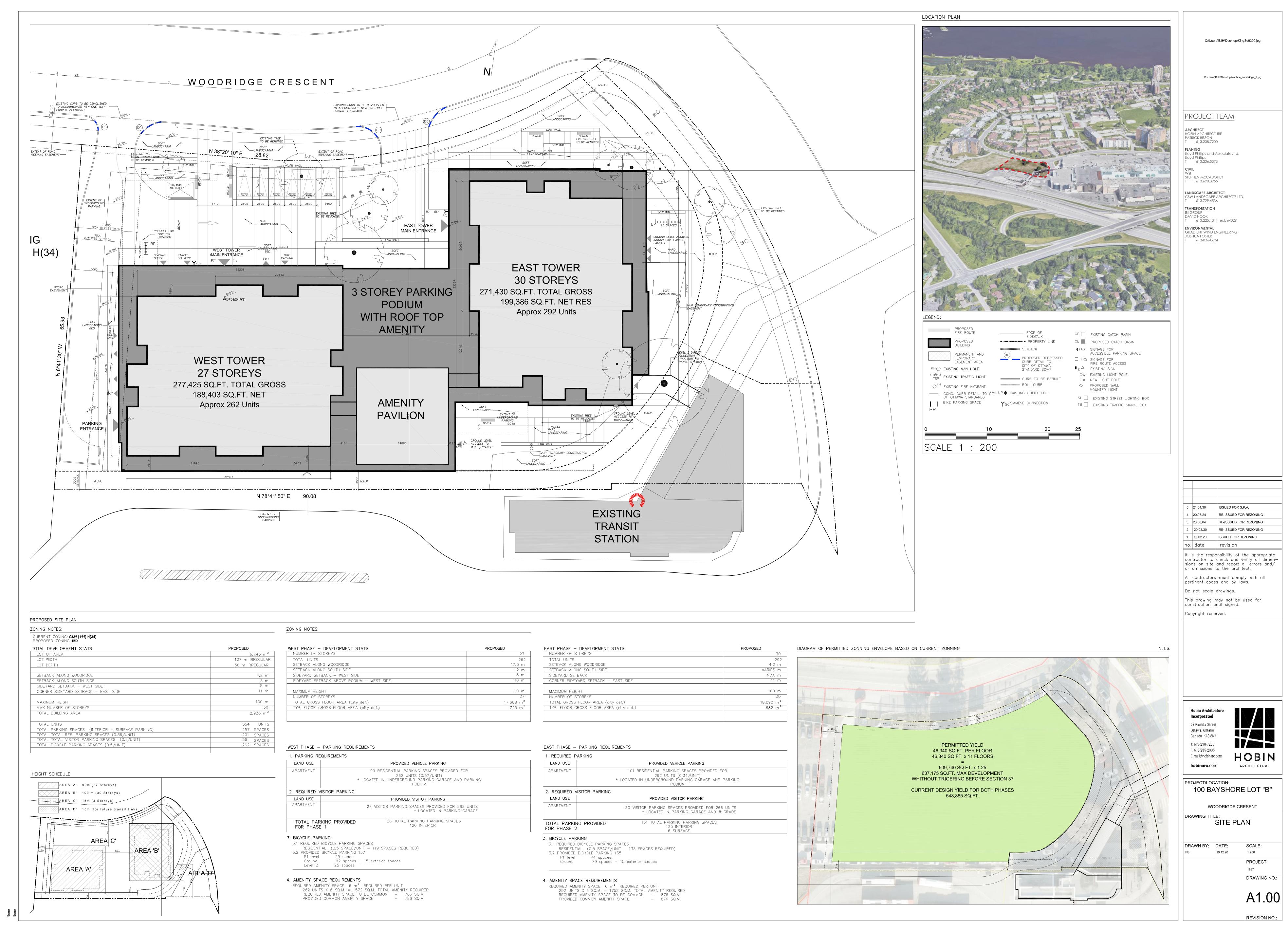
Based on the findings of this study, it is the overall opinion of IBI Group that the proposed development will integrate well with and can be safely accommodated by the adjacent transportation network with the recommended actions and modifications in place.

Review By:

David Hook, P. Eng.

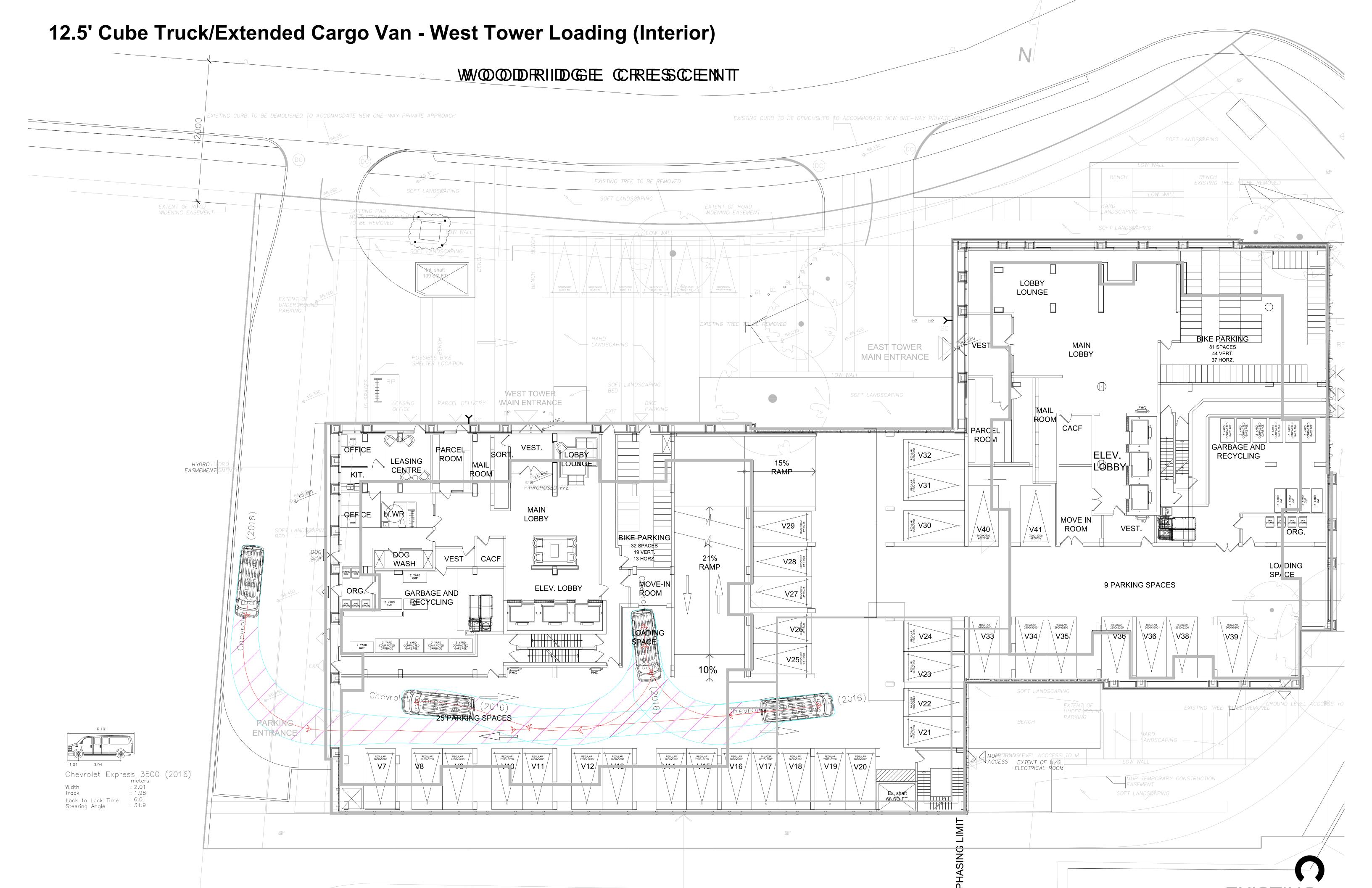
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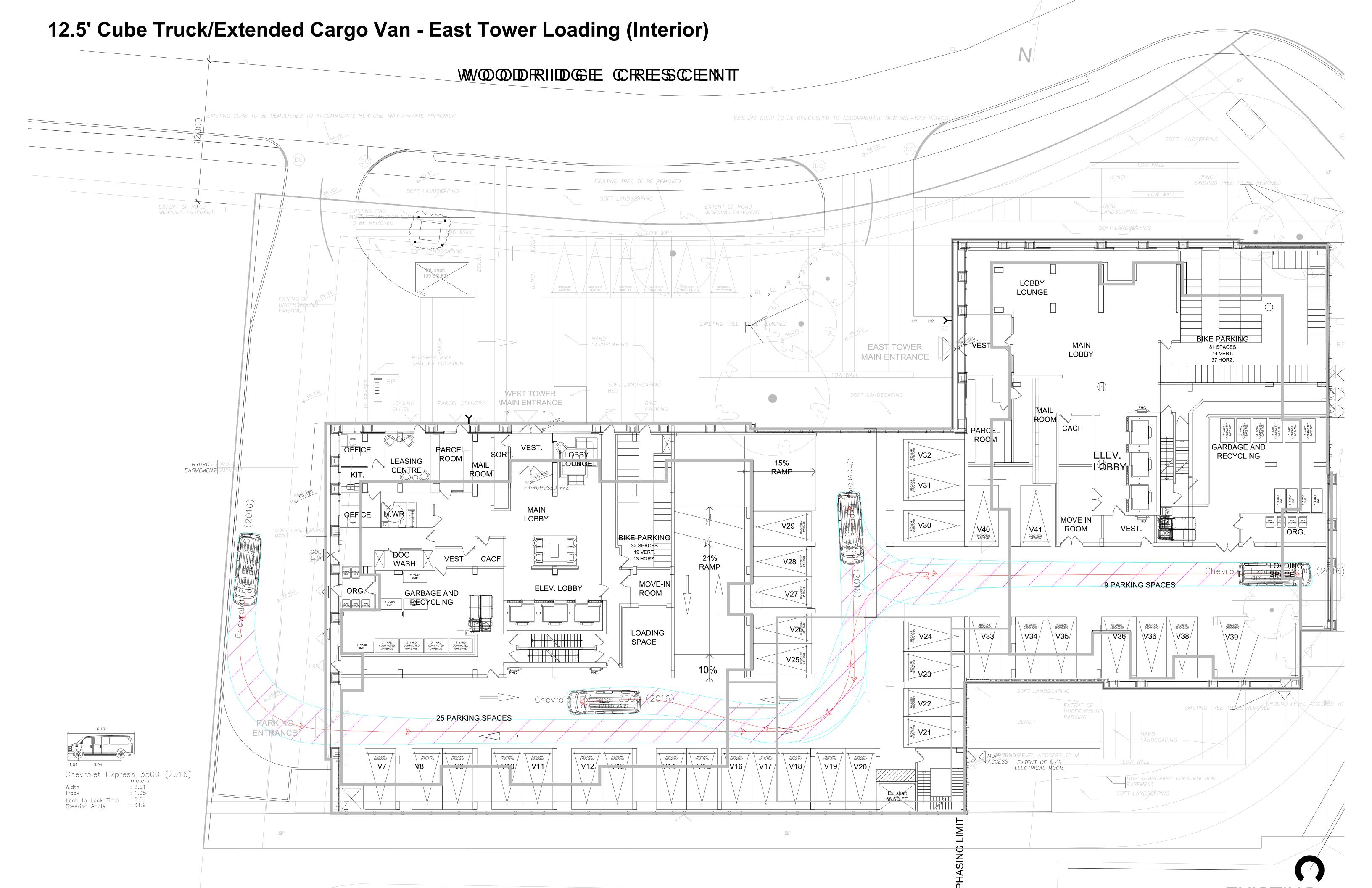
Appendix A – Site Plan

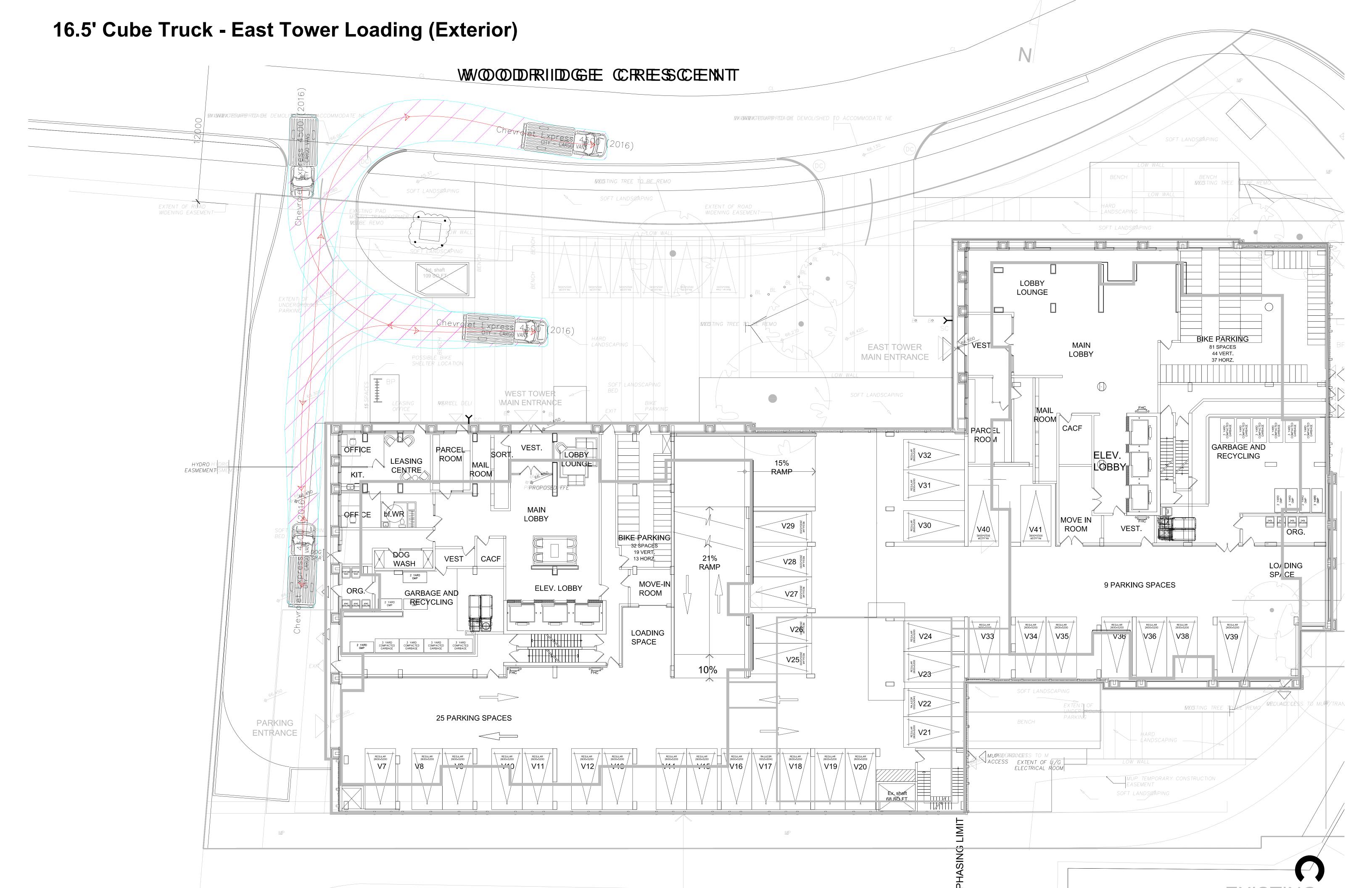


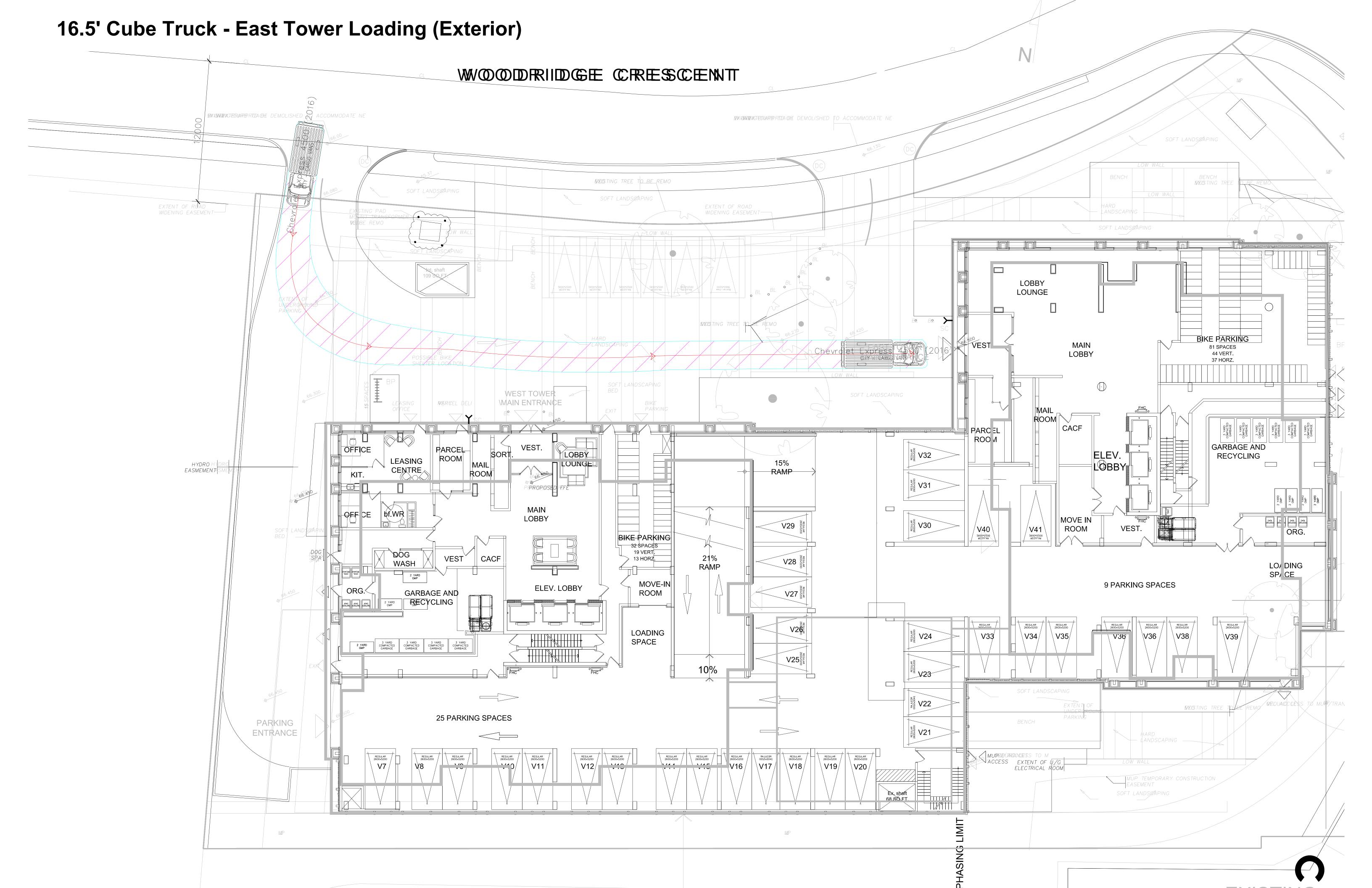
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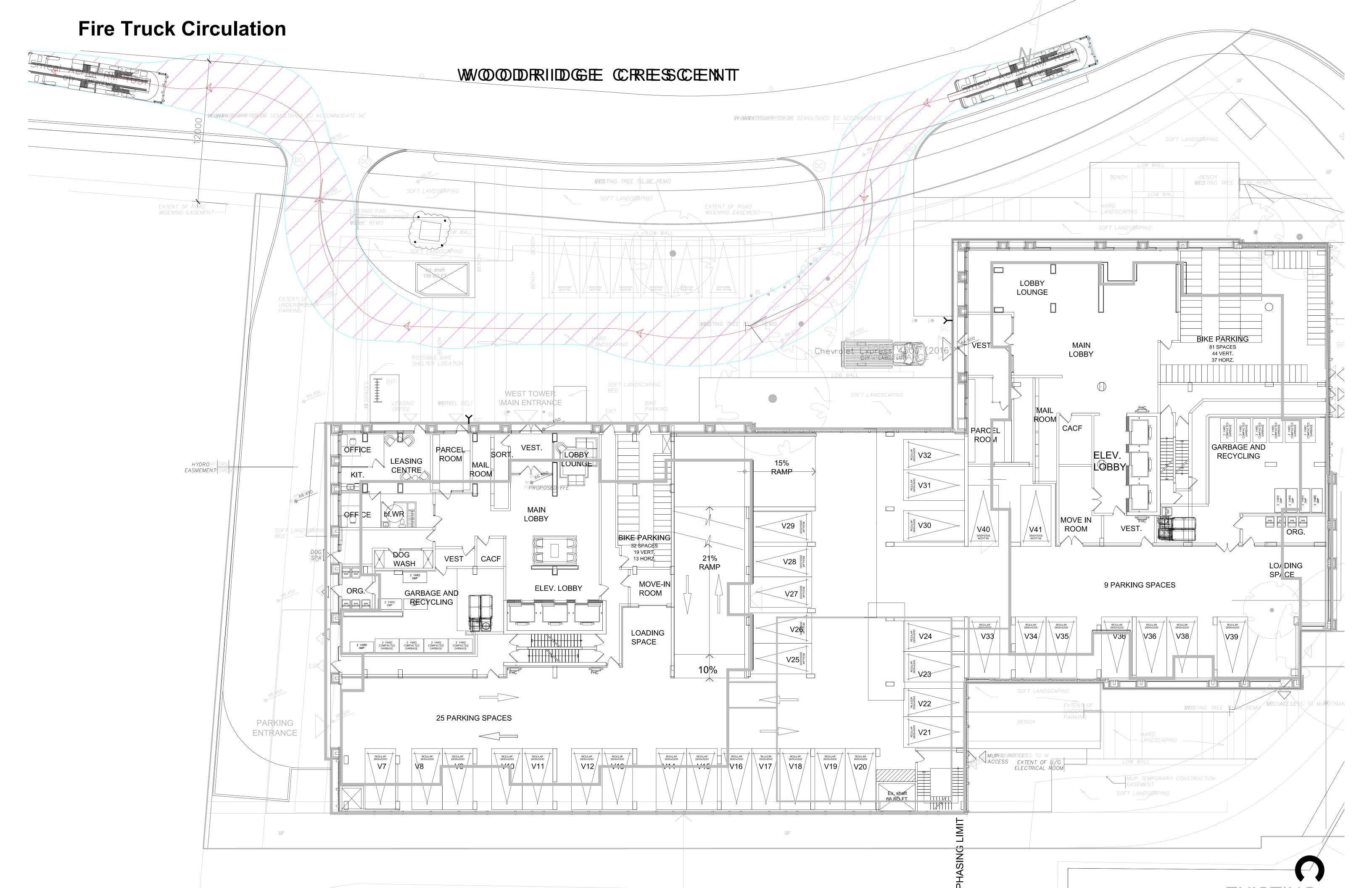
Appendix B – Swept Path Analysis

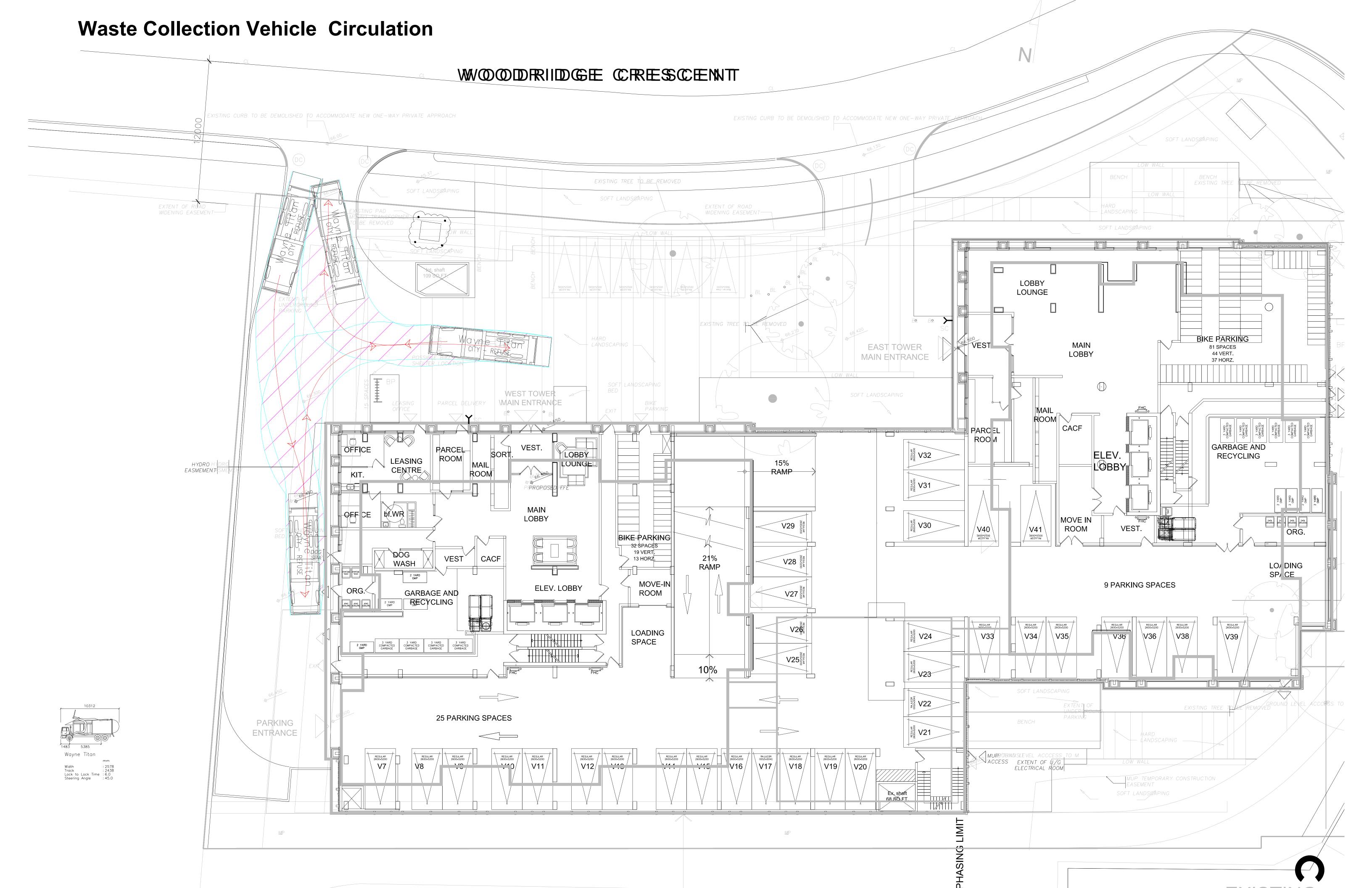








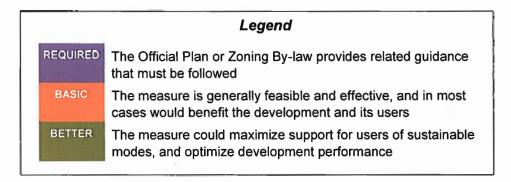




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TDM-Supportive Development Design and Infrastructure Checklist:

Residential Developments (multi-family or condominium)



	TDM-s	supportive design & infrastructure measures: Residential developments	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	Only pick-up/drop-off spaces are between the buildings and street
BASIC	1.1.2	Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations	₩ °
BASIC	1.1.3	Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort	
	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 (see Official Plan policy 4.3.3)	Direct connections to proposed Multi-Use Path and transit station
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 (see Official Plan policy 4.3.12)	Sidewalks to primary and secondary building entrances will be provided and appropriately: illuminated.

	TDM-s	supportive design & infrastructure measures: Residential developments	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 (see Official Plan policy 4.3.10)	Concrete sidewalks will be provided for pedestrians
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 (see Official Plan policy 4.3.10)	Sidewalks will be per building code and accessibility standards
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 onroad cycle routes. Where public sidewalks and multi-use pathways intersect with roads, consider providing traffic control devices to give priority to cyclists and pedestrians (see Official Plan policy 4.3.11)	Direct access to woodridge Avenue, the future Multi-Use path and the rapid transit-station are proposed.
BASIC	1.2.6	Provide safe, direct and attractive walking routes from building entrances to nearby transit stops	✓ see Above
BASIC	1.2.7	Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible	V see Above
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	□ ~/A
	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	The development will be sufficiently lit.
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)	Not Required

	TDM-s	supportive design & infrastructure measures: Residential developments	Check if completed & add descriptions, explanations or plan/drawing references
	2.	WALKING & CYCLING: END-OF-TRIP FACILI	TIES
	2.1	Bicycle parking	
REQUIRED	2.1.1	Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible (see Official Plan policy 4.3.6)	Most bicycle parking will be shelfered/secured with parking podium. Exterior will be convenient and illuminate
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 Zoning By-law Section 111)	Indoor bike storage rooms will be directly access from the Mult-Use path.
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 Zoning By-law Section 111)	
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	Proposed bicycle spaces will meet by law requirements
	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 Zoning By-law Section 111)	Most bicude parking will be provided within the parking podium.
BETTER	2.2.2	Provide secure bicycle parking spaces equivalent to at least the number of units at condominiums or multi-family residential developments	By-law requirements will be met.
	2.3	Bicycle repair station	。 (1) (1) (1) (1) (2) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4
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)	
	3.	TRANSIT	
	3.1	Customer amenities	
BASIC	3.1.1	Provide shelters, lighting and benches at any on-site transit stops	□ 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	□ Not required due to proximity to Bougshore Station
BETTER	3.1.3	Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	Dred + Enclosed connection to Bourshare station

	TDM-s	supportive design & infrastructure measures: Residential developments	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	Pick-up/drop-off spaces provided along circular driveway
	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 (see Zoning By-law Section 94)	□ N/A - site will be amzoning
	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	Will be considered if service provider is available
	6.	PARKING	THE WATER BEING
	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	✓ Zoning permits Zero to 1.75 spaces per unit.
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	VSufficient visitor parking will be provided on site. Design provided
BASIC	6.1.3	Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly (see Zoning By-law Section 104)	N/A
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 (see Zoning By-law Section 111)	N/A - Zoning permits Zero parking spaces adjacent rapid transit stations
	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)	

TDM Measures Checklist:

Residential Developments (multi-family, condominium or subdivision)

The measure is generally feasible and effective, and in most cases would benefit the development and its users 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: Residential developments	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	Management office
	1.2	Travel surveys	
BETTER	1.2.1	Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress	
	2.	WALKING AND CYCLING	
	2.1	Information on walking/cycling routes & des	stinations
BASIC	2.1.1	Display local area maps with walking/cycling access routes and key destinations at major entrances (multi-family, condominium)	
	2.2	Bicycle skills training	
BETTER	2.2.1	Offer on-site cycling courses for residents, or subsidize off-site courses	

	TDM	measures: Residential developments	Check if proposed & add descriptions
	3.	TRANSIT	
	3.1	Transit information	
BASIC	3.1.1	Display relevant transit schedules and route maps at entrances (multi-family, condominium)	Bus route maps will be provided
BETTER	3.1.2	Provide real-time arrival information display at entrances (multi-family, condominium)	N/A - see above
	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	Offered for initial lease of each unit only
BETTER	3.2.2	Offer at least one year of free monthly transit passes on residence purchase/move-in	
	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 (subdivision)	N/A - rapid transit presently exists
	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)	N/A
	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>)	Can be accommodated on-site if provider is available
BETTER	4.1.2	Provide residents with bikeshare memberships, either free or subsidized (multi-family)	
	4.2	Carshare vehicles & memberships	
BETTER	4.2.1	Contract with provider to install on-site carshare vehicles and promote their use by residents	Can be provided on-site if service provider is available
BETTER	4.2.2	Provide residents with carshare memberships, either free or subsidized	
	5.	PARKING	
	5.1	Priced parking	
BASIC ★	5.1.1	Unbundle parking cost from purchase price (condominium)	N/A
BASIC ★	5.1.2	Unbundle parking cost from monthly rent (multi-family)	

		TDM	measures: Residential developments	Check if proposed & add descriptions
		6.	TDM MARKETING & COMMUNICATION	S
		6.1	Multimodal travel information	
BASIC	*	6.1.1	Provide a multimodal travel option information package to new residents	will be considered for new resident welcome package
		6.2	Personalized trip planning	
BETTER	*	6.2.1	Offer personalized trip planning to new residents	