GROUPE SOVIMA

SITE SERVICING REPORT & EROSION & CONTROL PLAN
800 MONTREAL ROAD

Project: 125532-6.04.01

Prepared for Groupe Sovima
by IBI Group

December 20, 2022

1 INTRODUCTION

1.1 Scope

The purpose of this report is to outline the required municipal services, including water supply, stormwater management and wastewater disposal, needed to support the redevelopment of the subject property. The property is approximately 0.6 hectares in area and is located at the following current municipal addresses, 800 Montreal Road. The site is bound by Montreal Road to the north Den Haag Drive to the west and LeBoutillier Ave. to the east. Please refer to **Figure 1 – Location Plan** in **Appendix A** for more details.

This Site Servicing Study, which also includes the Stormwater Management Plan, Watermain Analysis and Erosion and Sedimentation Control Plans, which are being completed in support of the Site Plan Application. It should be noted the SPA is for only Building 1, and the following report does review servicing for potentially both building with a view to minimize works to be reconstructed at a later date, and do not imply approval of Building 2.

1.2 Subject Site

Groupe Sovima proposes to construct two buildings, an eight storey mixed use building with 126 residential units along with ground floor commercial space fronting along Montreal Road, and second four storey residential building with approximately 46 units. The proposed development also includes one level of underground parking. Vehicular access to the site will be from Den Haag Dr.. Please refer to Site Plan prepared by Neuf Architects located in **Appendix A** for more information.

The site currently consists of vacant lots along with some existing remnant foundations, and parking/driveway facilities. All existing structures within the subject property will be demolished to facilitate the proposed development. A copy of the site topogrqaphic survey prepared by AOV is included in **Appendix A**

1.3 Pre-consultation

It should be noted that a pre-consultation with the Ministry of the Environment is not required since this site is serviced by existing separated municipal sanitary and storm sewers and is a single owner residential site, thus an ECA is not required. A preconsulation meeting with the City of Ottawa was held on September 9, 2020 and copy of the meeting notes are included in **Appendix A.**

2 WATER DISTRIBUTION

2.1 Existing Conditions

As previously noted, the site is located south of Montreal Ave between Den Haag Dr and LeBoutillier Ave. An existing 200 mm diameter watermain is located within the LeBoutillier Ave right of way and during the development of the subdivision a 200mm dia. water service was constructed for the subject site. The watermains fall within the City of Ottawa's pressure zone 1E which will provide the water supply to the site.

2.2 Design Criteria

2.2.1 Water Demands

The population for apartment buildings is assumed at 1.4, 2.1 and 2.8 persons per unit for one, two and three bedroom units respectively, as found in Table 4.1 of the Design Guidelines. A watermain demand calculation sheet is included in **Appendix B** and the total water demands are summarized as follows:

	Subject Site
Average Day	0.98 l/s
Maximum Day	2.44 l/s
Peak Hour	5.37 l/s

2.2.2 System Pressure

The Ottawa Design Guidelines – Water Distribution (WDG001), July 2010, City of Ottawa, Clause 4.2.2 states that the preferred practice for design of a new distribution system is to have normal operating pressures range between 345 kPa (50 psi) and 480 kPa (80 psi) under maximum daily flow conditions. Other pressure criteria identified in Clause 4.2.2 of the guidelines are as follows:

Minimum Pressure	Minimum system pressure under peak hour demand conditions shall not be less than 276 kPa (40 psi)
Fire Flow	During the period of maximum day demand, the system pressure shall not be less than 140 kPa (20 psi) during a fire flow event.
Maximum Pressure	In accordance with the Ontario Building/Plumbing Code, the maximum pressure should not exceed 552 kPa (80 psi). Pressure reduction controls will be required for buildings where it is not possible/feasible to maintain the system pressure below 552 kPa.

2.2.3 Fire Flow Rates

A calculation using the Fire Underwriting Survey (FUS) method was conducted to determine the fire flow requirement for the site. The building is considered non-combustible construction. Results of the analysis provides a maximum fire flow rate of 11,000 l/min or 183 l/s is required which is used in the hydraulic analysis. A copy of the FUS calculation is included in **Appendix B**. The building will be designed with a Siamese fire connection which will be located on the building's frontage on Montreal Road.

2.2.4 Boundary Conditions

A boundary condition was provided by the City of Ottawa for the 200 mm diameter watermain on LeBoutillier Ave. adjacent to the development. A copy of the boundary conditions is included in **Appendix B** and summarized as follows:

BOUNDARY CONDITIONS	
SCENARIO	**HGL (m)** **LeBoutillier (proposed connection)**
Maximum HGL	147.0m
Minimum HGL (Peak Hour)	146.8m
Max Day + Fire Flow	139.0m

2.3 Proposed Water Plan

The minimum water pressure inside the building at the connection is determined by the difference between the water entry elevation of 88.0m and the minimum HGL condition, resulting in a pressure 576 kPa which exceeds the minimum requirement of 276 kPa per the guidelines. Because the pressure at the 8th floor under minimum HGL conditions is close to the minimum requirement of 276 kPa, an onsite test will be required to confirm if a domestic water pump will be necessary for this building.

Maximum water pressure is determined by the difference between the water entry elevation of 88 m and the maximum HGL condition resulting in a pressure of 578 kPa, which is greater than the 552 kPa threshold in the guideline in which pressure control is required. Based on this result, pressure control is required for this building.

The boundary condition for Maximum Day and Fire Flow results in a pressure of 475 kPa at the ground floor level. In the guidelines, a minimum residual pressure of 140 kPa must be maintained in the distribution system for a fire flow and maximum day event. As a pressure of 475 kPa is achieved, the fire flow requirement is exceeded.

To service the property twin 200mm dia water services off LeBoutillier Ave. are proposed, see site servicing plan 125532-C-001 in **Appendix B.** The proposed twin 200mm dia services will provide adequate supply to the building to meet demands while also providing service redundancy for this building.

3 WASTEWATER

3.1 Existing Conditions

When the subdivision was developed a 250mm dia service was provided for this site off LeBoutillier Ave, the proposed development will utilize this sewer to service the site. The subdivision design assumed a population of 252 person for the 0.59ha site.

3.2 Design Criteria

The sanitary sewers for the subject site will be based on the City of Ottawa design criteria. It should be noted that the sanitary sewer design for this study incorporates the latest City of Ottawa design parameters identified in Technical Bulletin ISTB-2018-01. Some of the key criteria will include the following:

- Commercial/Institutional flow 28,000 l/ha/d
- Residential flow 280 l/c/d
- Peaking factor 1.5 if ICI in contributing area >20%
1.0 if ICI in contributing area <20%
- Infiltration allowance 0.33 l/s/ha
- Velocities 0.60 m/s min. to 3.0 m/s max.
-

Given the above criteria, peak wastewater flow from the proposed development will 3.66 l/s, the detailed sanitary sewer calculations and Tributary area plan are included in **Appendix C**. As noted previously the sewers were designed to service this site based on an assumed population of 252, with an average daily flow of 350 l/p/d, and an infiltration factor of 0.28l/s/Ha, which would have resulted in an average flow of 1.186 l/s. The current plan estimates a population of 309.6 and utilizing the current design criteria of 280 l/p/d and 0.33 l/s/Ha results in an average flow of 1.198 l/s which is effectively equal to the original design flow hence no negative impact on the down stream system is anticipated due to this development.

3.3 Recommended Wastewater Plan

A 250mm dia sanitary service lateral is proposed to be extended from the existing sanitary sewer lateral in Le Boutillier Ave. to service this site. Please refer to the site servicing plan 125532-C-001 in **Appendix A** for details.

4 STORMWATER SYSTEM

4.1 Existing Conditions

When the subdivision was developed a 375mm dia service was provided for this site off LeBoutillier Ave, the proposed development will utilize this service lateral to service the site. The subdivision design assumed a runoff coefficient of 0.6 for the site and a restricted peak flow rate of 55 l/s, based on those criteria it was assumed approximately 77 cm of storage would be required to attenuate the 1:100 yr storm event.

4.2 Design Criteria

Since this site is with a subdivision that was recently developed the City of Ottawa requires the site to follow the subdivision design limits noted above;

- Existing adjacent storm sewers were designed to a 5 year level of service
- Site to be designed to limit the 100 year post development flow to a maximum of 55l/s.

The stormwater system was designed following the principles of dual drainage, making accommodations for both major and minor flow.

Some of the key criteria include the following:

• Design Storm	1:5 year return (Ottawa)
• Rational Method Sewer Sizing	
• Initial Time of Concentration	10 minutes
• Runoff Coefficients	
- Landscaped Areas	C = 0.30
- Asphalt/Concrete	C = 0.90
- Roof	C = 0.90
• Pipe Velocities	0.80 m/s to 6.0 m/s
• Minimum Pipe Size	250 mm diameter (200 mm CB Leads)

4.3 Proposed Minor System

The detailed design for this site shows a 375mm dia. storm sewer connection to the LeBoutillier Ave storm sewer, along with a limited amount of uncontrolled surface drainage directed to Den Haag Dr. and LeBoutillier Ave. ROW.

Using the above-noted criteria, the proposed on-site storm sewers were sized accordingly. A detailed storm sewer design sheet and the associated storm sewer drainage area plan are included in **Appendix D**. The current servicing drawing shows several catchbasins and deck drains, the deck drains are located above the underground parking structure and all flows will be routed inside the building via the mechanical plumbing systems and directed to the building cistern. Similarly all the catchbasins shown drain into the underground parking structure and all flows are routed to the building cistern. All roof deck inlets will be controlled and will utilize rooftop storage, restricted flow from the roof decks will bypass the cistern and discharge to the storm service.

4.4 Stormwater Management

The subject site will be limited to a release rate established using the criteria described in section 4.2. This will be achieved through an inlet control device (ICD) at the outlet of the cistern, and inlet control devices on all roof deck inlets.

Flows generated that are in excess of the site`s allowable release rate will be stored within the combination of a cistern located within the proposed parking garage along the southern limit of the garage, and the building roof.

At certain locations within the site, the opportunity to store runoff is limited due to grading constraints and building geometry. These locations are generally located at the perimeter of the site where it is necessary to tie into public boulevards and adjacent properties, and it is not always feasible to capture or store stormwater runoff. These "uncontrolled" areas, 0.078 hectares in total, based on 1:100 year storm uncontrolled flows, the uncontrolled areas generate 25.38 l/s runoff (refer to Section 4.5 for calculation). The various roof decks will have inlets that control flow to a total of 12.6 l/s, which leaves 17.02l/s for the remaining surface inlets discharging into the cistern, which has been sized to accommodate flow during the 1:100-year event, with no overflow leaving the site.

4.5 Inlet Controls

The allowable release rate for the 0.59 Ha site as noted in the original subdivision design is 55 l/s.

As noted in Section 4.4, a portion of the site will be left to discharge to the surrounding boulevards and roadways uncontrolled.

Based on a 1:100 year event, the flow from the three uncontrolled areas can be determined as:

$\mathbf{Q_{uncontrolled}}$ = $\mathbf{2.78} \times \mathbf{C} \times \mathbf{i_{100yr}} \times \mathbf{A}$ where:

$\mathbf{C}$ = Average runoff coefficient of uncontrolled area

$\mathbf{i_{100yr}}$ = Intensity of 100-year storm event (mm/hr)

= $1735.688 \times (T_c + 6.014)^{0.820}$ = 178.56 mm/hr; where T_c = 10 minutes

$\mathbf{A_1}$ = Uncontrolled Area = 0.028 Ha, C_{100} =0.375, Q_1=5.21l/s
$\mathbf{A_2}$ = Uncontrolled Area = 0.009 Ha, C_{100} =0.375, Q_2=1.68l/s
$\mathbf{A_3}$ = Uncontrolled Area = 0.035 Ha, C_{100} =1.00, Q3=17.37l/s
$\mathbf{A_4}$ = Uncontrolled Area = 0.006 Ha, C_{100} =0.375, Q3=1.12l/s

Therefore, the uncontrolled release rate can be determined as:

$\mathbf{Q_{uncontrolled}}$ = **5.21+1.68+17.37+1.12**= 25**.38L/s**

The maximum allowable release rate from the remainder of the site can then be determined as:

$\mathbf{Q_{max\ allowable}}$ = $\mathbf{Q_{restricted} - Q_{uncontrolled}}$

= 55 L/s – 25.38 L/s = 29**.62 L/s**

4.6 On-Site Detention

As noted in section 4.4 any excess storm water up to the 100-year event is to be stored on-site within the building cistern and on the roof decks in order to not surcharge the downstream municipal storm sewer system. As the cistern is located inside the building, coordination with the architect, structural and mechanical engineers will be needed to design the structure and associated inlet control device.

4.6.1 Site Inlet Control

The roof decks will utilize restrictor inlets such as the Watts RD-100-A-ADJ (or approved equal) to limit the inflow from each section of roof to the identified flow rates. Storage of runoff on the roof decks will be required to accommodate the 1:100 yr event, and scuppers will provide for overflow should a more extreme event occur or should an inlet become blocked. The Modified Rational Method (MRM) was used to identify the required storage, see the MRM calculations in **Appendix D** for details. The decks, terraces, and controlled landscape and driveway areas drain to the storm water cistern located in the building (at parking garage level), where an ICD will restrict the flow from the tank to 17.02 l/s. the MRM spreadsheet in **Appendix D** identifies the required storage to accommodate the 1:100yr event. An overflow from the tank to the exterior has been provided should a more extreme event occur or if the ICD becomes blocked. The following table summarizes the on-site storage requirements during both the 1:5-year and 1:100-year events.

ICD AREA	TRIBUTARY AREA	AVAILABLE STORAGE (M^3)	100-YEAR STORM		5-YEAR STORM	
			RESTRICTED FLOW (L/S)	REQUIRED STORAGE (M^3)	RESTRICTED FLOW (L/S)	REQUIRED STORAGE (M^3)
Cistern	0.365	120.00	17.02	119.32	17.02	45.11
Roof Deck 1	0.120	47.84	5.67	46.78	5.67	18.87
Roof Deck 2	0.008	3.40	0.315	3.34	0.315	1.38
Roof Deck 3	0.012	4.80	0.63	4.52	0.63	1.80
Roof Deck 4	0.008	3.40	0.315	3.34	0.315	1.38
Roof Deck 5	0.009	4.05	0.315	3.91	0.315	1.63
Roof Deck 6	0.017	7.65	0.63	7.25	0.63	3.01
Roof Deck 7	0.015	6.38	0.63	6.13	0.63	2.51
Roof Deck 8	0.041	16.40	1.89	16.20	1.89	6.56
Roof Deck 9	0.028	11.90	1.26	11.16	1.26	4.53
Roof Deck 10	0.014	5.60	0.63	5.58	0.63	2.26
Roof Deck 11	0.007	2.80	0.315	2.79	0.315	1.13
Unrestricted	0.078		25.38		11.73	
TOTAL	**0.722**	**234.22**	**55.00**	**230.32**	**55.0**	**90.17**

In all instances the required storage is met with the building cistern, and roof top storage, respectively.

4.6.2 Overall Release Rate

As demonstrated above, the site uses an inlet control devices to restrict the 100 year storm event to 55 l/s which is the criteria approved by the City of Ottawa. Restricted stormwater will be contained onsite by the building cistern and roof top storage. Up to and including the 100 year event, there will be no overflow off-site from restricted areas, if however an more intense storm or should an inlet become blocked, overland routing has been provided to the approved outlet per the original system design.

5 SEDIMENT AND EROSION CONTROL PLAN

During construction, existing stream and storm water conveyance systems can be exposed to significant sediment loadings. A number of construction techniques designed to reduce unnecessary construction sediment loadings may be used such as;

- Filter socks will remain on open surface structures such as manholes and catchbasins until these structures are commissioned and put into use;
- Installation of silt fence, where applicable, around the perimeter of the proposed work area.

During construction of the services, any trench dewatering using pumps will be fitted with a "filter sock." Thus, any pumped groundwater will be filtered prior to release to the existing surface runoff. The contractor will inspect and maintain the filter sock as needed including sediment removal and disposal.

All catchbasins, and to a lesser degree manholes, convey surface water to sewers. Consequently, until the surrounding surface has been completed these structures will be protected with a sediment capture filter sock to prevent sediment from entering the minor storm sewer system. These will stay in place and be maintained during construction and build-out until it is appropriate to remove them.

The Sediment and Erosion Control Plan 125532-C-900 is included in **Appendix E**.

6 SOILS

DST Consulting was retained to prepare a geotechnical investigation for the proposed development. The objectives of the investigation were to prepare a report to:

- Determine the subsoil and groundwater conditions at the site by means of test pits and boreholes and;
- To provide geotechnical recommendations pertaining to design of the proposed development including construction considerations.

The geotechnical report 02001055 was prepared by DST Ltd. in July 2020. A copy of the report has been included with the SPA application. The report contains recommendations which include but are not limited to the following:

- There is no practical restriction to thickness of grade raise on this site.
- Fill placed below the foundations to meet OPSS Granular 'B' Type II placed in 300 mm lifts compacted to 100% SPMDD.
- Bedding and cover for service pipes: bedding min 150mm compacted (95% SPMDD) OPSS Gran. A to the springline, and covered with OPSS Gran A
- Fill for driveway to be suitable native material or OPSS Select Subgrade Material placed with 10:1 frost tapers, material to be placed in 300mm lifts compared to 100% SPMDD

MATERIAL	Layer Thickness
• **Parking Lots – Light Duty (Parking Stalls)**	
• Asphalt Wearing Course (Superpave 12.5)	• 50 mm
• Well Graded Granular Base Course (Granular ‘A’)	• 150 mm
• Well Graded Granular Sub-Base Course (Granular ‘B’ Type II)	• 300 mm
• **Parking Lots – Heavy Duty (Aisles and Fire Routes)**	
• Asphalt Wearing Course (Superpave 12.5)	• 40 mm
• Asphalt Binder Course (Superpave 19.0)	• 50 mm
• Well Graded Granular Base Course (Granular ‘A’)	• 150 mm
• Well Graded Granular Sub-Base Course (Granular ‘B’ Type II)	• 450 mm

A copy of the grading plan 125532-C-200 is included in **Appendix E.**

7 CONCLUSIONS

Municipal water, wastewater and stormwater systems required to accommodate the proposed development are available to service the proposed development. Prior to construction, existing sewers are to be CCTV inspected to assess sewer condition.

This report has demonstrated sanitary and storm flows from and water supply to the subject site can be accommodated by the existing infrastructure. Also, the proposed servicing has been designed in accordance with MECP and City of Ottawa current level of service requirements.

The use of lot level controls, conveyance controls and end of pipe controls outlined in the report will result in effective treatment of surface stormwater runoff from the site. Adherence to the sediment and erosion control plan during construction will minimize harmful impacts on surface water.

Based on the information provided herein, the development can be serviced to meet City of Ottawa requirements.

Report prepared by:

Demetrius Yannoulopoulos, P. Eng.
Director, Ottawa Office Lead

APPENDIX A

Figure 1- Location Map
Site Plan by Neuf Architects
AOV Plan of Survey
City of Ottawa Preconsult meeting notes

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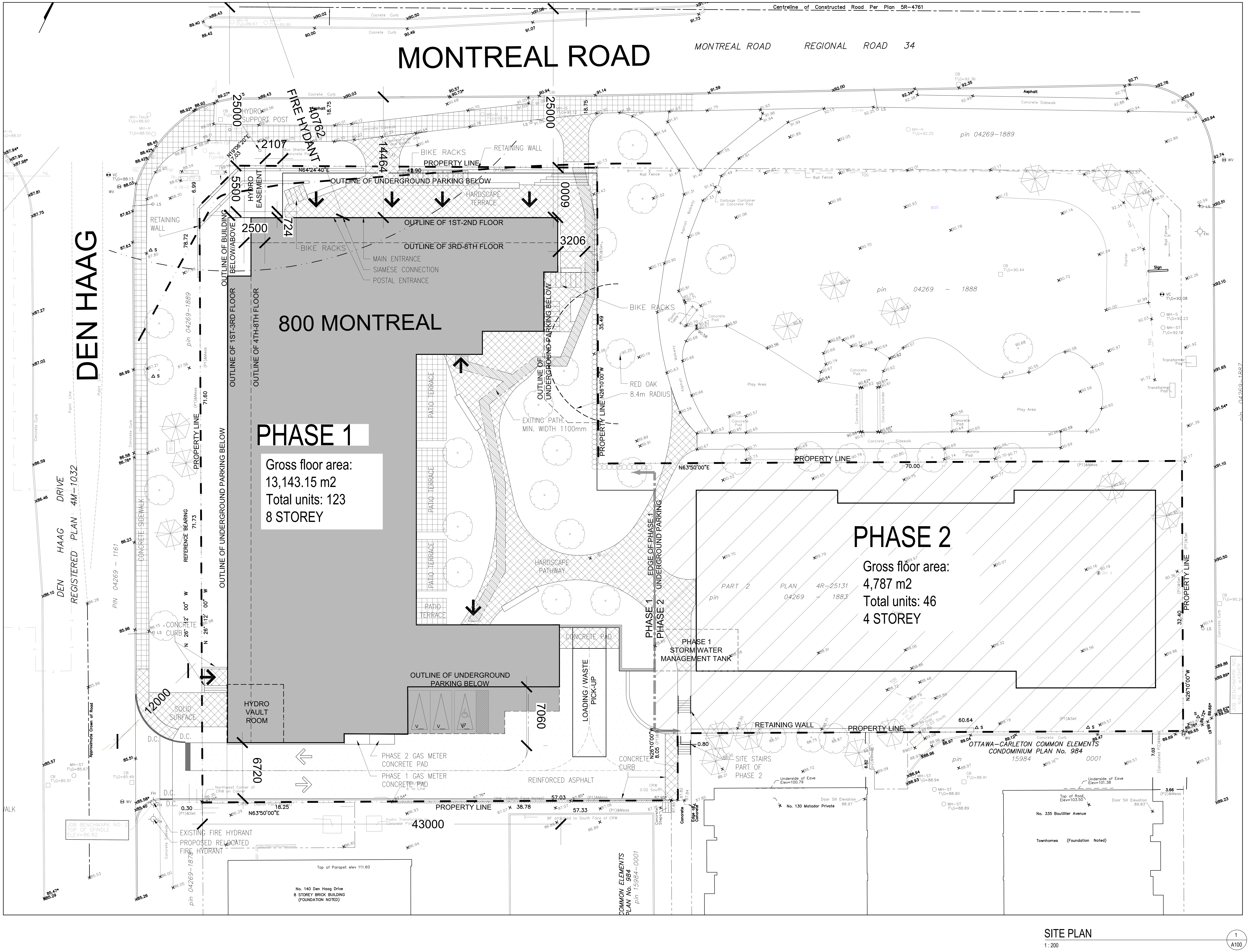
IBI

Project Title	Drawing Title	Sheet No.
SOVIMA OTTAWA 800 MONTREAL ROAD	KEY PLAN	FIGURE 1



NOTES GÉNÉRALES General Notes

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4. Les dimensions sur ces documents doivent être lues et non mesurées. / The dimensions on these documents must be read and not measured.

ARCHITECTURE DE PAYSAGE Landscape Architect
Lashley+Associates
950 Gladstone Ave. Suite 202, Ottawa (ON) K1Y 3E6
T 613.233.8579 lashleyla.com

CIVIL Civil
IBI Group
333 Preston Street Suite 400 Ottawa (ON), K1S 5N4
T 613.447.0504 IBIgroup.com

INGÉNIERIE TRANSPORT Engineering, Transportation
IBI - Transportation Eng.
333 Preston Street Suite 400 Ottawa (ON), K1S 5N4
T 613.447.0504 IBIgroup.com

DESSIN INTÉRIEUR Interior Design
NINE Design
20 des Roitelets Saint-Bruno-De-Montarville, (QC) J3V 6E4
T 514.998.8973 nine-design.ca

STRUCTURE Structural
L2C Experts
4710 St-Ambroise St, Suite 103 Montréal (QC) H4C 2C
T 514.379.4999 l2cexperts.com

MÉCANIQUE / ELÉCTRIQUE Mechanical / Electrical
GOODKEY, WEEDMARK & ASSOCIATES LTD.
1688 Woodward Dr, Ottawa, ON K2C 3R8
T 613.727.5111 gwal.com

ARCHITECTES Architect
NEUF architect(e)s SENCRL
630, boul. René-Lévesque O. 32e étages, Montréal QC H3B 1S6
T 514.847.1117 NEUFarchitectes.com

SCEAU / Seal

NEUF
ARCHITECT(E)S
NEUF ARCHITECTES SENCRL

CLIENT Client
GROUPE SOVIMA
100 rue Lansdowne, bureau 201, St-Bruno de Montarville (Québec) J3V 0B3
T 450.676.4476 sovimahabitations.com

OUVRAGE Project
800 MONTREAL ROAD

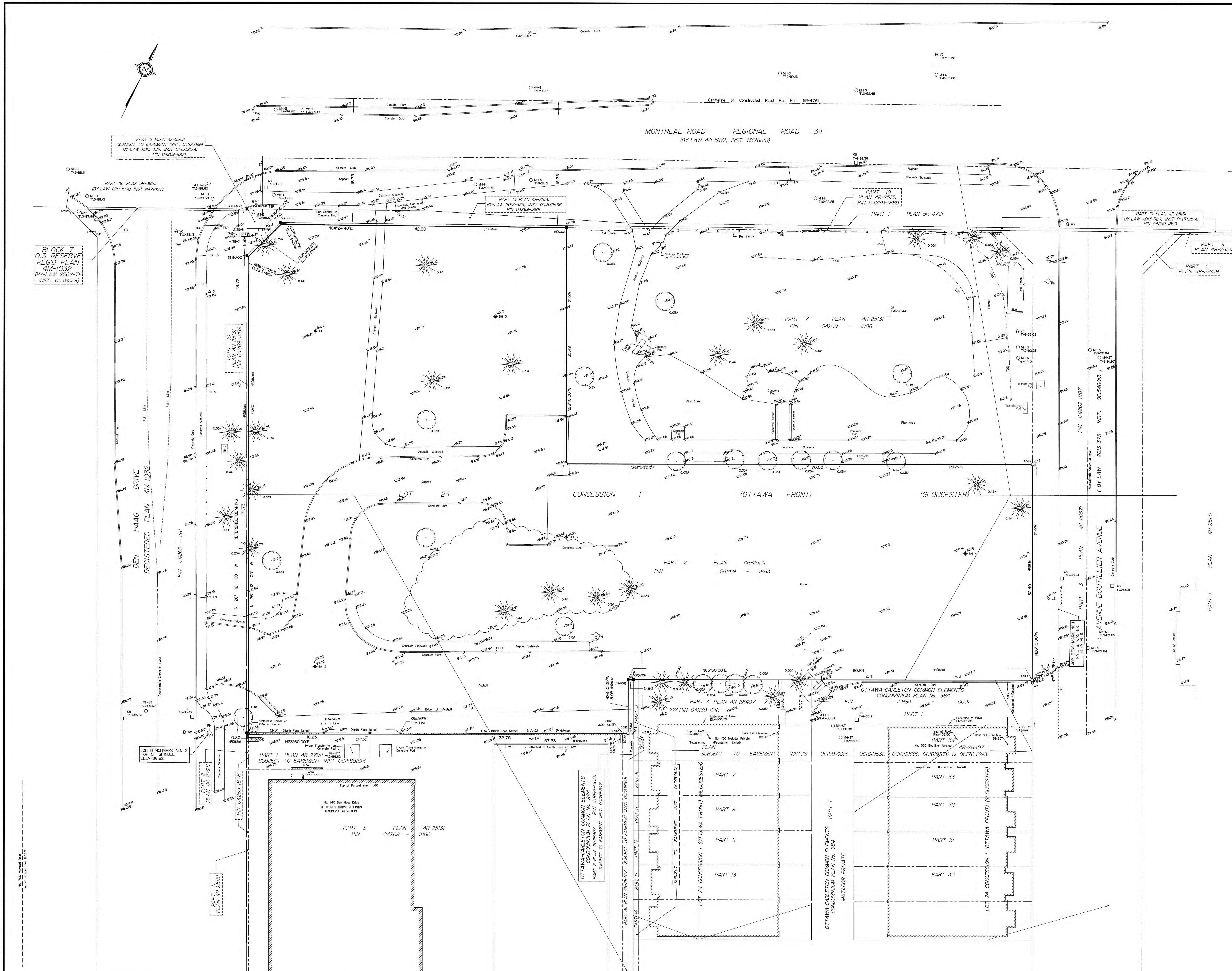
EMPLACEMENT Location: 120 DEN HAAG DR, OTTAWA
NO PROJET No.: 12263

NO	RÉVISION	DATE (aa-mm-jj)
A	Issued for SPA	2020.12.12
B	Issued for Coordination 30%	2020.12.18
C	Issued for internal review - Architect	2021.01.25
D	Issued for Coordination 60%	2021.05.25
E	Issued for SPA Rev 1	2021.10.25
F	Re-Issued for SPA Rev 1	2022.02.14
G	Issued for 80%	2022.03.06
H	Issued for UDRP	2022.03.22
I	Issued for SPA	2202.12.19

DESSINÉ PAR Drawn by: AJ
VÉRIFIÉ PAR Checked by: FP
DATE (aa.mm.jj): 10/21/20
ÉCHELLE Scale: As indicated

TITRE DU DESSIN Drawing Title
SITE PLAN - OVERALL

RÉVISION Revision: 1
NO. DESSIN Dwg Number: A101



TOPOGRAPHICAL PLAN OF SURVEY OF

PART OF LOT 24
CONCESSION 1 (OTTAWA FRONT)
Geographic Township of Gloucester
CITY OF OTTAWA

Surveyed by Annis, O'Sullivan, Vollebekk Ltd.

Scale 1 : 200

8.0 6.0 4.0 2.0 0 4 8 Metres

Metric

DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

Surveyor's Certificate

I CERTIFY THAT :

1. This survey and plan are correct and in accordance with the Surveys Act and the Surveyors Act and the regulations made under them.
2. The survey was completed on the 8th day of April, 2020.

APRIL 21, 2020
Date

E. H. Herweyer
Ontario Land Surveyor

Notes & Legend

	Denotes	
—□—	"	Survey Monument Planted
—■—	"	Survey Monument Found
SIB	"	Standard Iron Bar
SSIB	"	Short Standard Iron Bar
IB	"	Iron Bar
CC	"	Cut Cross
CP	"	Concrete Pin
(WIT)	"	Witness
Meas.	"	Measured
(AOG)	"	Annis, O'Sullivan, Vollebekk Ltd.
(P1)	"	Plan 4R-25131
(P2)	"	Plan (AOG) February 14, 2017
	"	Deciduous Tree
	"	Coniferous Tree
FH	"	Fire Hydrant
WV	"	Water Valve
MH-ST	"	Maintenance Hole (Storm Sewer)
MH-S	"	Maintenance Hole (Sanitary)
MH-B	"	Maintenance Hole (Bell Telephone)
MH-T	"	Maintenance Hole (Traffic)
MH-H	"	Maintenance Hole (Hydro)
MH-Telus	"	Maintenance Hole (Telus)
VC	"	Valve Chamber (Watermain)
CB	"	Catch Basin
CBI	"	Catch Basin Inlet
BOS	"	Bottom of Slope
TOS	"	Top of Slope
BH	"	Borehole
HH	"	Handhole
TB-B	"	Bell Terminal Box
TB-C	"	Cable Terminal Box
TSP	"	Traffic Signal Post
B	"	Bollard
S	"	Sign
P&W	"	Post and Wire
TSL	"	Traffic Light
LS	"	Light Standard
MB	"	Mail Box
Ø	"	Diameter
+ 65.00	"	Location of Elevations
+ 65.00*	"	Top of Concrete Curb/Wall Elevation
C/L	"	Centreline
DC	"	Depressed Curb

Bearings are grid, derived from the easterly limit of Den Haag Drive shown to be N26°12"00"W on Plan 4R-25131and are referred to the Central Meridian of MTM Zone 9 (76°30' West Longitude) NAD-83 (original).

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
2121856

THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR In accordance with Regulation 1026, Section 29 (3).

ELEVATION NOTES

1. Elevations shown are geodetic and are referred to the CGVD28 geodetic datum, derived from City of Ottawa vertical control monument No. G-151 having an elevation of 105.576 metres.
2. It is the responsibility of the user of this information to verify that the job benchmark has not been altered or disturbed and that it's relative elevation and description agrees with the information shown on this drawing.

UTILITY NOTES

1. This drawing cannot be accepted as acknowledging all of the utilities and it will be the responsibility of the user to contact the respective utility authorities for confirmation.
2. Only visible surface utilities were located.
3. A field location of underground plant by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc.

ANNIS, O'SULLIVAN, VOLLEBEKK LTD.
14 Concourse Gate, Suite 500
Nepean, Ont. K2E 7S6
Phone: (613) 727-0850 / Fax: (613) 727-1079
Email: Nepean@aovltd.com
Ontario Land Surveyors

Job No. 20409-20 Sovima PtLt24 CI (OF) GL T F

Pre-Application Consultation Meeting Notes

800 Montreal Road
September 9, 2020
PC2020-0211
TEAMS software

Attendees:

Simon Deiaco, City of Ottawa, Planning (SD)
Randolph Wang, City of Ottawa, Urban Design (RW)
John Wu, City of Ottawa, Engineering (JW)
Paul Landry, City of Ottawa Parks & Facilities Planning (PL)
Dan Paquette, Paquette Planning (DP)
Frank Puentes, NEUF Architects (FP)
Eric McLaren, Transportation Engineering
David Hook, IBI
Demetrius Yannoulopoulos, IBI, Engineering
Daniela Correia, Landscape Architect
Pierre Couture, Group Sovima

Regrets:
Mike Giampa, City of Ottawa, Transportation (MG)

Subject: 800 Montreal Road

Meeting notes:

Opening & attendee introduction
- o Introduction of meeting attendees
- o Overview of proposal:
  - DP- context overview
  - DP will act as the agent and applicant for the forthcoming SPC application.
  - Two new buildings, 8 sty (126 rental units with ground floor), second phase (4 sty, 46 units). Connected by one floor of below grade parking to serve both buildings. Project is intended to be zoning compliant with no requested variances.
  - Project responds to the AM zoning designation.
  - Team is looking for feedback with respect to the HoK design guidelines that were established through the CLC development process. City staff confirmed that these guidelines, which are helpful, should be considered but will not be absolute requirements as they largely support and build upon the AM guidelines.
  - FP, overview of plans. One central ramp for access to the below grade parking.
  - Retail uses at grade are being considered.
  - Variety of units are being proposed.
  - The focus of the project at this time is the phase one building. Applying contemporary architecture into the project while respecting the materials found in

the existing community. Looking for a visual integration to the abutting parkland, perhaps fences.
    - Landscape concept presented which responds the various commercial and residential aspects of the property (i.e. Montreal Rd vs. Den Haag). Internal walkways are proposed to connect the existing community to the south.

Preliminary comments and questions from staff and agencies, including follow-up actions:

- Planning (SD)
    - AM10[1779] site specific zoning. The project seems to be compliant with the applicable zoning provisions. To be confirmed through the review of a formal application.
    - Yard clarification, Slide 14. Refer to the zoning exception for clarification as well.
    - Question regarding the proposed grades abutting the park?
    - The project is in a very good state at this time, there are certain design elements that need resolution which are more detailed such as the public realm and architecture. The next UDRP submission deadline is September 17th, 2020 for the October panel session.

- Urban Design (RW)
    - Question about where the curtain wall system would be used
    - Question on the darker materials, what are they? Be mindful of the quality of certain metal products and their respective durability and long-term presentation.
    - Ground plane issues will evolve (i.e. integration with the sidewalk and public realm).
    - Additional detailed notes and illustration will follow.
    - A Design Brief is required as part of the site plan submission. The Terms of Reference is attached for convenience.
    - The property is within a Design Priority Area. A visit to the UDRP for formal review is required for the submission to be deemed complete. The project may also benefit from an informal review by the UDRP with a focus on architecture and detailed landscape design. It appears that detailed landscape design has yet been developed and there are still rooms for change to architecture design.
    - With respect to the design presented at the preconsultation, it is trending in the right direction with respect to site organization and massing. However, further explorations are required with respect to architecture and landscaping. Here are a few highlights (the numbering below corresponds to the numbering shown in the attached PDF):
        - The functions and landscape characteristics of the frontage along Montreal Road, including its relationship with the public sidewalk. Currently there are some inconsistencies between various drawings presented.
        - The pedestrian connection located between the two development phases. Currently there are some inconsistencies between various drawings presented. It is also important to note that this connection, while located on private land, is intended to offer public access to the park. The design should ensure the connection is physically accessible and is perceived to be public.
        - The base of the building facing Den Hagg. The current design appears to be a little bit “fuzzy” and there is a lack of distinction between the base

and the upper floors with respect to the pattern of fenestration. This design may be more successful if a clear distinction can be achieved.

- The base of the building facing Montreal. The response to the previous discussion is appreciated. However, the proposed "framing" is not a very successful endeavor. The intent of the "framing" is to create a consistent 2-storey volume along both Montreal and Den Hagg. Unfortunately, the cohesion between the two portions is not achieved.

1) The front residential entrance. The entrance is "hidden" in the current design. The project will benefit from a more visible front entrance as a prominent feature in the streetscape.

- Engineering (JW)
  - Sanitary sewer capacity concerns. The original study had modelled an alternative project.
    - DY – a new study and analysis will be provided and will look at the overall development. No negative downstream impact is expected, and will be confirmed
  - Sanitary sewer on Den Haag will need to be extended. Sanity, storm and water will come off LeBoutillier Avenue.
  - The existing sanitary sewer on Den Haag does not extend north to the subject site.
  - Potential contamination concerns from the former building which has been removed. Ground water contamination is a potential concern that should be studied in the Phase 1 and 2 ESA studies.
  - PC – engineering consultants have been retained to study the site.
  - Full study list to be attached.

- Transportation (MG)
  - A TIA is triggered- proceed to Step 2 scoping. The step 4 (strategy) must be submitted prior to or with the application.
  - The Montreal Road row protection is 37.5m.
  - A corner triangle (5x5 minimum) is required at Montreal/Den Haag.
  - Montreal to Blair transit priority EA is underway and will be competed in December. Please contact Katarina Cvetkovic for more information.

- Environmental
  - Tree preservation / distinctive trees study can form part of the landscape

- Parks (PL)
  - Important the public park property be delignated in some manner. Understands that there will be public connections but should be limited.
  - A low-lying fence should be provided, perhaps a continuation of the post and rail fence.
  - SD – follow up comment on the grading relationship between the park and private property…will the grades match?
    - FP – some areas will be able to match grades. The below grade parking will create some new grade differences.
    - Have studied some barrier free access to the site coming from the south.

- Questions and comments from the Community Association representative
  - N/A

Submission requirements and fees

Next steps

- Encourage applicant to discuss the proposal with Councillor, community groups and neighbours

APPENDIX B

Water Demand
FUS Calculation
City of Ottawa Boundary condition
125532-C-001 General Plan of Services
125532-C-010 Notes and Details Plan

WATERMAIN DEMAND CALCULATION SHEET

IBI GROUP
333 PRESTON STREET
OTTAWA, ON
K1S 5N4

PROJECT : 800 Montreal Road
LOCATION : City of Ottawa
DEVELOPER : Sovima Ottawa Inc.

FILE: 125532-6.4.4
DATE PRINTED: 2020-05-14
DESIGN: 2020-05-14

NODE	RESIDENTIAL UNITS				NON-RESIDENTIAL			AVERAGE DAILY DEMAND (l/s)			MAXIMUM DAILY DEMAND (l/s)			MAXIMUM HOURLY DEMAND (l/s)			FIRE DEMAND
	1bd	2bd	3bd	POP'N	INDTRL (ha.)	COMM. (ha.)	RETAIL (m^2)	Res.	Non-res.	Total	Res.	Non-res.	Total	Res.	Non-res.	Total	(l/min)
Phase 1	62	48	13	224				0.73	0.00	0.73	1.81	0.00	1.81	3.99	0.00	3.99	
Phase 2	28	18	0	77				0.25	0.00	0.25	0.63	0.00	0.63	1.38	0.00	1.38	
Total	90	66	13	**301**				0.98	0.00	**0.98**	2.44	0.00	**2.44**	5.37	0.00	**5.37**	**11,000**

ASSUMPTIONS

RESIDENTIAL DENSITIES

One-bedroom/Studio (1bd)	1.4	p / p / u
Two-bedroom (2bd)	2.1	p / p / u
Three-bedroom (3bd)	2.8	p / p / u

** Residential Daily Demand reduced to coincide with current waste water guidelines

AVG. DAILY DEMAND

Residential:**	280	l / cap / day
Industrial:		l / ha / day
Commercial:		l / ha / day
Retail:		l / 1000m^2 / day

MAX. DAILY DEMAND

Residential:	700	l / cap / day
Industrial:		l / ha / day
Commercial:		l / ha / day
Retail:		l / 1000m^2 / day

MAX. HOURLY DEMAND

Residential:	1,540	l / cap / day
Industrial:		l / ha / day
Commercial:		l / ha / day
Retail:		l / 1000m^2 / day

FIRE FLOW

From FUS Calculation 28,000 l / min

Fire Flow Requirement from Fire Underwriters Survey - 800 Montreal Road

800 Montreal Road - PH1

Floor Area (1 & 2)	3,694	m^2
50% Floor Area (3 to 8)	4,886	
Total Floor Area	8,580	m^2

F = 220C√A

C	0.6		C =	1.5	wood frame
A	8,580	m^2		1.0	ordinary
				0.8	non-combustible
F	12,227	l/min		0.6	fire-resistive
use	12,000	l/min			

Floor	Area (m^2)	Two Largerst Floor	Floors Above at 50%
1	1847	1847	
2	1847	1847	
3	1742		871
4	1606		803
5	1606		803
6	1606		803
7	1606		803
8	1606		803
Total	13466	3694	**4886**

(**Note**: For fire-resistive buildings, consider two largest adjoining floors plus 50% of each of any floors immediately above them up to eight.)

Occupancy Adjustment

			-25%	non-combustible
			-15%	limited combustible
Use	-15%		0%	combustible
			+15%	free burning
Adjustment	-1800	l/min	+25%	rapid burning
Fire flow	10,200	l/min		

Sprinkler Adjustment

			-30%	system conforming to NFPA 13
			-50%	complete automatic system
Use	-30%			
Adjustment	-3060	l/min		

Exposure Adjustment

Building Face	Separation (m)	Adjacent Exposed Wall Length	Stories	L*H Factor	Exposure Charge *
north	>45	12.0	2	24	5%
east	16.0	21.0	4	84	14%
south	6.0	15.0	8	120	15%
west	29.0	40.0	2	80	6%
Total					40%

Adjustment	4,080	l/min
Total adjustments	1,020	l/min
Fire flow	11,220	l/min
Use	**11,000**	**l/min**
	183	**l/s**

From: Wu, John <John.Wu@ottawa.ca>
Sent: Thursday, May 21, 2020 9:17 AM
To: Amy Zhuang <Amy.Zhuang@ibigroup.com>
Subject: RE: Water Boundary Condition Request - 800 Montreal Road

Here is the result:

The following are boundary conditions, HGL, for hydraulic analysis at 800 Montreal (zone MONT) assumed to be connected to the 203mm on LeBoutillier (see attached PDF for locations).

Existing Conditions based on current pump operations:

Minimum HGL = 146.8m
Maximum HGL = 147.0m. *The maximum pressure is estimated to be close to 80 psi. A pressure check at completion of construction is recommended to determine if pressure control is required*
Max Day + FireFlow (183L/s) = 139.0m

Please note the following:

- *Boundary conditions provided above are for existing conditions. Upgrades to the Montreal and Brittany pump stations are currently being planned to support the CFB Rockcliffe development. The City plans to control the discharge HGL to 143.0m.*

These are for current conditions and are based on computer model simulation.

Disclaimer: The boundary condition information is based on current operation of the city water distribution system. The computer model simulation is based on the best information available at the time. The operation of the water distribution system can change on a regular basis, resulting in a variation in boundary conditions. The physical properties of watermains deteriorate over time, as such must be assumed in the absence of actual field test data. The variation in physical watermain properties can therefore alter the results of the computer model simulation.

We do not provide the boundary condition at the hydrant.

John

From: Amy Zhuang <Amy.Zhuang@ibigroup.com>
Sent: May 14, 2020 7:06 PM
To: Wu, John <John.Wu@ottawa.ca>
Cc: Demetrius Yannoulopoulos <dyannoulopoulos@IBIGroup.com>; Ryan Magladry <rmagladry@IBIGroup.com>
Subject: RE: Water Boundary Condition Request - 800 Montreal Road

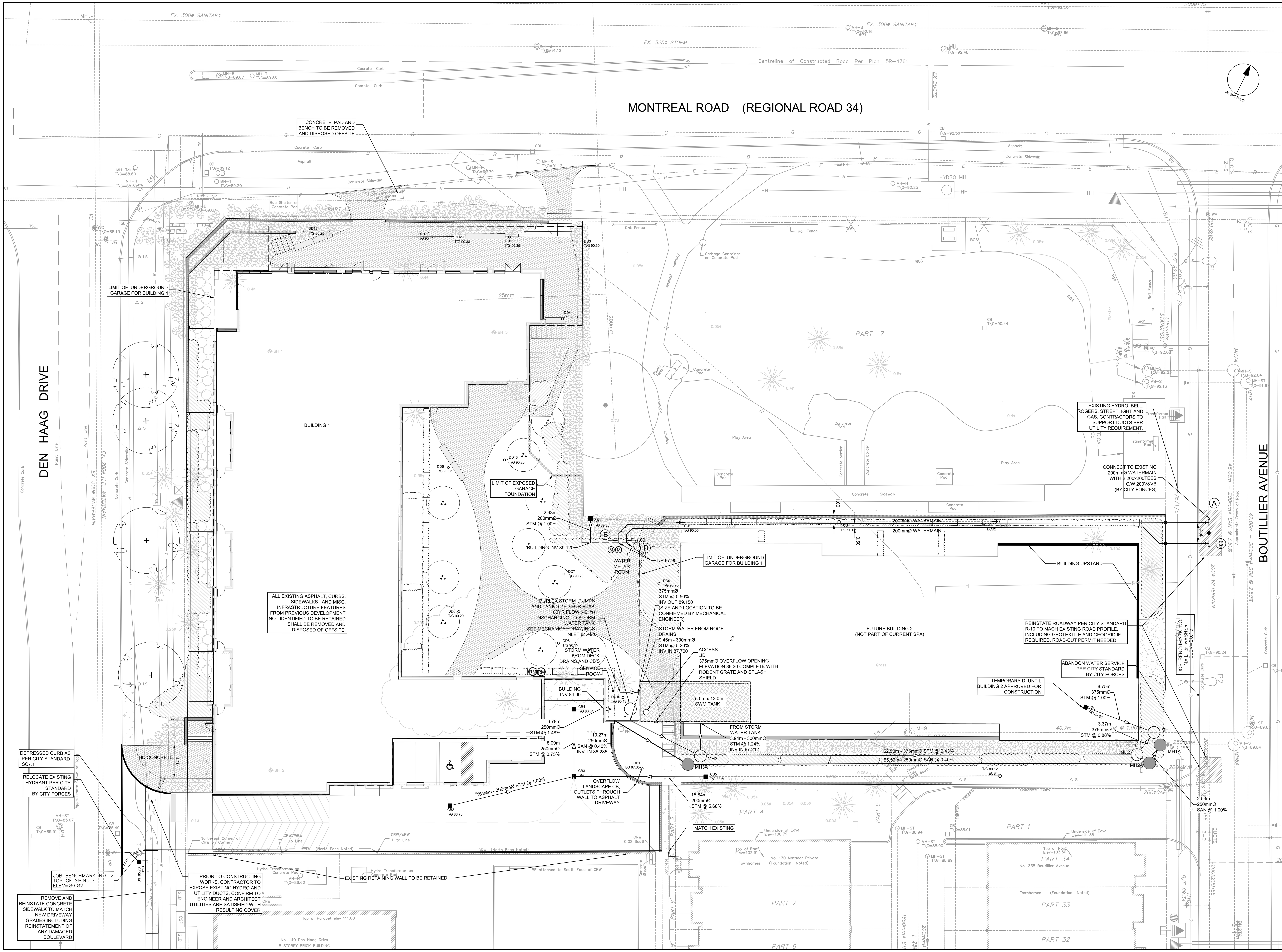
Hi John,

- We will be running two parallel water service connections to LeBoutillier.
- Phase 1 is a 8-story building with larger footprint compared to Phase 2 (4-story building).
- The water connection will serve both phase 1 and phase 2.

Could you provide us the boundary conditions at the connection point and also at the fire hydrant along LeBoutillier (to justify the fireflow capacity for the site)?

Thank you very much!

Amy



CLIENT

SOVIMA OTTAWA INC.

100 rue LANSDOWNE,
SAINT-BRUNO-de-MONTARVILLE, QC

ISSUES

No.	DESCRIPTION	DATE
1	ISSUED FOR SPA	2020-12-10
2	REVISED AS PER CITY COMMENTS	2022-02-18
3	REVISED AS PER NEW LANDSCAPE PLAN	2022-12-20

KEY PLAN

CONSULTANTS

Project Coordinator

Architect:
NEUF Architects SENCRL.
Landscape:
Lashley + Associates
Surveyor:
Annis, O'Sullivan, Vollebekk Ltd.
Geotech:
DST Engineering
Transportation Engineer:
IBI Group
Interior Design:
Nine Design
Structural:
L2C Experts
Mechanical/Electrical:
Goodkey, Weedmark & Associates Ltd.

1:200

SEAL

LICENSED PROFESSIONAL ENGINEER
D. G. Yannoulopoulos
2022/12/20
PROVINCE OF ONTARIO

IBI GROUP
Suite 400 – 333 Preston Street
Ottawa ON K1S 5N4 Canada
tel 613 225 1311 / 613 241 3300 fax 613 225 9868
ibigroup.com

PROJECT

SOVIMA OTTAWA

800 MONTREAL ROAD

PROJECT NO:
125532

DRAWN BY:	CHECKED BY:
D.P.S.	**D.G.Y.**
PROJECT MGR:	APPROVED BY:
D.G.Y.	**D.G.Y.**

SHEET TITLE

GENERAL PLAN OF SERVICES

SHEET NUMBER: C-001

ISSUE: 3

File Location: J:\125532_800MtlRd\7.0_Production\7.03_Design\04_Civil\Sheets\C-001 GENERAL PLAN OF SERVICES.dwg Last Saved: December 20, 2022 by dsuma Plotted: Tuesday, December 20, 2022 2:16:43 PM by Don Suma

DRAWING NOTES

1.0 GENERAL

1.1 CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.

1.2 DO NOT SCALE DRAWINGS.

1.3 CONTRACTOR TO REPORT ALL DISCOVERIES OF ERRORS, OMISSIONS OR DISCREPANCIES TO THE ARCHITECT OR DESIGN ENGINEER AS APPLICABLE.

1.4 USE ONLY THE LATEST REVISED DRAWINGS OR THOSE THAT ARE MARKED "ISSUED FOR CONSTRUCTION".

1.5 ALL CONSTRUCTION SHALL COMPLY WITH CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

1.6 THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT DRAWINGS AND SPECIFICATIONS.

1.7 FOR LEGAL SURVEY INFORMATION REFER TO REGISTERED PLAN FROM ANNIS, O'SULLIVAN, VOLLEBEKK LTD.

1.8 REFER TO SITE PLAN BY NEUF ARCHITECTS.

1.9 CONTRACTOR TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES AS IDENTIFIED IN THE EROSION AND SEDIMENT CONTROL PLAN TO THE SATISFACTION OF THE CITY OF OTTAWA, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS (FILLING, GRADING, REMOVAL OF VEGETATION, ETC.). DURING ALL PHASES OF THE SITE PREPARATION AND CONSTRUCTION THE MEASURES ARE TO BE MAINTAINED TO THE SATISFACTION OF THE ENGINEER AND CITY OF OTTAWA IN ACCORDANCE WITH THE BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL. SHOULD ANY ADDITIONAL MEASURES BE REQUIRED TO ADDRESS FIELD CONDITIONS THEY SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER OR THE CITY OF OTTAWA. SUCH ADDITIONAL MEASURES MAY INCLUDE BUT NOT BE LIMITED TO INSTALLATION OF SEDIMENT CAPTURE FILTER SOCKS WITHIN MANHOLES AND CATCHBASINS TO PREVENT SEDIMENT FROM ENTERING THE STRUCTURE AND INSTALLATION AND MAINTENANCE OF A LIGHT DUTY SILT FENCE BARRIER AS REQUIRED.

1.10 ALL IRON WORK ELEVATIONS SHOWN ARE APPROXIMATE AND ARE SUBJECT TO MINOR ADJUSTMENTS AS DETERMINED BY THE ENGINEER.

1.11 ALL CONCRETE CURBS AND SIDEWALKS TO CONFORM TO O.P.S. AND CONSTRUCTED TO CITY STANDARDS. ALL ONSITE CURBS TO BE BARRIER TYPE, WITH DEPRESSIONS AS NOTED.

1.12 ALL CONCRETE SHALL BE "NORMAL PORTLAND CEMENT" IN ACCORDANCE WITH O.P.S.S. 1350 AND SHALL ACHIEVE A MINIMUM STRENGTH OF 30MPa AT 28 DAYS.

1.13 ALL CONSTRUCTION TRAFFIC TO ACCESS SITE FROM LeBOUTILLIER AVE.

1.14 FOR GEOTECHNICAL REPORT SEE GEOTECHNICAL INVESTIGATION BY DST ENGINEERING.

1.15 CONTRACTOR TO PROTECT EXISTING INFRASTRUCTURE AND PROPERTY SUCH AS TREES, PARKING METERS, SIDEWALKS, CURBS, ASPHALT, AND STREET SIGNS FROM DAMAGE DURING CONSTRUCTION. CONTRACTOR TO PAY THE COST TO REINSTATE OR REPLACE ANY DAMAGED INFRASTRUCTURE OR PROPERTY TO THE SATISFACTION OF THE CITY.

1.16 THE POSITION OF POLE LINES, CONDUITS, WATERMAIN, SEWERS, AND OTHER UNDERGROUND AND ABOVEGROUND UTILITIES AND STRUCTURES ARE NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK THE CONTRACTOR SHALL INFORM ITSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, SHALL PROTECT ALL UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

1.17 CONTRACTOR TO SUPPLY SUITABLE FILL MATERIAL WHERE REQUIRED TO ROUGH GRADE THE SITE. ALL IMPORTED FILL MATERIAL TO BE CERTIFIED AS ACCEPTABLE BY THE GEOTECHNICAL ENGINEER.

1.18 CONTRACTOR TO HAUL EXCESS MATERIAL OFFSITE AS NECESSARY TO GRADE SITE TO MEET THE PROPOSED GRADES. ALL EXCESS MATERIAL TO BE HAULED OFFSITE AND DISPOSED OF AT AN APPROVED DUMP SITE. SHOULD THE CONTRACTOR DISCOVER ANY HAZARDOUS MATERIAL, CONTRACTOR IS TO NOTIFY ENGINEER. ENGINEER TO DETERMINE APPROPRIATE DISPOSAL METHOD/LOCATION.

1.19 FILL MATERIAL WITHIN THE PARKING LOT AND BUILDING PAD AREAS, AND SUPPORTING BUILDING FOUNDATIONS SHALL BE COMPACTED TO 98% STANDARD MODIFIED PROCTOR DENSITY AND TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.

1.20 ALL COMPACTION METHODS TO BE PERFORMED TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER TO INCLUDE BUT NOT BE LIMITED TO THE THICKNESS OF LIFTS, AND COMPACTION EQUIPMENT USED.

1.21 ALL DISTURBED BOULEVARDS TO BE REINSTATED WITH SOD ON 100mm TOPSOIL.

1.22 UTILITY DUCTS TO BE INSTALLED PRIOR TO ROAD BASE CONSTRUCTION.

1.23 CLAY DIKES TO BE INSTALLED WHERE INDICATED ON THE DRAWINGS OR AS APPROVED AND DIRECTED BY THE GEOTECHNICAL ENGINEER ALL IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

1.24 BACKWATER VALES, PER CITY STANDARDS S14, S14.1 AND S14.2 RE TO BE INSTALLED FOR ALL STORM AND SANITARY SERVICE CONNECTIONS.

2.0 SANITARY

2.1 ALL SANITARY SEWER MAINS TO BE CSA CERTIFIED, BELL AND SPIGOT TYPE. ONLY FACTORY FITTINGS TO BE USED. SEWER TO BE INSTALLED AS PER OSPD 1005.01. SANITARY SEWER MATERIALS TO BE: 250mmØ AND SMALLER - PVC DR 35

2.2 ALL SANITARY MAINTENANCE HOLES TO BE 1.2m DIAMETER AS PER CITY OF OTTAWA STANDARDS COMPLETE WITH BENCHING, RUNGS, FRAME AND COVER, DROP PIPES AND LANDINGS WHERE NEEDED.

2.3 SANITARY MANHOLE COVERS TO BE CITY OF OTTAWA STD. S25 (MOD. OPSD. 401.020). SANITARY MANHOLE COVER TO BE CLOSED COVER TYPE, AS PER CITY STANDARD S24.

2.4 SANITARY SEWER LEAKAGE TEST AND CCTV INSPECTION SHALL BE COMPLETED AS PER CITY SPECIFICATIONS PRIOR TO INSTALLATION OF BASE COURSE ASPHALT.

2.5 ANY SANITARY SEWER WITH LESS THAN 2.0m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR AS APPROVED BY THE ENGINEER.

2.6 CONNECTION TO THE EXISTING SANITARY SEWER TO BE INCLUDED IN THE COST FOR SANITARY SEWER INSTALLATION. THIS INCLUDES REINSTATEMENT OF ROAD CUTS TO CITY STANDARDS.

3.0 STORM

3.1 ALL STORM SEWERS TO BE CSA CERTIFIED, BELL AND SPIGOT TYPE. ALL STORM SEWERS TO BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS. ONLY FACTORY FITTINGS TO BE USED. STORM SEWER MATERIALS TO BE : 375mmØ AND SMALLER - PVC DR 35 - 450mmØ AND LARGER - 100-D REINFORCED CONCRETE. UNLESS NOTED OTHERWISE

3.2 ALL STORM MAINTENANCE HOLES TO BE SIZED IN ACCORDANCE WITH THE PLANS AND AS PER CITY OF OTTAWA STANDARDS COMPLETE WITH BENCHING, RUNGS, AND FRAME AND COVER.

3.3 STORM MH COVERS TO BE OPEN TYPE, AS PER CITY STANDARD S24, FRAMES TO BE PER CITY OF OTTAWA STD. S25. CONTRACTOR TO INSTALL FILTER FABRIC UNDER STORM MH COVER UNTIL SODDING IS COMPLETE.

3.4 STORM MAINTENANCE HOLES TO BE OPSD, SIZE AS SPECIFIED, TAPER TOP.

3.5 ALL CATCH BASINS TO BE AS PER OPSD 705.010, FRAME & FISH TYPE GRATE AS PER CITY OF OTTAWA STD. S19.1.

3.6 3m 150mm DIAMETER SOCK-WRAPPED PERFORATED PVC SUBDRAINS TO BE INSTALLED ALL CB'S. TO EXTEND PARALLEL TO CURB IN CBS ADJACENT TO CURB AND IN 4 DIRECTIONS FOR CBS IN CENTER OF PARKING LOT. SUBDRAINS TO DISCHARGE TO CB'S.

3.7 ANY STORM SEWER WITH LESS THAN 2.0m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR AS APPROVED BY THE ENGINEER.

3.8 CONNECTION TO THE EXISTING STORM SEWER TO BE INCLUDED IN THE COST FOR STORM SEWER INSTALLATION. THIS INCLUDES REINSTATEMENT OF ROAD CUT TO CITY STANDARDS.

3.9 CONTRACTOR TO PROVIDE IPEX-TEMPEST MHF ICD'S SHOP DRAWINGS, OR EQUIVALENT, FOR ENGINEERS REVIEW PRIOR TO ORDERING ICD'S.

4.0 WATER

4.1 ALL WATERMAINS 100mmØ OR GREATER TO BE PVC DR 18, LESS THAN 100mm Ø TO BE COPPER OR APPROVED EQUAL WITH MINIMUM COVER OF 2.4m AND INSTALLED PER CITY OF OTTAWA STANDARDS. ALL DOMESTIC WATER SERVICES ARE TO BE 25mmØ.

4.2 THRUST BLOCKS TO BE INSTALLED AT ALL BENDS, TEES, AND CAPS ALL AS PER OPSD 1103.01 AND 1103.02.

4.3 CONTRACTOR TO CONDUCT PRESSURE AND LEAKAGE TESTING OF ALL WATERMAINS AND DISINFECT AND CHLORINATE ALL WATERMAINS TO THE SATISFACTION OF M.O.E. AND THE CITY OF OTTAWA.

4.4 TRACER WIRE TO BE INSTALLED ALONG THE FULL LENGTH OF WATERMAIN AND ATTACHED TO EACH MAIN STOP AS PER CITY OF OTTAWA STANDARDS.

4.5 ALL COMPONENTS OF THE WATER DISTRIBUTION SYSTEM SHALL BE CATHODICALLY PROTECTED AS PER CITY OF OTTAWA STANDARDS.

4.6 ALL VALVES & VALVE BOXES AND CHAMBERS, HYDRANTS, AND HYDRANT VALVES AND ASSEMBLIES SHALL BE INSTALLED AS PER CITY OF OTTAWA STANDARDS.

4.7 ANY WATERMAIN WITH LESS THAN 2.4m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR AS APPROVED BY THE ENGINEER.

4.8 CONTRACTOR IS RESPONSIBLE FOR ACQUIRING THE WATER PERMIT FROM THE CITY OF OTTAWA AND PAYMENT OF ANY FEES ASSOCIATED WITH SECURING THE WATER PERMIT. OWNER IS RESPONSIBLE FOR REIMBURSING THE CONTRACTOR FOR THE ACTUAL COST OF ACQUIRING THE WATER PERMIT.

4.9 CONNECTION TO EXISTING WATERMAIN TO BE INCLUDED IN THE COST FOR THE WATERMAIN INSTALLATION. THIS COST INCLUDES REINSTATEMENT OF ROAD CUTS TO CITY STANDARDS.

4.10 ALL WATERMAIN CROSSINGS TO BE COMPLETED AS PER CITY OF OTTAWA STANDARDS W25 AND W25.2

5.0 PARKING LOT AND WORK IN PUBLIC RIGHTS OF WAY

5.1 CONTRACTOR TO REINSTATE ROAD CUTS PER CITY OF OTTAWA STANDARD R-10.

5.2 THE CONTRACTOR SHALL PREPARE A TRAFFIC MANAGEMENT PLAN FOR REVIEW AND APPROVAL BY THE CITY OF OTTAWA. CONTRACTOR TO MAINTAIN TRAFFIC FLOW DURING THE ENTIRE CONSTRUCTION PERIOD. MAINTENANCE OF ROAD CUTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. PROVISION OF FLAGMEN, DETOURS AS NECESSARY, BARRICADES AND SIGNS TO THE FULL SATISFACTION OF THE ENGINEER AND ROAD AUTHORITY SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

5.3 CONTRACTOR TO PREPARE SUBGRADE, INCLUDING PROOFROLLING, TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER PRIOR TO THE COMMENCEMENT OF PLACEMENT OF GRANULAR B MATERIAL.

5.4 FILL TO BE PLACED AND COMPACTED PER THE GEOTECHNICAL REPORT REQUIREMENTS.

5.5 CONTRACTOR TO SUPPLY, PLACE AND COMPACT GRANULAR B MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOETCHNICAL ENGINEER. CONTRACTOR TO PROVIDE ENGINEER WITH SAMPLES OF GRANULAR B MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL ENGINEER THAT THE MATERIAL MEETS THE GRADATION REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.

5.6 GRANULAR A MATERIAL TO BE PLACED ONLY UPON APPROVAL BY THE GEOTECHNICAL ENGINEER OF GRANULAR B PLACEMENT.

5.7 ASPHALT MATERIAL TO BE PLACED ONLY UPON APPROVAL BY THE GEOTECHNICAL ENGINEER OF GRANULAR A PLACEMENT.

5.8 CONTRACTOR TO SUPPLY, PLACE AND COMPACT ASPHALT MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER. CONTRACTOR TO PROVIDE ENGINEER WITH SAMPLES OF ASPHALT MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL ENGINEER THAT THE MATERIAL MEETS THE REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.

5.9 CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING LINE AND GRADE IN ACCORDANCE WITH THE PLANS, AND FOR PROVIDING THE ENGINEER WITH VERIFICATION PRIOR TO PLACEMENT.

5.10 DITCHES AND CULVERTS DISTURBED DURING ARE TO BE REINSTATED TO THEIR ORIGINAL CONDITION AND FLOWLINE GRADES.

5.11 PAVEMENT STRUCTURE (MATERIAL TYPES AND THICKNESSES) FOR HEAVY DUTY AND LIGHT DUTY AREAS TO BE AS SPECIFIED IN THE GEOTECHNICAL REPORT AND SHOWN ON THE PLANS.

SAN STRUCTURE TABLE

NAME	RIM ELEV.	INVERT IN	INVERT IN AS-BUILT	INVERT OUT	INVERT OUT AS-BUILT	DESCRIPTION
MH1A	90.00	S85.905		NE85.860		1200mmØ OPSD-701.010
MH2A	89.91	SW85.965		N85.930		1200mmØ OPSD-701.010
MH3A	88.70	W86.244		NE86.187		1200mmØ OPSD-701.010

STM STRUCTURE TABLE

NAME	RIM ELEV.	INVERT IN	INVERT IN AS-BUILT	INVERT OUT	INVERT OUT AS-BUILT	DESCRIPTION
CB1	89.86	NE89.200		SE89.149		OPSD-705.010
CB2	86.70			NE85.300		OPSD-705.010
CB3	86.80	NE85.300 SW85.147		NW85.075		OPSD-705.010
CB4	86.81	SE85.014		NE84.950		OPSD-705.010
CB5	88.60	NE87.400		SW86.200		OPSD-705.010
DI1	88.80			E86.830		OPSD-705.030
MH1	90.09	S86.750 W86.743		NE86.700		1200mmØ OPSD-701.010
MH2	89.94	SW86.825		N86.780		1200mmØ OPSD-701.010
MH3	89.06	W87.203 NW87.163		NE87.050		1200mmØ OPSD-701.010
P1	86.80	SW84.850				DUPLEX STORM PUMPS AND TANK

PAVEMENT STRUCTURE **

CAR ONLY PARKING AREAS:

50mm WEAR COURSE - HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
150mm BASE - OPSS GRANULARGRANULAR "A" CRUSHED STONE
300mm SUBBASE - OPSS GRANULAR "B" TYPE II
SUBGRADE - IN SITU SOIL, OR OPSS GRANULAR "B" TYPE I OR II MATERIAL PLACED OVER IN SITU SOIL

HEAVY TRUCK PARKING AREAS AND ACCESS LANES:

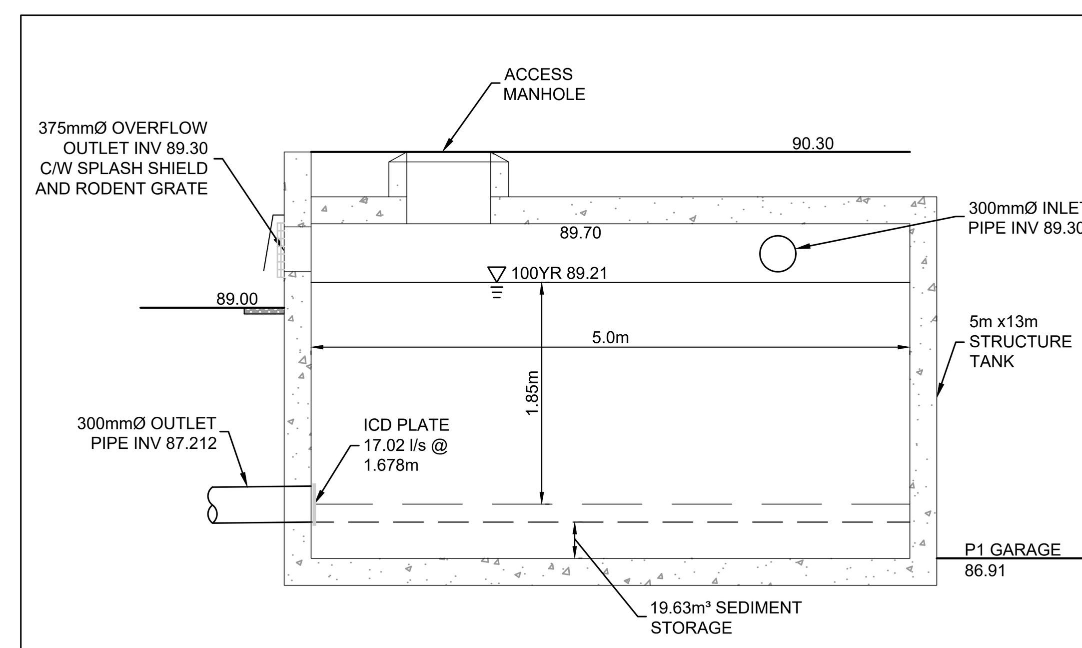
40mm WEAR COURSE - HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE
50mm BINDER COURSE - HL-8 OR SUPERPAVE 19.0 ASPHALTIC CONCRETE
150mm BASE COURSE - OPSS GRANULAR "A" CRUSHED STONE
450mm SUBBASE - OPSS GRANULAR "B" TYPE II
SUBGRADE - IN SITU SOIL, OR OPSS GRANULAR "B" TYPE I OR II MATERIAL PLACED OVER IN SITU SOIL

** REFER TO GEOTECHNICAL REPORT BY DST ENGINEERING.

WATERMAIN SCHEDULE

	Station	Description	Finished Grade	Top of Watermain	Watermain Cover	As Built Watermain
A	0+000.00`	CONNECT TO EXISTING 200ø W/M WITH 200TEE	91.10	88.72	2.38	
	0+005.22	200V&VB	91.18	88.78	2.40	
	0+020.00	-	90.38	87.98	2.40	
	0+040.00	-	90.14	87.74	2.40	
	0+069.84	45 BEND	90.25	87.85	2.40	
	0+071.52	45 BEND	90.27	87.87	2.40	
B	0+072.56	200mmø SERVICE CONNECTION	90.30	87.90	2.40	
C	0+000.00	CONNECT TO EXISTING 200ø W/M WITH 200TEE	90.97	88.60	2.37	
	0+005.22	200V&VB	91.20	88.80	2.40	
	0+005.96	45 BEND	91.21	88.81	2.40	
	0+008.78	45 BEND	91.00	88.60	2.40	
	0+020.83	-	90.44	87.98	2.46	
	0+040.83	-	90.18	87.74	2.44	
	0+070.16	45 BEND	90.25	87.85	2.40	
	0+071.14	45 BEND	90.27	87.87	2.40	
D	0+072.18	200mmø SERVICE CONNECTION	90.30	87.90	2.40	

REVISED 2022-02-16



STORAGE TANK DETAIL
N.T.S.

LEGEND:

- SANITARY MANHOLE (MH3A)
- STORM MANHOLE (MH3)
- CATCHBASIN c/w TOP OF GRATE (CB T/G 99.76)
- REAR YARD CATCHBASIN c/w GUTTER GRADE (RYCB T/G 99.76)
- REAR YARD "END" CATCHBASIN C/W TOP OF GRATE (300Ø) (ECB T/G 100.25)
- CATCHBASIN MANHOLE c/w TOP OF GRATE (CBMH T/G 101.55)
- VALVE AND VALVE BOX (VB)
- VALVE AND CHAMBER (V&C)
- HYDRANT c/w BOTTOM OF FLANGE ELEVATION (HYD B/F 100.56)
- DEPRESSED BARRIER CURB AS PER SC1.1 (D.C.)
- BARRIER CURB AS PER SC1.1
- MOUNTABLE CURB AS PER SC1.3
- PROPOSED CONCRETE SIDEWALK
- SANITARY SEWER & FLOW DIRECTION (200mmØ SAN)
- STORM SEWER & FLOW DIRECTION (825mmØ STM)
- 250mmØ SUBDRAIN
- WATERMAIN (200Ø WATERMAIN)
- WATERMAIN REDUCER (RED 150Ø WM)
- VERTICAL BEND LOCATION (2 VBENDS)
- SIAMESE CONNECTION (IF REQUIRED)
- METER (M)
- REMOTE METER (RM)
- PRESSURE REDUCING VALVE (PRV)
- EXISTING UTILITIES (H/B/T/G)
- EXISTING DUCT BANK
- SLOPE C/W FLOW DIRECTION (1.3%)
- MAJOR OVERLAND FLOW ROUTE
- PROPOSED SPOT GRADE (104.62)
- PROPOSED SWALE GRADE (104.40 (S))
- PROPOSED SWALE HIGH POINT (104.50 (S)HP)
- LOT CORNER GRADE C/W EXISTING GROUND (104.60 / 103.59)
- TIE INTO EXISTING GRADE (86.45 EX)
- FULL STATIC PONDING GRADE (96.79)
- TOP OF RETAINING WALL GRADE
- RETAINING WALL (103.50 TW, 101.50)
- GRASS GRADE AT RETAINING WALL LOW SIDE
- TERRACING 3:1 MAXIMUM UNLESS NOTED OTHERWISE
- PRELIMINARY ROOF DRAIN LOCATION
- TEST PITS (SEE GEOTECHNICAL REPORT) (TP 13-301)
- CLAY DYKES PER S8
- WATERMAIN IDENTIFICATION (A)
- PIPE CROSSING IDENTIFICATION (1)
- INLET CONTROL DEVICE LOCATION
- PROTECTIVE BOLLARD
- NOISE FENCE AND GATE LOCATION (F F)
- HEAVY DUTY ASPHALT / FIRE ROUTE

ANNIS, O'SULLIVAN, VOLLEBEKK LTD. TOPOGRAPHIC LEGEND

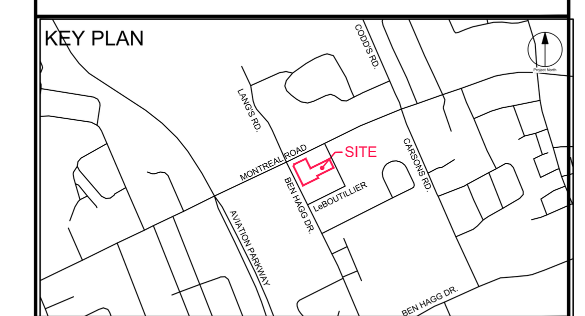
- Deciduous Tree
- Coniferous Tree
- FH - Fire Hydrant
- WV - Water Valve
- MH-ST - Maintenance Hole (Storm Sewer)
- MH-S - Maintenance Hole (Sanitary)
- MH-B - Maintenance Hole (Bell Telephone)
- MH-T - Maintenance Hole (Traffic)
- MH-H - Maintenance Hole (Hydro)
- MH-Telus - Maintenance Hole (Telus)
- VC - Valve Chamber (Watermain)
- CB - Catch Basin
- CBI - Catch Basin Inlet
- BOS - Bottom of Slope
- TOS - Top of Slope
- BH - Borehole
- HH - Handhole
- TB-B - Bell Terminal Box
- TB-C - Cable Terminal Box
- TSP - Traffic Signal Post
- B - Bollard
- S - Sign
- P&W - Post and Wire
- TSL - Traffic Light
- LS - Light Standard
- MB - Mail Box
- Ø - Diameter
- +65.00 - Location of Elevations
- +65.00* - Top of Concrete Curb/Wall Elevation
- C/L - Centreline
- DC - Depressed Curb

CLIENT
SOVIMA OTTAWA INC.
100 rue LANSDOWNE,
SAINT-BRUNO-de-MONTARVILLE, QC

ISSUES

No.	DESCRIPTION	DATE
1	ISSUED FOR SPA	2020-12-10
2	REVISED AS PER CITY COMMENTS	2022-02-18

KEY PLAN

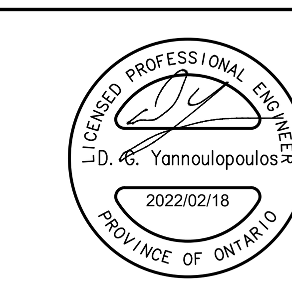


CONSULTANTS

Project Coordinator

Architect:
NEUF Architects SENCRL.
Landscape:
Lashley + Associates
Surveyor:
Annis, O'Sullivan, Vollebekk Ltd.
Geotech:
DST Engineering
Transportation Engineer:
IBI Group
Interior Design:
Nine Design
Structural:
L2C Experts
Mechanical/Electrical:
Goodkey, Weedmark & Associates Ltd.

SEAL



IBI GROUP
Suite 400 – 333 Preston Street
Ottawa ON K1S 5N4 Canada
tel 613 225 1311 / 613 241 3300 fax 613 225 9868
ibigroup.com

PROJECT
SOVIMA OTTAWA
800 MONTREAL ROAD

PROJECT NO:	
125532	
DRAWN BY: D.P.S.	CHECKED BY: D.G.Y.
PROJECT MGR: D.G.Y.	APPROVED BY: D.G.Y.

SHEET TITLE
DETAILS AND NOTES

SHEET NUMBER: C-010
ISSUE: 2

File Location: J:\125532_800MtlRd\7.0_Production\7.03_Design\04_Civil\Sheets\C-010 DETAILS AND NOTES.dwg Last Saved: March 7, 2022 by dsurma Plotted: Tuesday, December 20, 2022 2:40:29 PM by Don Surma

APPENDIX C

Sanitary Sewer Design Sheet
125532-C-400 Sanitary Drainage Plan

IBI GROUP
400-333 Preston Street
Ottawa, Ontario K1S 5N4 Canada
tel 613 225 1311 fax 613 225 9868
ibigroup.com

SANITARY SEWER DESIGN SHEET

800 Montrel Road
CITY OF OTTAWA
Groupe Sovima

LOCATION: STREET	LOCATION: AREA ID	LOCATION: FROM MH	LOCATION: TO MH	RESIDENTIAL: AREA w/ Units (Ha)	UNIT TYPES: 1B	UNIT TYPES: 2B	UNIT TYPES: 3B	UNIT TYPES: APT	AREA w/o Units (Ha)	POPULATION: IND	POPULATION: CUM	RES PEAK FACTOR	PEAK FLOW (L/s)	ICI AREAS: AREA (Ha) INSTITUTIONAL IND	INSTITUTIONAL CUM	COMMERCIAL IND	COMMERCIAL CUM	INDUSTRIAL IND	INDUSTRIAL CUM	ICI PEAK FACTOR	PEAK FLOW (L/s)	INFILTRATION ALLOWANCE: AREA (Ha) IND	AREA (Ha) CUM	FLOW (L/s)	FIXED FLOW (L/s): IND	FIXED FLOW (L/s): CUM	TOTAL FLOW (L/s)	PROPOSED SEWER DESIGN: CAPACITY (L/s)	LENGTH (m)	DIA (mm)	SLOPE (%)	VELOCITY (full) (m/s)	AVAILABLE CAPACITY L/s	AVAILABLE CAPACITY (%)
OUTLET TO LEBOUTILLIER																																		
	1	BLDG	3	0.59				172		309.6	309.6	3.46	3.47	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.59	0.6	0.19	0.00	0.00	3.66	39.24	10.27	250	0.40	0.774	35.57	90.66%
		3	2							0.0	309.6	3.46	3.47	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.6	0.19	0.00	0.00	3.66	39.24	55.50	250	0.40	0.774	35.57	90.66%
		2	1							0.0	309.6	3.46	3.47	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.6	0.19	0.00	0.00	3.66	62.04	2.53	250	1.00	1.224	58.37	94.09%
		1	EX							0.0	309.6	3.46	3.47	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.6	0.19	0.00	0.00	3.66	*62.04*	*9.00*	*250*	*1.00*	*1.224*	*58.37*	*94.09%*
				0.59	0		0			309.6																								

Design Parameters:

Residential			ICI Areas			
3B	2.8	p/p/u				
2B	2.1	p/p/u	INST	28,000	L/Ha/day	
1B	1.4	p/p/u	COM	28,000	L/Ha/day	
APT	1.8	p/p/u	IND	35,000	L/Ha/day	MOE Chart
Other	60	p/p/Ha		17000	L/Ha/day	

Notes:
1. Mannings coefficient (n) = 0.013
2. Demand (per capita): 280 L/day 200 L/day
3. Infiltration allowance: 0.33 L/s/Ha
4. Residential Peaking Factor:
   Harmon Formula = 1+(14/(4+(P/1000)^0.5))0.8
   where K = 0.8 Correction Factor
5. Commercial and Institutional Peak Factors based on total area,
   1.5 if greater than 20%, otherwise 1.0

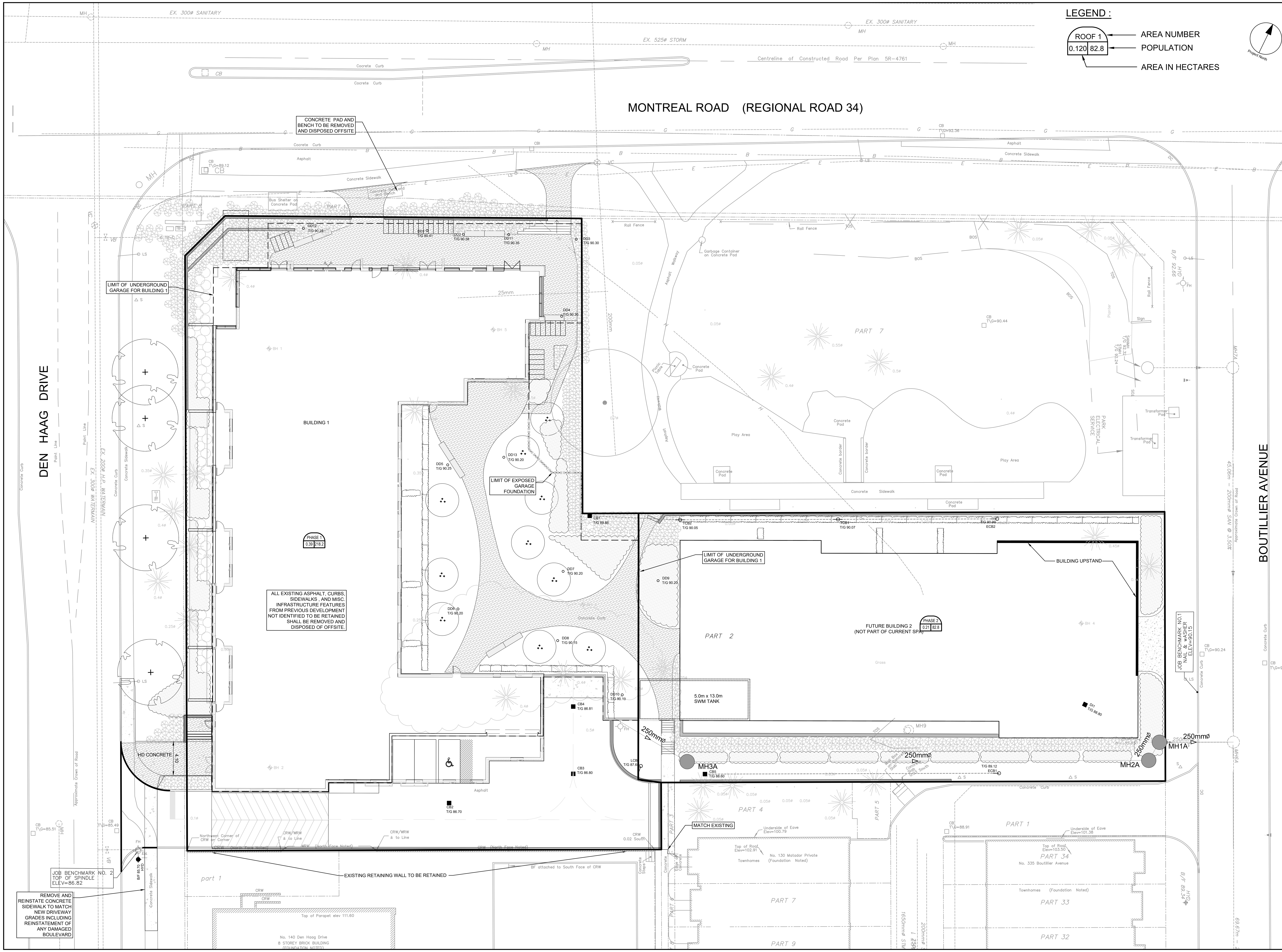
Designed: R.M,

Checked: D.G.Y.

Dwg. Reference: 125600-400

No.	Revision	Date
1.	Servicing Brief - Submission No. 1	2020-12-14
2.	Servicing Brief - Submission No. 3	2022-03-07

File Reference:	Date:	Sheet No:
125600.6.4.4.	2020-08-28	1 of 1



CLIENT

SOVIMA OTTAWA INC.

100 rue LANSDOWNE,
SAINT-BRUNO-de-MONTARVILLE, QC

ISSUES

No.	DESCRIPTION	DATE
1	ISSUED FOR SPA	2020-12-10
2	REVISED AS PER CITY COMMENTS	2022-02-18
3	REVISED AS PER NEW LANDSCAPE PLAN	2022-12-20

KEY PLAN

CONSULTANTS

Project Coordinator

Architect:
NEUF Architects SENCRL.
Landscape:
Lashley + Associates
Surveyor:
Annis, O'Sullivan, Vollebekk Ltd.
Geotech:
DST Engineering
Transportation Engineer:
IBI Group
Interior Design:
Nine Design
Structural:
L2C Experts
Mechanical/Electrical:
Goodkey, Weedmark & Associates Ltd.

1:200

SEAL

LICENSED PROFESSIONAL ENGINEER
D. G. Yannoulopoulos
2022/12/20
PROVINCE OF ONTARIO

IBI GROUP
Suite 400 – 333 Preston Street
Ottawa ON K1S 5N4 Canada
tel 613 225 1311 / 613 241 3300 fax 613 225 9868
ibigroup.com

PROJECT

SOVIMA OTTAWA

800 MONTREAL ROAD

PROJECT NO: 125532	
DRAWN BY: D.P.S.	CHECKED BY: D.G.Y.
PROJECT MGR: D.G.Y.	APPROVED BY: D.G.Y.

SHEET TITLE

SANITARY DRAINAGE AREA PLAN

SHEET NUMBER: C-400

ISSUE: 3

File Location: J:\125532_800Mtl\Rd\7.0_Production\7.03_Design\04_Civil\Sheets\C-400.dwg Last Saved: March 7, 2022, by dsiuma Plotted: Tuesday, December 20, 2022 2:21:03 PM by Den Siuma

APPENDIX D

Storm Design Sheet
125532-C-500 Storm Drainage Plan
Modified Rational Method Calculation Sheet

IBI GROUP
400-333 Preston Street
Ottawa, Ontario K1S 5N4 Canada
tel 613 225 1311 fax 613 225 9868
ibigroup.com

STORM SEWER DESIGN SHEET

800 Montreal Road
City of Ottawa
Groupe Sovima

LOCATION				AREA (Ha)							RATIONAL DESIGN FLOW															SEWER DATA								
STREET	AREA ID	FROM	TO	C= 0.20	C= 0.30	C= 0.40	C= 0.83	C= 0.85	C= 0.87	C= 0.90	IND 2.78AC	CUM 2.78AC	INLET (min)	TIME IN PIPE	TOTAL (min)	i (2) (mm/hr)	i (5) (mm/hr)	i (10) (mm/hr)	i (100) (mm/hr)	2yr PEAK FLOW (L/s)	5yr PEAK FLOW (L/s)	10yr PEAK FLOW (L/s)	100yr PEAK FLOW (L/s)	FIXED FLOW (L/s)	DESIGN FLOW (L/s)	CAPACITY (L/s)	LENGTH (m)	PIPE SIZE (mm) DIA	W	H	SLOPE (%)	VELOCITY (m/s)	AVAIL CAP (2yr) (L/s)	(%)
OUTLET TO LEBOUTILLIER																																		
	Drwy 1 + Lndscp 2	CB4	Sump		0.037					0.022	0.09	0.09	10.00	0.11	10.11	76.81	104.19	122.14	178.56	6.60	8.95	10.49	15.34		6.60	53.73	6.78	250			0.75	1.060	47.13	87.72%
	roofs 1-11	BLDG	3							0.279	0.70	0.70	10.00	0.05	10.05	76.81	104.19	122.14	178.56	53.61	72.73	85.26	124.64		53.61	231.37	9.46	300			5.26	3.171	177.76	76.83%
sump + Landscape 1, Terr 1-3, deck 1-3, park		cistern	3		0.091	0.137				0.115	0.52	0.52	10.00	0.04	10.04	76.81	104.19	122.14	178.56	39.63	53.76	63.02	92.13		39.63	112.34	3.94	300			1.24	1.540	72.71	64.72%
		3	2								0.00	1.21	10.04	0.83	10.87	76.64	103.97	121.88	178.17	93.04	126.22	147.96	216.30		93.04	119.94	52.50	375			0.43	1.052	26.90	22.43%
		2	1								0.00	1.21	10.87	0.04	10.91	73.60	99.79	116.96	170.94	89.36	121.15	141.99	207.53		89.36	171.59	3.37	375			0.88	1.505	82.23	47.92%
		1	EX								0.00	1.21	10.91	0.13	11.04	73.47	99.61	116.75	170.63	89.20	120.93	141.73	207.15		89.20	182.91	*12.46*	*375*			*1.00*	*1.604*	*93.71*	*51.23%*
				0.000	0.091	0.137	0.000	0.000	0.000	0.394	1.21																							
											0.62	Total A																						
											0.70	Avg. C																						

Definitions:
Q = 2.78CiA, where:
Q = Peak Flow in Litres per Second (L/s)
A = Area in Hectares (Ha)
i = Rainfall intensity in millimeters per hour (mm/hr)
[i = 732.951 / (TC+6.199)^0.810] 2 YEAR
[i = 998.071 / (TC+6.053)^0.814] 5 YEAR
[i = 1174.184 / (TC+6.014)^0.816] 10 YEAR
[i = 1735.688 / (TC+6.014)^0.820] 100 YEAR

Notes:
1. Mannings coefficient (n) =

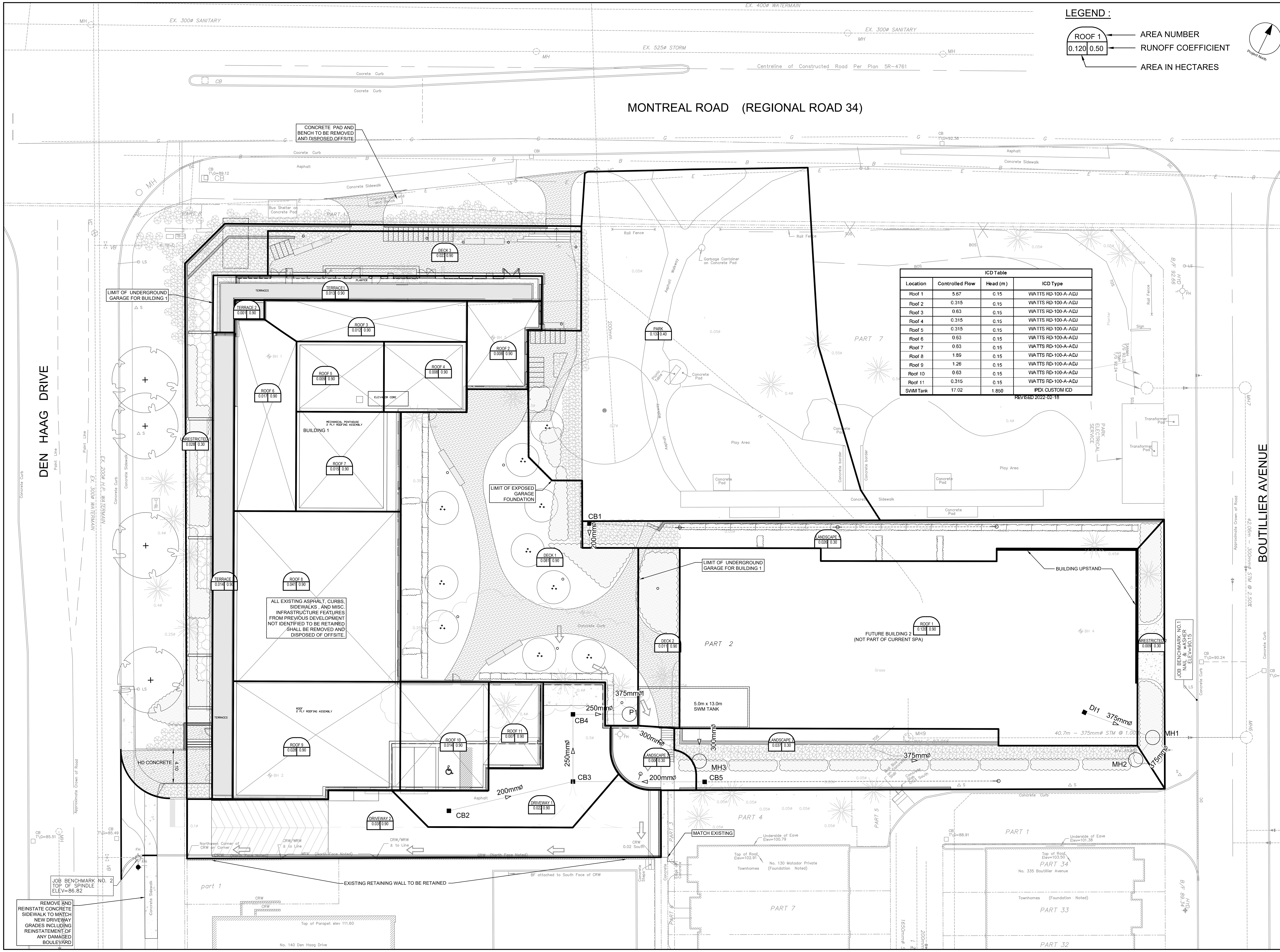
Designed: RM

Checked: DY

Dwg. Reference: 125600-500

No.	Revision	Date
1.	Servicing Brief - Submission No. 1	2020-12-14
2.	Servicing Brief - Submission No. 2	2021-11-15
3.	Servicing Brief - Submission No. 3	2022-03-07

File Reference:	Date:	Sheet No:
125600.6.4.4	2020-08-28	1 of 1



ICD Table			
Location	Controlled Flow	Head (m)	ICD Type
Roof 1	5.67	0.15	WATTS RD-100-A-ADJ
Roof 2	0.315	0.15	WATTS RD-100-A-ADJ
Roof 3	0.63	0.15	WATTS RD-100-A-ADJ
Roof 4	0.315	0.15	WATTS RD-100-A-ADJ
Roof 5	0.315	0.15	WATTS RD-100-A-ADJ
Roof 6	0.63	0.15	WATTS RD-100-A-ADJ
Roof 7	0.63	0.15	WATTS RD-100-A-ADJ
Roof 8	1.89	0.15	WATTS RD-100-A-ADJ
Roof 9	1.26	0.15	WATTS RD-100-A-ADJ
Roof 10	0.63	0.15	WATTS RD-100-A-ADJ
Roof 11	0.315	0.15	WATTS RD-100-A-ADJ
SWM Tank	17.02	1.850	IPEX CUSTOM ICD

REVISED 2022-02-18

CLIENT
SOVIMA OTTAWA INC.
100 rue LANSDOWNE,
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ISSUES

No.	DESCRIPTION	DATE
1	ISSUED FOR SPA	2020-12-10
2	REVISED AS PER CITY COMMENTS	2022-02-18
3	REVISED AS PER NEW LANDSCAPE PLAN	2022-12-20

KEY PLAN

CONSULTANTS
Project Coordinator
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NEUF Architects SENCRL.
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Surveyor:
Annis, O'Sullivan, Vollebekk Ltd.
Geotech:
DST Engineering
Transportation Engineer:
IBI Group
Interior Design:
Nine Design
Structural:
L2C Experts
Mechanical/Electrical:
Goodkey, Weedmark & Associates Ltd.

1:200 0 2 6 10m

SEAL
LICENSED PROFESSIONAL ENGINEER
D. G. Yannoulopoulos
2022/12/20
PROVINCE OF ONTARIO

IBI GROUP
Suite 400 – 333 Preston Street
Ottawa ON K1S 5N4 Canada
tel 613 225 1311 / 613 241 3300 fax 613 225 9868
ibigroup.com

PROJECT
SOVIMA OTTAWA
800 MONTREAL ROAD

PROJECT NO:
125532

DRAWN BY:	CHECKED BY:
D.P.S.	D.G.Y.
PROJECT MGR:	APPROVED BY:
D.G.Y.	D.G.Y.

SHEET TITLE
STORM DRAINAGE AREA PLAN

SHEET NUMBER
C-500

ISSUE
3

File Location: J:\125532_800MtlRd\7.0_Production\7.03_Design\04_Civil\Sheets\C-500 STORM DRAINAGE AREA PLAN.dwg Last Saved: December 20, 2022 by dsiurna Plotted: Tuesday, December 20, 2022 2:29:02 PM by Don Siurna

IBI GROUP
400-333 Preston Street
Ottawa, Ontario K1S 5N4 Canada
tel 613 225 1311 fax 613 225 9868
ibigroup.com

PROJECT:	800 Montreal Rd
DATE:	2020-12-14
FILE:	122532-6.4
REV #:	2
DESIGNED BY:	R.M. & W.Z.
CHECKED BY:	D.G.Y.

STORMWATER MANAGEMENT

Maximum Allowable Release Rate

Restricted Flowrate (based on 15214 Design Brief)

A_{site} = 0.596 Ha

$Q_{restricted}$ = 55.00 L/s

unrestricted flow to boulevards	Area (Ha)	C (C*1.25)	100yr Q (l/s)	5yr
Unrestricted area 1	0.0280	0.375	5.21	2.41
Unrestricted area 2	0.0090	0.375	1.68	0.77
Driveway 2	0.0350	1	17.37	8.03
Landscape 3	0.0060	0.375	1.12	0.52
	0.0780		25.38	11.73

i_{100yr} = 1:100 year Intensity = $1735.688 / (T_c+6.014)^{0.820}$ tc=10

Maximum Allowable Release Rate ($Q_{max\ allowable} = Q_{restricted} - Q_{uncontrolled}$)

$Q_{max\ allowable}$ = 29.62 L/s

Formulas and Descriptions

i_{2yr} = 1:2 year Intensity = $732.951 / (T_c+6.199)^{0.810}$
i_{5yr} = 1:5 year Intensity = $998.071 / (T_c+6.053)^{0.814}$
i_{100yr} = 1:100 year Intensity = $1735.688 / (T_c+6.014)^{0.820}$
T_c = Time of Concentration (min)
C = Average Runoff Coefficient
A = Area (Ha)
Q = Flow = 2.78CiA (L/s)

MODIFIED RATIONAL METHOD (100-Year, 5-Year & 2-Year Ponding)

Drainage Area: Roof Area 1 — Area (Ha) 0.120; C = 1.00; Restricted Flow Q_r (L/s)= 5.670

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 100yr (m^3)
40	75.15	24.98	5.67	19.31	46.36
45	69.05	22.96	5.67	17.29	46.68
50	63.95	21.26	5.67	15.59	**46.78**
55	59.62	19.82	5.67	14.15	46.71
65	52.65	17.50	5.67	11.83	46.15

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	46.78	47.84	0	0.00

Overflows to: Parking Lot

Drainage Area: Roof Area 1 — Area (Ha) 0.120; C = 0.90; Restricted Flow Q_r (L/s)= 5.670

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 5yr (m^3)
17	77.61	23.22	5.67	17.55	17.90
22	66.15	19.79	5.67	14.12	18.64
27	57.88	17.32	5.67	11.65	**18.87**
32	51.61	15.44	5.67	9.77	18.76
37	46.67	13.97	5.67	8.30	18.42

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	18.87	47.84	0	0.00

Overflows to: Parking Lot

Drainage Area: Roof Area 1 — Area (Ha) 0.120; C = 0.90; Restricted Flow Q_r (L/s)= 5.670

2-Year Ponding

T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 2yr (m^3)
10	76.81	22.98	5.67	17.31	10.39
15	61.77	18.48	5.67	12.81	11.53
20	52.03	15.57	5.67	9.90	**11.88**
25	45.17	13.52	5.67	7.85	11.77
35	36.06	10.79	5.67	5.12	10.75

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	11.88	47.84	0	0.00

Overflows to: Parking Lot

Drainage Area: Roof Area 2 — Area (Ha) 0.008; C = 1.00; Restricted Flow Q_r (L/s)= 0.315

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 100yr (m^3)
48	65.89	1.47	0.32	1.15	3.31
53	61.28	1.36	0.32	1.05	3.33
58	57.32	1.27	0.32	0.96	**3.34**
63	53.89	1.20	0.32	0.88	3.34
73	48.23	1.07	0.32	0.76	3.32

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	3.34	3.40	0	0.00

Overflows to: Parking Lot

Drainage Area: Roof Area 2 — Area (Ha) 0.008; C = 0.90; Restricted Flow Q_r (L/s)= 0.315

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 5yr (m^3)
20	70.25	1.41	0.32	1.09	1.31
25	60.90	1.22	0.32	0.90	1.36
30	53.93	1.08	0.32	0.76	**1.38**
35	48.52	0.97	0.32	0.66	1.38
40	44.18	0.88	0.32	0.57	1.37

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	1.38	3.40	0	0.00

Overflows to: Parking Lot

Drainage Area: Roof Area 2 — Area (Ha) 0.008; C = 0.90; Restricted Flow Q_r (L/s)= 0.315

2-Year Ponding

T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 2yr (m^3)
15	61.77	1.24	0.32	0.92	0.83
20	52.03	1.04	0.32	0.73	0.87
25	45.17	0.90	0.32	0.59	**0.88**
30	40.04	0.80	0.32	0.49	0.88
40	32.86	0.66	0.32	0.34	0.82

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	0.88	3.40	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 3		
Area (Ha)	0.012		
C =	1.00	Restricted Flow Q_r (L/s)=	0.630

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p=2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	Q_p-Q_r (L/s)	Volume 100yr (m^3)
35	82.58	2.75	0.63	2.12	4.46
40	75.15	2.51	0.63	1.88	4.50
45	69.05	2.30	0.63	1.67	**4.52**
50	63.95	2.13	0.63	1.50	4.51
60	55.89	1.86	0.63	1.23	4.44

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	4.52	4.80	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 3		
Area (Ha)	0.012		
C =	0.90	Restricted Flow Q_r (L/s)=	0.630

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p=2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	Q_p-Q_r (L/s)	Volume 5yr (m^3)
14	86.93	2.61	0.63	1.98	1.66
19	72.53	2.18	0.63	1.55	1.76
24	62.54	1.88	0.63	1.25	**1.80**
29	55.18	1.66	0.63	1.03	1.79
34	49.50	1.49	0.63	0.86	1.75

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	1.80	4.80	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 3		
Area (Ha)	0.012		
C =	0.90	Restricted Flow Q_r (L/s)=	0.630

2-Year Ponding

T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p=2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	Q_p-Q_r (L/s)	Volume 2yr (m^3)
9	80.87	2.43	0.63	1.80	0.97
14	64.23	1.93	0.63	1.30	1.09
19	53.70	1.61	0.63	0.98	**1.12**
24	46.37	1.39	0.63	0.76	1.10
34	36.78	1.10	0.63	0.47	0.97

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	1.12	4.80	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 4		
Area (Ha)	0.008		
C =	1.00	Restricted Flow Q_r (L/s)=	0.315

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p=2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	Q_p-Q_r (L/s)	Volume 100yr (m^3)
48	65.89	1.47	0.32	1.15	3.31
53	61.28	1.36	0.32	1.05	3.33
58	57.32	1.27	0.32	0.96	**3.34**
63	53.89	1.20	0.32	0.88	3.34
73	48.23	1.07	0.32	0.76	3.32

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	3.34	3.40	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 4		
Area (Ha)	0.008		
C =	0.90	Restricted Flow Q_r (L/s)=	0.315

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p=2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	Q_p-Q_r (L/s)	Volume 5yr (m^3)
20	70.25	1.41	0.32	1.09	1.31
25	60.90	1.22	0.32	0.90	1.36
30	53.93	1.08	0.32	0.76	**1.38**
35	48.52	0.97	0.32	0.66	1.38
40	44.18	0.88	0.32	0.57	1.37

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	1.38	3.40	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 4		
Area (Ha)	0.008		
C =	0.90	Restricted Flow Q_r (L/s)=	0.315

2-Year Ponding

T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p=2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	Q_p-Q_r (L/s)	Volume 2yr (m^3)
15	61.77	1.24	0.32	0.92	0.83
20	52.03	1.04	0.32	0.73	0.87
25	45.17	0.90	0.32	0.59	**0.88**
30	40.04	0.80	0.32	0.49	0.88
40	32.86	0.66	0.32	0.34	0.82

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	0.88	3.40	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 5		
Area (Ha)	0.009		
C =	1.00	Restricted Flow Q_r (L/s)=	0.315

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p=2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	Q_p-Q_r (L/s)	Volume 100yr (m^3)
53	61.28	1.53	0.32	1.22	3.87
58	57.32	1.43	0.32	1.12	3.89
63	53.89	1.35	0.32	1.03	**3.91**
68	50.89	1.27	0.32	0.96	3.91
78	45.87	1.15	0.32	0.83	3.90

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	3.91	4.05	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 5		
Area (Ha)	0.009		
C =	0.90	Restricted Flow Q_r (L/s)=	0.315

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p=2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	Q_p-Q_r (L/s)	Volume 5yr (m^3)
25	60.90	1.37	0.32	1.06	1.58
30	53.93	1.21	0.32	0.90	1.62
35	48.52	1.09	0.32	0.78	**1.63**
40	44.18	0.99	0.32	0.68	1.63
45	40.63	0.91	0.32	0.60	1.62

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	1.63	4.05	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 5		
Area (Ha)	0.009		
C =	0.90	Restricted Flow Q_r (L/s)=	0.315

2-Year Ponding

T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p=2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	Q_p-Q_r (L/s)	Volume 2yr (m^3)
20	52.03	1.17	0.32	0.86	1.03
25	45.17	1.02	0.32	0.70	1.05
30	40.04	0.90	0.32	0.59	**1.06**
35	36.06	0.81	0.32	0.50	1.04
45	30.24	0.68	0.32	0.37	0.99

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	1.06	4.05	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 6		
Area (Ha)	0.017		
C =	1.00	Restricted Flow Q_r (L/s)=	0.630

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p=2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	Q_p-Q_r (L/s)	Volume 100yr (m^3)
55	59.62	2.82	0.63	2.19	7.22
60	55.89	2.64	0.63	2.01	7.24
65	52.65	2.49	0.63	1.86	**7.25**
70	49.79	2.35	0.63	1.72	7.24
80	44.99	2.13	0.63	1.50	7.18

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	7.25	7.65	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 6		
Area (Ha)	0.017		
C =	0.90	Restricted Flow Q_r (L/s)=	0.630

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p=2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	Q_p-Q_r (L/s)	Volume 5yr (m^3)
25	60.90	2.59	0.63	1.96	2.94
30	53.93	2.29	0.63	1.66	2.99
35	48.52	2.06	0.63	1.43	**3.01**
40	44.18	1.88	0.63	1.25	3.00
45	40.63	1.73	0.63	1.10	2.96

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	3.01	7.65	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 6		
Area (Ha)	0.017		
C =	0.90	Restricted Flow Q_r (L/s)=	0.630

2-Year Ponding

T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p=2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	Q_p-Q_r (L/s)	Volume 2yr (m^3)
18	55.49	2.36	0.63	1.73	1.87
23	47.66	2.03	0.63	1.40	1.93
28	41.93	1.78	0.63	1.15	**1.94**
33	37.54	1.60	0.63	0.97	1.91
43	31.23	1.33	0.63	0.70	1.80

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	1.94	7.65	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 7		
Area (Ha)	0.015		
C =	1.00	Restricted Flow Q_r (L/s)=	0.630

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 100yr (m^3)
48	65.89	2.75	0.63	2.12	6.10
53	61.28	2.56	0.63	1.93	6.12
58	57.32	2.39	0.63	1.76	**6.13**
63	53.89	2.25	0.63	1.62	6.11
73	48.23	2.01	0.63	1.38	6.05

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	6.13	6.38	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 7		
Area (Ha)	0.015		
C =	0.90	Restricted Flow Q_r (L/s)=	0.630

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 5yr (m^3)
23	64.29	2.41	0.63	1.78	2.46
28	56.49	2.12	0.63	1.49	2.50
33	50.53	1.90	0.63	1.27	**2.51**
38	45.81	1.72	0.63	1.09	2.48
43	41.97	1.58	0.63	0.95	2.44

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	2.51	6.38	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 7		
Area (Ha)	0.015		
C =	0.90	Restricted Flow Q_r (L/s)=	0.630

2-Year Ponding

T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 2yr (m^3)
7	90.66	3.40	0.63	2.77	1.16
20	52.03	1.95	0.63	1.32	1.59
25	45.17	1.70	0.63	1.07	**1.60**
30	40.04	1.50	0.63	0.87	1.57
40	32.86	1.23	0.63	0.60	1.45

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	1.60	6.38	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 8		
Area (Ha)	0.041		
C =	1.00	Restricted Flow Q_r (L/s)=	1.890

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 100yr (m^3)
40	75.15	8.57	1.89	6.68	16.02
45	69.05	7.87	1.89	5.98	16.15
50	63.95	7.29	1.89	5.40	**16.20**
55	59.62	6.80	1.89	4.91	16.19
65	52.65	6.00	1.89	4.11	16.03

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	16.20	16.40	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 8		
Area (Ha)	0.041		
C =	0.90	Restricted Flow Q_r (L/s)=	1.890

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 5yr (m^3)
18	74.97	7.69	1.89	5.80	6.26
23	64.29	6.59	1.89	4.70	6.49
28	56.49	5.80	1.89	3.91	**6.56**
33	50.53	5.18	1.89	3.29	6.52
38	45.81	4.70	1.89	2.81	6.41

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	6.56	16.40	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 8		
Area (Ha)	0.041		
C =	0.90	Restricted Flow Q_r (L/s)=	1.890

2-Year Ponding

T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 2yr (m^3)
11	73.17	7.51	1.89	5.62	3.71
16	59.50	6.10	1.89	4.21	4.05
21	50.48	5.18	1.89	3.29	**4.14**
26	44.03	4.52	1.89	2.63	4.10
36	35.37	3.63	1.89	1.74	3.75

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	4.14	16.40	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 9		
Area (Ha)	0.028		
C =	1.00	Restricted Flow Q_r (L/s)=	1.260

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 100yr (m^3)
45	69.05	5.37	1.26	4.11	11.11
50	63.95	4.98	1.26	3.72	11.15
55	59.62	4.64	1.26	3.38	**11.16**
60	55.89	4.35	1.26	3.09	11.13
70	49.79	3.88	1.26	2.62	10.99

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	11.16	11.90	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 9		
Area (Ha)	0.028		
C =	0.90	Restricted Flow Q_r (L/s)=	1.260

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 5yr (m^3)
17	77.61	5.44	1.26	4.18	4.26
22	66.15	4.63	1.26	3.37	4.45
27	57.88	4.05	1.26	2.79	**4.53**
32	51.61	3.62	1.26	2.36	4.52
37	46.67	3.27	1.26	2.01	4.46

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	4.53	11.90	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 9		
Area (Ha)	0.028		
C =	0.90	Restricted Flow Q_r (L/s)=	1.260

2-Year Ponding

T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 2yr (m^3)
11	73.17	5.13	1.26	3.87	2.55
16	59.50	4.17	1.26	2.91	2.79
21	50.48	3.54	1.26	2.28	**2.87**
26	44.03	3.08	1.26	1.82	2.85
36	35.37	2.48	1.26	1.22	2.63

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	2.87	11.90	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 10		
Area (Ha)	0.014		
C =	1.00	Restricted Flow Q_r (L/s)=	0.630

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 100yr (m^3)
40	75.15	2.92	0.63	2.29	5.51
45	69.05	2.69	0.63	2.06	5.56
50	63.95	2.49	0.63	1.86	**5.58**
55	59.62	2.32	0.63	1.69	5.58
65	52.65	2.05	0.63	1.42	5.53

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	5.58	5.60	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 10		
Area (Ha)	0.014		
C =	0.90	Restricted Flow Q_r (L/s)=	0.630

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 5yr (m^3)
17	77.61	2.72	0.63	2.09	2.13
22	66.15	2.32	0.63	1.69	2.23
27	57.88	2.03	0.63	1.40	**2.26**
32	51.61	1.81	0.63	1.18	2.26
37	46.67	1.63	0.63	1.00	2.23

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	2.26	5.60	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 10		
Area (Ha)	0.014		
C =	0.90	Restricted Flow Q_r (L/s)=	0.630

2-Year Ponding

T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p = 2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	Volume 2yr (m^3)
9	80.87	2.83	0.63	2.20	1.19
14	64.23	2.25	0.63	1.62	1.36
19	53.70	1.88	0.63	1.25	**1.43**
24	46.37	1.62	0.63	0.99	1.43
34	36.78	1.29	0.63	0.66	1.34

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	1.43	5.60	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 11		
Area (Ha)	0.007		
C =	1.00	Restricted Flow Q_r (L/s)=	0.315

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p=2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	Q_p-Q_r (L/s)	Volume 100yr (m^3)
40	75.15	1.46	0.32	1.15	2.75
45	69.05	1.34	0.32	1.03	2.78
50	63.95	1.24	0.32	0.93	**2.79**
55	59.62	1.16	0.32	0.85	2.79
65	52.65	1.02	0.32	0.71	2.77

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	2.79	2.80	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 11		
Area (Ha)	0.007		
C =	0.90	Restricted Flow Q_r (L/s)=	0.315

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p=2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	Q_p-Q_r (L/s)	Volume 5yr (m^3)
20	70.25	1.23	0.32	0.92	1.10
25	60.90	1.07	0.32	0.75	1.13
30	53.93	0.94	0.32	0.63	**1.13**
35	48.52	0.85	0.32	0.53	1.12
40	44.18	0.77	0.32	0.46	1.10

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	1.13	2.80	0	0.00

Overflows to: Parking Lot

Drainage Area	Roof Area 11		
Area (Ha)	0.007		
C =	0.90	Restricted Flow Q_r (L/s)=	0.315

2-Year Ponding

T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p=2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	Q_p-Q_r (L/s)	Volume 2yr (m^3)
12	69.89	1.22	0.32	0.91	0.65
17	57.42	1.01	0.32	0.69	0.70
22	49.02	0.86	0.32	0.54	**0.72**
27	42.95	0.75	0.32	0.44	0.71
37	34.70	0.61	0.32	0.29	0.65

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	0.72	2.80	0	0.00

Overflows to: Parking Lot

roof totals	12.60				
available for decks	17.02				
	A	C	AC		
Deck 1	0.081	0.9	0.0729		
Deck 2	0.011	0.9	0.0099		
Deck 3	0.023	0.9	0.0207		
terrace 1	0.013	0.9	0.0117		
terrace 2	0.001	0.9	0.0009		
terrace 3	0.014	0.9	0.0126		
Landscape 1	0.026	0.3	0.0078		
Landscape 2	0.037	0.3	0.0111		
driveway 1	0.022	0.9	0.0198		
park	0.137	0.4	0.0548		
total	0.365		0.22	Avg C=	0.61

Drainage Area	non roof		
Area (Ha)	0.365	ICD Size (L/s)=	17.02
C =	0.73	Reduced Restricted Flow Q_r (L/s)=	8.511

100-Year Ponding

T_c Variable (min)	i_{100yr} (mm/hour)	Peak Flow $Q_p=2.78xCi_{100yr}A$ (L/s)	Q_r (L/s)	Q_p-Q_r (L/s)	Volume 100yr (m^3)
65	52.65	39.02	8.51	30.51	119.00
70	49.79	36.91	8.51	28.40	119.26
73	48.23	35.75	8.51	27.24	**119.32**
76	46.78	34.68	8.51	26.17	119.32
81	44.57	33.04	8.51	24.52	119.19

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	119.32		120	0.00

Drainage Area	non roof		
Area (Ha)	0.365	ICD Size (L/s)=	17.02185222
C =	0.61	Reduced Restricted Flow Q_r (L/s)=	8.511

5-Year Ponding

T_c Variable (min)	i_{5yr} (mm/hour)	Peak Flow $Q_p=2.78xCi_{5yr}A$ (L/s)	Q_r (L/s)	Q_p-Q_r (L/s)	Volume 5yr (m^3)
33	50.53	31.21	8.51	22.70	44.95
35	48.52	29.97	8.51	21.46	45.06
37	46.67	28.83	8.51	20.32	**45.11**
39	44.98	27.79	8.51	19.27	45.10
41	43.42	26.82	8.51	18.31	45.04

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	45.11	0.00	120	0.00

Drainage Area	non roof		
Area (Ha)	0.365	ICD Size (L/s)=	17.02185222
C =	0.61	Reduced Restricted Flow Q_r (L/s)=	8.511

2-Year Ponding

T_c Variable (min)	i_{2yr} (mm/hour)	Peak Flow $Q_p=2.78xCi_{2yr}A$ (L/s)	Q_r (L/s)	Q_p-Q_r (L/s)	Volume 2yr (m^3)
27	42.95	26.53	8.51	18.02	29.19
28	41.93	25.90	8.51	17.39	29.21
29	40.96	25.30	8.51	16.79	**29.22**
30	40.04	24.74	8.51	16.22	29.20
31	39.17	24.20	8.51	15.68	29.17

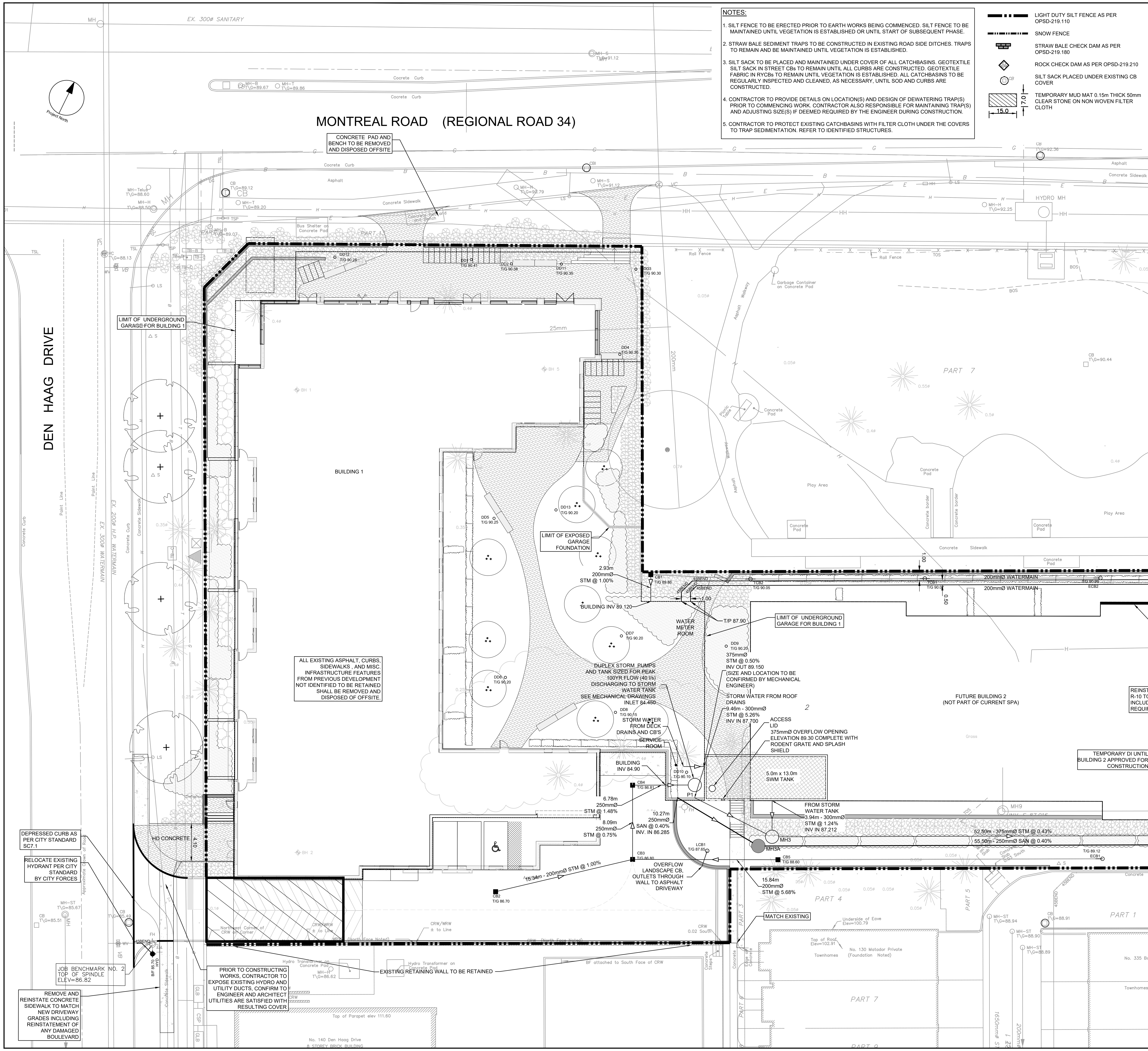
Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	29.22	0.00	120	0.00

	Area	**Flow**	100yr storage req	100yr storage provided	5yr storage req	5yr storage provided
Roof	0.279	12.600	110.982	114.215	45.057	114.215
uncontrolled	0.078	25.378				
controlled	0.365	17.022	119.32	120	45.11	120
	0.722	**55.00**	230.31	234.22	90.17	234.22
Allowable		**55.00**				

APPENDIX E

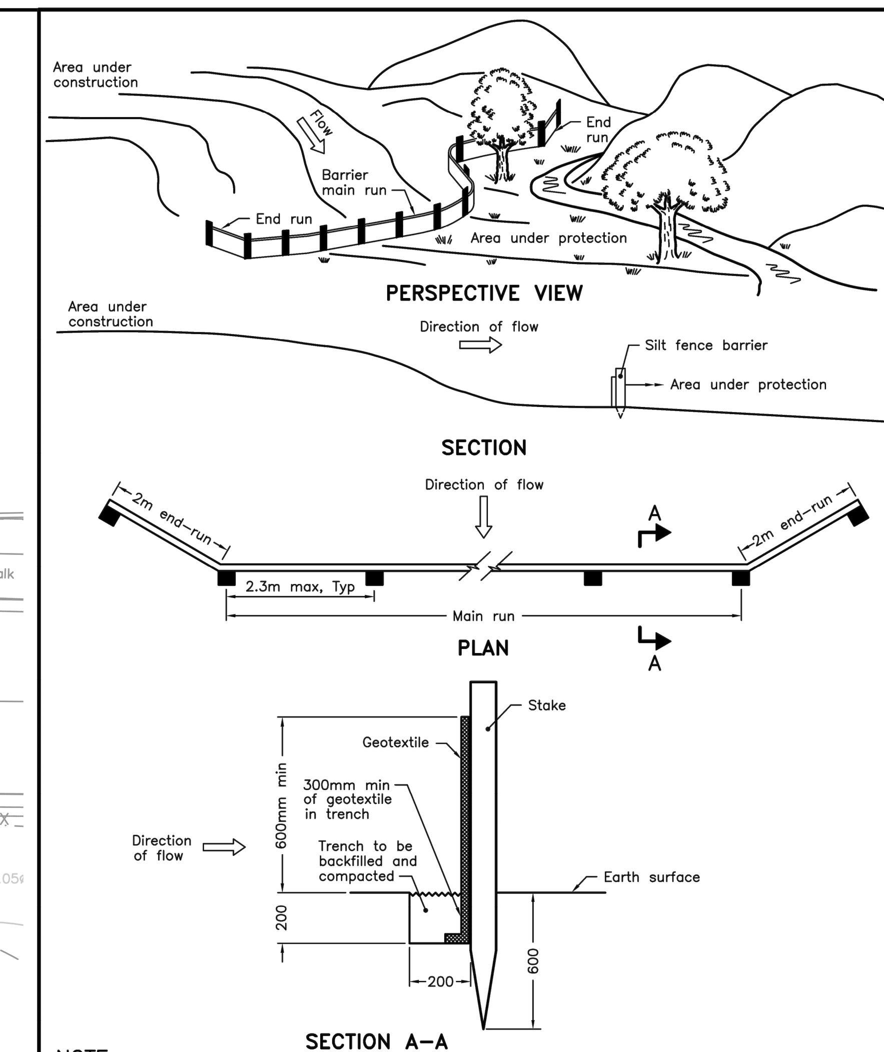
125532-C-900 Sediment and Erosion Control Plan
125532-C-200 Grading Plan



NOTES:

1. SILT FENCE TO BE ERECTED PRIOR TO EARTH WORKS BEING COMMENCED. SILT FENCE TO BE MAINTAINED UNTIL VEGETATION IS ESTABLISHED OR UNTIL START OF SUBSEQUENT PHASE.
2. STRAW BALE SEDIMENT TRAPS TO BE CONSTRUCTED IN EXISTING ROAD SIDE DITCHES. TRAPS TO REMAIN AND BE MAINTAINED UNTIL VEGETATION IS ESTABLISHED.
3. SILT SACK TO BE PLACED AND MAINTAINED UNDER COVER OF ALL CATCHBASINS. GEOTEXTILE SILT SACK IN STREET CBs TO REMAIN UNTIL ALL CURBS ARE CONSTRUCTED. GEOTEXTILE FABRIC IN RYCBs TO REMAIN UNTIL VEGETATION IS ESTABLISHED. ALL CATCHBASINS TO BE REGULARLY INSPECTED AND CLEANED, AS NECESSARY, UNTIL SOD AND CURBS ARE CONSTRUCTED.
4. CONTRACTOR TO PROVIDE DETAILS ON LOCATION(S) AND DESIGN OF DEWATERING TRAP(S) PRIOR TO COMMENCING WORK. CONTRACTOR ALSO RESPONSIBLE FOR MAINTAINING TRAP(S) AND ADJUSTING SIZE(S) IF DEEMED REQUIRED BY THE ENGINEER DURING CONSTRUCTION.
5. CONTRACTOR TO PROTECT EXISTING CATCHBASINS WITH FILTER CLOTH UNDER THE COVERS TO TRAP SEDIMENTATION. REFER TO IDENTIFIED STRUCTURES.

LIGHT DUTY SILT FENCE AS PER OPSD-219.110
SNOW FENCE
STRAW BALE CHECK DAM AS PER OPSD-219.180
ROCK CHECK DAM AS PER OPSD-219.210
SILT SACK PLACED UNDER EXISTING CB COVER
TEMPORARY MUD MAT 0.15m THICK 50mm CLEAR STONE ON NON WOVEN FILTER CLOTH (15.0 x 7.0)



NOTE:
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING | Nov 2006 | Rev 1

LIGHT-DUTY SILT FENCE BARRIER

OPSD 219.110

CLIENT

SOVIMA OTTAWA INC.

100 rue LANSDOWNE,
SAINT-BRUNO-de-MONTARVILLE, QC

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ISSUES

No.	DESCRIPTION	DATE
1	ISSUED FOR SPA	2020-12-10
2	REVISED AS PER CITY COMMENTS	2022-02-18
3	REVISED AS PER NEW LANDSCAPE PLAN	2022-12-20

KEY PLAN

CONSULTANTS

Project Coordinator

Architect:
NEUF Architects SENCRL.
Landscape:
Lashley + Associates
Surveyor:
Annis, O'Sullivan, Vollebekk Ltd.
Geotech:
DST Engineering
Transportation Engineer:
IBI Group
Interior Design:
Nine Design
Structural:
L2C Experts
Mechanical/Electrical:
Goodkey, Weedmark & Associates Ltd.

1:200 (0 2 6 10m)

SEAL

IBI GROUP
Suite 400 – 333 Preston Street
Ottawa ON K1S 5N4 Canada
tel 613 225 1311 / 613 241 3300 fax 613 225 9868
ibigroup.com

PROJECT

SOVIMA OTTAWA

800 MONTREAL ROAD

PROJECT NO: 125532	
DRAWN BY: **D.P.S.**	CHECKED BY: **D.G.Y.**
PROJECT MGR: **D.G.Y.**	APPROVED BY: **D.G.Y.**

SHEET TITLE

EROSION AND SEDIMENTATION CONTROL PLAN

SHEET NUMBER: C-900 | ISSUE: 3

File Location: J:\125532_800MtlRd\7.0_Production\7.03_Design\04_Civil\Sheets\C-900.dwg Last Saved: December 20, 2022, by dsiurna Plotted: Tuesday, December 20, 2022 2:31:37 PM by Don Siurna

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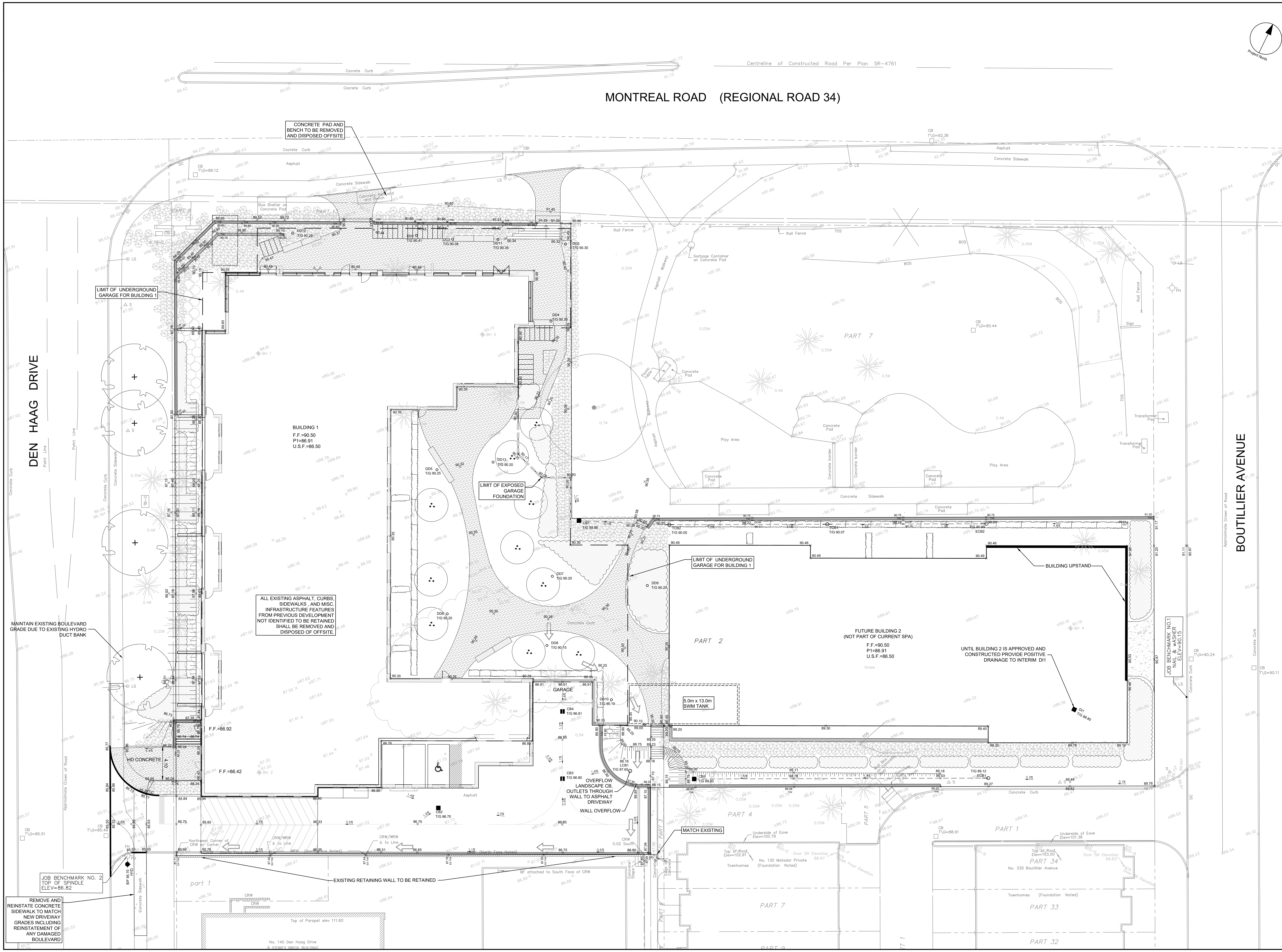

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ISSUES

No.	DESCRIPTION	DATE
1	ISSUED FOR SPA	2020-12-10
2	REVISE GRADING AT HYDRO VAULT	2021-08-12
3	REVISED AS PER CITY COMMENTS	2022-02-18
4	REVISED AS PER NEW LANDSCAPE PLAN	2022-12-20

KEY PLAN

CONSULTANTS

Project Coordinator

Architect:
NEUF Architects SENCRL.
Landscape:
Lashley + Associates
Surveyor:
Annis, O'Sullivan, Vollebekk Ltd.
Geotech:
DST Engineering
Transportation Engineer:
IBI Group
Interior Design:
Nine Design
Structural:
L2C Experts
Mechanical/Electrical:
Goodkey, Weedmark & Associates Ltd.

1:200

SEAL

LICENSED PROFESSIONAL ENGINEER
D. G. Yannoulopoulos
2022/12/20
PROVINCE OF ONTARIO

IBI GROUP
Suite 400 – 333 Preston Street
Ottawa ON K1S 5N4 Canada
tel 613 225 1311 / 613 241 3300 fax 613 225 9868
ibigroup.com

PROJECT

SOVIMA OTTAWA

800 MONTREAL ROAD

PROJECT NO:
125532

DRAWN BY:	CHECKED BY:
D.P.S.	**D.G.Y.**
PROJECT MGR:	APPROVED BY:
D.G.Y.	**D.G.Y.**

SHEET TITLE

GRADING PLAN

SHEET NUMBER

C-200

ISSUE

4

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