Phoenix Homes

Design Brief

1773 & 1767 Baseline

December 2025

Design Brief

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Prepared By:
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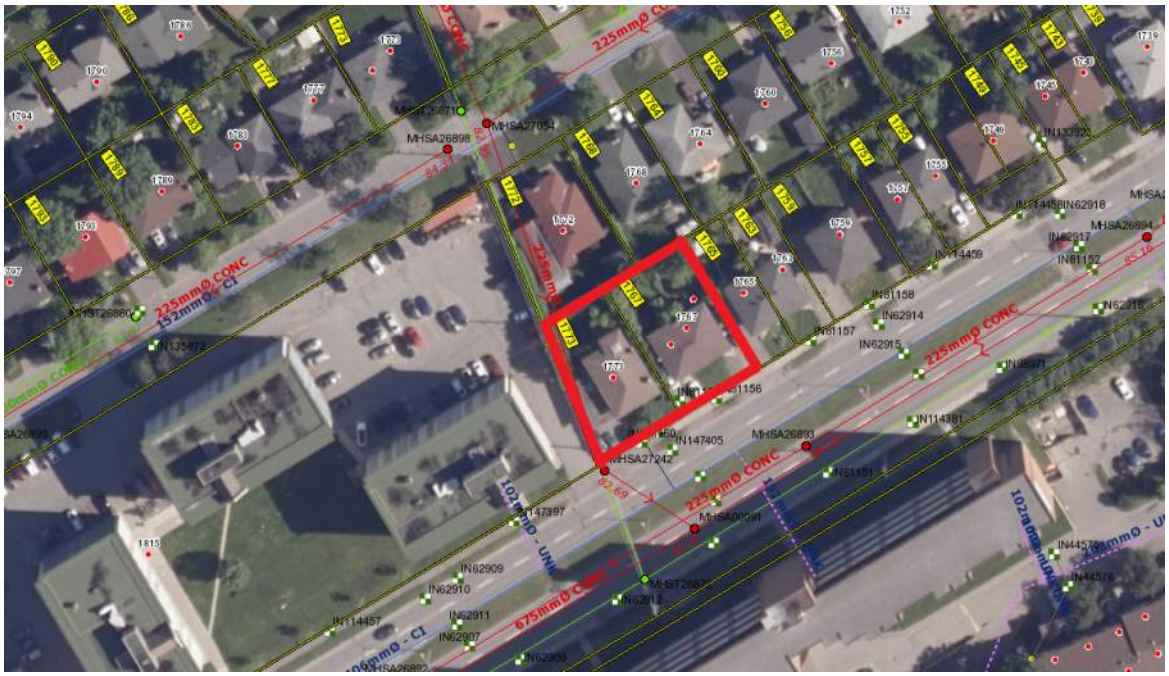
1 INTRODUCTION

1773 & 1767 Baseline Road is located on the north side of Baseline Road, between the intersection with Navaho Drive to the west and Ferguson Street to the east, in Ottawa, Ontario. This proposed site is abutted by an apartment complex to the west, residential to the east and north, and Baseline Road to the south. Arcadis Professional Services (Canada) Inc. (formerly IBI Group) has been retained by Phoenix Homes to provide professional engineering services for 1773 & 1767 Baseline Road. The subject site is approximately 0.11 ha and consists of one 5-storey apartment building to be completed in one phase. Refer to key plan on **Figure 1.1** for Site location.

Figure 1.1 Site Location



1.1 Geotechnical Concerns

A separate geotechnical report will be completed for the site by others.

The objective of the investigation report will include:

- Determination of the subsoil and groundwater conditions;
- Provision of geotechnical recommendations pertaining to the design and development of the subject site including construction considerations.

Among other items, the report will comment on the following:

- Site grading;
- Foundation design;
- Pavement structure;
- Infrastructure construction;
- Groundwater control;

The report will conclude if the subject site is considered suitable for the proposed development.

1.2 Easements

There is an existing storm and sanitary sewer running through the west portion of the site. These sewers are in a 6.1m subject agreement easement NST. CR375146E. Sewers and other underground infrastructure will not be proposed inside the easement.

Easement lines are shown on drawing C-001 General Plan of Services as well as on the Topographic Plan of Survey prepared by AOV, both included in **Appendix A**.

2 WATER DISTRIBUTION

2.1 Existing Conditions

1773 & 1767 Baseline Road will be serviced with potable water from the City of Ottawa's existing watermains. There is an existing 400 mm diameter watermain inside Baseline Road adjacent to the site. This watermain falls within the City of Ottawa's pressure district Pressure Zone 2W which will provide the water supply to the site.

2.2 Design Criteria

2.2.1 Water Demands

The proposed development plan includes x residential units. The population for apartment buildings is assumed at 1.4 persons per unit for 1-bedroom units, and 2.1 persons per unit for 2-bedroom units as found in Table 4.1 of the Design Guidelines. Per unit population density and consumption rates are taken from Tables 4.1 and 4.2 at the Ottawa Design Guidelines – Water Distribution and are summarized as follows:

- Residential Average Day Demand 280 l/cap/day
- Residential Peak Daily Demand 700 l/cap/day
- Residential Peak Hour Demand 1540 l/cap/day

A water demand calculation sheet is included in **Appendix B** and the total water demands are summarized as follows:

- Average Day 0.23 l/s
- Maximum Day 0.57 l/s
- Peak Hour 1.25 l/s

2.2.2 System Pressures

The 2010 City of Ottawa Water Distribution Guidelines states that the preferred practice for the design of a new distribution system is to have normal operating pressures range between 345 kPa (50 psi) and 552 kPa (80 psi) under maximum daily flow conditions. Other pressure criteria identified in 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 150 kPa (21 psi) during a fire flow event.

Maximum Pressure	Maximum pressure at any point in the distribution system in unoccupied areas shall not exceed 689 kPa (100 psi). In accordance with the Ontario Building/Plumbing Code the maximum pressure should not exceed 552 kPa (80 psi) in occupied areas. Pressure reduction controls may be required for buildings when it is not possible/feasible to maintain the system pressure below 552 kPa.

2.2.3 Fire Flow Rate

The Ontario Building Code (OBC) was used to determine the fireflow for the site per City of Ottawa technical bulletin 2024-05. The calculations result in a fire flow of 6,300 L/min (105.0 L/s) based on noncombustible building construction. A copy of the OBC calculation is included in **Appendix B**.

2.2.4 Boundary Conditions

The City of Ottawa has provided hydraulic boundary conditions for the connection to Baseline Road. The boundary conditions are based on the water demand and fire flow rates provided. A copy of the boundary conditions received October 21, 2025 is included in **Appendix B** and is summarized as follows:

SCENARIO	HYDRAULIC HEAD (M)
Maximum HGL	132.4
Peak Hour	126.2
Max Day + Fire Flow (66.7 l/s)	125.7

2.3 Proposed Water Plan

The site will be serviced by one 150mm diameter watermain from Baseline Road. There are two existing small-diameter water services for the existing buildings onsite that will need to be abandoned. There is sufficient hydrant coverage for the site, including one directly in front of the building, therefore no new hydrants are proposed.

Per Section 2.2.4, the building will need a fire flow of up to 6,300 L/min. With at least one hydrant within 75m of the building and two additional within 300m, the capacity needed to deliver the required fire flow to the structures are being provided in accordance with Technical Bulletin ISTB-2018-02 dated March 21, 2018. Furthermore, the fire dept. connection for each building is also located within 45m of a hydrant.

HYDRANT AVAILABILITY				
BUILDING ID	FIRE FLOW DEMAND (L/MIN)	FIRE HYDRANT(S) WITHIN 75M (5,700 L/MIN)	FIRE HYDRANT(S) WITHIN 300M (2,800 L/MIN)	AVAILABLE FLOW (L/MIN)
Apartment	6,300	1	2	11,300

For the purposes of this report, assuming a minimal loss within the service connection the pressures within the site can be estimated as follows:

Minimum Pressure (Peak Hour) – The minimum peak hour pressure on the site can be estimated as HGL 126.2m – meter elevation of 88.5m = 37.7m or 369.8 kPa which exceeds the minimum requirement of 276 kPa. The pressure on the top floor can be estimated as 126.2m – 104.62m = 21.58m or 211.7 KPa which is below the minimum of 276 kPa and will require a water pump.

Fire Flow – The max day plus fire flow can be estimated as HGL 125.7 – ground floor elevation plus 0.4m 88.5 = 37.2m or 364.9 KPa which exceeds the minimum of 150kPa.

Max HGL (High Pressure Check) – The high-pressure check can be estimated as HGL 132.4 – (lowest level) 88.1 = 44.3m or 434.6 KPa which is below the maximum of 552 kPa, therefore a pressure reducing valve is not required.

The above results indicate the municipal infrastructure can support the proposed development.

3 WASTEWATER

3.1 Existing Conditions

There is an existing 225mm concrete sanitary sewer in an easement on the west side of the subject site, as well as an existing 225mm and 675mm concrete sanitary in Baseline Road. There is currently 0.12 L/s of residential wastewater flow offsite from the two existing residential houses.

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.

3.3 Recommended Wastewater Plan

Wastewater flows have been calculated for the subject site, see detailed Sanitary Sewer Design Sheet in **Appendix C**.

As discussed in Section 3.1, there is an existing 225mm sanitary sewer located through an easement on the subject site. As shown in the sanitary sewer design sheet (included in **Appendix C**), the residential wastewater effluent will increase from 0.12 L/s to 0.86L/s. The City of Ottawa is asked to comment on if the existing 225mm sanitary sewer has sufficient capacity for the proposed redevelopment.

4 SITE STORMWATER MANAGEMENT

4.1 Existing Conditions

There is an existing 750mm concrete storm sewer in an easement on the west side of the subject site, as well as an existing 1500mm concrete sanitary in Baseline Road. There are currently two catchbasins onsite, one in the driveway of 1767 Baseline Road and the other on the front lawn.

The front of the site currently drains towards a series of catchbasins in drive aisles and front lawns, as well as Heron Road ROW. The rear of the site flows to an informal swale near the back property line and offsite to the western private property. Stormwater from private properties to the north and east also enter this swale. Currently, no known flow control measures have been implemented.

4.2 Design Criteria

The stormwater management infrastructure was designed per the City of Ottawa 2012 Sewer Design Guidelines. Previous consultation with the City has also confirmed water quantity and quality requirements for this site, as summarized below,

- Design Storm — 1:5-year return (Ottawa)
- Rational Method Sewer Sizing
- Initial Time of Concentration — 10 minutes
- Runoff Coefficients
  - Softscape Areas — C = 0.20
  - Hardscape Areas — C = 0.90
- Pipe Velocities — 0.80 m/s to 3.0 m/s
- Minimum Pipe Size — 250 mm diameter (200 mm CB Leads)

4.3 Stormwater Management

The subject site is identified on the City of Ottawa's official Plan (OP) Schedule C15, classified as lands within the urban boundary and is subject to development. This site is designed to have minimal impact on adjacent properties grading, drainage, access, circulation, and privacy. This will be achieved by means of Water Quantity Controls.

4.3.1 Stormwater Quantity Control

Stormwater effluent from the subject site is proposed to be limited to a 5-year design storm with a runoff coefficient of 0.5 and a time of concentration of 10 minutes for all storm events up to and including the 100-year event.

The release rate can be therefore calculated as follows,

$\mathbf{Q_{restricted}}$ = **2.78** x **C** x $\mathbf{i_{5yr}}$ x **A** where:
C = Runoff coefficient = 0.50
$\mathbf{i_{5yr}}$ = Intensity of 5-year storm event (mm/hr)
= $998.071 \times (T_c + 6.053)^{0.814}$ =104.19 mm/hr; where T_c = 10 minutes
A = 0.11 Ha

$Q_{restricted}$ = **2.78** x **C** x i_{5yr} x **A**
= 2.78 x 0.50 x 104.19 x 0.11
= 15.93 L/s

It is therefore proposed to restrict the 100-year stormwater outflow from the subject site to 15.93 L/s. This will be achieved through a combination of inlet control devices (ICD's), surface storage where possible, and roof storage.

Surface flows in excess of the site's allowable release rate will be stored on site and gradually released into the minor system to respect the site's allowable release rate. The average rooftop retention depth located within the building area will be limited to 75mm during a 1:100-year event as shown on the ponding plan located in **Appendix D** and grading plans located in **Appendix E**.

Some stormwater from adjacent lands currently flow through the subject site as part of an overland flow route. The overland flow route has been maintained as part of the proposed grading. Any water over and above the 100-year storm event storage volume will continue to flow overland along the existing flow route, while quantities below the 100-year level of storage provided will be captured and released into the municipal storm sewer at a restricted rate.

Along the perimeter of the site, the opportunity to capture and store runoff is limited due to grading constraints and building geometry. These areas will discharge uncontrolled to Heron Road and existing catchbasins. These areas are located at the perimeter of the site where it is necessary to tie into public boulevards and adjacent properties or in areas where ponding stormwater is undesirable.

Based on the proposed site plan, the total uncontrolled area has been calculated to be 0.0153 Ha. For the detailed storm drainage area plan for the site, refer to Drawing 500 in **Appendix D**.

Based on a 1:100-year event, the flow from the 0.0153 Ha uncontrolled area to the west can be determined as:

$Q_{uncontrolled}$ = **2.78** x **C** x i_{100yr} x **A** where:
C = Average runoff coefficient = 0.42 x 1.25 = 0.525 (100 year C-value)
i_{100yr} = Intensity of 100-year storm event (mm/hr)
= 1735.688 x $(T_c + 6.014)^{0.820}$ =178.56 mm/hr; where T_c = 10 minutes
A = Uncontrolled Area = 0.0153 Ha

Therefore, the uncontrolled release rate can be determined as:

$Q_{uncontrolled1}$ = **2.78** x **C** x i_{100yr} x **A**
= 2.78 x 0.525 x 178.56 x 0.0153
= 3.99 L/s

Similarly, a ramp to the underground parking garage is also present onsite and will be unrestricted:

$Q_{uncontrolled2}$ = **2.78** x **C** x i_{100yr} x **A**
= 2.78 x 1.00 x 178.56 x 0.0078
= 3.87 L/s

The Maximum allowable release rate from the site can be determined by subtracting the Uncontrolled release rate from the minor system restricted flow rate.

$Q_{max} = Q_{restricted} - Q_{uncontrolled1} - Q_{uncontrolled2}$

Q_{max} = 15.93 L/s – 3.99 L/s – 3.87 L/s

Q_{max} = 8.07 L/s

Therefore, the total restricted flow rate through the minor system will be the design flow rate of **8.07 L/s**. This will be achieved using Inlet Control Devices and surface ponding. A summary of the ICD's, their corresponding storage requirements, storage availability, and associated drainage areas has been provided below.

DRAINAGE AREA	ICD RESTRICTED FLOW (L/s)	100 YEAR STORAGE REQUIRED (m^3)	2 YEAR STORAGE REQUIRED (m^3)	STORAGE PROVIDED (m^3)
ROOF	2.00	20.77	5.48	28.13
CB1	6.00	2.70	0.06	2.76
TOTAL	**8.00**	**23.47**	**5.54**	**30.89**

Detailed stormwater management calculations for the 2-year event, 100-year event, and stress test (100-year plus 20%) event can be found in **Appendix D**.

There will be no 2-year surface ponding per the modified rational method calculations.

A 0.3m freeboard from downstream high points/maximum ponding elevations to first floor building opening is maintained in all scenarios including emergency overflow conditions.

Refer to the geotechnical report for information regarding foundation drainage. Foundation drainage systems are to be independent and connected to the storm service downstream of any stormwater management control device.

Detailed roof design to be completed by others at a later date. Roof design is to adhere to the requirements of this report (notably, the stormwater capacity and release rate) as well as any requirements in the Ontario Building Code (scupper details, emergency overflow, etc). Roof drain flow controls to be Watts Adjustable Accutrol Weir or equivalent (specification sheet found in **Appendix D**).

5 SEDIMENT AND EROSION CONTROL PLAN

5.1 General

During construction, existing stream and conveyance systems can be exposed to significant sediment loadings. Although construction is only a temporary situation, it is proposed to introduce a number of mitigative construction techniques to reduce unnecessary construction sediment loadings. These will include:

- groundwater in trench will be pumped into a filter mechanism prior to release to the environment;
- bulkhead barriers will be installed at the nearest downstream manhole in each sewer which connects to an existing downstream sewer;
- seepage barriers will be constructed in any temporary drainage ditches; and
- silt sacks will remain on open surface structure such as manholes and catchbasins until these structures are commissioned and put into use.
- Prior to roads having a granular base, construction traffic exiting the site to be directed to a mud mat to reduce sediment tracked offsite

5.2 Trench Dewatering

During construction of municipal services, any trench dewatering using pumps will be discharged into a filter trap made up of geotextile filters and straw bales similar in design to the OPSD 219.240 Dewatering Trap. These will be constructed in a bowl shape with the fabric forming the bottom and the straw bales forming the sides. Any pumped groundwater will be filtered prior to release to the existing surface runoff. The contractor will inspect and maintain the filters as needed including sediment removal and disposal and material replacement as needed.

5.3 Bulkhead Barriers

At the first manhole constructed immediately upstream of an existing sewer, a ½ diameter bulkhead will be constructed over the lower half of the outletting sewer. This bulkhead will trap any sediment carrying flows, thus preventing any construction –related contamination of existing sewers. The bulkheads will be inspected and maintained including periodic sediment removal as needed.

5.4 Seepage Barriers

These barriers will consist of both the Light Duty Straw Bale Barrier as per OPSD 219.100 or the Light Duty Silt Fence Barrier as per OPSD 219.110 and will be installed in accordance with the sediment and erosion control drawing. The barriers are typically made of layers of straw bales or geotextile fabric staked in place. All seepage barriers will be inspected and maintained as needed.

5.5 Surface Structure Filters

All catchbasins, and to a lesser degree manholes, convey surface water to sewers. However, until the surrounding surface has been completed these structures will be covered to prevent sediment from entering the minor storm sewer system. Until rear yards are sodded or until streets are asphalted and curbed, all catchbasins and manholes will be equipped with geotextile filter socks. These will stay in place and be maintained during construction and build until it is appropriate to remove them.

6 CONCLUSIONS & RECOMMENDATIONS

6.1 Conclusions

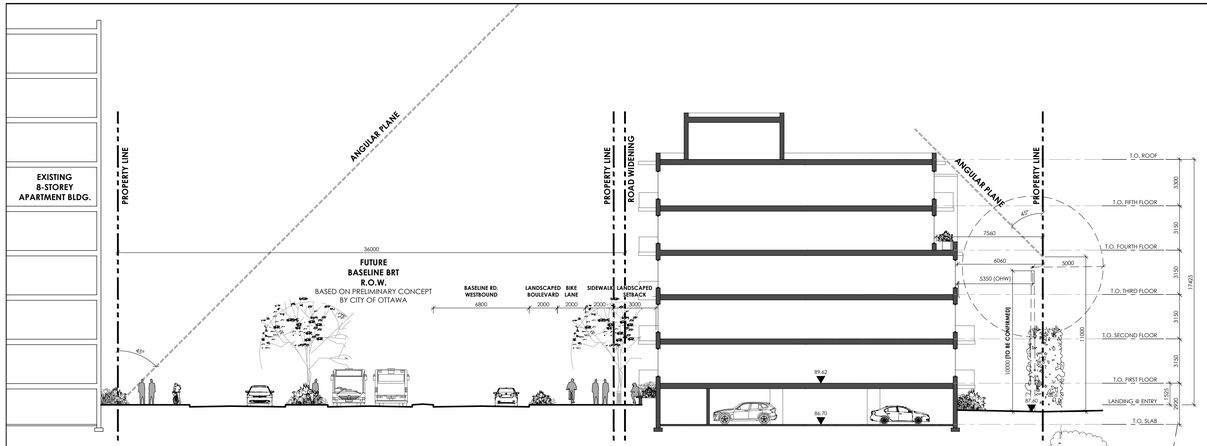
This report and the accompanying working drawings clearly indicate that the proposed development meets the requirements of the stakeholder regulators, including the City of Ottawa..

There is a reliable water supply available adjacent to the proposed development; a wastewater outlet is available adjacent to the site; local storm sewers have been installed adjacent to the site.

6.2 Recommendations

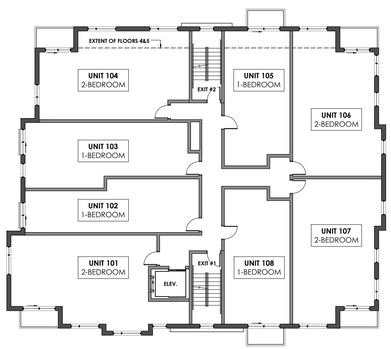
It is recommended that the regulators review this submission with an aim of providing the requisite approvals to permit the owners to proceed to the construction stage of the subject site.

Appendix A



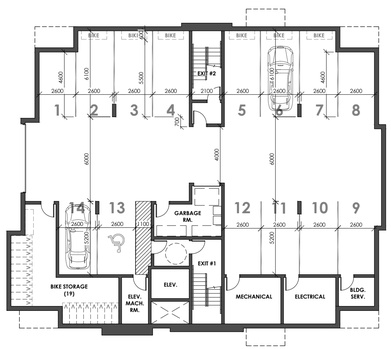
2 SITE SECTION

SCALE: 1:200



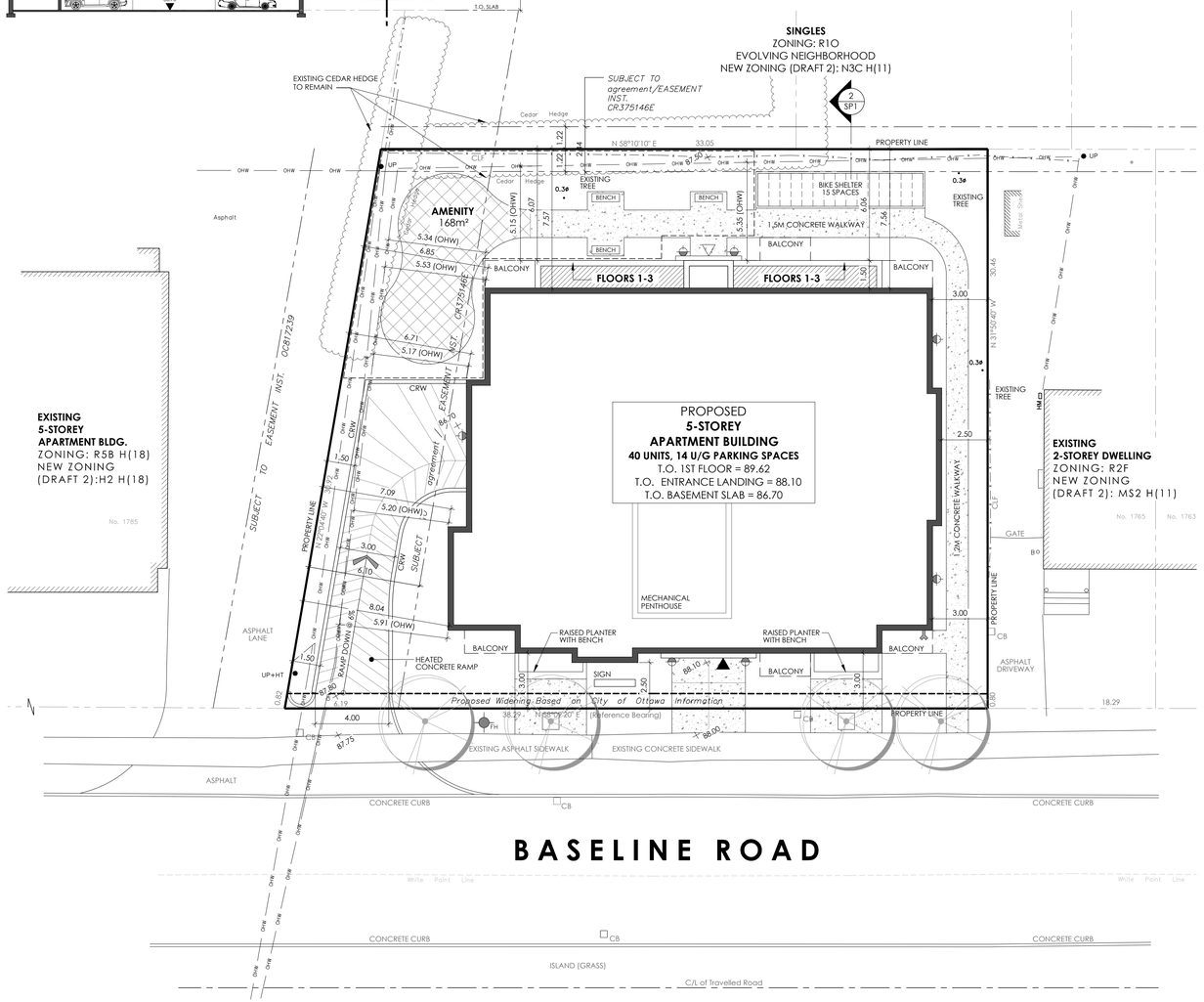
3 FLOOR PLAN | FLOORS 1-3

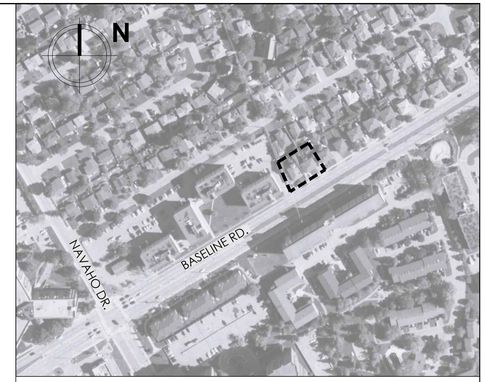
SCALE: 1:200



4 BASEMENT PLAN

SCALE: 1:200





AREA PLAN: SCALE: NTS

SITE INFORMATION:

SITE AREA = 0.11Ha (0.27 Acres.)
ZONING: 1773 WOODROFFE = R2A, 1767 WOODROFFE = R2F[555]
NEW ZONING (DRAFT 2): MS2 H(11)
PROPOSED ZONING:

	REQUIRED :	PROVIDED :
LOT WIDTH (MIN.):		38.29 m
LOT AREA (MIN.):		1,086.92 m²
BUILDING HEIGHT (MAX.):		17.50 m
FRONT YARD (MIN.) :		2.50 m
REAR YARD (MIN.) :		6.06 m
INTERIOR SIDE YARD (MIN.) :		2.50 m

PARKING REQUIREMENTS: SCHEDULE 1A AREA 'B'

MID-RISE APARTMENT BUILDING (40 UNITS)
PARKING REQUIRED= 0.5/d.u. + 0.2/d.u. VISITORS = 20 + 8 = 28 SPACES

TOTAL PARKING REQUIRED= 28 SPACES
TOTAL PARKING PROVIDED= 14 SPACES (0.35 SPACES/ UNIT)

BICYCLE PARKING REQUIREMENTS:

BICYCLE PARKING REQUIRED= 0.5/d.u. x 40 d.u. = 20 SPACES
BICYCLE PARKING PROVIDED = 40 SPACES (25 INDOOR + 15 EXT. SHELTER)

AMENITY SPACE REQUIREMENTS:

AMENITY SPACE REQUIRED = 6m²/ d.u. x 40 d.u. = 240m²
50% COMMUNAL AMENITY AREA REQUIRED = 120m²
COMMUNAL AMENITY AREA PROVIDED = 168m²
PRIVATE AMENITY AREA PROVIDED = 116m² (BALCONIES/ TERRACES)
TOTAL AMENITY AREA PROVIDED = 284m²

LEGEND/ ABREVIATIONS:

D.C. DEPRESSED CURB
CRW CONCRETE RETAINING WALL
W.I. WROUGHT IRON
TWSI TACTILE WALKING SURFACE INDICATOR
CONC. CONCRETE
ASPH. ASPHALT
CLF CHAIN LINK FENCE
OHW OVERHEAD WIRES

GAS METERS LOCATION
BUILDING SERVICES LOCATION (IN LOWER LEVEL)
WALL MOUNTED LIGHT FIXTURE
FIRE HYDRANT
XX.XX GRADE ELEVATION- FOR ARCHITECTURAL INTENT & COORDINATION ONLY. REFER TO GRADING PLAN FOR FINAL GRADES.

LIGHT STANDARD
TWSI
SIAMESE CONNECTIONS
TRANSFORMER
PRINCIPAL ENTRANCE
SECONDARY ENTRANCE

NOTE:
SITE PLAN TO BE READ IN CONJUNCTION WITH :
- SITE SERVICING AND GRADING PLANS PREPARED BY ARCADIS.
- LANDSCAPE PLAN PREPARED BY _____.

NOTE:
SITE BOUNDARIES DERIVED FROM:
TOPOGRAPHIC PLAN OF SURVEY OF
LOTS 351 and **352**
REGISTERED PLAN 372115
CITY OF OTTAWA
Surveyed by Annis, O'Sullivan, Vollebekk Ltd.
DATED: 2025/03/28

CONSTRUCTION NORTH

SCALE 0 5m 15m 25m

M. David Blakely Architect Inc.
2200 Prince of Wales Dr. Suite 101 Ottawa, Ontario
Phone (613) 226-8811 Fax (613) 226-7942 K2E 6Z9

GENERAL NOTES:
1. THE CONTRACTOR IS RESPONSIBLE FOR CHECKING AND VERIFYING ALL DIMENSIONS. ANY DISCREPANCY MUST BE REPORTED TO M. DAVID BLAKELY ARCHITECT INC.
2. ALL WORK AND MATERIALS TO BE IN COMPLIANCE WITH ALL CODES, REGULATIONS, & BY-LAWS
3. ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION TO ASSIST THE PROPER EXECUTION OF WORK. SUCH DRAWINGS WILL HAVE THE SAME MEANING AND INTENT AS IF THEY WERE INCLUDED WITH THE PLANS IN CONTRACT DOCUMENTS
4. DO NOT SCALE DRAWINGS.
5. THIS DRAWING SHALL NOT BE USED OR COPIED WITHOUT THE AUTHORIZATION OF THE ARCHITECT
6. THIS DRAWING SHALL NOT BE USED FOR PERMIT OR CONSTRUCTION UNLESS THE DRAWING BEARS THE ARCHITECTS SEAL AND SIGNATURE

OWNER:

ARCHITECT: M. DAVID BLAKELY ARCHITECT INC.,
2200 PRINCE OF WALES DR., SUITE 101
OTTAWA, ON K2E 6Z9
(613) 226-8811

CIVIL ENGINEER:

LANDSCAPE ARCHITECT:

SURVEYOR: ANNIS O'SULLIVAN VOLLEBEKK LTD.
14 CONCOURSE GATE, SUITE 500
NEPEAN, ON K2E 7S6
(613) 727-0850

SEAL

No.	DATE DJ/M/Y	DESCRIPTION	INIT.
12.			
11.			
10.			
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1.	10/04/25	FOR COORDINATION	MB

REVISIONS

No.	DATE	DESCRIPTION	INIT.
24.			
23.			
22.			
21.			
20.			
19.			
18.			
17.			
16.			
15.			
14.			
13.			

REVISIONS

A - DETAIL NUMBER
B - SHEET NUMBER (DETAIL REQUIRED)
C - SHEET NUMBER (DETAIL LOCATION)

PROJECT: 1773 & 1767 BASELINE ROAD OTTAWA, ONTARIO

CLIENT:

DRAWING TITLE: SITE PLAN

DATE: APRIL 2019
SCALE: 1 : 150
DRAWN BY: mdb
CHECKED: MDB
SHEET No.: SP1

TOPOGRAPHIC PLAN OF SURVEY OF

LOTS 351 and 352
REGISTERED PLAN 372115
CITY OF OTTAWA

Surveyed by Annis, O'Sullivan, Vollebekk Ltd.

Scale 1 : 150

6 4.5 3.0 1.5 0 3 6 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 19th day of March, 2025.

2025/03/28
Date

D.S. McMorran
Ontario Land Surveyor

Notes & Legend

—□—	Denotes	Survey Monument Planted
—■—	"	Survey Monument Found
SIB	"	Standard Iron Bar
SSIB	"	Short Standard Iron Bar
IB	"	Iron Bar
CP	"	Concrete Pin
(WIT)	"	Witness
(AOG)	"	Annis, O'Sullivan, Vollebekk Ltd.
Meas.	"	Measured
Prop.	"	Proportioned
(P1)	"	Registered Plan 372115
(P2)	"	(AOG) Plan, November 15, 1990
(P3)	"	Plan 4R-22510
(P4)	"	Plan 4R-8091
MH-S	"	Maintenance Hole (Sanitary)
VC	"	Valve Chamber (Watermain)
—— G ——	"	Underground Gas
—— W ——	"	Underground Water
—— OHW ——	"	Overhead Wires
UP	"	Utility Pole
CB	"	Catch Basin
FH	"	Fire Hydrant
WV	"	Water Valve
GV	"	Gas Valve
GM	"	Gas Meter
HM	"	Hydro Meter
B	"	Bollard
CLF	"	Chain Link Fence
BF	"	Board Fence
RWS	"	Stone Retaining Wall
ø	"	Diameter
x 65.00	"	Location of Elevations
x 65.00	"	Top of Concrete Curb Elevation
x 65.00	"	Top of Stone Retaining Wall Elevation
C/L	"	Centreline
	"	Deciduous Tree
NTS	"	Not to Scale

Bearings are grid, derived from Can-Net 2016 Real Time Network GPS observations, MTM Zone 9 (76°30' West Longitude) NAD-83 (original).

For bearing comparisons, a rotation of 0°34'10" counter-clockwise was applied to bearings on P1 & P4, a rotation of 0°36'10" counter-clockwise was applied to bearings on P2 & P3.

Please note that the legal description for Lot 352 (PIN 03993-0172) is not subject to the easement purported in the Instrument CR375146E. The Land Registry Office and the legal community are of the opinion that the easements purported in in Instrument CR375146E are not a valid easement. We recommended that legal counsel be obtained regarding the validity of the easement.

ELEVATION NOTES

1. Elevations shown are geodetic, derived from City of Ottawa benchmark No. 3695, having an elevation of 86.752 metres, and are referred to the CGVD28 geodetic datum.
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. Underground utilities shown on this plan were marked on the ground by an unknown third party.
4. A field location of underground plant by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc

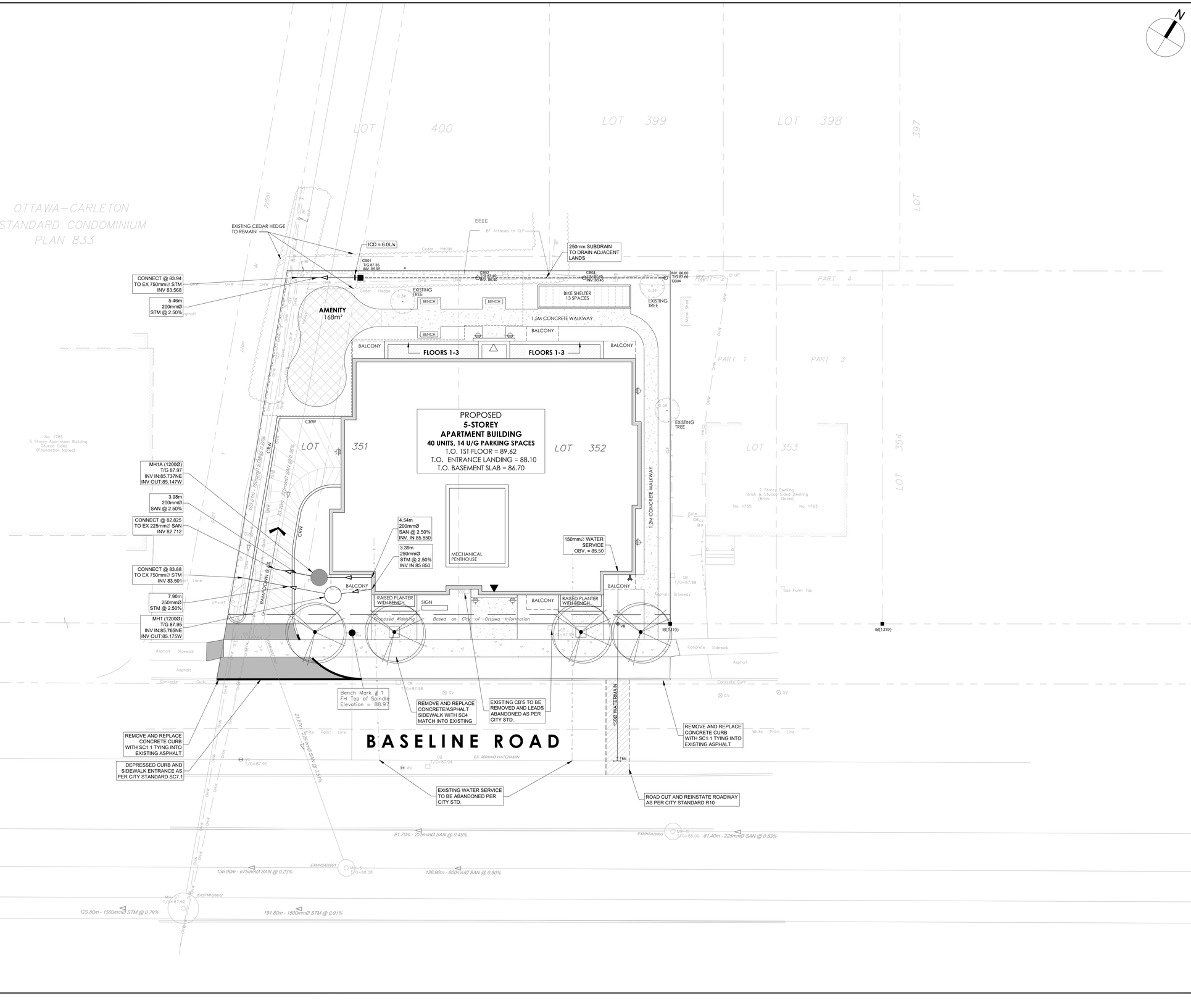
Topographic data was collected under Winter Conditions. Snow cover and ice preclude determining location and elevation of some topographical data that is otherwise visible.

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
V-97761

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

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. 24498-25 Phoenix Lts 351 352 RP 372115 T F | N



CLIENT

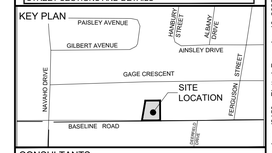
PHOENIX HOMES
18A Bentley Ave Ottawa, ON K2E 6T8

ISSUES

No.	DESCRIPTION	DATE
1	ISSUED FOR SPA	2025-12-18

SEE 010, 011, 012 FOR NOTES, LEGEND, CB TABLE, STREET SECTIONS AND DETAILS

KEY PLAN



CONSULTANTS

1:150 (1.5, 4.5, 4.5, 7.5m)

SEAL

LICENSED PROFESSIONAL ENGINEER
S. É. LABADIE
100214983
2025/12/18
PROVINCE OF ONTARIO

PRIME CONSULTANT
ARCADIS
333 Preston Street - Suite 500
Ottawa ON K1S 5N4 Canada
tel 613 225 1311
www.arcadis.com

PROJECT
1773 & 1767 BASELINE ROAD
OTTAWA, ONTARIO

PROJECT NO: 30297182	
DRAWN BY: **D.P.S.**	CHECKED BY: **D.G.Y.**
PROJECT MGR: **D.G.Y.**	APPROVED BY: **S.E.L.**

SHEET TITLE
SITE SERVICING PLAN

SHEET NUMBER	ISSUE
C-001	1

SCALE CHECK: 1 in / 10mm / XXXXX

D07-XX-XX-XXXX

File Location: J:\9999_Proposals\Proposals\2024 Proposals\1 - Land Engineering Proposals\EP-2024-032 - 1773 & 1767 Baseline Road\Design Files\Layout\C-001 SITE SERVICING PLAN.dwg Last Saved: December 18, 2025 by siurnad3150 Plotted: December 18, 2025 3:12:31 PM by Siurna, Don

Appendix B

ARCADIS IBI GROUP
500-333 Preston Street
Ottawa, Ontario K1S 5N4 Canada
arcadis.com

WATERMAIN DEMAND CALCULATION SHEET

WATERMAIN DEMAND CALCULATION SHEET
1773 Baseline Rd | Phoenix Homes
x-6.0 | Rev #1 | 2025-09-17
Prepared By: SL | Checked By: DY

NODE	RESIDENTIAL				NON-RESIDENTIAL (ICI)			AVERAGE DAILY DEMAND (l/s)			MAXIMUM DAILY DEMAND (l/s)			MAXIMUM HOURLY DEMAND (l/s)			FIRE DEMAND (l/min)
	1 Bedroom Apartment	2 Bedroom Apartment	3 Bedroom Apartment	POPULATION	INDUST. (ha)	COMM. (m2)	INSTIT. (pp)	RESIDENTIAL	ICI	TOTAL	RESIDENTIAL	ICI	TOTAL	RESIDENTIAL	ICI	TOTAL	
1773 Baseline	20	20		70.0				0.23		0.23	0.57		0.57	1.25		1.25	6,300

POPULATION DENSITY		WATER DEMAND RATES		PEAKING FACTORS		FIRE DEMANDS
1 Bedroom Apartment	1.4 persons/unit	Residential	280 l/cap/day	Maximum Daily		Single Family
				Residential	2.5 x avg. day	
2 Bedroom Apartment	2.1 persons/unit	Commercial Shopping Center		Commercial	1.5 x avg. day	Semi Detached & Townhouse
			2,500 L/(1000m2)/day	Maximum Hourly		
3 Bedroom Apartment	3.1 persons/unit	Institutional		Residential	2.2 x avg. day	
			75 l/cap/day	Commercial	1.8 x avg. day	Medium Density 6,300 L/min

ARCADIS IBI GROUP
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OBC WATER SUPPLY CALCULATIONS
1773 Baseline | Phoenix Homes
x-6.0 | Rev #1 | 2025-09-17
Prepared By: SL | Checked By: DY

Required Fire Water Supply (Q) per OBC:

$Q = K\ V\ S_{tot}$

Q = Minimum Supply of water in litres
K = Water Supply Coefficient from Table 1
V = Total Building Volume in Cubic Meters
S_{tot} = Total of Spaital coefficient values from property line exposures on all sides
$S_{tot} = 1.0 + [S_{side\ 1} + S_{side\ 2} + \ldots]$

Water Supply Coefficent (K)

Building Group Classification:	C - Residential Occupancies
From Table 1, K =	23

Building Volume (V)

Block 11 (10 Units)		
Floor Area	480	m2
No. Floors	5	
height =	3	m per floor
Building Volume (V):	7200	m^3

Spatial Coefficient (S):

Side	Dist	S_{coeff}
Front	20+	0
Back	14.6	0
Left	16.3	0
Right	5.6	0.5
Total		0.5

Therefore S_{tot} = 1.5

Required Fire Water Supply (Q) per OBC:

$Q = K\ V\ S_{tot}$
Q = (23) (7200) (1.5)
Q = 248400
From Table 2: Q > 190000 L & < 270000 L
Therefore Target Flow = **6300 l/min**

OBC Tables and Figures

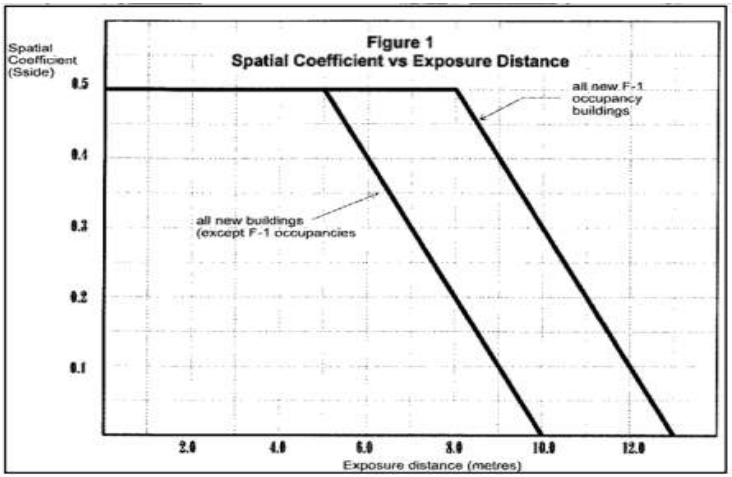
Table 1
Water Supply Coefficient - K

Type of Construction	Classification by Group or Division in Accordance with Table 3.1.2.1. of the Building Code				
	A-2 B-1 B-2 B-3 C D	A-4 F-3	A-1 A-3	E F-2	F-1
Building is of noncombustible construction with fire separations and fire-resistance ratings provided in accordance with Subsection 3.2.2., including loadbearing walls, columns and arches.	10	12	14	17	23
Building is of noncombustible construction or of heavy timber construction conforming to Article 3.1.4.6. Floor assemblies are fire separations but with no fire-resistance rating. Roof assemblies, mezzanines, loadbearing walls, columns and arches do not have a fire-resistance rating.	16	19	22	27	37
Building is of combustible construction with fire separations and fire-resistance ratings provided in accordance with Subsection 3.2.2., including loadbearing walls, columns and arches. Noncombustible construction may be used in lieu of fire-resistance rating where permitted in Subsection 3.2.2.	18	22	25	31	41
Building is of combustible construction. Floor assemblies are fire separations but with no fire-resistance rating. Roof assemblies, mezzanines, loadbearing walls, columns and arches do not have a fire-resistance rating.	23	28	32	39	53
Column 1	2	3	4	5	6

Table 2

Part 3 Buildings under the Building Code	Required Minimum Water Supply Flow Rate, L/min
One-storey building with building area not exceeding 600 m²	1 800
All other buildings	2 700 (if Q ≤ 108 000 L)[3] 3 600 (if Q > 108 000 L and ≤ 135 000 L)[3] 4 500 (if Q > 135 000 L and ≤ 162 000 L)[3] 5 400 (if Q > 162 000 L and ≤ 190 000 L)[3] 6 300 (if Q > 190 000 L and ≤ 270 000 L)[3] 9 000 (if Q > 270 000 L)[3]

https://www.buildingcode.online/11.html



Labadie, Sam

From: Rasool, Rubina <Rubina.Rasool@ottawa.ca>
Sent: October 21, 2025 9:07 AM
To: Labadie, Sam
Cc: Yannoulopoulos, Demetrius
Subject: RE: 1773 Baseline - Boundary Condition Request
Attachments: 1773 Baseline Road October 2025.pdf

Hello,

Please see below the WBC.

The following are boundary conditions, HGL, for hydraulic analysis at 1773 Baseline Road (zone 2W2C) assumed to be connected via the 406 mm watermain on Baseline Road. (see attached PDF for location).

Minimum HGL = 126.2 m
Maximum HGL = 132.4 m
Max Day + Fire Flow (105.0 L/s) = 125.7 m

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.

Thank you,
Simone

Rubina

Rubina Rasool
Project Manager
Planning, Infrastructure and Economic Development Department
Development Review – West Branch
City of Ottawa
110 Laurier Avenue West Ottawa, ON K1P 1J1
613-580-2424 Ext. 24221
rubina.rasool@ottawa.ca

From: Labadie, Sam <samantha.labadie@arcadis.com>
Sent: October 06, 2025 10:17 AM
To: Rasool, Rubina <Rubina.Rasool@ottawa.ca>
Cc: demetrius.yannoulopoulos <demetrius.yannoulopoulos@arcadis.com>
Subject: RE: 1773 Baseline - Boundary Condition Request

Thanks Rubina. We're getting mixed requests from the city recently, some strongly prefer OBC for buildings under 9,000 L/min per tech bulletin 2024-05. If there's an issue, let us know.

Wanted to make sure this request wasn't lost.

Sam Labadie P.Eng
Civil Engineer
Arcadis Professional Services (Canada) Inc.
Suite 500, 333 Preston Street | Ottawa | ON | K1S 5N4 | Canada
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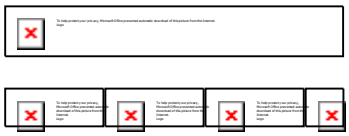
www.arcadis.com



From: Rasool, Rubina <Rubina.Rasool@ottawa.ca>
Sent: October 6, 2025 10:09 AM
To: Labadie, Sam <samantha.labadie@arcadis.com>
Cc: Yannoulopoulos, Demetrius <demetrius.yannoulopoulos@arcadis.com>
Subject: RE: 1773 Baseline - Boundary Condition Request

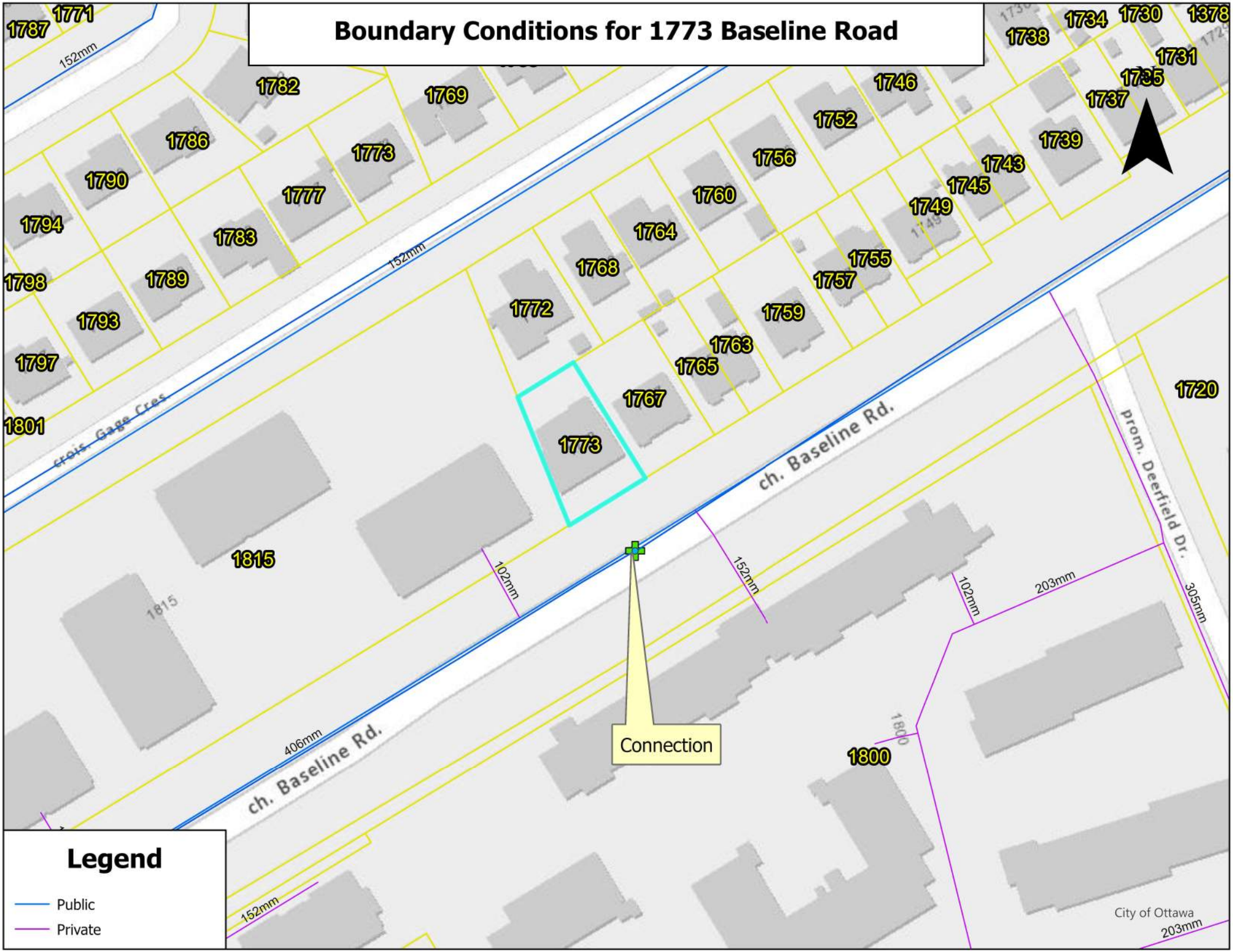
Hi Sam,

I have received your request for water boundary conditions. Typically, the Water Distribution team requires the demands in FUS for internal use; however, I am seeing if they are able to also accept the demands in OBC. OBC demands can be used for the site plan analysis provided they meet our technical memos/guidelines.

Thanks,

Rubina

Rubina Rasool
Project Manager
Planning, Infrastructure and Economic Development Department
Development Review – West Branch
City of Ottawa


Boundary Conditions for 1773 Baseline Road
1787
1771
152mm
1782
1769
1786
1773
1790
1777
1794
1783
1798
1789
1793
1797
1801
crois. Gage Cres.
152mm
1772
1768
1764
1760
1756
1752
1746
1738
1734
1730
1378
1731
1735
1737
1739
1743
1745
1749
1755
1757
1759
1763
1765
1767
1773
1720
ch. Baseline Rd.
prom. Deerfield Dr.
1815
102mm
152mm
102mm
203mm
305mm
406mm
ch. Baseline Rd.
Connection
1800
152mm
City of Ottawa
203mm
Legend
Public
Private

Appendix C

ARCADIS
400-333 Preston Street
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arcadis.com

SANITARY SEWER DESIGN SHEET

1773 & 1767 Baseline Road
City of Ottawa
Phoenix Homes

LOCATION				RESIDENTIAL										ICI AREAS								INFILTRATION ALLOWANCE			FIXED FLOW (L/s)		TOTAL FLOW	PROPOSED SEWER DESIGN						
				AREA w/ Units (Ha)	UNIT TYPES				AREA w/o Units (Ha)	POPULATION		RES PEAK FACTOR	PEAK FLOW (L/s)	AREA (Ha)						ICI PEAK FACTOR	PEAK FLOW (L/s)	AREA (Ha)		FLOW				CAPACITY	LENGTH	DIA	SLOPE	VELOCITY (full)	AVAILABLE CAPACITY	
STREET	AREA ID	FROM MH	TO MH		1 BDRM	2 BDRM	3 BDRM	SINGLE		IND	CUM			INSTITUTIONAL		COMMERCIAL		INDUSTRIAL				IND	CUM	(L/s)	IND	CUM	(L/s)	(L/s)	(m)	(mm)	(%)	(m/s)	L/s	(%)
														IND	CUM	IND	CUM	IND	CUM															
1773 & 1767 Baseline Road Apartment Building																																		
EXISTING		BLDG	SAN	0.11				2		6.8	6.8	3.74	0.08		0.00		0.00		0.00	1.00	0.00	0.11	0.11	0.04		0.00	0.12	54.10	57.44	200	2.50	1.668	53.98	99.78%
SITE PLAN PROPOSED		BLDG	SAN	0.11	20	20				70.0	70.0	3.63	0.82		0.00		0.00		0.00	1.00	0.00	0.11	0.11	0.04		0.00	0.86	54.10	16.78	200	2.50	1.668	53.24	98.41%

Design Parameters:

Residential			ICI Areas			
1 BDRM	1.4	p/p/u	INST	28,000	L/Ha/day	
2BDRM	2.1	p/p/u	COM	28,000	L/Ha/day	
3BDRM	3.1	p/p/u	IND	35,000	L/Ha/day	MOE Chart
SINGLE	3.4	p/p/u		17000	L/Ha/day	
Other	60	p/p/Ha				

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: SL

Checked: DY

Dwg. Reference: 30297182-400

No.	Revision	Date
1.	Submission No. 1 for City Review	2025-12-18

File Reference: 30297182-05 **Date:** 2025-12-18 **Sheet No:** 1 of 1

Appendix D

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

STORM SEWER DESIGN SHEET

1773 & 1767 Baseline Road
City of Ottawa
Phoenix Homes

LOCATION				AREA (Ha)														RATIONAL DESIGN FLOW													SEWER DATA									
STREET	AREA ID	FROM	TO	C= 0.20	C= 0.55	C= 0.56	C= 0.60	C= 0.67	C= 0.48	C= 0.65	C= 0.69	C= 0.70	C= 0.77	C= 0.81	C= 0.84	C= 0.87	C= 0.88	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 IND	FIXED FLOW CUM	DESIGN FLOW (L/s)	CAPACITY (L/s)	LENGTH (m)	PIPE SIZE (mm) DIA	PIPE SIZE (mm) W	PIPE SIZE (mm) H	SLOPE (%)	VELOCITY (m/s)	AVAIL CAP (2yr) (L/s)	AVAIL CAP (2yr) (%)
AMENITY AREA		CB1	EX			0.03													0.05	0.05	10.00	0.05	10.05	76.81	104.19	122.14	178.56	3.59	4.87	5.70	8.34		0.00	4.87	54.10	5.46	200			2.50	1.668	49.23	91.01%
BUILDING		BLDG	MH1															0.06	0.15	0.15	10.00	0.03	10.03	76.81	104.19	122.14	178.56	11.53	15.64	18.34	26.81		0.00	15.64	98.09	3.39	250			2.50	1.936	82.45	84.05%
		MH1	EX																0.00	0.15	10.03	0.07	10.10	76.69	104.04	121.96	178.29	11.51	15.62	18.31	26.77		0.00	15.62	98.09	7.90	250			2.50	1.936	82.47	84.08%

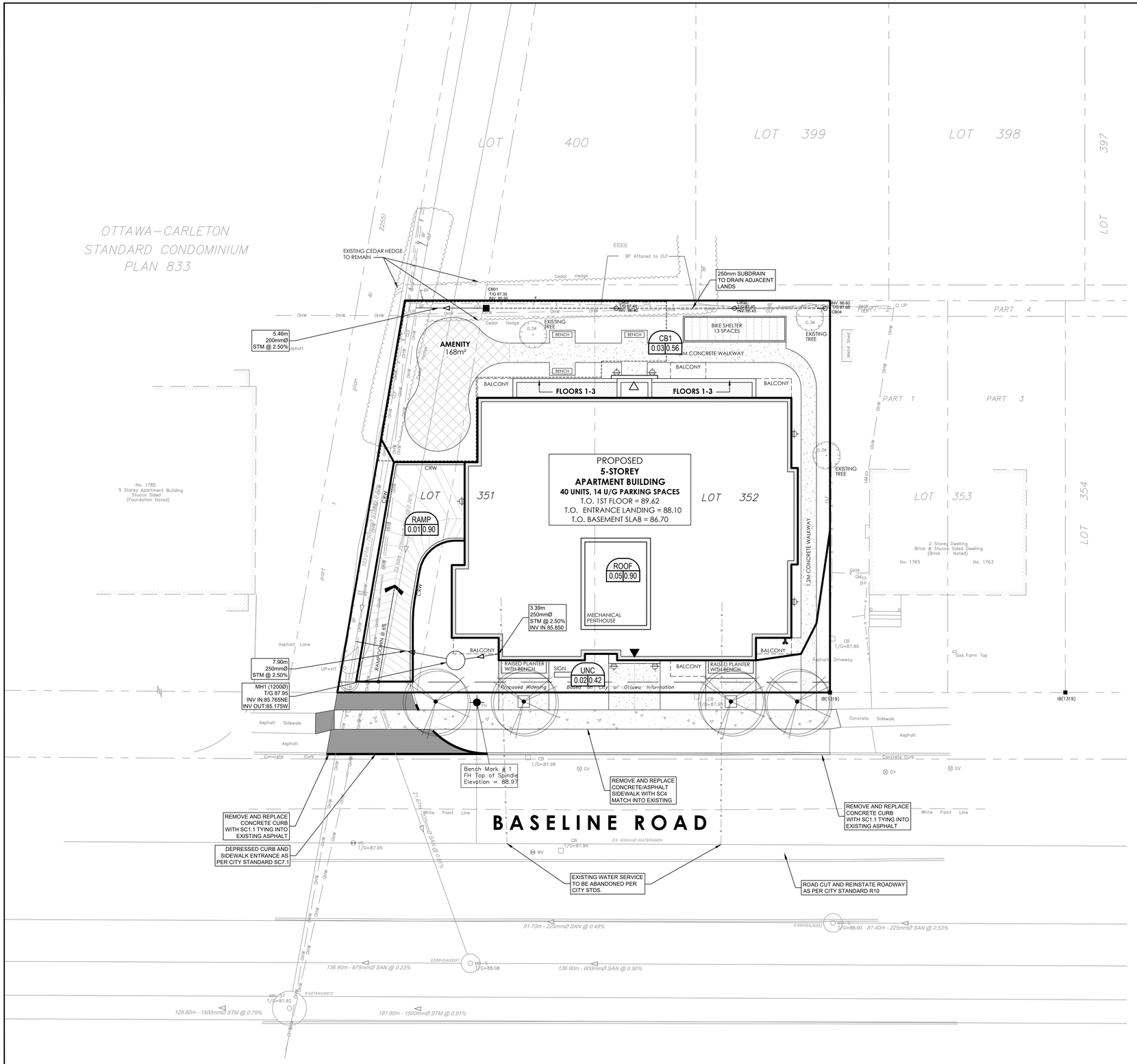
Definitions:
Q = 2.78CiA, where:
Q = Peak Flow in Litres per Second (L/s)
A = Area in Hectares (Ha)
i = Rainfall intensity in millimeters per hour (mm/hr)
[i = 732.951 / (TC+6.199)^0.810] 2 YEAR
[i = 998.071 / (TC+6.053)^0.814] 5 YEAR
[i = 1174.184 / (TC+6.014)^0.816] 10 YEAR
[i = 1735.688 / (TC+6.014)^0.820]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

Notes:
1. Mannings coefficient (n) = 0.013

Designed: MP
Checked: SL
Dwg. Reference: 30297182-500

No.	Revision	Date
1.	Submission No. 1 for City Review	2025-12-18

File Reference: 30297182-05
Date: 2025-12-18
Sheet No: 1 of 1



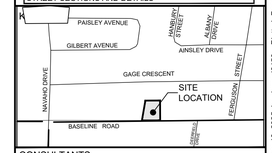
LEGEND :

CB1
0.03 | 0.56

- AREA NUMBER
- RUNOFF COEFFICIENT
- AREA IN HECTARES

1:150 (0, 1.5, 4.5, 7.5m)

SEE 010, 011, 012 FOR NOTES, LEGEND, CB TABLE, STREET SECTIONS AND DETAILS



CLIENT

PHOENIX HOMES
18A Bentley Ave Ottawa, ON K2E 6T8

ISSUES

No.	DESCRIPTION	DATE
1	ISSUED FOR SPA	2025-12-18

CONSULTANTS

SEAL

LICENSED PROFESSIONAL ENGINEER
S. É. LABADIE
100214983
2025/12/18
PROVINCE OF ONTARIO

PRIME CONSULTANT

ARCADIS
333 Preston Street - Suite 500
Ottawa ON K1S 5N4 Canada
tel 613 225 1311
www.arcadis.com

PROJECT
1773 & 1767 BASELINE ROAD
OTTAWA, ONTARIO

PROJECT NO: 30297182	
DRAWN BY: **D.P.S.**	CHECKED BY: **D.G.Y.**
PROJECT MGR: **D.G.Y.**	APPROVED BY: **S.E.L.**

SHEET TITLE
SITE STORM DRAINAGE AREA PLAN

SHEET NUMBER	ISSUE
C-500	1

SCALE CHECK: 1 in / 10mm / XXXXX

D07-XX-XX-XXXX

File Location: J:\9999_Proposals\Proposals\2024 Proposals\1 - Land Engineering Proposals\EP-2024-032 - 1773 & 1767 Baseline Road\Design Files\Layout\C-500 SITE STORM DRAINAGE AREA PLAN.dwg Last Saved: December 18, 2025, by aiumad3150 Plotted: December 18, 2025 2:21:02 PM by Siuma, Don

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

PROJECT: 1773 Baseline
DATE: 2025-12-15
FILE: 30297182.05
REV #: 1
DESIGNED BY: SEL
CHECKED BY: D.Y.

STORMWATER MANAGEMENT

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)

Maximum Allowable Release Rate

Restricted Flowrate (based on C=0.50 Tc=10min)

C =	0.5	
T_c =	10	min
i_{5yr} =	104.19	mm/hr
A_{site} =	0.11	Ha
$Q_{restricted}$ =	15.93	L/s

UNC Uncontrolled Release ($Q_{uncontrolled} = 2.78*C*i_{100yr}*A_{uncontrolled}$)

C =	0.53	
T_c =	10	min
i_{100yr} =	178.56	mm/hr
$A_{uncontrolled}$ =	0.0153	Ha
Q_{uncon} =	3.99	L/s

RAMP Uncontrolled Release ($Q_{uncontrolled} = 2.78*C*i_{100yr}*A_{uncontrolled}$)

C =	1.00	
T_c =	10	min
i_{100yr} =	178.56	mm/hr
$A_{uncontrolled}$ =	0.0078	Ha
Q_{uncon} =	3.87	L/s

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

$Q_{max\ allowable}$ =	8.07 L/s

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

Drainage Area	***ROOF***		
Area (Ha)	0.05		
C =	1.00	Restricted Flow Q_r (L/s)=	2.00

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)***
56	58.83	8.18	2.00	6.18	20.758
58	57.32	7.97	2.00	5.97	20.768
59	56.60	7.87	2.00	5.87	**20.770**
60	55.89	7.77	2.00	5.77	20.770
62	54.54	7.58	2.00	5.58	20.763

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	20.77	28.13		0.00

Drainage Area	***ROOF***		
Area (Ha)	0.05		
C =	0.90	Restricted Flow Q_r (L/s)=	2.00

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)***
23	47.66	5.96	2.00	3.96	5.47
24	46.37	5.80	2.00	3.80	5.47
25	45.17	5.65	2.00	3.65	**5.48**
26	44.03	5.51	2.00	3.51	5.47
27	42.95	5.37	2.00	3.37	5.46

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	5.48	28.13		0.00

Drainage Area	***CB1***		
Area (Ha)	0.03		
C =	0.70	Restricted Flow Q_r (L/s)=	6.00

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)***
5	242.70	14.17	6.00	8.17	2.451
7	211.67	12.36	6.00	6.36	2.670
8	199.20	11.63	6.00	5.63	**2.702**
9	188.25	10.99	6.00	4.99	2.695
11	169.91	9.92	6.00	3.92	2.587

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	2.70	2.12	0.64	0.00

*Vol of CB+TCB*2

Drainage Area	***CB1***		
Area (Ha)	0.03		
C =	0.56	Restricted Flow Q_r (L/s)=	6.00

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)***
-1	192.83	9.01	6.00	3.01	-0.18
0	167.22	7.81	6.00	1.81	0.00
1	148.14	6.92	6.00	0.92	**0.06**
2	133.33	6.23	6.00	0.23	0.03
3	121.46	5.67	6.00	-0.33	-0.06

Storage (m^3)

Overflow	Required	Surface	Sub-surface	Balance
0.00	0.06	2.12	0.64	0.00

RUNOFF COEFFICIENT CALCULATION SHEET

RESTRICTED

CB1	Area (m^2)	C
Softscape	166	0.20
Hardscape	177	0.90
Total	343	**0.56**

UNRESTRICTED

UNC	Area (m^2)	C
Softscape	106	0.20
Hardscape	47	0.90
Total	153	**0.42**

WATTS®	Adjustable Accutrol Weir Tag: _____	Adjustable Flow Control for Roof Drains

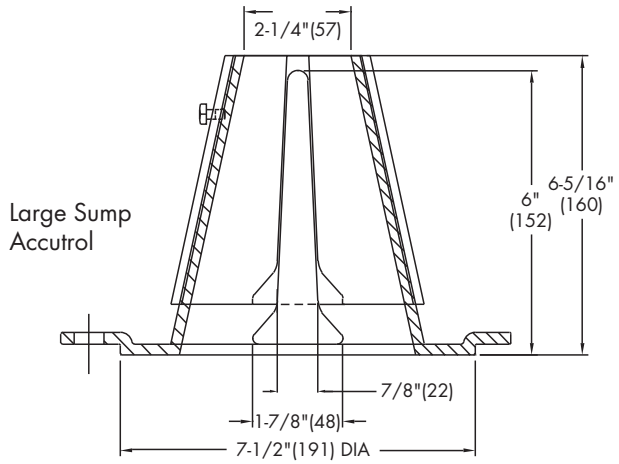
ADJUSTABLE ACCUTROL (for Large Sump Roof Drains only)

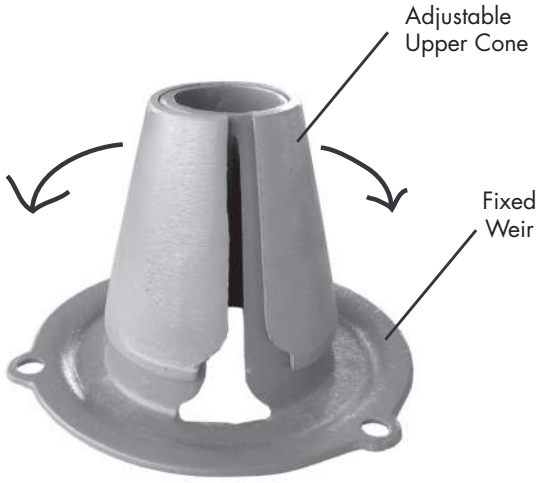
For more flexibility in controlling flow with heads deeper than 2", Watts Drainage offers the Adjustable Accutrol. The Adjustable Accutrol Weir is designed with a single parabolic opening that can be covered to restrict flow above 2" of head to less than 5 gpm per inch, up to 6" of head. To adjust the flow rate for depths over 2" of head, set the slot in the adjustable upper cone according to the flow rate required. Refer to Table 1 below.
Note: Flow rates are directly proportional to the amount of weir opening that is exposed.

EXAMPLE:

For example, if the adjustable upper cone is set to cover 1/2 of the weir opening, flow rates above 2"of head will be restricted to 2-1/2 gpm per inch of head.

Therefore, at 3"of head, the flow rate through the Accutrol Weir that has 1/2 the slot exposed will be:
[5 gpm (per inch of head) x 2 inches of head] + 2-1/2 gpm (for the third inch of head) = 12-1/2 gpm.





1/2 Weir Opening Exposed Shown Above

TABLE 1. Adjustable Accutrol Flow Rate Settings

Weir Opening Exposed	1"	2"	3"	4"	5"	6"
	Flow Rate (gallons per minute)					
Fully Exposed	5	10	15	20	25	30
3/4	5	10	13.75	17.5	21.25	25
1/2	5	10	12.5	15	17.5	20
1/4	5	10	11.25	12.5	13.75	15
Closed	5	5	5	5	5	5

Job Name _____ Contractor _____

Job Location _____ Contractor's P.O. No. _____

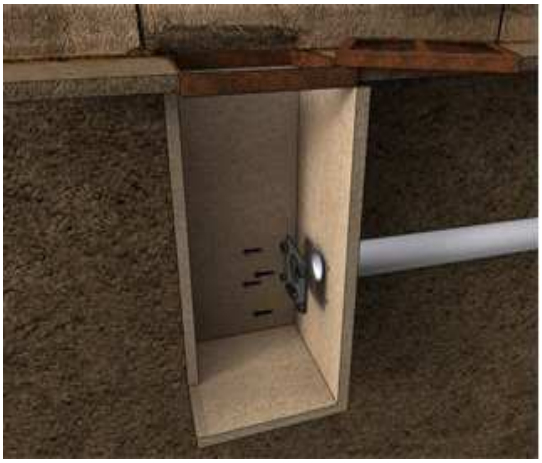
Engineer _____ Representative _____

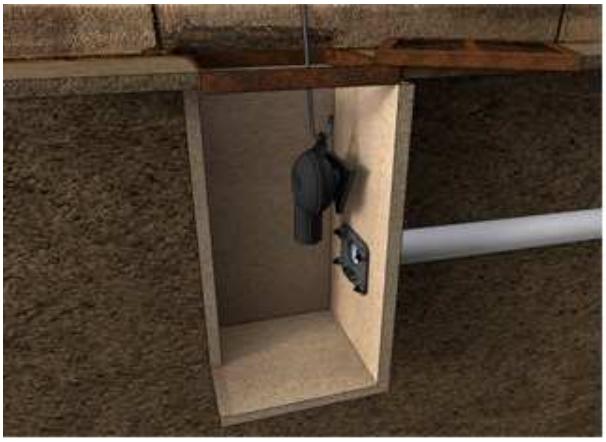
WATTS®
A Watts Water Technologies Company

USA: Tel: (800) 338-2581 • Fax: (828) 248-3929 • Watts.com
Canada: Tel: (905) 332-4090 • Fax: (905) 332-7068 • Watts.ca
Latin America: Tel: (52) 81-1001-8600 • Fax: (52) 81-8000-7091 • Watts.com

Square CB Installation Notes:

1. Materials and tooling verification:
   - Tooling: impact drill, 3/8'' concrete bit, torque wrench for 9/16''nut, hand hammer, level, and marker.
   - Material: (4) concrete anchor 3/8x3-1/2, (4) washers, (4) nuts
2. Use the mounting wall plate to locate and mark the hole (4) pattern on the catch basin wall. You should use a level to ensure that the plate is at the horizontal.
3. Use an impact drill with a 3/8'' concrete bit to make the four holes at a minimum of 1-1/2'' depth up to 2-1/2''. Clean the concrete dust from the holes.
4. Install the anchors (4) in the holes by using a hammer. Put the nuts on the top of the anchors to protect the threads when you will hit the anchors with the hammer. Remove the nuts on the ends of the anchors
5. Install the wall mounting plate on the anchors and screw the nut in place with a maximum torque of 40 N.m (30 lbf-ft). There should be no gap between the wall mounting plate and the catch basin wall.
6. From ground above using a reach bar, lower the device by hooking the end of the reach bar to the handle of the LMF device. Align the triangular plate portion into the mounting wall plate. Push down the device to be sure it has centered in to the wall mounting plate and has created a seal.



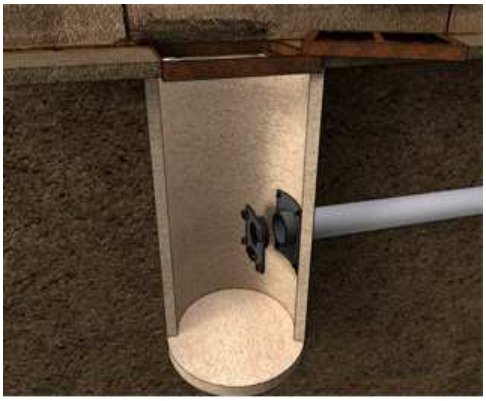


IPEX

Round CB Installation Notes: (Refer to square install notes above for steps 1 , 3, & 4)

2. Use spigot catch basin wall plate to locate and mark the hole (4) pattern on the catch basin wall. You should use a level to ensure that the plate is at the horizontal.
5. Install the CB spigot wall plate on the anchors and screw the 4 nuts in place with a maximum torque of 40 N.m (30 lb-ft). There should be no gap between the CB spigot wall plate and the catch basin wall.
6. Apply solvent cement on the hub of the universal mounting plate and the spigot of the spigot CB wall plate. Slide the hub over the spigot. Make sure the universal mounting plate is at the horizontal and its hub is completely inserted onto the spigot. Normally, the corners of the universal mounting plate hub adapter should touch the catch basin wall.
7. From ground above using a reach bar, lower the ICD device by hooking the end of the reach bar to the handle of the ICD device. Align the triangular plate portion into the mounting wall plate. Push down the device to be sure it has centered into the mounting plate and has created a seal.






CAUTION/WARNING/DISCLAIM:

- Verify that the inlet(s) pipe(s) is not protruding into the catch basin. If it is, cut it back so that the inlet pipe is flush with the catch basin wall.
- Any required cement in the installation must be approved for PVC.
- The solvent cement should not be used below 0°C (32°F) or in a high humidity environment. Please refer to the IPEX solvent cement guide to confirm required curing times or attend the IPEX **Online Solvent Cement Training Course**.
- Call your IPEX representative for more information or if you have any questions about our products.

IPEX

IPEX TEMPEST Inlet Control Devices Technical Specification

General

Inlet control devices (ICD's) are designed to provide flow control at a specified rate for a given water head level and also provide odour and floatable control where specified. All ICD's will be IPEX Tempest or approved equal.

All devices shall be removable from a universal mounting plate. An operator from street level using only a T-bar with a hook will be able to retrieve the device while leaving the universal mounting plate secured to the catch basin wall face. The removal of the TEMPEST devices listed above must not require any unbolting or special manipulation or any special tools.

High Flow (HF) Sump devices will consist of a removable threaded cap which can be accessible from street level with out entry into the catchbasin (CB). The removal of the threaded cap shall not require any special tools other than the operator's hand.

ICD's must have no moving parts.

Materials

ICD's are to be manufactured from Polyvinyl Chloride (PVC) or Polyurethane material, designed to be durable enough to withstand multiple freeze-thaw cycles and exposure to harsh elements.

The inner ring seal will be manufactured using a Buna or Nitrile material with hardness between Duro 50 and Duro 70.

The wall seal is to be comprised of a 3/8" thick Neoprene Closed Cell Sponge gasket which is attached to the back of the wall plate.

All hardware will be made from 304 stainless steel.

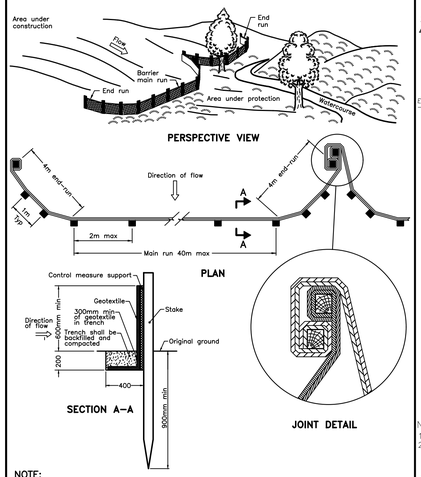
Dimensioning

The Low Medium Flow (LMF), High Flow (HF) and the High Flow (HF) Sump shall allow for a minimum outlet pipe diameter of 200mm with a 600mm deep Catch Basin sump.

Installation

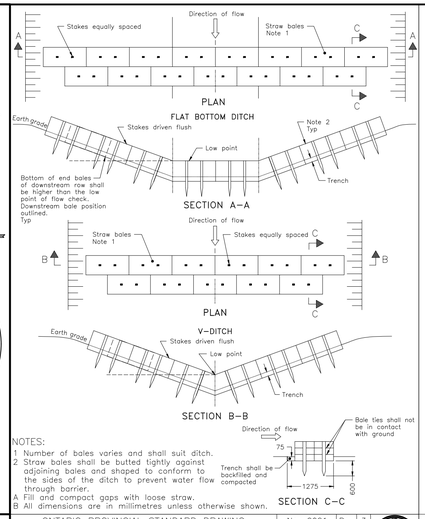
Contractor shall be responsible for securing, supporting and connecting the ICD's to the existing influent pipe and catchbasin/manhole structure as specified and designed by the Engineer.

Appendix E



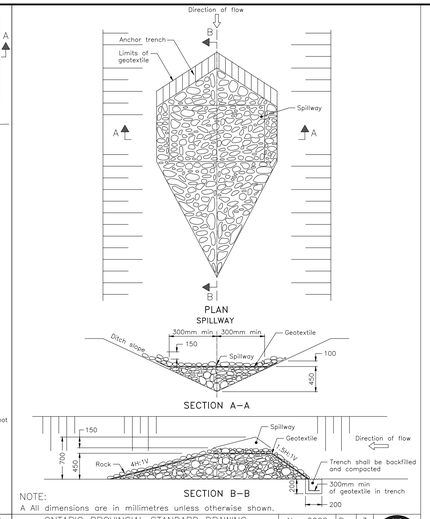
NOTE:
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2021	Rev 3
HEAVY–DUTY SILT FENCE BARRIER		
		OPSD 219.130



NOTES:
1 Number of bales varies and shall suit ditch.
2 Straw bales shall be butted tightly against adjoining bales and shaped to conform to the sides of the ditch to prevent water flow through barrier.
A Fill and compact gaps with loose straw.
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2021	Rev 3
STRAW BALE FLOW CHECK DAM		
		OPSD 219.180



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

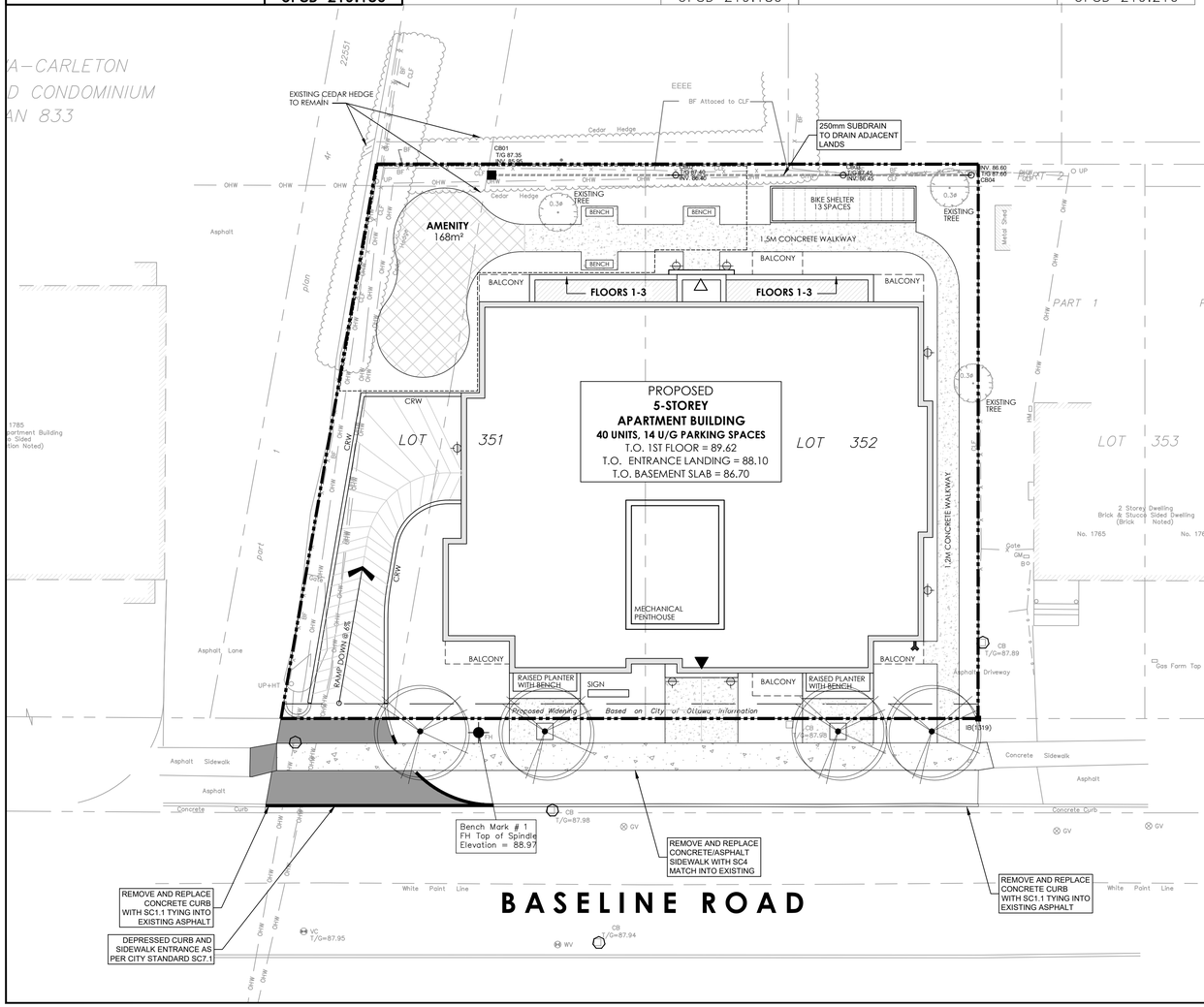
ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2022	Rev 3
TEMPORARY ROCK FLOW CHECK DAM V–DITCH		
		OPSD 219.210

NOTES:

1. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
2. 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.
3. STRAW BALE SEDIMENT TRAPS TO BE CONSTRUCTED IN EXISTING ROAD SIDE DITCHES. TRAPS TO REMAIN AND BE MAINTAINED UNTIL VEGETATION IS ESTABLISHED.
4. FILTER CLOTH TO BE PLACED AND MAINTAINED UNDER COVER OF ALL PROPOSED CATCHBASINS AFTER BASE COURSE, AND EXISTING CATHBASINS IDENTIFIED OUTSIDE OF CONSTRUCTION LIMIT. FILTER CLOTH IN STREET CB'S TO REMAIN UNTIL ALL CURBS ARE CONSTRUCTED. FILTER CLOTH IN RYCB'S TO REMAIN UNTIL VEGETATION IS ESTABLISHED. ALL CATHCBASINS TO BE REGULARLY INSPECTED AND CLEANED AS NECESSARY, UNTIL SOD AND CURBS ARE CONSTRUCTED.
5. 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.
6. WORKS NOTED ABOVE ARE TO BE INSTALLED, INSPECTED, MAINTAINED AND ULTIMATELY REMOVED BY SERVICING CONTRACTOR.
7. THIS IS A "LIVING DOCUMENT" AND MAY BE MODIFIED IN THE EVENT THE PROPOSED CONTROL MEASURES ARE INSUFFICIENT.

LEGEND:

- HEAVY DUTY SILT FENCE AS PER OPSD-219.130
- SNOW FENCE
- STRAW BALE CHECK DAM AS PER OPSD-219.180
- ROCK CHECK DAM AS PER OPSD-219.210
- FILTER CLOTH PLACED UNDER EXISTING CB COVER
- TEMPORARY MUD MAT 0.15m THICK 50mm CLEAR STONE ON NON WOVEN FILTER CLOTH



CLIENT

PHOENIX HOMES
18A Bentley Ave Ottawa, ON K2E 6T8

Arcadis Professional Services (Canada) Inc.
formerly IBI Group Professional Services (Canada) Inc

ISSUES

No.	DESCRIPTION	DATE
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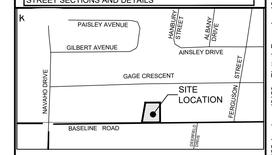
SEE 010, 011, 012 FOR NOTES, LEGEND, CB TABLE, STREET SECTIONS AND DETAILS



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SEAL

L.I. LICENCED PROFESSIONAL ENGINEER
S. E. LABADIE
100214983
2025/12/18
PROVINCE OF ONTARIO

ARCADIS
333 Preston Street - Suite 500
Ottawa ON K1S 5N4 Canada
tel 613 225 1311
www.arcadis.com

PROJECT
1773 & 1767 BASELINE ROAD
OTTAWA, ONTARIO

PROJECT NO: 30297182	
DRAWN BY: **D.P.S.**	CHECKED BY: **D.G.Y.**
PROJECT MGR: **D.G.Y.**	APPROVED BY: **S.E.L.**

SHEET TITLE
SEDIMENT - EROSION PLAN

SHEET NUMBER	ISSUE
C-900	1

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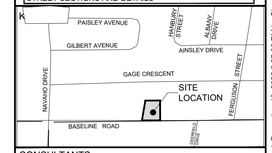

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S. E. LABADIE
100214983
2025/12/18
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DRAWN BY: **D.P.S.**	CHECKED BY: **D.G.Y.**
PROJECT MGR: **D.G.Y.**	APPROVED BY: **S.E.L.**

SHEET TITLE
EXISTING CONDITIONS

SHEET NUMBER	ISSUE
C-EXCON	1

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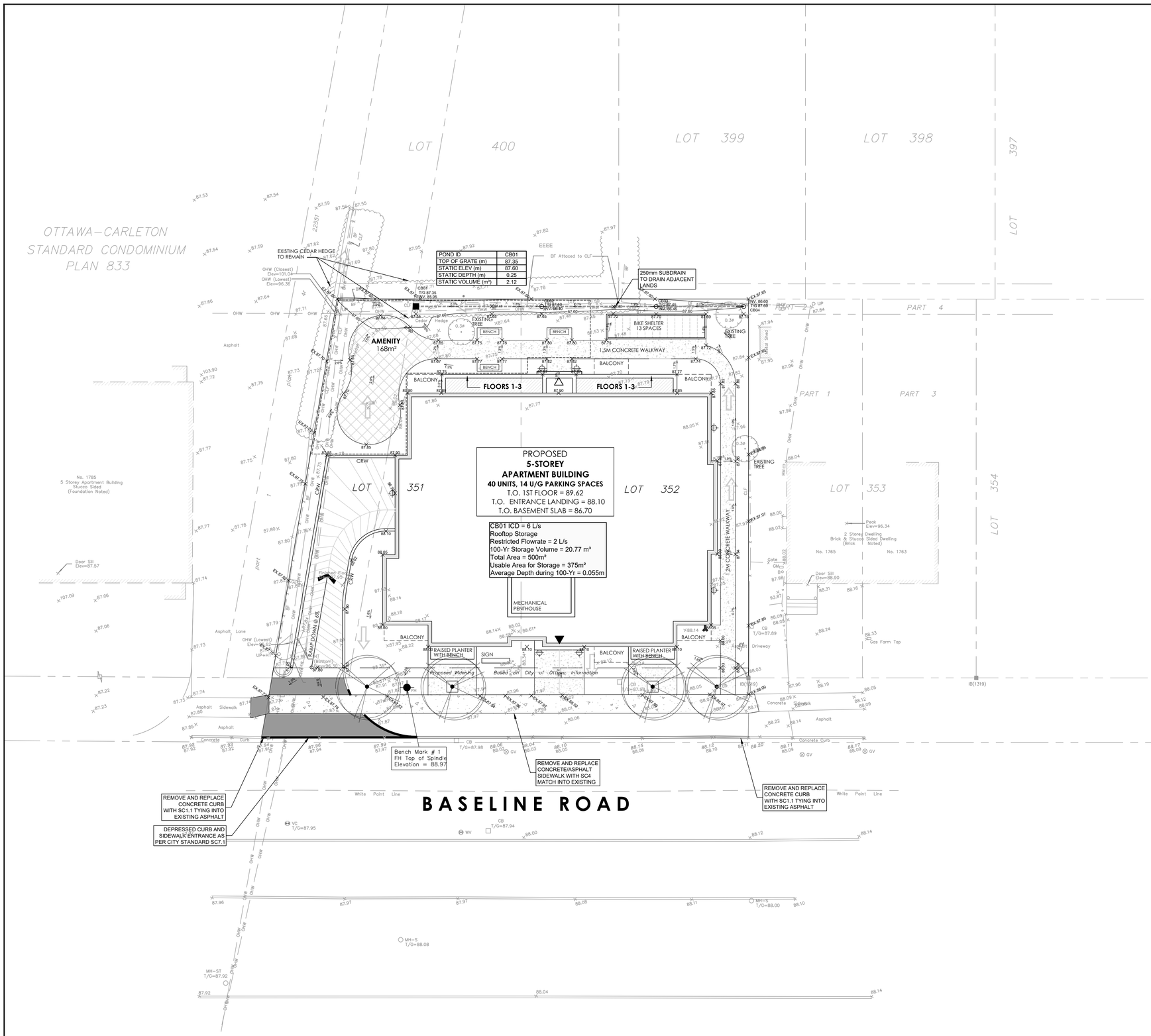


GRADING LEGEND

- PROPOSED DITCH C/W FLOW DIRECTION AND SLOPE
- SLOPE C/W FLOW DIRECTION
- MAJOR OVERLAND FLOW ROUTE
- PROPOSED SPOT GRADE
- PROPOSED SWALE GRADE
- PROPOSED SWALE HIGH POINT GRADE
- LOT CORNER GRADE C/W EXISTING GRADE
- FULL STATIC PONDING GRADE
- RETAINING WALL C/W TOP OF WALL AND GRASS GRADE
- TERRACING 3:1 MAXIMUM UNLESS NOTED OTHERWISE
- PRESSURE REDUCING VALVE
- FINISHED FLOOR ELEVATION
- TOP OF FOUNDATION ELEVATION
- UNDERSIDE OF FOOTING ELEVATION
- MINIMUM UNDERSIDE OF FOOTING (Based on the higher of the sewer obverts, or hydraulic grade line)
- MINIMUM GARAGE GRADE
- WU WALKUP UNIT
- WO WALKOUT UNIT
- NS NON-STANDARD FOUNDATION (Frost cover not provided for standard unit)
- HB HIGHBACK UNIT (1.5m frost cover on footings)
- NOISE BARRIER LOCATION
- NOISE BARRIER GATE
- RIP-RAP
- TOWN HOUSE SPLITS
- 2hr FIREWALL — 2 hr FIREWALL

⊢□–■⊣	Denotes	Survey Monument Planted
⊢■–□⊣	"	Survey Monument Found
SIB	"	Standard Iron Bar
SSIB	"	Short Standard Iron Bar
IB	"	Iron Bar
CP	"	Concrete Pin
(WIT)	"	Witness
(AOG)	"	Annis, O'Sullivan, Vollebekk Ltd.
Meas.	"	Measured
Prop.	"	Proportioned
(P1)	"	Registered Plan 372115
(P2)	"	(AOG) Plan, November 15, 1990
(P3)	"	Plan 4R-22510
(P4)	"	Plan 4R-8091
MH–S	"	Maintenance Hole (Sanitary)
VC	"	Valve Chamber (Watermain)
G	"	Underground Gas
W	"	Underground Water
OHW	"	Overhead Wires
UP	"	Utility Pole
CB	"	Catch Basin
FH	"	Fire Hydrant
WV	"	Water Valve
GV	"	Gas Valve
GM	"	Gas Meter
HM	"	Hydro Meter
B	"	Bollard
CLF	"	Chain Link Fence
BF	"	Board Fence
RWS	"	Stone Retaining Wall
ø	"	Diameter
65.00	"	Location of Elevations
65.00	"	Top of Concrete Curb Elevation
65.00	"	Top of Stone Retaining Wall Elevation
C/L	"	Centreline
	"	Deciduous Tree

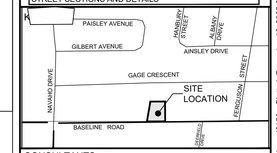
CLIENT

PHOENIX HOMES
18A Bentley Ave Ottawa, ON K2E 6T8

ISSUES

No.	DESCRIPTION	DATE
1	ISSUED FOR SPA	2025-12-18

SEE 010, 011, 012 FOR NOTES, LEGEND, CB TABLE, STREET SECTIONS AND DETAILS



CONSULTANTS

1:1000 (0, 10, 30, 50m)

SEAL

LICENSED PROFESSIONAL ENGINEER
S. E. LABADIE
100214983
2025/12/18
PROVINCE OF ONTARIO

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PROJECT
1773 & 1767 BASELINE ROAD
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PROJECT NO: 30297182	
DRAWN BY: **D.P.S.**	CHECKED BY: **D.G.Y.**
PROJECT MGR: **D.G.Y.**	APPROVED BY: **S.E.L.**

SHEET TITLE
SITE GRADING PLAN

SHEET NUMBER	ISSUE
C-200	1

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REMOVAL	DRY GRIND EXISTING ASPHALT, AVERAGE DEPTH 50mm.
ADJUST MANHOLE, VALVES	FULL DEPTH ASPHALT REMOVAL
ADJUST CATCH BASIN	AREA TO BE CLEARED AND GRUBBED
ADJUSTMENT BY BELL OR HYDRO APPROVED CONTRACTOR	REMOVAL OF BUILDINGS, FOUNDATIONS, SEPTIC SYSTEM AND WELL
REMOVE OR ABANDON SEWER, WATERMAIN, UTILITY, CURB RETURNS	REMOVALS OF CONCRETE/ ASPHALT SIDEWALK
PLUG	

CLIENT

PHOENIX HOMES
18A Bentley Ave Ottawa, ON K2E 6T8

ISSUES

No.	DESCRIPTION	DATE
1	ISSUED FOR SPA	2025-12-18

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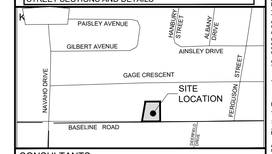

CONSULTANTS

1:1000 0 10 30 50m

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PRIME CONSULTANT

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Ottawa ON K1S 5N4 Canada
tel 613 225 1311
www.arcadis.com

PROJECT
1773 & 1767 BASELINE ROAD
OTTAWA, ONTARIO

PROJECT NO: 30297182	
DRAWN BY: **D.P.S.**	CHECKED BY: **D.G.Y.**
PROJECT MGR: **D.G.Y.**	APPROVED BY: **S.E.L.**

SHEET TITLE
REMOVALS DRAWING

SHEET NUMBER	ISSUE
C-REM	1

SCALE CHECK 1 in
XXXXX 10mm

D07-XX-XX-XXXX

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