Technical Memorandum

To:	Mike Giampa – City of Ottawa	Date:	2023-07-14
Cc:	Mark Crockford – CGH Transportation		
From:	Viktoriya Zaytseva – CGH Transportation	Project Number:	2023-012

Re: 360 Laurier Avenue TIA Step 1 Additional Information

CGH Transportation has been retained to address the transportation impacts of the proposed redevelopment of 360 Laurier Avenue West. As part of the TIA process a Step 1 Screening Form Memo has been prepared (see Attachment 1). The Screening Form identifies the need for a TIA based on the Trip Generation Trigger for a new development of this size and the Location Trigger. However, as this is a redevelopment conversion, which is proposing to retrofit the existing office use to allow for residential uses, the net difference in trips should be considered, not just the trips generated by the new land use. This memo has been prepared to discuss the triggers for the TIA requirements in general and illustrate the rationale for why they do not apply to this site and a full TIA is not required as well as to address any elements that are required.

Trip Generation Trigger

Currently 360 Laurier Avenue West includes high-rise office and ground floor commercial land uses, including a fast casual restaurant, a high-turnover sit-down restaurant, a nail salon, and a dentist office. The proposed redevelopment will include 139 residential units and 1,332 square feet of ground floor commercial space.

To understand the impact of the proposed redevelopment on the Study Area transportation network, the net trip generation was determined by comparing the trip generation of the existing and proposed land uses. The ITE Trip Generation Manual (11th Edition) and 2020 TRANS Generation Manual were used to determine auto trip generation of existing and proposed land uses. Table 1, Table 2, and Table 3 below describe the existing, proposed, and net trip generation at 360 Laurier Avenue West.

Table 1: Existing Auto Trip Generation

Land Use	Units / GFA (sq. ft.)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
General Office LUC 710	94,357	140	19	159	27	131	158
Fast Casual Restaurant LUC 930	1,550	1	2	3	11	9	20
High Turnover Restaurant LUC 932	1,550	10	9	19	11	7	18
Hair Salon* LUC918	1,550	1	1	2	1	2	3
Dentist Office LUC 720	1,550	7	2	9	4	8	12
Total Auto Trips		**159**	**33**	**192**	**54**	**157**	**211**

* Note: Hair Salon LUC 918 was the closest ITE land use to the nail salon land use currently present at 360 Laurier Avenue West and is expected to have similar trip generation patterns as a nail salon

Table 2: Future Auto Trip Generation

Land Use	Units / GFA (sq. ft.)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Residential Multi-Unit (High Rise) LUC 221 & 222	139	17	39	56	32	23	55
Variety Store LUC 814	1,332	2	2	4	5	4	9
Total Auto Trips		**19**	**41**	**60**	**37**	**27**	**64**

Table 3: Net Auto Trip Generation

Land Use	Units / GFA (sq. ft.)	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Existing	N/A	159	33	192	54	157	211
Proposed	N/A	19	41	60	37	27	64
Net Total Auto Trips		**-140**	**8**	**-132 (-69%)**	**-17**	**-130**	**-147 (-70%)**

Table 3 above summarizes the existing and proposed trip generation and the net difference, showing that the trip generation of the proposed land uses would be significantly less than the previous use. Therefore, the proposed redevelopment would cause a net reduction in the number of site generated trips. Based on this reduction in person trips to the site, the trip generation trigger of the Step 1 Screening Form should not be considered to be met.

Safety Trigger

The Step 1 Screening form indicated that a Safety Trigger was met as the existing access to this building is within 150 metres of signalized intersections of Laurier Avenue at Kent Street to the west and Laurier Avenue at Bank Street. As shown previously the proposed reconfiguration of the existing building will produce a net reduction in trips by all modes from the site. The location and configuration of the existing access point will remain the same and will be a full movement access to the underground parking garage at the east side building. There are no auxiliary turning lanes along Laurier Avenue within the influence area of the site access. Based on the foregoing, the reconfiguration of this existing building will have no impacts on the nearby signalized intersections. Therefore, there is no need to undertake a TIA due to the safety trigger criteria.

Access and Frontage Review

The proposed site plan has been included as Attachment 2. The existing access width is 6 meters between the edge of pavement at Laurier Avenue and the building façade. The site access leads to the 6.69-meter covered laneway and the 4.5-meter wide underground parking ramp. Convex mirrors are provided throughout the drive aisles, starting from the laneway entrance at the building frontage, as indicated in the site plan. Six meters is typically the minimum ramp / laneway width for bidirectional traffic. However, as the previous office land use had functioned within the provided ramp width and given that widening this ramp would require significant structural changes to the building, the development should proceed with the existing underground ramp.

In the event where two oversized passenger vehicles may encounter one another at the opposite ends of the ramp, there are approximately 23 meters of stacking distance available within the covered laneway for inbound vehicles to wait for outbound vehicles to exit. This is equal to approximately three stacked vehicles. Based on arrivals forecasted as part of the trip generation above, a vehicle will enter the proposed redevelopment once every two minutes on average. Further, same time arrival of inbound and outbound vehicles will occur

infrequently, as the trips generated by a residential development are expected to be one-directional during the peak hours. During the AM peak period, the majority of the trips are expected to be outbound and during the PM peak period, most of the trips will be inbound. Thus, given that the occurrence of two oversized vehicles entering and exiting the ramp at the same time is expected to be infrequent, the available stacking distance, and the projected arrival rate, the existing 4.5-meter-wide ramp is acceptable, from a transportation perspective.

Loading

Several factors were considered to determine a preferred loading configuration for the subject redevelopment site. These include the constraints of the existing building being converted, predictability of vehicle arrivals, and the frequency and duration of loading. As a result, it was determined that waste collection will occur within the existing dedicated loading zone area along Laurier Avenue between the main building entrance and the entrance to the underground parking garage. The commercial and residential loading is proposed within the covered laneway close to the laneway entrance. A dedicated 360 Laurier Avenue staff member will navigate the truck out of the covered laneway when a backward movement occurs.

The waste collection is proposed along Laurier Avenue to prevent garbage trucks from reversing across the sidewalk and the bike lane along Laurier Avenue. In the proposed loading configuration, the waste collection vehicle will be parked parallel to the bike lane and the sidewalk, providing better visibility and longer reaction time for vulnerable road users when the loading occurs. Further, garbage pickup is expected to occur infrequently and outside of the peak hours, which will further minimize loading impacts on cyclists and pedestrians.

Unlike the waste collection, residential and commercial loading is lengthy and requires multiple rounds of transferring goods between the loading vehicle and the building. Additionally, residential and commercial loading times can be controlled by the building management by prohibiting loading during certain days and time periods, as well as dedicating building staff who will guide the vehicles reversing from the covered laneway to Laurier Avenue. Therefore, to avoid repeated crossings of the sidewalk and the bike lane when loading and given that additional safety measures can be implemented to accommodate residential and commercial loading, off-street loading along the covered laneway is recommended for this type of loading.

As loading within the covered laneway would temporarily restrict the laneway to one-way only, it is recommended that residential loading is prohibited on weekdays during AM and PM peak hours when trips in and out of the underground parking garage are most frequent. During the off-peak, bi-directional traffic to the underground parking garage is expected to be lower than the peak hour estimate of one vehicle per minute on average (see Table 2). Considering this in combination with low auto parking provisions on site, and other TDM measures discussed further in this memo, the same time arrival of vehicles highly unlikely during the off-peak hours Additionally, a convex mirror was proposed across from western stair doors to enable drivers, cyclists, and pedestrians on site to anticipate traffic arriving and leaving the site when the loading is ongoing.

Parking Requirements

The auto parking requirements and provisions for the proposed development are summarized in Table 4.

Table 4: Auto Parking Provisions

Land Use / Area	Requirement	Units / GFA	Parking Rate	Parking Required	Parking Provided
Dwelling Unit / Central Area	Minimum	139	0	0	59
	Visitor		0.1 per dwelling unit after first 12 units	13	
	Maximum		1.5 per dwelling unit (combined total of resident and visitor parking)	209	
Retail Store / Central Area	Minimum	96.7	0	0	0
	Maximum		1 per 100 m^2 of gross floor area	1	

Based on the City of Ottawa Zoning By-Law 2008-250, a minimum of 13 residential visitor parking spaces, a maximum of 209 residential parking spaces, and a maximum of 1 retail parking spaces are permitted at the proposed development. The proposed site plan includes 13 visitor parking spaces, and 46 resident parking spaces, out of which four are electric vehicle parking spaces. Thus, the City's Zoning By-Law requirements are met, with the proposed number of parking spaces equal to approximately one quarter of the maximum permitted parking spaces.

The bicycle parking requirements and provisions for the proposed development are summarized in Table 5.

Table 5: Bicycle Parking Provisions

Land Use / Area	Requirement	Units / GFA	Parking Rate	Parking Required	Parking Provided
Dwelling Unit / Central Area	Minimum	139	0.50 per dwelling unit	70	77
Retail Store / Central Area	Minimum	131	1 per 250 m^2 of gross floor area	1	1

The City of Ottawa Zoning By-Law 2008-250 requires a minimum of 70 resident bicycle parking spaces and one retail bicycle parking space. The proposed site plan includes 77 resident bicycle parking spaces and one retail parking space. The majority of the resident bicycle parking spaces, 63 of the 77 provided, are conveniently located near common area washrooms at the ground floor level. The proposed ground floor bike storage area also includes a bike wash station. The retail bicycle parking is located in an easily accessible area to retail patrons, along the frontage of the proposed development.

Transportation Demand Management

The subject development is located within a 400-metre radius of Lyon LRT and Parliament LRT stations. As of April 2023, the closest conventional north-south transit route is the OC Transpo Route #6 along Bank Street. Additionally, a number of east-west STO transit routes run along Slater Avenue. There are sidewalks and protected bike lanes along both north and south sides of Laurier Avenue in the vicinity of the subject site.

The proposed redevelopment further encourages the use of sustainable modes. As previously mentioned, the proposed site plan includes nearly quarter of the maximum auto parking spaces allowed in Ottawa Central Area. Additionally, the majority of bicycle parking spaces are provided in a convenient location on the ground floor, with nearby public washrooms and a proposed bike wash station. Further, the separation of bicycle parking spaces

from auto parking prevents bicycles from accumulating dust and debris, requiring lower maintenance and as a result, further encouraging active trips.

The "suite of post occupancy TDM measures" has been summarized in the TDM checklist for the residential component of the proposed development. The checklist is provided in Attachment 3. The key TDM measures recommended include:

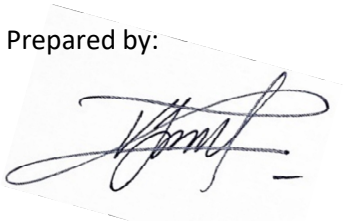
- Designate an internal coordinator, or contract with an external coordinator.
- Display local area maps with walking/cycling access routes and key destinations at major entrances.
- Display relevant transit schedules and route maps at entrances.
- Offer PRESTO cards preloaded with one monthly transit pass on residence purchase / move-in to encourage residents to use transit.
- Unbundle parking cost from monthly rent.
- Provide a multimodal travel option information package to new residents.

Conclusions

Based on the foregoing, no further Transportation Impact Analysis is required to support the proposed redevelopment of 360 Laurier Avenue. Therefore, this development should proceed as proposed, from a transportation perspective.

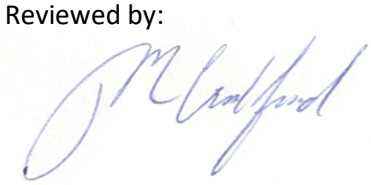
If you have any comments or questions, please do not hesitate to contact the undersigned.

Prepared by:



Viktoriya Zaytseva, B.A.Sc.
CGH Transportation Inc.
P:416-567-3719
E:Viktoriya.Zaytseva@CGHTransportation.com

Reviewed by:



Mark Crockford, P.Eng.
CGH Transportation Inc.
P: 905-251-4070
E: Mark.Crockford@CGHTransportation.com

List of Attachments:

Attachment 1 – Step 1 Screening Form
Attachment 2 – Proposed Site Plan
Attachment 3 – TDM Checklist

Attachment 1

Step 1 Screening Form

CGH TRANSPORTATION

6 Plaza Court
Ottawa, ON K2H 7W1

City of Ottawa 2017 TIA Guidelines
Step 1 - Screening Form

Date: 27-Jan-23
Project Number:
Project Reference:

1.1 Description of Proposed Development	
Municipal Address	360-103 Laurier Avenue West
Description of Location	Located in Ward 14 on the south side of Laurier Avenue West, 30 meters east of Laurier Avenue West and Kent Street intersection.
Land Use Classification	MD S25
Development Size	139 high-rise residential units and 1,550 square feet of ground floor retail space.
Accesses	One access into the parking garage from Laurier Avenue
Phase of Development	Assumed 1 Phase for TIA
Buildout Year	2028
TIA Requirement	Design Review Component

1.2 Trip Generation Trigger		
Land Use Type	Townhomes or apartments	
Development Size	139	Units
Trip Generation Trigger	No	

The subject site is a redevelopmet of an existing office building with four ground floor commercial units. The preliminary trip generation indicates a net reduction in trip generation as a result of proposed redevelopment (see page 2 for details).

1.3 Location Triggers	
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?	No
Is the development in a Design Priority Area (DPA) or Transit-oriented Development (TOD) zone?	Yes
Location Trigger	Yes

1.4. Safety Triggers		
Are posted speed limits on a boundary street 80 km/hr or greater?	No	
Are there any horizontal/vertical curvatures on a boundary street limits sight lines at a proposed driveway?	No	
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)?	Yes	Although the access to 360 Laurier Avenue West is within 150 m of a signalized intersection, this is an existing access and will not be modified as part of the proposed redevelopment. Further, the impact of this access is expected to be minimized as the preliminary trip generation indicates a net reduction in auto trips.
Is the proposed driveway within auxiliary lanes of an intersection?	No	
Does the proposed driveway make use of an existing median break that serves an existing site?	No	
Is there is a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development?	No	
Does the development include a drive-thru facility?	No	
Safety Trigger	Yes	Please see notes above.

TIA Plan Reports

On 14 June 2017, the Council of the City of Ottawa adopted new Transportation Impact Assessment (TIA) Guidelines. In adopting the guidelines, Council established a requirement for those preparing and delivering transportation impact assessments and reports to sign a letter of certification.

Individuals submitting TIA reports will be responsible for all aspects of development-related transportation assessment and reporting, and undertaking such work, in accordance and compliance with the City of Ottawa's Official Plan, the Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines.

By submitting the attached TIA report (and any associated documents) and signing this document, the individual acknowledges that s/he meets the four criteria listed below.

CERTIFICATION

1. I have reviewed and have a sound understanding of the objectives, needs and requirements of the City of Ottawa's Official Plan, Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines;
2. I have a sound knowledge of industry standard practice with respect to the preparation of transportation impact assessment reports, including multi modal level of service review;
3. I have substantial experience (more than 5 years) in undertaking and delivering transportation impact studies (analysis, reporting and geometric design) with strong background knowledge in transportation planning, engineering or traffic operations; and
4. I am either a licensed[1] or registered[2] professional in good standing, whose field of expertise [check √ appropriate field(s)] is either transportation engineering √ or transportation planning □.

[1,2] License of registration body that oversees the profession is required to have a code of conduct and ethics guidelines that will ensure appropriate conduct and representation for transportation planning and/or transportation engineering works.

City Of Ottawa
Infrastructure Services and Community Sustainability
Planning and Growth Management
110 Laurier Avenue West, 4th fl.
Ottawa, ON K1P 1J1
Tel. : 613-580-2424
Fax: 613-560-6006

Ville d'Ottawa
Services d 'infrastructure et Viabilité des collectivités
Urbanisme et Gestion de la croissance
110, avenue Laurier Ouest
Ottawa (Ontario) K1P 1J1
Tél. : 613-580-2424
Télécopieur: 613-560-6006

Dated at ___Newmarket_____ this __28__ day of _____June_____, 2018.
(City)

Name: _____Mark Crockford_____
(Please Print)

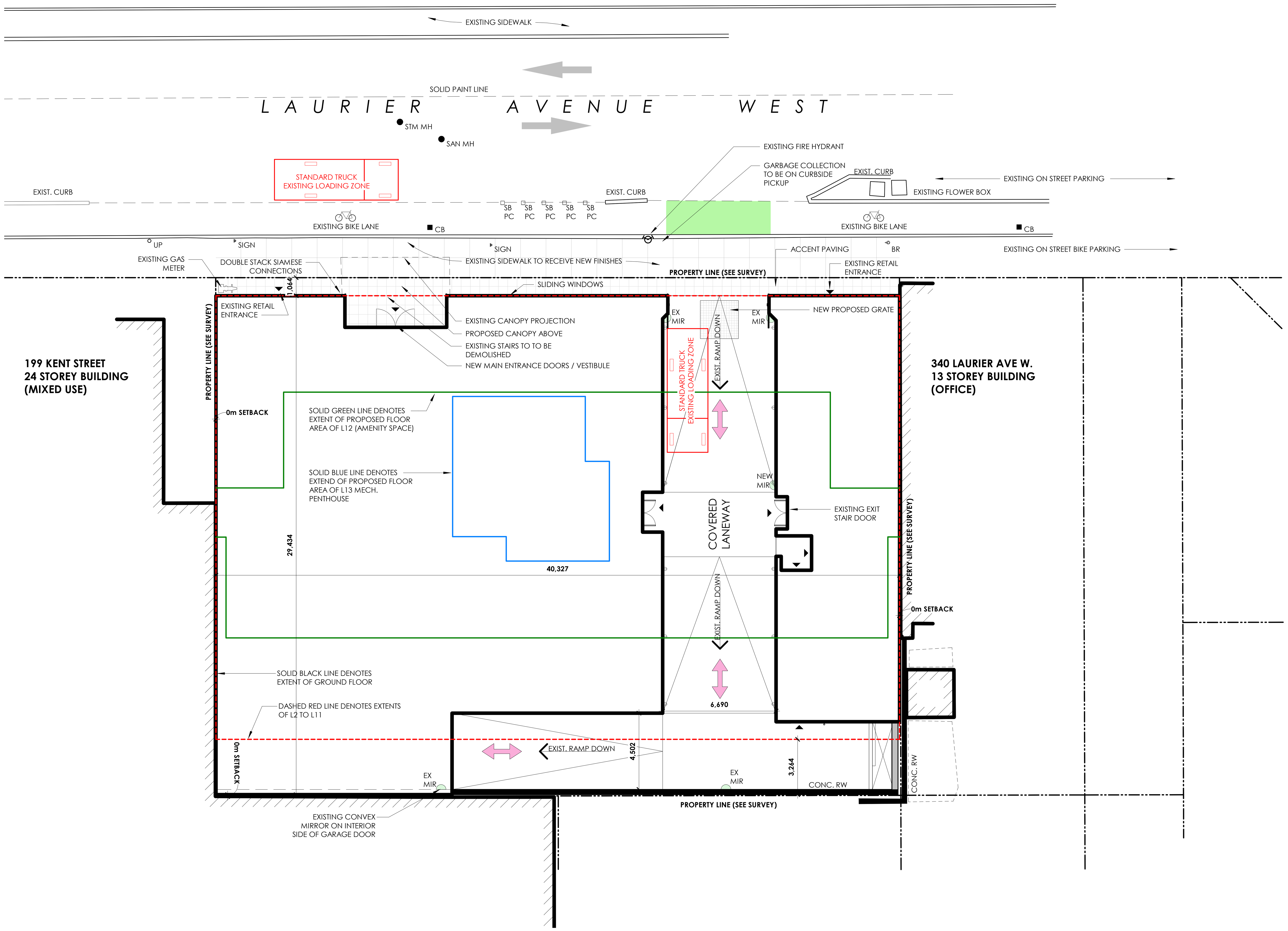
Professional Title: _____Professional Engineer_____

_____
Signature of Individual certifier that s/he meets the above four criteria

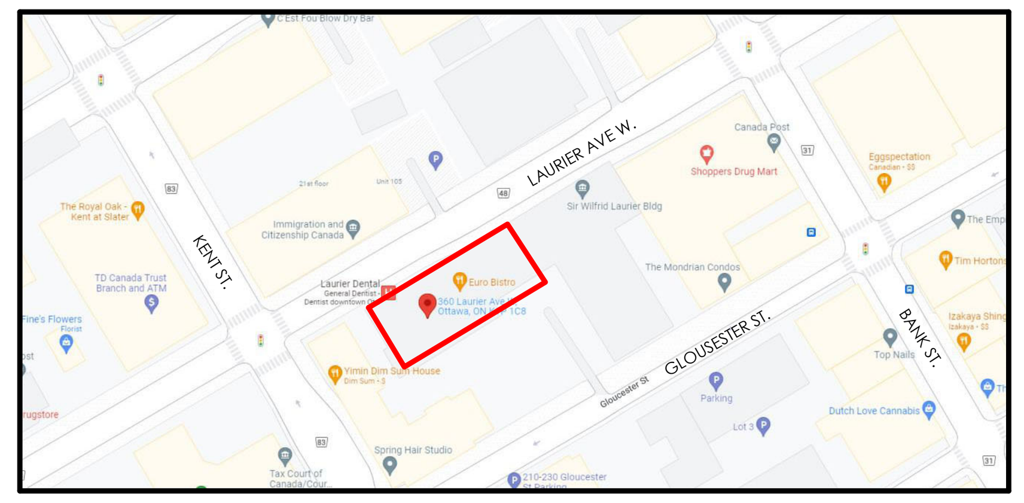
Office Contact Information (Please Print)
Address: 628 Haines Road
City / Postal Code: Newmarket / L3Y 6V5
Telephone / Extension: (905) 251-4070
E-Mail Address: Mark.Crockford@CGHTransportation.com

Attachment 2

Proposed Site Plan



1 / A0-801 SITE PLAN - PROPOSED
1 : 150
A0-200



KEY PLAN

LEGAL DESCRIPTION:
PART OF LOTS 28 AND 29
REGISTERED PLAN 2996
CITY OF OTTAWA
SURVEY REFERENCE:
TECHNICAL INFORMATION GATHERED FROM
SURVEY PREPARED BY CERTIFIED LAND
SURVEYOR: FARLEY, J.D. BARNES LIMITED
DATE: MARCH 10TH, 2023
FILE # 23-10-013-00
PLANNER CONTACT INFORMATION:
NAME: C.M. FOX
TEL: (613) 731-7244

SITE PLAN LEGEND

CB	CATCH BASIN
SAN MH	SANITARY MAN HOLE
▲	BUILDING ENTRANCE
UP	UTILITY POLE
SIGN	TRAFFIC SIGN
	FIRE HYDRANT
BR	SINGLE BIKE RACK BOLLARD
SB	COLLAPSABLE SAFETY BOLLARD 3'-0" - 5'-0" O.C.
SB PC	COLLAPSABLE SAFETY BOLLARD 3'-0" - 5'-0" O.C. MOUNTED ON PIN CURB
	BICYCLE LANE
MIR	EXISTING CONVEX MIRRORS

VEHICLE PARKING PROVIDED (BY FLOOR)

TYPE	COUNT
LEVEL P5 BASEMENT	
COMPACT (2438x5300)	9
STANDARD (2600x5200)	6
LEVEL P4 BASEMENT	
COMPACT (2438x5300)	9
STANDARD (2600x5200)	4
LEVEL P3 BASEMENT	
ACCESSIBLE (3400x5200)	2
COMPACT (2438x5300)	7
STANDARD (2600x5200)	3
LEVEL P2 BASEMENT	
COMPACT (2438x5300)	6
MOTORCYLE (1200x2500)	2
STANDARD (2600x5200)	3
LEVEL P1 BASEMENT	
ACCESSIBLE (3400x5200)	1
COMPACT (2438x5300)	5
STANDARD (2600x5200)	2
GRAND TOTAL	**59**

BICYCLE PARKING PROVIDED (BY FLOOR)

TYPE	COUNT
LEVEL P4 BASEMENT	
HORIZONTAL DBL STACKED BICYCLE SPACE (SECURE)	8
LEVEL P2 BASEMENT	
HORIZONTAL DBL STACKED BICYCLE SPACE (SECURE)	6
LEVEL 01	
HORIZONTAL DBL STACKED BICYCLE SPACE (SECURE)	54
VERTICAL BICYCLE SPACE (SECURE)	9
GRAND TOTAL	**77**
REQUIRED	*70*

BICYCLE PARKING (LOCKER @ PARKING STALL)

LEVEL	COUNT
P3	8
P4	8
P5	8
TOTAL	24
GRAND TOTAL WITH ABOVE REQ'D	***101***

GENERAL NOTES:

UNLESS OTHERWISE NOTED:

A. SITE DEMOLITION PLAN AND SITE PLAN TO BE READ IN CONJUNCTION WITH LANDSCAPE AND CIVIL PACKAGE DRAWINGS.
B. ALL CONSTRUCTED ELEMENTS ARE TO BE RETAINED.
C. PROTECTION MEASURES ARE TO BE TAKEN TO PREVENT DAMAGE TO EXISTING STRUCTURES OR LANDSCAPE FROM OCCURING.
D. ANY PARKING SIGNAGE MOVED OR REMOVED DURING CONSTRUCTION WILL BE REINSTATED.
E. SIDEWALK/CURB TO BE REINSTATED WHERE PRIVATE DRIVEWAYS HAVE BEEN DEMOLISHED OR WHERE DAMAGED THROUGH CONSTRUCTION PROCESS.

RESIDENTIAL SUITE COUNTS

TYPE	COUNT
1 BDRM	1
1 BDRM (B.F.)	19
1 BDRM (B.F.) + DEN	1
1 BDRM + DEN	19
2 BDRM	30
2 BDRM (B.F.)	10
2 BDRM + DEN	19
STUDIO	40
TOTAL	139

GFA AREA SCHEDULE

LEVEL	EXISTING AREA	PROPOSED AREA	DIFFERENCE
P5-BASEMENT (PARK./MECH.)	-	-	-
P3-P4 BASEMENT (PARK./MECH.)	-	-	-
P1-P2 BASEMENT (PARK./MECH.)	-	-	-
LEVEL 01 (RETAIL/AMNTY.)	728.31 m²	704.53 m²	-23.78 m²
LEVEL 02 (RESIDENTIAL)	831.90 m²	807.53 m²	-75.63 m²
LEVEL 03 (RESIDENTIAL)	916.17 m²	893.20 m²	-22.97 m²
LEVEL 04 (RESIDENTIAL)	916.17 m²	893.20 m²	-22.97 m²
LEVEL 05 (RESIDENTIAL)	916.17 m²	893.20 m²	-22.97 m²
LEVEL 06 (RESIDENTIAL)	916.17 m²	893.20 m²	-22.97 m²
LEVEL 07 (RESIDENTIAL)	916.17 m²	893.20 m²	-22.97 m²
LEVEL 08 (RESIDENTIAL)	916.17 m²	893.20 m²	-22.97 m²
LEVEL 09 (RESIDENTIAL)	916.17 m²	893.20 m²	-22.97 m²
LEVEL 10 (RESIDENTIAL)	916.17 m²	893.20 m²	-22.97 m²
LEVEL 11 (RESIDENTIAL)	916.17 m²	893.20 m²	-22.97 m²
LEVEL 12 FFL (AMENITIES)	293.40 m²	460.23 m²	166.83 m²
LEVEL 13 (MECH.)	-	-	-
TOTAL	**10,099.12 m²**	**10,011.13 m²**	-87.99 m²

RESIDENTIAL SUITE AREAS

	TYPE	AREA (SQ.M)	AREA (SF)
LEVEL 02			
SUITE 01	1 BDRM (B.F.) + DEN	54.72 m²	588.96 ft²
SUITE 03	2 BDRM	65.54 m²	705.50 ft²
SUITE 04	2 BDRM (B.F.)	62.54 m²	673.13 ft²
SUITE 05	STUDIO	45.26 m²	487.16 ft²
SUITE 06	STUDIO	38.93 m²	419.04 ft²
SUITE 07	1 BDRM	47.52 m²	511.49 ft²
SUITE 08	1 BDRM + DEN	59.15 m²	636.69 ft²
SUITE 09	STUDIO	38.95 m²	419.30 ft²
SUITE 10	STUDIO	45.05 m²	484.91 ft²
SUITE 11	2 BDRM	62.71 m²	675.05 ft²
SUITE 12	2 BDRM	70.20 m²	755.58 ft²
SUITE 13	2 BDRM + DEN	72.25 m²	777.67 ft²
SUITE 14	1 BDRM (B.F.)	52.31 m²	563.11 ft²
LEVEL 03 TO LEVEL 11 (TYPICAL)			
SUITE 01	1 BDRM (B.F.)	52.55 m²	565.64 ft²
SUITE 02	2 BDRM + DEN	72.20 m²	777.17 ft²
SUITE 03	2 BDRM	70.51 m²	759.00 ft²
SUITE 04	2 BDRM (B.F.)	62.54 m²	673.13 ft²
SUITE 05	STUDIO	45.26 m²	487.16 ft²
SUITE 06	STUDIO	38.93 m²	419.04 ft²
SUITE 07	1 BDRM + DEN	56.87 m²	612.12 ft²
SUITE 08	1 BDRM + DEN	56.62 m²	609.44 ft²
SUITE 09	STUDIO	38.97 m²	419.42 ft²
SUITE 10	STUDIO	44.26 m²	476.41 ft²
SUITE 11	2 BDRM	63.92 m²	688.08 ft²
SUITE 12	2 BDRM	70.48 m²	758.65 ft²
SUITE 13	2 BDRM + DEN	72.55 m²	780.87 ft²
SUITE 14	1 BDRM (B.F.)	52.59 m²	566.07 ft²
TOTAL		**8,232.44 m²**	**88,613.24 ft²**

ZONING MATRIX

ITEM	FIELD	DATA
1	LEGAL DESCRIPTION	LOTS 28 AND 29 REGISTERED PLAN 2996
2	CURRENT ZONING PERMITTED USES:	MD S25 APARTMENT DWELLINGS (HIGH RISE), RESTAURANT (CONDITIONAL), OFFICE (CURRENT EXCEPTION)
3	LOT AREA	1,233.35 m² *(EXISTING UNCHANGED)*
4	LOT FRONTAGE	40.32 m *(EXISTING UNCHANGED)*
5	BUILDING AREA	1,057.83 m² *(EXISTING UNCHANGED)*
6	BUILDING SETBACKS	FRONT YARD REQUIRED: NO MINIMUM FRONT YARD (EXISTING) 1.02m REAR YARD (REQUIRED): NO MINIMUM REAR YARD (EXISTING): 0m INTERIOR SIDE YARD (REQUIRED) NO MINIMUM INTERIOR SIDE YARD (EXISTING) 0m
7	AMENITY SPACE	REQUIRED: 6m² x 139 DWELLING UNITS = 834 m² PROPOSED COMMUNAL AMENITY: GROUND LEVEL, INTERIOR: 245.4 m² L12, INTERIOR: 341.7 m² L12, EXTERIOR: 406.0 m² **TOTAL: 993.1 m²**
8	BUILDING HEIGHT	HEIGHTS; PROPOSED CHANGE TO USE AS FOLLOWS: **36.39 m** TO TOP OF MAIN ROOF AMENITY **40.26 m** TO TOP OF AMENITY PENTHOUSE (L12) **44.75 m** TO TOP OF MECHANICAL PENTHOUSE (L13)

ITEM	FIELD	DATA (REQUIRED)	DATA (PROPOSED)
9	LOADING ZONE	REQUIRED: RESIDENTIAL: 0 spaces (min)	PROPOSED: 1 SHARED LOADING ZONE
10	PARKING	REQUIRED: RESIDENTIAL: 0 MAXIMUM: 1.5 PER UNIT = 209 spots VISITOR: 0.1 PER SUITE AFTER FIRST 12 UNITS =13 spots TOTAL: **13**	PROPOSED: TOTAL: **59**
11	BICYCLE PARKING	REQUIRED: RESIDENTIAL: 0.5 / UNIT = 70 SPACES TOTAL: **70 SPACES + 1 RETAIL SPACES (REFER TO SITE PLAN)**	PROPOSED: TOTAL: **77**
12	LANDSCAPED AREAS	REQUIRED: NONE NOTED FOR THIS SITE	PROPOSED: GROUND LEVEL: 335.22 m² L12 ROOF TERRACE: 444 m² TOTAL: **832.03 m²**
13	DRIVE AISLES	REQUIRED: SINGLE TRAFFIC LANE: 3m DOUBLE TRAFFIC LANE: MINIMUM: 6m; MAXIMUM: 3.6m FOR LESS THAN 20 PARKING SPACES, 6.7m FOR 20 OF MORE PARKING SPACES	PROPOSED: SEE PLANS

CLV GROUP DEVELOPMENTS
485 BANK STREET, SUITE 200, OTTAWA K2P 1Z2
client | client

CLELAND JARDINE ENGINEERING LTD
structural engineers | ingénieur structure

Smith + Andersen
MEP engineers | ingénieur MEP

LRL
civil engineers | ingénieur civil

CSW
landscape architect | architecte paysagiste

nord du projet / project north
nord actuel / true north

no	revisions	date
2	REV. FOR SPC COMMENTS	230714
1	ISSUED FOR SITE PLAN CONTROL	230504

stamp | timbre

ONTARIO ASSOCIATION OF ARCHITECTS
ANDREW REEVES
LICENCE
6464

architect | architecte
linebox STUDIO

general notes | note générale
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2. DO NOT SCALE THE DRAWINGS.
3. NOT FOR CONSTRUCTION UNTIL SIGNED BY THE ARCHITECT.

project title
360 LAURIER AVE W
PROPOSED MIXED-USE RENOVATION
360 LAURIER AVE W | OTTAWA | ON | K1P 1C8

drawing title | titre du dessin
SITE PLAN

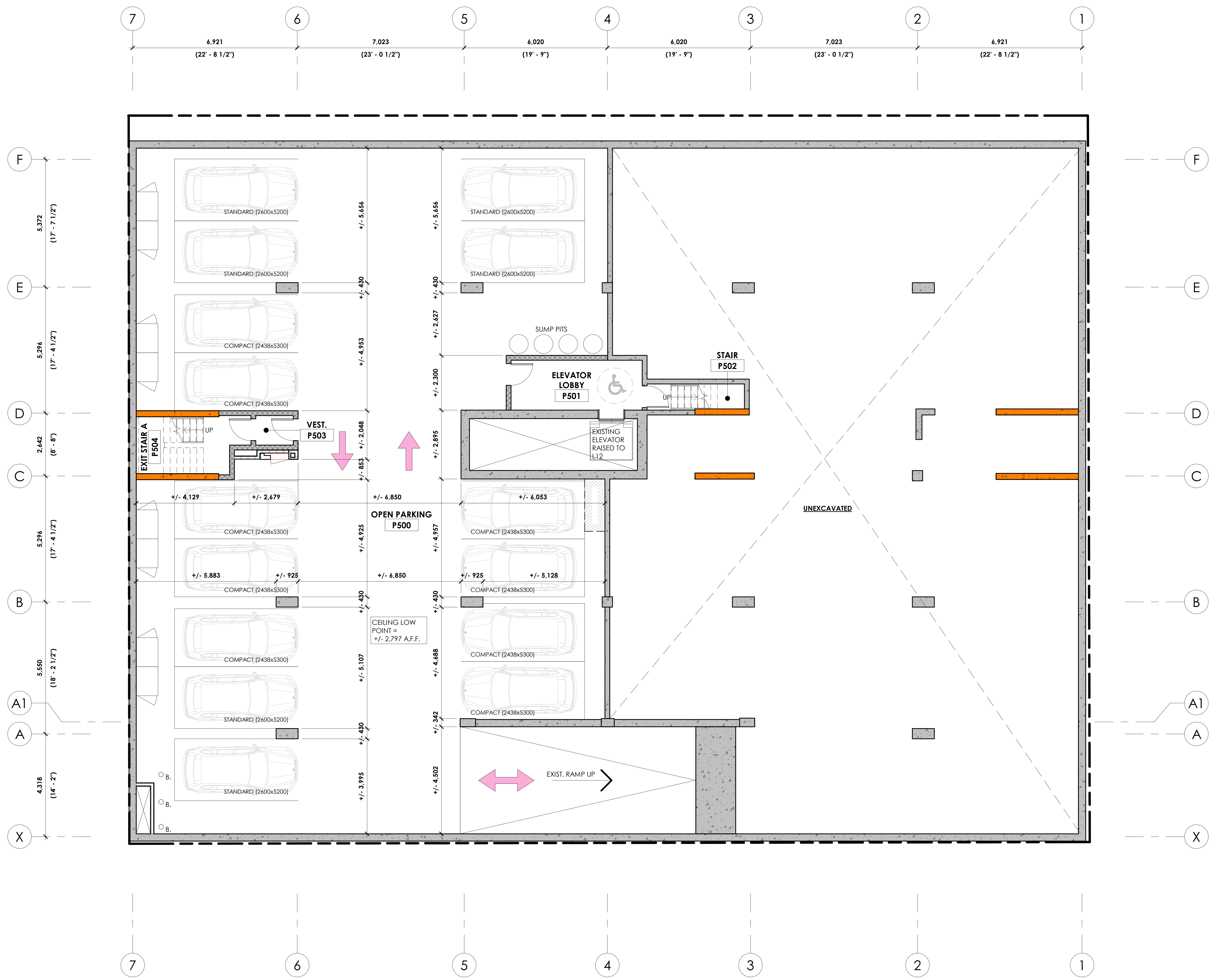
project number | numero du projet	2225
drawn | dessiné	JH
checked | verifié	JAP / MAR / AR
date | date	12/08/22
scale | échelle	As indicated

0 m 2 m 4 m

drawing number | numéro du dessin
A0-801

D07-12-23-0055

#xxxxx



VEHICLE PARKING PROVIDED (BY FLOOR)	
TYPE	COUNT
LEVEL P5 BASEMENT	
COMPACT (2438x5300)	9
STANDARD (2600x5200)	6
LEVEL P4 BASEMENT	
COMPACT (2438x5300)	9
STANDARD (2600x5200)	4
LEVEL P3 BASEMENT	
ACCESSIBLE (3400x5200)	2
COMPACT (2438x5300)	7
STANDARD (2600x5200)	3
LEVEL P2 BASEMENT	
COMPACT (2438x5300)	6
MOTORCYLE (1200x2500)	2
STANDARD (2600x5200)	3
LEVEL P1 BASEMENT	
ACCESSIBLE (3400x5200)	1
COMPACT (2438x5300)	5
STANDARD (2600x5200)	2
GRAND TOTAL	59

BICYCLE PARKING PROVIDED (BY FLOOR)	
TYPE	COUNT
LEVEL P4 BASEMENT	
HORIZONTAL DBL STACKED BICYCLE SPACE (SECURE)	8
LEVEL P2 BASEMENT	
HORIZONTAL DBL STACKED BICYCLE SPACE (SECURE)	6
LEVEL 01	
HORIZONTAL DBL STACKED BICYCLE SPACE (SECURE)	54
VERTICAL BICYCLE SPACE (SECURE)	9
GRAND TOTAL	77
REQUIRED	*70*

BICYCLE PARKING (LOCKER @ PARKING STALL)	
LEVEL	COUNT
P3	8
P4	8
P5	8
TOTAL	24
GRAND TOTAL WITH ABOVE REQ'D	*101*

RESIDENTIAL LOCKERS SCHEDULE (BY TYPE)	
TYPE	COUNT
RESIDENTIAL STORAGE LOCKER	
GROUND FLOOR - 36"Wx48"Dx80"H	18
PARKING - 36"Wx48"Dx80"	24
TYPICAL FLOORS - 36"Wx48"Dx80"	78
TYPICAL FLOORS - 36"Wx57"Dx80"	10
TYPICAL FLOORS - 86"Wx40"Dx80"	10
GRAND TOTAL	140

EXISTING TO REMAIN

NEW (PROPOSED)

1 A2-098 P5 BASEMENT FLOOR PLAN
1 : 100
A0-203

CLV GROUP DEVELOPMENTS
485 BANK STREET, SUITE 200, OTTAWA K2P 1Z2

client | client

CLELAND JARDINE ENGINEERING LTD

structural engineers | ingénieur structure

Smith + Andersen

MEP engineers | ingénieur MEP

LRL

civil engineers | ingénieur civil

CSW

landscape architect | architecte paysagiste

nord du projet
project north

nord actuel
true north

no	revisions	date
2	REV. FOR SPC COMMENTS	230714
1	ISSUED FOR SITE PLAN CONTROL	230504

stamp | timbre

ONTARIO ASSOCIATION of ARCHITECTS
ANDREW REEVES
LICENCE
6464

architect | architecte

linebox STUDIO

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project title

360 LAURIER AVE W

PROPOSED MIXED-USE RENOVATION

360 LAURIER AVE W | OTTAWA | ON | K1P 1C8

drawing title | titre du dessin

P5 BASEMENT FLOOR PLAN

project number | numero du projet: 2225

drawn | dessiné: JH

checked | verifié: JAP / MAR / AR

date | date: 11/28/22

scale | échelle: As indicated

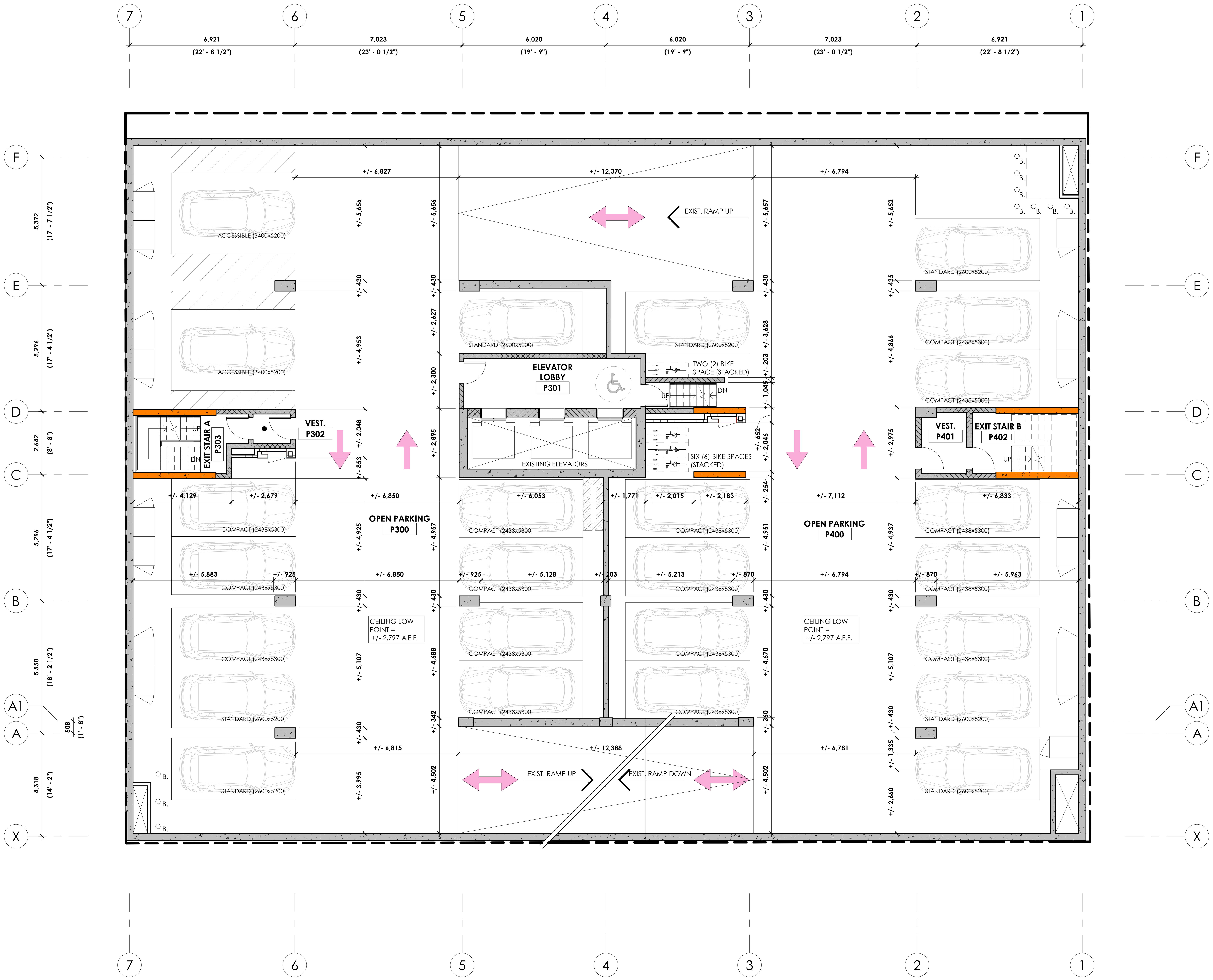
0 m 2 m 4 m

drawing number | numéro du dessin

A2-098

D07-12-23-0055

#xxxxx



VEHICLE PARKING PROVIDED (BY FLOOR)	
TYPE	COUNT
LEVEL P5 BASEMENT	
COMPACT (2438x5300)	9
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ACCESSIBLE (3400x5200)	2
COMPACT (2438x5300)	7
STANDARD (2600x5200)	3
LEVEL P2 BASEMENT	
COMPACT (2438x5300)	6
MOTORCYLE (1200x2500)	2
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GRAND TOTAL	**59**

BICYCLE PARKING PROVIDED (BY FLOOR)	
TYPE	COUNT
LEVEL P4 BASEMENT	
HORIZONTAL DBL STACKED BICYCLE SPACE (SECURE)	8
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LEVEL 01	
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VERTICAL BICYCLE SPACE (SECURE)	9
GRAND TOTAL	**77**
REQUIRED	*70*

BICYCLE PARKING (LOCKER @ PARKING STALL)	
LEVEL	COUNT
P3	8
P4	8
P5	8
TOTAL	24
GRAND TOTAL WITH ABOVE REQ'D	***101***

RESIDENTIAL LOCKERS SCHEDULE (BY TYPE)	
TYPE	COUNT
RESIDENTIAL STORAGE LOCKER	
GROUND FLOOR - 36"Wx48"Dx80"H	18
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GRAND TOTAL	**140**

EXISTING TO REMAIN

NEW (PROPOSED)

CLV GROUP DEVELOPMENTS
485 BANK STREET, SUITE 200, OTTAWA K2P 1Z2

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Smith + Andersen

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nord du projet / project north

nord actuel / true north

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360 LAURIER AVE W

PROPOSED MIXED-USE RENOVATION

360 LAURIER AVE W | OTTAWA | ON | K1P 1C8

drawing title | titre du dessin

P3 AND P4 BASEMENT FLOOR PLAN

project number | numero du projet	2225
drawn | dessiné	JH
checked | verifié	JAP / MAR / AR
date | date	11/28/22
scale | échelle	As indicated

0 m 2 m 4 m

drawing number | numéro du dessin

A2-099

1 A2-099 P3 AND P4 BASEMENT FLOOR PLAN
1 : 100
A0-203

D07-12-23-0055

#xxxxx

EXISTING TO REMAIN

NEW (PROPOSED)

1 A2-100 P1 AND P2 BASEMENT FLOOR PLAN
1 : 100
A0-203

VEHICLE PARKING PROVIDED (BY FLOOR)	
TYPE	COUNT
LEVEL P5 BASEMENT	
COMPACT (2438x5300)	9
STANDARD (2600x5200)	6
LEVEL P4 BASEMENT	
COMPACT (2438x5300)	9
STANDARD (2600x5200)	4
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COMPACT (2438x5300)	7
STANDARD (2600x5200)	3
LEVEL P2 BASEMENT	
COMPACT (2438x5300)	6
MOTORCYLE (1200x2500)	2
STANDARD (2600x5200)	3
LEVEL P1 BASEMENT	
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COMPACT (2438x5300)	5
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GRAND TOTAL	59

BICYCLE PARKING PROVIDED (BY FLOOR)	
TYPE	COUNT
LEVEL P4 BASEMENT	
HORIZONTAL DBL STACKED BICYCLE SPACE (SECURE)	8
LEVEL P2 BASEMENT	
HORIZONTAL DBL STACKED BICYCLE SPACE (SECURE)	6
LEVEL 01	
HORIZONTAL DBL STACKED BICYCLE SPACE (SECURE)	54
VERTICAL BICYCLE SPACE (SECURE)	9
GRAND TOTAL	77
REQUIRED	*70*

BICYCLE PARKING (LOCKER @ PARKING STALL)	
LEVEL	COUNT
P3	8
P4	8
P5	8
TOTAL	24
GRAND TOTAL WITH ABOVE REQ'D	*101*

RESIDENTIAL LOCKERS SCHEDULE (BY TYPE)	
TYPE	COUNT
RESIDENTIAL STORAGE LOCKER	
GROUND FLOOR - 36"Wx48"Dx80"H	18
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TYPICAL FLOORS - 86"Wx40"Dx80"	10
GRAND TOTAL	140

CLV GROUP DEVELOPMENTS
485 BANK STREET, SUITE 200, OTTAWA K2P 1Z2
client | client

CLELAND JARDINE ENGINEERING LTD
200-580 TERRY FOX DR, KANATA, ON K2L 4B9 (613) 591-1533
structural engineers | ingénieur structure

Smith + Andersen
MEP engineers | ingénieur MEP

LRL ENGINEERING | INGÉNIERIE
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nord du projet / project north
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360 LAURIER AVE W

PROPOSED MIXED-USE RENOVATION

360 LAURIER AVE W | OTTAWA | ON | K1P 1C8

drawing title | titre du dessin

P1 AND P2 BASEMENT FLOOR PLAN

project number | numero du projet	2225
drawn | dessiné	JH
checked | verifié	JAP / MAR / AR
date | date	11/28/22
scale | échelle	As indicated

0 m 2 m 4 m

drawing number | numéro du dessin

A2-100

D07-12-23-0055

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EXISTING TO REMAIN

NEW (PROPOSED)

1 LEVEL 01 FLOOR PLAN
A2-101
1 : 100
A0-200

BICYCLE PARKING PROVIDED (BY FLOOR)	
TYPE	COUNT
LEVEL P4 BASEMENT	
HORIZONTAL DBL STACKED BICYCLE SPACE (SECURE)	8
LEVEL P2 BASEMENT	
HORIZONTAL DBL STACKED BICYCLE SPACE (SECURE)	6
LEVEL 01	
HORIZONTAL DBL STACKED BICYCLE SPACE (SECURE)	54
VERTICAL BICYCLE SPACE (SECURE)	9
GRAND TOTAL	77
REQUIRED	*70*

BICYCLE PARKING (LOCKER @ PARKING STALL)	
LEVEL	COUNT
P3	8
P4	8
P5	8
TOTAL	24
GRAND TOTAL WITH ABOVE REQ'D	*101*

RESIDENTIAL LOCKERS SCHEDULE (BY TYPE)	
TYPE	COUNT
RESIDENTIAL STORAGE LOCKER	
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project title

360 LAURIER AVE W

PROPOSED MIXED-USE RENOVATION

360 LAURIER AVE W | OTTAWA | ON | K1P 1C8

drawing title | titre du dessin

LEVEL 01 FLOOR PLAN

project number | numero du projet	2225
drawn | dessiné	JH
checked | verifié	JAP / MAR / AR
date | date	11/28/22
scale | échelle	As indicated

0 m 2 m 4 m

drawing number | numéro du dessin

A2-101

D07-12-23-0055

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Attachment 3

TDM Checklist

CGH TRANSPORTATION

Introduction

The City of Ottawa's *Transportation Impact Assessment (TIA) Guidelines* (specifically Module 4.3—Transportation Demand Management) requires proponents of qualifying developments to assess the context, need and opportunity for transportation demand management (TDM) measures at their development. The guidelines require that proponents complete the City's **TDM Measures Checklist**, at a minimum, to identify any TDM measures being proposed.

The remaining sections of this document are:

- Using the Checklist
- Glossary
- TDM Measures Checklist: Non-Residential Developments
- TDM Measures Checklist: Residential developments

Readers are encouraged to contact the City of Ottawa's TDM Officer for any guidance and assistance they require to complete this checklist.

Using the Checklist

The City's *TIA Guidelines* are designed so that *Module 3.1—Development-Generated Travel Demand*, *Module 4.1—Development Design*, and *Module 4.2—Parking* are complete before a proponent begins *Module 4.3—Transportation Demand Management*.

Within Module 4.3, *Element 4.3.1—Context for TDM* and *Element 4.3.2—Need and Opportunity* are intended to create an understanding of the need for any TDM measures, and of the results they are expected to achieve or support. Once those two elements are complete, proponents begin *Element 4.3.3—TDM Program* that requires proponents to identify proposed TDM measures using the **TDM Measures Checklist**, at a minimum. The *TIA Guidelines* note that the City may require additional analysis for large or complex development proposals, or those that represent a higher degree of performance risk; as well, proponents proposing TDM measures for a new development must also propose an implementation plan that addresses planning and coordination, funding and human resources, timelines for action, performance targets and monitoring requirements.

This **TDM Measures Checklist** document includes two actual checklists, one for non-residential developments (office, institutional, retail or industrial) and one for residential developments (multi-family, condominium or subdivision). Readers may download the applicable checklist in electronic format and complete it electronically, or print it out and complete it by hand. As an alternative, they may create a freestanding document that lists the TDM measures being proposed and provides additional detail on them, including an implementation plan as required by the City's *TIA Guidelines*.

Each measure in the checklist is numbered for easy reference. Each measure is also flagged as:

- 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.

Glossary

This glossary defines and describes the following measures that are identified in the **TDM Measures Checklist**:

TDM program management
- Program coordinator
- Travel surveys

Parking
- Priced parking

Walking & cycling
- Information on walking/cycling routes & destinations
- Bicycle skills training
- Valet bike parking

Transit
- Transit information
- Transit fare incentives
- Enhanced public transit service
- Private transit service

Ridesharing
- Ridematching service
- Carpool parking price incentives
- Vanpool service

Carsharing & bikesharing
- Bikeshare stations & memberships
- Carshare vehicles & memberships

TDM marketing & communications
- Multimodal travel information
- Personalized trip planning
- Promotions

Other incentives & amenities
- Emergency ride home
- Alternative work arrangements
- Local business travel options
- Commuter incentives
- On-site amenities

For further information on selecting and implementing TDM measures (particularly as they apply to non-residential developments, with a focus on workplaces), readers may find it helpful to consult Transport Canada's *Workplace Travel Plans: Guidance for Canadian Employers*, which can be downloaded in English and French from the ACT Canada website at www.actcanada.com/resources/act-resources.

▶ *TDM program management*

While some TDM measures can be implemented with a minimum of effort through routine channels (e.g. parking or human resources), more complex measures or a larger development site may warrant assigning responsibility for TDM program coordination to a designated person either inside or outside the implementing organization. Similarly, some TDM measures are more effective if they are targeted or customized for specific audiences, and would benefit from the collection of related information.

Program coordinator. This person is charged with day-to-day TDM program development and implementation. Only in very large employers with thousands of workers is this likely to be a full-time, dedicated position. Usually, it is added to an existing role in parking, real estate, human resources or environmental management. In practice, this role may be called TDM coordinator, commute trip reduction coordinator or employee transportation coordinator. The City of Ottawa can identify external resources (e.g. non-profit organizations or consultants) that could provide these services.

Travel surveys. Travel surveys are most commonly conducted at workplaces, but can be helpful in other settings. They identify how and why people travel the way they do, and what barriers and opportunities exist for different behaviours. They usually capture the following information:

- *Personal data* including home address or postal code, destination, job type or function, employment status (full-time, part-time and/or teleworker), gender, age and hours of work
- *Commute information* including distance or time for the trip between home and work, usual methods of commuting, and reasons for choosing them
- *Barriers and opportunities* including why other commuting methods are unattractive, willingness to consider other options, and what improvements to other options could make them more attractive

▶ *Parking*

Priced parking. Charging for parking is typically among the most effective ways of getting drivers to consider other travel options. While drivers may not support parking fees, they can be more accepting if the revenues are used to improve other travel options (e.g. new showers and change rooms, improved bicycle parking or subsidized transit passes). At workplaces or daytime destinations, parking discounts (e.g. early bird specials, daily passes that cost significantly less than the equivalent hourly charge, monthly passes that cost significantly less than the equivalent daily charge) encourage long-term parking and discourage the use of other travel options. For residential uses, unbundling parking costs from dwelling purchase, lease or rental costs provides an incentive for residents to own fewer cars, and can reduce car use and the costs of parking provision.

▶ *Walking & cycling*

Active transportation options like cycling and walking are particularly attractive for short trips (typically up to 5 km and 2 km, respectively). Other supportive factors include an active, health-conscious audience, and development proximity to high-quality walking and cycling networks. Common challenges to active transportation include rain, darkness, snowy or icy conditions, personal safety concerns, the potential for bicycle theft, and a lack of shower and change facilities for those making longer trips.

Information on walking/cycling routes & destinations. Ottawa, Gatineau and the National Capital Commission all publish maps to help people identify the most convenient and comfortable walking or cycling routes.

Bicycle skills training. Potential cyclists can be intimidated by the need to ride on roads shared with motor vehicles. This barrier can be reduced or eliminated by offering cycling skills training to interested cyclists (e.g. CAN-BIKE certification courses).

Valet bike parking. For large events, temporary “valet parking” areas can be easily set up to maximize convenience and security for cyclists. Experienced local non-profit groups can help.

▶ *Transit*

Transit information. Difficulty in finding or understanding basic information on transit fares, routes and schedules can prevent people from trying transit. Employers can help by providing online links to OC Transpo and STO websites. Transit users also appreciate visible maps and schedules of transit routes that serve the site; even better, a screen that shows real-time transit arrival information is particularly useful at sites with many transit users and an adjacent transit stop or station.

Transit fare incentives. Free or subsidized transit fares are an attractive incentive for non-transit riders to try transit. Many non-users are unsure of how to pay a fare, and providing tickets or a preloaded PRESTO card (or, for special events, pre-arranging with OC Transpo that transit fares are included with event tickets) overcome that barrier.

Enhanced public transit service. OC Transpo may adjust transit routes, stop locations, service hours or frequencies for an agreed fee under contract, or at no cost where warranted by the potential ridership increase. Information provided by a survey of people who travel to a given development can support these decisions.

Private transit service. At remote suburban or rural workplaces, a poor transit connection to the nearest rapid transit station can be an obstacle for potential transit users, and an employer in this situation could initiate a private shuttle service to make transit use more feasible or attractive. Other circumstances where a shuttle makes sense include large special events, or a residential development for people with limited independent mobility who still require regular access to shops and services.

▶ *Ridesharing*

Ridesharing's potential is greatest in situations where transit ridership is low, where parking costs are high, and/or where large numbers of car commuters (e.g. employees or full-time students) live reasonably far from the workplace.

Ridematching service. Potential carpoolers in Ottawa are served by www.OttawaRideMatch.com, an online service to help people find carpool partners. Employers can arrange for a dedicated portal where their employees can search for potential carpool partners only among their colleagues, if they desire. Some very large employers may establish internal ridematching services, to maximize employee uptake and corporate control. Ridematching service providers typically include a waiver to relieve employers of liability when their employees start carpooling through a ridematching service. Ridesharing with co-workers also tends to eliminate security concerns.

Carpool parking price incentives. Discounted parking fees for carpools can be an extra incentive to rideshare.

Vanpool service. Vanpools operate in the Toronto and Vancouver metropolitan areas, where vans that carry up to about ten occupants are driven by one of the vanpool members. Vanpools tend to operate on a cost-recovery basis, and are most practical for long-distance commutes where transit is not an option. Current legislation in Ontario does not permit third-party (i.e. private or non-profit) vanpool services, but does permit employers to operate internal vanpools.

▶ *Carsharing & bikesharing*

Bikeshare station & memberships. VeloGO Bike Share and Right Bike both operate bikesharing services in Ottawa. Developments that would benefit from having a bikeshare station installed at or near their development may negotiate directly with either service provider.

Carshare vehicles & memberships. VRTUCAR and Zipcar both operate carsharing services in Ottawa, for use by the general public or by businesses as an alternative to corporate fleets. Carsharing services offer 24-hour access, self-serve reservation systems, itemized monthly billings, and outsourcing of all financing, insurance, maintenance and administrative responsibilities.

▶ *TDM marketing & communications*

Multimodal travel information. Aside from mode-specific information discussed elsewhere in this document, multimodal information that identifies and explains the full range of travel options available to people can be very influential—especially when provided at times and locations where individuals are actively choosing among those options. Examples include: employees when their employer is relocating, or when they are joining a new employer; students when they are starting a program at a new institution; visitors or customers travelling to an unfamiliar destination, or when faced with new options (e.g. shuttle services or parking restrictions); and residents when they purchase or occupy a residence that is new to them.

Personalized trip planning. As an extension to the simple provision of information, this technique (also known as *individualized marketing*) is effective in helping people make more sustainable travel choices. The approach involves identifying who is most likely to change their travel choices (notably relocating employees, students or residents) giving them customized information, training and incentives to support them in making that change. It may be conducted with assistance from an external service provider with the necessary skills, and delivered in a variety of settings including workplaces and homes.

Promotions. Special events and incentives can raise awareness and encourage individuals to examine and try new travel options.

- *Special events* can help attract attention, build participation and celebrate successes. Events that have been held in Ottawa include Earth Day (in April) Bike to Work Month (in May), Environment Week (early June), International Car Free Day (September 22), and Canadian Ridesharing Week (October). At workplaces or educational institutions, similarly effective internal events could include workshops, lunch-and-learns, inter-departmental challenges, pancake breakfasts, and so on.
- *Incentives* can encourage trial of sustainable modes, and might include loyalty rewards for duration or consistency of activity (e.g. 1,000 km commuted by bicycle), participation prizes (e.g. for completing a survey or joining a special event), or personal recognition that highlights individual accomplishments.

▶ *Other incentives & amenities*

Emergency ride home. This measure assures non-driving commuters that they will be able to get home quickly and conveniently in case of family emergency (or in some workplaces, in case of unexpected overtime, severe weather conditions, or the early departure of a carpool driver) by offering a chit or reimbursement for taxi, carshare or rental car usage. Limits on annual usage or cost per employee may be set, although across North America the actual rates of usage are typically very low.

Alternative work arrangements. A number of alternatives to the standard 9-to-5, Monday-to-Friday workweek can support sustainable commuting (and work-life balance) at workplaces:

- *Flexible working hours* allow transit commuters to take advantage of the fastest and most convenient transit services, and allow potential carpoolers to include people who work slightly different schedules in their search for carpool partners. They also allow active commuters to travel at least one direction in daylight, either in the morning or the afternoon, during the winter.
- *Compressed workweeks* allow employees to work their required hours over fewer days (e.g. five days in four, or ten days in nine), eliminating the need to commute on certain days. For employees, this can promote work-life balance and gives flexibility for appointments. For employers, this can permit extended service hours as well as reduced parking demands if employees stagger their days off.
- *Telework* is a normal part of many workplaces. It helps reduce commuting activity, and can lead to significant cost savings through workspace sharing. Telework initiatives involve many stakeholders, and may face as much resistance as support within an organization. Consultation, education and training are helpful.

Local business travel options. A common obstacle for people who might prefer to not drive to work is that their employer requires them to bring a car to work so they can make business trips during the day. Giving employees convenient alternatives to private cars for local business travel during the workday makes walking, cycling, transit or carpooling in someone else's car more practical.

- *Walking and cycling*—Active transportation can be a convenient and enjoyable way to make short business trips. They can also reduce employer expenses, although they may require extra travel time. Providing a fleet of shared bikes, or reimbursing cyclists for the kilometres they ride, are inexpensive ways to validate their choice.
- *Public transit*—Transit can be convenient and inexpensive compared to driving. OC Transpo's PRESTO cards are transferable among employees and automatically reloadable, making them the perfect tool for enabling transit use during the day.
- *Ridesharin*g—When multiple employees attend the same off-site meeting or event, they can be reminded to carpool whenever possible.
- *Taxis or ride-hailing*—Taxis and ride-hailing can eliminate parking costs, save time and eliminate collision liability concerns. Taxi chits eliminate cash transactions and minimize paperwork.
    - *Fleet vehicles or carsharing*—Fleet vehicles can be cost-effective for high travel volumes, while carsharing is a great option for less frequent trips.
    - *Interoffice shuttles*—Employers with multiple worksites in the region could use a shuttle service to move people as well as mail or supplies.
    - *Videoconferencing*—New technologies mean that staying in the office to hold meetings electronically is more viable, affordable and productive than ever.

Commuter incentives. Financial incentives can help create a level playing field and support commuting by sustainable modes. A "commuting allowance" given to all employees as a taxable benefit is one such incentive; employees who choose to drive could then be charged for parking, while other employees could use the allowance for transit fares or cycling equipment, or for spending or saving. (Note that in the United States this practice is known as "parking cash-out," and is popular because commuting allowances are not taxable up to a certain limit). Alternatively, a monthly commuting allowance for non-driving employees would give drivers an incentive to choose a different commuting mode. Another practical incentive for active commuters or transit users is to offer them discounted "rainy day" parking passes for a small number of days each month.

On-site amenities. Developments that offer services to limit employees' need for a car during their commute (e.g. to drop off clothing at the dry cleaners) or during their workday (e.g. to buy lunch) can free employees to make the commuting decision that otherwise works best for them.

		TDM measures: *Non-residential developments*	Check if proposed & add descriptions
		7. TDM MARKETING & COMMUNICATIONS	
		7.1 Multimodal travel information	
		Commuter travel	
BASIC	★	7.1.1 Provide a multimodal travel option information package to new/relocating employees and students	☐
		Visitor travel	
BETTER	★	7.1.2 Include multimodal travel option information in invitations or advertising that attract visitors or customers (e.g. for festivals, concerts, games)	☐
		7.2 Personalized trip planning	
		Commuter travel	
BETTER	★	7.2.1 Offer personalized trip planning to new/relocating employees	☐
		7.3 Promotions	
		Commuter travel	
BETTER		7.3.1 Deliver promotions and incentives to maintain awareness, build understanding, and encourage trial of sustainable modes	☐
		8. OTHER INCENTIVES & AMENITIES	
		8.1 Emergency ride home	
		Commuter travel	
BETTER	★	8.1.1 Provide emergency ride home service to non-driving commuters	☐
		8.2 Alternative work arrangements	
		Commuter travel	
BASIC	★	8.2.1 Encourage flexible work hours	☐
BETTER		8.2.2 Encourage compressed workweeks	☐
BETTER	★	8.2.3 Encourage telework	☐
		8.3 Local business travel options	
		Commuter travel	
BASIC	★	8.3.1 Provide local business travel options that minimize the need for employees to bring a personal car to work	☐
		8.4 Commuter incentives	
		Commuter travel	
BETTER		8.4.1 Offer employees a taxable, mode-neutral commuting allowance	☐
		8.5 On-site amenities	
		Commuter travel	
BETTER		8.5.1 Provide on-site amenities/services to minimize mid-day or mid-commute errands	☐

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: *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	☒
	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 & destinations**	
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)*	☒
BETTER		3.1.2	Provide real-time arrival information display at entrances *(multi-family, condominium)*	☐
		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	☒
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)*	☐
		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)	☐
		4.	**CARSHARING & BIKESHARING**	
		4.1	**Bikeshare stations & memberships**	
BETTER		4.1.1	Contract with provider to install on-site bikeshare station (*multi-family)*	☐
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	☐
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)*	☐
BASIC	★	5.1.2	Unbundle parking cost from monthly rent *(multi-family)*	☒

			TDM measures: *Residential developments*	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	☒
		6.2	**Personalized trip planning**	
BETTER	★	6.2.1	Offer personalized trip planning to new residents	☐